SOUTH FAYETTE TOWNSHIP

A Community Growing Together

March 3, 2026 - 7:30 P.M.

Planning Commission Meeting Agenda

1. CALL TO ORDER

2. ROLL CALL
   Tom Iagnemma, Chairman
   Doug Kaine, Secretary
   Joseph Johnson
   Jamey Noland
   Danny Cerrone Jr.
   Jason Paulovich, Gibson-Thomas Engineering
   Chris Seymour, Dodaro, Matta & Cambest, P.C.

3. PLEDGE OF ALLEGIANCE

4. APPROVAL OF MINUTES

   Documents:

   1-22-2026 PC MTG MINUTES.PDF

5. OLD BUSINESS

6. NEW BUSINESS

   A. Review And Discuss S-01-2026 Second Revision To The Kosky Plan Of Lots, Preliminary And Final Minor Subdivision Application, Parcels 256-L-1, 256-L-2 & 256-L-9, Zoned C-2.

      Subdivision/consolidation of 3 lots at the corner of Newbury Drive and Millers Run Road.

      Documents:

      APPLICATION S-01-2026.PDF
      AGENT AUTHORIZATION FORM.PDF
      SUBDIVISION.PDF
      GTE REVIEW 2-19-2026.PDF
      ALLEGHENY COUNTY REVIEW LETTER.PDF
      REVIEW REFERRAL SP-01-2026 LAFAYETTE 180 LAND DEVELOPMENT MATSF.PDF
      KHL ENGINEERS REVIEW LETTER (MATSF) 2-13-2026.PDF
      SALES AGREEMENT.PDF
      DEED.PDF

B. Review And Discuss SP-01-2026 Lafayette 180 Planned Shopping Center, Preliminary And Final Land Development Application, Parcels 256-L-1, 256-L-2 & 256-L-9, Zoned C-2.

Documents:

APPLICATION SP-01-2026.PDF
AGENT AUTHORIZATION FORM.PDF
LAND DEVELOPMENT PLANS (REDUCED SIZE).PDF
GTE REVIEW LETTER 2-19-2026.PDF
ALLEGHENY COUNTY REVIEW LETTER.PDF
REVIEW REFERRAL SP-01-2026 LAFAYETTE 180 LAND DEVELOPMENT MATSF.DOC
KLH ENGINEERS REVIEW LETTER (MATSF) 2-13-2026.PDF
2022-01-14 GEOTECHNICAL REVIEW MEMO.PDF
2026-01-12 NPDES MAJOR MODIFICATION APPROVAL.PDF
TIS ADDENDUM COMPLETE.PDF
TRAFFIC IMPACT STUDY_PROPOSED RETAIL - SOUTH FAYETTE TOWNSHIP TIS.PDF
WETLAND DELINEATION.PDF
ELEVATION RENDERINGS.PDF
UTILITY AVAILABILTY LETTERS.PDF
DEED.PDF
SALES AGREEMENT.PDF

7. ACCEPTANCE OF APPLICATIONS

A. Review And Consider For Acceptance S-02-2026 Smith Henney Lot Line Adjustment Plan, Preliminary And Final Minor Subdivision Application, Parcels 328-G-13 & 328-G-30, Zoned R-2.

Documents:

APPLICATION S-02-2026.PDF
AGENT AUTHORIZATION FORM.PDF
SUBDIVISION PLAN.PDF
ALLEGHENY COUNTY REVIEW LETTER 2-19-2026.PDF
MATSF REVIEW - NO COMMENTS.PDF
ACED APPLICATION.PDF
SMITH DEED.PDF
DEED - HENNEY.PDF

B. Review And Consider For Acceptance PP-01-2026 Hastings Masterplan Revisions, Preliminary Land Development Application, Mayview Road, Zoned ND, Neighborhood Design.

Documents:

APPLICATION PP-01-2026.PDF
AGENT AUTHORIZATION FORM.PDF
MASTER PLAN.PDF
AGREEMENT OF SALE.PDF
ALOE DEED.PDF

C. Review And Consider For Acceptance F-01-2026 Hastings Phase 5, Preliminary And Final Major Subdivision Application, Parcel 571-A-10, Zoned ND, Neighborhood Design.

Documents:

APPLICATION F-01-2026.PDF
AGENT AUTHORIZATION.PDF
PROJECT NARRATIVE.PDF
LD PLANS (REDUCED).PDF
MODIFICATION REQUESTS.PDF
PCSM REPORT.PDF
TIS ADDENDUM.PDF
PAW AVAILABILITY HASTINGS DEVELOP - SFAP.PDF
PEOPLES GAS AVAILABILITY LETTER_5.11.16.PDF
COLUMBIA GAS AVAILABILITY LETTER-- MAYVIEW ROAD-5-9-16.PDF
SUBDIVISION PLAN - HASTINGS PHASE 5.PDF
ALOE DEED.PDF
AGREEMENT OF SALE.PDF

8. OPEN DISCUSSION

9. ADJOURNMENT

SOUTH FAYETTE TOWNSHIP
A Community Growing Together

Planning Commission
www.southfayettepa.com

Meeting Minutes
January 22, 2026

1. **CALL TO ORDER**: Tom Iagnemma called the meeting to order at 7:00PM.

2. **ROLL CALL:**

- PRESENT: Iagnemma, Kaine, Johnson, Noland, Cerrone
- ABSENT:
- ALSO PRESENT: Chris Seymour, Dodaro, Matta, & Cambest, P.C.; Jason Paulovich, Gibson-Thomas Engineering, Gary Hartz, Planning Director

3. **PLEDGE OF ALLEGIANCE**

4. **APPROVAL OF MINUTES:**

Regular meeting held on December 18, 2025.

It was moved by **Noland** and seconded by **Johnson** with all members present voting AYE to approve the Meeting minutes for the regular scheduled meeting on December 18, 2025.

5. **OLD BUSINESS:**

6. **NEW BUSINESS:**

A. Review and Discuss for Acceptance S-09-2025 South Fayette Township School District, Preliminary and Final Minor Subdivision/Consolidation Plan, Parcels 327-E-1 & 404-C-1, Zoned CD-1, Conservation.

Project Description: Consolidation of 2 parcels into 1.

It was moved by **Kaine** and seconded by **Noland** with all members present voting **AYE** to recommend for approval S-09-2026 South Fayette Township School District, Preliminary and Final Minor Subdivision/Consolidation Application, Parcels 327-E-1 & 404-C-1, Zoned CD-1, Conservation, with a request to modify the requirement for spot elevations, subject to the Gibson-Thomas Engineering review letter dated January 15, 2026 and the Allegheny County review letter dated January 7, 2026.

B. Review And Discuss The Attached Ordinance Amending And Restating Various Sections In Chapter 240, Zoning.

AN ORDINANCE OF THE TOWNSHIP OF SOUTH FAYETTE, ALLEGHENY COUNTY, PENNSYLVANIA, amending and restating Chapter 240, Zoning, Article IV R-1 Rural Residential District, Section 240-16 and Article X, PED Planned Economic Development District, Sections 240-56 through 240-62, amending its Zoning Ordinance, setting forth various regulations to update and modernize the PED District's boundaries and approved uses as well as adjusting the R-1 Rural Residential District's area and bulk regulations; Amending the Township's official Zoning Map to adjust the PED District boundaries and to change an existing residential area in Sturgeon from commercial zoning to residential; Amending Article XVI to add supplemental regulations for Data Centers.

John Barrett, Township Manager, briefed on the proposed Ordinance. He informed the board that no action will be taken on this tonight so they have time to review the Ordinance.

7. ACCEPTANCE OF NEW APPLICATIONS:

A. Review and Consider for Acceptance S-01-2026 Second Revision to the Kosky Plan of Lots, Preliminary and Final Minal Minor Subdivision Application, Parcels 256-L-2 & 256-L-1, Zoned C-2.

It was moved by **Cerrone** and seconded by **Kaine** with all members present voting **AYE** to accept application S-01-2026.

B. Review and Consider for Acceptance SP-01-2026 Lafayette 180 Planned Shopping Center, Preliminary and Final Land Development Application, Parcels 256-L-2 & 256-L-1, Zoned C-2.

Danny Cerrone expressed his concerns with the traffic at Newbury, as he had with their original submission.

It was moved by **Cerrone** and seconded by **Kaine** with all members present voting **AYE** to accept application SP-01-2026.

8. OPEN DISCUSSIONS:

9. ADJOURNMENT:

It was moved by **Cerrone** and seconded by **Noland** with all members present voting **AYE** to adjourn.

_____ _____

John Barrett, Township Manager Tom Iagnemma, Chairman

Date: _____ Date: _____

SOUTH FAYETTE TOWNSHIP
A Community Growing Together

Subdivision-Land Development Application

www.southfayettepa.com

Plan Name:	Lafayette 180	File No.	S-01-2026
Plan Location:	Newbury Drive	Tax I.D. #	0256-L-00002, 0256-L-000001, 0256-L-00009
Project Description	Proposed planned shopping center with parking lot and associated utilities.		

Check Appropriate Box(es)

Land Development Plan		Subdivision Plan		Conditional Use Plan	

Minor Subdivision	X	Major Subdivision		Open Space Plan	
Preliminary Plan Submission		Final Plan Submission	X		

Zoning District(s)	C-2	Property Acreage	5.48 acres	No. Lots/Units	

Applicant's Name:	Craig Cozza	Phone No.	
Applicant's Address:	295 Myoma Road, Mars, PA 16046	Fax No.	
Applicant's E-Mail:			
Engineer Firm/Name	The Gateway Engineers, Inc.	Phone No.	
Engineer's Address:	100 McMorris Road, Pittsburgh, PA	Fax No.	
Contact Person:		E-Mail Address	

The following items are reviewed as part of the South Fayette Township application process. Applications submitted WITHOUT these elements will NOT be reviewed by the township.

REQUIRED SUBMISSION ITEMS	Copies	✓ Yes	✓ No	✓ N/A
1) Completed Application Form	1			
2) ACED Subdivision/Land Development Application	1			
3) Maps and Plans • Plus PDF of drawings	1			
• Sets Full-Size Plans (24" x 36")	5			
• Sets Half-Size Plans (11" x 17")	5			
4) Agent Authorization Form	1			
5) Application Fee	1			
6) Escrow – Engineer, Solicitor, Inspection	1			
7) Stormwater Management Plan & Calculations (plus PDF)	2			
8) Erosion & Sedimentation Control Plan (plus PDF)	2			
9) Deed, Sales Agreement or Other Ownership	1			

I have familiarized myself with and hereby agree to comply with the subdivision and zoning ordinance of the township as well as to all township rules, regulations and resolutions. I agree to pay the applicable fee(s).

Signature of Applicant: _____ **Date:** 01/14/2026

If applicant is not the property owner, an Agent Authorization Form must be attached.

SOUTH FAYETTE TOWNSHIP
A Community Growing Together

Agent Authorization Form

www.southfayettepa.com

Name of Property Owners: Craig Cozza

Property Tax Map Number: 0256-L-00002, 0256-L-000001, 026-L-00009

Property/Project(s): Lafayette 180 - Planned Shopping Center

☐ **This application/phase only** ☒ **All related applications and phases**

The above named property owner hereby appoints: The Gateway Engineers, Inc.

as its agent and authorizes said agent to apply for and process the above mentioned development plan/variance on his/her behalf. Agent is further authorized to sign all necessary documentations for such purposes, including acceptance of conditions imposed by the Board of Commissioners upon arrival of the plan. This authorization shall remain in full force and effect until written notice of revocation is delivered to the South Fayette Township Manager.

SIGNED AND SEALED, intending to be legally bound on this date of:

Craig J. Cozza

Owner(s) Signature: _____ (SEAL)

ALL SIGNATURES MUST BE MADE WITH A BLUE INK PEN

REVISION RECORD		
NO	DATE	DESCRIPTION
1	10-17-2023	REVISED PER SOUTH FAYETTE TOWNSHIP AND ALLEGHENY COUNTY COMMENTS
2		
3		
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THE CE-SF, LP, OWNER OF THE LAND SHOWN ON THE SECOND REVISION TO THE KOSKY PLAN OF LOTS HEREBY ADOPTS THIS PLAN AS ITS PLAN OF LOTS AND IRREVOCABLY DEDICATES ALL STREETS AND OTHER PROPERTY IDENTIFIED FOR IDENTIFICATION ON THE PLAN TO THE TOWNSHIP OF SOUTH FAYETTE. THIS ADOPTION AND DEDICATION SHALL BE BINDING UPON THE PARTNERSHIP AND UPON ITS HEIRS, EXECUTORS, AND ASSIGNS.

IN WITNESS OF WHICH, TO THIS I SET MY HAND AND SEAL THIS ____ DAY OF _____, 20____

ATTEST:

_____ _____

NOTARY PUBLIC CRAIG J. COZZA

BEFORE ME, THE UNDERSIGNED NOTARY PUBLIC IN AND FOR THE COMMONWEALTH OF PENNSYLVANIA AND COUNTY OF ALLEGHENY, PERSONALLY APPEARED THE ABOVE NAMED CRAIG J. COZZA, A PARTNER IN THE FIRM OF CE-SF, LP, AND ACKNOWLEDGED THE FOREGOING ADOPTION AND DEDICATION TO BE THE ACT OF THE PARTNERSHIP.

WITNESS MY HAND AND NOTARIAL SEAL THIS ____ DAY OF _____, 20____.

MY COMMISSION EXPIRES THE _____ DAY OF _____, 20____.

(SEAL)

_____

NOTARY PUBLIC

I HEREBY CERTIFY THAT THE TITLE TO THE PROPERTY CONTAINED IN THE SECOND REVISION TO THE KOSKY PLAN OF LOTS IS IN THE NAME OF CE-SF, LP AND IS RECORDED IN DEED BOOK VOLUME ____, PAGE ___, DEED BOOK VOLUME _____, PAGE ____, AND DEED BOOK VOLUME _____, PAGE _____.

_____ _____

WITNESS CRAIG J. COZZA

S&T BANK, MORTGAGEE OF THE PROPERTY CONTAINED IN THE SECOND REVISION TO THE KOSKY PLAN OF LOTS CONSENTS TO THE RECORDING OF SAID PLAN AND TO THE DEDICATIONS AND ALL OTHER MATTERS APPEARING ON THE PLAN.

_____ _____

WITNESS NAME, TITLE, AND MORTGAGEE

I, THE UNDERSIGNED, HEREBY CERTIFY THAT WE UNDERSTAND THE FOLLOWING:

1. THAT RECORDING A PLAN DOES NOT TRANSFER TITLE OF PROPERTY BETWEEN LANDOWNERS.
2. THAT A DEED MUST BE RECORDED IN ORDER TO TRANSFER THE TITLE OF PROPERTY FROM ONE LANDOWNER TO ANOTHER LANDOWNER.
3. THAT THE PLAN AND DEED MUST BE RECORDED IN THE SAME YEAR IN ORDER FOR THE REVALUATION OF THE PROPERTY TO BE COMPLETED AND TAX BILLS TO BE ADJUSTED ACCORDINGLY BY THE FOLLOWING YEAR.

_____ _____

WITNESS CRAIG J. COZZA

I CERTIFY THAT, TO THE BEST OF MY INFORMATION, KNOWLEDGE AND BELIEF, THE SURVEY AND PLANS SHOWN HEREON ARE CORRECT AND ACCURATE TO THE STANDARDS REQUIRED.

DRAFT

_____ _____

DATE SCOTT A. WELLS, PLS
REG. NO. SU-075231

(SEAL)

I CERTIFY THAT THIS PLAN MEETS ALL ENGINEERING AND DESIGN REQUIREMENTS OF THE APPLICABLE ORDINANCES OF THE TOWNSHIP OF SOUTH FAYETTE, EXCEPT AS DEPARTURES HAVE BEEN AUTHORIZED BY THE APPROPRIATE OFFICIALS OF THE MUNICIPALITY.

_____ _____

DATE NAME

(SEAL) _____

REGISTRATION NUMBER

THE BOARD OF COMMISSIONERS OF THE TOWNSHIP OF SOUTH FAYETTE GIVES NOTICE THAT, IN APPROVING THIS PLAN FOR RECORDING, THE TOWNSHIP OF SOUTH FAYETTE ASSUMES NO OBLIGATION TO ACCEPT THE DEDICATION OF ANY STREETS, LAND, OR PUBLIC FACILITIES AND HAS NO OBLIGATION TO IMPROVE OR MAINTAIN SUCH STREETS, LAND OR FACILITIES.

_____ _____

TOWNSHIP MANAGER PRESIDENT, BOARD OF COMMISSIONERS

THE TOWNSHIP OF SOUTH FAYETTE AGREES NOT TO ISSUE BUILDING PERMITS UNTIL THE "PLANNING MODULE FOR LAND DEVELOPMENT" HAS BEEN APPROVED IN ACCORDANCE WITH THE REQUIREMENTS OF THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.

_____ _____

DATE AUTHORIZED MUNICIPAL OFFICIAL

REVIEWED BY THE PLANNING COMMISSION OF THE TOWNSHIP OF SOUTH FAYETTE, THIS ____ DAY OF _____, 20____.

_____ _____

TOWNSHIP MANAGER CHAIRPERSON, PLANNING COMMISSION

APPROVED BY THE BOARD OF COMMISSIONERS OF THE TOWNSHIP OF SOUTH FAYETTE, BY RESOLUTION, THIS ____ DAY OF _____, 20____.

_____ _____

TOWNSHIP MANAGER PRESIDENT, BOARD OF COMMISSIONERS

(SEAL)

REVIEWED BY THE ALLEGHENY COUNTY DEPARTMENT OF ECONOMIC DEVELOPMENT ON THIS ____ DAY OF _____, 20____.

(SEAL) _____

DIRECTOR

AS OF THE DATE OF THIS PLAN'S APPROVAL BY THE APPROVING AUTHORITY, NO DEVELOPMENT OF ANY LAND CONTAINED IN THIS SUBDIVISION OR LAND DEVELOPMENT FOR ANY PURPOSE REQUIRING SANITARY SEWAGE FACILITIES IS PLANNED. NO PORTION OF THIS PROPERTY HAS BEEN APPROVED BY THE MUNICIPALITY OR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION FOR THE INSTALLATION OF SEWAGE DISPOSAL FACILITIES. NO SEWAGE PERMIT WILL BE ISSUED FOR THE INSTALLATION, CONSTRUCTION, CONNECTION TO OR USE OF ANY SEWAGE COLLECTION, CONVEYANCE, TREATMENT OR DISPOSAL SYSTEM UNLESS THE MUNICIPALITY AND THE DEP HAVE BOTH APPROVED SEWAGE FACILITIES PLANNING FOR THE PROPERTY INCLUDED IN THIS PLAN IN ACCORDANCE WITH THE PENNSYLVANIA SEWAGE FACILITIES ACT (35 P.S. § 750.1 ET SEQ.) AND REGULATIONS PROMULGATED THEREUNDER. PRIOR TO THE TRANSFER OF ANY LOT OR PROPERTY INCLUDED IN THIS PLAN, ANY PURCHASER SHOULD CONTACT APPROPRIATE OFFICIALS OF THE MUNICIPALITY, WHICH IS CHARGED WITH ADMINISTERING THE SEWAGE FACILITIES ACT, TO DETERMINE WHAT SEWAGE FACILITIES PLANNING IS REQUIRED AND THE PROCEDURE AND REQUIREMENTS FOR OBTAINING APPROPRIATE PERMITS OR APPROVALS.

A HIGHWAY OCCUPANCY PERMIT IS REQUIRED PURSUANT TO SECTION 420 OF THE ACT OF JUNE 1, 1945 (P.L. 1242, NO. 428), KNOWN AS THE "STATE HIGHWAY LAW" BEFORE DRIVEWAY ACCESS TO A STATE HIGHWAY IS PERMITTED.

BEING A SUBDIVISION AND CONSOLIDATION PLAN OF REVISED PARCEL A-1 OF THE FIRST REVISION TO THE KOSKY PLAN OF LOTS RECORDED IN P.B.V. 274, PG. 44; LOT 2 OF THE SCHNEIDER PLAN RECORDED IN P.B.V. 130, PG. 133; AND TAX PARCEL 256-L-1 RECORDED IN D.B.V. 10562, PG. 390.

NOTARY PUBLIC

LAND SURVEYOR INK SEAL

DRAFT

LAND SURVEYOR EMBOSSED SEAL

DRAFT

TOWNSHIP OF SOUTH FAYETTE ENGINEER

TOWNSHIP OF SOUTH FAYETTE BOARD OF COMMISSIONERS

TOWNSHIP OF SOUTH FAYETTE PLANNING COMMISSION

DEPARTMENT OF ECONOMIC DEVELOPMENT

DEPARTMENT OF REAL ESTATE

RECORDED IN THE OFFICE OF THE DEPARTMENT OF REAL ESTATE OF THE COUNTY OF ALLEGHENY, COMMONWEALTH OF PENNSYLVANIA, IN PLAN BOOK VOLUME _____, PAGE(S) _____.

GIVEN UNDER MY HAND AND SEAL THIS ____ DAY OF _____, 20____.

(SEAL) _____

DEPARTMENT OF REAL ESTATE

Civil & Environmental Consultants, Inc.
700 Cherrington Parkway · Moon Township, PA 15108
Ph: 412.429.2324 · 800.365.2324 · Fax: 412.429.2114
www.cecinc.com

SECOND REVISION TO THE KOSKY PLAN OF LOTS TOWNSHIP OF SOUTH FAYETTE ALLEGHENY COUNTY, PENNSYLVANIA

DRAWN BY:	RWO	CHECKED BY:	CMM	APPROVED BY:	SAW
DATE:	07-14-2023	DWG SCALE:	N/A	PROJECT NO:	333-642

PREPARED FOR:
CE-SF, LP

DRAWING NO.: SUB

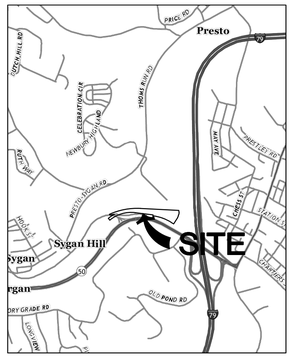
SHEET 1 OF 3

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REVISION RECORD

NO	DATE	DESCRIPTION
1	10-17-2023	REVISED PER SOUTH FAYETTE TOWNSHIP AND ALLEGHENY COUNTY COMMENTS
2		
3		
4		

NORTH

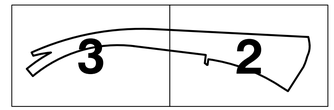


VICINITY MAP
SCALE: 1" = 2000'

ZONE AE
ZONE X OTHER AREAS
ZONE X
N/F PITTSBURGH-WEST VIRGINIA RAILROAD CO 324-D-3
S 87°05'03" E 1068.92'
332.52'
736.40'
15' PERMANENT SANITARY SEWER EASEMENT
S 86°47'28" E 86.33'
N 86°47'28" W 86.27'
S 87°45'36" E 291.39'
N 87°45'36" W 291.44'
S 87°07'58" E 171.03'
N 87°07'58" W 169.09'
N 02°30'31" E 159.78'
LOT 2
148,022 SQ. FT.
3.398 ACRES
APPROXIMATE LOCATION OF SANITARY SEWER EASEMENTS
N/F CE-SF, LP D.B.V. _____, PG. _____ FORMER TAX PARCEL 256-L-9
FORMER REVISED PARCEL A-1 FIRST REVISION TO THE KOSKY PLAN OF LOTS P.B.V. 274, PG. 44
S 72°58'26" E 184.30'
N 72°58'26" W 186.10'
N 79°33'32" E 22.15'
S 79°33'32" W 22.76'
C1 A=4.63'
C2 A=49.14'
PARCEL B FIRST REVISION TO THE KOSKY PLAN OF LOTS P.B.V. 274, PG. 44
N 83°02'42" W 504.76'
477.93'
26.85'
S 81°02'52" E 306.56'
N 06°46'38" E 57.94'
EXISTING 15' EASEMENT
PARCEL LINE TO BE EXTINGUISHED
217.94'
N 81°02'52" W 305.08'
LOT 1
193,344 SQ. FT.
4.439 ACRES
S 82°41'55" E 172.33'
N 82°41'55" W 171.88'
S 57°22'22" E 171.72'
469.89'
S 83°02'42" E 687.83'
S 77°38'44" E 232.77'
N 77°38'44" W 226.57'
C3 A=289.00'
C4 A=322.68'
C5
L1 I.P. FOUND
L2
L3
MILLERS RUN ROAD VARIABLE WIDTH (PUBLIC)
MILLERS RUN ROAD S.R. 0050 VARIABLE WIDTH (PUBLIC)
MATCH LINE SHEET 3
N/F DOLLY IRMA KATHRYN CHAPPELL, trustee D.B.V. 19085, PG. 30 256-L-4
N/F JOSEPH S. UNDERWOOD, et ux. D.B.V. 18119, PG. 192 256-L-3
N/F JOHN C. TOWNSEND D.B.V. 2919, PG. 744 256-L-5
N/F CE-SF, LP D.B.V. _____, PG. _____ FORMER TAX PARCEL 256-L-1
N/F TF SOUTH FAYETTE, LLC D.B.V. 18266, PG. 356 256-L-15
A=256.31'
A=522.68'
R=1245.92'
Δ=24°02'10"
CHB=N69°47'32"W
CH=518.85'
WOOD HUB
20.76'
S 20°43'08" W
1 STORY STONE AND ALUMINUM SIDED BUILDING (TO BE RAZED)
FORMER LOT 2 SCHNEIDER PLAN P.B.V. 130, PG. 133
N/F CE-SF, LP D.B.V. _____, PG. _____ FORMER TAX PARCEL 256-L-2
A=256.37'
N 57°46'27" W 81.56'
MAG NAIL FOUND
I.P. FOUND
201.90'
S 32°36'43" W
NEWBURY DRIVE (PRIVATE)
LOT 1 SCHNEIDER PLAN P.B.V. 130, PG. 133
N/F THE GATEWAY SHOPS AT NEWBURY MARKET, LP D.B.V. 15166, PG. 522 256-S-6
ACCESS EASEMENT
TRAFFIC SIGNAL EASEMENT
ZONE X OTHER AREAS
C7 S 58°40'02" E 100.00'
C6 S 37°01'49" E 100.00'
P1208+70.32
P1208+70.32
202 203 204 205 206 207 208 209

SURVEYORS NOTES:

1. PLAN NORTH IS BASED UPON PENNSYLVANIA STATE PLANE NAD83-2011, SOUTH ZONE, AS DETERMINED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC., USING SURVEY GRADE GPS MEASUREMENTS AND OPUS POST PROCESSING.
2. PROPERTY IS LOCATED IN FLOOD ZONE AE (REGULATORY FLOODWAY); ZONE AE (SPECIAL FLOOD HAZARD AREAS WITH BASE FLOOD ELEVATIONS DETERMINED); ZONE X (OTHER AREAS OF FLOOD HAZARD: 0.2% ANNUAL CHANCE FLOOD HAZARD, AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTH LESS THAN ONE FOOT OR WITH DRAINAGE AREAS OF LESS THAN ONE SQUARE MILE); AND ZONE X (AREA OF MINIMAL FLOOD HAZARD) AS DEPICTED ON FLOOD INSURANCE RATE MAP 42003C0432H AND 42003C0451H, EFFECTIVE DATE 09-26-2014, ALLEGHENY COUNTY, PENNSYLVANIA. THE FLOOD ZONE SHOWN ARE SCALED FROM THE F.I.R.M. COMMUNITY PANEL AND ARE APPROXIMATE.
3. SEE COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION DRAWINGS ESTABLISHING AND RE-ESTABLISHING LIMITED ACCESS HIGHWAY AND AUTHORIZING AND RE-AUTHORIZING CONDEMNATION OF RIGHT OF WAY OF LEG. ROUTE 1138, SECTION 1 R/W DATED SEPTEMBER 1974.
4. THE APPROXIMATE LOCATION OF SANITARY SEWER EASEMENTS ON LOT 2 ARE SHOWN BASED ON D.B.V. 17543 PG. 340



KEY MAP
1" = 500'

DRAFT

SCALE IN FEET
0 40 80

ZONING INFORMATION-TOWNSHIP OF SOUTH FAYETTE
ZONED C-2 - HIGHWAY COMMERCIAL DISTRICT
PLANNED SHOPPING DISTRICT

	C-2	C-2 (PLANNED SHOPPING CENTER)
MINIMUM LOT AREA	20,000 SQ. FT	5 ACRES
MINIMUM LOT WIDTH	60 FT.	200 FT.
MINIMUM FRONT YARD	25 FT.	50 FT.
MINIMUM SIDE YARD	20 FT.	20 FT.
MINIMUM REAR YARD	40 FT.	50 FT.
MAXIMUM BUILDING HEIGHT	60 FT.	60 FT.
MAXIMUM LOT COVERAGE	70%	70%

ORIGINAL AREA TABULATION

	SQ. FT.	ACRES
FORMER TAX PARCEL 256-L-1	10,757	0.247
FORMER LOT 2 FORMER TAX PARCEL 256-L-2	45,527	1.045
FORMER REVISED PARCEL A-1 FORMER TAX PARCEL 256-L-9 (INCLUDES RIGHT OF WAY)	285,082	6.545
TOTAL	341,366	7.837

AREA TABULATION

	SQ. FT.	ACRES
LOT 1	193,344	4.439
LOT 2	148,022	3.398
TOTAL	341,366	7.837

CURVE TABLE					
CURVE #	RADIUS	DELTA	LENGTH	CHL	CHB
C1	301.00'	11°01'48"	57.95'	57.86'	S 09°22'41" E
C2	143.00'	27°40'42"	69.08'	68.41'	S 09°58'35" W
C3	157.00'	9°28'17"	25.95'	25.92'	S 19°04'47" W
C4	289.00'	9°39'42"	48.73'	48.68'	S 19°10'29" W
C5	322.68'	3°15'47"	18.38'	18.37'	N 50°20'38" W

LINE TABLE		
LINE #	DIRECTION	LENGTH
L1	S 24°00'20" W	15.07'
L2	S 08°11'23" W	40.00'
L3	N 79°08'22" W	5.14'

SURVEYOR:
CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
700 CHERRINGTON PARKWAY
MOON TOWNSHIP, PA 15108
CONTACT: SCOTT A. WELLS, P.L.S.
PHONE NUMBER: 412-409-2324
EMAIL: SWELLS@CECINC.COM

PROPERTY OWNER:
CE-SF, LP
295 MYOMA ROAD
MARS, PA 16046
CONTACT: CRAIG J. COZZA
PHONE NUMBER: (412)-381-7602

BEING A SUBDIVISION AND CONSOLIDATION PLAN OF REVISED PARCEL A-1 OF THE FIRST REVISION TO THE KOSKY PLAN OF LOTS RECORDED IN P.B.V. 274, PG. 44; LOT 2 OF THE SCHNEIDER PLAN RECORDED IN P.B.V. 130, PG. 133; AND TAX PARCEL 256-L-1 RECORDED IN D.B.V. 10562, PG. 390.

Civil & Environmental Consultants, Inc.
700 Cherrington Parkway · Moon Township, PA 15108
Ph: 412.429.2324 · 800.365.2324 · Fax: 412.429.2114
www.cecinc.com

SECOND REVISION TO THE KOSKY PLAN OF LOTS TOWNSHIP OF SOUTH FAYETTE ALLEGHENY COUNTY, PENNSYLVANIA

DRAWN BY:	RWO	CHECKED BY:	CMM	APPROVED BY:	SAW
DATE:	07-14-2023	DWG SCALE:	1" = 40'	PROJECT NO:	333-642

PREPARED FOR:
CE-SF, LP

DRAWING NO.: **SUB**
SHEET 2 OF 3

P:\330-000\333-642\~Survey\Dwg\333642-SUB.dwg[SUB-2] 10/17/2023 - mmcdonald - LP: 10/17/2023 4:14 PM

NORTH

ZONE X
OTHER AREAS

ZONE AE

ZONE X

N/F
PITTSBURGH–WEST VIRGINIA RAILROAD CO
324–D–3

A=888.65'
R=1877.02'
Δ =27°07'33"
CHB=N79°21'10"E
CH=880.37'

APPROXIMATE LOCATION OF SANITARY SEWER EASEMENTS

EXISTING 15' EASEMENT

LOT 2
148,022 SQ. FT.
3.398 ACRES

N/F
CE–SF, LP
D.B.V. ____, PG. ____
FORMER TAX PARCEL 256–L–9

FORMER REVISED PARCEL A–1
FIRST REVISION TO THE
KOSKY PLAN OF LOTS
P.B.V. 274, PG. 44

15' PERMANENT SANITARY SEWER EASEMENT

A=91.87'
R=694.68'
Δ =7°34'39"
CHB=S80°54'16"W
CH=91.81'

N 27°14'01" W 25.80'

2" POST FOUND

PART OF LOT 2

N/F
JOHN KOSKY, JR., et ux.
D.B.V. 15886, PG. 556
256–K–3

N/F
JOHN KOSKY, JR., et ux.
D.B.V. 15886, PG. 556
256–K–2

N/F
JOHN C. TOWNSEND
D.B.V. 2919, PG. 744
256–L–5

1" SQ. PIN FOUND

1" REBAR FOUND

A=33.23'
R=788.94'
Δ =2°24'48"
CHB=S76°33'06"W
CH=33.23'

MILLERS RUN ROAD
VARIABLE WIDTH
(PUBLIC)

A=758.50'
R=927.26'
Δ =46°52'06"
CHB=S73°31'15"W
CH=737.53'

N/F
KENNETH BAILEY
D.B.V. 9103, PG. 504
256–K–1

A=203.69'
R=993.26'
Δ =11°44'59"
CHB=N55°57'41"E
CH=203.33'

N 39°54'48" W 66.00'

N/F
JOHN KOSKY JR.
256–K–21
D.B.V. 3121, PG. 657

N/F
PERISSOS DEVELOPMENT, LLC
D.B.V. 16216, PG. 46
256–K–21

ZONE AE
FLOODWAY

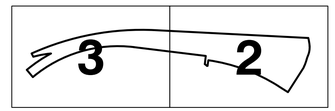
MILLERS RUN ROAD
S.R. 0050
VARIABLE WIDTH
(PUBLIC)

195 196 197 198 199 200 201

MATCH LINE SHEET 2

REVISION RECORD

NO	DATE	DESCRIPTION
1	10-17-2023	REVISED PER SOUTH FAYETTE TOWNSHIP AND ALLEGHENY COUNTY COMMENTS
2		
3		
4		



KEY MAP
1" = 500'

DRAFT

SCALE IN FEET
0 40 80

BEING A SUBDIVISION AND CONSOLIDATION PLAN OF REVISED PARCEL A-1 OF THE FIRST REVISION TO THE KOSKY PLAN OF LOTS RECORDED IN P.B.V. 274, PG. 44; LOT 2 OF THE SCHNEIDER PLAN RECORDED IN P.B.V. 130, PG. 133; AND TAX PARCEL 256-L-1 RECORDED IN D.B.V. 10562, PG. 390.

Civil & Environmental Consultants, Inc.
700 Cherrington Parkway · Moon Township, PA 15108
Ph: 412.429.2324 · 800.365.2324 · Fax: 412.429.2114
www.cecinc.com

SECOND REVISION TO THE KOSKY PLAN OF LOTS TOWNSHIP OF SOUTH FAYETTE ALLEGHENY COUNTY, PENNSYLVANIA

DRAWN BY:	RWO	CHECKED BY:	CMM	APPROVED BY:	SAW
DATE:	07-14-2023	DWG SCALE:	1" = 40'	PROJECT NO:	333-642

PREPARED FOR:
CE-SF, LP

DRAWING NO.: SUB
SHEET 3 OF 3

P:\330-000\333-642\-Survey\Dwg\333642-SV01-SUB.dwg(SUB-3) LS(10/17/2023 - mmcdaniel) - LP: 10/17/2023 4:14 PM

Gibson-Thomas ENGINEERING

Pittsburgh Office
9951 Old Perry Highway
Wexford, PA 15090
Phone: **724-935-8188**
Fax: **724-935-8189**
www.gibson-thomas.com

February 19, 2026

GTE 18662

MEMO TO: Mr. John Barrett, Manager
South Fayette Township
100 Township Drive
South Fayette, PA 15017

FROM: Gibson-Thomas Engineering Co., Inc.
Brandon S. Wiltrout, PE, Planning Commission Representative
brandon.wiltrout@gibson-thomas.com

SUBJECT: Minor Subdivision Plan – **Review #1**

PLAN NAME: Second Revision to the Kosky Plan of Lots

APPLICATION NO.: S-01-2026

LOCATION: Newbury Drive
Bridgeville, PA 15017

ZONING: C-2 Highway Commercial

MADE BY: Civil & Environmental Consultants, Inc.
700 Cherrington Parkway
Moon Township, PA 15108
(412) 429-2324

MADE FOR: Craig Cozza
295 Myoma Road
Mars, PA 16046
(412) 381-7602

DATE OF PLAN: August 14, 2023 (Revised 10/17/2023)

RECEIVED IN GTE OFFICE: January 20, 2026

SUBMITTED MATERIAL:

- Subdivision Plan (3 Sheets)
- Township Subdivision Application

General Comments

1. Gibson-Thomas Engineering Co., on behalf of South Fayette Township, reserves the right to re-review ordinances, address and apply other existing ordinances as we deem necessary to assure compliance with any and all drawings, reports, and exhibits when submitted or resubmitted on behalf of the applicant.

2. When resubmitting the revised plan, a review response letter addressing the comments contained herein is required.

3. This project involves the consolidation of three tax parcels, 256-L-1, 256-L-2, and 256-L-9, into two lots within the Township. Parcel No. 256-L-2 is currently developed with a 1-story stone and aluminum sided building that is to be razed with the accompanying Land Development plan. The original lot sizes of Parcel Nos. 256-L-1, 256-L-2, and 256-L-9 are 0.247 acres, 1.045 acres, and 6.545 acres, respectively. Following the proposed consolidation, Lot 1 will consist of Parcels 256-L-1, 256-L-2, and a portion of 256-L-9 and will be 4.439 acres. Lot 2 will consist of the remainder of Parcel 256-L-9 and will be 3.398 acres. This plan is a subdivision and consolidation plan of revised Parcel A-1 of the first revision to the Kosky Plan of Lots recorded in P.B.V. 274, pg. 44; Lot 2 of the Schneider Plan recorded in P.B.V. 130, pg. 133; and Tax Parcel 256-L-1 recorded in D.B.V. 10562, pg. 390.

4. The Applicant shall address any third-party review and comments prior to final approval.

5. The Applicant shall revise the application to pertain solely to the subdivision plan, including the project description and the engineering firm.

6. The Applicant shall revise the owner information in all instances to match the ownership listed on the deed, as CF-S.F. One, LP. Whenever 'Property Owner' is referenced, all owners of the affected parcels shall be listed.

7. The Applicant shall provide the recorded deed volume and page for each parcel.

Chapter 215 - Subdivision/Land Development Comments

1. § 215-10 – This project is being reviewed as a minor subdivision.

2. § 215-13.C – The Applicant shall provide written evidence of ownership or proprietary interest. According to the Tax Maps, the properties are not under common ownership. If the Parcels are not under common ownership, an ownership clause is needed for each owner.

3. § 215-13.J – The Applicant shall provide written evidence of any zoning variances granted which are applicable to the property as listed on the Land Development plans.

4. § 215-13.L.5 – The Applicant shall provide the setback lines for all Parcels. Corner lots shall provide front yards on each street frontage. The remaining two yards shall constitute side yards as per § 240.99.A.

5. § 215-13.L.13 – The Applicant shall provide the Deed Required Notification Clause, with signature lines for each owner of the involved parcels.

6. § 215-16 – Upon approval of a final plat by the Board of Commissioners, the developer shall record such plat in the Office of the Allegheny County Recorder of Deeds either within 90 days of such final approval, or within 90 days after the date of delivery of an approved plat signed by the Board of Commissioners following completion of any conditions imposed for such approval in accordance with the terms of the development agreement, whichever is later.

7. § 215-63.A – Concrete monuments shall be set at the intersection of all lines forming angles in the boundary of the subdivision, including all points of curve and points of tangent.

Sincerely,

GIBSON-THOMAS ENGINEERING CO., INC.



Brandon S. Wiltrout, PE
Project Manager

The plans have been reviewed for conformance to the South Fayette Township adopted ordinances only. Gibson Thomas Engineering reserves the right to provide further and additional comments on the submitted plans upon the request of the South Fayette Township. The review has been based on surveys and drawings prepared by others and assumes this information is correct and valid as submitted. The Applicant shall acknowledge that any and all comments from this letter and any successive letters must be addressed before final approval.

September 19, 2023

Gary Hartz
Planning Director
South Fayette Township
515 Millers Run Road
South Fayette, PA 15064

Projects:	**Second Revision to the Kosky Plan of Lots & Lafayette 180 Planned Shopping Center**
Location:	180 Millers Run Road
Description:	Subdivision / Land Development (C-2 District)
Area:	7.83 acres (4.7 acres to be developed)
ACED File#:	23-246 SU & 23-247 SP

Dear Mr. Hartz:

We received the above-referenced applications on August 18, 2023 one for the minor subdivision of parcels 256-L-1, 256-L-2, and 256-L-9 into two lots in South Fayette Township and the second for the development of one of the resulting lots. We have reviewed the applications and offer the following comment:

Minor Subdivision:

The parcels have different owners, and in order to record the plans all owners must sign them. Currently only the owners of parcel 256-L-2, CE-S.F. LP, are included in the plans, but parcel 256-L-1 is owned by Anthoni Mals Peterson and parcel 256-L-9 is owned by John Jr & Madeline Kosky. This means that the plans must have the following:

- Owner and Notary Clauses for each of the owners. Be advised the language of the clauses changes depending on the kind of owners and each of the parcels is owned by a different type. The recommended language can be found in Appendix 3 of the Allegheny County SALDO available online.
- Either three distinct Title Clauses with the owners, mortgage, and deed information for each parcel, or one Title Clause with the owners, mortgage, and deed information for all three parcels with signature lines for each of the owners and their corresponding witnesses.

LANCE CHIMKA, DIRECTOR
ALLEGHENY COUNTY ECONOMIC DEVELOPMENT
KOPPERS BUILDING • 436 SEVENTH AVE, SUITE 500• PITTSBURGH, PA 15219
PHONE (412) 350-1000 • WWW.ALLEGHENYCOUNTY.US/ECONOMIC/

- A Deed Required Notification Clause with signature lines for each of the owners and their corresponding witnesses. This is to ensure that the owners are aware that recording a plan of subdivision alone does not change the ownership of the property, and a deed must also be recorded in order to transfer the title of the property from one landowner to another. Attached is our handout with the required language for this clause.
- All three owners' information must be included under "Property Owner" in Sheet 2.

The owner's name used in the Clauses must be the same as the one in the deed, currently the owner's name in the deed for parcel 256-L-2 is "CE-S.F. **One,** LP" not CE-S.F. LP as shown in the plans. This should be corrected.

Section 215-13.L(5) of the South Fayette Township's SALDO requires plans to show "building or setback lines and lines of existing and proposed streets and rights-of-way, lots, reservations, easements and areas dedicated to public use, including grants, restrictions and rights-of-way". Currently the plan does not include the easements within parcel 256-L-9 described in DBV 17543 Page 340. These easements should be described with their own bearings, distances, and area in both acres and square feet.

All lots and parcels in the lot consolidation must be completely described, and no distances, bearings, or curve data can be missing. Lot lines to be extinguished must be described with distances and bearings. Currently none of the lot tines to be extinguished have distances or bearings.

Land Development:

The row of parking spaces along Newbury Drive, and the two rows of back-to-back spaces on the southeast corner of the lot all have parking count numbers that do not match the amount drawn on the plans. This should be corrected.

Section 240-111.C of the South Fayette Township's Zoning Ordinance requires all handicapped parking spaces to measure 12 feet by 18 feet. The handicapped parking spaces shown in the plans do not meet this requirement. In the drawing all the spaces and aisles are nine feet wide, and the details only show that the spaces should be a minimum of eight feet wide. This should be corrected.

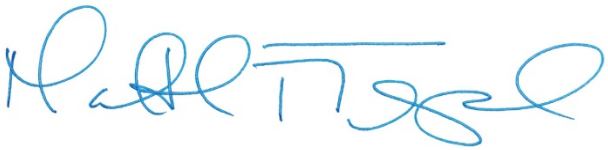
Section 240-113 of the South Fayette Township's Zoning Ordinance requires development to provide a loading berth of "at least 65 feet in length and 12 feet in width with an overhead clearance of 14 feet". No such space is provided on the plans.

The side yard shown in the Zoning Requirements table is incorrect, it states the minimum is 50 feet, but this is only the requirement if the lot is adjoining an R District which is not the case with this project. The minimum side yard required by section 240-51.F(1) is 20 feet. This should be corrected.

The 50 foot setback lines drawn on the plans do not follow the contour of the new Lot1 lines and continue in to Lot 2 as if both lots were consolidated. This should be corrected.

Should you have any questions, please contact Natalia Cains Febles at 412-350-4356 or by e-mail at Natalia.CainsFebles@AlleghenyCounty.US.

Sincerely,



Matthew T. Trepal, AICP
Manager, Planning Division

MTT:NCF

SOUTH FAYETTE TOWNSHIP

A Community Growing Together

Review Referral

www.southfayettepa.com

Plan Name: **Lafayette 180 Planned Shopping Center**	Plan File Number: **SP-01-2026**
Location: **256-L-1, 256-L-2, 256-L-9**	Application Type: **Land Development**
Zoning**: C-2**	Applicant: **Craig Cozza**

The Township of South Fayette requests your review and comment on the above-mentioned land development plan.

	Code Enf.	Public Works	Works Police	Fire Dept.	EAC	SFSD	MATSF	ACED		Engr Cons.	Trfc Engr.
Reports: Environmental											
Geotechnical											
Traffic											
Plans:											
Other:											

Please forward your comments to South Fayette Township, 515 Millers Run Road, Morgan PA, 15064 or by calling (412) 221-8700.

Gary Hartz, Planning Director

01/16/2026
Date

Agency Comments: MATSF

Please see attached KLH review letter.

Nick Goettman
Agency Signature

2-17-26
Date

KLH ENGINEERS, INC

February 13, 2026
Ref. No. 217-03-063

Mr. Joseph Galbraith, P.E.
The Gateway Engineers, Inc.
100 McMorris Road
Pittsburgh, PA 15205

Dear Mr. Galbraith:

Municipal Authority of the Township of South Fayette
Lafayette 180
Sanitary Sewer Plan Review

As requested by the Municipal Authority of the Township of South Fayette (MATSF), KLH Engineers, Inc. (KLH) has completed a review of the sanitary sewer plans for the proposed Lafayette 180 planned shopping center. The plans are dated August 2025 with the latest revision being a January 14, 2026, submission to the Township. The plans were prepared by The Gateway Engineers, Inc. and received by our office on January 19, 2026. KLH reviewed the plans for compliance with MATSF standards and regulations. We offer the following comments:

1. All sewers shall be designed and constructed in accordance with MATSF standards and regulations, including Appendix A, Basic Design and Construction Parameter Checklist, which can be obtained from MATSF.

2. A Developer's Sewage Service Agreement is required. The standard agreement can be obtained from MATSF. The Developer shall provide escrowed funds/bonding with MATSF for the construction of the proposed sanitary sewers.

3. In advance of obtaining a Township building permit, a sanitary sewer connection fee must be paid to MATSF. The developer shall contact MATSF for the appropriate forms and fees. Payment of the sanitary sewer connection fee, however, is not required for construction of the proposed sanitary sewers.

4. Due to the proximity of the proposed sewer to the building, it does not appear the required easements will be available. Therefore, MATSF will not take ownership of the proposed sewers and they will remain private. Therefore, no easements are necessary on behalf of MATSF. If it is the developer's intent to turn the sewers over to MATSF, please shift the proposed sewer to provide a 20' sanitary sewer easement.

5. Acquisition of all permits shall be the responsibility of the Developer should they be required. The Developer shall follow all regulatory requirements including but not limited to preparation and implementation of an Erosion & Sedimentation Pollution Control Plan.

6. The Developer shall follow the PA One Call law during design and construction. If present, all existing utilities shall be shown on the plans. All utilities crossing the proposed sanitary sewers need to be shown in the profiles.

5173 Campbells Run Road Pittsburgh, PA 15205 Phone: 412.494.0510 Fax: 412.494.0426 info@klhengineers.com
www.klhengineers.com

7. MATSF Standard Detail Drawings were updated in February 2025 and shall be included on the plans. The February 2025 Standard Detail Drawings are attached.

8. Per MATSF specifications, 100% stone backfill is required under all improved surfaces including private roads, Township Streets, State Highways, driveways, parking areas, and sidewalks. This backfill shall consist of (for the entire trench width and depth) 2A limestone mechanically compacted in 6" lifts.

9. Sanitary sewer pipes located in fill areas require at least 95% compaction density and evidence of test results per MATSF specifications.

10. It appears the horizontal distances between manholes shown on the plans are centerline to centerline measurements. These measurements were used to calculate the slopes shown for each pipe run on the profile drawings. The design engineer has included a note on the sanitary sewer profile drawings so that it does not get missed by the contractor as the slopes and distances shown do not reflect actual proposed pipe lengths and slopes. As-built drawings should reflect actual pipe lengths and slopes.

11. The plans must show influent and effluent inverts for all manholes. Provide a minimum 0.10 feet difference in elevation between the influent and effluent pipes in all manholes.

12. Please note, all manhole joints, with the exception of the frame to the cone, must be wrapped with "Wrapidseal" or approved equal. Refer to MATSF Standard Detail Drawings.

13. Provide proposed sanitary service lateral wye stations based on stationing as measured from the downstream manhole and show on the plan and/or profile drawings in tabular form.

14. The plans indicate an outside drop connection for connection of the proposed 8" sewer to the existing manhole. Please revise to indicate an inside drop connection and include the applicable Standard Detail Drawings.

15. A final "Issued for Construction" set of plans shall be provided to MATSF.

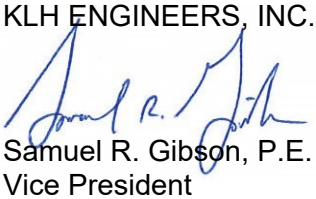
16. The developer shall provide final as-built record drawings after completion of construction. As-built drawings should reflect actual pipe lengths and slopes installed.

Based on the foregoing, KLH recommends the above revisions prior to approval. Additional comments may follow after review of subsequent submissions. Final approval by MATSF occurs when the Developer's Agreement is approved and signed.

Should you have any questions, please feel free to contact our office.

Very truly yours,

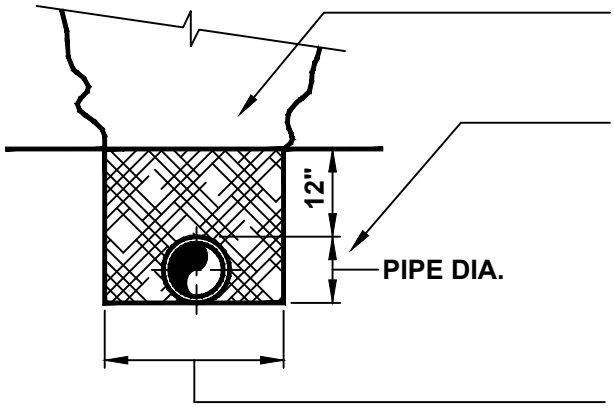
KLH ENGINEERS, INC.



Samuel R. Gibson, P.E.
Vice President

Enclosures

cc: Nick Goettman, Operations Manager, MATSF

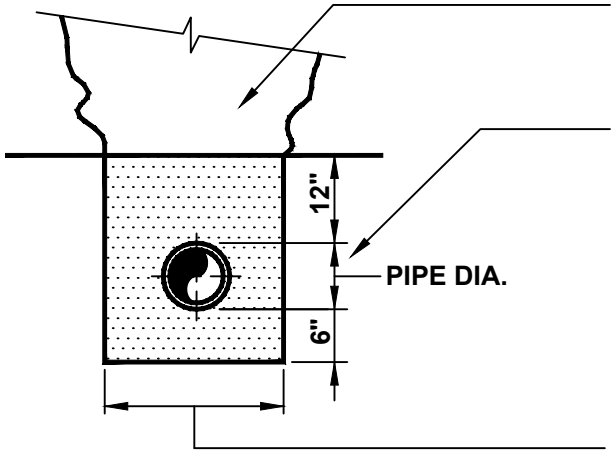


MECHANICALLY COMPACTED BACKFILL MATERIAL IN ACCORDANCE WITH MATSF CONSTRUCTION SPECIFICATIONS

DUCTILE IRON AND REINFORCED CONCRETE CULVERT PIPE ON NON-ROCK TRENCH BOTTOMS. BELL HOLES SHALL BE EXCAVATED TO ASSURE CONTINUOUS PIPE BARREL SUPPORT FOR FULL LENGTH OF PIPE SECTIONS. TRENCH SIDEWALLS SHALL BE PLUMB WITHIN PIPE ZONE.

PIPE DIA. PLUS 2' MAX.
PIPE DIA. PLUS 1' MIN.

DETAIL A

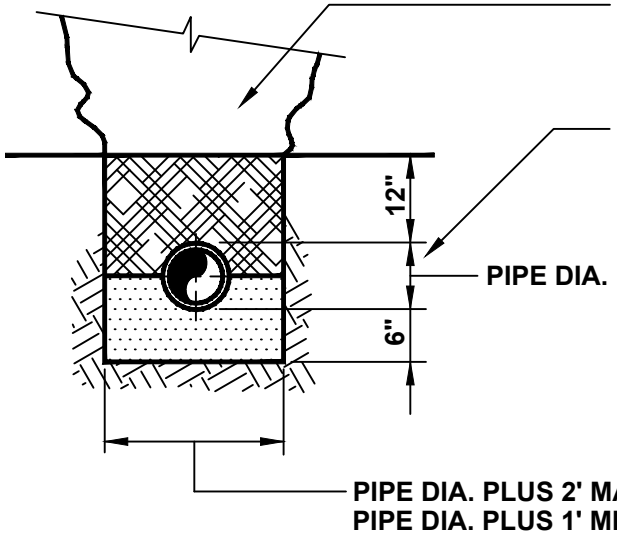


MECHANICALLY COMPACTED BACKFILL MATERIAL IN ACCORDANCE WITH MATSF CONSTRUCTION SPECIFICATIONS

PVC PIPE AT ALL LOCATIONS. TRENCH SIDEWALLS SHALL BE PLUMB WITHIN PIPE ZONE

PIPE DIA. PLUS 2' MAX.
PIPE DIA. PLUS 1' MIN.

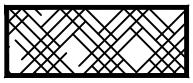
DETAIL B



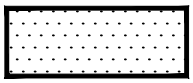
MECHANICALLY COMPACTED BACKFILL MATERIAL IN ACCORDANCE WITH THE MATSF CONSTRUCTION SPECIFICATIONS

DUCTILE IRON PIPE AND REINFORCED CONCRETE CULVERT PIPE ON ROCK TRENCH BOTTOM. TRENCH SIDEWALLS SHALL BE PLUMB WITHIN PIPE ZONE.

PIPE DIA. PLUS 2' MAX.
PIPE DIA. PLUS 1' MIN.



SELECTED EXCAVATED MATERIAL MECHANICALLY COMPACTED MAXIMUM SIZE ROCKS- 3"



2B CRUSHED STONE OR CRUSHED GRAVEL

DETAIL C

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		TRENCH PIPE ZONE DETAILS
Not to scale	February 2025	Standard Detail SD-001

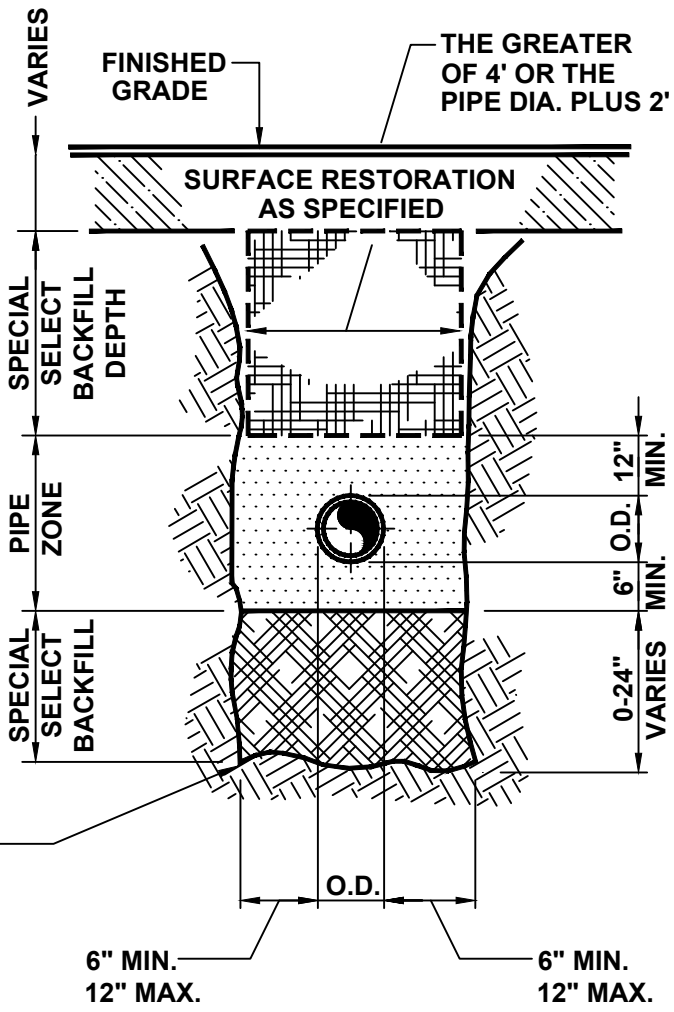
NOTE:

WHERE SPECIAL SELECT BACKFILL IS REQUIRED BETWEEN THE PIPE ZONE AND THE SURFACE MATERIAL, THE PIPE ZONE SHALL EXTEND 12" ABOVE THE PIPE REGARDLESS OF PIPE MATERIAL

SELECTED EXCAVATED MATERIAL MECHANICALLY COMPACTED MAXIMUM SIZE ROCKS- 3"

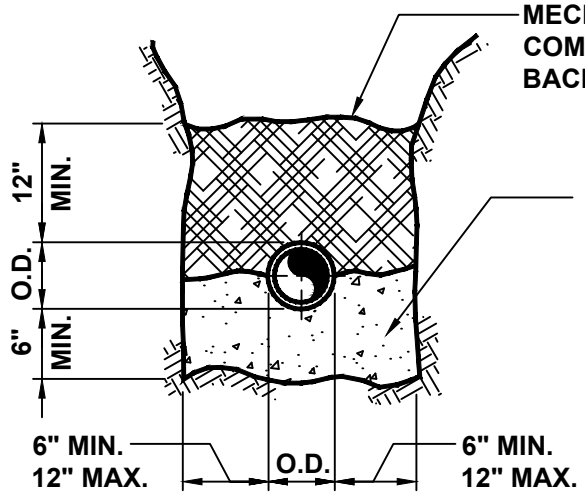
2B CRUSHED STONE OR CRUSHED GRAVEL

CLASS "C" CONCRETE OR BETTER

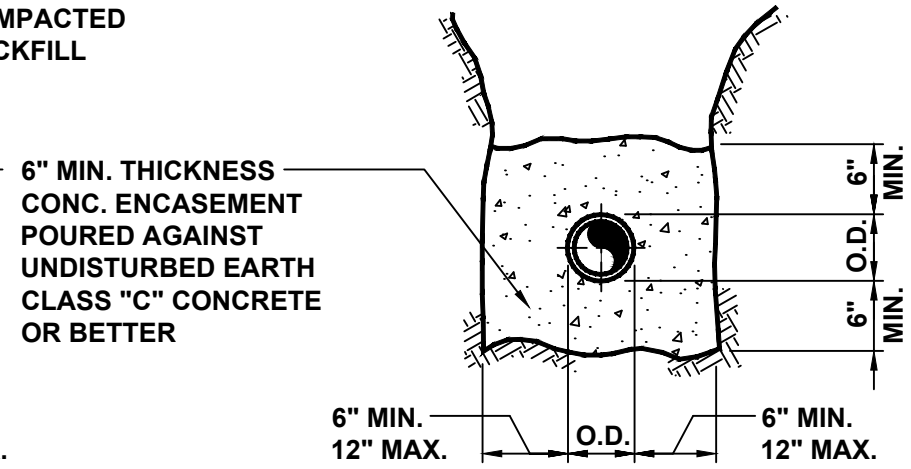


WHERE EXCAVATION EXPOSES THE BOTTOM OF PROPOSED TRENCHES WHERE VERY SOFT OR OTHER UNSTABLE PIPE FOUNDATION MATERIALS EXIST, THE CONTRACTOR WILL BE DIRECTED TO OVERCUT OR STABILIZE / OVERCUT AND REPLACE WITH R4 RIP RAP CHOCKED WITH AASHTO #57 STONE. THE CONTRACTOR SHALL BE COMPENSATED FOR THE ADDITIONAL EXCAVATION IN ACCORDANCE WITH THE PROVISIONS SPECIFIED IN THE GENERAL CONDITIONS.

SPECIAL BACKFILL DETAIL A

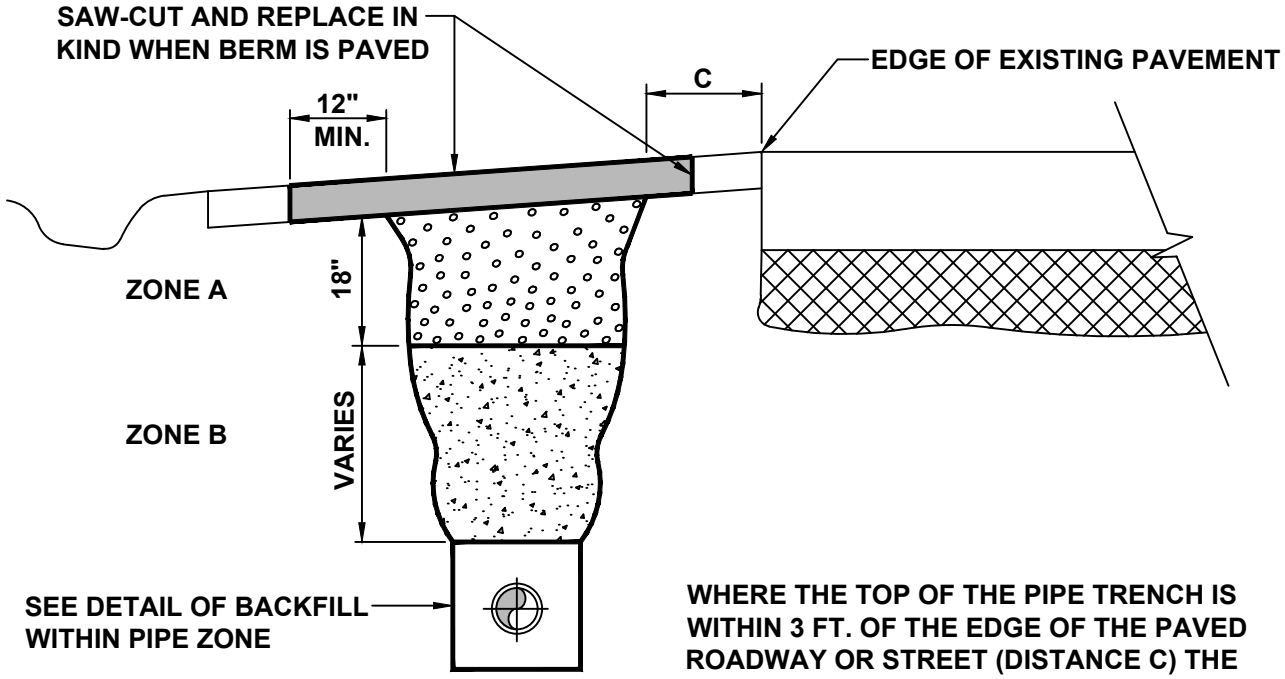


TYPICAL CONCRETE CRADLE DETAIL B



TYPICAL CONCRETE ENCASEMENT DETAIL C

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		PIPE BEDDING DETAILS
Not to scale	February 2025	Standard Detail SD-002

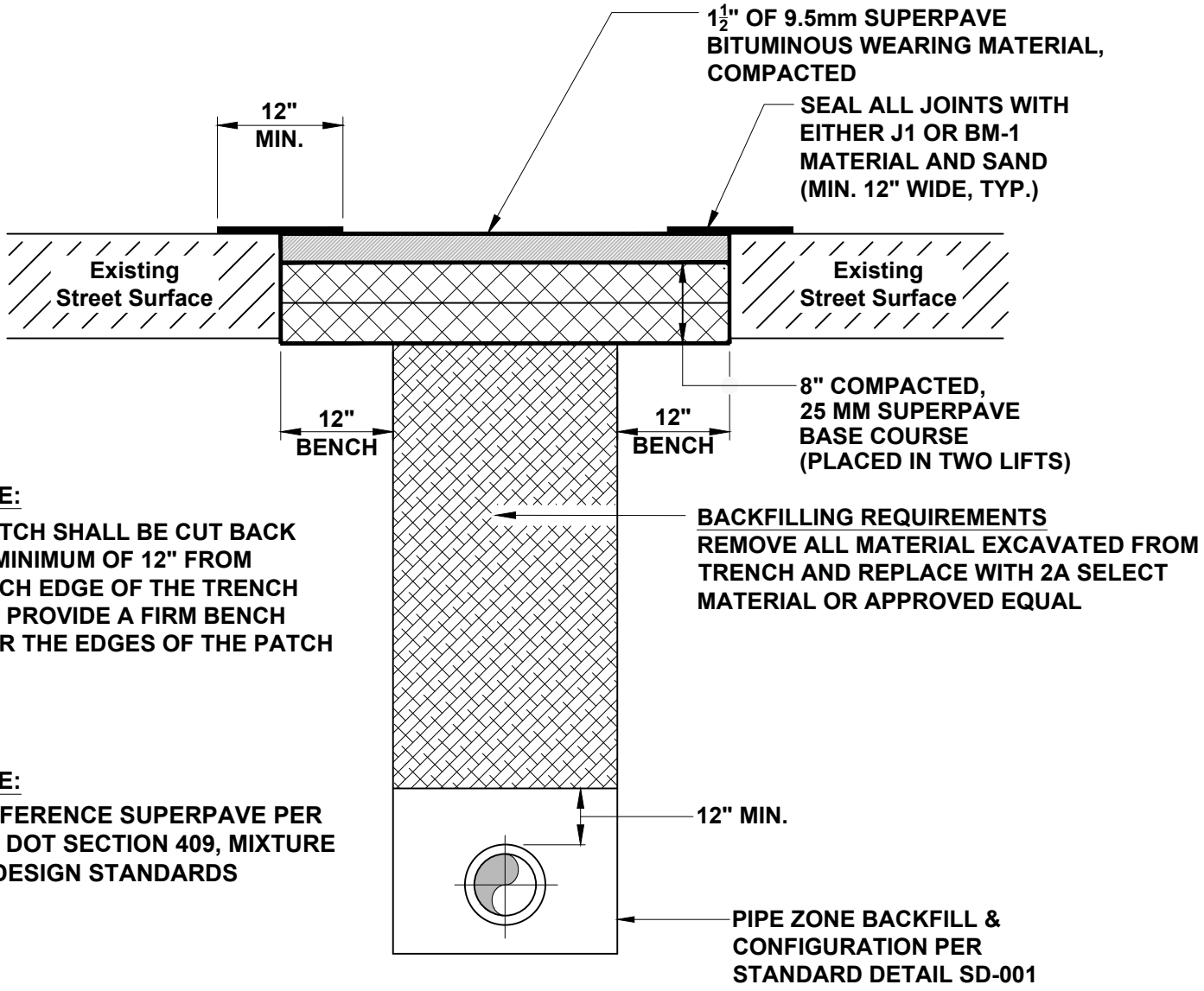


WHERE THE TOP OF THE PIPE TRENCH IS WITHIN 3 FT. OF THE EDGE OF THE PAVED ROADWAY OR STREET (DISTANCE C) THE ENTIRE TRENCH BACKFILL ABOVE THE PIPE ZONE, THAT IS THE BACKFILL PLACED IN ZONES A AND B SHALL CONSIST OF 2-A LIMESTONE MATERIAL MECHANICALLY COMPACTED IN 6" LAYERS.

WHERE THE TOP OF THE PIPE TRENCH IS GREATER THAN 3 FT. FROM THE EDGE OF THE PAVED ROADWAY (DISTANCE C) BACKFILL PLACED IN ZONE B SHALL BE EXCAVATED MATERIAL FROM THE TRENCH, FREE OF ROCKS LARGER THAN 3" AND MECHANICALLY COMPACTED IN 6" LAYERS. BACKFILL MATERIAL PLACED IN ZONE A (THE TOP 18" OF THE TRENCH) SHALL BE 2-A LIMESTONE MATERIAL MECHANICALLY COMPACTED IN 6" LAYERS.

WHERE THE BERM IS NOT PLANTED OR PAVED IT SHALL BE RESTORED FOR ITS ENTIRE WIDTH BY APPLICATION OF RT-2W BITUMINOUS MATERIAL AT A RATE OF 0.2 TO 0.5 GALLONS PER SQUARE YARD DEPENDING UPON LOCATION AND PREVAILING TEMPERATURES AT TIME OF APPLICATION.

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		TRENCH BACKFILL WITHIN ROADWAY OR STREET BERMS
Not to scale	February 2025	Standard Detail SD-004



NOTE:

PATCH SHALL BE CUT BACK A MINIMUM OF 12" FROM EACH EDGE OF THE TRENCH TO PROVIDE A FIRM BENCH FOR THE EDGES OF THE PATCH

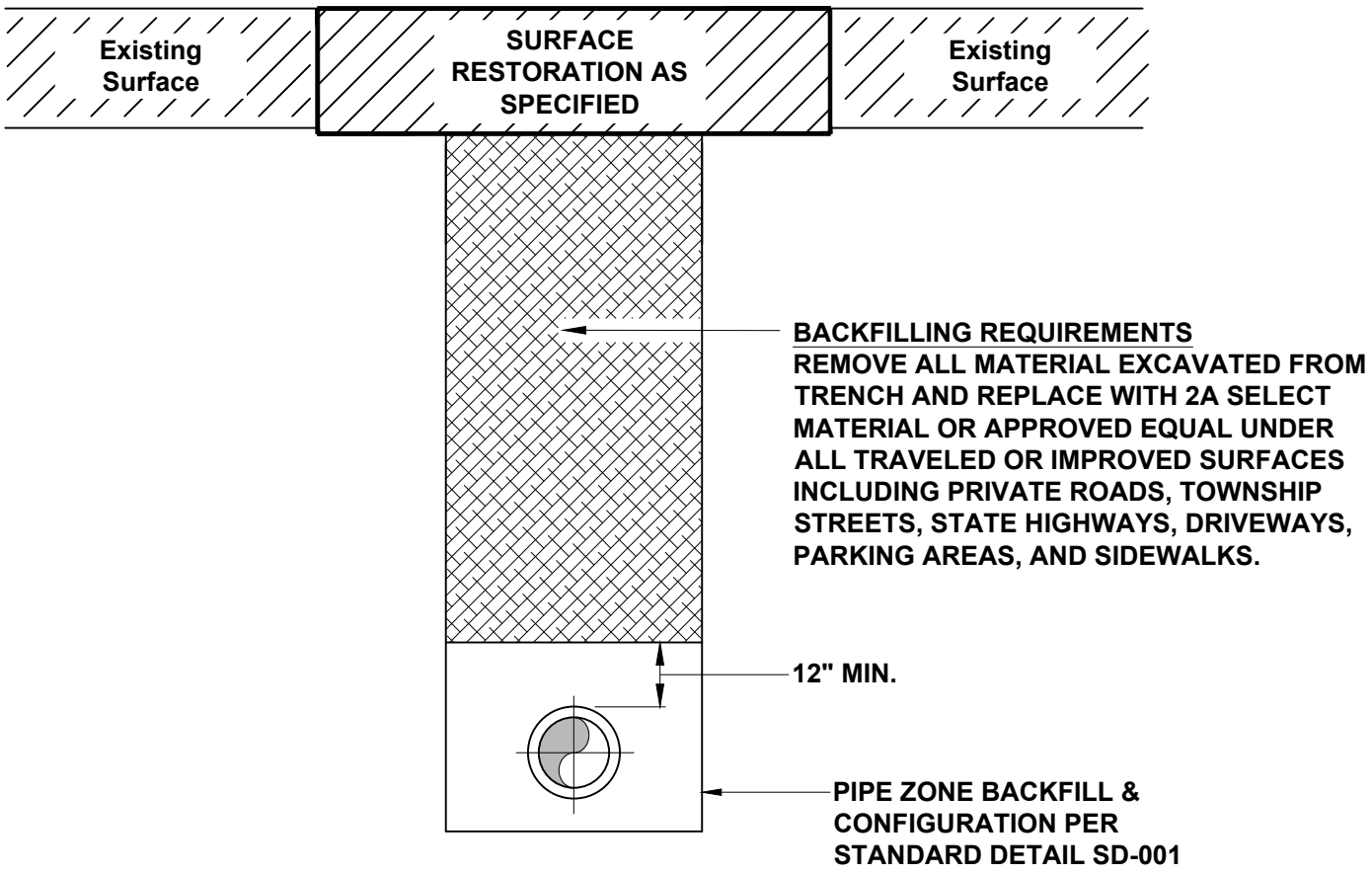
NOTE:

REFERENCE SUPERPAVE PER PA DOT SECTION 409, MIXTURE & DESIGN STANDARDS

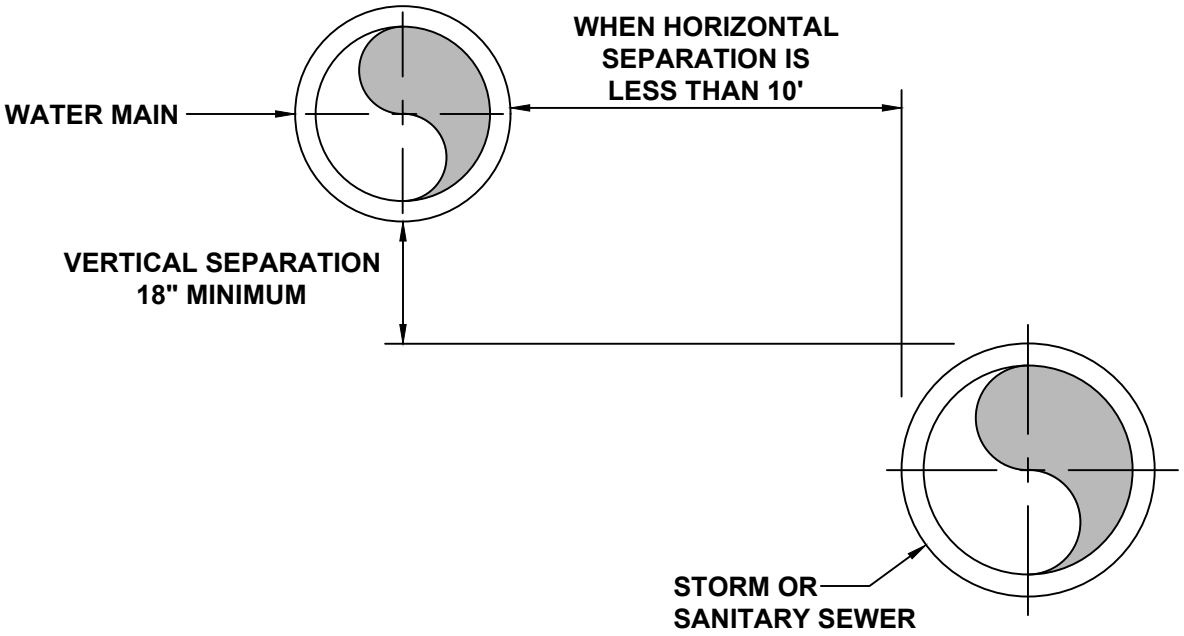
NOTE:

DURING COLD WEATHER WHEN SUPERPAVE MATERIAL IS NOT AVAILABLE FROM THE ASPHALT PLANTS THE TRENCH SHALL BE BACKFILLED WITH BEDDING MATERIAL TO AN ELEVATION WITHIN 3" OF THE ROAD SURFACE. THE TRENCH SHALL THEN BE SURFACED WITH A TEMPORARY PATCH OF COLD PATCH MATERIAL. AS SOON AS THE ASPHALT PLANTS OPEN IN THE SPRING, THE CONTRACTOR SHALL REMOVE THE COLD PATCH MATERIAL AND SAW-CUT THE REQUIRED BENCHES AND THE SUPERPAVE MATERIAL SHALL THEN BE PLACED AND SEALED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE ON THE TEMPORARY PATCH AND SHALL KEEP A SMOOTH RIDING SURFACE ON THE STREET.

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		TRENCH BACKFILL AND PAVEMENT REQUIREMENTS FOR TOWNSHIP ROADS
Not to scale	February 2025	Standard Detail SD-005A



Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		TRENCH BACKFILL REQUIREMENTS FOR TRAVELED OR IMPROVED SURFACES
Not to scale	February 2025	Standard Detail SD-005



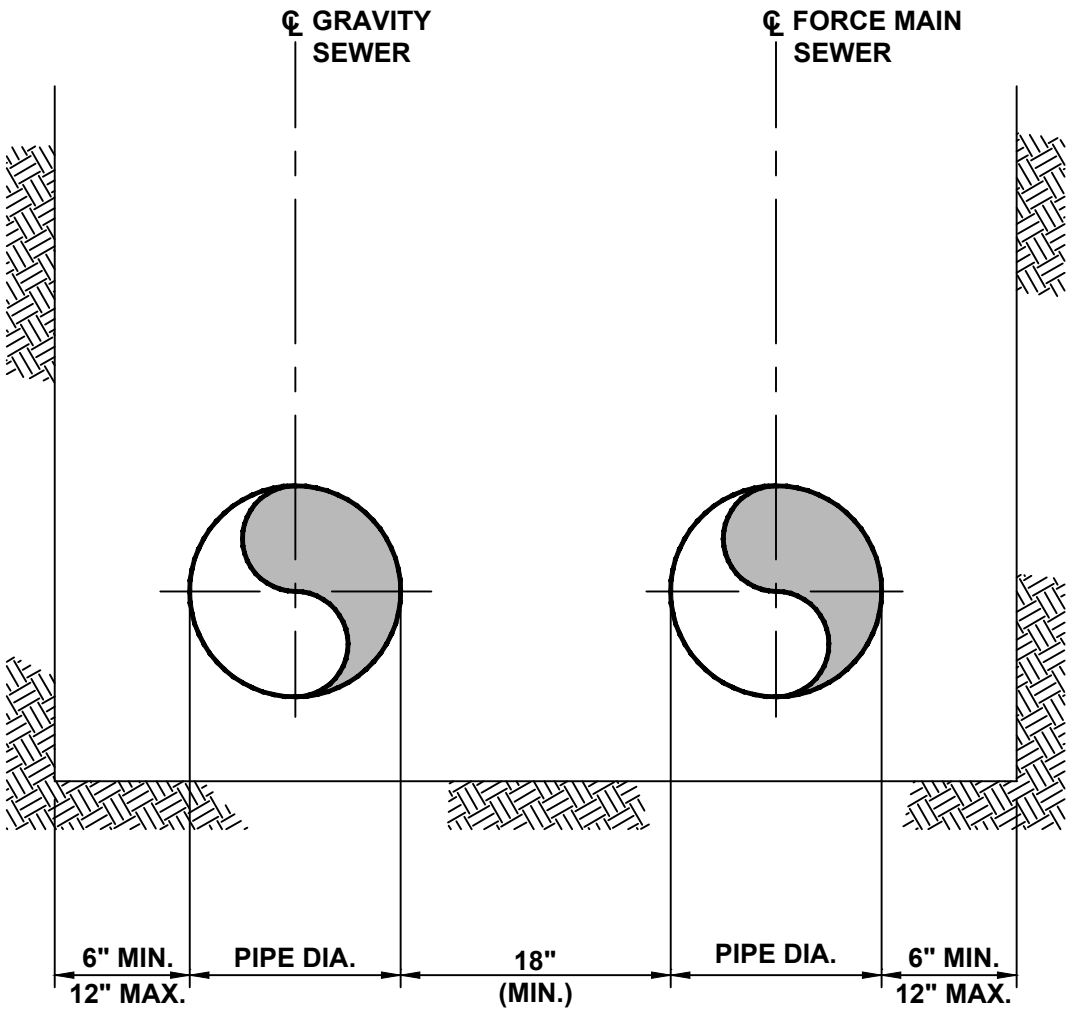
NOTES:

1. WHEN THE HORIZONTAL SEPARATION OF THE WATER MAIN AND SEWER LINE IS LESS THAN 10', THE VERTICAL SEPARATION BETWEEN THE TOP (CROWN) OF THE SEWER LINE AND THE BOTTOM (INVERT) OF THE WATER MAIN SHALL BE AT LEAST 18". SEWER LINE SHALL BE ENCASED IN CONCRETE FOR 10' ON EITHER SIDE OF THE WATER MAIN WHERE SEWER / WATER LINE CROSSINGS OCCUR AND WHERE CONDITIONS PREVENT AN 18" VERTICAL SEPARATION.

2. THERE SHALL BE AT LEAST A 10' HORIZONTAL SEPARATION BETWEEN WATER MAINS AND SANITARY SEWER FORCE MAINS. FORCE MAINS CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18" BETWEEN THE OUTSIDE OF THE FORCE MAIN AND THE OUTSIDE OF THE WATER MAIN.

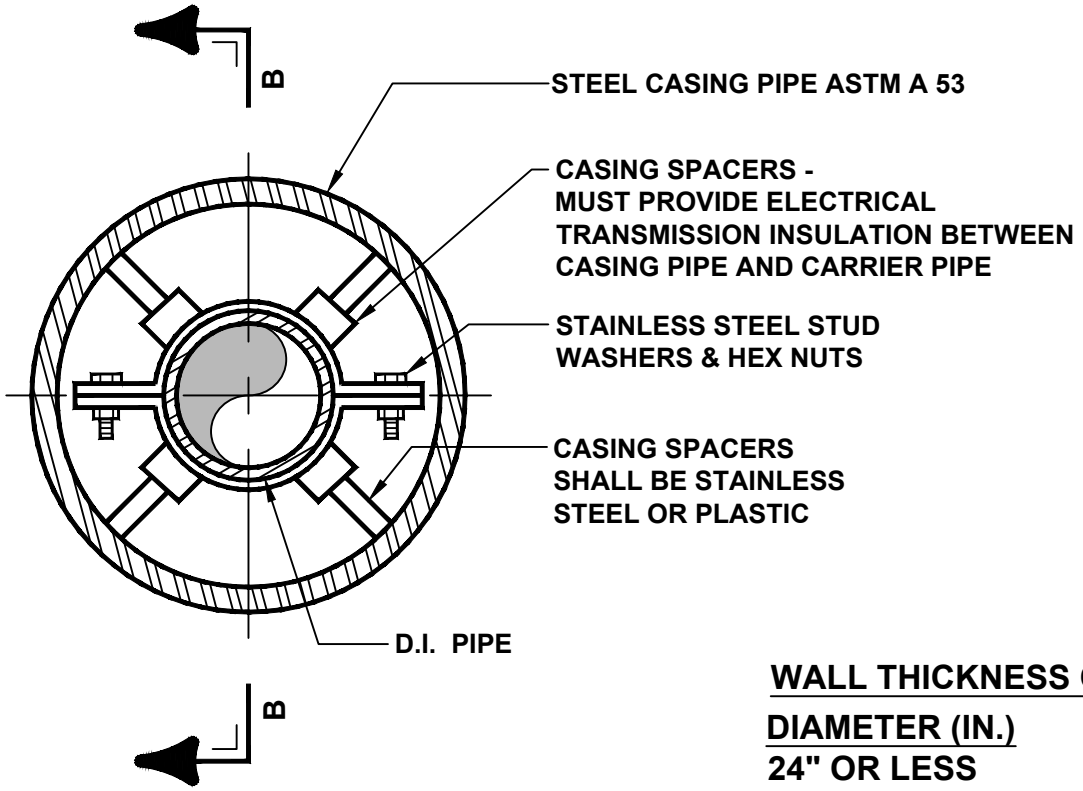
Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		DESIRED DISTANCES BETWEEN WATER AND SEWER PIPES
Not to scale	February 2025	Standard Detail SD-006

REFERENCE TRENCH ZONE DETAILS SD-001 AND PIPE BEDDING SD-002



NOTE:
FORCE MAIN TO BE INSTALLED ON RISING GRADIENT

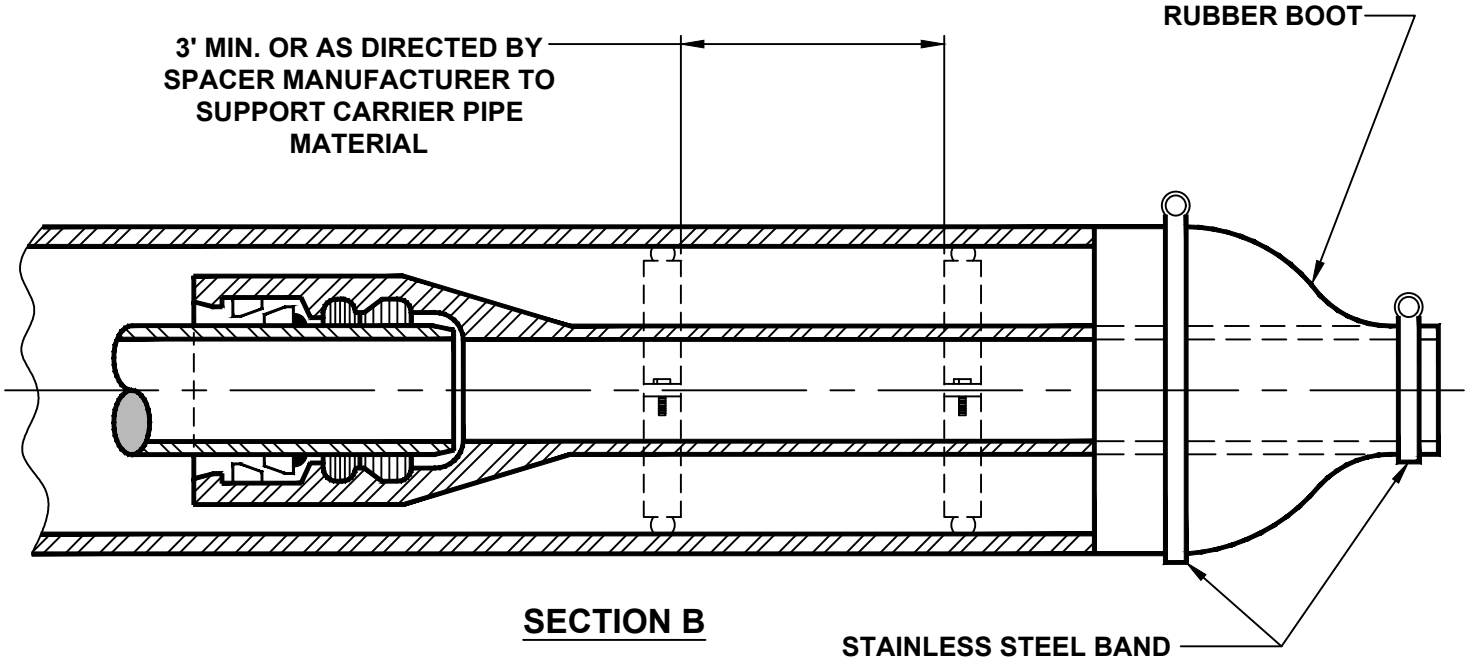
Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		**GRAVITY SEWER AND FORCE MAIN CONSTRUCTED PARALLEL IN COMMON TRENCH**
Not to scale	**February 2025**	**Standard Detail SD-007**



SECTIONAL PLAN A

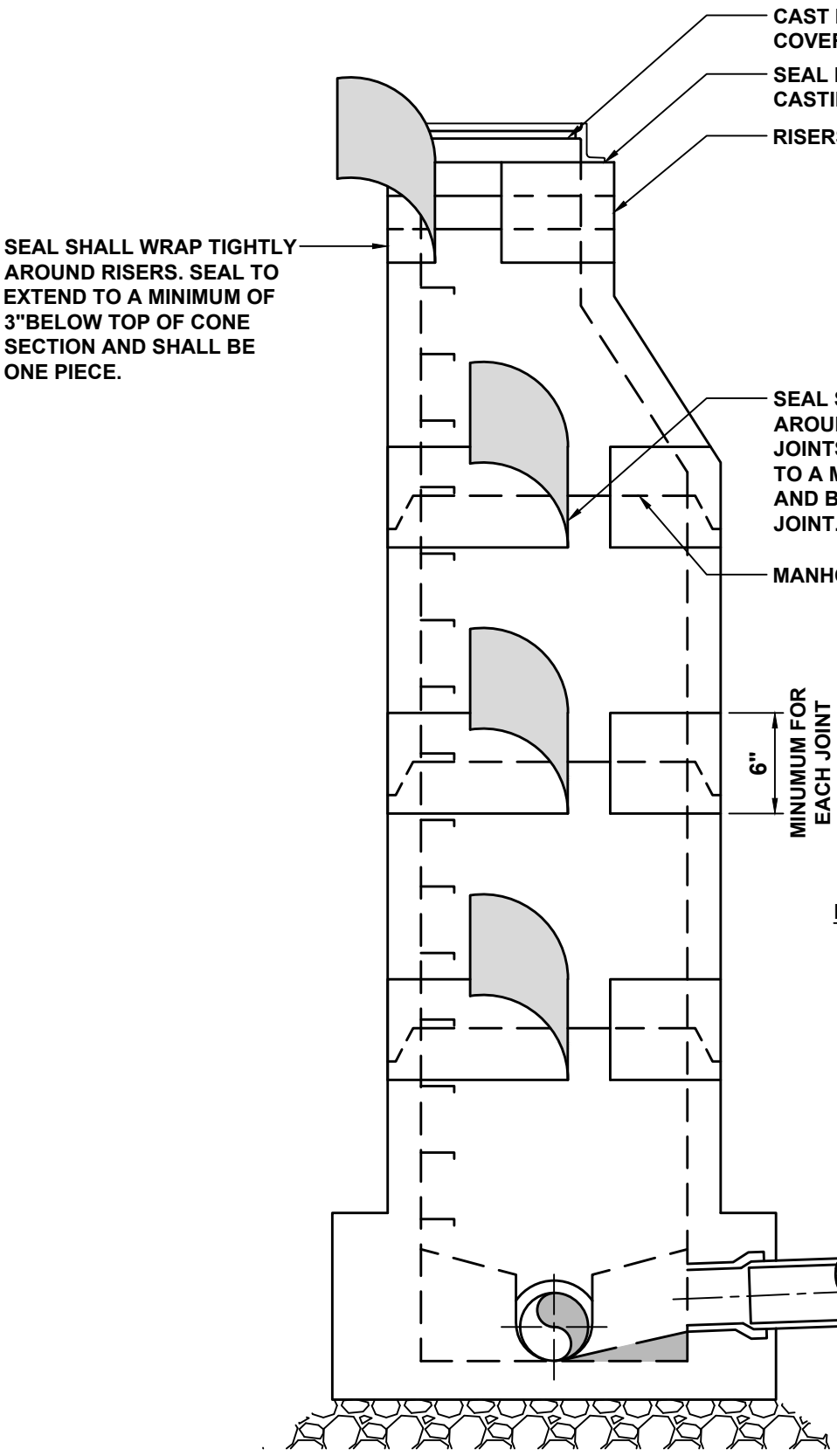
WALL THICKNESS OF CASING PIPE

DIAMETER (IN.)	THICKNESS (IN.)
24" OR LESS	1/4"
28" AND 32"	3/8"
42" AND LARGER	1/2"



SECTION B

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		STEEL CASING AND D.I. OR PVC CARRIER PIPES INSTALLED BY BORING
Not to scale	February 2025	Standard Detail SD-008

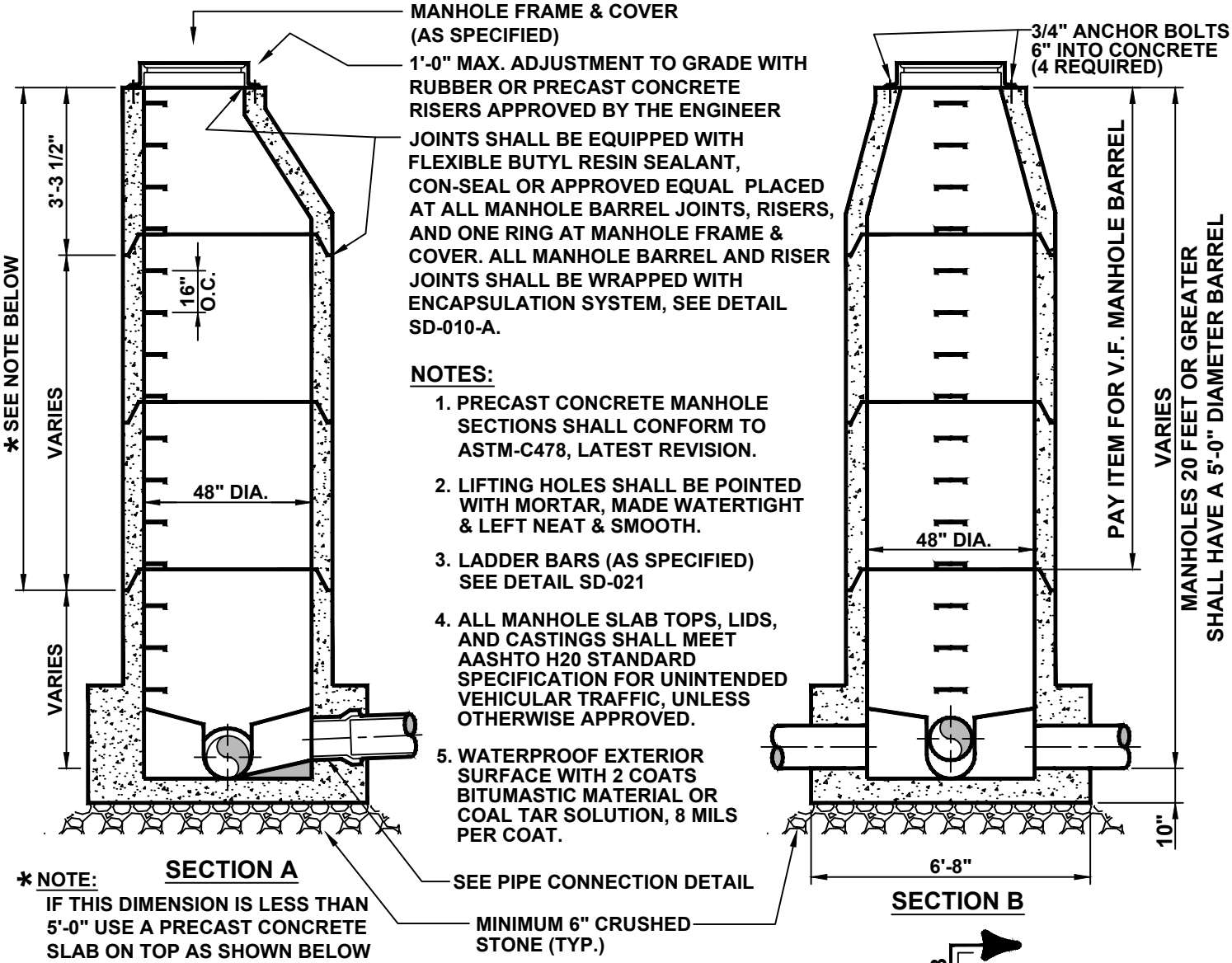


NOTES:

HEAT SHRINKABLE MANHOLE SEAL SHALL BE "WRAPIDSEAL" (TM) MANUFACTURED BY CANUSA-CPS OR APPROVED EQUAL

MECHANICAL MANHOLE SEAL SHALL BE CRETEX WRAP MANUFACTURED BY CRETEX SPECIALTY PRODUCTS OR APPROVED EQUAL

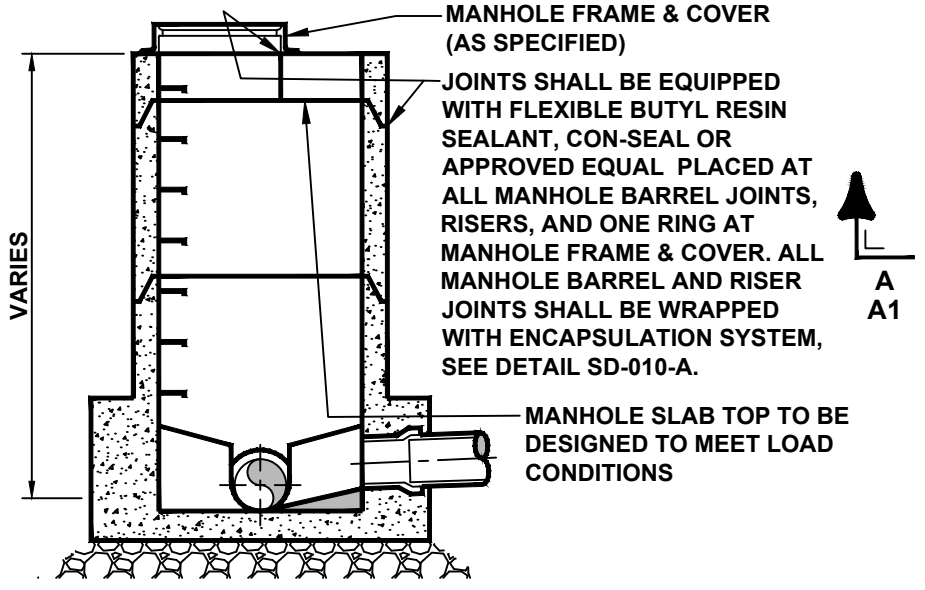
Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		MANHOLE JOINT ENCAPSULATION SYSTEM
Not to scale	February 2025	Standard Detail SD-010-A



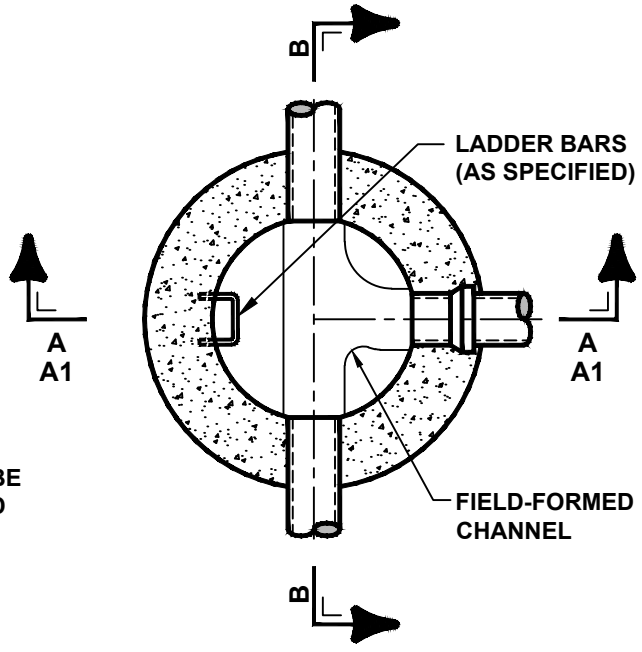
NOTES:

1. PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO ASTM-C478, LATEST REVISION.
2. LIFTING HOLES SHALL BE POINTED WITH MORTAR, MADE WATERTIGHT & LEFT NEAT & SMOOTH.
3. LADDER BARS (AS SPECIFIED) SEE DETAIL SD-021
4. ALL MANHOLE SLAB TOPS, LIDS, AND CASTINGS SHALL MEET AASHTO H20 STANDARD SPECIFICATION FOR UNINTENDED VEHICULAR TRAFFIC, UNLESS OTHERWISE APPROVED.
5. WATERPROOF EXTERIOR SURFACE WITH 2 COATS BITUMASTIC MATERIAL OR COAL TAR SOLUTION, 8 MILS PER COAT.

* **NOTE:** IF THIS DIMENSION IS LESS THAN 5'-0" USE A PRECAST CONCRETE SLAB ON TOP AS SHOWN BELOW

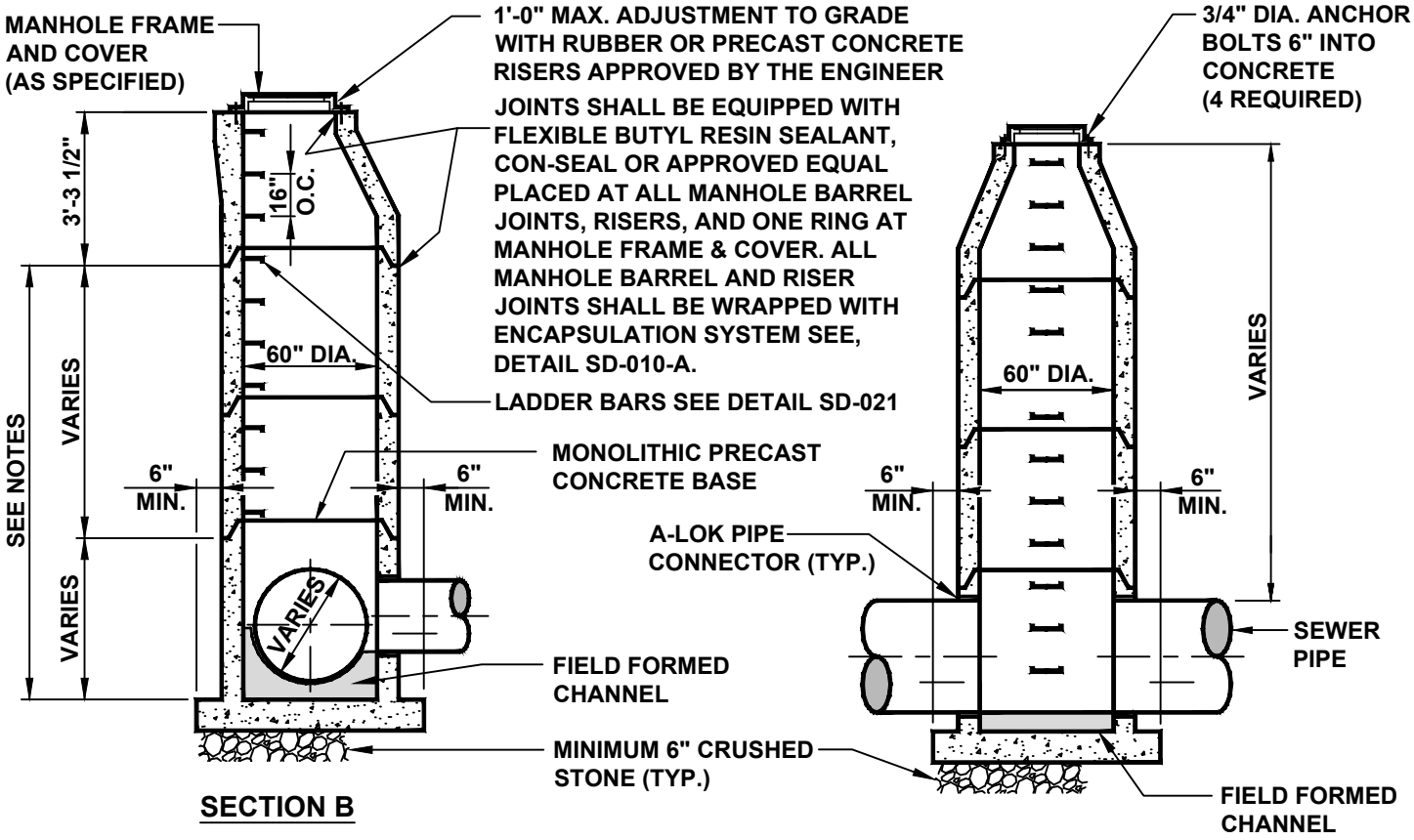


SECTION A1



PLAN C

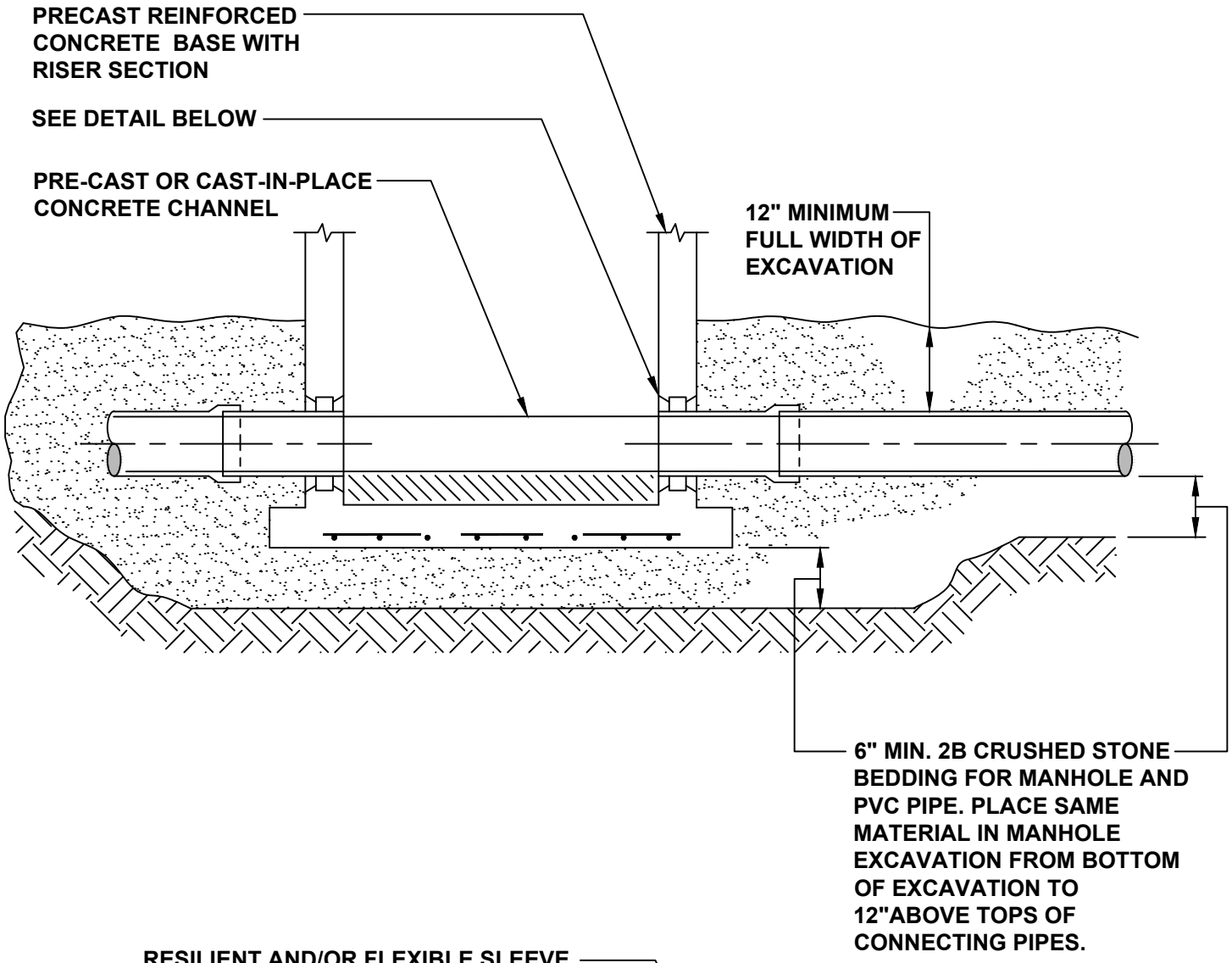
Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		PRECAST CONCRETE MANHOLE FOR SEWERS 8" TO 18"
Not to scale	February 2025	Standard Detail SD-010

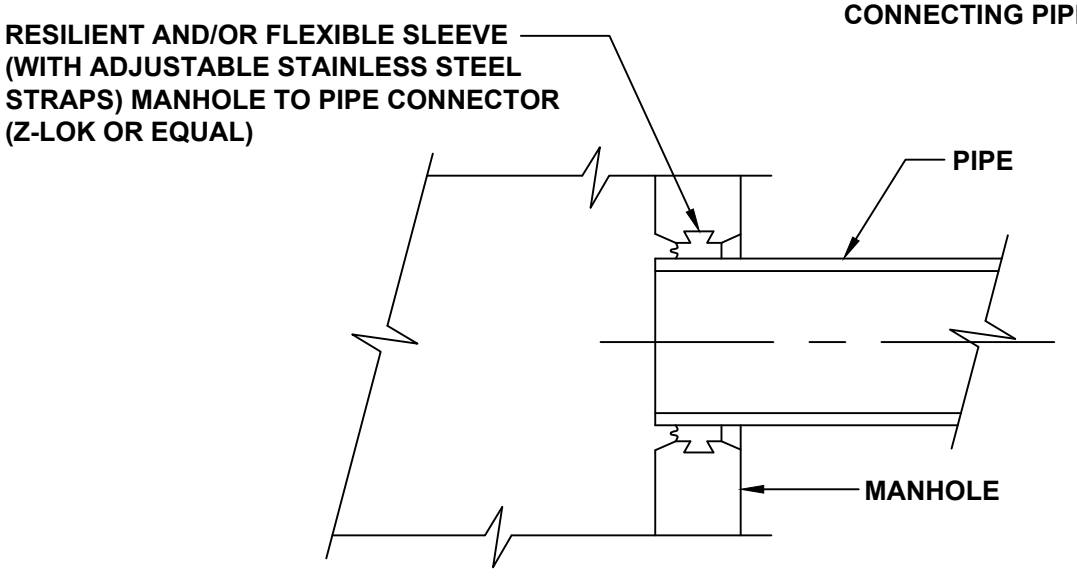


NOTES:

1. PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO ASTM C478, LATEST REVISION.
2. WATERPROOF EXTERIOR SURFACE WITH TWO COATS BITUMASTIC MATERIAL OR COAL TAR SOLUTION, 8 MILS PER COAT.
3. DROP CONNECTIONS ARE NOT PERMITTED FOR PIPES LARGER THAN 30" DIA.
4. LIFTING HOLES SHALL BE POINTED WITH MORTAR, MADE WATERTIGHT & LEFT NEAT & SMOOTH.
5. FOR DEPTHS LESS THAN 5'-0", INSTALL PRECAST CONCRETE SLAB TOP DESIGNED TO MEET LOAD CONDITIONS. MANHOLE TO BE 60" DIA. FULL DEPTH.
6. ALL JOINTS TO RECEIVE CON-SEAL SEALER, OR APPROVED EQUAL. ALL MANHOLE BARREL AND RISER JOINTS SHALL BE WRAPPED WITH ENCAPSULATION SYSTEM, SEE DETAIL SD-010-A.
7. ALL MANHOLE SLAB TOPS, LIDS, AND CASTINGS SHALL MEET AASHTO H20 STANDARD SPECIFICATION FOR UNINTENDED VEHICULAR TRAFFIC, UNLESS OTHERWISE APPROVED.

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		PRECAST CONCRETE MANHOLE FOR SEWERS 24" - 48"
Not to scale	February 2025	Standard Detail SD-011





Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		PRECAST MANHOLE BASE DETAIL
Not to scale	February 2025	Standard Detail SD-012

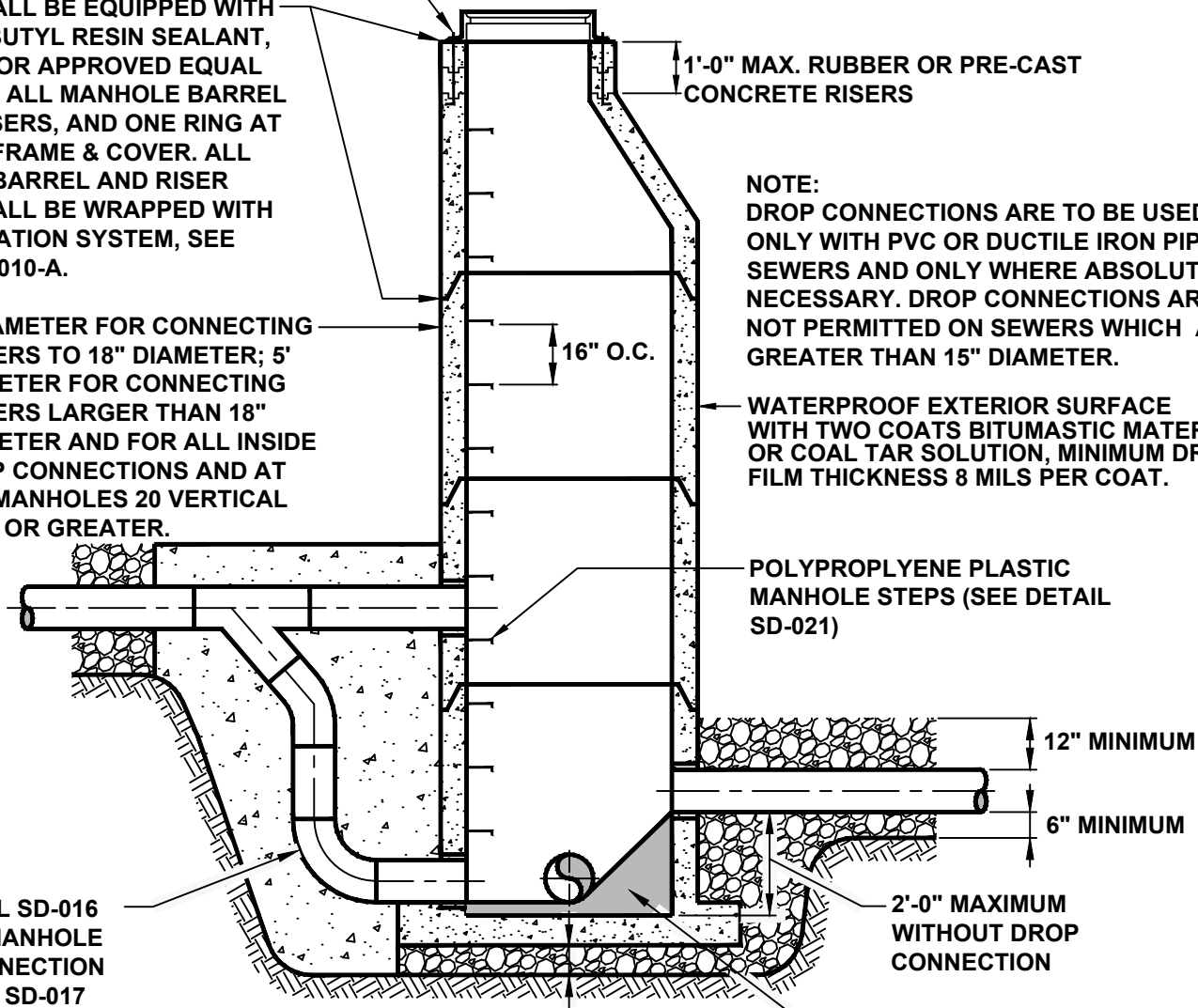
MANHOLE BARREL SHALL BE PRE-CAST CONCRETE ASTM C478 OR GLASS FIBER REINFORCED ASTM D3753. FOR CONNECTING PIPES 18" DIAMETER OR LESS, THE MANHOLE BARREL SHALL BE 4' DIAMETER; WHERE THERE ARE LARGER CONNECTING PIPES OR MORE THAN ONE INSIDE DROP CONNECTIONS, THE DIAMETER SHALL BE 5'.

NOTE:
TYPICAL DROP CONNECTION SHALL BE OF THE INSIDE DROP TYPE. OUTSIDE DROP CONNECTIONS MUST BE SPECIFICALLY APPROVED BY THE AUTHORITY ENGINEER

3/4" ANCHOR BOLTS 6" INTO CONCRETE (4 REQUIRED)

JOINTS SHALL BE EQUIPPED WITH FLEXIBLE BUTYL RESIN SEALANT, CON-SEAL OR APPROVED EQUAL PLACED AT ALL MANHOLE BARREL JOINTS, RISERS, AND ONE RING AT MANHOLE FRAME & COVER. ALL MANHOLE BARREL AND RISER JOINTS SHALL BE WRAPPED WITH ENCAPSULATION SYSTEM, SEE DETAIL SD-010-A.

4' DIAMETER FOR CONNECTING SEWERS TO 18" DIAMETER; 5' DIAMETER FOR CONNECTING SEWERS LARGER THAN 18" DIAMETER AND FOR ALL INSIDE DROP CONNECTIONS AND AT ALL MANHOLES 20 VERTICAL FEET OR GREATER.



NOTE:
DROP CONNECTIONS ARE TO BE USED ONLY WITH PVC OR DUCTILE IRON PIPE SEWERS AND ONLY WHERE ABSOLUTELY NECESSARY. DROP CONNECTIONS ARE NOT PERMITTED ON SEWERS WHICH ARE GREATER THAN 15" DIAMETER.

WATERPROOF EXTERIOR SURFACE WITH TWO COATS BITUMASTIC MATERIAL OR COAL TAR SOLUTION, MINIMUM DRY FILM THICKNESS 8 MILS PER COAT.

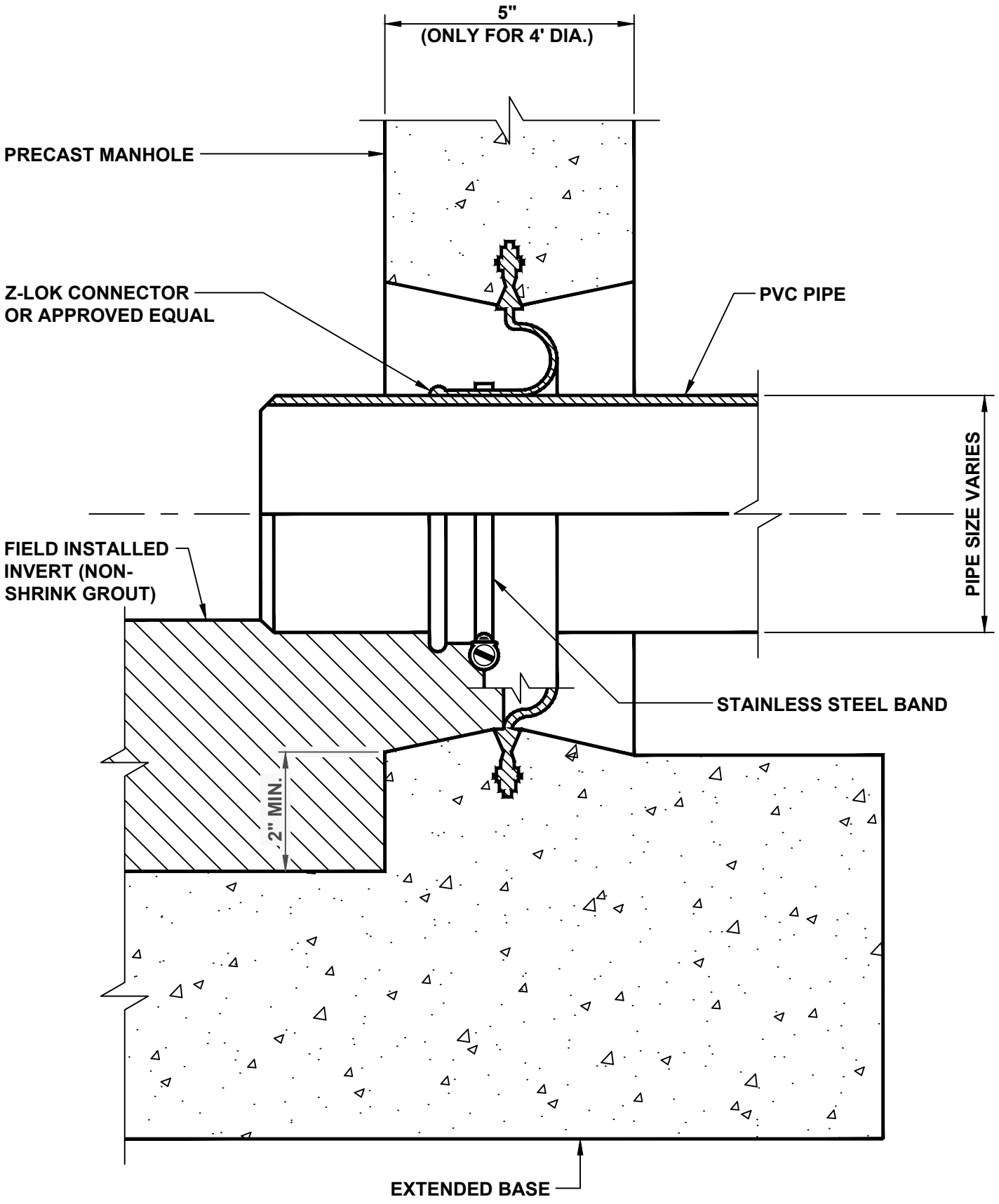
POLYPROPLYENE PLASTIC MANHOLE STEPS (SEE DETAIL SD-021)

SEE DETAIL SD-016 OUTSIDE MANHOLE DROP CONNECTION OR DETAIL SD-017 INSIDE MANHOLE DROP CONNECTION.

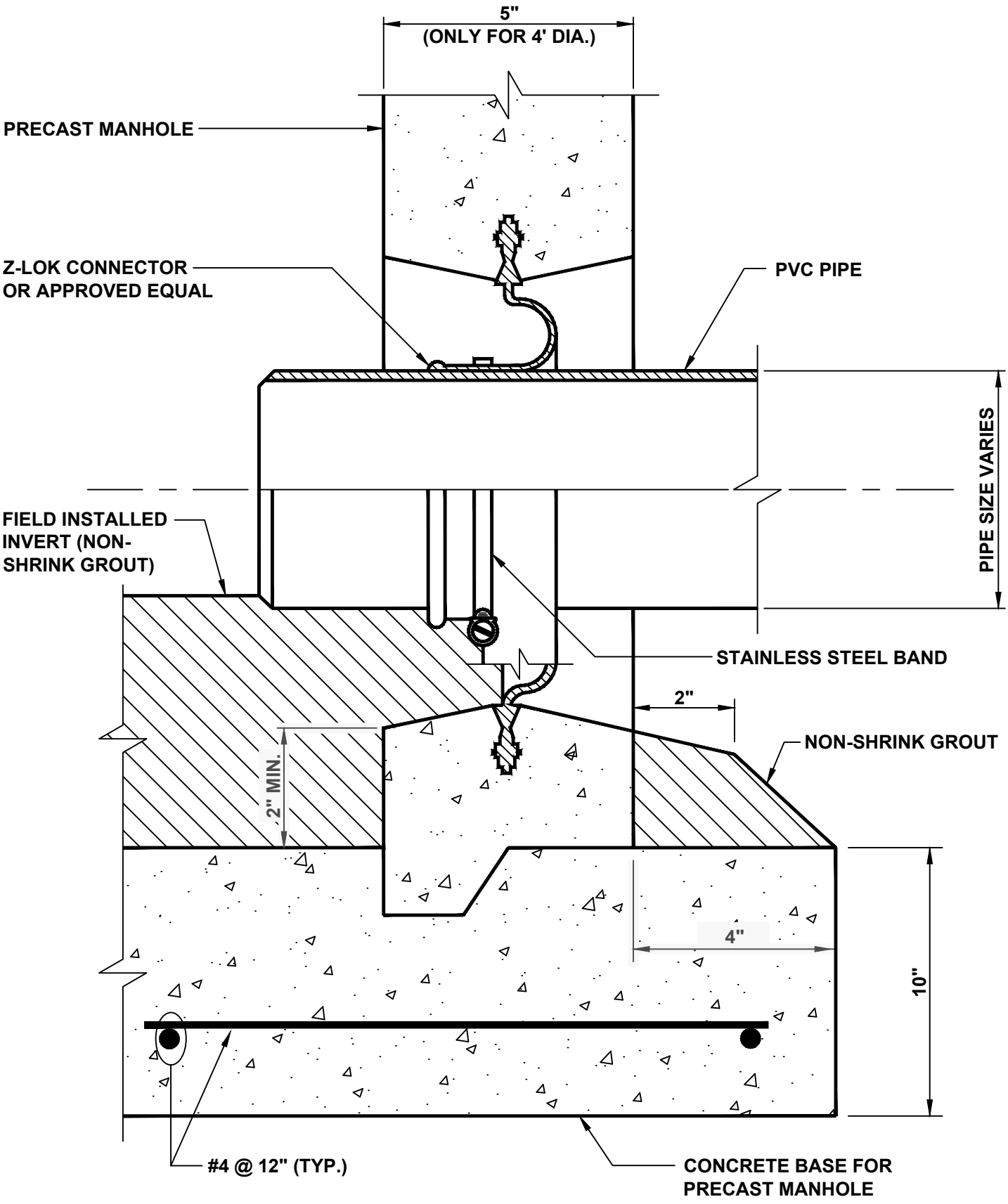
6" MINIMUM 2B CRUSHED STONE OR CRUSHED GRAVEL

NOTE:
SUPPORT MANHOLE STRUCTURE AND ALL PIPING CONNECTIONS ON A MINIMUM OF 6" THICKNESS 2B BEDDING MATERIAL. ENCAPSULATE ALL PIPES WITHIN MANHOLE EXCAVATION IN THE SAME MATERIAL TO AN ELEVATION OF 12" ABOVE THE TOP OF PIPES. OUTSIDE MANHOLE DROP CONNECTIONS SHALL BE ENCASED WITH CONCRETE.

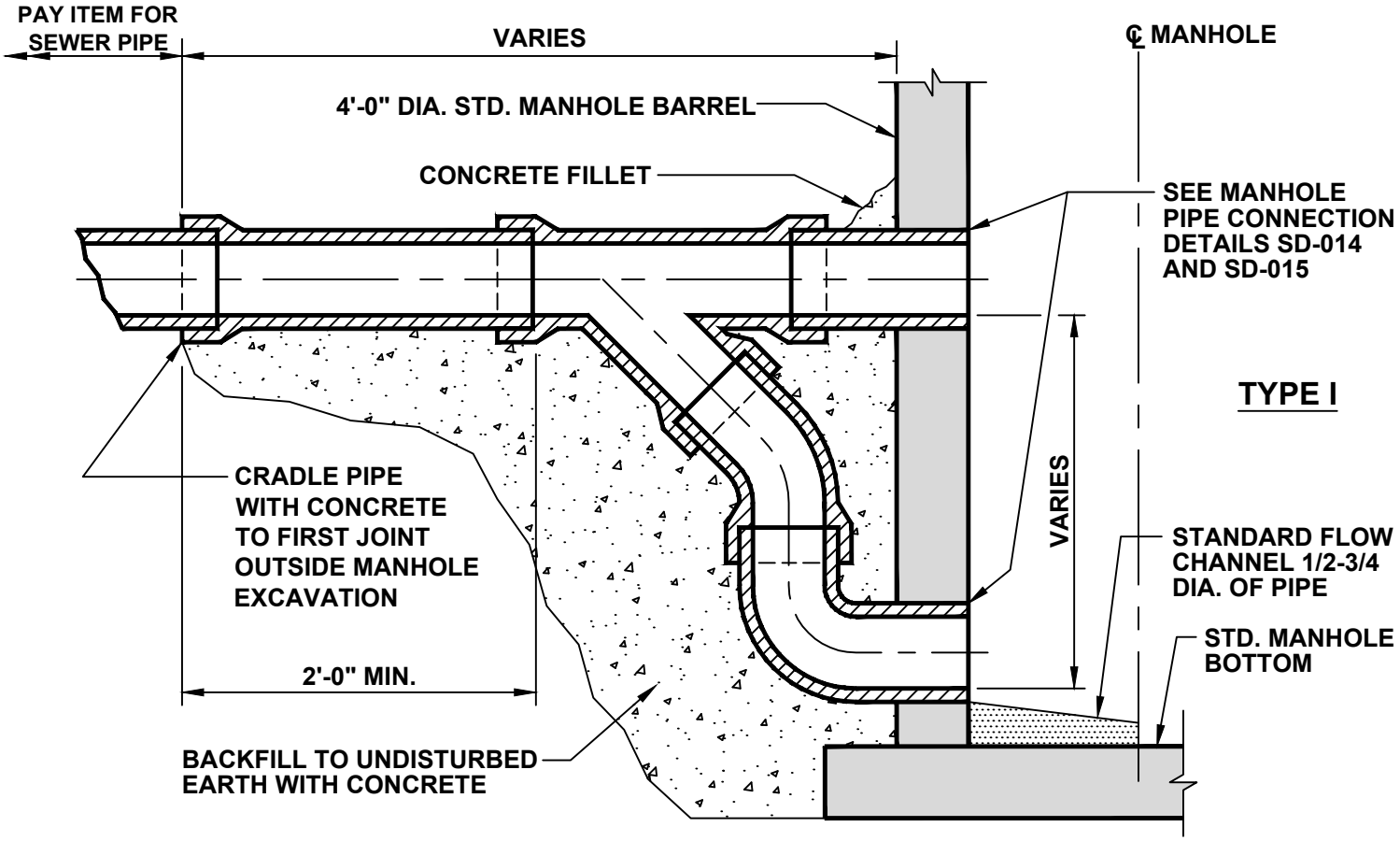
Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		MANHOLE FOR SEWERS FOR DEPTHS GREATER THAN 5 FEET
Not to scale	February 2025	Standard Detail SD-013

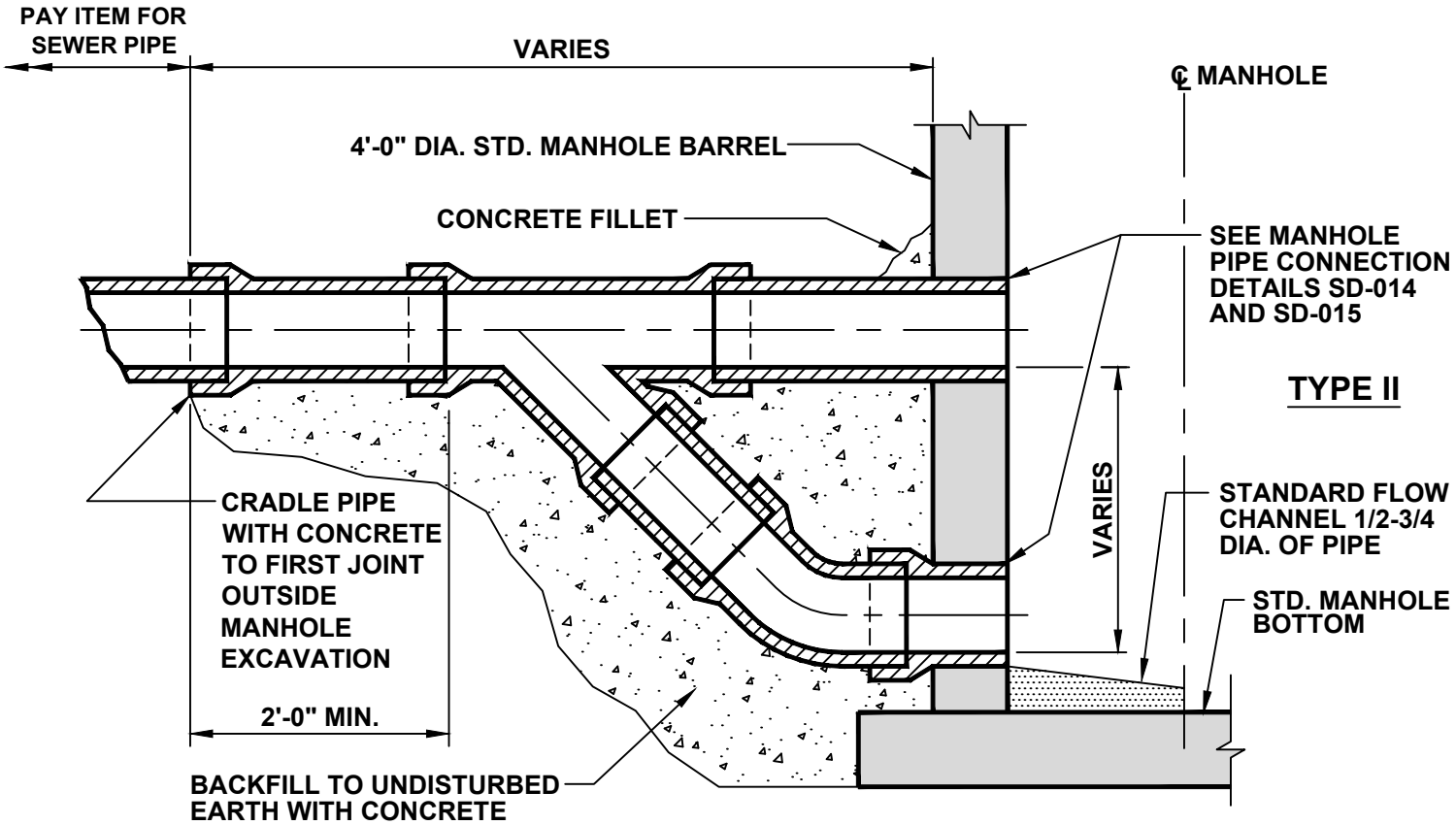


Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		MANHOLE CONNECTION FOR PVC PIPE (PRE-CAST BASE)
Not to scale	February 2025	Standard Detail SD-014



Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		MANHOLE CONNECTION FOR PVC PIPE (CAST-IN-PLACE BASE)
Not to scale	February 2025	Standard Detail SD-015

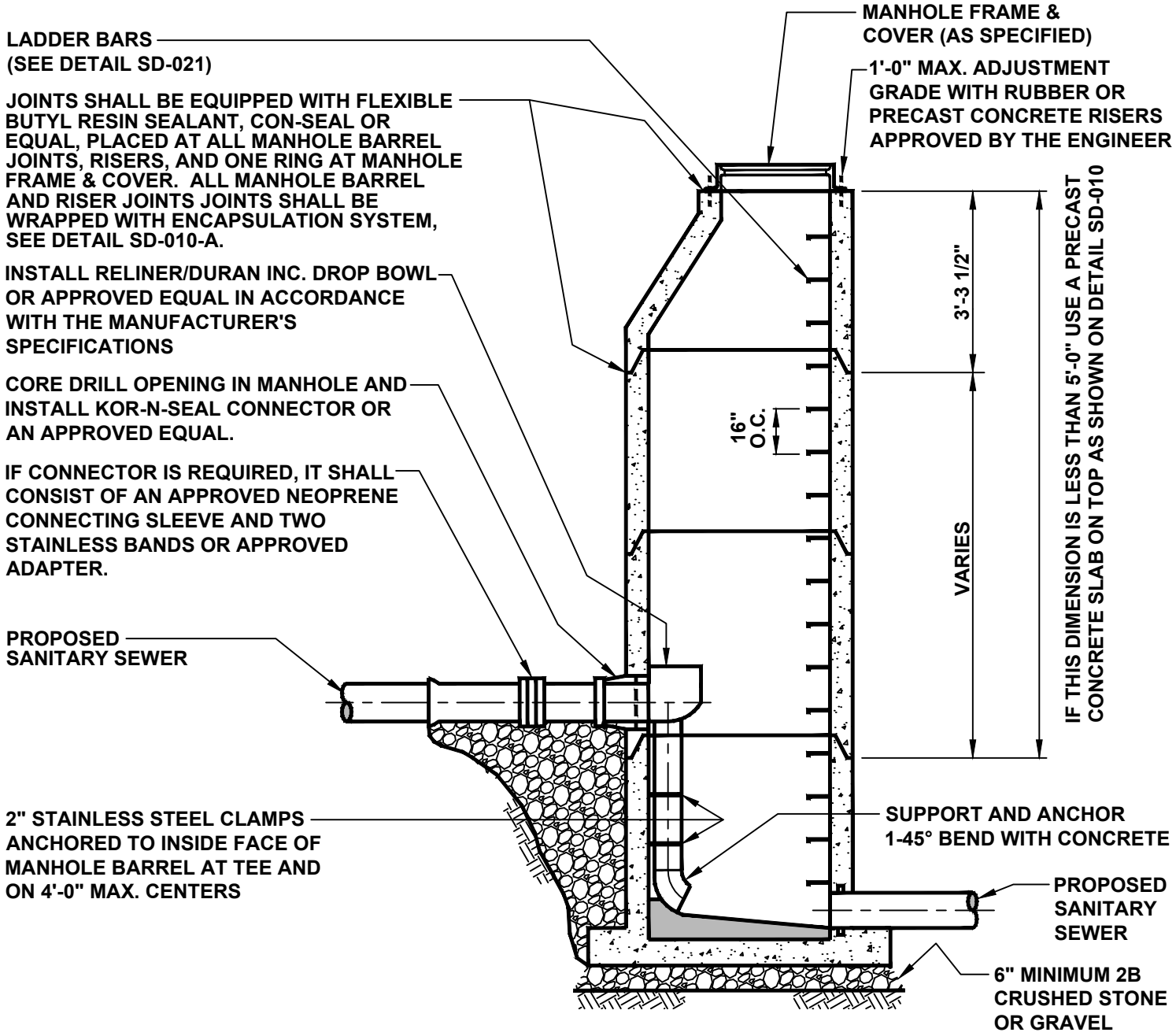




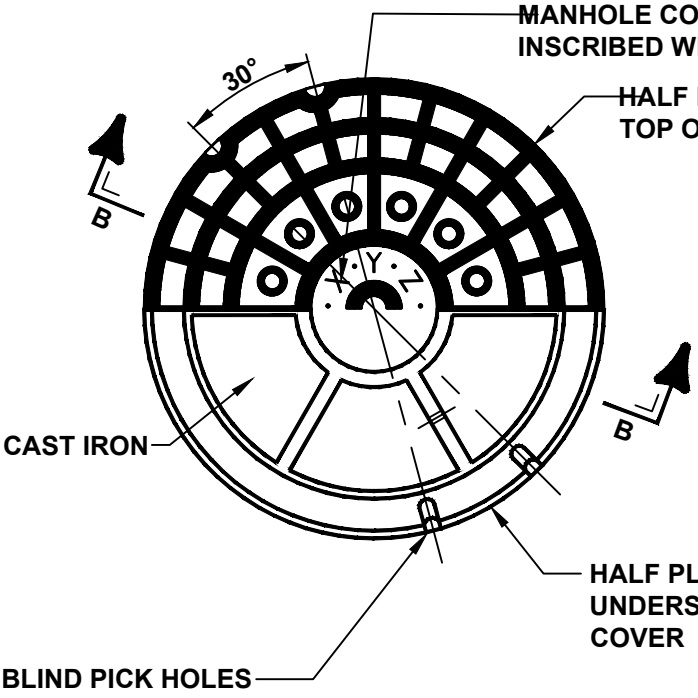
Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		OUTSIDE MANHOLE DROP CONNECTION
Not to scale	February 2025	Standard Detail SD-016

NOTES:

1. PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO ASTMC478, LATEST REVISION.
2. LIFTING HOLES SHALL BE PAINTED WITH MORTAR, MADE WATERTIGHT AND LEFT NEAT.
3. DROP CONNECTION INLET PIPE TEE AND BENDS SHALL BE PVC PIPE CONFORMING TO ASTMD3034, SDR-35.
4. FOR FORCE MAINS, INSTALL RUN OF TEE IN VERTICAL POSITION.
5. ALL OTHER MANHOLE STANDARD DETAIL REQUIREMENTS APPLY. SEE SD-2-010
6. ALL JOINTS TO RECEIVE CON-SEAL SEALER OR APPROVED EQUAL. ALL MANHOLE BARREL AND RISER JOINTS SHALL BE WRAPPED WITH ENCAPSULATION SYSTEM, SEE DETAIL SD-010-A.
7. ALL MANHOLE SLABTOPS, LIDS, AND CASTINGS SHALL MEET AASHTO H20 STANDARD SPECIFICATION FOR UNINTENDED VEHICULAR TRAFFIC, UNLESS OTHERWISE APPROVED.
8. ONLY ONE (1) INSIDE DROP CONNECTION WILL BE PERMITTED FOR MANHOLES OF 4'-0" DIAMETER AND ONLY TWO (2) DROP CONNECTIONS FOR MANHOLES 5'0" IN DIAMETER. MORE THAN TWO (2) DROP CONNECTIONS IN THE SAME MANHOLE SHALL BE OUTSIDE DROP TYPE CONNECTIONS.

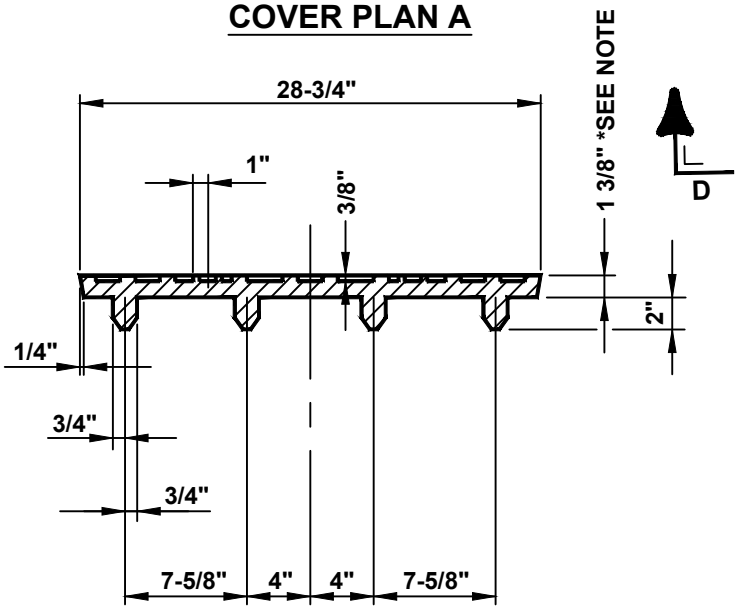


Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		INSIDE MANHOLE BOWL DROP CONNECTION
Not to scale	February 2025	Standard Detail SD-017

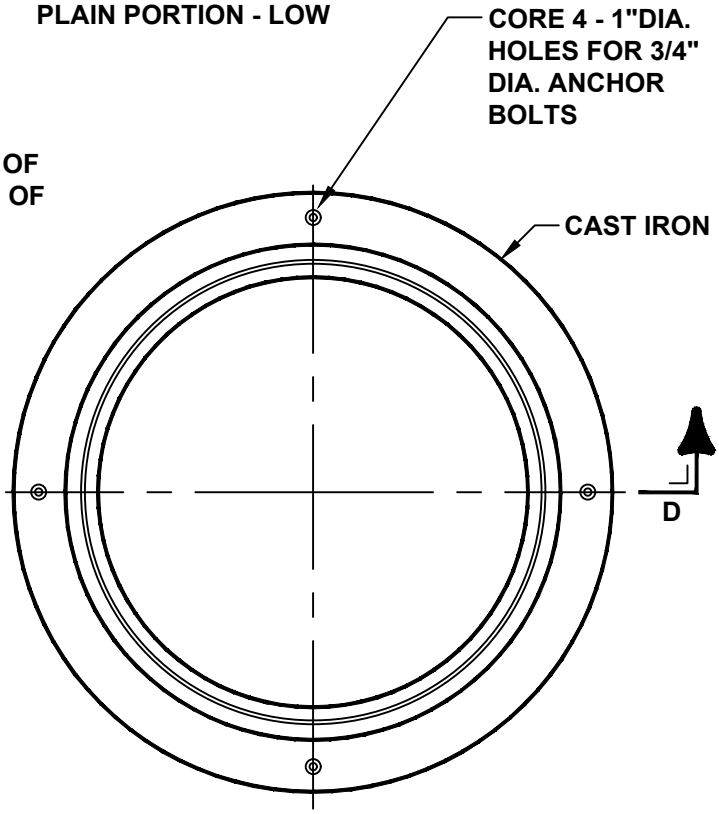


NOTE:
SHADED PORTION - HIGH
PLAIN PORTION - LOW

COVER PLAN A

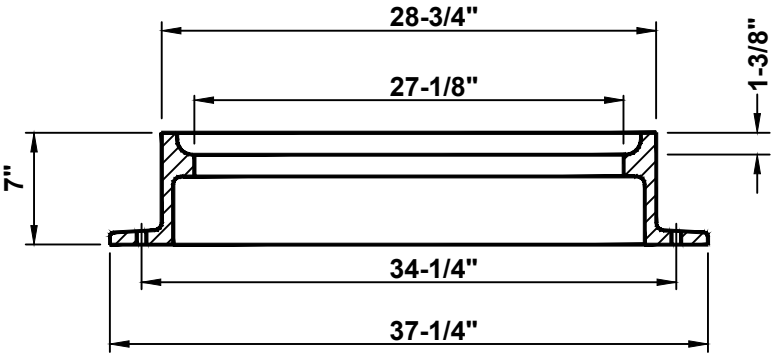


SECTION B



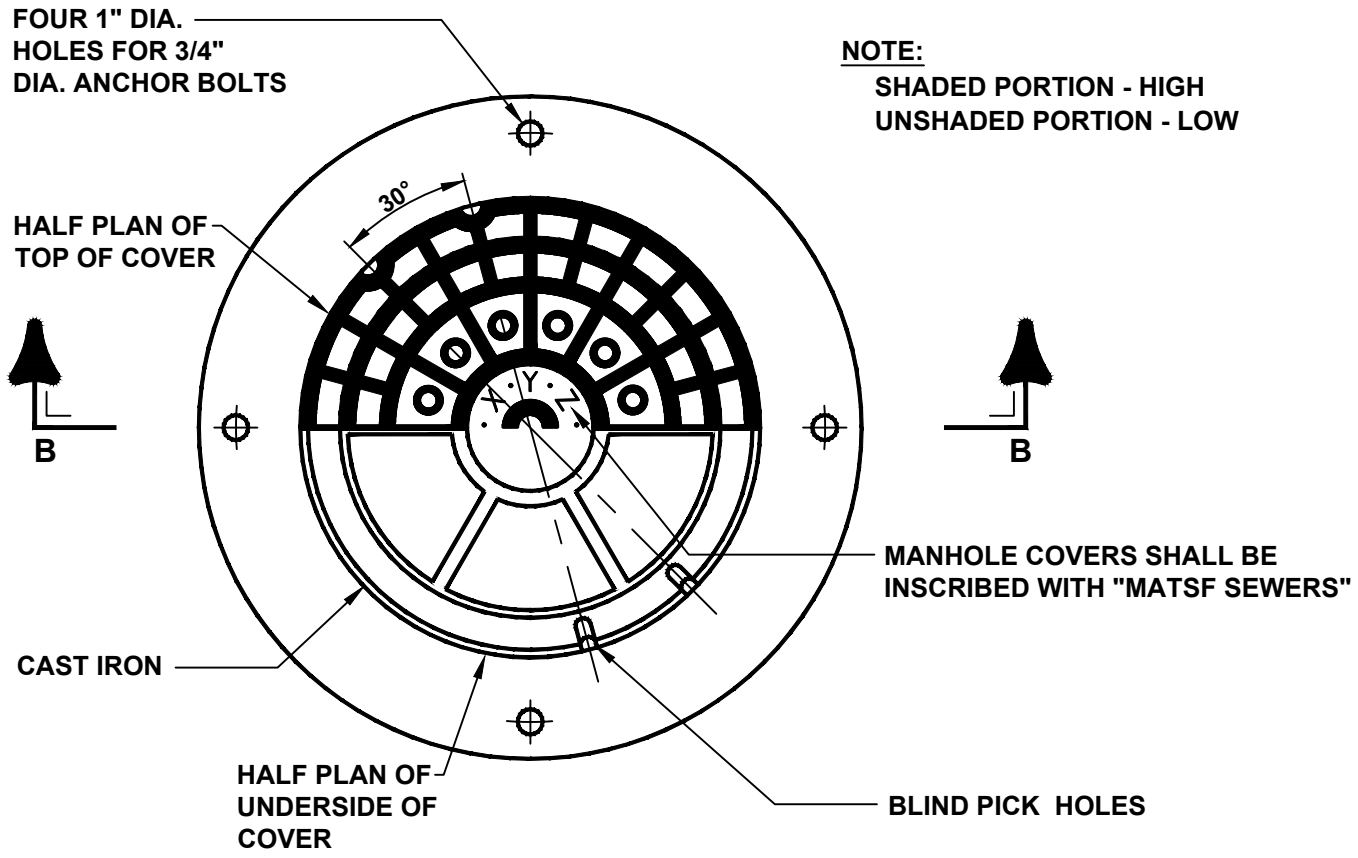
FRAME PLAN C

NOTE:
MANHOLE COVERS SHALL BE MACHINED TO 1 $\frac{3}{16}$" THICKNESS TO ACCOMODATE MANHOLE INFLOW PROTECTOR (MANPAN OR EQUAL) WHERE MANHOLE IS INSTALLED IN IMPERVIOUS AREA.

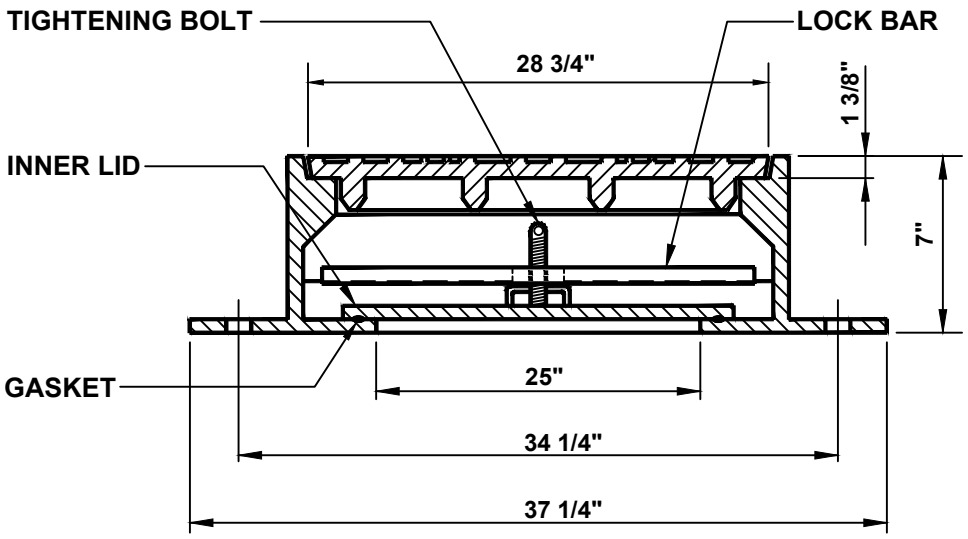


BOTTOM FLANGE - SECTION D

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		STANDARD CAST IRON MANHOLE FRAME AND COVER
Not to scale	February 2025	Standard Detail SD-018

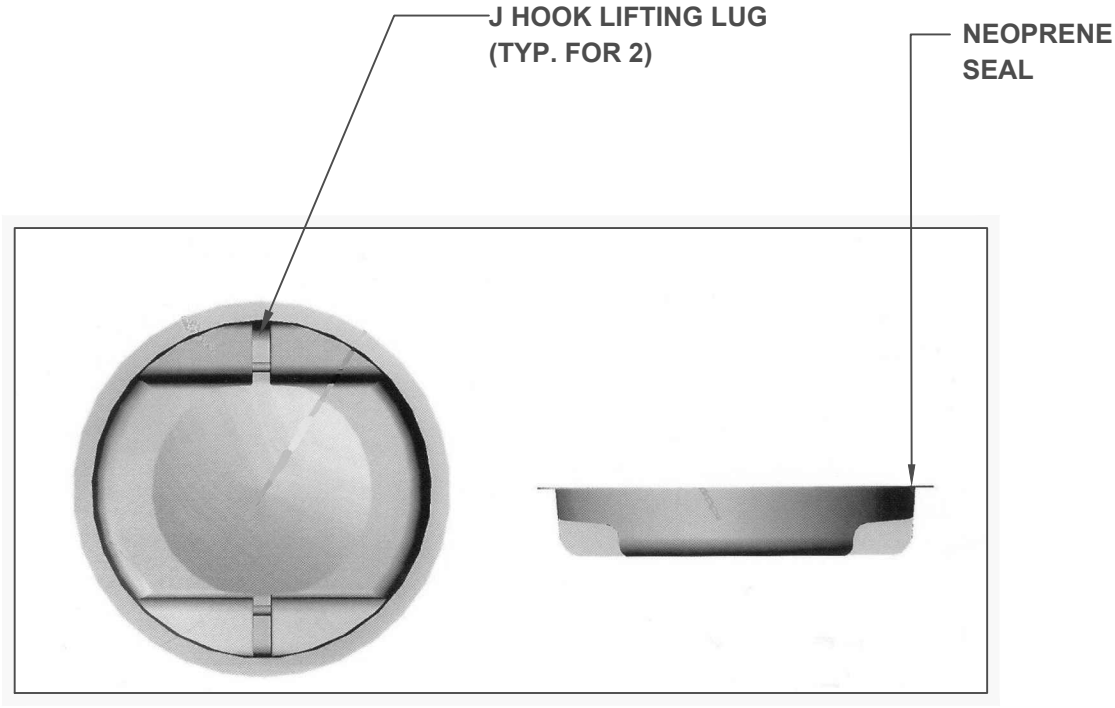


PLAN A



SECTION B

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		WATERTIGHT MANHOLE FRAME AND COVER
Not to scale	February 2025	Standard Detail SD-019

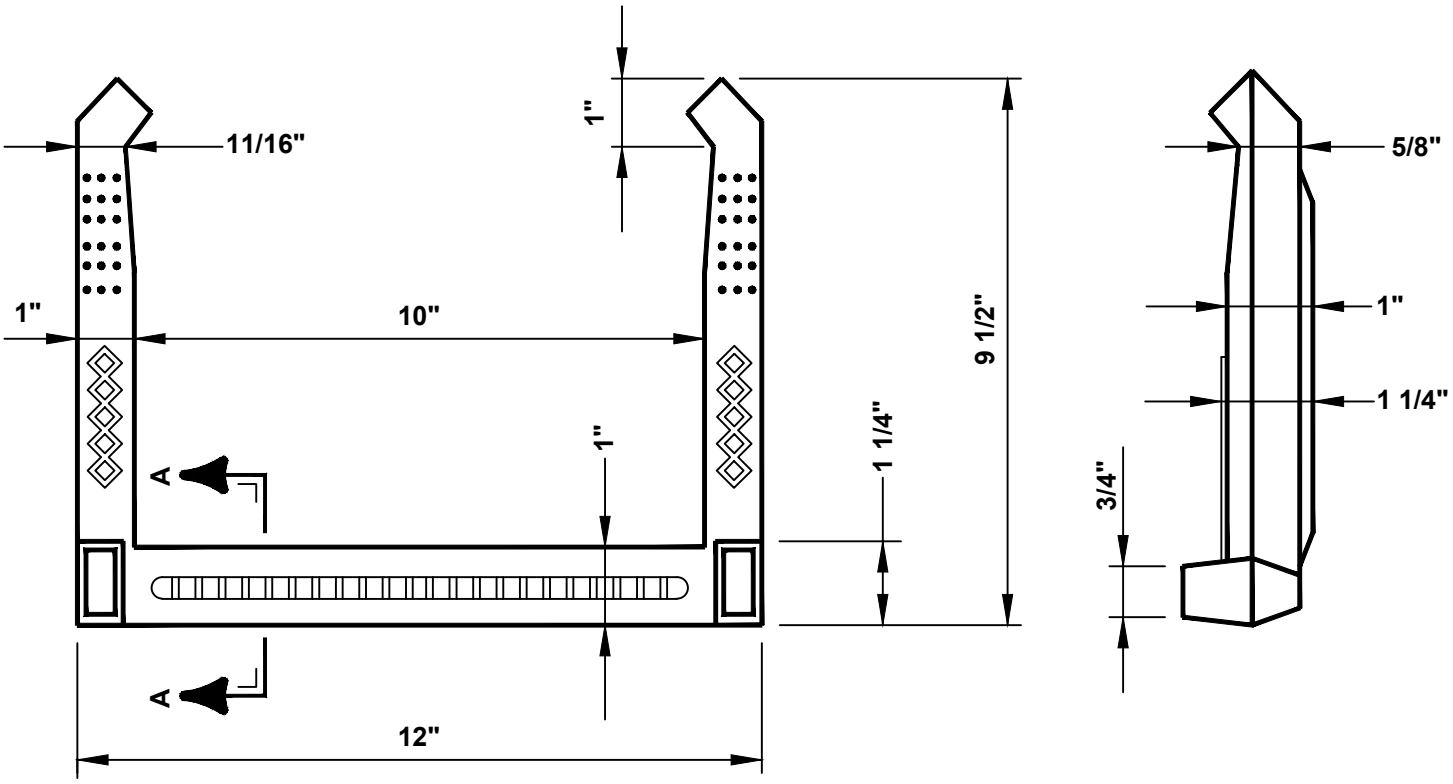


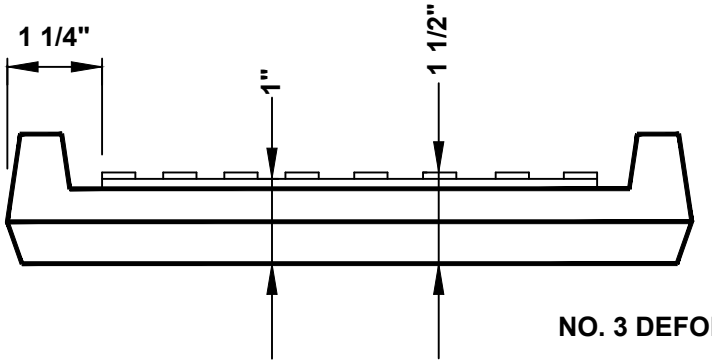
TOP VIEW **SIDE VIEW**

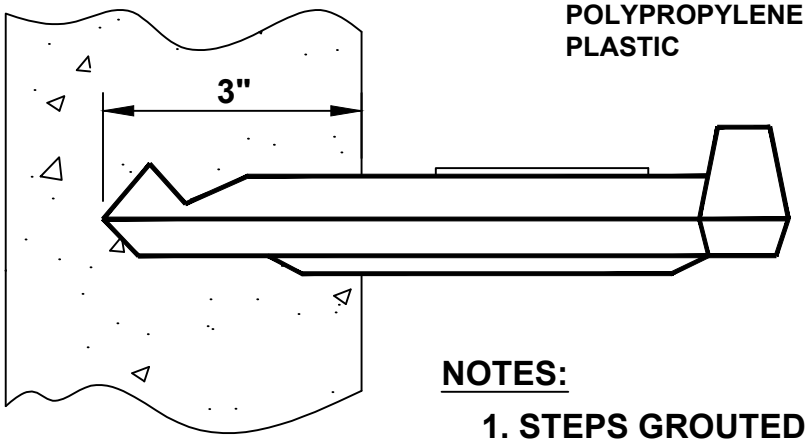
NOTES:

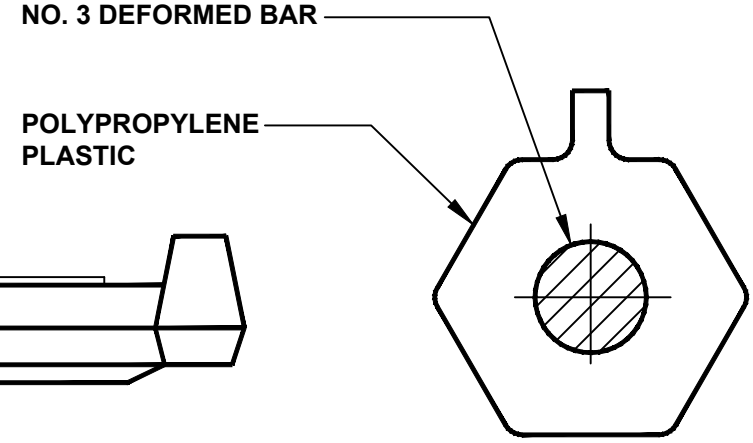
1. INFLOW PROTECTOR SHALL BE MAN-PAN OR APPROVED EQUAL AND SHALL BE INSTALLED WITH ALL NON-WATER TIGHT MANHOLE COVERS IN IMPERVIOUS AREAS ONLY.
2. INFLOW PROTECTORS SHALL BE FABRICATED AND SIZED TO FIT PROPOSED MANHOLE FRAMES.
3. MANHOLE COVERS SHALL BE MACHINED TO ACCOMODATE MANHOLE INFLOW PROTECTORS.

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		MANHOLE INFLOW PROTECTOR
Not to scale	February 2025	Standard Detail SD-020







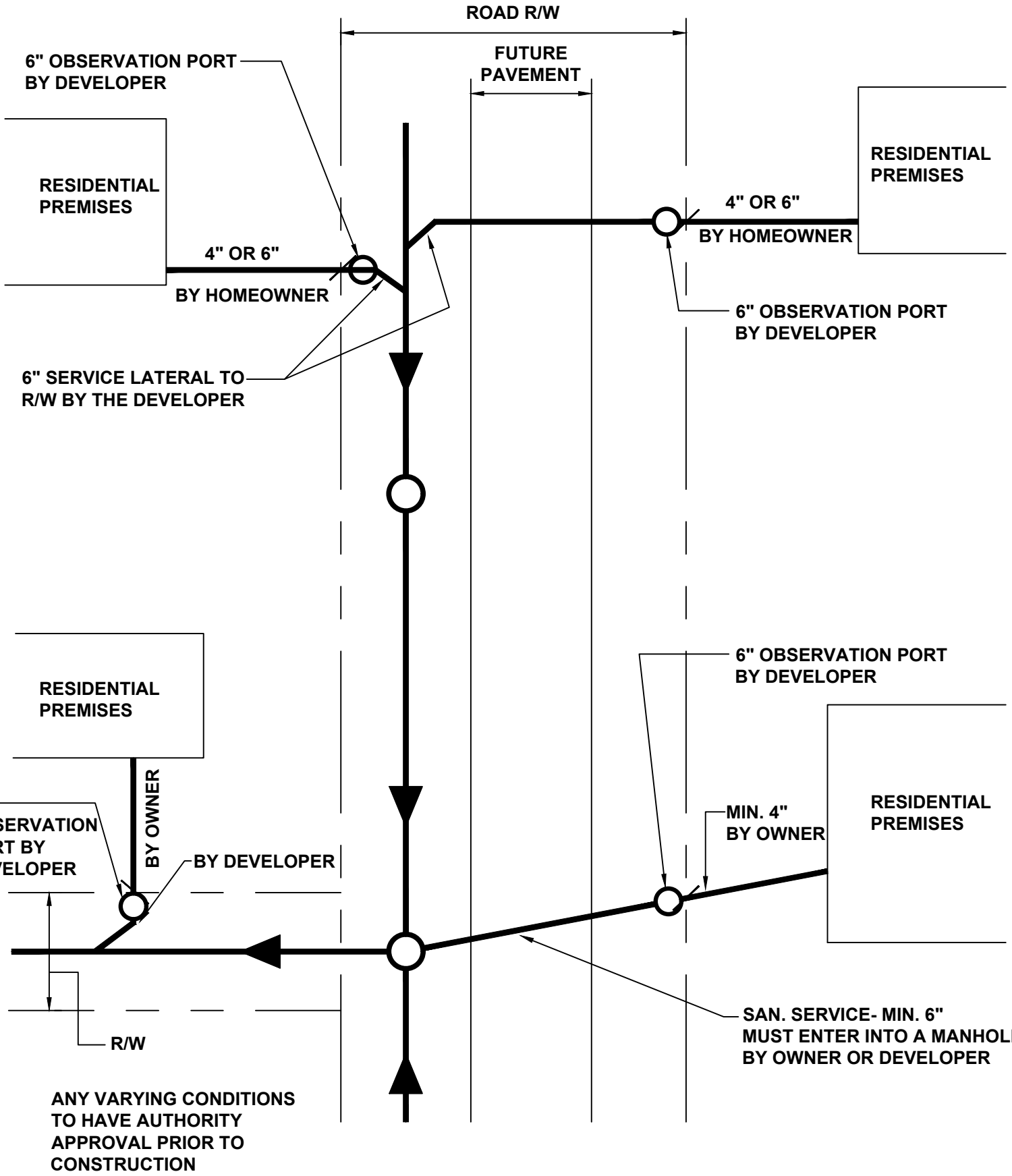


SECTION A

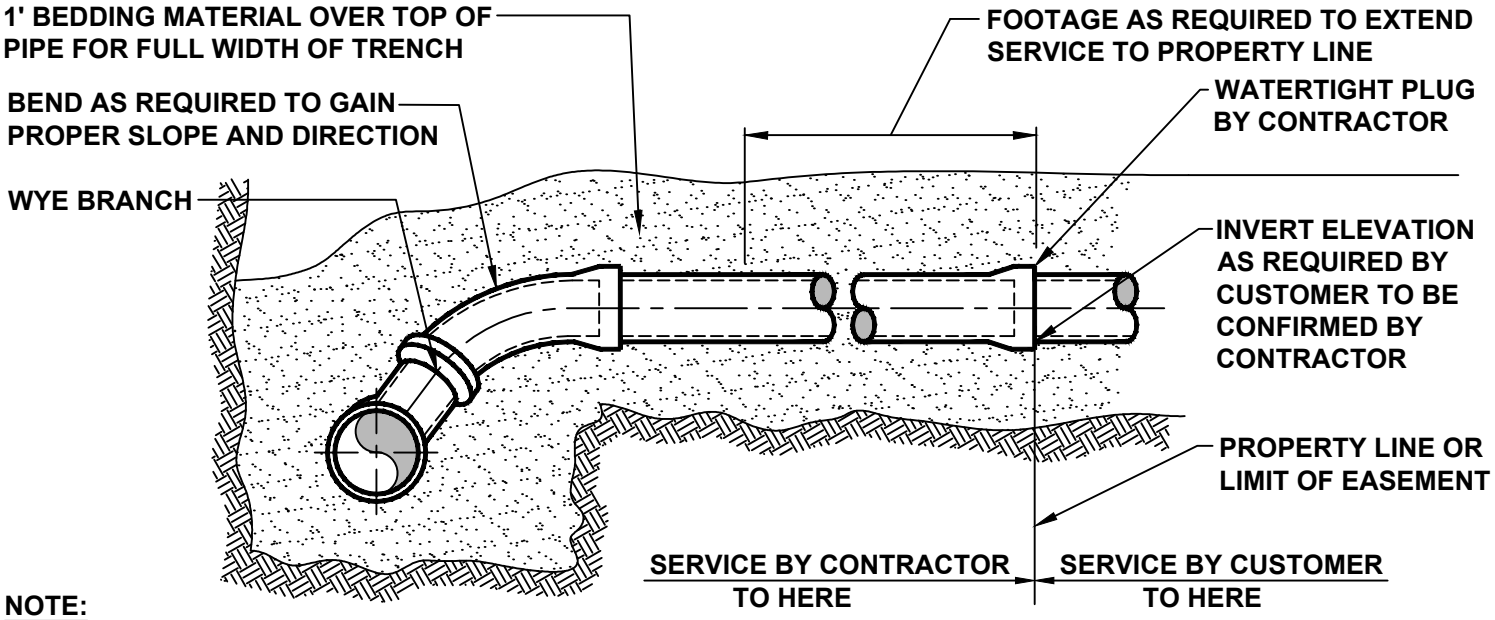
NOTES:

1. STEPS GROUTED IN PLACE
2. INSTALL STEPS ON 16" C:C

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		POLYPROPYLENE PLASTIC MANHOLE STEP
Not to scale	February 2025	Standard Detail SD-021

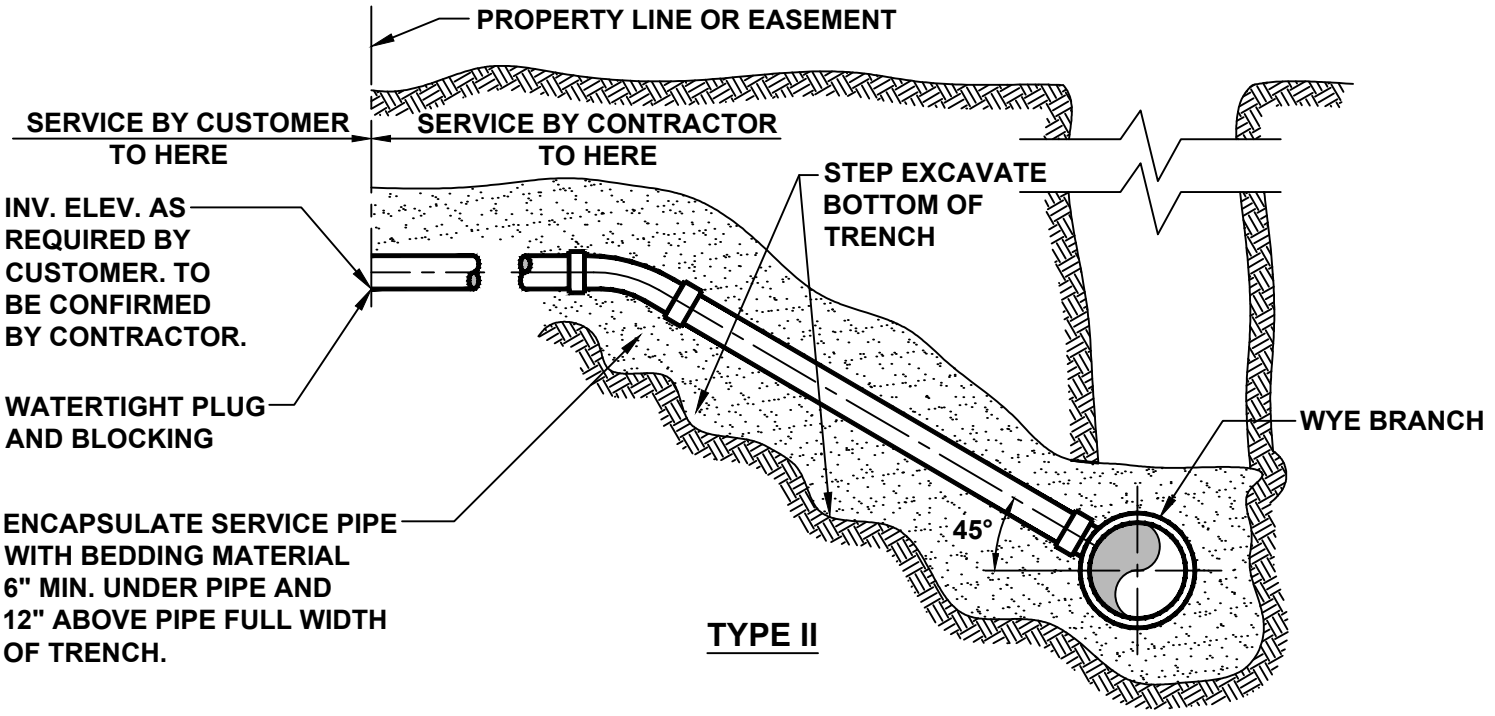


Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		SERVICE LINE CONNECTIONS
Not to scale	February 2025	Standard Detail SD-022



NOTE:
WHERE MAIN SEWER IS IN PRIVATE PROPERTY, FOOTAGE OF LATERAL PIPE WILL EXTEND TO THE EDGE OF SEWER RIGHT-OF-WAY.

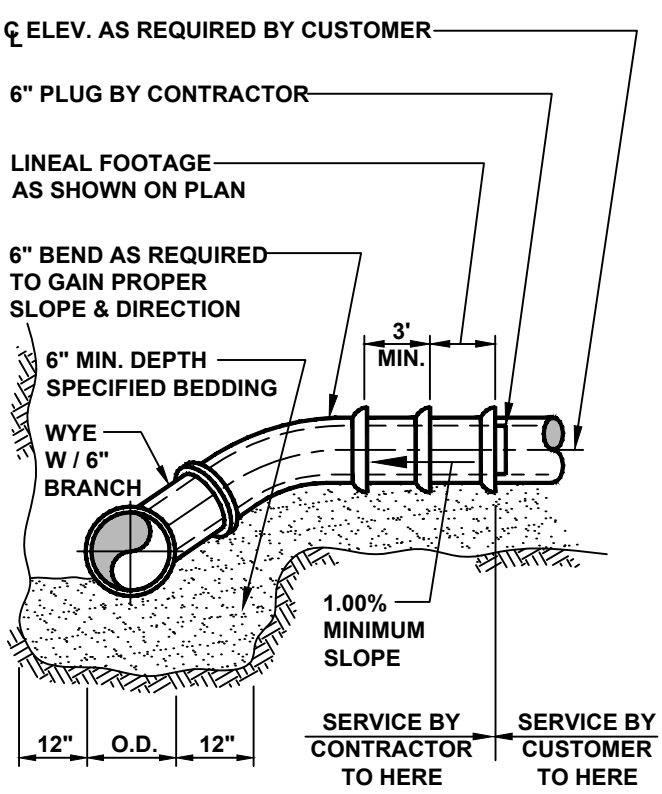
TYPE I



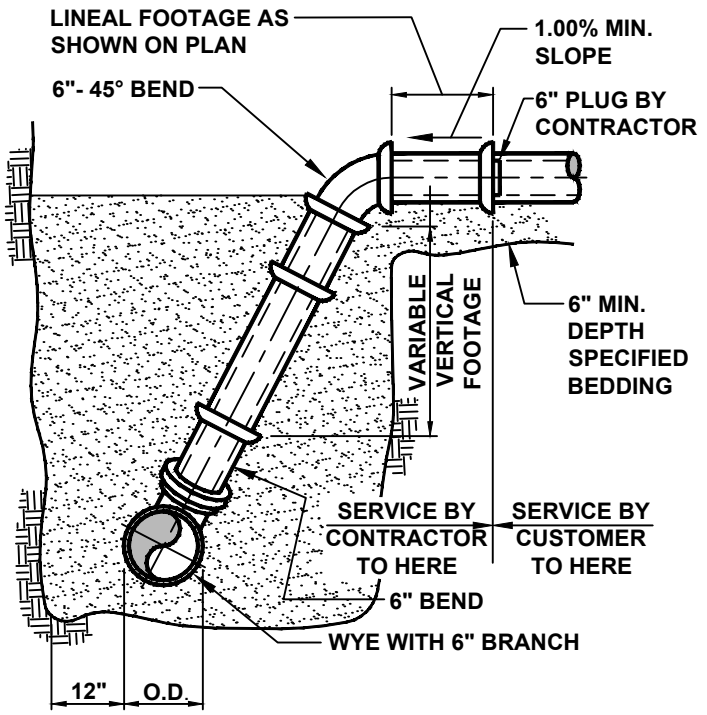
TYPE II

NOTE:
ALL SERVICE SEWERS SHALL BE 6" DIAMETER AND SHALL BE PVC PIPE. CHANGES IN ALIGNMENT AND CONNECTIONS TO MAIN SEWER SHALL BE ACCOMPLISHED WITH PREFABRICATED FITTINGS.

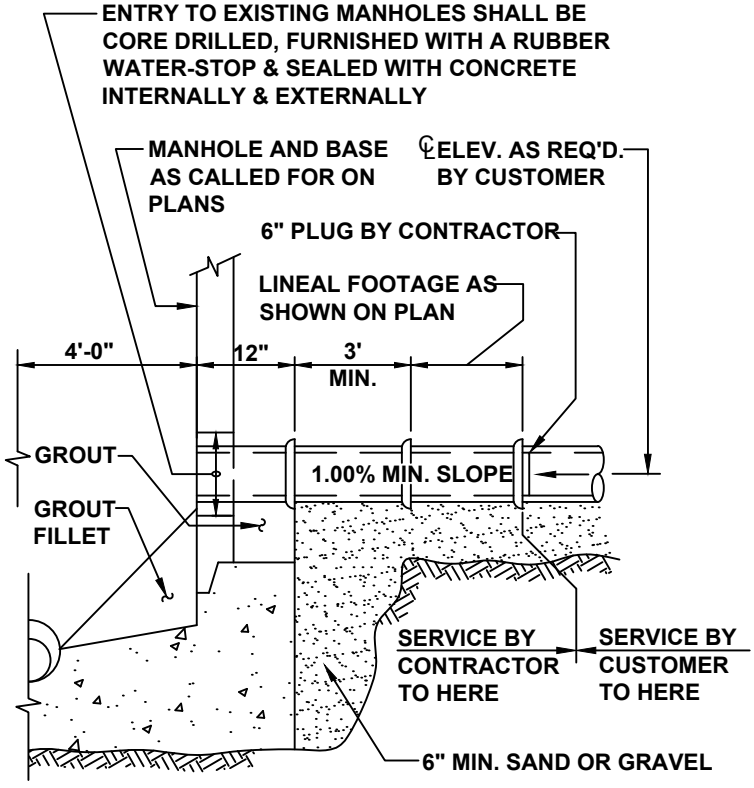
Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		TYPICAL SERVICE LATERAL CONNECTIONS
Not to scale	February 2025	Standard Detail SD-023



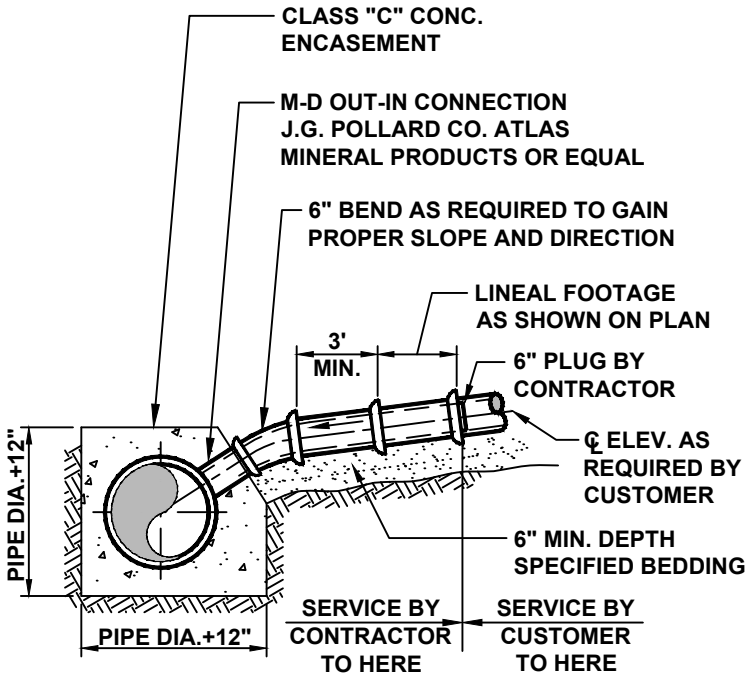
TYPE I



TYPE II

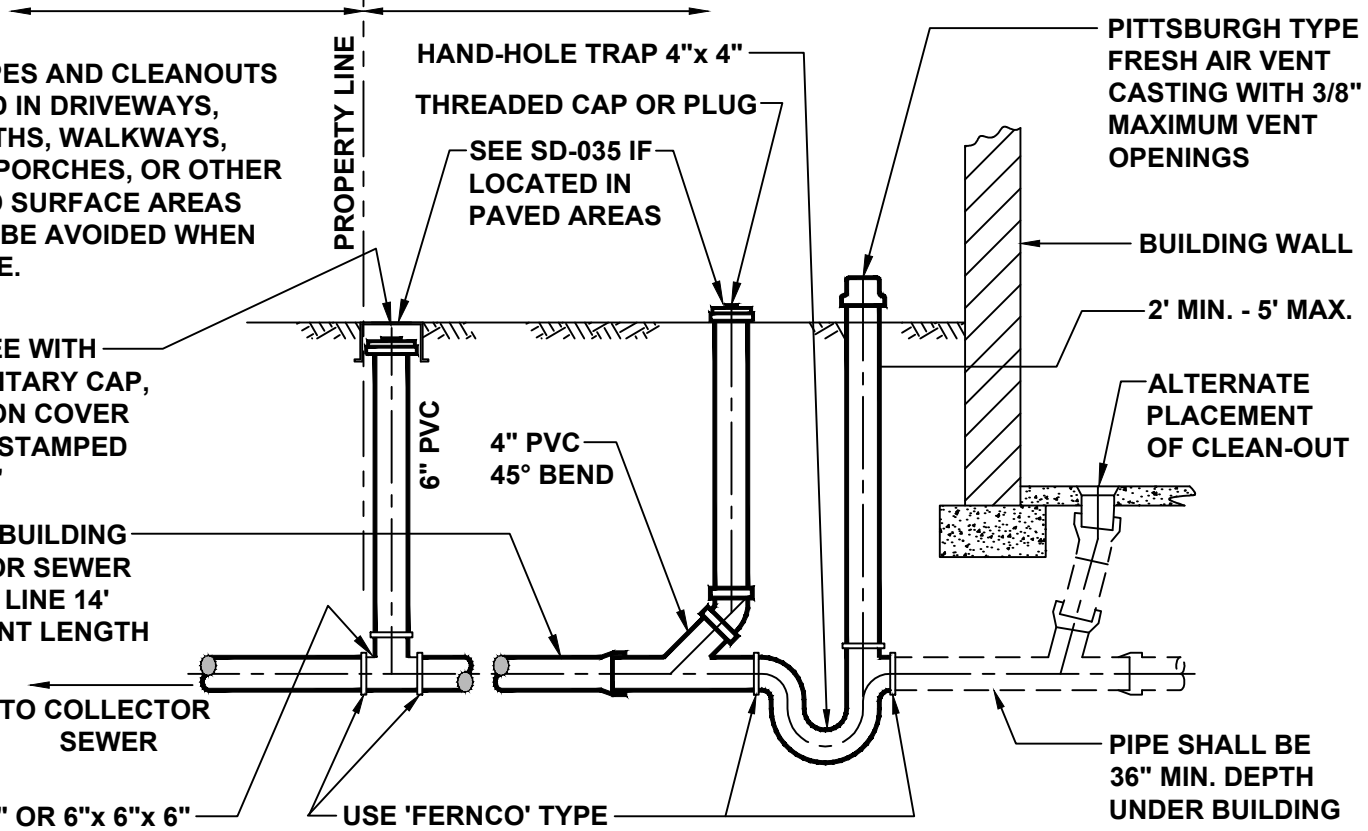


TYPE III



TYPE IV

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		**SERVICE CONNECTIONS**
Not to scale	**February 2025**	**Standard Detail SD-024**



NOTE:
VENT PIPES AND CLEANOUTS LOCATED IN DRIVEWAYS, CARTPATHS, WALKWAYS, PATIOS, PORCHES, OR OTHER FINISHED SURFACE AREAS SHOULD BE AVOIDED WHEN POSSIBLE.

NOTE:

1. ALL PIPE SHALL BE 4" OR 6" SCH. 40 PVC OR ABS. SLOPE SHALL BE MIN. 1/4" PER FOOT FOR 4" LINE AND 1/8" PER FOOT SLOPE FOR 6" LINE.

2. CLEAN-OUTS SHALL BE INSTALLED AT 50 FOOT INTERVALS FOR 4" PIPE AND 100 FOOT INTERVALS FOR 6" PIPE.

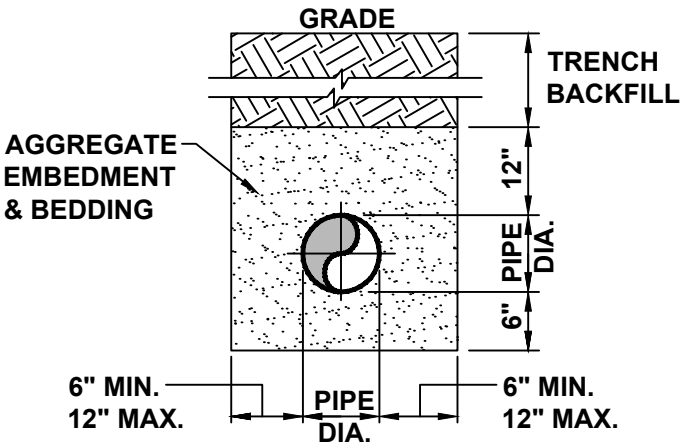
3. SDR 35 PVC MAY BE USED FROM THE DOWNSTREAM SIDE OF THE TRAP TO THE MAIN.

4. ABS PIPE SHOULD NOT BE GLUED TO PVC PIPE.

5. ALL FERNCO CONNECTIONS WHERE PERMITTED SHALL BE BANDED TYPE.

CONDENSED INSTALLATION SPECIFICATIONS

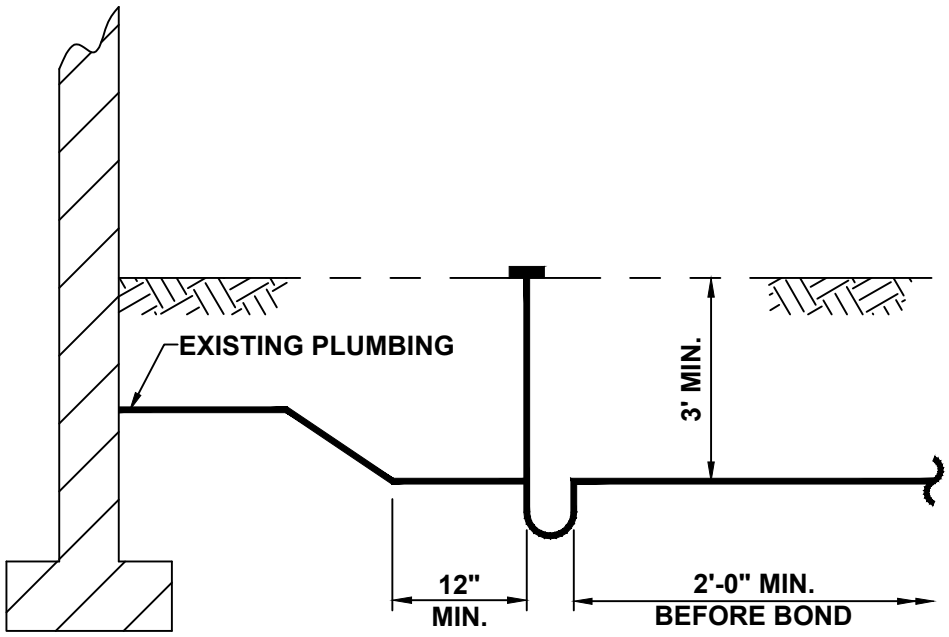
SEWER SERVICE LINE AND SEWER SERVICE CONNECTIONS SHALL BE INSTALLED BY REGISTERED MASTER PLUMBER AT THE COST OF THE CUSTOMER IN ACCORDANCE WITH APPENDIX C OF THE RULES AND REGULATIONS AND DETAILED SPECIFICATIONS OF THE AUTHORITY AND MUST MEET ALL CURRENT ACHD STANDARDS.



SEWER SERVICE LINE PIPE:

MATERIAL	ASTM SPECIFICATIONS	JOINT		ASTM SPEC.
ABS	D-2751	SCH-40	SOLVENT WELD	D-2751
PVC	D-3034	SDR-35	ELASTOMERIC	D-3212
PVC	D-1875	SCH-40	SOLVENT WELD	D-2564

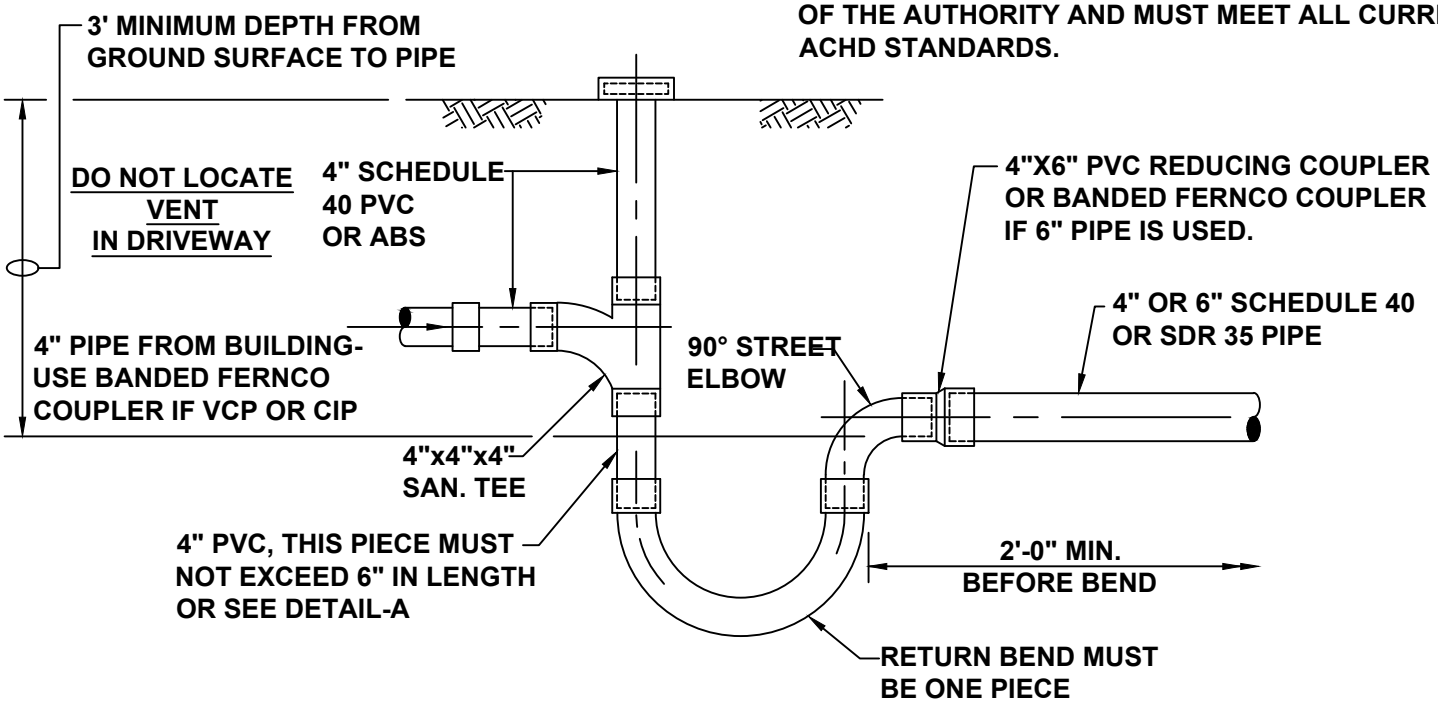
Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		SERVICE CONNECTION TO SANITARY SEWER FROM A NEW INSTALLATION
Not to scale	February 2025	Standard Detail SD-025



SHALLOW BUILDING SEWER TRAP DETAIL

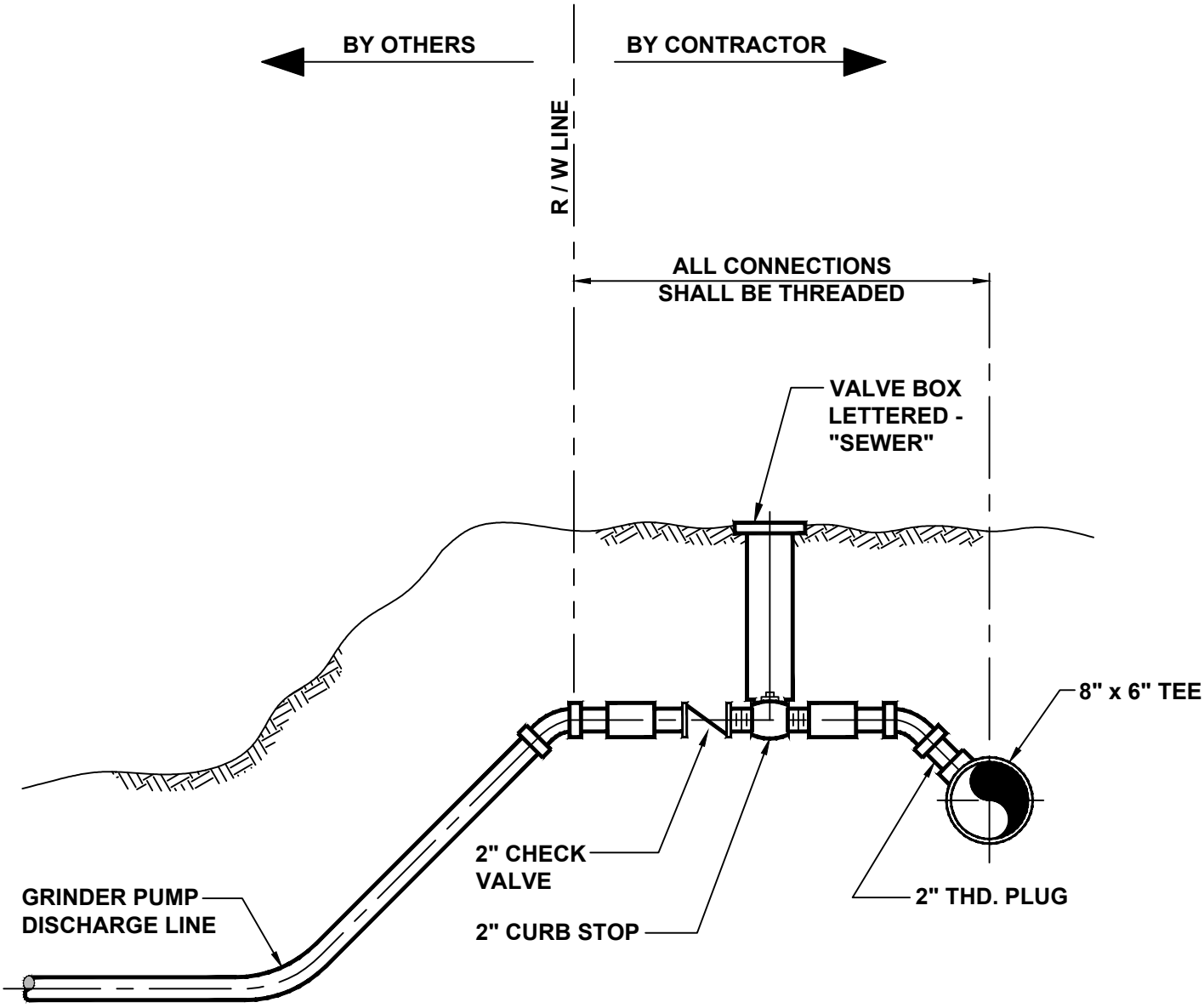
CONDENSED INSTALLATION SPECIFICATIONS

SEWER SERVICE LINE AND SEWER SERVICE CONNECTIONS SHALL BE INSTALLED BY REGISTERED MASTER PLUMBER AT THE COST OF THE CUSTOMER IN ACCORDANCE WITH APPENDIX C OF THE RULES AND REGULATIONS AND DETAILED SPECIFICATIONS OF THE AUTHORITY AND MUST MEET ALL CURRENT ACHD STANDARDS.

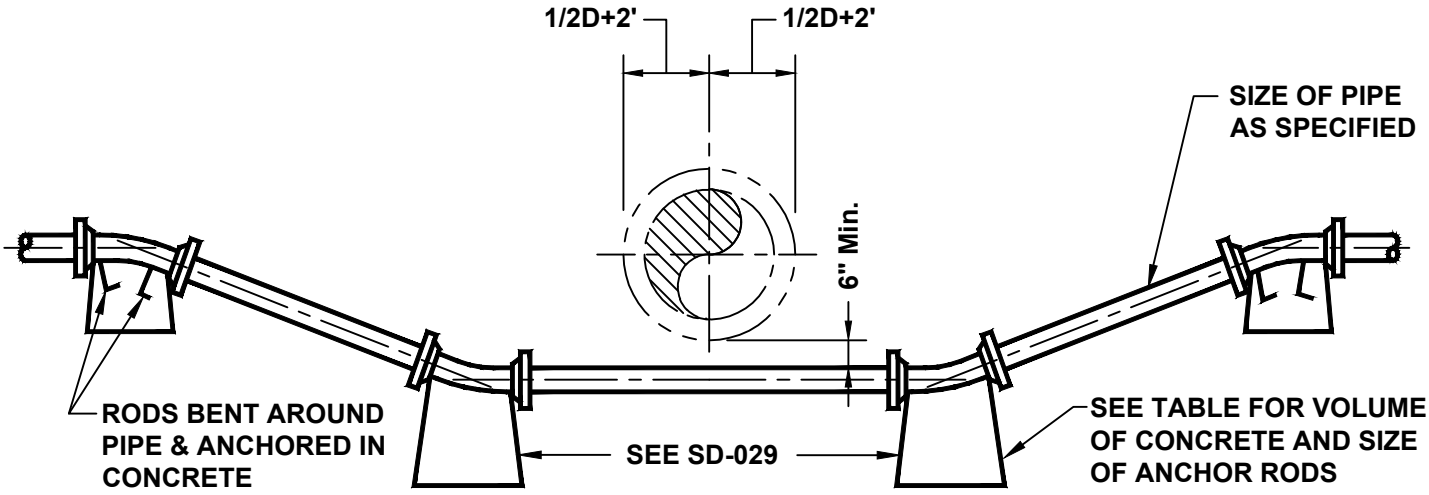


TYPICAL FABRICATED PVC VENT/ TRAP ASSEMBLY

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		**BUILDING SEWER TRAP DETAILS**
Not to scale	**February 2025**	**Standard Detail SD-026**



Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		SMALL DIAMETER FORCE MAIN CONNECTION
Not to scale	February 2025	Standard Detail SD-027

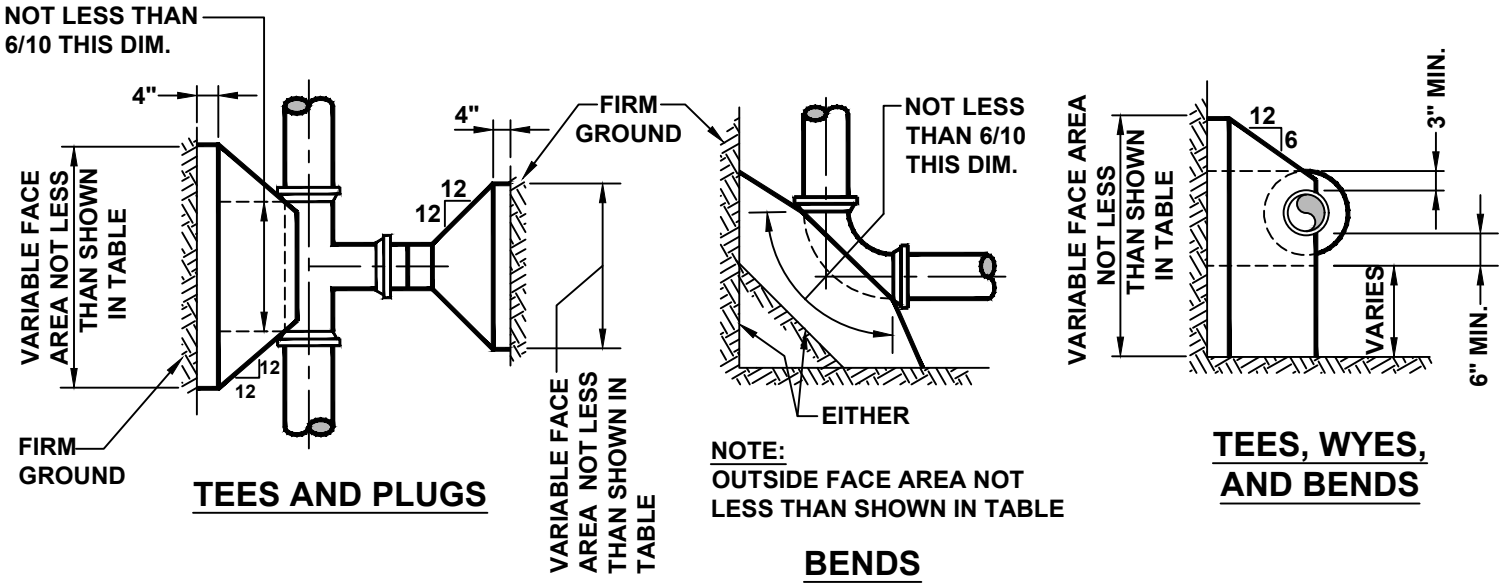


NOTE:
THE TABLE IS BASED ON 225 PSI TEST PRESSURE. ALL BLOCKS HAVING LENGTH OF 3'-0" OR MORE TO BE REINFORCED WITH #4 @ 6" PLACED 3" FROM TOP OF BLOCK.

NOTE:
ALL FITTINGS SHALL BE WRAPPED IN PLASTIC PRIOR TO POURING CONCRETE ANCHORS.

		VOLUME IN CUBIC FEET			SIZE AND NO. OF ANCHOR RODS		
PIPE SIZE	TOTAL FORCE (lbs)	45 DEGREE BENDS	22 1/2 DEGREE BENDS	11 1/4 DEGREE BENDS	45 DEGREE BENDS	22 1/2 DEGREE BENDS	11 1/4 DEGREE BENDS
4	4275	22.7	11.6	5.9	1-#4	1-#4	1-#4
6	8550	45.5	23.3	11.9	2-#4	1-#4	1-#4
8	14625	77.8	39.6	20.3	2-#4	2-#4	1-#4
10	21825	116.1	59.1	30.3	2-#4	2-#4	2-#4
12	30825	164.0	83.5	42.8	2-#5	2-#4	2-#4
14	41400	220.2	112.1	57.5	2-#6	2-#4	2-#4
16	53550	284.9	145.0	73.4	2-#7	2-#5	2-#4
18	67275	357.9	182.2	93.4	2-#7	2-#5	2-#4
20	82575	439.2	223.6	114.7	2-#8	2-#6	2-#4
24	117675	626.0	318.7	183.4	2-#9	2-#7	2-#5

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		CONCRETE ANCHORS AND METHOD OF LAYING FORCE MAINS UNDER OBSTRUCTIONS
Not to scale	February 2025	Standard Detail SD-028



NOTES:

1. ALL TEES, WYES, CROSSES, PLUGS AND BENDS OF 10° OR MORE SHALL BE BLOCKED AGAINST FIRM EARTH WITH CONCRETE.

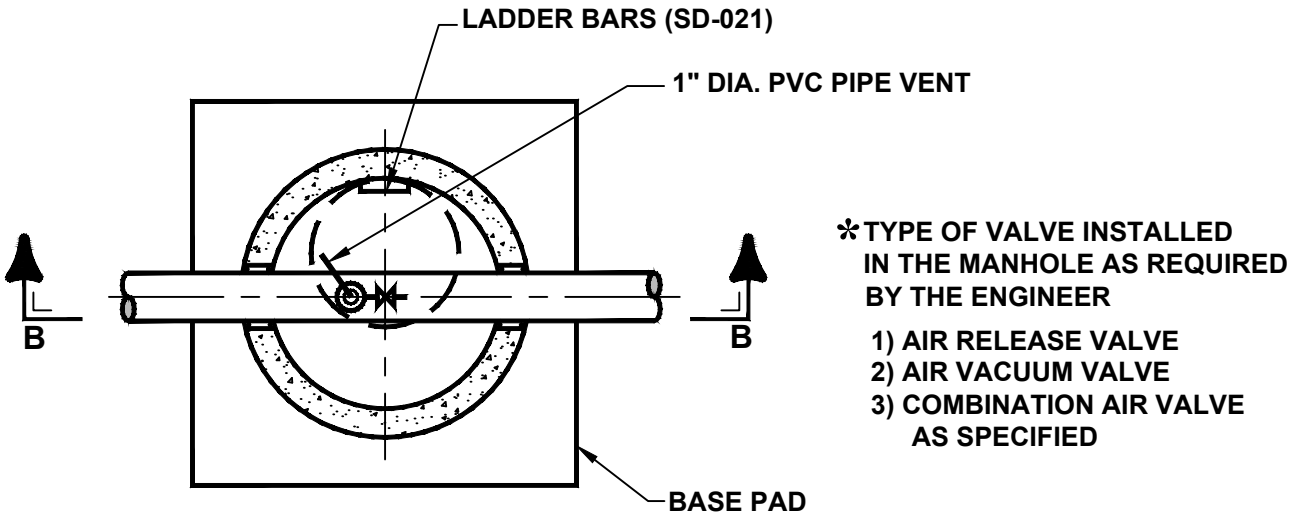
2. EARTH PRESSURE FIGURED AT 4000 PSF. IF EARTH ENCOUNTERED WILL NOT WITHSTAND THIS PRESSURE, THE AREA OF THE BLOCK MUST BE INCREASED PROPORTIONATELY.

3. ALL FITTINGS SHALL BE WRAPPED IN PLASTIC PRIOR TO POURING CONCRETE BLOCKING.

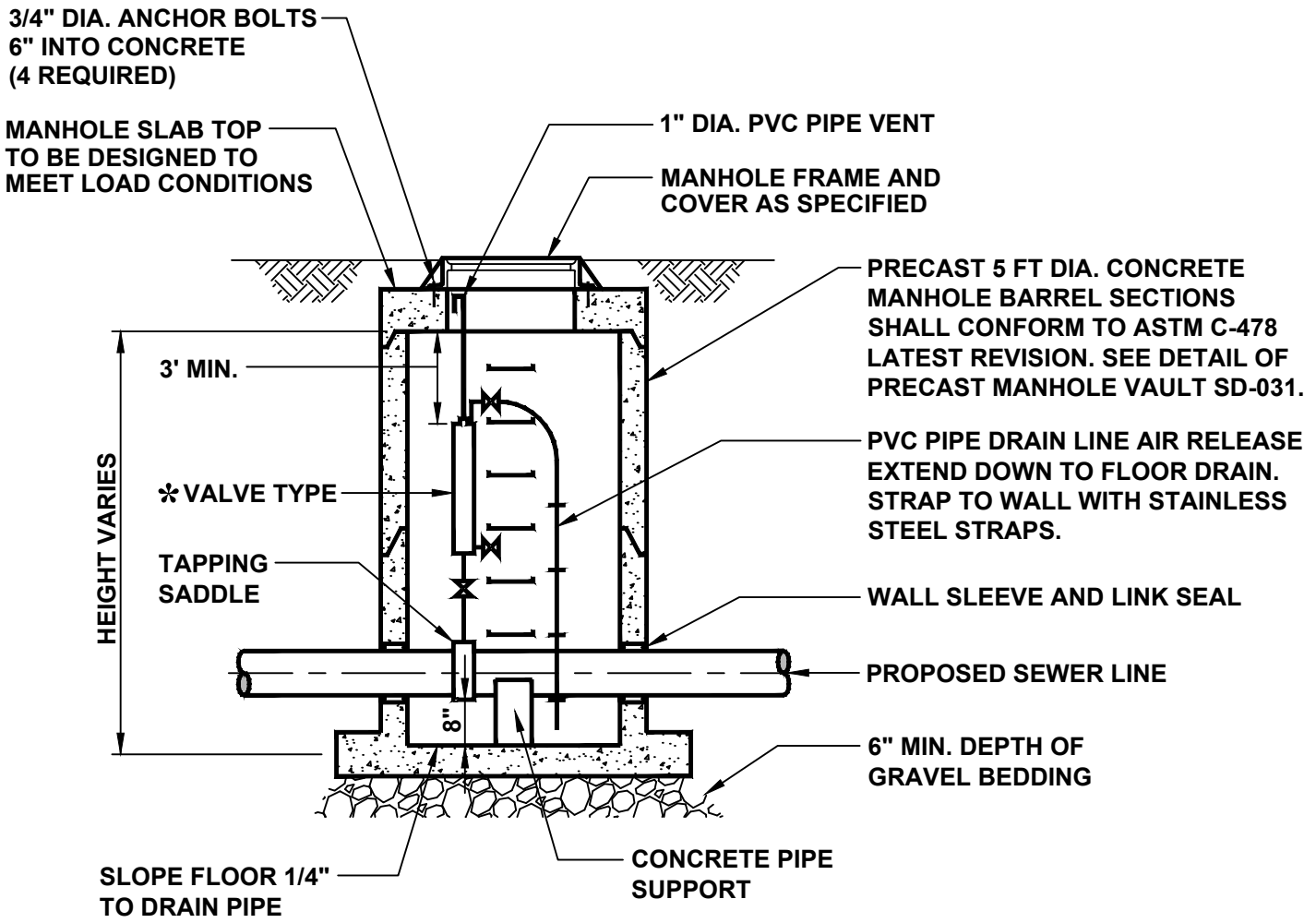
			AREA OF BLOCK IN SQUARE FEET				
PIPE SIZE (in)	AREA* (sq in)	TOTAL FORCE (lbs)	TEES & PLUGS	90 DEGREE BENDS	45 DEGREE BENDS	22 1/2 DEGREE BENDS	11 1/4 DEGREE BENDS
4	19	4,275	1.1	1.5	1.0	1.0	1.0
6	38	8,550	2.2	3.0	1.6	1.0	1.0
8	65	14,625	3.7	5.2	2.8	1.4	1.0
10	97	21,825	5.5	7.7	4.2	2.1	1.1
12	137	30,825	7.7	10.9	5.9	3.0	1.5
14	184	41,400	10.4	14.6	7.9	4.0	2.1
16	238	53,550	13.4	18.9	10.3	5.2	2.7
18	299	67,275	16.8	23.8	12.9	6.6	3.4
20	367	82,575	20.7	29.2	15.8	8.1	4.1
24	523	117,675	29.4	41.6	22.5	11.5	5.9
30	805	96,600	24.2	34.2	18.5	9.4	4.8
36	1152	138,240	34.6	48.9	26.5	13.5	6.9

CALCULATIONS ARE BASED ON 225 PSI PRESSURE OR 150 PSI WORKING PRESSURE PLUS 50% INCREASE FOR WATER HAMMER FOR SIZES 4" TO 24" INCLUSIVE. FOR SIZES 30" & 36" THE TABLE IS BASED ON 120 PSI PRESSURE OR 75 PSI WORKING PRESSURE PLUS 50% WATER HAMMER.

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		CONCRETE THRUST BLOCKING
Not to scale	February 2025	Standard Detail SD-029

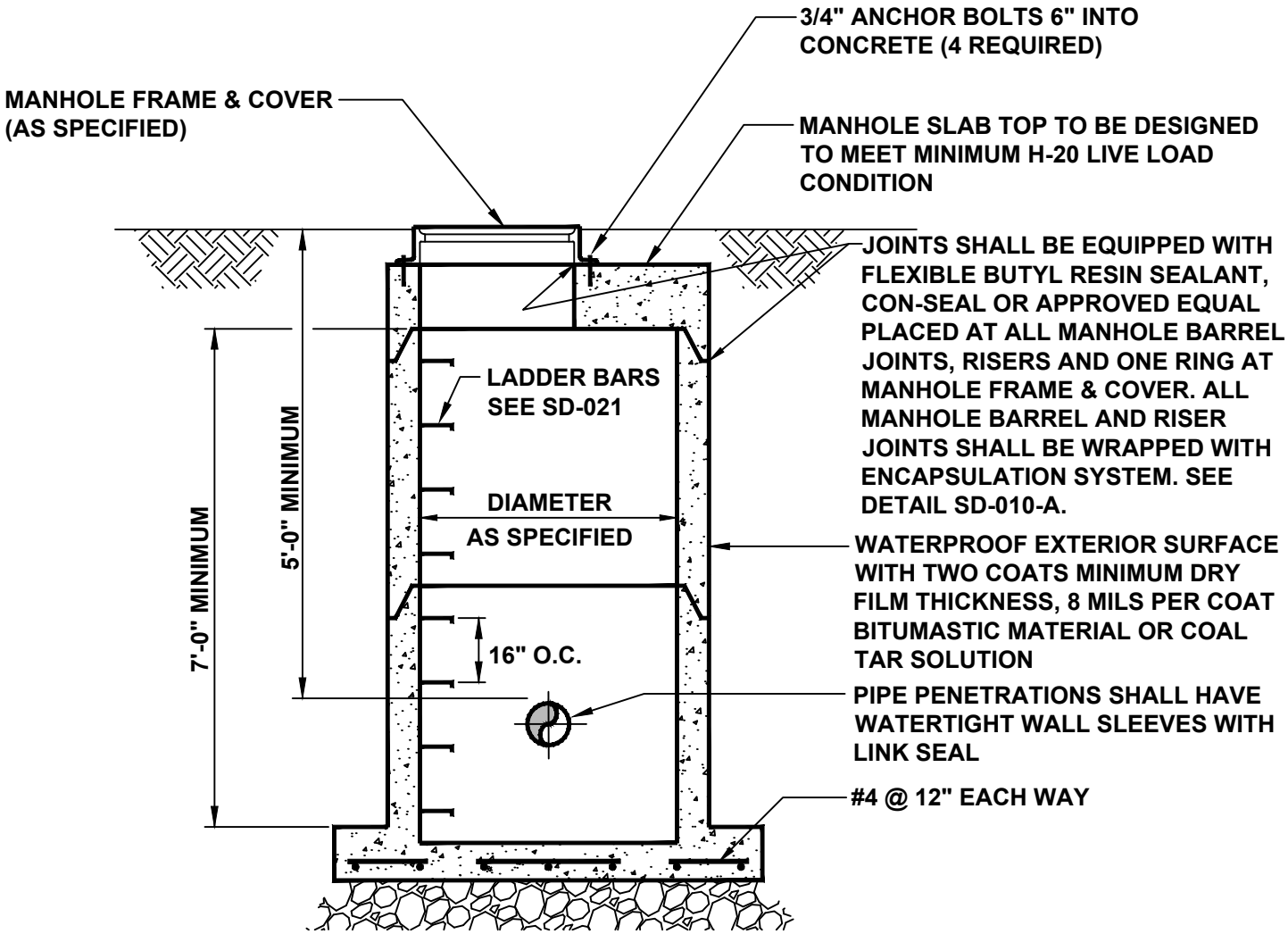


PLAN 2-040-A



SECTION B

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		**SEWAGE AIR AND VACUUM RELEASE VALVE AND MANHOLE**
Not to scale	**February 2025**	**Standard Detail SD-030**

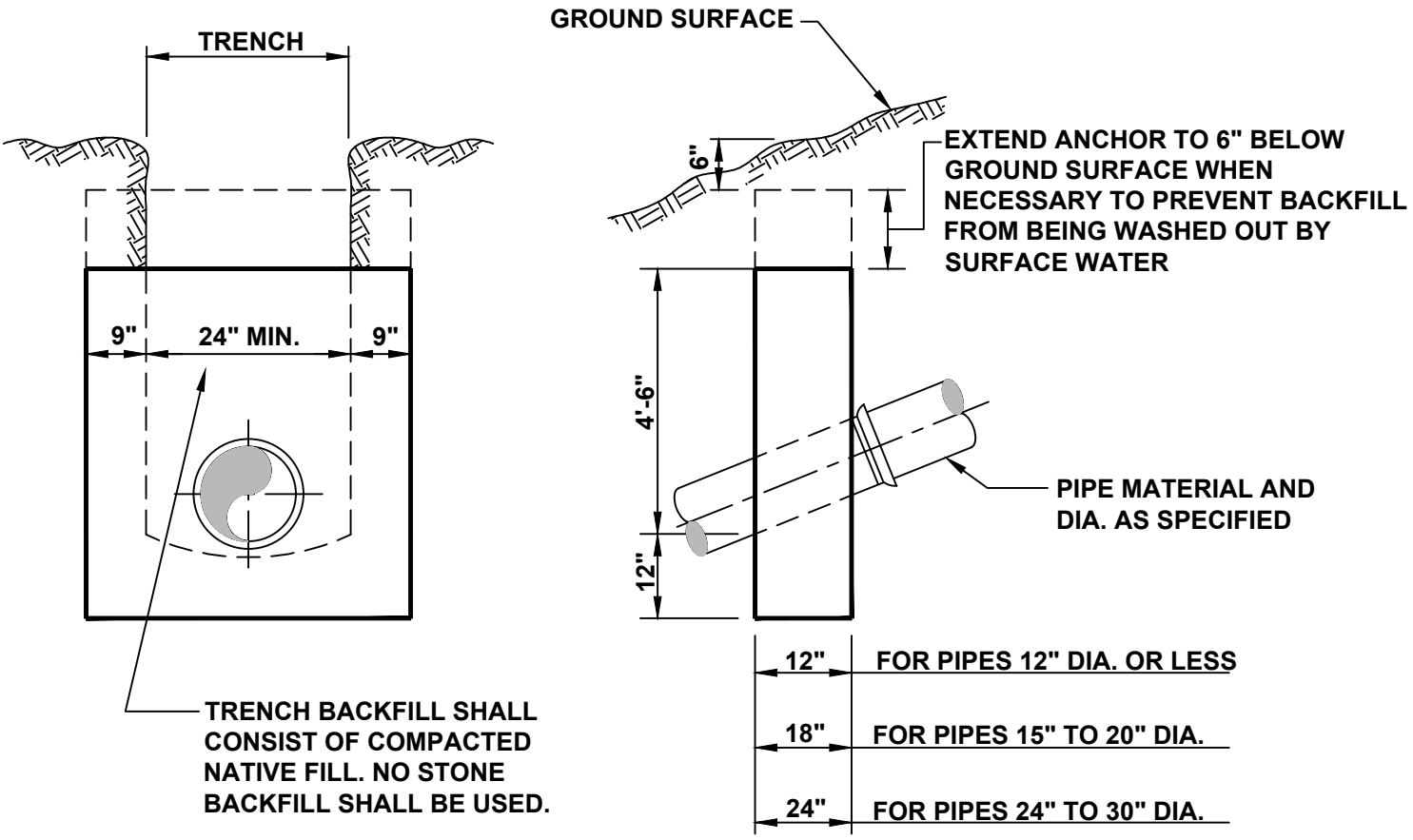


SECTION A-A

NOTES:

1. PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO ASTM-C478, LATEST REVISION.
2. WHERE MANHOLE FOUNDATION IS IN ROCK, REINFORCEMENT WILL NOT BE REQUIRED.
3. LIFTING HOLES SHALL BE PAINTED WITH MORTAR, MADE WATERTIGHT AND LEFT NEAT & SMOOTH.
4. SUPPORT MANHOLE STRUCTURE AND ALL PIPING CONNECTIONS ON A MINIMUM OF 6" THICKNESS 2B BEDDING MATERIAL. ENCAPSILATE ALL PIPES WITHIN MANHOLE EXCAVATION IN THE SAME MATERIAL TO AN ELEVATION OF 12" ABOVE THE TOPS OF PIPES.

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		PRECAST CONCRETE MANHOLE VAULT
Not to scale	February 2025	Standard Detail SD-031



CONCRETE ANCHORS FOR PIPES ON STEEP GRADES

PROVIDE NO ANCHORS ON GRADES LESS THAN 20% UNLESS NOTED
PROVIDE ANCHORS 36' C-C ON GRADES BETWEEN 20% AND 34%
PROVIDE ANCHORS 24' C-C ON GRADES BETWEEN 34% AND 50%
PROVIDE ANCHORS 16' C-C ON GRADES BETWEEN 50% AND 70%

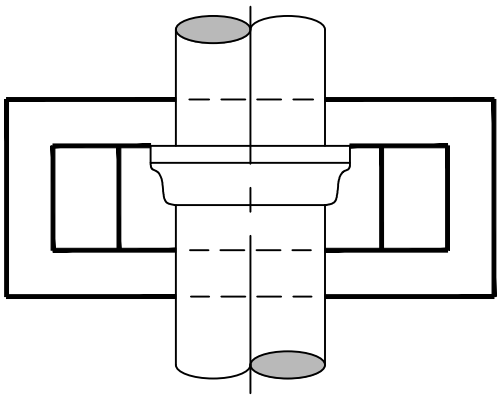
NOTE:

1. FOR CONDITIONS OTHER THAN SHOWN HEREON ANCHORS SHALL BE PROVIDED AS REQUIRED BY THE CONTRACT PLANS OR ORDERED IN THE FIELD BY THE OWNER'S REPRESENTATIVE.

2. ALL PIPE ON SLOPES GREATER THAN 30% SHALL BE DUCTILE IRON WITH FIELD LOK GASKETS.

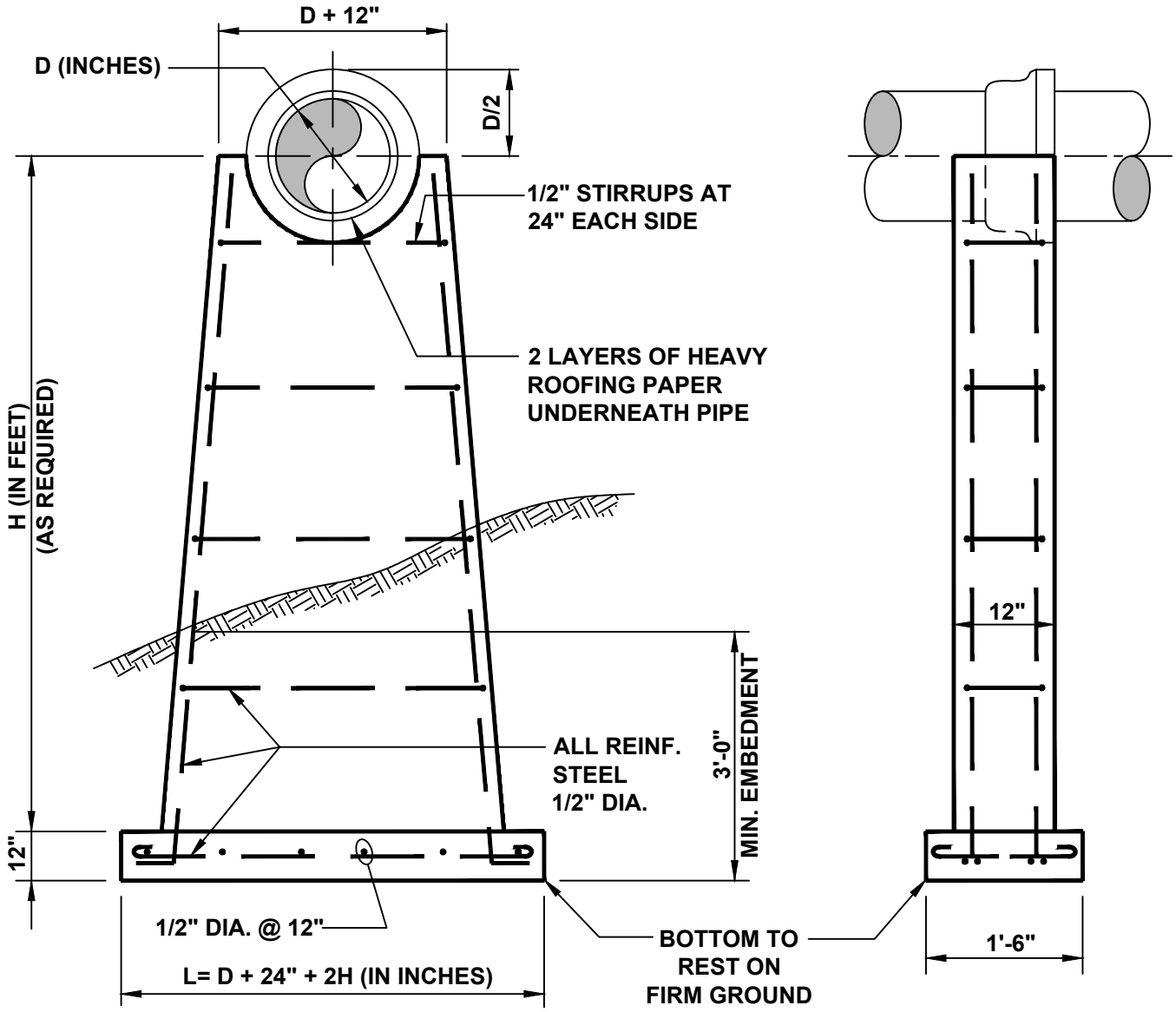
3. WHERE PIPES ARE INSTALLED ON STEEP GRADES, CONTRACTOR SHALL INSTALL CONCRETE THRUST BLOCKING AT THE BOTTOM OF THE PIPE RUN AT THE MANHOLE CONNECTION.

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		CONCRETE ANCHORS FOR PIPELINES
Not to scale	February 2025	Standard Detail SD-032



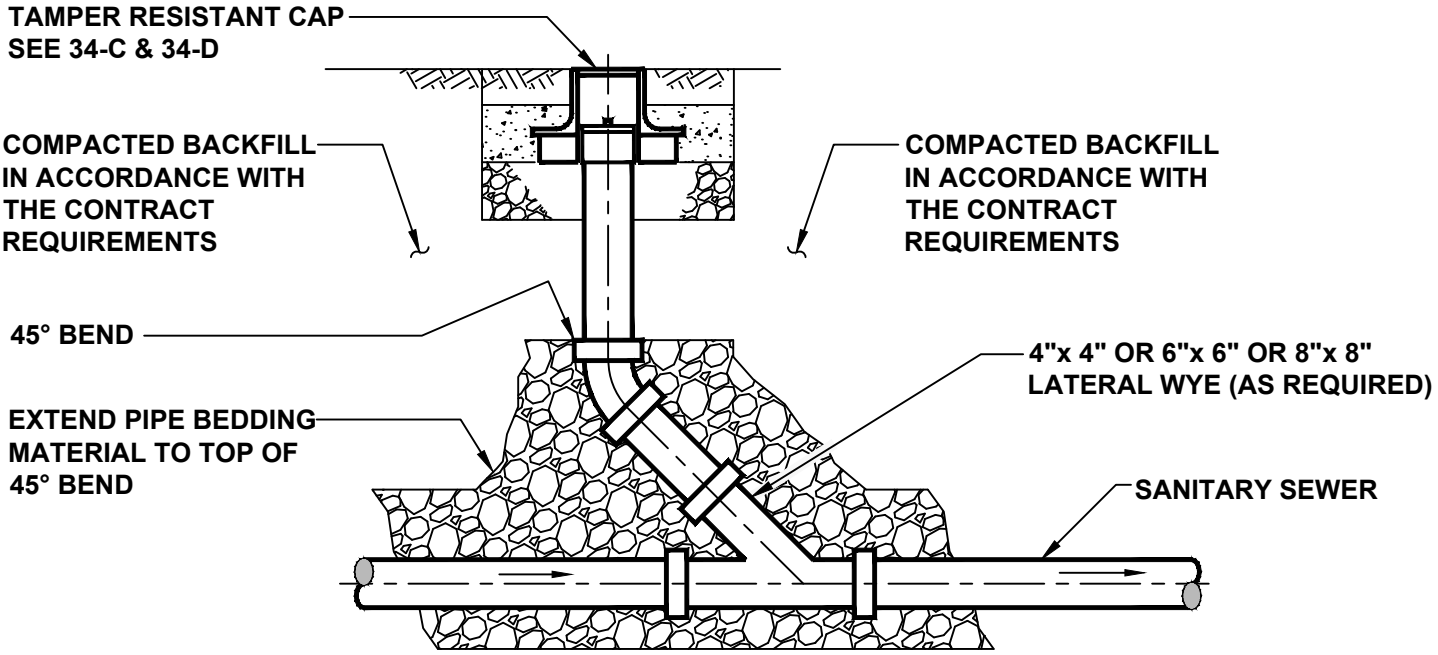
NOTE:

THESE PIERS SHALL BE CONSTRUCTED AT ALL LOCATIONS WHERE PIPE ALIGNMENT OR PROFILE PROHIBITS PIPE SUPPORT ON ORIGINAL UNDISTURBED GROUND. SPACING BETWEEN PIERS SHALL ACCOMODATE PIPE JOINTS UNLESS OTHERWISE SHOWN ON THE THE PLANS OR DIRECTED IN THE FIELD

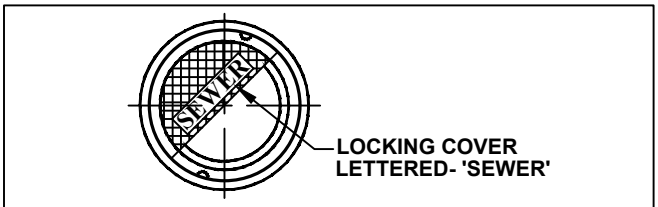


EXAMPLE: D=12"
H=10'-0"
L=12"+24"+(2X10)=56"

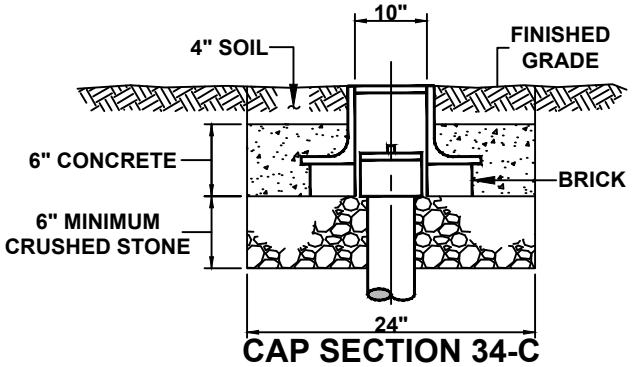
Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		**PIPE SUPPORT PIERS FOR ALIGNEMENTS ABOVE ORIGINAL UNDISTURBED GROUND**
Not to scale	**February 2025**	**Standard Detail SD-033**



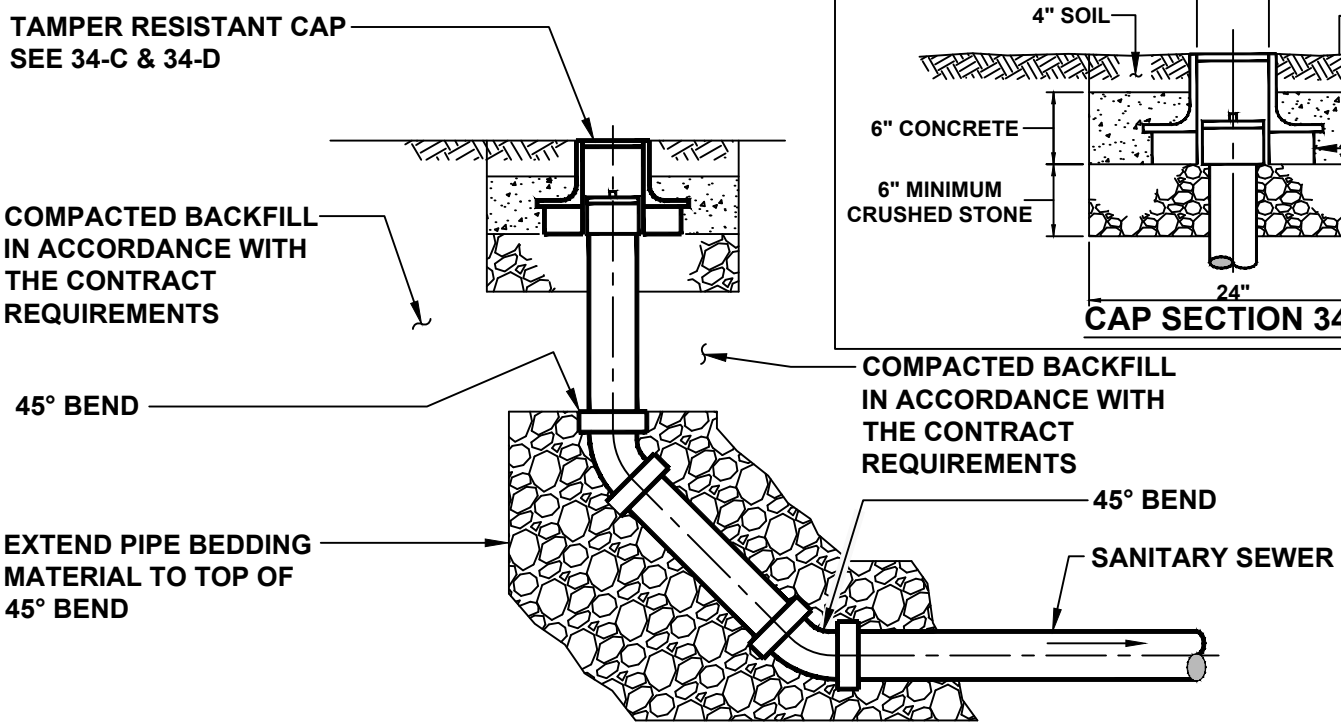
IN-LINE CLEANOUT DETAIL A



CAP COVER 34-D

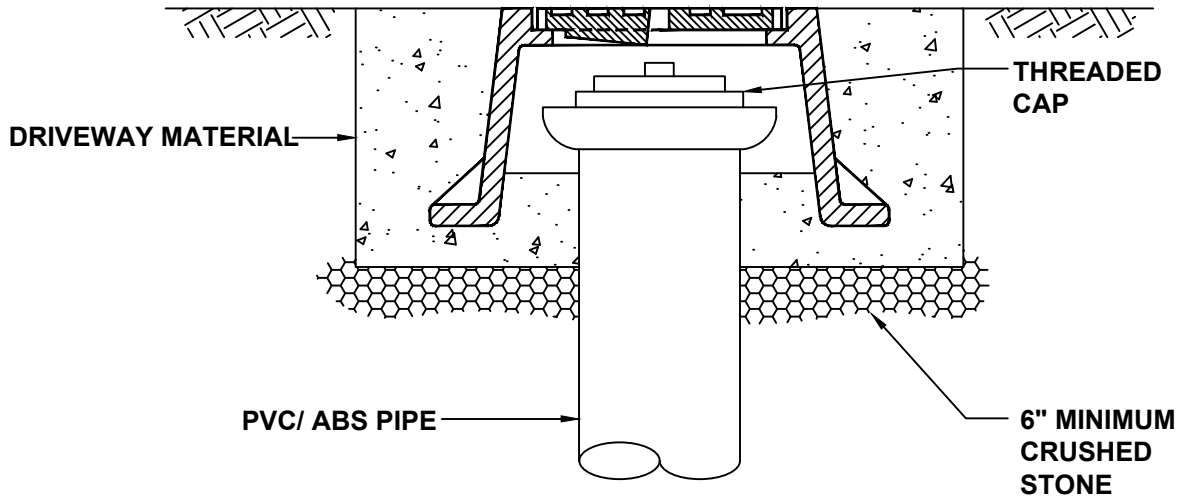


CAP SECTION 34-C



END-LINE CLEANOUT DETAIL B

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		MAIN LINE, IN-LINE, AND END LINE CLEANOUT FOR 6" AND 8" PVC SEWER
Not to scale	February 2025	Standard Detail SD-034



NOTE:
FRAME & COVER SHALL BE VALVCO INC. #668 OR APPROVED EQUAL.

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		LATERAL SITE TEE/ CLEANOUT IN PAVED AREAS
Not to scale	February 2025	Standard Detail SD-035

PURCHASE AND SALE AGREEMENT

THIS PURCHASE AND SALE AGREEMENT ("Agreement") by and between PETERSON ANTHONI MALS ("Seller") and CE-South Fayette, LP or related assigns, a limited liability company ("Purchaser") is made and entered into as of the last date this Agreement is executed by Seller or Purchaser (the "Effective Date").

Recitals:

WHEREAS, Seller is the owner of a certain property identified as Millers Run Rd in the City of Bridgeville, County of 946 South Fayette, Commonwealth of Pennsylvania identified as Block and Lot Parcel ID 0256-L-00001-0000-00, as such property is more fully described at Deed Book Volume 10562, page 390 (the "Property"); and

WHEREAS, Seller desires to sell and Purchaser desires to purchase the Property, pursuant to the terms, provisions, and conditions herein.

NOW, THEREFORE, intending to be legally bound the parties hereto agree as follows:

1. PURCHASE AND SALE OF PROPERTY.

Seller agrees to sell to Purchaser, and Purchaser agrees to purchase from Seller, subject to the terms and conditions of this Agreement, the Property. The Property shall be conveyed together with all privileges, rights, easements and appurtenances belonging to such land, and all right, title and interest (if any) of Seller in and to any streets, alleys, passages, and other rights-of-way or appurtenances included in, adjacent to or used in connection with such land, and all right, title and interest (if any) of Seller in all mineral and development rights appurtenant to such land and with all of the rights and privileges attributable to ownership of the Property.

2. PURCHASE PRICE AND DEPOSIT.

2.1 The purchase price for the Property shall be [redacted] (the "Purchase Price").

2.2 Within three (5) days of the Effective Date, Purchaser shall deposit with Pioneer Land Settlement, Inc., (hereinafter "Title Company") as escrow agent, a deposit in the amount of [redacted] (the "Deposit") to be held in a non-interest bearing account.

2.3 At Closing, the Deposit shall be applied to the Purchase Price.

3. TITLE.

3.1 Title to the Property shall be conveyed to Purchaser at Closing in fee simple by general Warranty Deed, in a form and substance satisfactory to Purchaser's counsel.

3.2 Purchaser shall obtain a Commitment for Title Insurance from the Title Company, committing to insure upon the payment of a requisite premium at standard rates that Purchaser shall own good and indefeasible fee simple title to the Property, subject only to the

Permitted Exceptions, as defined herein.

3.3 The term "Permitted Exceptions", as used herein, shall mean (i) the lien of real estate taxes not yet due and payable, (ii) all matters revealed in the Title Commitment obtained by Purchaser and approved by Purchaser, (iii) all existing building, zoning and other city, state, county or federal laws, codes and regulations affecting the Property, (iv) any existing general utility easements serving the Property, provided such existing utility easements would not materially interfere with Purchaser's intended use of the Property as determined by Purchaser in its sole discretion, and (v) any title exception created directly by any act or omission of Purchaser or its representatives, agents, employees or invitees.

3.4 Notwithstanding anything to the contrary in this agreement, Seller shall pay all costs of clearing title.

4. DUE DILIGENCE PERIOD.

4.1 Purchaser, at Purchasers sole expense, shall have the right for a period of [redacted] days from the Effective Date (the "Due Diligence Period"), at any time, to perform any due diligence at its sole cost and expense that it deems proper, including but not limited to, survey and title review, environmental review, structural review, roof evaluation, electrical and plumbing review, and zoning review. Purchaser may elect, at its sole discretion, during the Due Diligence Period, to terminate this Agreement for any reason (or for no reason whatsoever) and receive the prompt refund of the Deposit. Purchaser shall elect to terminate this Agreement by providing written notice delivered to Seller prior to the expiration of the Due Diligence Period notifying Seller that Purchaser is terminating this Agreement. In the absence of such notice, this Agreement shall remain in full force and effect.

4.2 Seller shall provide to Purchaser, within five (5) days after the Effective date of this Agreement, to the extent such are available to Seller, a copy of all plans, drawings, and blueprints pertaining to the Property, any existing title insurance policies covering the Property, a copy of any site plans and/or surveys for the Property, and a copy of any environmental reports.

4.3 The Purchaser shall have one (1) successive option to extend the term of the Due Diligence Period for periods of thirty (30) days each. To exercise an option to extend the term of the Due Diligence Period, Purchaser must notify Seller in writing to be received by Seller on or before the end of the Due Diligence Period, as extended, pursuant to the notice provisions set forth below in this Agreement.

5. REPRESENTATIONS AND WARRANTIES OF SELLER.

Seller hereby represents and warrants the following to the Purchaser as of the date Seller signs this Agreement and as of the Closing:

5.1 Seller is the record owner in fee simple of the Property, and the Property will be on the Closing date free and clear of all liens and encumbrances except for Permitted Exceptions, as defined herein.

5.2 Seller possesses all requisite power and authority to enter into and perform this Agreement and to carry out the transactions contemplated herein. The execution and delivery by Seller of this Agreement and the performance and consummation by Seller of the transaction

contemplated by this Agreement have been duly and validly authorized by all requisite and necessary company and other internal action on the part of Seller.

5.3 No suit, action, arbitration, or legal, administrative, or other proceedings, including but not limited to condemnation proceeding, is pending or has been threatened against the Property or against the Seller with respect to the Property.

5.4 No bankruptcy, insolvency, rearrangement, or similar action or proceedings, whether voluntary or involuntary, is pending or threatened against Seller, or any partner of Seller and Seller has no intention of filing or commencing any such action or proceeding.

5.5 There are no existing or pending contracts of sale, leases, options to purchase, or rights of first refusal (or the like) with respect to the Property.

5.6 Seller is not a "foreign person" as defined in the Foreign Investment in Real Property Tax Act of 1980, as amended.

5.7 The Property is not subject to any protest or appeal proceedings related to real property taxes.

5.8 Seller has not received any written notice indicating that the Property is in violation, or that with the giving of notice or the passage of time would be in violation, of any applicable law, enactment, statute, code, ordinance, rule, regulation, judgment, writ, injunction, authorization, covenant, condition, restriction or agreement, or other direction or requirement of any governmental authority.

5.9 Neither Seller nor any affiliate or agent or contractor of Seller has disposed of or otherwise released any Hazardous Substances on the Property. To the best of Seller's knowledge, there are no Hazardous Substances present on the Property. Seller further warrants that until termination of this Agreement or delivery of possession of the Property to Purchaser, neither Seller nor any agent of Seller will cause or permit any Hazardous Substance to be disposed of or released or present on, over, beneath, in or upon the Property or to exist on or within any portion of the Property. "Hazardous Substances" shall mean asbestos (including asbestos in friable form), polychlorinated biphenyls, petroleum products, any flammable explosives, radioactive materials, hazardous materials, hazardous wastes, hazardous or toxic substances or related materials as defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 U.S.C. §9601, et seq.), the Hazardous Materials Transportation Act, as amended, (49 U.S.C. §1801, et seq.), the Resource Conservation and Recovery Act, as amended (42 U.S.C. §6901, et seq.), the Toxic Substances Control Act, as amended (15 U.S.C. §2601, et seq.), any Environmental Laws. "Environmental Laws" means any federal, state or local statutes, laws, regulations, rules, decrees, orders, judgments, stipulations, ordinances, policies or common law related to the protection of human health and the environment or the use, handling, treatment, storage, disposal, release, remediation or transportation, or exposure of persons to, Hazardous Substances.

5.10 The representations and warranties of this Section 5 shall survive Closing.

6. CLOSING.

6.1 The consummation of the contemplated transaction (the "Closing") shall be held at the offices of Pioneer Land Settlement, Inc., in Pittsburgh, Pennsylvania, not later than thirty (30) days after expiration of the Due Diligence Period, including any extensions, time being of the essence. The exact date and time of the Closing shall be designated by mutual agreement of the Seller and Purchaser upon notice to Seller of not less than five (5) days. The Title Company shall be responsible at the Closing for preparing the settlement statement, causing all documents to be recorded, disbursing all closing proceeds, and otherwise conducting settlement.

6.2 The following apportionments shall be made between the parties at the Closing:

(a) Real estate taxes, personal property taxes, special assessments, if any, on the basis of the fiscal or calendar period for which assessed.

(b) Water and sewer service charges and charges for gas, electricity, telephone and all other public utilities. If there are meters measuring the consumption of water, gas or electric current, Seller shall, not more than one day prior to the Closing date, if possible, cause such meters to be read, and shall pay all utility bills for which Seller is liable upon receipt of statements therefor. Purchaser shall be responsible for causing such utilities and services to be changed to its name and shall be liable for and shall pay all utility bills for services rendered after the Closing.

(c) All other charges and fees customarily prorated and adjusted in similar transactions in Pennsylvania.

6.3 At the Closing, Seller shall deliver to Purchaser, the following:

(a) A recordable Warranty Deed as required by Section 3.1 of this Agreement, conveying the Property in fee simple to Purchaser.

(b) A certificate, dated as of the Closing date, to establish that Seller is not a foreign person for the purposes of the Foreign Investment in Real Property Tax Act.

(c) Exclusive physical possession of the Property in its "AS IS" condition with all personal property removed, together with all books and records in Seller's possession or control and all keys.

(d) Such customary owner's title affidavits and gap indemnities as may be required by the Title Company in order to issue the title policy subject only to the Permitted Exceptions and without exception for parties in possession, mechanics' or materialmen's liens, unrecorded easements or matters first appearing of record after the effective date of the most recent Title Commitment but prior to the conveyance of the Property to Purchaser.

(e) If Seller is a business entity other than an individual, a Pennsylvania Good Standing Certificate, copies of the organizational documents for the Seller, and resolutions of Seller approving this Agreement and the transaction contemplated hereby and authorizing the execution and delivery of this Agreement, the completion of the transaction contemplated hereby and the execution and delivery of all documents required to be executed and delivered by Seller.

(f) Such other documents, instruments and affidavits as may be reasonably requested by Purchaser or the Title Company to effectuate the transaction contemplated by this Agreement and to induce the Title Company to insure title to the Property as described herein.

6.4 At the Closing, Purchaser shall deliver to Seller, the following:

(a) The balance of the Purchase Price, less the Deposit and subject to the prorations and credits set forth herein, payable in certified funds or by Federal Reserve Bank wire transfer to the Title Company on or prior to Closing.

(b) Such other documents, instruments and affidavits as may be reasonably requested by Seller or the Title Company to effectuate the transaction contemplated by this Agreement and to induce the Title Company to insure title to the Property as described herein.

6.5 Purchaser shall pay the costs and expenses associated with the following: (i) all costs of Purchaser's due diligence, including fees due its consultants and attorneys, (ii) all lenders' fees related to any financing to be obtained by Purchaser, (iii) all recording and filing charges in connection with the instruments by which Seller conveys the Property, (iv) all premiums and charges of the Title Company for the Title Commitment and the Owner's (and any mortgagee's) Title Policy (including endorsements), (v) the cost of the Survey, (vi) one-half of the transfer taxes, documentary stamp taxes and similar charges, if any, applicable to the transfer of the Property to Purchaser. The obligations of the Purchaser under this Section 6.5 shall survive the Closing (and not be merged therein) or any earlier termination of this Agreement.

6.6 Seller shall pay the costs and expenses associated with the following: (i) all fees due its attorneys and consultants, (ii) all reasonable costs incurred in connection with causing the Title Company to remove any title objections required to be removed or otherwise cured by Seller, (iii) all costs incurred in connection with the satisfaction of monetary liens on the Property, including any costs related to recording of any satisfaction or termination documents, and (iv) one-half of the transfer taxes, documentary stamp taxes and similar charges, if any, applicable to the transfer of the Property to Purchaser, and (v) a customary and reasonable settlement fee. The obligations of the Seller under this Section 6.6 shall survive the Closing (and not be merged therein) or any earlier termination of this Agreement.

7. RISKS OF LOSS; MAINTENANCE OF PROPERTY.

Risk of loss of the Property shall remain upon the Seller until Closing and delivery of possession to Purchaser. Seller shall maintain the Property in as good condition as it is now, except for ordinary wear and tear, until delivery of the same to Purchaser. Seller shall maintain such fire and casualty insurance as it has in force at this time. Purchaser understands that Purchaser may have an insurable interest in the Property upon the signing of this Agreement and, in order to protect Purchaser's own interest in the Property, Purchaser may retain or place in force adequate fire and casualty insurance with extended coverage on the Property as of the Effective Date of this Agreement.

8. EMINENT DOMAIN; CASUALTY.

After the Effective Date, in the event Seller receives any notice of any condemnation proceedings, or other proceedings in the nature of eminent domain, or if any part

of the Property is damaged or destroyed by casualty, Seller will forthwith notify Purchaser of same, and Purchaser shall have the option to: (i) proceed under this Agreement and obtain by assignment or otherwise all damages to which the owner of the Property may be entitled pursuant to the Pennsylvania Eminent Domain Code, or under any insurance policy of Seller, as applicable; or (ii) void this Agreement whereupon no party shall have any further duty or liability to the other. Notwithstanding the foregoing, if the Property is damaged by fire or casualty, and such damage can be repaired or reconstructed prior to the Closing in a good and workmanlike manner to the reasonable satisfaction of Purchaser, the Purchaser shall not have the right to terminate the Agreement.

9. REMEDIES.

9.1 In the event Seller materially fails to perform or breaches any of its representations, warranties or covenants to be performed by Seller under this Agreement, or Seller materially misrepresent any fact or circumstance, Purchaser shall be entitled (a) to enforce specific performance of this Agreement; (b) to bring suit for all damages suffered by reason of such failure and all of Purchaser's costs and expenses, including reasonable attorneys' fees; or (c) to terminate this agreement and have the Deposit and any Additional Deposit returned to Purchaser. Each remedy under this Section 9.1 may be cumulative and not exclusive.

9.2 If Purchaser defaults in its performance of any term, covenant, condition, or obligation under this Agreement, including the obligation of Purchaser to purchase the Property if all conditions precedent to such obligations have been satisfied, Seller shall be entitled to receive as complete liquidated damages the Deposit and any Additional Deposit as liquidated damages. The parties acknowledge that the Deposit and any Additional Deposit represents a reasonable effort to ascertain the damages to Seller in the event of a Purchaser default, which damages are difficult or impossible to quantify. Seller waives all other remedies.

9.3 A failure by either party to perform any act required by it under this Agreement, other than the requirement to close if all conditions have been met, shall not be deemed a default under this Agreement until such party has received written notice from the other party setting forth the alleged failure, and such failure has not been cured within five (5) days of receipt of such notice.

10. BROKERAGE COMMISSION.

Purchaser and Seller acknowledge that no brokerage commission is payable in connection with this transaction. Each of the parties hereto agrees to indemnify and hold the other harmless from claims made by any other broker, attorney or finder claiming through such party for a commission, fee or compensation in connection with this Agreement or the sale of the Property hereunder. The provisions of this Section 10 shall survive Closing.

11. ASSIGNMENT.

11.1 Neither party shall assign or transfer or permit the assignment or transfer of its rights or obligations under this Agreement without the prior written consent of the other, any such assignment or transfer without such prior consent being hereby declared to be null and void; provided, however, that Purchaser shall have the right to assign this Agreement to an Affiliate, whose direct or indirect ownership is at least 51% of the ownership of the Purchaser,

upon written notice to Seller no later than two (2) days prior to the Closing date, and such assignee(s) shall assume Purchaser's rights and obligations under this Agreement.

11.2 In the event either party consents to an assignment of this Agreement by the other for which consent is required, no further assignment shall be made without another written consent from the consenting party, unless the assignment may otherwise be made without consent under this Agreement. An assignment by either Seller or Purchaser of its interest in this Agreement shall not relieve Seller or Purchaser, as the case may be, from its obligations, but this Agreement shall then inure to the benefit of, and be binding on, the assignee's successors, heirs, legal representatives and assigns.

11.3 If Seller or Purchaser reasonably determine that an assignment of this Agreement may be subject to the imposition of realty transfer tax or other applicable taxes, then the parties shall terminate this Agreement effective prior to Closing. In the event of such termination, the parties hereby agree that Seller and Purchaser (or Purchaser's assignee) shall enter into a new purchase agreement immediately following the termination of this Agreement, which shall contain the same terms and conditions as this Agreement, except as otherwise agreed by the parties in advance. In addition to the foregoing, the parties hereby acknowledge and agree that any termination of this Agreement as contemplated by this Section 11.3 shall not constitute a default under this Agreement or result in the disbursement of any portion of the Deposit and any Additional Deposit, and, upon such termination, the Deposit and Any Additional Deposit shall be treated as if they were delivered to Purchaser and repaid to the Title Company. The parties shall execute and deliver such additional documents, instruments and certificates as may be reasonably requested by either party to evidence the transactions described in this Section 11.3.

12. GENERAL PROVISIONS.

12.1 The terms and conditions of this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, successors, assigns, and legal representatives.

12.2 Notices and other communications required by this Agreement shall be in writing and (i) delivered by hand with receipt; (ii) sent by recognized overnight delivery service; (iii) sent by certified or registered mail, postage prepaid, with return receipt requested; or (iv) by electronic mail with a confirmation copy sent by another method permitted under this Section. All notices shall be addressed as follows:

If to the Seller: PETERSON ANTHONI MALS
754 Windows Road,
Smicksburg, PA 16256

If to the Purchaser: Cozza Enterprises LLC
295 Myoma Rd
Mars, PA 16046

With Copy To: Thomas H. Ayoob III, Esquire
Thomas H. Ayoob III & Associates, LLC
710 Fifth Avenue, Suite 2000

Pittsburgh, PA 15219
e-mail: tom@pioneerls.com

Notices shall be deemed to be effective upon receipt or refusal of the addressee to accept delivery.

12.3. Whenever used herein, unless expressly provided otherwise, the term "days" shall mean consecutive calendar days, except that if the expiration of any time period measured in days occurs on a Saturday, Sunday, legal holiday, such expiration shall automatically be extended to the next business day.

12.4 This Agreement constitutes the entire agreement between the parties concerning the Property and supersedes all prior agreements or undertakings.

12.5 This Agreement may not be modified except by the written agreement of the parties.

12.6 In the event any one or more of the provisions contained in this Agreement are held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability will not affect any other provisions hereof, and this Agreement shall be construed as if such invalid, illegal, or unenforceable provision had not been contained herein.

12.7 The parties acknowledge that each party and its counsel of choice if so desired has had an opportunity to review and revise this Agreement and that the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of this Agreement or any amendment or modification hereof or any of the closing documents delivered by Seller or Purchaser hereunder.

12.8 Any paragraph headings or captions contained in this Agreement shall be for convenience of reference only and shall not affect the construction or interpretation of any provisions of this Agreement.

12.9 This Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania.

12.10 The parties hereby agree to indemnify and defend the Title Company in its role as escrow agent from any and all suits, actions or claims if the Title Company in its role as escrow agent acts in good faith on the written notice and direction of the parties delivered in accordance with the terms hereof.

12.11 The individuals executing this Agreement represent and warrant that they have full authority and/or have been duly authorized by their respective parties to do so on behalf of such parties.

12.12 This Agreement may be executed in separate counterparts, none of which need contain the signatures of all parties, each of which shall be deemed to be an original, and all of which taken together constitute one and the same instrument. It shall not be necessary in making proof of this Agreement to produce or account for more than the number of counterparts containing the respective signatures of, or on behalf of, all of the parties hereto. The exchange of executed copies of this Agreement by electronic mail, portable document format (.pdf) or other

electronic transmission method will constitute effective execution and delivery of this Agreement as to the parties for all purposes, and electronic signatures of the parties shall be deemed to be their original signatures for all purposes.

12.13 NOTICE--THIS DOCUMENT MAY NOT SELL, CONVEY, TRANSFER, INCLUDE OR INSURE THE TITLE TO THE COAL AND RIGHT OF SUPPORT UNDERNEATH THE SURFACE LAND DESCRIBED OR REFERRED TO HEREIN, AND THE OWNER OR OWNERS OF SUCH COAL MAY HAVE THE COMPLETE LEGAL RIGHT TO REMOVE ALL OF SUCH COAL, AND, IN THAT CONNECTION, DAMAGE MAY RESULT TO THE SURFACE OF THE LAND AND ANY HOUSE, BUILDING OR OTHER STRUCTURE ON OR IN SUCH LAND, THE INCLUSION OF THIS NOTICE DOES NOT ENLARGE OR RESTRICT OR MODIFY ANY LEGAL RIGHTS OR ESTATES OTHERWISE CREATED, TRANSFERRED, EXCEPTED OR RESERVED BY THIS INSTRUMENT. (This notice is set forth in the manner provided in Section 1 of the Act of July 17, 1957, P.L. 984, as amended, and is not intended as notice of unrecorded instruments, if any.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the dates written below.

SELLER:

Date: 6/23/23 Anthony Mels Peterson

PURCHASER:

Date: 6/20/23 LJC

THIS DEED

MADE the 14th day of January, 2022

BETWEEN

C. Hackett Holdings, LLC, a Pennsylvania limited liability company

(hereinafter called "Grantor")

AND

CE-S.F. One, LP, a Pennsylvania limited partnership

(hereinafter called "Grantee")

WITNESSETH, that the said Grantor in consideration of One Million Five Hundred Sixty-Nine Thousand Two Hundred Fifty and no/100 Dollars ($1,569,250.00), paid to the Grantor by the Grantee, receipt of which is hereby acknowledged, does grant, bargain, sell, and convey to the said Grantee, its successors and assigns, all of the Grantor's right, title, and interest in and to the following property:

ALL THAT CERTAIN lot or tract of land situate in the Township of South Fayette, County of Allegheny and Commonwealth of Pennsylvania, being known as Lot No. 2, as shown on a certain plan entitled Schneider Plan, recorded in the Department of Real Estate Office of Allegheny County, Pennsylvania in Plan Book Volume 130, Page 133.

AND

ALL THAT CERTAIN lot or piece of ground situate in the Township of South Fayette, County of Allegheny and Commonwealth of Pennsylvania, bounded and described as follows:

BEGINNING at a point on the Northeasterly side of State Highway L.R. 545 (also known as Traffic Route 28) at the corner of land now or late of Humble Oil and Refining Co.; thence along the Northeasterly side of said State Highway, Northwestwardly by the arc of a circle curving to the left, having a radius of 3367.10 feet, an arc distance of 297.75 feet to a point on line of land now or late of Anelita Ferri and Angelina Mals; thence by said land North 19 degrees, 05 minutes, 35 seconds East, 102.41 feet to a point on line of land now or late of Humble Oil and Refining Company; thence by said land the following two courses and distances; South 58 degrees, 59 minutes, 55 seconds East 310.50 feet to a point; thence South 25 degrees, 57 minutes, 05 seconds West 55.77 feet to the Northeasterly side of said State Highway at the place of beginning.

SUBJECT TO the condemnation of a portion of the subject property by the Commonwealth of Pennsylvania, Department of Transportation of right of way for Legislative Route 1138 of the Court of Common Pleas of Allegheny County, Pennsylvania, at No. 1717 October Term, 1971.

ALSO DESCRIBED AS all that certain lot or parcel of land situate in the Township of South Fayette, County of Allegheny, Commonwealth of Pennsylvania, being a portion of Block and Lot No. 256-L-2, more particularly bounded and described as follows:

Beginning at a point on the northerly right of way line of Miller Run Road, S.R. 0050, variable width, said point being at the southeast corner of property now or formerly Anthoni Mals Peterson (Tax Parcel 256-L-1); thence along the dividing line of property now or formerly Anthoni Mals Peterson and property herein described, North 20°43'08" East, 29.76' to a point on the former southerly line of Lot 2 of the Schneider Plan, recorded in Plan Book Volume 130, Page 133; thence along the former southerly line of Lot 2 of the Schneider Plan and through property now or formerly C. Hackett Holdings, LLC, (Tax Parcel 256-L-2), South 57°22'22" East, 225.98' to a point on the northerly right of way line of Miller Run Road, S.R. 0050, variable width; thence along the northerly right of way line of Miller Run Road, S.R. 0050, by an arc of a circle deflecting to the left in a northwestwardly direction, having a radius of 1245.92', an arc distance of 222.05' (chord bearing and distance, North 64°55'04" West, 221.76') to a point at the place of beginning.

Bearings based on First Revision to the Kosky Plan of Lots, recorded in Plan Book Volume 274, Page 44.

Contains 2,559 Sq. Ft. or 0.0587 Acres

THE ABOVE DESCRIBED PROPERTY TOGETHER BEING BLOCK AND LOT 256-L-2.

TOGETHER with and subject to all rights, duties and obligations set forth in the certain Easement Agreement, dated December 14, 2015, and recorded January 13, 2016, in Plan Book Volume 16256, page 110, being an Access Drive Easement.

BEING the same property which Richard Schneider and Jane Schneider, husband and wife, by Corrective Deed dated January 10, 2022 and recorded on January ___, 2022 in the Department of Real Estate of Allegheny County, Pennsylvania, in Deed Book Volume _____, Page _____ granted and conveyed C. Hackett Holdings, LLC.

UNDER AND SUBJECT TO coal and mining rights and all rights and privileges incident to the mining of coal heretofore conveyed, excepted, or reserved by instruments of record; the right of surface, lateral, or subjacent support; or any surface subsidence; oil and gas and minerals and all rights incident to the extraction or development of oil and gas or minerals heretofore conveyed, leased, excepted, or reserved by instruments of record; and all easements, rights of way, and restrictions as contained in prior instruments of record and/or as installed or located on the premises and all other matters of record appearing prior hereto.

With the appurtenances thereto: **TO HAVE AND TO HOLD** the same to and for the use of the said Grantee, its successors and assigns forever, and the Grantor for its successors and assigns hereby covenants and agrees that it will SPECIALLY warrant title to the property hereby conveyed.

NOTICE: THIS DOCUMENT MAY NOT/DOES NOT SELL, CONVEY, TRANSFER, INCLUDE, OR INSURE THE TITLE TO THE COAL AND RIGHT OF SUPPORT UNDERNEATH THE SURFACE LAND DESCRIBED OR REFERRED TO HEREIN, AND THE OWNER OR OWNERS OF SUCH COAL MAY HAVE/HAVE THE COMPLETE LEGAL RIGHT TO REMOVE ALL OF SUCH COAL AND, IN THAT CONNECTION, DAMAGE MAY RESULT TO THE SURFACE OF THE LAND AND ANY HOUSE, BUILDING, OR OTHER STRUCTURE ON OR IN SUCH LAND. THE INCLUSION OF THIS NOTICE DOES NOT ENLARGE, RESTRICT, OR MODIFY ANY LEGAL RIGHTS OR ESTATES OTHERWISE CREATED, TRANSFERRED, EXCEPTED, OR RESERVED BY THIS INSTRUMENT. [This notice is set forth in the manner provided in Section 1 of the Act of July 17, 1957, P.L. 984, as amended, and is not intended as notice of unrecorded instruments, if any.]

WITNESS the hand and seal of the said Grantor.

WITNESS:

C. Hackett Holdings, LLC

By _____
Charles Hackett, Member

Commonwealth of Pennsylvania)
) ss:
County of Allegheny)

On this, the 14th day of January, 2022 before me, a Notary Public, the undersigned officer, personally appeared Charles Hackett, who acknowledged himself to be the Member of C. Hackett Holdings, LLC, a Pennsylvania limited liability company, and that he as such Member, being authorized to do so, executed the foregoing deed for the purposes therein contained by signing the name of the corporation by himself as such Member.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal.

_____
Notary Public

My commission expires:

Commonwealth of Pennsylvania - Notary Seal
Thomas H. Ayoob III, Notary Public
Allegheny County
My commission expires February 21, 2025
Commission number 1004840
Member, Pennsylvania Association of Notaries

NOTICE: THE UNDERSIGNED, AS EVIDENCED BY THE SIGNATURE[S] TO THIS NOTICE AND THE ACCEPTANCE AND RECORDING OF THIS DEED, IS/ARE FULLY COGNIZANT OF THE FACT THAT THE UNDERSIGNED MAY NOT BE OBTAINING THE RIGHT OF PROTECTION AGAINST SUBSIDENCE, AS TO THE PROPERTY HEREIN CONVEYED, RESULTING FROM COAL MINING OPERATIONS AND THAT THE PURCHASED PROPERTY, HEREIN CONVEYED, MAY BE PROTECTED FROM DAMAGE DUE TO MINE SUBSIDENCE BY A PRIVATE CONTRACT WITH THE OWNERS OF THE ECONOMIC INTEREST IN THE COAL. THIS NOTICE IS INSERTED HEREIN TO COMPLY WITH THE BITUMINOUS MINE SUBSIDENCE AND LAND CONSERVATION ACT OF 1966, AS AMENDED 1980, OCT. 10, P.L. 874, NO. 156, § 1.

WITNESS:

CE-S.F. One, LP
By: Cozza Enterprises, LLC,
its General Partner

By:_____
Craig J. Cozza, Managing Member

CERTIFICATE OF RESIDENCE

I hereby certify that (1) FOR THE PURPOSE OF DELIVERY OF TAX STATEMENTS ONLY, the precise residence of the Grantee is P.O. Box 453, Carnegie, PA 15106,

and (2) FOR ALL OTHER PURPOSES (including delivery of assessment change notices) the precise residence of Grantee is P.O. Box 453, Carnegie, PA 15106.

Witness the due execution hereof this 14th day of January, 2022

Grantee/Agent for Grantee

AFTER RECORDING, PLEASE RETURN TO:

Pioneer Land Settlement, Inc.

710 Fifth Ave. – Suite 2000

Pittsburgh, PA 15219

SOUTH FAYETTE TOWNSHIP
A Community Growing Together

Subdivision-Land Development Application

www.southfayettepa.com

Plan Name:	Lafayette 180	File No.	SP-01-2026
Plan Location:	Newbury Drive	Tax I.D. #	0256-L-00002, 0256-L-000001, 0256-L-00009
Project Description	Proposed planned shopping center with parking lot and associated utilities.		

Check Appropriate Box(es)

Land Development Plan	X	Subdivision Plan		Conditional Use Plan	

Minor Subdivision		Major Subdivision		Open Space Plan	
Preliminary Plan Submission		Final Plan Submission		x	

Zoning District(s)	C-2	Property Acreage	5.48 acres	No. Lots/Units	

Applicant's Name:	Craig Cozza	Phone No.	
Applicant's Address:	295 Myoma Road, Mars, PA 16046	Fax No.	
Applicant's E-Mail:			
Engineer Firm/Name	The Gateway Engineers, Inc.	Phone No.	
Engineer's Address:	100 McMorris Road, Pittsburgh, PA	Fax No.	
Contact Person:	Joseph Galbraith	E-Mail Address	

The following items are reviewed as part of the South Fayette Township application process. Applications submitted WITHOUT these elements will NOT be reviewed by the township.

REQUIRED SUBMISSION ITEMS	Copies	✓ Yes	✓ No	✓ N/A
1) Completed Application Form	1			
2) ACED Subdivision/Land Development Application	1			
3) Maps and Plans • Plus PDF of drawings	1			
• Sets Full-Size Plans (24" x 36")	5			
• Sets Half-Size Plans (11" x 17")	5			
4) Agent Authorization Form	1			
5) Application Fee	1			
6) Escrow – Engineer, Solicitor, Inspection	1			
7) Stormwater Management Plan & Calculations (plus PDF)	2			
8) Erosion & Sedimentation Control Plan (plus PDF)	2			
9) Deed, Sales Agreement or Other Ownership	1			

I have familiarized myself with and hereby agree to comply with the subdivision and zoning ordinance of the township as well as to all township rules, regulations and resolutions. I agree to pay the applicable fee(s).

Signature of Applicant: _____ **Date:** 01/14/2026

If applicant is not the property owner, an Agent Authorization Form must be attached.

SOUTH FAYETTE TOWNSHIP
A Community Growing Together

Agent Authorization Form

www.southfayettepa.com

Name of Property Owners: Craig Cozza

Property Tax Map Number: 0256-L-00002, 0256-L-000001, 026-L-00009

Property/Project(s): Lafayette 180 - Planned Shopping Center

☐ **This application/phase only** ☒ **All related applications and phases**

The above named property owner hereby appoints: The Gateway Engineers, Inc.

as its agent and authorizes said agent to apply for and process the above mentioned development plan/variance on his/her behalf. Agent is further authorized to sign all necessary documentations for such purposes, including acceptance of conditions imposed by the Board of Commissioners upon arrival of the plan. This authorization shall remain in full force and effect until written notice of revocation is delivered to the South Fayette Township Manager.

SIGNED AND SEALED, intending to be legally bound on this date of:

Craig J. Cozza

Owner(s) Signature: _____ (SEAL)

NOTE:

1. THESE PLANS AS SUBMITTED ARE INTENDED TO COMPLY WITH ALL REGULATIONS, STANDARDS, AND ORDINANCES OF THE SOUTH FAYETTE TOWNSHIP. ANY DEVIATION FROM THOSE REGULATIONS, STANDARDS AND ORDINANCES IS UNINTENTIONAL AND AS SUCH, IN THE EVENT THAT A CONFLICT IS DISCOVERED, IT IS UNDERSTOOD AND AGREED THAT THE SOUTH FAYETTE TOWNSHIP'S REGULATIONS, STANDARDS AND ORDINANCES WILL APPLY.

LAFAYETTE 180 - VARIANCES GRANTED:

_____

SIGNATURE OF PROJECT ENGINEER

ON JULY 26, 2023 A VARIANCE HAS BEEN GRANTED BY THE SOUTH FAYETTE TOWNSHIP ZONING HEARING BOARD TO SECTION 240-51.A(1) TO ALLOW THE LOT AREA OF 4.4 ACRES DEPARTURE FROM THE REQUIRED 5.0 ACRES FOR A PLANNED SHOPPING CENTER.

ON JULY 26, 2023 A VARIANCE HAS BEEN GRANTED BY THE SOUTH FAYETTE TOWNSHIP ZONING HEARING BOARD TO SECTION 240-111.J(2) REDUCING THE SETBACK ON MILERS RUN ROAD SIDE PARKING SETBACK FROM 20-FEET TO 1-FOOT.

ON JULY 26, 2023 A VARIANCE HAS BEEN GRANTED BY THE SOUTH FAYETTE TOWNSHIP ZONING HEARING BOARD TO SECTION 240-111.J(2) REDUCING THE FRONT YARD PARKING SETBACK FROM 20-FEET TO 8-FEET, AS IT RELATED TO NEWBURY DRIVE.

ON JULY 26, 2023 A VARIANCE HAS BEEN GRANTED BY THE SOUTH FAYETTE TOWNSHIP ZONING HEARING BOARD TO SECTION 240-51.C TO ALLOW EXCEEDANCE OF MAXIMUM IMPERVIOUS SURFACE AREA FROM THE REQUIRED 70 PERCENT TO 84 PERCENT.

LAFAYETTE 180

NEWBURY DRIVE
CUDDY, PA 15031

PREPARED FOR:

CE - SF, LP
295 MYOMA ROAD
MARS, PA 16046

I CERTIFY THAT, TO THE BEST OF MY INFORMATION, KNOWLEDGE AND BELIEF THE SURVEY AND PLAN SHOWN HEREON ARE CORRECT AND ACCURATE TO THE STANDARDS REQUIRED.

_____ DATE _____ NAME _____ REGISTRATION NO.

I, _____, A REGISTERED PROFESSIONAL ENGINEER FOR THE TOWNSHIP OF SOUTH FAYETTE DO HEREBY CERTIFY THAT THIS SUBDIVISION PLAN MEETS ALL THE ENGINEERING REQUIREMENTS OF THE TOWNSHIP SUBDIVISION AND ZONING ORDINANCE, EXCEPT AS DEPARTURES HAVE BEEN AUTHORIZED BY THE APPROVAL AUTHORITY.

_____ DATE _____ NAME _____ REGISTRATION NO.

REVIEWED BY THE TOWNSHIP OF SOUTH FAYETTE PLANNING COMMISSION, THIS _____ DAY OF _____, 2023.

_____ SECRETARY _____ (SEAL) _____ CHAIRPERSON

THE BOARD OF COMMISSIONERS OF THE TOWNSHIP OF SOUTH FAYETTE HEREBY GIVES PUBLIC NOTICE IN APPROVING THIS PLAN FOR RECORDING PURPOSES ONLY, THE TOWNSHIP OF SOUTH FAYETTE ASSUMES NO OBLIGATIONS, LEGAL OR OTHERWISE, EXPRESSED OR IMPLIED EITHER TO ACCEPT SAID STREETS AS TOWNSHIP STREETS OR ROADS OR GRADES, PAVE AND CURB THE STREETS IN SAID PLAN OR TO CONSTRUCT SEWERS THEREIN OR TO INSTALL ANY OTHER SUCH SERVICE ORDINARILY INSTALLED IN TOWNSHIP STREETS OR ROADS.

THE TOWNSHIP OF SOUTH FAYETTE AGREES NOT TO ISSUE BUILDING PERMITS UNTIL THE "PLANNING MODULE FOR LAND DEVELOPMENT" HAS BEEN APPROVED IN ACCORDANCE WITH THE REGULATIONS OF THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.

APPROVED BY THE BOARD OF COMMISSIONERS OF THE TOWNSHIP OF SOUTH FAYETTE THIS _____ DAY OF _____, 2023.

ATTEST:

_____ SECRETARY _____ (SEAL) _____ PRESIDENT OF THE BOARD OF COMMISSIONERS

LIST OF UTILITIES

PEOPLES GAS COMPANY LLC
336 E CUNNINGHAM STREET
BUTLER, PA 16001
CONTACT: MICHAEL DENNY
724-431-1498
michael.denny@peoples-gas.com

VERIZON PENNSYLVANIA LLC
1026 HAY STREET
PITTSBURGH, PA 15221
CONTACT: DEBORAH BARUM
412-344-4390
deborah.d.della@verizon.com

COLUMBIA GAS OF PA INC
1600 DUBLIN ROAD
COLUMBUS, OH 43215
CONTACT: LISA COLLINS
614-325-5596
ldugan@nisource.com

SOUTH FAYETTE TWP MUNICIPAL AUTHORITY
900 PRESTO SYGAN ROAD
BRIDGEVILLE, PA 15017
CONTACT: NICK GOETTMAN
412-257-7510 EXT. 5
ngoettman@sftwp.com

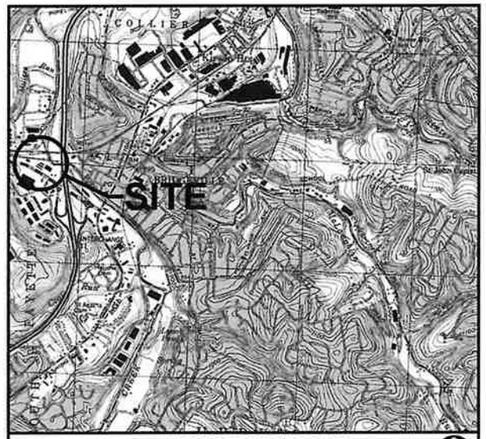
FIRSTENERGY CORPORATION
21 S MAIN STREET
AKRON, OH 44308
CONTACT: MELLYSSA ADAMS
330-604-4407
madams@firstenergycorp.com

COMCAST
1241 BUSINESS RT 66
GREENSBURG, PA 15601
CONTACT: LLYOD CRAGO
878-295-5899
llyod_crago@cable.comcast.com

SOUTH FAYETTE TOWNSHIP
515 MILLERS RUN ROAD
MORGAN, PA 15064
CONTACT: PEGGY PATTERSON
412-221-187 EXT. 210
PPATERSON@SFTWP.COM

PENNSYLVANIA AMERICAN WATER
500 NOBLESTOWN ROAD
CARNEGIE, PA 15106
CONTACT: LUCIAN CAPPETTA
412-401-1187
lucian.cappetta@amwater.com

811
Know what's **below.**
Call before you dig.
Serial No. 20231760058



SITE LOCATION MAP - USGS BRIDGEVILLE QUAD
1" = 2000'

ZONING REQUIREMENTS

SITE ZONING: C-2 HIGHWAY COMMERCIAL
USE

TOWNSHIP STANDARD	REQUIRED	PROVIDED
USE	**PLANNED SHOPPING CENTER**	**PLANNED SHOPPING CENTER**
BUILDING HEIGHT	NO MORE THAN 60 ft	
LOT AREA	5 Acres	4.4 Acres (Variance Granted)
SETBACKS		
FRONT YARD	50 Ft	58 Ft
REAR YARD	50 Ft	52 Ft
SIDE YARD	20 Ft	53 Ft
PARKING **PLANNED SHOPPING CENTER TOTAL AREA: 54,420 S.F.**		
TOTAL	1 SPACE PER 200 S.F. (272)	273
ADA ACCESSIBLE	7	7
LAND COVERAGES		
OPEN SPACE	20%	16%
IMPERVIOUS	80%	84% (Variance Requested)
PERMIT REQUIREMENTS		
	REVIEWING AGENCY	
N.P.D.E.S PERMIT	ALLEGHENY COUNTY CONSERVATION DISTRICT	
PLANNING FACILITIES PLANNING MODULE	PA DEPT. OF ENVIORNMENTAL PROTECTION	
HIGHWAY OCCUPANCY PERMIT (HOP)	PA DEPT. OF TRANSPORTATION	
STORMWATER MANAGEMENT MAINTENANCE PROGRAM		

THE OWNERS SHALL BE **RESPONSIBLE FOR INSPECTING THE** STORMWATER DETENTION FACILITIES ON A SEMI-ANNUAL BASIS (JANUARY 2 AND JULY 2 OF EACH YEAR), PLUS AFTER EACH SIGNIFICANT RAINFALL. ANY DEBRIS WHICH MIGHT IMPEDE FLOW AT OR THROUGH THE OUTLET STRUCTURE SHALL BE REMOVED. ANY SEDIMENT WHICH ACCUMULATES WITHIN THE FACILITIES SHALL BE REMOVED.

SHEET INDEX

NO.	TITLE
C000	COVER SHEET
C050	EXISTING CONDITIONS AND DEMOLITION PLAN
C100	SITE PLAN
C101	FIRE TRUCK TEMPLATE
C200	GRADING PLAN
C300	UTILITY PLAN
C400	EROSION AND SEDIMENTATION CONTROL PLAN
C401	EROSION AND SEDIMENTATION CONTROL DETAILS
C402	EROSION AND SEDIMENTATION CONTROL DETAILS
C403	EROSION AND SEDIMENTATION CONTROL DETAILS
C404	EROSION AND SEDIMENTATION CONTROL DETAILS
C500	STORM PROFILES
C501	SANITARY PROFILES
C600	CONSTRUCTION DETAILS
C601	CONSTRUCTION DETAILS
C602	CONSTRUCTION DETAILS
C603	CONSTRUCTION DETAILS
C700	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN
C701	POST CONSTRUCTION STORMWATER MANAGEMENT NOTES
C702	POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS
C703	POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS
C704	POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS
L100	LANDSCAPE PLAN
L101	LANDSCAPE PLAN DETAIL
L200	LIGHTING PLAN
L201	LIGHTING DETAIL

"I, JOSEPH M. GALBRAITH, P.E., DO HEREBY CERTIFY PURSUANT TO THE PENALTIES OF 18 PA.C.S.A. SEC. 4904 TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THE INFORMATION CONTAINED IN THE ACCOMPANYING PLANS, SPECIFICATIONS AND REPORTS HAS BEEN PREPARED IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICE, IS TRUE AND CORRECT, AND IS IN CONFORMANCE WITH CHAPTER 105 OF THE RULES AND REGULATIONS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION."

GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL ENGINEER — JOSEPH M. GALBRAITH

REVISION RECORD

No	Date
01	2025-11-11
02	2025-12-16
03	2026-01-14
04	
05	
06	
07	
08	

WPP Updates
ACCD TECHNICAL NPDES RESPONSE
TOWNSHIP SUBMISSION

LAFAYETTE 180
NEWBURY DRIVE
CUDDY, PA 15031

PREPARED FOR:
CE - SF, LP
295 MYOMA ROAD
MARS, PA 16046

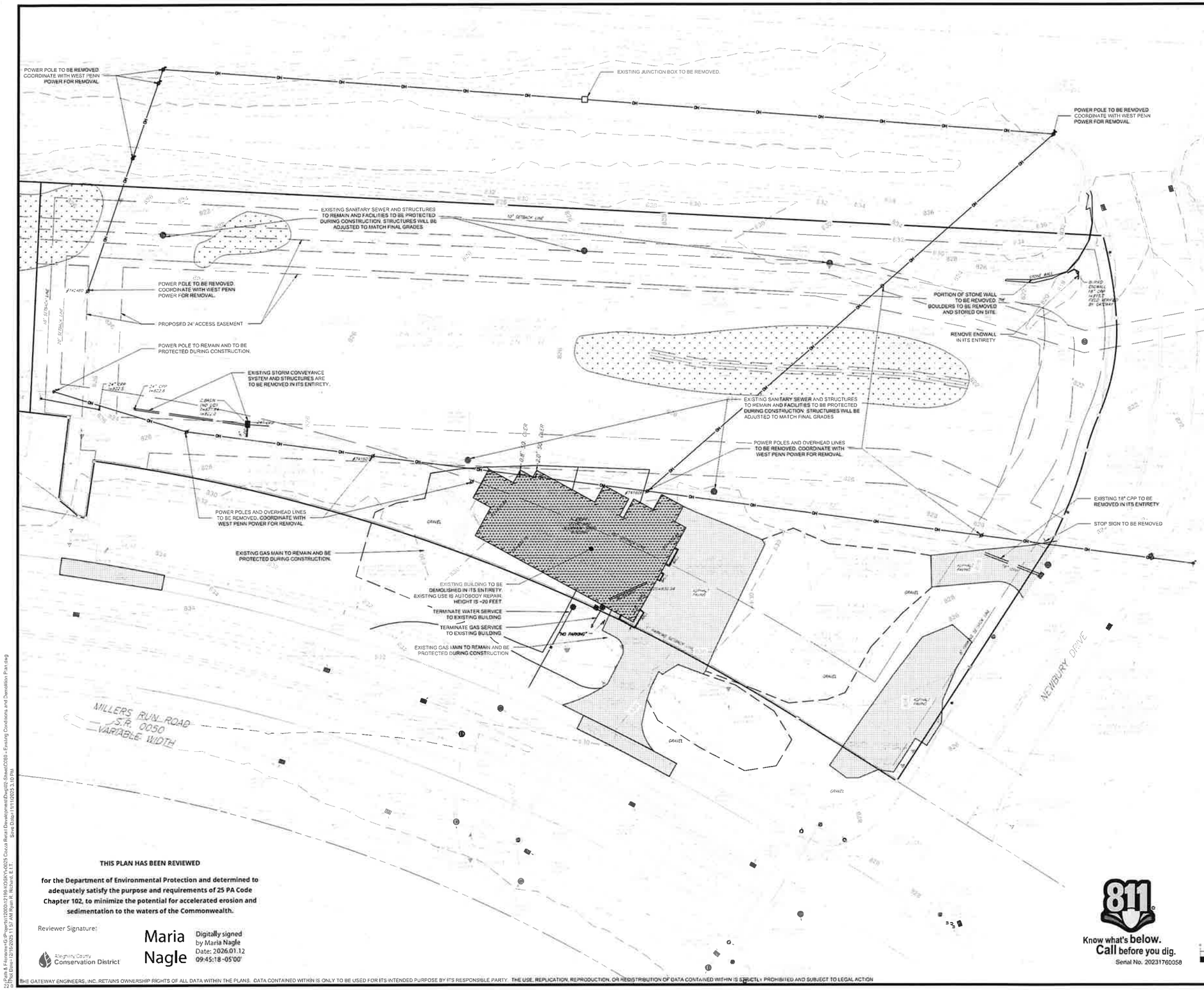
COVER SHEET

Project Number: C-12199-0025
Drawing Scale: N/A
Date Issued: AUG 2025
Index Number: --
Drawn By: MCL/RRR
Checked By: JMG
Project Manager: JMG

C000

THE GATEWAY ENGINEERS, INC. RETAINS OWNERSHIP RIGHTS OF ALL DATA WITHIN THE PLANS. DATA CONTAINED WITHIN IS ONLY TO BE USED FOR ITS INTENDED PURPOSE BY ITS RESPONSIBLE PARTY. THE USE, REPLICATION, REPRODUCTION, OR REDISTRIBUTION OF DATA CONTAINED WITHIN IS STRICTLY PROHIBITED AND SUBJECT TO LEGAL ACTION

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Plot Date=1/14/2026 12:24 PM Cuzzy K. Steiner, E.I.T. Save Date=1/14/2026 12:24 PM



DEMOLITION LEGEND

	EXISTING FEATURES TO REMAIN
x — x	EXISTING FEATURES TO BE REMOVED
	REMOVE BITUMINOUS PAVEMENT, CONCRETE PAVEMENT, CURBING, AND SUBBASE IN ITS ENTIRETY.
	EXISTING STRUCTURE SHALL BE REMOVED IN ITS ENTIRETY. REFER TO ARCHITECTURAL / STRUCTURAL DEMOLITION PLANS BY OTHERS.

GENERAL DEMOLITION NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR ASSURING LOCAL AND STATE PERMITS REQUIRED FOR DEMOLITION WORK HAVE BEEN OBTAINED.
2. THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE OWNER AND OR ENGINEER FOR ANY AND ALL INJURIES AND/OR DAMAGES TO PERSONNEL, EQUIPMENT AND/OR EXISTING FACILITIES IN THE DEMOLITION AND CONSTRUCTION DESCRIBED IN THE PLANS AND SPECIFICATIONS.
3. EXISTING CONDITIONS AS DEPICTED ON THESE PLANS ARE GENERAL IN NATURE AND DO NOT INCLUDE MISCELLANEOUS ITEMS. THE CONTRACTOR IS RESPONSIBLE FOR EXAMINING THE SITE PRIOR TO BIDDING. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF EXISTING CONDITIONS ARE SIGNIFICANTLY DIFFERENT THAN SHOWN ON THE PLANS.
4. ALL SALVAGEABLE ITEMS MUST BE STORED BY THE CONTRACTOR AND PROTECTED FROM DAMAGE/THEFT OR DELIVERED TO AN AREA APPROVED BY THE OWNER.
5. UNLESS OTHERWISE NOTED, ALL DEMOLITION WASTE AND CONSTRUCTION DEBRIS SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF IN A STATE APPROVED WASTE SITE AND IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.
6. ALL UTILITY REMOVAL, RELOCATION, CUTTING, CAPPING AND/OR ABANDONMENT IS THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANY.
7. CONTRACTOR SHALL AT ALL TIMES PROTECT ADJACENT STRUCTURES AND ITEMS FROM DAMAGE DUE TO DEMOLITION ACTIVITIES
8. SAW CUT ALL PAVEMENT PRIOR TO EXCAVATION. SAW CUT PAVEMENT FULL DEPTH WHERE PAVEMENT IS TO BE REMOVED AND WHERE IT ABUTS PAVEMENT TO REMAIN. PAVEMENT REMOVAL INCLUDES SURFACE MATERIALS. SAW CUT CONCRETE PAVEMENT TO THE NEXT NEAREST EXISTING JOINT.
9. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION.
10. CONTRACTOR SHALL PROTECT ALL CORNER PINS, MONUMENTS, PROPERTY CORNERS, AND BENCHMARKS DURING DEMOLITION ACTIVITIES. IF DISTURBED, CONTRACTOR SHALL HAVE THOSE ITEMS RESET BY A LICENSED SURVEYOR AT NO ADDITIONAL COST TO THE OWNER
11. DEMOLITION CONTRACTOR SHALL COORDINATE EXISTING FACILITIES UTILITY DISCONNECTS WITH THE OWNER AND THE RESPECTIVE UTILITY PROVIDER A MINIMUM OF 7 DAYS PRIOR TO ANTICIPATED DEMOLITION OF STRUCTURES.
12. CONTRACTOR SHALL PROVIDE AND MAINTAIN TRAFFIC CONTROL MEASURES IN ACCORDANCE WITH THE PENNDOT PUBLICATION 213 "WORK ZONE TRAFFIC CONTROL" (LATEST REVISION), AND AS REQUIRED BY LOCAL AGENCIES WHEN WORKING IN AND/OR ALONG STREETS, ROADS, HIGHWAYS, ETC. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN APPROVAL AND COORDINATE THE LOCAL AND/OR STATE AGENCIES REGARDING THE NEED, EXTENT, AND LIMITATIONS ASSOCIATED WITH INSTALLING AND MAINTAINING TRAFFIC CONTROL MEASURES.
13. THE BURNING OF CLEARED MATERIAL AND DEBRIS SHALL NOT BE ALLOWED UNLESS CONTRACTOR GETS WRITTEN AUTHORIZATION FROM THE LOCAL AUTHORITIES.
14. EROSION AND SEDIMENT CONTROL MEASURES AROUND AREAS OF DEMOLITION SHALL BE INSTALLED PRIOR TO INITIATION OF DEMOLITION ACTIVITIES. REFER TO ESS PLAN FOR DETAILS.
15. ASBESTOS OR HAZARD MATERIALS, IF FOUND ON SITE, SHALL BE REMOVED BY A LICENSED HAZARDOUS MATERIALS CONTRACTOR. CONTRACTOR SHALL NOTIFY OWNER IMMEDIATELY IF HAZARDS MATERIALS ARE ENCOUNTERED
16. ALL DISTURBANCES WITHIN PUBLIC AREAS SHALL BE RESTORED TO THE EXISTING CONDITIONS. ALL STREET AND SIDEWALK DISTURBANCES MUST BE RESTORED PER CURRENT MUNICIPAL SPECIFICATIONS AND REGULATIONS.
17. REMOVE TREES AND SHRUBS IN THEIR ENTIRETY, INCLUDING THE ROOT BALL.
18. UTILITIES MAY NOT BE PUBLICLY OWNED AND MAINTAINED. THEREFORE IT WILL BE NECESSARY FOR THE CONTRACTOR TO LOCATE PRIVATE UTILITIES IN ADVANCE OF ANY EXCAVATIONS.
19. CONTRACTOR SHALL HAVE A SUBSURFACE UTILITY INVESTIGATION PERFORMED IN ADVANCE OF ANY EXCAVATIONS IN AREAS OF WORK.
20. CONTRACTOR SHALL PROTECT EXISTING TREES TO REMAIN IN ACCORDANCE WITH TREE PROTECTION REQUIREMENTS AND MUST CONSULT WITH AN ARBORIST WHERE NOTED

THIS PLAN HAS BEEN REVIEWED

for the Department of Environmental Protection and determined to adequately satisfy the purpose and requirements of 25 PA Code Chapter 102, to minimize the potential for accelerated erosion and sedimentation to the waters of the Commonwealth.

Reviewer Signature:

Allegheny County Conservation District

Maria Nagle — Digitally signed by Maria Nagle Date: 2026.01.12 09:45:18 -05'00'

811 Know what's below. Call before you dig. Serial No. 20231760058

NORTH

GRAPHIC SCALE

0 15 30 60 120

(IN FEET)
1 inch = 20 ft.

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GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM
3 Gateway Center, 603 Stanwix St., Suite 1600, Pittsburgh, PA 15222 | 412.281.1797 | www.gatewayengineers.com

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — JOSEPH M. GRIFFITH — ENGINEER — No. PE087791

REVISION RECORD

No	Date	
01	2025-11-11	WPP Updates
02	2025-12-16	ACCD TECHNICAL NPDES RESPONSE
03	----	
04	----	
05	----	
06	----	
07	----	
08	----	

LAFAYETTE 180
NEWBURY DRIVE
CUDDY, PA 15031

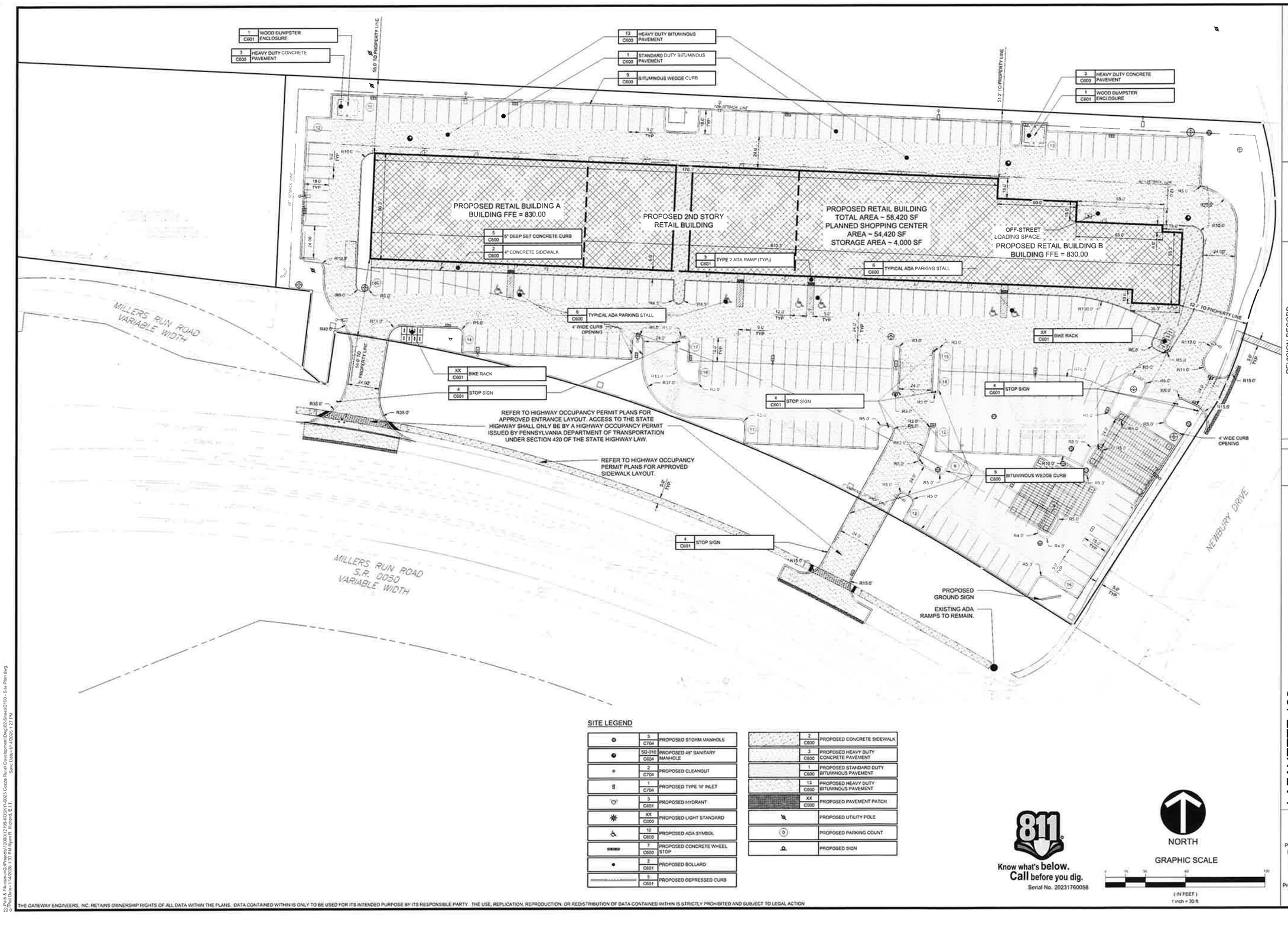
PREPARED FOR:
CE - SF, LP
295 MYOMA ROAD
MARS, PA 16046

EXISTING CONDITIONS AND DEMOLITION PLAN

Project Number: C-12199-0025
Drawing Scale: 1" = 30'
Date Issued: JAN 2025
Index Number: --
Drawn By: MCL/RRR
Checked By: JMG
Project Manager: JMG

C050

Plan & Filenames:G:\Projects\12000s\12199\KOBY\0025 Coca Retail Development\Dwg\02-Sheet\C050 - Existing Conditions and Demolition Plan.dwg
Plot Date= 12/16/2025 1:57 AM Ryan R. Rickard, E.I.T. Shed Date= 11/11/2025 3:10 PM



SITE LEGEND

	5 C704	PROPOSED STORM MANHOLE
	SD-010 C604	PROPOSED 48" SANITARY MANHOLE
	2 C704	PROPOSED CLEANOUT
	1 C704	PROPOSED TYPE 'M' INLET
	3 C601	PROPOSED HYDRANT
	XX C600	PROPOSED LIGHT STANDARD
	10 C600	PROPOSED ADA SYMBOL
	7 C600	PROPOSED CONCRETE WHEEL STOP
	2 C601	PROPOSED BOLLARD
	5 C601	PROPOSED DEPRESSED CURB

	2 C600	PROPOSED CONCRETE SIDEWALK
	3 C600	PROPOSED HEAVY DUTY CONCRETE PAVEMENT
	1 C600	PROPOSED STANDARD DUTY BITUMINOUS PAVEMENT
	13 C600	PROPOSED HEAVY DUTY BITUMINOUS PAVEMENT
	XX C000	PROPOSED PAVEMENT PATCH
		PROPOSED UTILITY POLE
0		PROPOSED PARKING COUNT
		PROPOSED SIGN

811 Know what's below. Call before you dig. Serial No. 20231760058

NORTH

GRAPHIC SCALE

0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

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GATEWAY ENGINEERS
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REVISION RECORD

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01	2025-11-11	WPP Updates
02	2025-12-16	ACCD TECHNICAL NPDES RESPONSE
03	2026-01-14	TOWNSHIP SUBMISSION
04	---	---
05	---	---
06	---	---
07	---	---
08	---	---

LAFAYETTE 180
NEWBURY DRIVE
CUDDY, PA 15031

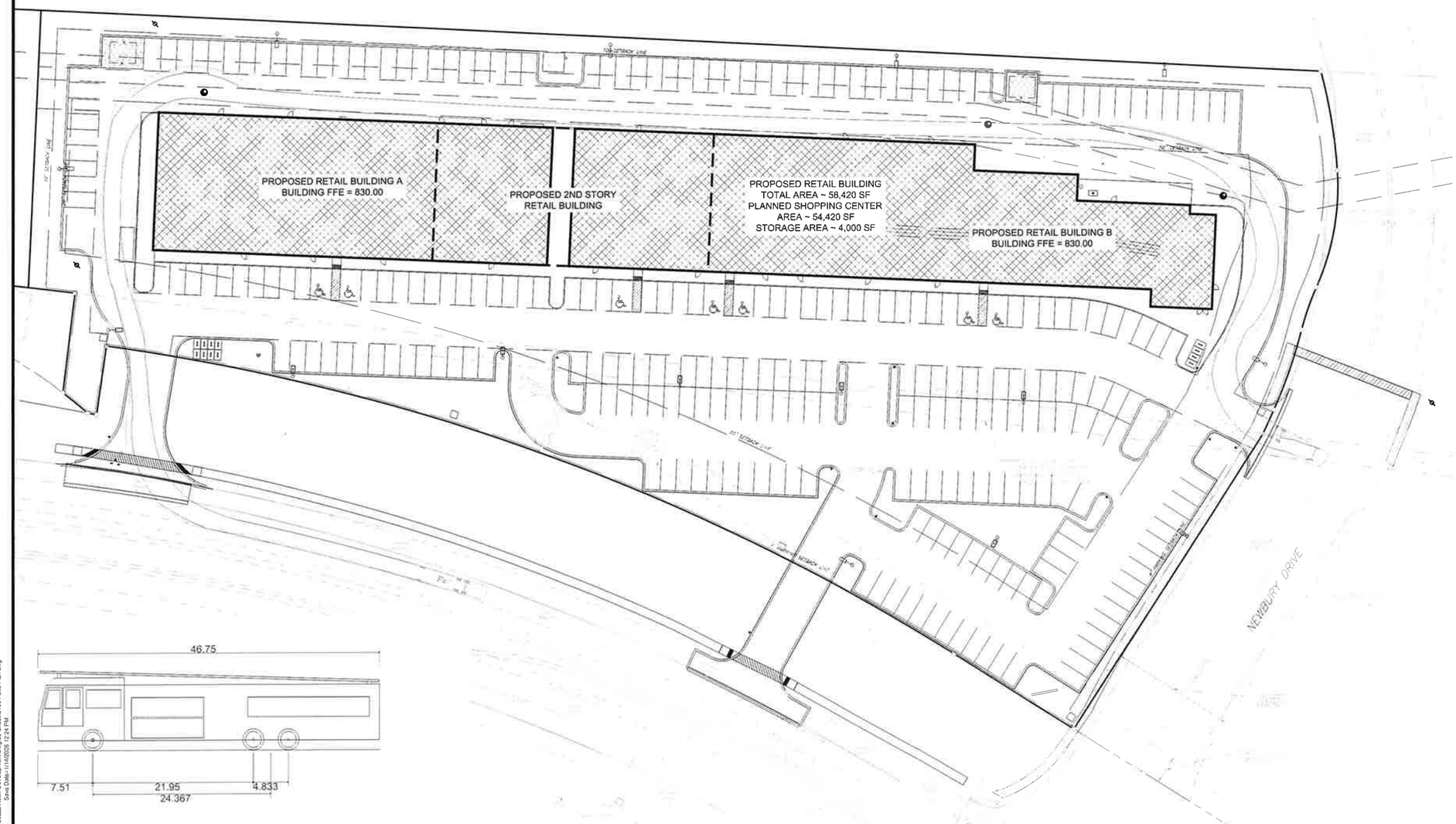
PREPARED FOR:
CE - SF, LP
295 MYOMA ROAD
MARS, PA 16046

SITE PLAN

Project Number: C-12199-0025
Drawing Scale: 1"=30'
Date Issued: AUG 2025
Index Number: --
Drawn By: MCL/RRR
Checked By: JMG
Project Manager: JMG

C100

Plot By: Plotted on: Q:\Projects\12000s\12199\H\SHY\0025 Cuzza Road Development\Dwg\02-Sheet\C100 - Site Plan.dwg
Last Saved By: mcl on: 1/7/2026 1:27 PM



SF Truck 117	
Overall Length	46.750ft
Overall Width	8.333ft
Overall Body Height	11.000ft
Min Body Ground Clearance	1.393ft
Track Width	8.333ft
Lock-to-lock time	6.00s
Max Wheel Angle	45.00°

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Serial No. 20231760058

NORTH

GRAPHIC SCALE
0 15 30 60 120
(IN FEET)
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Save Date: 1/14/2026 12:24 PM

GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

REVISION RECORD

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01	2025-11-11
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04	----
05	----
06	----
07	----
08	-

WPP Updates
ACCD TECHNICAL NPDES RESPONSE
TOWNSHIP SUBMISSION

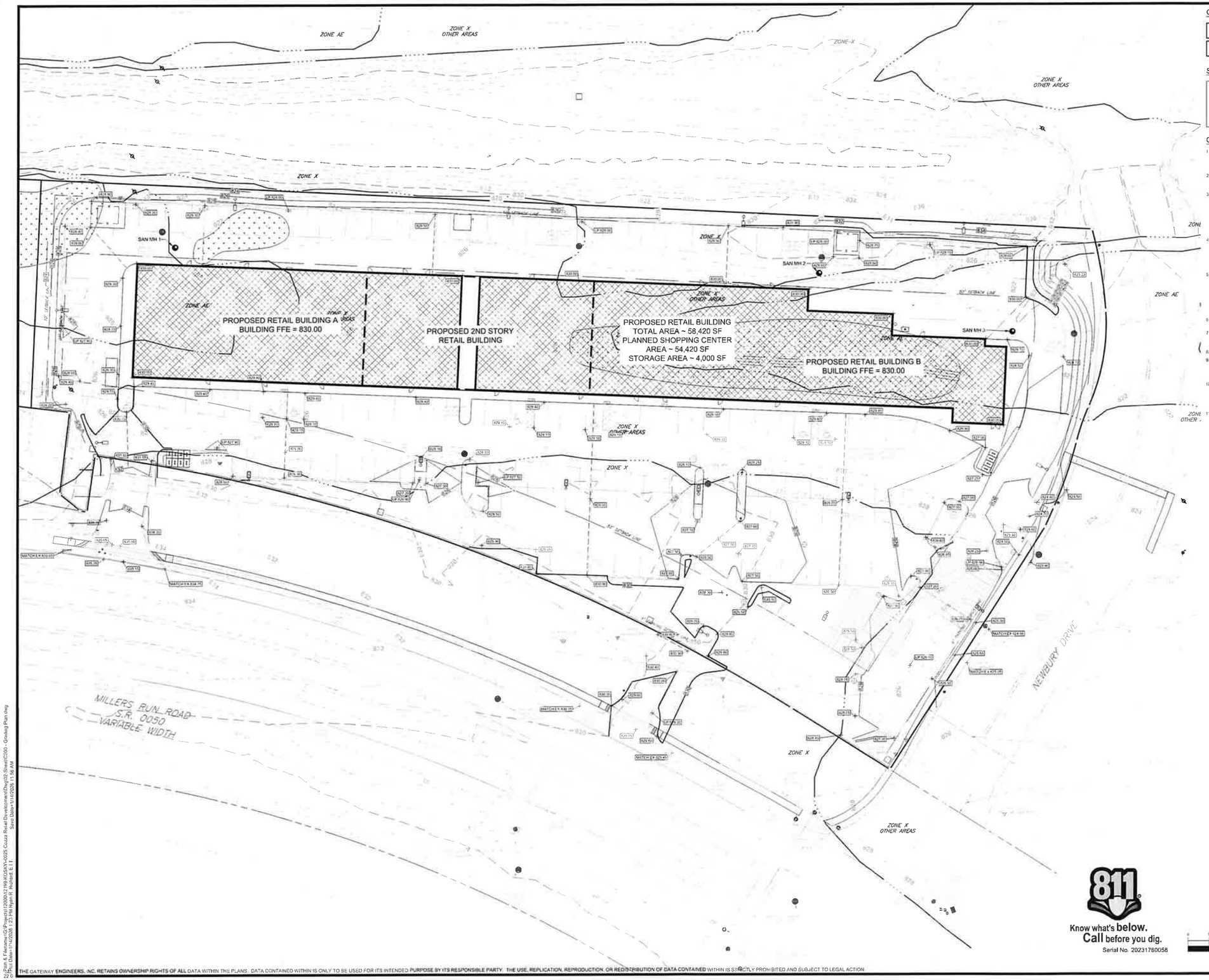
LAFAYETTE 180
NEWBURY DRIVE
CUDDY, PA 15031

PREPARED FOR:
CE - SF, LP
295 MYOMA ROAD
MARS, PA 16046

FIRE TRUCK TEMPLATE

Project Number: C-12199-0025
Drawing Scale: 1"=30'
Date Issued: AUG 2025
Index Number: -
Drawn By: MCL/RRR
Checked By: JMG
Project Manager: JMG

C101



GRADING LEGEND

830.00	PROPOSED SPOT GRADE
	FEMA FLOODPLAIN LINE

SPOT GRADE ABBREVIATONS

TC	TOP CURB
BC	BOTTOM CURB
TC/BC	TOP CURB/ BOTTOM CURB
TW	TOP WALL
BW	BOTTOM WALL
HP	HIGH POINT
LP	LOW POINT

GRADING PLAN NOTES:

1. ALL SITE WORK SHALL BE DONE IN ACCORDANCE WITH THE PLANS PREPARED BY THE GATEWAY ENGINEERS, INC., THE CURRENT REQUIREMENTS OF THE MUNICIPALITY AND ALL OTHER PERTINENT FEDERAL AND STATE LAWS
2. CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT PREPARED BY NSH DATED MAY 3, 2023 PRIOR TO INITIATION OF ANY EARTHWORK ACTIVITY
3. THE CONTRACTOR SHALL COMPLY AT ALL TIMES WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, PROVISIONS, AND POLICIES GOVERNING SAFETY AND HEALTH, INCLUDING THE FEDERAL CONSTRUCTION SAFETY ACT (PUBLIC LAW 91-54) FEDERAL REGISTER, CHAPTER XVII, PART 1926 OF TITLE 29 REGULATIONS, OCCUPATIONAL SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION, AND SUBSEQUENT PUBLICATIONS UPDATING THESE REGULATIONS
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING THE AREAS AND CONDITIONS UNDER WHICH THE PROJECT IS TO BE CONSTRUCTED PRIOR TO THE SUBMISSION OF A BID. SUBMISSION OF A BID SHALL BE CONSTRUED TO MEAN THE CONTRACTOR HAS REVIEWED THE SITE AND IS FAMILIAR WITH CONDITIONS AND CONSTRAINTS OF THE SITE
5. BEFORE EXCAVATIONS, ALL UNDERGROUND UTILITIES SHALL BE LOCATED IN THE FIELD BY THE PROPER AUTHORITIES. THE CONTRACTOR SHALL NOTIFY PENNSYLVANIA ONE CALL SYSTEMS, INC. AT 9-1-1. THE LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES ARE APPROXIMATE AND MAY NOT ALL BE SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND EXACT LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES
6. ALL SLOPES SHALL BE 2:1 (HORIZONTAL: VERTICAL) MAXIMUM UNLESS NOTED OTHERWISE.
7. ALL AREAS NOT PAVED SHALL BE TOP SOILED, SEEDED, MULCHED OR LANDSCAPED UNLESS OTHERWISE NOTED IN THE CONSTRUCTION DRAWINGS, SITE SPECIFICATIONS OR INSTRUCTED BY THE OWNER
8. SPOT ELEVATIONS ARE LOCATED AT THE TOP OF PAVEMENT.
9. THE CONTRACTOR SHALL REMOVE ANY EXCESS TOPSOIL OFFSITE TO A PA DEP APPROVED WASTE SITE, OR SPREAD UNIFORMLY ON SITE. THE ACQUISITION OF AN APPROVED WASTE SITE IS THE CONTRACTOR'S RESPONSIBILITY.
10. THE CONTRACTOR SHALL PROTECT ALL CORNER PINS, MONUMENTS, PROPERTY CORNERS, AND BENCHMARKS DURING DEMOLITION ACTIVITIES. IF DISTURBED CONTRACTOR SHALL HAVE DISTURBED ITEMS RESET BY A LICENSED SURVEYOR AT NO ADDITIONAL COST TO THE OWNER.
11. AN AS-BUILT DRAWING OF THE STORMWATER DETENTION FACILITY PREPARED AND SEALED BY A PROFESSIONAL LAND SURVEYOR IS REQUIRED TO BE SUBMITTED TO THE PROJECT ENGINEER.

Know what's below.
Call before you dig.
Serial No. 20231760058

NORTH

GRAPHIC SCALE
0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

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GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

REVISION RECORD

Date	No	
2025-11-11	01	WPP Updates
2025-12-16	02	ACCD TECHNICAL NPDES RESPONSE
2026-01-14	03	TOWNSHIP SUBMISSION
----	04	----
----	05	----
----	06	----
----	07	----
----	08	----

LAFAYETTE 180
NEWBURY DRIVE
CUDDY, PA 15031

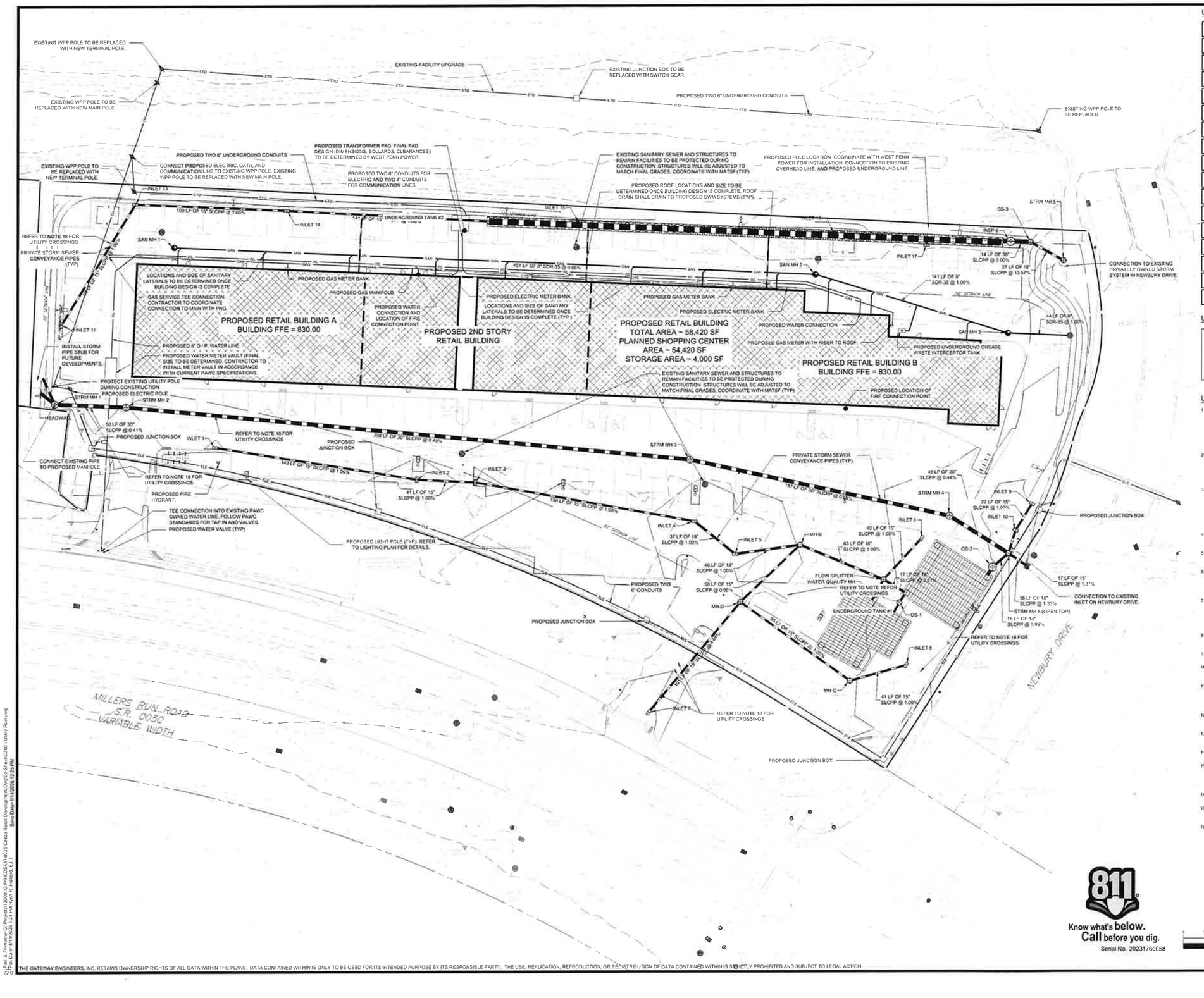
PREPARED FOR:
CE - SF, LP
295 MYOMA ROAD
MARS, PA 16046

GRADING PLAN

Project Number: C-12199-0025
Drawing Scale: 1" = 30'
Date Issued: AUG 2025
Index Number: --
Drawn By: MCL/RRR
Checked By: JMG
Project Manager: JMG

C200

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UTILITY LEGEND

SAN	PROPOSED SANITARY LINE
SAL SAL SAL	PROPOSED SANITARY LATERAL
STM	PROPOSED STORM LINE
WL	PROPOSED WATER LINE
WL	PROPOSED WATER LATERAL
DAT	PROPOSED DATA LINE
ELE	PROPOSED ELECTRIC LINE
ETD	PROPOSED ELECTRIC, TELEPHONE, & DATA LINE
TEL	PROPOSED TELEPHONE LINE
OHE	PROPOSED OVERHEAD ELECTRIC
OH	PROPOSED OVERHEAD LINE
GAS	PROPOSED GAS LINE
	PROPOSED UTILITY POLE
	PROPOSED FIRE HYDRANT
	PROPOSED GAS VALVE
	PROPOSED WATER VALVE
	PROPOSED TEE

UTILITY ABBREVIATIONS

STM	STORM
SAN	SANITARY
MH	MANHOLE
OS	OUTLET STRUCTURE
CO	CLEANOUT
RD	ROOF DRAIN
HW	HEADWALL
EW	ENDWALL

UTILITY PLAN NOTES:

1. THE CONTRACTOR SHALL COMPLY AT ALL TIMES WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, PROVISIONS, AND POLICIES GOVERNING SAFETY AND HEALTH, INCLUDING THE FEDERAL CONSTRUCTION SAFETY ACT (PUBLIC LAW 91-54), FEDERAL REGISTER, CHAPTER XVII, PART 1926 OF TITLE 29 REGULATIONS, OCCUPATIONAL SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION, AND SUBSEQUENT PUBLICATIONS UPDATING THESE REGULATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING THE AREAS AND CONDITIONS UNDER WHICH THE PROJECT IS TO BE CONSTRUCTED PRIOR TO THE SUBMISSION OF A BID. SUBMISSION OF A BID SHALL BE CONSTRUED TO MEAN THE CONTRACTOR HAS REVIEWED THE SITE AND IS FAMILIAR WITH CONDITIONS AND CONSTRAINTS OF THE SITE.
3. BEFORE EXCAVATION, ALL UNDERGROUND UTILITIES SHALL BE LOCATED IN THE FIELD BY THE PROPER AUTHORITIES. THE CONTRACTOR SHALL CONTACT PENNSYLVANIA ONE CALL SYSTEMS, INC. AT 8-1-1. THE LOCATION OF UTILITIES AND UNDERGROUND STRUCTURES ARE APPROXIMATE AND MAY NOT ALL BE SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND EXACT LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES.
4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BID AND PERFORM ALL UTILITY WORK IN COMPLIANCE TO APPLICABLE LOCAL AND STATE CODES AND REGULATIONS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FEES ASSOCIATED WITH THE INSTALLATION, INSPECTING, TESTING AND FINAL ACCEPTANCE OF PROPOSED UTILITIES CONSTRUCTION.
6. UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE RESPECTIVE UTILITY COMPANY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE UTILITIES ARE INSTALLED CORRECTLY TO MEET PROJECT REQUIREMENTS WHETHER PERFORMED BY THE CONTRACTOR OR NOT.
7. ALL CABLE, ELECTRIC, GAS, STORM AND SANITARY SEWER, TELEPHONE AND WATER SERVICE LINE TRENCHES LOCATED UNDER PROPOSED PAVEMENT AREAS SHALL BE BACKFILLED WITH 100% STONE MATERIAL TO THE PROPOSED PAVING SECTION IN ACCORDANCE WITH THE DETAIL SHOWN ON THE CONSTRUCTION DETAIL SHEETS.
8. THERE SHALL BE NO CONSTRUCTION OF ELECTRIC TRANSFORMERS, TELEPHONE OR CABLE JUNCTION BOXES, GAS METERS OR SIMILAR DEVICES PLACED OVER ANY OTHER UNDERGROUND UTILITY.
9. CONTRACTOR TO PROVIDE SHOP DRAWINGS ON ALL STORM SEWER MANHOLES AND INLETS.
10. AN AS-BUILT DRAWING OF NEW UTILITY SERVICES SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE OWNER UPON COMPLETION OF THE PROJECT.
11. ALL STORM PIPE SHALL BE HDPE, SMOOTH INTERIOR, CORRUGATED POLYETHYLENE PIPE UNLESS OTHERWISE NOTED. ALL STORM SEWER CONSTRUCTION MATERIALS AND METHODS SHALL BE IN ACCORDANCE WITH PENNDOT SPECIFICATIONS. ALL JOINTS SHALL BE WATERTIGHT.
12. THE CONTRACTOR SHALL ASSURE THAT THERE IS POSITIVE DRAINAGE TO THE EXISTING INLETS UPON PLACEMENT OF NEW PAVEMENT.
13. CONTRACTOR TO COORDINATE WITH THE BUILDING PLUMBING AND SITE ELECTRICAL PLANS TO ASSURE ACCURACY OF THE UTILITY CONNECTIONS TO THE BUILDING.
14. CONDUIT LOCATIONS TO SITE LIGHT POLES TO BE COORDINATED WITH THE SITE ELECTRICAL PLAN.
15. THE ALLEGHENY COUNTY HEALTH DEPARTMENT SHALL BE CONTACTED FOR INSPECTION OF ALL PRIVATE SANITARY SEWERS, WATER LINES, AND STORM SEWER LINES WHERE THEY CONNECT TO A PUBLIC SEWER SYSTEM. ALL WATER AND SEWER LINES MUST BE INSTALLED BY A REGISTERED PLUMBER.
16. THE ROOF COLLECTOR SYSTEM SHALL BE TRAPPED PRIOR TO CONNECTING TO THE SITE STORM SEWER SYSTEM.
17. THE WATERLINE SHALL HAVE A MINIMUM OF 48" OF COVER AND BE AT LEAST 1 FOOT ABOVE THE SANITARY SEWER IF WITHIN 10 FEET OF THE HORIZONTAL DISTANCE OF THE SEWER.
18. CONTRACTOR MUST COORDINATE ALL UTILITY CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANIES. POTHOLE EXISTING UTILITIES AT ALL PROPOSED CROSSINGS TO DETERMINE PROPER CLEARANCES. NOTIFY ENGINEER WITH ANY CONFLICTS.

GATEWAY ENGINEERS
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07	----	----
08	-	-

LAFAYETTE 180
NEWBURY DRIVE
CUDDY, PA 15031

PREPARED FOR:
CE - SF, LP
295 MYOMA ROAD
MARS, PA 16046

UTILITY PLAN

Project Number: C-12199-0025
Drawing Scale: 1" = 30'
Date Issued: JAN 2025
Index Number: --
Drawn By: MCL/RRR
Checked By: JMG
Project Manager: JMG

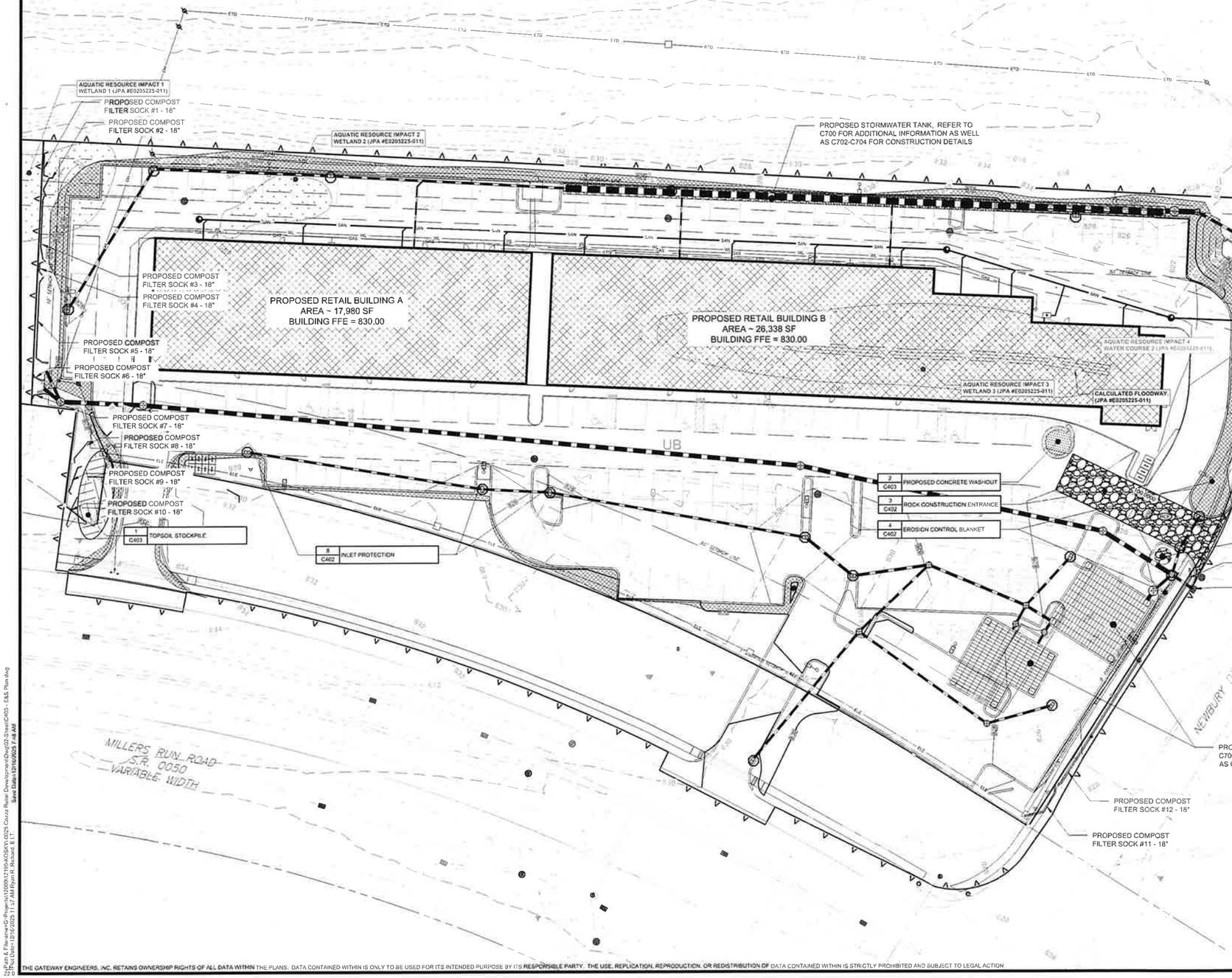
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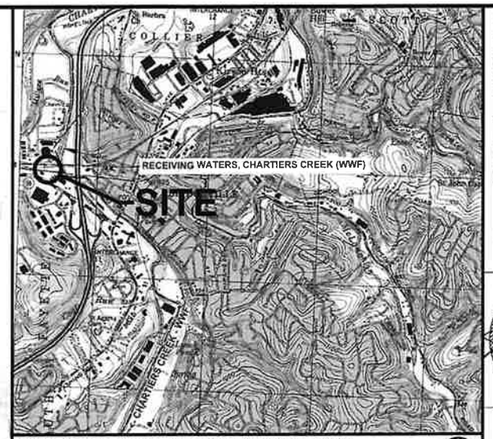
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THIS PLAN IS FOR EROSION AND SEDIMENT CONTROL PURPOSES ONLY





SITE LOCATION MAP - USGS BRIDGEVILLE QUAD
SCALE: 1" = 2000'

EROSION AND SEDIMENT CONTROL LEGEND

- 4 C402 EROSION CONTROL BLANKET
- 3 C402 ROCK CONSTRUCTION ENTRANCE
- 8 C402 INLET PROTECTION
- SOIL BOUNDARIES
- LIMITS OF DISTURBANCE/PERMIT BOUNDARY
- COMPOST FILTER SOCK
- 1 C704 PENNDOT STANDARD INLET BOX
- 2 C704 CLEANOUT
- 4 C704 PROPOSED 48" STORM MANHOLE
- PROPOSED STORM LINE
- AQUATIC RESOURCE WETLANDS
- AQUATIC RESOURCE WATER COURSE
- AQUATIC RESOURCE FLOODWAY

EROSION AND SEDIMENT CONTROL NOTES:

1. THE CONTRACTOR SHALL COMPLY AT ALL TIMES WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, PROVISIONS, AND POLICIES GOVERNING SAFETY AND HEALTH, INCLUDING THE FEDERAL CONSTRUCTION SAFETY ACT (PUBLIC LAW 91-54), FEDERAL REGISTER, CHAPTER XVII, PART 1926 OF TITLE 29 REGULATIONS, OCCUPATIONAL SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION, AND SUBSEQUENT PUBLICATIONS UPDATING THESE REGULATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING THE AREAS AND CONDITIONS UNDER WHICH THE PROJECT IS TO BE CONSTRUCTED PRIOR TO THE SUBMISSION OF THE BID. SUBMISSION OF A BID SHALL BE CONSTRUED TO MEAN THE CONTRACTOR HAS REVIEWED THE SITE AND IS FAMILIAR WITH CONDITIONS AND CONSTRAINTS OF THE SITE.
3. BEFORE EXCAVATION, ALL UNDERGROUND UTILITIES SHALL BE LOCATED IN THE FIELD BY THE PROPER AUTHORITIES. THE CONTRACTOR SHALL NOTIFY PENNSYLVANIA ONE CALL SYSTEMS, INC AT 1-800-242-1776. THE LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES ARE APPROXIMATE AND MAY NOT ALL BE SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND EXACT LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES.
4. CONTRACTOR TO PROVIDE SHOP DRAWINGS ON ALL STORM SEWER MANHOLES, INLETS, AND DETENTION SYSTEMS.
5. AN AS-BUILT DRAWING OF NEW UTILITY SERVICES SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE OWNER UPON COMPLETION OF THE PROJECT.
6. ALL STORM PIPE SHALL BE HDPE, SMOOTH INTERIOR, CORRUGATED POLYETHYLENE PIPE UNLESS OTHERWISE NOTED. ALL STORM SEWER CONSTRUCTION MATERIALS AND METHODS SHALL BE IN ACCORDANCE WITH PENNDOT SPECIFICATIONS. ALL JOINTS SHALL BE WATERTIGHT.
7. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION.
8. THE CONTRACTOR SHALL ASSURE THAT THERE IS POSITIVE DRAINAGE TO INLETS UPON PLACEMENT OF NEW PAVEMENT.
9. CONTRACTOR IS REQUIRED TO NOTIFY AN ENVIRONMENTAL PROFESSION (EP) PRIOR TO ANY EXCAVATION AND HAVE THEM ON-SITE TO OVERSEE ALL EXCAVATION AND HANDLING OF MATERIAL. THE CONTRACTOR SHALL REFER TO THE SOIL MANAGEMENT PLAN / MATERIAL MANAGEMENT PLAN PREPARED BY CRIBBS & ASSOCIATES, LLC AND THE ON-SITE EP FOR THE REQUIRED SOIL HANDLING, STOCKPILE, DISPOSAL, ETC PROCEDURES.

PROJECT AREAS

TOTAL PERMIT AREA = 5.48 ACRES
DISTURBED AREA = 5.48 ACRES

811 Know what's below. Call before you dig.
Serial No. 20231760058

NORTH
GRAPHIC SCALE
0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
JAMES M. GRIFFITH
No. PE087787
PENNSYLVANIA

REVISION RECORD

No	Date	
01	2025-11-11	WPP Updates
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LAFAYETTE 180
NEWBURY DRIVE
CUDDY, PA 15031

PREPARED FOR:
CE - SF, LP
295 MYOMA ROAD
MARS, PA 16046

EROSION AND SEDIMENTATION CONTROL PLAN

Project Number: C-12199-0025
Drawing Scale: 1" = 30'
Date Issued: AUG 2025
Index Number: ---
Drawn By: MCL/RRR
Checked By: JMG
Project Manager: JMG

C400

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Save Date=12/16/2025 1:04 AM
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STANDARD EROSION AND SEDIMENT CONTROL PLAN NOTES

1. ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN. A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
2. AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, THE PCSM PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE FROM THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE PRE-CONSTRUCTION MEETING.
3. AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
4. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY THE DEPARTMENT PRIOR TO IMPLEMENTATION.
5. AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL.
6. CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE E&S BMPS SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS E&S PLAN.
7. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN.
8. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN MAPS(S) IN THE AMOUNT NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED BY VEGETATION. EACH STOCKPILE SHALL BE PROTECTED IN THE MANNER SHOWN ON THE PLAN DRAWINGS. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER.
9. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE LOCAL CONSERVATION DISTRICT AND/OR THE REGIONAL OFFICE OF THE DEPARTMENT.
10. ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1, AND 287.1 ET. SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.
11. ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.
12. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.
13. ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS.
14. VEHICLES AND EQUIPMENT MAY NEITHER ENTER DIRECTLY NOR EXIT DIRECTLY FROM THE PROJECT SITE ONTO PUBLIC ROADS.
15. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMP'S SHALL BE MAINTAINED PROPERLY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT BMP'S AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, RE-GRADING, RE-SEEDING, RE-MULCHING AND RE-NETTING MUST BE PERFORMED IMMEDIATELY. IF THE E&S BMP'S FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMP'S, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
16. A LOG SHOWING DATES THAT E&S BMP'S WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON THE SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION.
17. SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEPT INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.
18. ALL SEDIMENT REMOVED FROM BMP'S SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS.
19. AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES – 6 TO 12 INCHES ON COMPACTED SOILS – PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUTSLOPES SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL.
20. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES. REFER TO GEOTECHNICAL REPORT AND CROSS SECTIONS.
21. ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.
22. FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
23. FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.
24. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
25. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.
26. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED. SEEDED AREAS WITHIN 50 FEET OF A SURFACE WATER, OR AS OTHERWISE SHOWN ON THE PLAN DRAWINGS, SHALL BE BLANKETED ACCORDING TO THE STANDARDS OF THIS PLAN.
27. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUB-AREA OF THE PROJECT, THE OPERATOR SHALL STABILIZE ALL DISTURBED AREAS. DURING NON-GERMINATING MONTHS, MULCH OR PROTECTIVE BLANKETING SHALL BE APPLIED AS DESCRIBED IN THE PLAN. AREAS NOT AT FINISHED GRADE, WHICH WILL BE REACTIVATED WITHIN 1 YEAR, MAY BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY STABILIZATION SPECIFICATIONS. THOSE AREAS WHICH WILL NOT BE REACTIVATED WITHIN 1 YEAR SHALL BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION SPECIFICATIONS.
28. PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.
29. E&S BMP'S SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT.
30. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT FOR AN INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE E&S BMP'S.
31. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMP'S MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMP'S. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE BMP'S SHALL BE STABILIZED IMMEDIATELY, IN ORDER TO ENSURE RAPID RE-VEGETATION OF DISTURBED AREAS. SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING SEASON.
32. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT TO SCHEDULE A FINAL INSPECTION.
33. FAILURE TO CORRECTLY INSTALL E&S BMP'S, FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE, OR FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTION TO RESOLVE FAILURE OF E&S BMP'S MAY RESULT IN ADMINISTRATIVE, CIVIL AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY THE DEPARTMENT AS DEFINED IN SECTION 602 OF THE PENNSYLVANIA CLEAN STREAMS LAW. THE CLEAN STREAMS LAW PROVIDES FOR UP TO $10,000 PER DAY IN CIVIL PENALTIES, UP TO $10,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO $25,000 IN MISDEMEANOR CRIMINAL PENALTIES FOR EACH VIOLATION.
34. CONCRETE WASH WATER SHALL BE HANDLED IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS. IN NO CASE SHALL IT BE ALLOWED TO ENTER ANY SURFACE WATERS OR GROUNDWATER SYSTEMS.
35. EROSION CONTROL BLANKETING SHALL BE INSTALLED ON ALL SLOPES 3H:1V OR STEEPER WITHIN 50 FEET OF A SURFACE WATER AND ON ALL OTHER DISTURBED AREAS SPECIFIED ON THE PLAN MAPS AND/OR DETAIL SHEETS.
36. FILL MATERIAL FOR EMBANKMENTS SHALL BE FREE OF ROOTS, OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE COMPACTED IN MAXIMUM 10" LAYERED LIFTS AT 90% DENSITY.
37. SPREAD TOPSOIL, SEED AND MULCH ALL DISTURBED AREAS, USING THE SPECIFIED SEEDING REQUIREMENTS. ALL DISTURBED AREAS MUST BE TEMPORARILY STABILIZED IF REMAINING IDLE FOR MORE THAN 4 DAYS. IN THE ABSENCE OF A SOIL TEST, LIME SHOULD BE ADDED AT A RATE OF 275 LBS /1000 S.F. LIKEWISE, THE FERTILIZER RATES SHOULD BE INCREASED TO 1250 LBS / AC. OF 8-16-16 AND 2000 LBS / AC. OF 5-10-10.

1 / C401	STANDARD E&S NOTES

MAINTENANCE AND INSPECTION SCHEDULE

CONTROL MEASURE	INSPECT	PROBLEMS TO LOOK FOR	POSSIBLE REMEDIES
VEGETATION	WEEKLY AND AFTER EVERY RUNOFF EVENT	SEDIMENT AT TOE OF SLOPE	CHECK FOR TOP-OF-SLOPE DIVERSION AND INSTALL IF NEEDED.
		RILLS AND GULLIES FORMING	FILL RILLS AND REGRADE GULLIED SLOPES.
		BARE SOIL PATCHES	RESEED, FERTILIZE, AND MULCH BARE AREAS.
ROCK CONSTRUCTION ENTRANCES	DAILY	SINK HOLES OR RUTS	ADD ROCK TO BRING TO SPECIFIED DIMENSIONS.
		SEDIMENT ON PUBLIC ROADWAY	SWEEP MATERIAL BACK TO PROJECT SITE. DO NOT WASH ROADWAY WITH WATER.
COMPOST FILTER SOCK	WEEKLY AND AFTER EVERY RUNOFF EVENT	SEDIMENT ACCUMULATION ON UPSTREAM SIDE	REMOVE SEDIMENT WHEN LEVEL REACHES HALF OF THE EFFECTIVE HEIGHT
		PONDING WATER	REMOVE SEDIMENT OR ADD ADDITIONAL SILTSOXX TO REDUCE SLOPE LENGTH
		TEARING OR RIPPING OF FABRIC	REPLACE RIPPED SECTION WITH NEW SILTSOXX
INLET PROTECTION	WEEKLY AND AFTER EVERY RUNOFF EVENT	SEDIMENT ACCUMULATION	REMOVE SEDIMENT AND DISPOSE ON SITE.
		SEDIMENT ACCUMULATED IN INLET FILTER BAG TO 1/2 FULL	CLEAN AND/OR REPLACE BAG
		RUNOFF ESCAPING AROUND BARRIER	REBUILD BARRIER
		FILTER BAG TORN OR DAMAGED	REPLACE BAG
SLOPE BLANKET	WEEKLY AND AFTER EVERY RUNOFF EVENT	LOSS OF PROTECTIVE LINING	RESHAPE AS NECESSARY AND REPLACE FABRIC
		TORN/PUNCHED FABRIC	OVERLAP WITH CONTINUOUS PIECE OF MATTING. SECURELY ANCHOR WITH PROPER STAPLES.
CONCRETE WASHOUT FACILITY	DAILY	DAMAGED OR LEAKING WASHOUT	DEACTIVATED AND REPAIRED OR REPLACED AS NECESSARY.
		ACCUMULATION OF MATERIALS (50% CAPACITY)	PLASTIC LINERS SHOULD BE REPLACED WITH EACH CLEANING.
PUMPED WATER FILTER BAG	WHEN IN USE	SEDIMENT ACCUMULATION IN BAG WHEN IT REACHES HALF FULL	REPLACE FILTER BAG AND DISPOSE AT DEP APPROVED LOCATION.
		LEAKY DISCHARGE HOSE	SECURE CLAMP CONNECTING DISCHARGE HOSE AND FILTER BAG

- ALL MAINTENANCE INSPECTIONS SHALL BE LOGGED ONTO DEP FORM # 3800-FM-BCW0271D, DATED 04/2025, AND KEPT ON THE SITE AT ALL TIMES.
- ALL REPAIRS TO BE COMPLETED WITHIN 24 HOURS OF DISCOVERY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL TEMPORARY CONTROL MEASURES DURING CONSTRUCTION.
- ALL DEVICES SHOULD BE INSPECTED WEEKLY AND AFTER EVERY RUNOFF EVENT. IF, DURING THESE INSPECTIONS, ANY DEVICE IS FOUND TO BE CLOGGED, DAMAGED, HALF-FULL OF SILT OR NOT FULLY OPERATIONAL, THE DEVICE(S) SHALL BE CLEANED OF ALL DEBRIS.
- UPON COMPLETION OF THE PROJECT, RECYCLING OR DISPOSAL OF ALL TEMPORARY EROSION CONTROL MATERIALS SHALL BE THE RESPONSIBILITY OF THE EARTHMOVING CONTRACTOR.
- CONSTRUCTION WASTE INCLUDES, BUT IS NOT LIMITED TO, EXCESS SOIL MATERIALS, SILT REMOVED FROM EROSION CONTROL FACILITIES, EXCESS BUILDING MATERIALS, CONCRETE WASH WATER, SANITARY WASTES, AND OBSOLETE EROSION CONTROL MATERIALS (SILT FENCE, SILT SACKS, ETC.). OBSOLETE EROSION CONTROL MATERIALS AND EXCESS BUILDING MATERIALS MUST BE DISPOSED OF AT A DEP APPROVED SITE.
- SILT REMOVED FROM SEDIMENT CONTROL FACILITIES SHALL BE SPREAD ON THE TOPSOIL STOCKPILE, OR IN LAWN OR LANDSCAPE AREAS.

2 / C401	MAINTENANCE SCHEDULE

TABLE 11.1
CUBIC YARDS OF TOPSOIL REQUIRED FOR APPLICATION TO VARIOUS DEPTHS

DEPTH (IN)	PER 1,000 SQUARE FEET	PER ACRE
1	3.1	134
2	6.2	268
3	9.3	403
4	12.4	537
5	15.5	672
6	18.6	806
7	21.7	940
8	24.8	1,074

TEMPORARY SEEDING SPECIFICATIONS:

LIMESTONE: RAW, GROUND AGRICULTURAL LIMESTONE CONTAINING MORE THAN 90 PERCENT CALCIUM CARBONATES (ADJUST PH LEVELS TO 6.5 TO 7.0) APPLY AT A RATE OF 410 LBS / 1000 S.Y., UNLESS OTHERWISE INDICATED BY SOIL TESTS.

COMMERCIAL FERTILIZER: IN ABSENCE OF A SOIL TEST, USE 100 LBS / 1000 S.Y. OF 10-10-10 MIXED INTO SEED BED PRIOR TO SEEDING, OR IN A TANK WITH SEED WHEN HYDROSEEDING.

MULCH: CLEAN OAT OR WHEAT STRAW SHALL BE FREE FROM MATURE SEED-BEARING STALKS OR ROOTS OF PROHIBITED OR NOXIOUS WEEDS AS DEFINED BY THE PENNSYLVANIA SEED ACT 1947. APPLY AT A RATE OF 3 TONS/AC (139 LBS/1000 SF). PRECAUTION SHALL BE TAKEN TO STABILIZE THE MULCH UNTIL THE VEGETATIVE COVER IS ESTABLISHED.

SEED MIXTURE: SEED MIXTURE SHALL BEAR A GUARANTEED STATEMENT OF ANALYSIS AND SHALL BE COMPOSED OF THE FOLLOWING VARIETIES AND MIXED IN THE PROPORTIONS SPECIFIED:

TEMPORARY SEED MIXTURE	PROPORTION BY WEIGHT	MINIMUM PURITY	MINIMUM GERMINATION
ANNUAL RYEGRASS	100%	98%	90%

THREE (3) PERCENT REDTOP MAY BE ADDED TO THE LAWN MIXTURE ON SLOPE AREAS OR FOR LATE SPRING OR LATE FALL SEEDING.

SEEDING RATE: TEMPORARY SEEDING SHALL BE APPLIED AT THE RATE OF TEN (10) POUNDS PER ONE THOUSAND (1,000) SQUARE YARDS.

NOTES: ALL AREAS TO BE SEEDED SHALL BE LOOSENED TO A DEPTH OF AT LEAST TWO INCHES BY MECHANICAL MEANS, OR AS APPROVED BY THE LANDSCAPE ARCHITECT.

MULCH SEEDED AREAS IMMEDIATELY AFTER SEEDING.

SEED ALL DISTURBED AREAS WITH THE TEMPORARY SEED MIXTURE EXCEPT THOSE AREAS SHOWN TO BE SEEDED WITH STEEP SLOPE MIXTURE, UNLESS OTHERWISE NOTED ON THE DRAWINGS.

HYDROSEEDING WITH TACIFIER SHALL BE USED IN LIEU OF MULCH.

PERMANENT SEEDING SPECIFICATIONS:

TOPSOIL: 4" MIN. TOPSOIL SHALL BE REQUIRED ON ALL DISTURBED AREAS AFTER SITE HAS BEEN RECLAIMED/RESTORED.

LIMESTONE: RAW, GROUND AGRICULTURAL LIMESTONE CONTAINING MORE THAN 90 PERCENT CALCIUM CARBONATES (ADJUST PH LEVELS TO 6.5 TO 7.0) APPLY AT A RATE OF 2,460 LBS / 1000 S.Y., UNLESS OTHERWISE INDICATED BY SOIL TESTS.

COMMERCIAL FERTILIZER: IN ABSENCE OF A SOIL TEST, USE 210 LBS / 1000 S.Y. OF 10-10-20 MIXED INTO SEED BED PRIOR TO SEEDING, OR IN A TANK WITH SEED WHEN HYDROSEEDING.

INOCULANT: INOCULANT FOR TREATING LEGUMINOUS SEEDS SHALL BE A STANDARD COMMERCIAL PRODUCT CONSISTING OF A SUITABLE CARRIER CONTAINING A CULTURE OF NITROGEN FIXING BACTERIA SPECIFIC FOR SEEDS TO BE INOCULATED. INOCULANT SHALL NOT BE USED LATER THAN DATE INDICATED ON THE CONTAINER.

MULCH: CLEAN OAT OR WHEAT STRAW SHALL BE FREE FROM MATURE SEED-BEARING STALKS OR ROOTS OF PROHIBITED OR NOXIOUS WEEDS AS DEFINED BY THE PENNSYLVANIA SEED ACT 1947. APPLY AT A RATE OF 3 TONS/AC (139 LBS/1000 SF). PRECAUTION SHALL BE TAKEN TO STABILIZE THE MULCH UNTIL THE VEGETATIVE COVER IS ESTABLISHED.

SEED MIXTURE: SEED MIXTURE SHALL BEAR A GUARANTEED STATEMENT OF ANALYSIS AND SHALL BE COMPOSED OF THE FOLLOWING VARIETIES AND MIXED IN THE PROPORTIONS SPECIFIED:

PERMANENT SEEDING MIXTURE	PROPORTION BY WEIGHT
SORGHASTRUM NUTANS, 'TOMAHAWK' (INDIANGRASS, 'TOMAHAWK')	31.1%
LOLIUM MULTIFLORUM (ANNUAL RYEGRASS)	20.0%
ANDROPOGON GERARDII, 'NIAGARA' (BIG BLUESTEM, 'NIAGARA')	14.0%
ELYMUS VIRGINICUS, 'MADISON' (VIRGINIA WILDRYE, 'MADISON')	10.0%
ELYMUS CANADENSIS (CANADA WILDRYE)	7.0%
AGROSTIS PERENNANS, ALBANY PINE BUSH-NY ECOTYPE	4.0%
(AUTUMN BENTGRASS, ALBANY PINE BUSH-NY ECOTYPE)	
PANICUM VIRGATUM, 'SHAWNEE' (SWITCHGRASS, 'SHAWNEE')	4.0%
PANICUM CLANDESTINUM, 'TIOGA' (DEERTONGUE, 'TIOGA')	3.0%
ECHINACEA PURPUREA (PURPLE CONEFLOWER)	1.5%
CHAMAECRISTA FASCICULATA, PA ECOTYPE	1.3%
(PARTRIDGE PEA, PA ECOTYPE)	
HELIOPSIS HELIANTHOIDES, PA ECOTYPE	1.2%
(OXEYE SUNFLOWER, PA ECOTYPE)	
COREOPSIS LANCEOLATA (LANCELEAF COREOPSIS)	1.0%
RUDBECKIA HIRTA, COASTAL PLAIN NC ECOTYPE	1.0%
(BLACKEYED SUSAN, COASTAL PLAIN NC ECOTYPE)	
MONARDA FISTULOSA, FORT INDIANTOWN GAP-PA ECOTYPE	0.3%
(WILD BERGAMOT, FORT INDIANTOWN GAP-PA ECOTYPE)	
ASTER LAEVIS, NY ECOTYPE (SMOOTH BLUE ASTER, NY ECOTYPE)	0.1%
ASTER NOVAE-ANGLIAE, PA ECOTYPE	0.1%
(NEW ENGLAND ASTER, PA ECOTYPE)	
SOLIDAGO JUNCEA, PA ECOTYPE (EARLY GOLDENROD, PA ECOTYPE)	0.1%
SOLIDAGO NEMORALIS, PA ECOTYPE (GRAY GOLDENROD, PA ECOTYPE)	0.1%

SEEDING RATE: PERMANENT SEEDING SHALL BE APPLIED AT A RATE OF 21 POUNDS PER 1,000 SQUARE FEET.

PREPARATION OF SEEDING: HYDROSEEDING WITH TACIFIER SHALL BE USED IN LIEU OF MULCH.

GRADE AS NECESSARY TO BRING SUBGRADE TO A TRUE, SMOOTH SLOPE PARALLEL TO AND SIX INCHES BELOW FINISHED GRADE. PLACE TOPSOIL OVER SPECIFIED AREAS TO A DEPTH SUFFICIENTLY GREATER THAN SIX (6) OR EIGHT (8) INCHES SO THAT AFTER SETTLEMENT AND LIGHT ROLLING, THE COMPLETE WORK WILL CONFORM TO LINES, GRADES AND ELEVATIONS SHOWN.

FERTILIZER AND AGRICULTURAL LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE SOIL BY ROTOTILLING OR OTHER METHOD TO A MINIMUM DEPTH OF FOUR (4) INCHES. THE ENTIRE SURFACE SHALL THEN BE REGRADED AND ROLLED. AREAS TO BE SEEDED SHALL THEN BE LOOSENED TO A DEPTH OF TWO (2) INCHES. SEEDING SHALL BE DONE IN TWO SEPARATE OPERATIONS. THE SECOND SEEDING SHALL BE DONE IMMEDIATELY AFTER THE FIRST AND AT RIGHT ANGLES TO THE FIRST SEEDING AND LIGHTLY RAKED INTO THE SOIL. MULCH SEEDED AREAS IMMEDIATELY AFTER SEEDING.

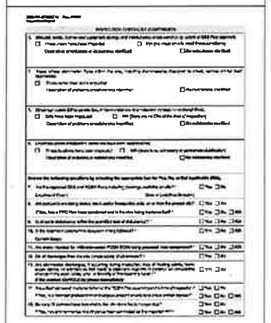
TABLE 11.2
SOIL AMENDMENT APPLICATION RATE EQUIVALENTS

SOIL AMENDMENT	PERMANENT SEEDING APPLICATION RATE			NOTES
	PER ACRE	PER 1,000 SQ. FT.	PER 1,000 SQ. YD.	
AGRICULTURAL LIME	6 TONS	240 LB.	2,480 LB.	OR AS PER SOIL TEST; MAY NOT BE REQUIRED IN AGRICULTURAL FIELDS
10-20-20 FERTILIZER	1,000 LB.	25 LB.	210 LB.	OR AS PER SOIL TEST; MAY NOT BE REQUIRED IN AGRICULTURAL FIELDS
TEMPORARY SEEDING APPLICATION RATE				
AGRICULTURAL LIME	1 TON	40 LB.	410 LB.	TYPICALLY NOT REQUIRED FOR TOPSOIL STOCKPILES
10-10-10 FERTILIZER	500 LB.	12.5 LB.	100 LB.	TYPICALLY NOT REQUIRED FOR TOPSOIL STOCKPILES

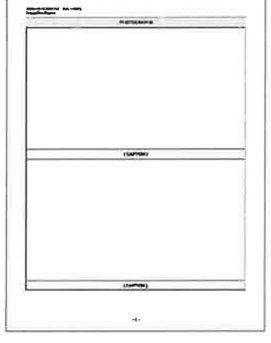
NOTE: A COMPOST BLANKET WHICH MEETS THE REQUIRED STANDARDS MAY BE SUBSTITUTED FOR THE SOIL AMENDMENTS SHOWN IN TABLE 11.2.

3 / C401	SEEDING SPECIFICATIONS


CHAPTER 102 VISUAL ESR INSPECTION REPORT







4 / C401	VISUAL SITE INSPECTION REPORT

GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
JAMES M. GRAY, JR.
ENGINEER
No. PE081731
PENNSYLVANIA

REVISION RECORD

No	Date	
01	2025-11-11	WPP Updates
02	2025-12-16	ACCD TECHNICAL NPDES RESPONSE
03	-----	-----
04	-----	-----
05	-----	-----
06	-----	-----
07	-----	-----
08	-----	-----

LAFAYETTE 180
NEWBURY DRIVE
CUDDY, PA 15031

PREPARED FOR:
CE - SF, LP
295 MYOMA ROAD
MARS, PA 16046

EROSION AND SEDIMENTATION CONTROL DETAILS

Project Number: C-12199-0025
Drawing Scale: N/A
Date Issued: AUG 2025
Index Number: --
Drawn By: MCL/RRR
Checked By: JMG
Project Manager: JMG

C401

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Plot By: rrobertson on 12/16/2025 11:57 AM Layout: K-Sheet: E1.0
Save Date: 12/16/2025 11:48 AM

CLEAN FILL AND ENVIRONMENTAL DUE DILIGENCE:

THE NPDES PERMIT COVERS THE MOVING, DEPOSITING, STOCKPILING OR STORING OF SOIL, ROCK OR EARTH MATERIALS'. IF THE SITE WILL NEED TO HAVE FILL IMPORTED FROM AN OFF SITE LOCATION, THE RESPONSIBILITY FOR PERFORMING ENVIRONMENTAL DUE DILIGENCE AND THE DETERMINATION OF CLEAN FILL WILL RESIDE WITH THE CONTRACTOR RESPONSIBLE FOR EARTHMOVING OPERATIONS

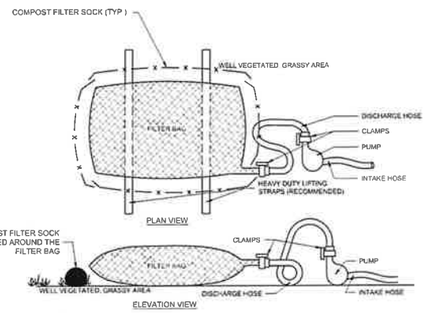
ENVIRONMENTAL DUE DILIGENCE MEANS PERFORMING INVESTIGATIVE TECHNIQUES FOR THE IMPORTED MATERIAL. THIS INCLUDES, BUT IS NOT LIMITED TO: VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, AND ENVIRONMENTAL ASSESSMENTS OR AUDITS. ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECTED TO A SPILL OR RELEASE OF REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPENDIX A OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) POLICY 'MANAGEMENT OF FILL'. FILL MATERIAL THAT DOES NOT QUALIFY AS CLEAN FILL IS REGULATED FILL. REGULATED FILL IS WASTE AND MUST BE MANAGED IN ACCORDANCE WITH THE DEP MUNICIPAL OR RESIDUAL WASTE REGULATIONS BASED ON 25 PA CODE, CHAPTERS 287 RESIDUAL WASTE MANAGEMENT OR 271 MUNICIPAL WASTE MANAGEMENT, WHICHEVER IS APPLICABLE.

CLEAN FILL IS DEFINED AS UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND IS RECOGNIZABLE AS SUCH. THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH UNLESS OTHERWISE AUTHORIZED. (THE TERM 'USED ASPHALT' DOES NOT INCLUDE MILLED ASPHALT OR ASPHALT THAT HAS BEEN PROCESSED FOR RE-USE.)

1 C402	CLEAN FILL AND ENVIRONMENTAL DUE DILIGENCE

- UPON COMPLETION OF THE PROJECT, RECYCLING OR DISPOSAL OF ALL MATERIALS WHICH COULD CAUSE POLLUTION SHALL BE THE RESPONSIBILITY OF THE EARTHMOVING CONTRACTOR.
- CONSTRUCTION WASTE INCLUDES, BUT IS NOT LIMITED TO, EXCESS SOIL MATERIALS, SILT REMOVED FROM EROSION CONTROL FACILITIES, EXCESS BUILDING MATERIALS, CONCRETE WASH WATER, SANITARY WASTES, AND OBSOLETE EROSION CONTROL MATERIALS (SILT FENCE, SILT SACKS, ETC.).
- SILT REMOVED FROM SEDIMENT CONTROL FACILITIES SHALL BE SPREAD ON THE TOPSOIL STOCKPILE, OR IN LAWN OR LANDSCAPE AREAS.
- OBSOLETE EROSION CONTROL MATERIALS AND EXCESS BUILDING MATERIALS MUST BE DISPOSED OF AT A DEP APPROVED SITE
- THERE WERE NO KNOWN NATURALLY OCCURRING GEOLOGIC FORMATIONS OR SOIL CONDITIONS LOCATED ON THE SITE THAT HAVE THE POTENTIAL TO CAUSE POLLUTION DURING CONSTRUCTION. IF SUCH CONDITIONS ARE ENCOUNTERED, STOP WORK AND CONTACT THE GEOGRAPHICAL ENGINEER AND/OR DEP
- GEOLOGICAL ROCK FORMATIONS OR SOIL CONDITIONS THAT ARE IDENTIFIED BY THE GEOTECHNICAL ENGINEER ON SITE AS HAVE THE POTENTIAL TO DEGRADE WATER QUALITY WILL BE ISOLATED IN PLACE OR WILL BE RELOCATED ONSITE FOLLOWED BY APPROPRIATE CAPPING WITH AN IMPERVIOUS SURFACE SUCH AS PAVEMENT OR A BUILDING, OR WILL BE EXCAVATED AND REMOVED TO AN OFF-SITE DISPOSAL AREA APPROVED TO HANDLE HAZARDOUS WASTE. DEPENDING ON THE LEVEL OF CONTAMINATION, BLENDING OF SOIL MAY ACHIEVE ACCEPTABLE STANDARDS

2 C402	RECYCLING AND WASTE DISPOSAL



NOTES

1 LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS MAY BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	86 lb/in
GRAB TENSILE	ASTM D-4632	205 lb
PUNCTURE	ASTM D-4833	110 lb
MULLEN BURST	ASTM D-3786	190 psi
UV RESISTANCE	ASTM D-4355	70%
AOS, % RETAINED	ASTM D-4751	80 Sieve

2 A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES MUST BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY HAVE BECOME 1/2 FULL. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. IT IS RECOMMENDED THAT BAGS BE PLACED ON STRAPS TO FACILITATE REMOVAL.

3 BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%. FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.

4 NO DOWN SLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHOULD BE INSTALLED BELOW BAGS LOCATED WITHIN 50' OF RECEIVING STREAM OR WHERE GRASSY AREA IS NOT AVAILABLE. A COMPOST BERM OR COMPOST FILTER SOCK SHALL BE PLACED BELOW ANY BAG DISCHARGING TO A SPECIAL PROTECTION SURFACE WATER

5 THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE

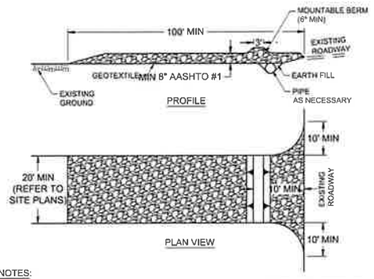
6 THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHOULD BE FLOATING AND SCREENED

7 FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED

8 FILTER BAGS SHALL BE PLACED ON A FLAT AND VEGETATED OR PERMANENT STABILIZED GROUND. THE FILTERED WATER BEING PUMPED FROM THE BAG SHALL PASS THROUGH AN ADDITIONAL E&S CONTROL PRIOR TO LEAVING THE SITE.

9 WHEN LOCATED WITHIN A STREAM THAT HAS IMPAIRMENTS THAT REQUIRE A BACT BMPS, A 12" COMPOST FILTER SOCK SHALL BE PLACED AROUND THE FILTER BAG AT ALL TIMES

6 C402	PUMPED WATER FILTER BAG



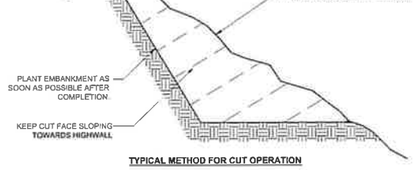
NOTES:

1. TOPSOIL SHALL BE REMOVED PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE.
2. EXTEND ROCK OVER WIDTH OF ENTRANCE.
3. RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE
4. MOUNTABLE BERM SHOULD BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED. PIPE TO BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED
5. REFER TO SITE PLANS FOR SIZE AND LOCATION WHERE APPLICABLE, REFER TO HOP PLANS FOR SIZE AND LOCATION ON STATE ROADWAYS

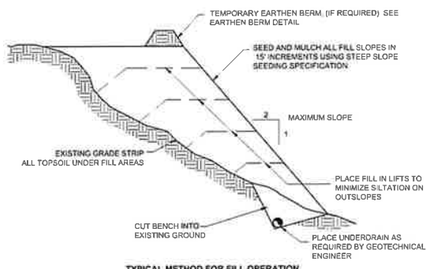
MAINTENANCE:

1. ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE.
2. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50' INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO THE ROADWAY DITCHES, CULVERTS, OR OTHER DRAINAGE WAYS IS NOT ACCEPTABLE

3 C402	ROCK CONSTRUCTION ENTRANCE



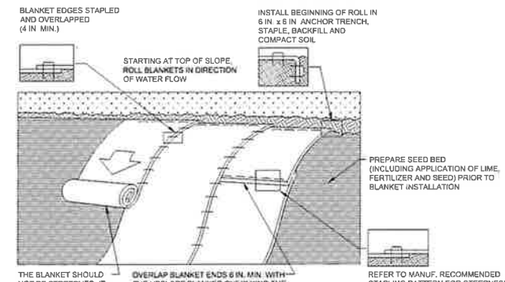
TYPICAL METHOD FOR CUT OPERATION



NOTE: TYPICAL METHOD FOR FILL OPERATION

1. REFER TO GEOTECHINCAL REPORT FOR RECOMMENDATIONS. RECOMMENDATIONS IN THE REPORT WILL SUPERCEDE THESE DETAILS

7 C402	TYPICAL METHOD FOR CUT OR FILL OPERATION



NOTES:

SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.

PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.

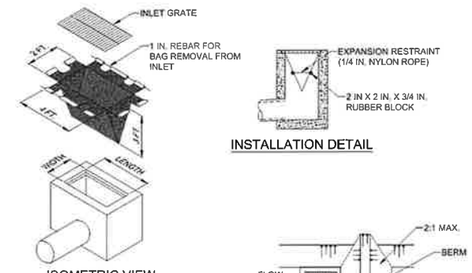
SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.

BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.

THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS

4 C402	EROSION CONTROL BLANKET



NOTES:

MAXIMUM DRAINAGE AREA = 1/2 ACRE.

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

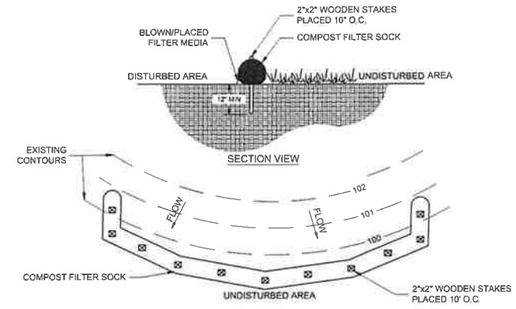
ROLLED EARTHEN BERM IN ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR REMAIN PERMANENTLY.

AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS., A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

8 C402	INLET PROTECTION



NOTES:

1. SOCK FABRIC SHALL MEET THE STANDARDS OF TABLE 4.1. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2.

2. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN SOCK ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY SOCK SHALL NOT EXCEED THAT SHOWN ON FIGURE 4.2. STAKES MAY BE INSTALLED IMMEDIATELY DOWNSLOPE OF THE SOCK IF SO SPECIFIED BY THE MANUFACTURER.

3. TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.

4. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE ABOVEGROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN

5. SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.

6. BIODEGRADABLE FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER ONE YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

7. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

8. SILT SOCK FABRIC MATERIAL SHALL BE MULTI-FILAMENT POLYPROPYLENE (MFPP), MINIMUM FUNCTIONAL LONGEVITY ONE YEAR.

TABLE 4.1
COMPOST SOCK FABRIC MINIMUM SPECIFICATIONS

MATERIAL TYPE	3 mil HDPE	5 mil HDPE	5 mil HDPE	MULTI-FILAMENT POLYPROPYLENE (MFPP)	HEAVY DUTY MULTI-FILAMENT POLYPROPYLENE (HDMFPP)
MATERIAL CHARACTERISTICS	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE	BIO-DEGRADABLE	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE
SOCK DIAMETERS	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"
MESH OPENING	3/8"	3/8"	3/8"	3/8"	1/8"
TENSILE STRENGTH		26 PSI	26 PSI	44 PSI	202 PSI
ULTRAVIOLET STABILITY % ORIG. STRENGTH (ASTM G-155)	23% AT 1000 HR.	23% AT 1000 HR.		100% AT 1000 HR.	100% AT 1000 HR.
MINIMAL FUNCTIONAL LONGEVITY	6 MONTHS	9 MONTHS	6 MONTHS	1 YEAR	2 YEARS
TWO-PLY SYSTEMS					
INNER CONTAINMENT NETTING				HDPE BIAXIAL NET CONTINUOUSLY WOUND FUSION-WELDED JUNCTURES 3/4" x 3/4" MAX. APERTURE SIZE	
OUTER FILTRATION MESH				COMPOSITE POLYPROPYLENE FABRIC (WOVEN LAYER AND NON-WOVEN FLEECE MECHANICALLY FUSED VIA NEEDLE PUNCH) 3/16" MAX. APERTURE SIZE	
SOCK FABRICS COMPOSED OF BURLAP MAY BE USED ON PROJECTS LASTING 6 MONTHS OR LESS.					

TABLE 4.2
COMPOST STANDARDS

ORGANIC MATTER CONTENT	25% - 100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
PH	5.5 - 8.5
MOISTURE CONTENT	30% - 60%
PARTICLE SIZE	30%-50% PASS THRU 3/8" SIEVE
SOLUBLE SALT CONCENTRATION	5.0 eS/m (mmhos/cm) MAXIMUM

5 C402	COMPOST FILTER SOCK

GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
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REVISION RECORD

No	Date	
01	2025-11-11	WPP Updates
02	2025-12-16	ACCD TECHNICAL NPDES RESPONSE
03	----	----
04	----	----
05	----	----
06	----	----
07	----	----
08	----	----

LAFAYETTE 180
NEWBURY DRIVE
CUDDY, PA 15031

PREPARED FOR:
CE - SF, LP
295 MYOMA ROAD
MARS, PA 16046

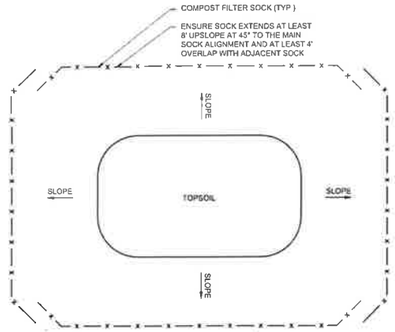
EROSION AND SEDIMENTATION CONTROL DETAILS

Project Number: C-12199-0025
Drawing Scale: N/A
Date Issued: AUG 2025
Index Number: --
Drawn By: MCL/RRR
Checked By: JMG
Project Manager: JMG

C402

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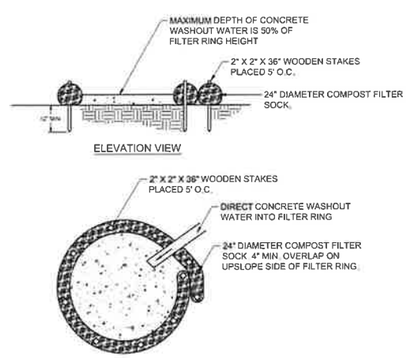
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Save Date: 12/16/2025 7:43 AM
Layout: C402 Model: Layout1 Plotted: 8.5" x 11"



NOTES:

1. TOPSOIL STOCKPILE LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION PER SITE PHASING. ADDITIONAL COORDINATION WITH THE ALLEGHENY COUNTY CONSERVATION DISTRICT MAY BE REQUIRED FOR APPROVAL OF STOCKPILE LOCATIONS
2. THE AREA DOWNSLOPE FROM THE COMPOST FILTER SOCK MAY NOT BE UNDER DEVELOPMENT OR OTHERWISE DISTURBED, UNLESS DOWNSLOPE PERIMETER BMPS ARE PROVIDED.
3. ENSURE DOWNSLOPE COVERAGE ON ALL SIDES OF TOPSOIL STOCKPILE.
4. COMPOST FILTER SOCK SIZE SHALL BE PROVIDED IN ACCORDANCE WITH FIGURE 4.2.

1	TOPSOIL STOCKPILE DETAIL
C403	

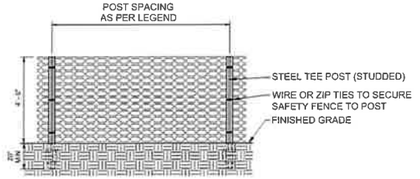


NOTES:

1. INSTALL ON FLAT GRADE FOR OPTIMAL PERFORMANCE.
2. 16" DIAMETER FILTER SOCK MAY BE STACKED ONTO DOUBLE 24" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.
3. A SUITABLE IMPERVIOUS GEOMEMBRANE LINER SHALL BE PLACED AT THE LOCATION PRIOR TO THE INSTALLING THE SOCKS.
4. WASHOUT FACILITIES SHOULD NOT BE PLACED WITHIN 50 FT OF STORM DRAINS, OPEN DITCHES, OR SURFACE WATERS.

2	CONCRETE WASHOUT AREA
C403	

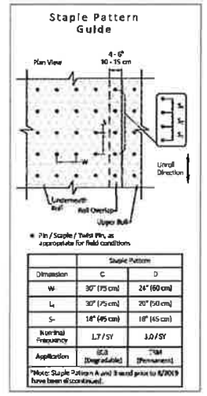
48" SAFETY FENCE, 72" T-POSTS	
SAF12	48" ORANGE FENCE, 12 FEET O.C.
SAF11	48" ORANGE FENCE, 11 FEET O.C.
SAF10	48" ORANGE FENCE, 10 FEET O.C.
SAF9	48" ORANGE FENCE, 9 FEET O.C.
SAF8	48" ORANGE FENCE, 8 FEET O.C.
SAF7	48" ORANGE FENCE, 7 FEET O.C.
SAF6	48" ORANGE FENCE, 6 FEET O.C.



NOTES:

1. ORANGE CONSTRUCTION FENCE SHALL BE PLACED AROUND ALL ENVIRONMENTAL FEATURES TO BE PROTECTED ON THE SITE.
2. SAFETY FENCE SHOULD BE FASTENED SECURELY TO THE T-POSTS.
3. THE FENCING MUST REMAIN IN PLACE DURING ALL PHASES OF CONSTRUCTION. ANY CHANGE OF THE PROTECTIVE FENCING MUST BE APPROVED.

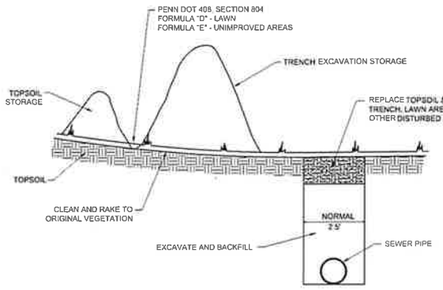
3	ORANGE CONSTRUCTION FENCE
C403	



	Staple Pattern	
Dimension	C	D
W	30" (75 cm)	24" (60 cm)
L_t	30" (75 cm)	20" (50 cm)
S_t	18" (45 cm)	18" (45 cm)
Nominal Frequency	1.7 / SY	1.0 / SY
Application	ECB (Temporary)	TRM (Permanent)

*Note: Staple Pattern A and B used prior to 6/2019 have been discontinued.

4	STAPLE PATTERN FOR EROSION CONTROL BLANKET
C403	



MULCHING OR PROTECTIVE NETTING REQUIRED WHERE SURFACE IS SUBJECT TO IMMEDIATE EROSION.

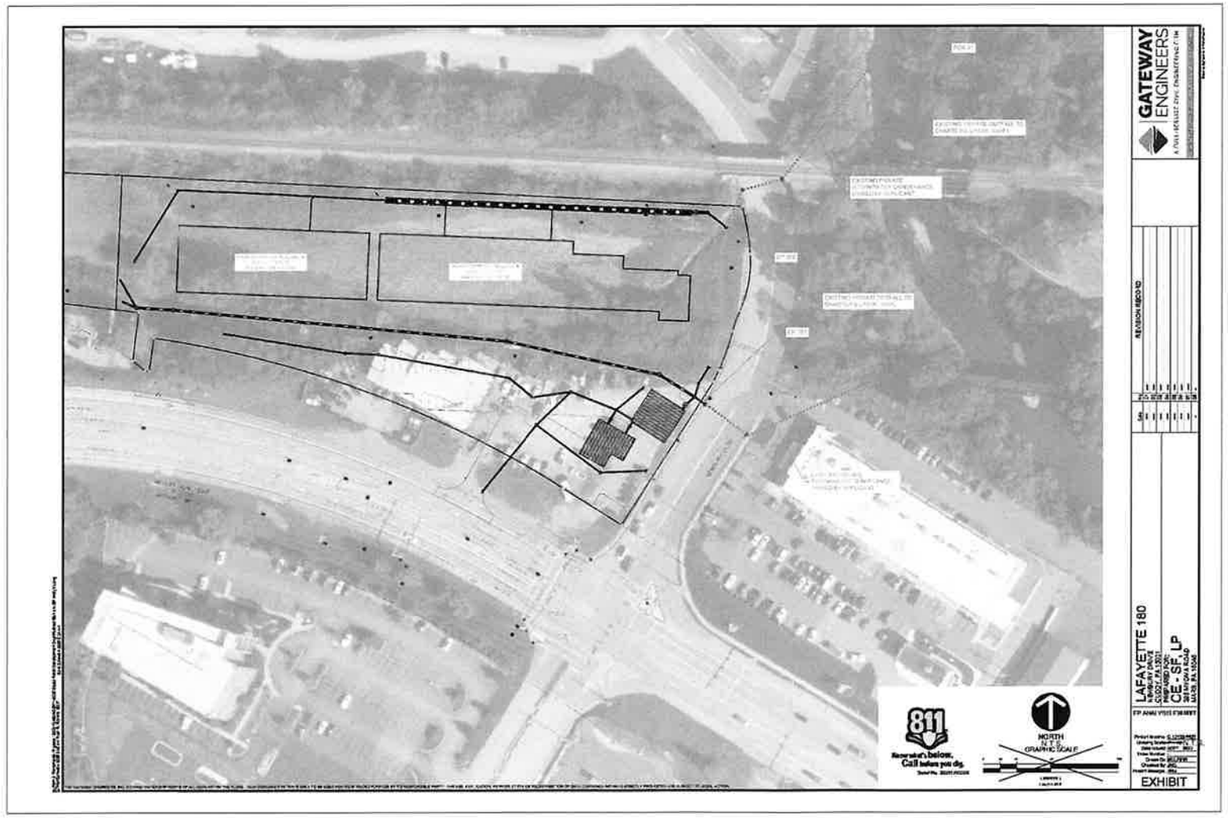
6	EROSION CONTROL FOR SEWER TRENCHES
C403	

SITE SOIL TYPES:

SYMBOL	DESCRIPTION	SLOPE	LIMITATIONS	REMEDIAL ACTIONS
UB	URBAN LAND	GENTLY	• CUTBANKS CAVE • CORROSIVE TO CONCRETE AND STEEL • HAZARD OF EROSION • SEASONAL HIGH WATER TABLE • PERMEABILITY • LANDSLIDES • SLOW PERCOLATION • PIPING • **POOR SOURCES OF TOPSOIL** • FROST ACTION • SHRINK SWELL • POTENTIAL SINKHOLE • SLOPE • SUSCEPTIBILITY TO SLIPS	SOILS SUSCEPTIBLE TO HIGH WATER TABLES AND/OR PIPING AND SEEPING: * PROVIDE PUMPED WATER SEDIMENT REMOVAL FACILITIES * USE CLAY EMBANKMENT CORES * UTILIZE ANTI-SEEP COLLARS OR GRAVEL PACKS SOILS SUSCEPTIBLE TO MODERATE OR HIGH EROSION POTENTIAL: * **LIMIT TIME OF EXPOSURE.** * USE EROSION CONTROL BLANKETS. * SELECTION OF SEED MIXTURES WITH RAPIDLY GERMINATING SPECIES. * SODDING. * USE OF SPECIAL STABILIZATION PRODUCTS (E.G. CELLULAR GRIDS, INTERLOCKING CONCRETE BLOCKS.,) SOILS SUSCEPTIBLE TO SLIPS & LANDSLIDES: * PREVENT SATURATION OF SLOPES. * PROVIDE ANCHORING OR RETAINING SYSTEMS * PROVIDE BENCHING TO CATCH FALLING DEBRIS. * SEE GEOTECHNICAL NOTE BELOW. SOILS SUSCEPTIBLE TO CUTBANKS CAVE: * PREVENT SATURATION OF SLOPES. * PROVIDE ANCHORING OR RETAINING SYSTEMS * PROVIDE BENCHING TO CATCH FALLING DEBRIS * PROVIDE TRENCH BOXES FOR UTILITY INSTALLATION SOILS CORROSIVE TO CONCRETE/STEEL: * MINIMIZE THE AMOUNT OF SOIL DISTURBANCE. * PROVIDE PROTECTIVE COATING TO CONCRETE AND STEEL. * PROVIDE EXTRA CONCRETE AND STEEL THICKNESS SOILS THAT ARE POOR SOURCES OF TOPSOIL: * PERFORM SOIL TESTS TO DETERMINE PROPER APPLICATION OF SOIL AMENDMENTS AND PROPER MOISTURE CONTENT FOR PROPOSED VEGETATIVE COVER. * IMPORT TOPSOIL AS NEEDED

NOTE:
A GEOTECHNICAL ENGINEER WILL REVIEW THE SOIL CAPABILITY OF THE SITE AND MAKE RECOMMENDATIONS TO THE OWNER. SOILS HAVING UNSTABLE COMPOSITION, SLIP AND LANDSLIDE POTENTIAL ARE NOT TO BE PLACED AS FILL MATERIAL AT AREAS HAVING 2:1 SLOPES OR NEAR PROXIMITY TO SUCH SLOPES. LOADING PLANES OF SUCH PLACED FILLS SHALL BEAR ON SUITABLE SOILS KEYED INTO VIRGIN SOILS. REFER TO CUT/FILL DETAILS ON PLANS. ALL CUT SITUATIONS THAT EXPOSE SUCH SOILS TO UNSUPPORTED BEARING BASE REQUIRES THOSE SOILS TO BE EXCAVATED AND REPLACED WITH SUITABLE SOILS THAT DO NOT HAVE THE MENTIONED CHARACTERISTICS.

5	SITE SOIL DATA
C403	



NOTES:

1. DETAIL NOT TO SCALE
2. FOR MORE INFORMATION SEE EROSION POTENTIAL ANALYSIS MEMO INCLUDED IN NPDES SUBMITTAL.

7	EROSION POTENTIAL ANALYSIS EXHIBIT
C403	

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GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL ENGINEER — JAMES M. GEORGE — 083572 — PENNSYLVANIA

REVISION RECORD

No	Date	
01	2025-11-11	WPP Updates
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03	-----	-----
04	-----	-----
05	-----	-----
06	-----	-----
07	-----	-----
08	-----	-----

LAFAYETTE 180
NEWBURY DRIVE
CUDDY, PA 15031
PREPARED FOR:
CE - SF, LP
295 MYOMA ROAD
MARS, PA 16046

EROSION AND SEDIMENTATION CONTROL DETAILS

Project Number: C-12199-0025
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C403

CONSTRUCTION STAGING

- **NOTE FOR ALL DISTURBED AREAS: AS SOON AS SLOPES, CHANNELS, DITCHES, AND OTHER DISTURBED AREAS REACH FINAL GRADE THEY MUST BE STABILIZED**, UPON COMPLETION OR TEMPORARY CESSATION OF EARTH DISTURBANCE ACTIVITY, OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED. NO MORE THAN 15,000 SQUARE FEET OF DISTURBED AREA SHALL REACH FINAL GRADE BEFORE INITIATING SEEDING AND MULCHING OPERATIONS.
- ALL CONSTRUCTION SHALL TAKE PLACE WITHIN THE LIMITS OF DISTURBANCE AS NOTED ON THE DRAWING.
- VEGETATED AREAS MUST ACHIEVE A MINIMUM **UNIFORM 70% PERENNIAL VEGETATIVE COVER OVER THE ENTIRE DISTURBED AREA** PRIOR TO REMOVAL OF ANY E&S BMPS. CONTACT THE ALLEGHENY COUNTY CONSERVATION DISTRICT FOR THEIR APPROVAL TO REMOVE THE PARTICULAR CONTROL MEASURES.
- WHEN CLEANING EXCESS SEDIMENT FROM THE E&S CONTROL FACILITIES, PLACE SEDIMENTS IN GRASS AREAS WHICH DO NOT RECEIVE CONCENTRATED STORM FLOWS AND ARE CONTROLLED BY BMP'S (WITHIN LIMITS OF DISTURBANCE). THEN SEED OVER AREA USING SEEDING SPECIFICATIONS.
- A LOG SHOWING DATES THAT E&S BMPS WERE INSPECTED, AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION.
- EXCESS TOPSOIL THAT WILL NOT BE RE-SPREAD ON SITE SHALL BE DISPOSED OF AT A PA DEP APPROVED WASTE FACILITY.
- ALL DISTURBED AREAS WHICH ARE AT FINAL GRADE AND WILL NOT BE FURTHER DISTURBED SHALL BE SEEDED PER THE PERMANENT SEEDING SPECIFICATIONS.
- ALL OTHER DISTURBED AREAS THAT WILL NOT RECEIVE ADDITIONAL WORK FOR A PERIOD OF MORE THAN 4 DAYS SHALL BE SEEDED PER THE TEMPORARY SEEDING SPECIFICATIONS.
- AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3-5 INCHES (6-12 INCHES ON COMPACTED SOILS) PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUTSLOPES SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL. DISTURBED AREAS SHALL BE ANCHORED IN PLACE WITH HYDROSEED AND TACKIFIER. SEED UNTIL VEGETATIVE COVER IS A UNIFORM COVERAGE OR DENSITY OF SEVENTY PERCENT (70%) ACROSS THE ENTIRE DISTURBED AREA.
- ANY SEDIMENT THAT ENTERS INLETS DURING CONSTRUCTION IS TO BE REMOVED WITHIN 24 HOURS.

CONSTRUCTION SEQUENCE

THE LAFAYETTE 180 PROJECT WILL CONSIST OF A NEW PLANNED SHOPPING CENTER, PARKING LOTS, ACCESS DRIVES, UTILITY INSTALLATION, LANDSCAPING, AND E&S/PCSM BMPs. ALL E&S AND PCSM FACILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROVED E&S/ PCSM PLAN AND THE DEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL DATED MARCH, 2012 OR LATEST VERSION.

A GENERALIZED CONSTRUCTION SEQUENCE IS PROVIDED BELOW. THE CONSTRUCTION SEQUENCE IS INTENDED TO PROVIDE A GENERAL COURSE OF ACTION IN ORDER TO CONFORM TO THE APPLICABLE REGULATORY AGENCY REQUIREMENTS FOR TEMPORARY AND PERMANENT SOIL EROSION AND SED/MENT POLLUTION CONTROL. ALL NECESSARY PARTS FOR PROPER AND COMPLETE EXECUTION OF WORK PERTAINING TO THE FOLLOWING, WHETHER SPECIFICALLY MENTIONED OR NOT, ARE TO BE PERFORMED BY THIS CONTRACTOR. IT IS NOT INTENDED THAT THE DRAWINGS AND THIS REPORT SHOW EVERY DETAILED PIECE OF MATERIAL OR EQUIPMENT. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS LISTED IN THIS SECTION. THE CONTRACTOR MAY BE REQUIRED TO ALTER CONTROLS BASED ON EFFECTIVENESS OF CONTROLS OR DIFFERING CONDITIONS ENCOUNTERED.

1. **CONTRACTOR SHALL CONTACT CE-SF, LP, SOUTH FAYETTE TOWNSHIP ENGINEER, PROFESSIONAL ENGINEER, AND THE ALLEGHENY COUNTY CONSERVATION DISTRICT TO SETUP A PRE-CONSTRUCTION MEETING AT THE PROJECT SITE AT LEAST SEVEN (7) DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.**
2. STAKE OUT LIMIT OF DISTURBANCE FOR GRADING OPERATIONS FOR THE ENTIRE SITE.
3. ORANGE CONSTRUCTION FENCE SHALL BE PLACED AROUND ANY AND ALL ENVIRONMENTAL FEATURES TO BE PROTECTED ON THE SITE.
4. INSTALL THE ROCK CONSTRUCTION ENTRANCE OFF NEWBURY DRIVE AT THE LOCATION SHOWN ON THE PLAN DRAWINGS AND IN ACCORDANCE WITH THE CONSTRUCTION DETAIL.
5. CONCRETE WASHOUT CAN BE INSTALLED AS SHOWN ON PLAN. WASHOUT AREA MUST BE INSTALLED PRIOR TO POURING ANY CONCRETE AT THE SITE.
6. CLEAR AND GRUB AND INSTALL ALL COMPOST FILTER SOCKS IN THE LOCATIONS SHOWN ON THE PLAN AND IN ACCORDANCE WITH THE DETAILS PROVIDED AND CLEAR AND GRUB ONLY THE AREA NECESSARY TO INSTALL PERIMETER E&S CONTROLS. INSTALL INLET PROTECTION AT EXISTING INLETS ON THE PROPERTY.
7. ONCE ALL CONTROLS ARE INSTALLED AS OUTLINED ABOVE, DEMOLITION OF THE EXISTING APPURTENANCES MAY COMMENCE. ALL CONSTRUCTION DEBRIS SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF AT A DEP APPROVED WASTE SITE IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS. IF A BMP FAILS DURING A RUNOFF EVENT, THE CONTRACTOR SHALL REPLACE/FIX THE DAMAGED BMP WITHIN 24 HOURS FOLLOWING THE FAILURE OCCURRENCE.
8. BEGIN CUT AND FILL OPERATIONS FOR THE SITE. DURING GRADING OPERATIONS, THE FILL SLOPES SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE AND PREVENT PONDED WATER AT THE END OF EACH DAY. AS SOON A STRIP PROPOSED FILL SLOPES ARE BROUGHT TO FINAL GRADE, IMMEDIATELY PLACE TOPSOIL, SEED AND MULCH IN REGULAR 15' VERTICAL INCREMENTS TO PROMOTE EARLY STABILIZATION. NOTE: INSTALL EROSION CONTROL BLANKETING ON THE SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1).
9. BEGIN CONSTRUCTION OF PROPOSED STORM STRUCTURES, STORM SEWERS, AND UNDERGROUND TANKS 1 & 2. AS EACH NEW INLET IS INSTALLED, IMMEDIATELY INSTALL INLET PROTECTION IN THE NEW STRUCTURE, AS INDICATED ON THE PSCM PLAN (C700) AND SHOWN ON THE CONSTRUCTION DETAILS (C702-C704). REFER TO UTILITY LINE INSTALLATION REQUIREMENTS BELOW FOR STORM SEWER INSTALLATION. **A LICENSED PROFESSIONAL ENGINEER SHALL BE CONTACTED AND PRESENT ON SITE TO OVERSEE THE INSTALLATION OF THE UNDERGROUND TANKS, WHICH IS A CRITICAL STAGE OF CONSTRUCTION. NOTICE MUST BE GIVEN AT LEAST 3 DAYS PRIOR TO CONSTRUCTION OF THE TRENCH. REFER TO THE SEQUENCE BELOW FOR UNDERGROUND TANK INSTALLATION:**
   - 9.1. PROTECT TRENCH AREA FROM COMPACTION PRIOR TO INSTALLATION WITH ORANGE CONSTRUCTION FENCE.
   - 9.2. AFTER INSTALLATION, PREVENT SEDIMENT LADEN WATER FROM ENTERING INLETS AND PIPES BY INSTALLING INLET PROTECTION.
   - 9.3. INSTALL AND MAINTAIN PROPER EROSION AND SEDIMENT CONTROL MEASURES, SUCH AS COMPOST FILTER SOCK, DURING CONSTRUCTION TO PREVENT SEDIMENT LADEN WATER FROM ENTERING THE TRENCH AREAS.
   - 9.4. EXCAVATE TRENCH BOTTOM TO A UNIFORM, LEVEL UN-COMPACTED SUBGRADE FREE FROM ROCKS AND DEBRIS. DO NOT COMPACT SUBGRADE.
   - 9.5. PLACE NONWOVEN GEOTEXTILE ALONG BOTTOM AND SIDES OF TRENCH. NONWOVEN GEOTEXTILE ROLLS SHOULD OVERLAP BY A MINIMUM OF 16 INCHES WITHIN THE TRENCH. FOLD BACK AND SECURE EXCESS GEOTEXTILE DURING STONE PLACEMENT.
   - 9.6. INSTALL UPSTREAM AND DOWNSTREAM CONTROL STRUCTURES, CLEANOUT, ETC.
   - 9.7. PLACE UNIFORMLY GRADED, CLEAN-WASHED AGGREGATE IN 8-INCH LIFTS, LIGHTLY COMPACTING BETWEEN LIFTS.
   - 9.8. INSTALL STORMBRIXX MODULES AS INDICATED ON PLANS. BACKFILL WITH UNIFORMLY GRADED, CLEAN-WASHED AGGREGATE IN 8-INCH LIFTS, LIGHTLY COMPACTING BETWEEN LIFTS.
   - 9.9. FOLD AND SECURE NONWOVEN GEOTEXTILE OVER TRENCH, WITH MINIMUM OVERLAP OF 16-INCHES.
   - 9.10. PLACE 6-INCH LIFT OF APPROVED BACKFILL MATERIAL OVER TRENCH UNTIL SUBGRADE OF THE PAVING AREA IS MET, AS INDICATED ON PLANS.
   - 9.11. DO NOT REMOVE INLET PROTECTION OR OTHER EROSION AND SEDIMENT CONTROL MEASURES UNTIL SITE IS FULLY STABILIZED.
   - 9.12. ANY SEDIMENT THAT ENTERS INLETS DURING CONSTRUCTION IS TO BE REMOVED WITHIN 24 HOURS.

BEGIN CONSTRUCTION OF PROPOSED STORM STRUCTURES, STORM SEWERS, AND UNDERGROUND TANK 3. AS EACH NEW INLET IS INSTALLED, IMMEDIATELY INSTALL INLET PROTECTION IN THE NEW STRUCTURE, AS INDICATED ON THE PSCM PLAN (C700) AND SHOWN ON THE CONSTRUCTION DETAILS (C702-C704). REFER TO UTILITY LINE INSTALLATION REQUIREMENTS BELOW FOR STORM SEWER INSTALLATION. **A LICENSED PROFESSIONAL ENGINEER SHALL BE CONTACTED AND PRESENT ON SITE TO OVERSEE THE INSTALLATION OF THE UNDERGROUND TANKS, WHICH IS A CRITICAL STAGE OF CONSTRUCTION. THE PERMITTEE MUST PROVIDE THE COMPLETED SCM CONSTRUCTION CERTIFICATION FORM (3800-FM-BCW0277J) WITHIN 30 DAYS OF THE MRGDETENTION FACILITY BEING CONSTRUCTED. THE FORM MUST BE SIGNED BY THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES (REFER TO PART A, SECTION III, MONITORING REPORTING AND RECORDKEEPING, SUBSECTION C, IN THE GENERAL PERMIT CONDITIONS FOR ADDITIONAL INFORMATION). NOTICE MUST BE GIVEN AT LEAST 3 DAYS PRIOR TO CONSTRUCTION OF THE TRENCH. REFER TO THE SEQUENCE BELOW FOR UNDERGROUND TANK INSTALLATION:**

   - 9.1. PROTECT TRENCH AREA FROM COMPACTION PRIOR TO INSTALLATION WITH ORANGE CONSTRUCTION FENCE.
   - 9.2. AFTER INSTALLATION, PREVENT SEDIMENT LADEN WATER FROM ENTERING INLETS AND PIPES BY INSTALLING INLET PROTECTION.
   - 9.3. INSTALL AND MAINTAIN PROPER EROSION AND SEDIMENT CONTROL MEASURES, SUCH AS COMPOST FILTER SOCK, DURING CONSTRUCTION TO PREVENT SEDIMENT LADEN WATER FROM ENTERING THE TRENCH AREAS.
   - 9.4. EXCAVATE TRENCH BOTTOM TO A UNIFORM, LEVEL UN-COMPACTED SUBGRADE FREE FROM ROCKS AND DEBRIS. DO NOT COMPACT SUBGRADE.
   - 9.5. PLACE NONWOVEN GEOTEXTILE ALONG BOTTOM AND SIDES OF TRENCH. NONWOVEN GEOTEXTILE ROLLS SHOULD OVERLAP BY A MINIMUM OF 16 INCHES WITHIN THE TRENCH. FOLD BACK AND SECURE EXCESS GEOTEXTILE DURING STONE PLACEMENT.
   - 9.6. INSTALL UPSTREAM AND DOWNSTREAM CONTROL STRUCTURES, CLEANOUT, ETC.
   - 9.7. PLACE UNIFORMLY GRADED, CLEAN-WASHED AGGREGATE IN 8-INCH LIFTS, LIGHTLY COMPACTING BETWEEN LIFTS.
   - 9.8. INSTALL CONTINUOUS PERFORATED PIPE AS INDICATED ON PLANS. BACKFILL WITH UNIFORMLY GRADED, CLEAN-WASHED AGGREGATE IN 8-INCH LIFTS, LIGHTLY COMPACTING BETWEEN LIFTS.
   - 9.9. FOLD AND SECURE NONWOVEN GEOTEXTILE OVER TRENCH, WITH MINIMUM OVERLAP OF 16-INCHES.
   - 9.10. PLACE 6-INCH LIFT OF APPROVED BACKFILL MATERIAL OVER TRENCH UNTIL SUBGRADE OF THE PAVING AREA IS MET, AS INDICATED ON PLANS.
   - 9.11. DO NOT REMOVE INLET PROTECTION OR OTHER EROSION AND SEDIMENT CONTROL MEASURES UNTIL SITE IS FULLY STABILIZED.
   - 9.12. ANY SEDIMENT THAT ENTERS INLETS DURING CONSTRUCTION IS TO BE REMOVED WITHIN 24 HOURS.

10. ONCE CONCRETE WASHOUT AREA HAS BEEN INSTALLED, BEGIN CONSTRUCTION OF THE PROPOSED PLANNED SHOPPING CENTER.
11. INSTALL SITE SERVICE UTILITIES (SEWER, GAS, WATER, AND ELECTRIC) AS SHOWN ON THE PLAN. REFER TO THE UTILITY LINE INSTALLATION REQUIREMENTS BELOW.
12. COMPLETE REMAINDER OF FINE GRADING OPERATIONS IN PREPARATION OF SITE PAVING. SITE PAVING WILL INCLUDE ALL PARKING AREAS AND ROADWAYS AROUND THE PROPOSED PLANNED SHOPPING CENTER. BEGIN PAVING OPERATIONS, INSTALLATION OF SITE FURNISHINGS, CONSTRUCTION OF SIDEWALKS, AND LANDSCAPING.A NO INSTALL IN ACCORDANCE WITH THE DETAILS AND SPECIFICATIONS.
13. REMOVE THE ROCK CONSTRUCTION ENTRANCES AS PAVING IS COMPLETED.
14. SPREAD TOPSOIL IN NON-PAVED AREAS FOR SEEDING. SEED AND MULCH ALL DISTURBED AREAS. ALL DISTURBED AREAS MUST BE TEMPORARILY STABILIZED IF REMAINING IDLE, OR ANTICIPATED TO REMAIN IDLE. NO MORE THAN 15,000 SQUARE FEET OF DISTURBED AREA MAY REACH FINAL GRADE BEFORE INITIATING SEEDING AND MULCHING OPERATIONS.
15. RESEED ALL DISTURBED AREAS IF 70% PERENNIAL VEGETATIVE COVER IS NOT ESTABLISHED AFTER 30 DAYS.
16. REMOVE ALL COMPOST FILTER SOCK AND INLET PROTECTION FOLLOWING COMPLETION OF THE ABOVE STEPS AND AFTER THE SITE HAS ACHIEVED A UNIFORM 70% PERENNIAL VEGETATIVE COVER ON UNPAVED AREAS.
17. **UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL COMPLETE A NOTICE OF TERMINATION (FORM 3800-PM-BCW0219B) AND PROVIDE ALL REQUIRED SUPPORTING DOCUMENTS.**

UTILITY LINE INSTALLATION REQUIREMENTS

1. CONTRACTOR IS REQUIRED TO NOTIFY AN ENVIRONMENTAL PROFESSION (EP) PRIOR TO ANY EXCAVATION AND HAVE THEM ON-SITE TO OVERSEE ALL EXCAVATION AND HANDLING OF MATERIAL.
2. WORK CREWS AND EQUIPMENT FOR TRENCHING, PLACEMENT OF PIPE, PLUG INSTALLATION AND BACKFILLING WILL BE SELF-CONTAINED AND SEPARATE FROM CLEARING AND GRUBBING AND SITE RESTORATION AND STABILIZATION OPERATIONS.
3. DAILY TRENCH EXCAVATION SHALL BE LIMITED TO THE LENGTH OF PIPE PLACEMENT, PLUG INSTALLATION AND BACKFILLING THAT CAN BE COMPLETED THE SAME DAY.
4. WATER WHICH ACCUMULATES IN THE OPEN TRENCH SHALL BE MANAGED UNDER THE SUPERVISION OF THE ENVIRONMENTAL PROFESSIONAL ACCORDING TO THE GUIDELINES SPECIFIED BY THE SOIL MANAGEMENT/MATERIAL MANAGEMENT PLAN REFERENCED IN DETAIL 2 C404.
5. ON THE DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA SHALL BE GRADED TO FINAL CONTOURS AND APPROPRIATE TEMPORARY EROSION AND SEDIMENT POLLUTION CONTROL MEASURES/FACILITIES WILL BE INSTALLED. SEEDING AND MULCHING OF ALL DISTURBED AREAS WILL BE DONE AT THE END OF EACH WEEK.

1	CONSTRUCTION SEQUENCE
C404	

MANAGEMENT OF SOIL

BECAUSE OF THE CONSTITUENTS OF CONCERN (COCS) DETECTED IN SOIL SAMPLES COLLECTED AT THE SITE, EXCAVATED SOIL THAT IS DETERMINED TO BE POTENTIALLY IMPACTED, WHETHER DISPOSED OFF-SITE OR USED AS CUT AND FILL MATERIAL SHOULD BE HANDLED IN ACCORDANCE WITH THE FOLLOWING PROTOCOL. THE EXISTING GRADING PLAN DOES NOT CALL FOR LARGE SCALE CUTTING AND FILLING ACTIVITIES, IN FACT, THE CONSTRUCTION PLAN CALLS FOR THE IMPORTATION OF LARGE AMOUNTS OF CLEAN FILL MATERIAL TO BE IMPORTED TO THE SITE TO RAISE THE GRADE OF THE ENTIRE SITE. HOWEVER, IF ANY SOIL IS EXCAVATED AT THE SITE, SPECIFIC STEPS MUST BE CONDUCTED TO ENSURE THAT ANY SOIL REMOVED FROM THE SITE IS MANAGED PROPERLY. THE FOLLOWING SECTIONS DETAIL

THE REQUIRED ACTIONS THAT MUST BE TAKEN IF SOILS ARE EXCAVATED FOR THE INSTALLATION OF STORMWATER INFRASTRUCTURE, UTILITIES, FOOTER CONSTRUCTION OR ANY OTHER REASON OR IF CONTAMINATED SOIL IS UN-EXPECTANTLY ENCOUNTERED ON ANY PART OF THE SITE DURING CONSTRUCTION ACTIVITIES.

ENVIRONMENTAL OVERSIGHT

IF EXCAVATION WORK IS PERFORMED, AN ENVIRONMENTAL PROFESSIONAL (EP) SHOULD BE NOTIFIED PRIOR TO THE INITIATION OF EXCAVATION ACTIVITIES. THE ROLE OF THE EP IS TO ASSESS THE PROPOSED EXCAVATION TO ENSURE THAT IF IMPACTED SOIL IS ENCOUNTERED, IT IS HANDLED PROPERLY. THE DETERMINATION OF IMPACTED SOIL WILL BE BASED PRIMARILY ON THE DEPTH AND LOCATION OF THE EXCAVATION TO DETERMINE IF THE EXCAVATION WILL BE PERFORMED SOLELY IN THE RECENTLY PLACED SHALLOW CLEAN FILL MATERIAL OR IF IT WILL EXTEND OOWN INTO THE EXISTING SOIL. IF THE EXCAVATION IS DETERMINED TO BE ONLY IN THE CLEAN FILL MATERIAL, NO FURTHER OVERSIGHT WILL BE REQUIRED. IF THE ENVIRONMENTAL PROFESSIONAL DETERMINES THAT THE EXCAVATION IS DEEP ENOUGH, AND IN THE AREA OF THE OBSERVED ARSENIC EXCEEDANCE (AREA OF CONCERN #1), ADDITIONAL OVERSIGHT WILL BE REQUIRED, AND THE EP MUST BE PRESENT AT THE TIME OF EXCAVATION. THE FINAL DETERMINATION OF POTENTIALLY IMPACTED MATERIAL WILL BE BASED UPON VISUAL AND OLFACTORY CHARACTERISTICS AS WELL AS HEADSPACE READINGS OBTAINED USING A PHOTOIONIZATION DETECTOR (PID).

HANDLING OF CONTAMINATED SOIL

ONCE POTENTIALLY CONTAMINATED SOIL HAS BEEN REMOVED FROM THE GROUND, IT MUST BE HANDLED AS RESIDUAL WASTE. THIS WASTE MATERIAL MUST BE HANDLED IN A WAY THAT MINIMIZES THE POTENTIAL FOR CONTAMINATION MIGRATION. CONTAMINATED SOIL THAT HAS BEEN REMOVED FROM THE GROUND MUST NOT COME IN CONTACT WITH OTHER SOILS ON THE SITE. THEREFORE, THIS SOIL MUST BE STOCKPILED ON PLASTIC. THE PLASTIC MUST BE A MINIMUM OF 6-MIL IN THICKNESS AND IT MUST BE PLACED IN AN AREA THAT IS NOT PRONE TO SIGNIFICANT AMOUNTS OF SURFACE WATER RUNOFF.

SOIL STOCKPILE MANAGEMENT

CONTAMINATED SOILS MUST BE STORED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF 25 PA CODE §299.101-299-154 OF THE WASTE MANAGEMENT REGULATIONS. IN ADDITION TO THE GENERAL REQUIREMENTS SET FORTH IN §299.131, THE CONTAMINATED SOIL PILES WILL BE COMPLETELY AND SECURELY COVERED, FOR THE DURATION OF THE STORAGE PERIOD WITH AN IMPERMEABLE MATERIAL OF SUFFICIENT STRENGTH, THICKNESS, ANCHORING OR WEIGHTING TO PREVENT TEARING OR LIFTING OF THE COVER, INFILTRATION OF PRECIPITATION OR SURFACE WATER RUN-OFF, AND EXPOSURE OF THE SOIL TO THE ATMOSPHERE. STEPS MUST ALSO BE TAKEN TO DETER PUBLIC ACCESS TO THE STORAGE PILES. THIS MAY INCLUDE FENCING, SIMILAR BARRIERS, SECURITY PATROLS OR WARNING SIGNS.

DISPOSAL OF SOIL

PRIOR TO DISPOSAL OF POTENTIALLY CONTAMINATED SOIL, AN EVALUATION MUST BE CONDUCTED TO DETERMINE WHETHER THE SOIL CAN BE USED AS CLEAN FILL OR IF IT MUST BE MANAGED AS REGULATED FILL AS PER THE PADEP MANAGEMENT OF FILL POLICY, DATED JANUARY 16, 2021 (DOCUMENT # 258-2182-773).

IN THE MANAGEMENT OF FILL POLICY DOCUMENT "CLEAN FILL" IS DEFINED AS "UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE, INERT SOLID MATERIAL USED TO LEVEL AND AREA OR BRING AN AREA TO GRADE." TO BE CONSIDERED "CLEAN FILL" THE MATERIAL MUST NOT EXCEED THE NUMERIC VALUES SPECIFIED IN TABLE 3 [MEDIUM SPECIFIC CONCENTRATIONS (MSCS) FOR ORGANIC REGULATED SUBSTANCES IN SOIL] AND TABLE 4 MSCS FOR INORGANIC REGULATED SUBSTANCES IN SOIL OF APPENDIX A IN 25 PA. CODE CHAPTER 250 (RELATED TO ADMINISTRATION OF LAND RECYCLING PROGRAM). THE APPLICABLE NUMERIC CLEAN FILL CONCENTRATION LIMIT IS DETERMINED BY COMPARISON OF THE DETECTED CONTAMINANT CONCENTRATIONS WITH THE LOWER OF THE GENERIC SOIL TO GROUNDWATER VALUE MSC OR THE DIRECT CONTACT RESIDENTIAL MSC.

PURSUANT TO 25 PA. CODE 271.101(B)(3) AND 287.101(B)(6), USE OF CLEAN FILL DOES NOT REQUIRE A PERMIT UNDER THE SWMA OR THE MUNICIPAL OR RESIDUAL WASTE REGULATIONS. CLEAN FILL MAY BE USED IN ACCORDANCE WITH ALL APPLICABLE REQUIREMENTS GOVERNING THE PLACEMENT OR USE OF CLEAN FILL, INCLUDING 25 PA. CODE CHAPTER 102 (RELATING TO EROSION AND SEDIMENT CONTROL) 25 PA. CODE CHAPTER 105 (RELATING TO DAM SAFETY AND WATERWAY MANAGEMENT). PERSONS USING CLEAN FILL MUST ALSO COMPLY WITH THE FUGITIVE EMISSIONS REGULATIONS UNDER 25 PA. CODE, CHAPTER 123 (RELATING TO STANDARDS FOR CONTAMINANTS) ISSUED UNDER THE AIR POLLUTION CONTROL ACT. THE USE OF CLEAN FILL MAY BE REGULATED UNDER OTHER ENVIRONMENTAL LAWS AND REGULATIONS.

THEREFORE, THE CLEAN FILL ELIGIBILITY DETERMINATION MAY INCLUDE, AMONG OTHER THINGS, ANALYZING SAMPLES FOR THE PARAMETERS LISTED IN TABLE 1 OF THE GUIDANCE TO DETERMINE IF THE FILL CONTAINS CONTAMINANT CONCENTRATIONS WHICH EXCEED THE [CFCS, WHICH THE GUIDANCE DEFINES AS WITH THE EXCEPTION OF PCBS AND CHLORIDE, THE CONCENTRATIONS OF REGULATED SUBSTANCES] DO NOT EXCEED THE NUMERIC VALUES SPECIFIED IN TABLE 3 [MEDIUM-SPECIFIC CONCENTRATIONS (MSCS) FOR ORGANIC REGULATED SUBSTANCES IN SOIL] AND TABLE 4 [MEDIUM-SPECIFIC CONCENTRATIONS (MSCS) FOR INORGANIC REGULATED SUBSTANCES IN SOIL] OF APPENDIX A IN 25 PA. CODE 258-2182-773 / JANUARY 16, 2021 / PAGE III CHAPTER 250 (RELATING TO ADMINISTRATION OF LAND RECYCLING PROGRAM).

IF THE SOIL DOES NOT MEET THE DEFINITION OF CLEAN FILL OR IF THE CONCENTRATIONS EXCEED THE CFCLS, THE MATERIAL MUST BE MANAGED IN ACCORDANCE WITH THE DEPARTMENT'S MUNICIPAL OR RESIDUAL WASTE REGULATIONS, 25 PA. CODE § 271.2 AND § 287.2.

REGULATED FILL IS DEFINED AS FILL MATERIAL THAT HAS BEEN AFFECTED BY A RELEASE OF A REGULATED SUBSTANCE AND IS NOT "UNCONTAMINATED MATERIAL" AS DEFINED IN THE MANAGEMENT OF FILL POLICY DOCUMENT. FILL THAT IS DETERMINED TO BE "REGULATED FILL" CAN BE USED BY PERSONS WHO HAVE APPLIED FOR AND OBTAINED COVERAGE UNDER THE PADEP'S GENERAL PERMIT NO. WMGR096, BENEFICIAL USE OF REGULATED FILL. OTHERWISE, THE MATERIAL WILL NEED TO BE DISPOSED OF IN A PADEP APPROVED LANDFILL, FOLLOWING THE RESPECTIVE LANDFILL PERMITTING REQUIREMENTS. IN ADDITION, THE WASTE TRANSPORTATION SAFETY ACT (ACT 90 OF 2002, CHAPTER REQUIRES ALL WASTE TRANSPORTATION VEHICLES (TRUCKS AND TRUCK TRACTORS WITH A REGISTERED GROSS VEHICLE WEIGHT GREATER THAN 17,000 LBS., AND TRAILERS WITH A REGISTERED GROSS VEHICLE WEIGHT GREATER THAN 10,000 LBS.) TRANSPORTING MUNICIPAL OR RESIDUAL WASTE TO WASTE PROCESSING OR DISPOSAL FACILITIES IN PENNSYLVANIA TO HAVE A VALID WASTE TRANSPORTER AUTHORIZATION. THEREFORE, ACT 90 CERTIFIED TRUCKS WOULD BE REQUIRED TO TRANSPORT THE REGULATED FILL MATERIAL.

MANAGEMENT OF CONTAMINATED GROUNDWATER

BECAUSE OF THE AFOREMENTIONED CONSTITUENTS OF CONCERN (COCS) DETECTED IN GROUNDWATER SAMPLES COLLECTED AT THE SITE, ALL GROUNDWATER BROUGHT TO THE SURFACE DURING DEWATERING ACTIVITIES SHOULD BE HANDLED IN ACCORDANCE WITH THE FOLLOWING PROTOCOL. THE EXISTING GRADING PLAN DOES NOT CALL FOR LARGE SCALE CUTTING AND FILLING ACTIVITIES, IN FACT, THE CONSTRUCTION PLAN CALLS FOR THE IMPORTATION OF LARGE AMOUNTS OF CLEAN FILL MATERIAL TO BE IMPORTED TO THE SITE TO RAISE THE GRADE OF THE ENTIRE SITE. THEREFORE, IT IS UNLIKELY THAT GROUNDWATER WILL BE ENCOUNTERED. HOWEVER, IF ANY GROUNDWATER IS BROUGHT TO THE SURFACE, SPECIFIC STEPS MUST BE CONDUCTED TO ENSURE THAT ANY GROUNDWATER REMOVED IS MANAGED PROPERLY. THE FOLLOWING SECTIONS DETAIL THE REQUIRED ACTIONS THAT MUST BE TAKEN IF GROUNDWATER IS BROUGHT TO THE SURFACE FOR THE INSTALLATION OF STORMWATER MANAGEMENT INFRASTRUCTURE, UTILITIES, FOOTER CONSTRUCTION OR ANY OTHER REASON OR IF CONTAMINATED GROUNDWATER IS UN-EXPECTANTLY ENCOUNTERED ON ANY PART OF THE PROPERTY DURING CONSTRUCTION ACTIVITIES.

ENVIRONMENTAL OVERSIGHT

IF DEWATERING WORK IS PERFORMED, THE ENVIRONMENTAL PROFESSIONAL (EP) SHOULD BE NOTIFIED PRIOR TO THE INITIATION OF DEWATERING ACTIVITIES. THE ROLE OF THE EP IS TO ASSESS THE GROUNDWATER TO DETERMINE WHETHER THE GROUNDWATER IS IMPACTED AND TO ENSURE THAT IF IMPACTED GROUNDWATER IS ENCOUNTERED, IT IS HANDLED PROPERLY. THE DETERMINATION OF IMPACTED GROUNDWATER WILL BE BASED UPON VISUAL, I.E., IDENTIFICATION OF A SHEEN, AND OLFACTORY OBSERVATIONS. IN ADDITION, A GRAB SAMPLE OF THE COLLECTED GROUNDWATER SHALL BE COLLECTED FOR WASTE CHARACTERIZATION PURPOSES.

HANDLING OF CONTAMINATED GROUNDWATER

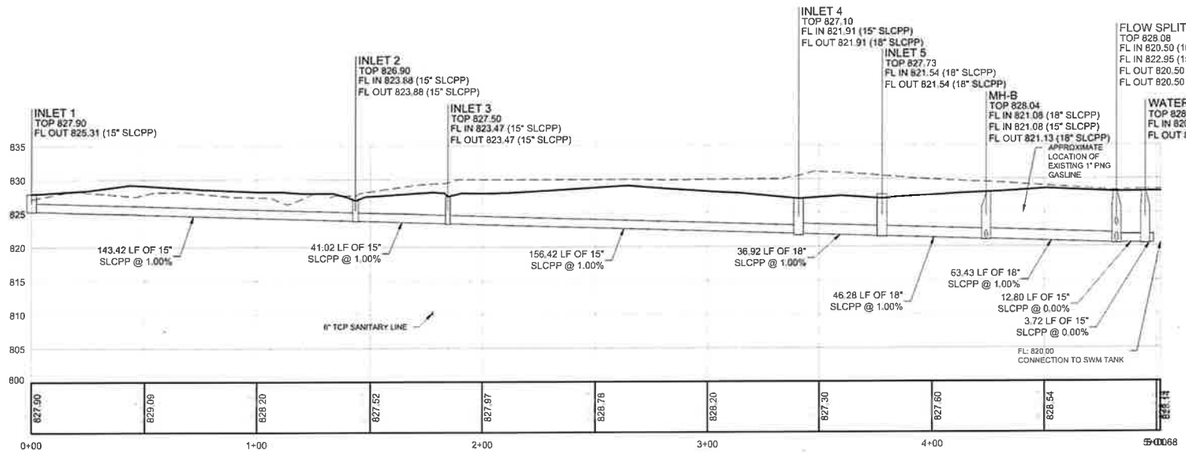
ONCE CONTAMINATED GROUNDWATER HAS BEEN REMOVED FROM THE GROUND, IT MUST BE HANDLED PROPERLY. THIS WASTE MATERIAL MUST BE HANDLED IN A WAY THAT MINIMIZES THE POTENTIAL FOR CONTAMINATION MIGRATION. CONTAMINATED GROUNDWATER THAT HAS BEEN REMOVED FROM THE GROUND MUST NOT COME IN CONTACT WITH SITE SOILS, GROUNDWATER OR SURFACE WATER ON THE SITE. THEREFORE, THE COLLECTED GROUNDWATER MUST BE STORED IN A WATER-TIGHT CONTAINER. WHILE CONTAINING CONTAMINATED GROUNDWATER, THE COLLECTION TANK SHOULD BE INSPECTED DAILY FOR EVIDENCE OF LEAKS. THE CONTENTS OF THE COLLECTION TANK MUST BE PROPERLY PROFILED BEFORE EMPTYING THE TANK INTO A TANKER TRUCK FOR OFF-SITE DISPOSAL OR RECYCLING AT A LICENSED FACILITY.

AS DISCUSSED ABOVE, THE WASTE TRANSPORTATION SAFETY ACT (ACT 90 OF 2002, CHAPTER REQUIRES ALL WASTE TRANSPORTATION VEHICLES (TRUCKS AND TRUCK TRACTORS WITH A REGISTERED GROSS VEHICLE WEIGHT GREATER THAN 17,000 LBS., AND TRAILERS WITH A REGISTERED GROSS VEHICLE WEIGHT GREATER THAN 10,000 LBS.) TRANSPORTING MUNICIPAL OR RESIDUAL WASTE TO WASTE PROCESSING OR DISPOSAL FACILITIES IN PENNSYLVANIA TO HAVE A VALID WASTE TRANSPORTER AUTHORIZATION. THEREFORE, ACT 90 CERTIFIED TRUCKS WOULD BE REQUIRED TO TRANSPORT THE IMPACTED GROUNDWATER AS WELL. IN ADDITION, THE WATER WOULD NEED TO BE DISPOSED OF AT A PERMITTED DISPOSAL FACILITY FOLLOWING ALL APPLICABLE PERMIT REQUIRED CHARACTERIZATION/APPROVAL REQUIREMENTS.

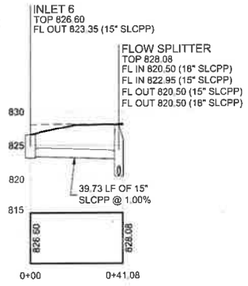
HEALTH & SAFETY PLAN

BECAUSE THERE WAS NOT A SINGLE DETECTION OF ANY COMPOUND IN ANY OF THE 36 SOIL SAMPLES DETECTED ABOVE THE NON-RESIDENTIAL DIRECT CONTACT MSCS, THE RISK OF DERMAL CONTACT OR INCIDENTAL INGESTION IS CONSIDERED EXTREMELY MINIMAL. THEREFORE, A HEALTH & SAFETY PLAN IS NOT REQUIRED FOR THE RISK OF DERMAL CONTACT AND INCIDENTAL INGESTION OF CONTAMINATED SOIL FOR CONSTRUCTION WORKERS.

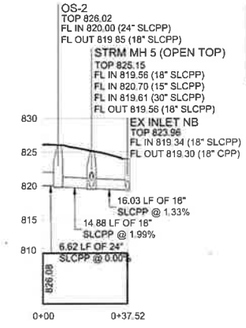
*IN ADDITION, THE ONLY EXCEEDANCE OF GROUNDWATER MSC WAS THE DETECTION OF MANGANESE IN TWO OF THE GROUNDWATER SAMPLES COLLECTED DURING THE 2021 PHASE II ESA. THE RESPECTIVE MSC IN THIS CASE, WAS ESTABLISHED BY THE PADEP BASED UPON THE LIFETIME HEALTH ADVISORY LEVEL, WHICH IS A GUIDELINE ISSUED BY THE USEPA FOR THE LEVEL OF A DRINKING WATER CONTAMINANTS BELOW WHICH ADVERSE HEALTH EFFECTS ARE NOT ANTICIPATED OVER A PERSON'S LIFETIME. THEREFORE, THIS MSC WAS BASED ON THE RISK OF UTILIZING A PARTICULAR WATER SOURCE AS A PRIMARY DRINKING SOURCE OVER A STANDARD LIFETIME OF A PERSON. TH



INLET 1 TO TANK PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'



INLET 6 TO FLOW SPLITTER PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'



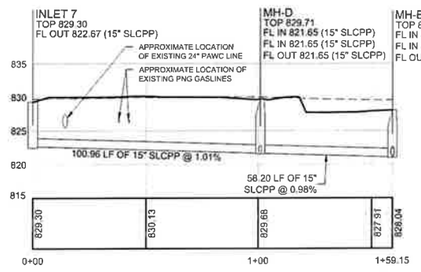
INSP-4 TO EX INLET NB PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'

PROFILE NOTES:

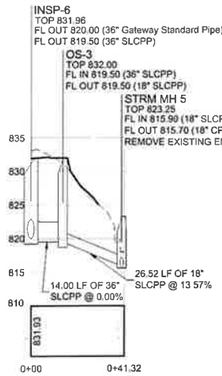
1. THE LENGTHS (LF) SHOWN ON THIS PLAN ARE CENTERLINE STRUCTURE TO CENTERLINE STRUCTURE, AND DO NOT ACCOUNT FOR SLOPES OR DEFINE ACTUAL LENGTHS OF PIPE.

PROFILE STRUCTURE ABBREVIATONS

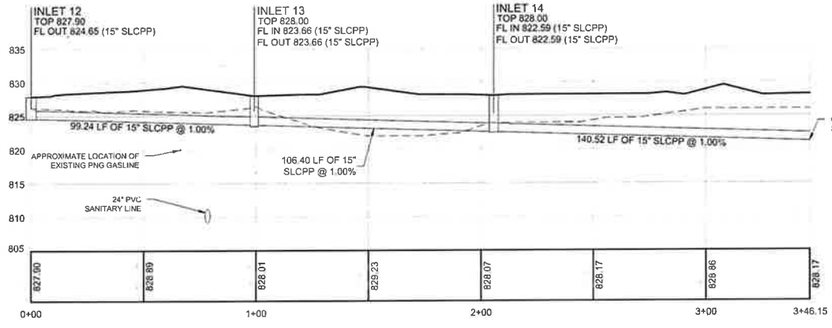
STM	STORM
SAN	SANITARY
MH	MANHOLE
OS	OUTLET STRUCTURE
CO	CLEANOUT
HW	HEADWALL
EW	ENDWALL



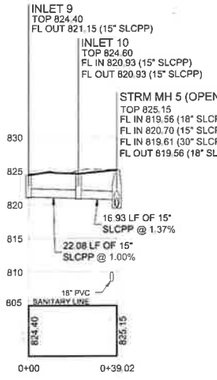
INLET 7 TO MH-B PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'



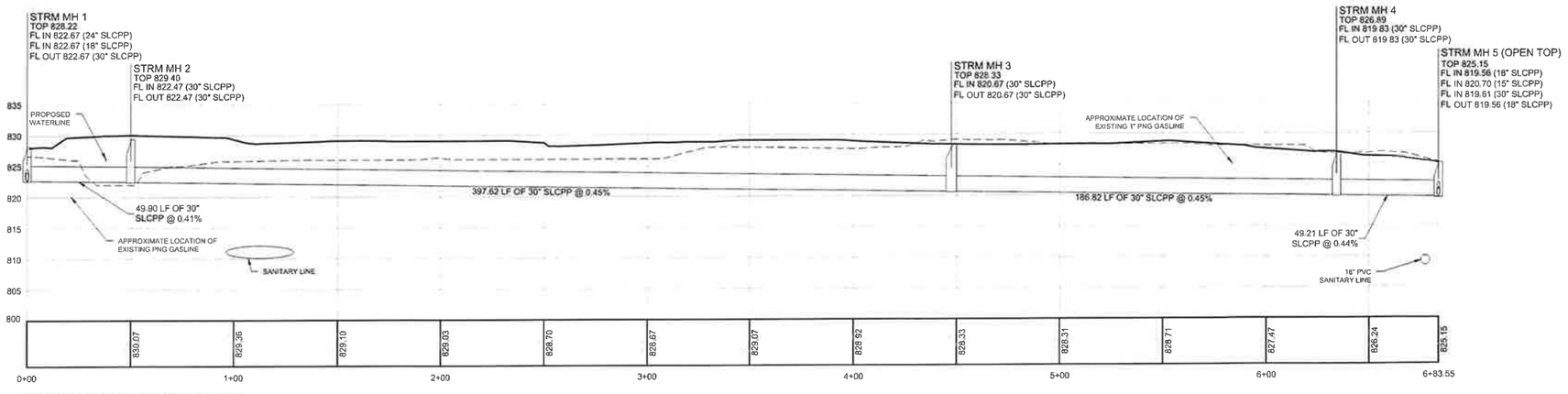
TANK 2 TO MH-5 PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'



INLET 12 TO TANK 2 PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'



INLET 9 TO STRM MH-5 PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'



STRM MH 1 TO INLET 12 (TYPE 4) PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'

Know what's below. Call before you dig.
Serial No. 20231760058

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C:\Users\JFlemerton\G:\Projects\12000\12199\400\KKY\0025 CoJoa Retail Development\Dwg\02-Sheet\C500 - Storm and Sanitary Sewer Profiles.dwg
Plot Date: 14 Oct 2025 | 10:3 PM | User: JFlemerton | Plot Scale: 1:1 | Layout: 11 Sheet: 4 1 1
Save Date: 11/14/2025 12:51 PM

GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — JAMES M. CHESSER — 76 REGISTERED — CHESSER — PENNSYLVANIA

REVISION RECORD

No.	Date	
01	2025-11-11	WPP Updates
02	2025-12-16	ACCD TECHNICAL NPDES RESPONSE
03	2026-01-14	TOWNSHIP SUBMISSION
04	-----	-----
05	-----	-----
06	-----	-----
07	-----	-----
08	-----	-----

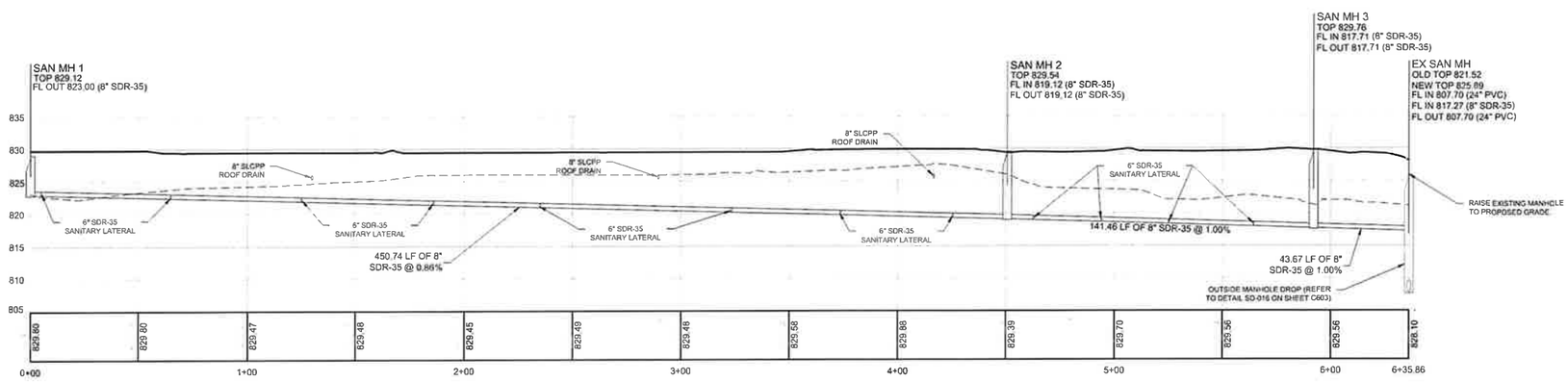
LAFAYETTE 180
NEWBURY DRIVE
CUDDY, PA 15031

PREPARED FOR:
CE - SF, LP
295 MYOMA ROAD
MARS, PA 16046

STORM PROFILES

Project Number: C-12199-0025
Drawing Scale: AS NOTED
Date Issued: AUG 2025
Index Number: --
Drawn By: MCL/RRR
Checked By: JMG
Project Manager: JMG

C500



SAN MH 1 TO EX SAN MH PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'

PROFILE NOTES:

1. THE LENGTHS (LF) SHOWN ON THIS PLAN ARE CENTERLINE STRUCTURE TO CENTERLINE STRUCTURE, AND DO NOT ACCOUNT FOR SLOPES OR DEFINE ACTUAL LENGTHS OF PIPE.

PROFILE STRUCTURE ABBREVIATONS

STM	STORM
SAN	SANITARY
MH	MANHOLE
OS	OUTLET STRUCTURE
CO	CLEANOUT
HW	HEADWALL
EW	ENDWALL

GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ENGINEER
No. PE087179

REVISION RECORD

No	Date	
01	2025-11-11	WPP Updates
02	2025-12-16	ACCD TECHNICAL NPDES RESPONSE
03	2026-01-14	TOWNSHIP SUBMISSION
04	----	---
05	----	---
06	----	---
07	----	---
08	----	-

LAFAYETTE 180
NEWBURY DRIVE
CUDDY, PA 15031

PREPARED FOR:
CE - SF, LP
295 MYOMA ROAD
MARS, PA 16046

SANITARY PROFILES

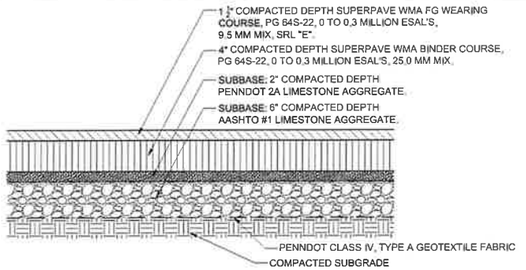
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Drawing Scale: AS NOTED
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Index Number: --
Drawn By: MCL/RRR
Checked By: JMG
Project Manager: JMG

C501

811 Know what's below. Call before you dig.
Serial No. 20231760058

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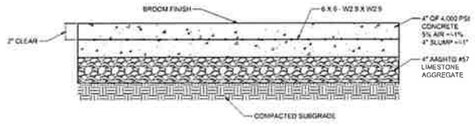
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NOTES:

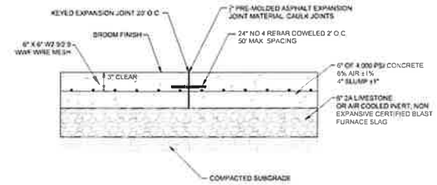
1. THE CONTRACTOR SHALL SEAL THE GUTTER LINE WITH PG 64-22 ASPHALT CEMENT BY OVERLAPPING 3" ONTO THE WEDGE CURB AND EXTENDING 9" ONTO THE CARTWAY IN ACCORDANCE WITH PENNDOT PUBLICATION 408 AFTER THE COMPLETION OF THE FINAL WEARING COURSE.
2. SUBGRADE DRAINS MAY BE REQUIRED WHERE UNDERGROUND WATER IS ENCOUNTERED.
3. SUBGRADE SHALL BE COMPACTED TO VISUAL NON-MOVEMENT PRIOR TO PLACEMENT OF FABRIC AND SUBBASE.
4. SUBBASE SHALL BE COMPACTED TO 70% RELATIVE DENSITY PER ASTM D4253 AND ASTM D4254.
5. CONSTRUCTION MATERIALS AND INSTALLATION SHALL CONFORM TO PENNDOT PUBLICATION 408 UNLESS OTHERWISE INDICATED.

1	STANDARD DUTY BITUMINOUS
C600	PAVEMENT



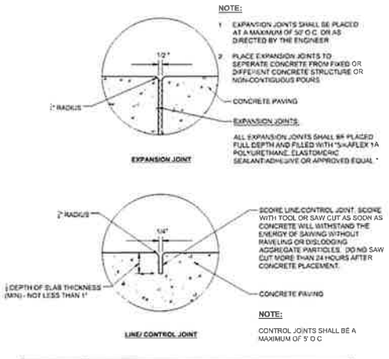
NOTES:
1. CONTRACTOR SHALL PLACE CONTROL JOINTS AT INTERVALS EQUAL TO THE PAVEMENT WIDTH NOT TO EXCEED 12'
2. EXPANSION JOINTS SHALL BE INSTALLED AT 50' MAXIMUM INTERVALS
3. CURING SHALL BE BY ABSORPTIVE COVER, MOISTURE-RETAINING COVER, OR APPROVED CURING COMPOUND. CONTRACTOR SHALL SUBMIT PROPOSED CURING METHOD TO OWNER FOR APPROVAL PRIOR TO CONCRETE INSTALLATION
4. APPLY WATER BASED 40% SILANE PENETRATING SEALER AFTER A MINIMUM OF 28 DAYS PER MANUFACTURERS RECOMMENDATIONS
5. PROVIDE MINIMUM CROSS SLOPE OF 1.5% TO MAXIMUM CROSS SLOPE OF 2%

2	4" THICK CONCRETE SIDWALK
C600	

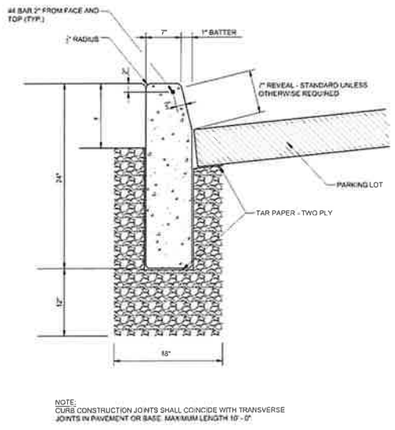


NOTE:
1. A CONTRACTOR SHALL PLACE A TOOLED JOINT AT EVERY 20' O.C. MINIMUM
2. APPLY LIQUID MEMBRANE FORMING CURING COMPOUND MEETING ASTM C 309 TYPE 1, CLASS A AND B PER MANUFACTURERS RECOMMENDATIONS. APPLY WATER BASED 40% SILANE PENETRATING SEALER AFTER A MINIMUM OF 28 DAYS PER MANUFACTURERS RECOMMENDATIONS.

3	6" CONCRETE PAVEMENT
C600	

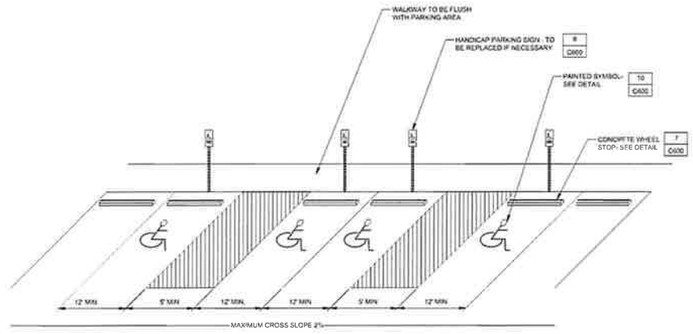


4	CONCRETE EXPANSION/SCORE
C600	LINE/ CONTROL JOINT



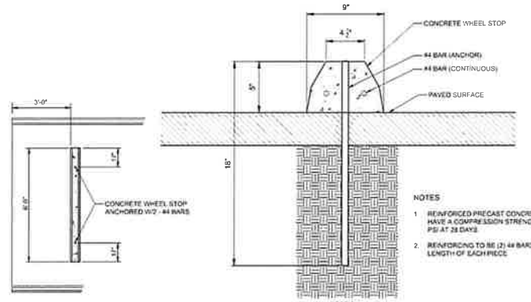
NOTE:
CURB CONSTRUCTION JOINTS SHALL COINCIDE WITH TRANSVERSE JOINTS IN PAVEMENT OR BASE. MAXIMUM LENGTH 10' - 0".

5	CONCRETE DEEP CURB (7" INCH
C600	REVEAL)

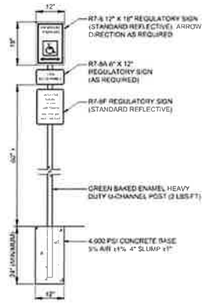


NOTES:
1. REFER TO SITE PLAN FOR ADDITIONAL INFORMATION

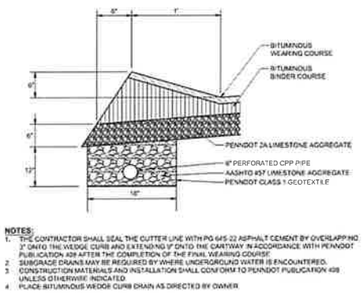
6	TYPICAL HANDICAP PARKING
C600	



7	CONCRETE WHEEL STOP
C600	

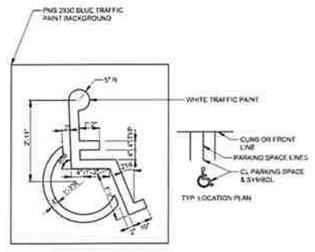


8	ACCESSIBLE PARKING SIGN
C600	



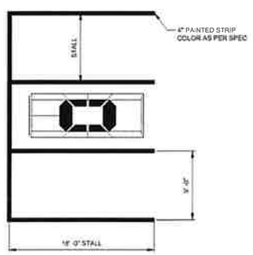
NOTES:
1. THE CONTRACTOR SHALL SEAL THE CUTTER LINE WITH PG 64S-22 ASPHALT CEMENT BY OVERLAPPING 3" ONTO THE WEDGE CURB AND EXTENDING 9" ONTO THE CARTWAY IN ACCORDANCE WITH PENNDOT PUBLICATION 408 AFTER THE COMPLETION OF THE FINAL WEARING COURSE.
2. SUBGRADE DRAINS MAY BE REQUIRED BY WHERE UNDERGROUND WATER IS ENCOUNTERED.
3. CONSTRUCTION MATERIALS AND INSTALLATION SHALL CONFORM TO PENNDOT PUBLICATION 408 UNLESS OTHERWISE INDICATED.
4. PLACE BITUMINOUS WEDGE CURB DRAIN AS DIRECTED BY OWNER

9	BITUMINOUS WEDGE CURB
C600	



NOTE: SEE SITE PLAN FOR LOCATIONS

10	ADA SYMBOL
C600	

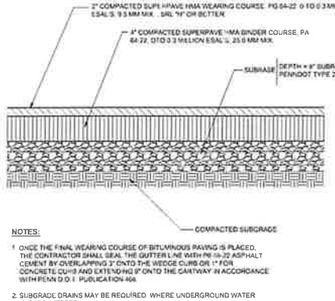


11	PARKING STALL DETAIL
C600	



NOTE:
STOP LINES ARE SOLID WHITE LINES THAT COMPLETELY TRAVERSE EACH TRAFFIC LANE, AT AN INTERSECTION WITH A STOP SIGN. THE STOP LINE SHOULD BE PLACED AT A LOCATION NO LESS THAN 4', (OR MORE THAN 30' FROM THE NEAREST EDGE OF THE INTERSECTING ROADWAY TO ENSURE MAXIMUM SIGHT DISTANCE TO VEHICLES ON THE CROSSING ROUTE. WHEN USED ON MULTI-LANE APPROACH TO A SIGNALIZED INTERSECTION, THE STOP LINE MAY BE STAGGERED TO ASSIST TURNING VEHICLES AND TO IMPROVE SIGHT DISTANCE FOR MOTORIST DESIRING TO MAKE A TURN ON RED

12	STOP BAR
C600	



NOTES:
1. ONCE THE FINAL WEARING COURSE OF BITUMINOUS PAVING IS PLACED, THE CONTRACTOR SHALL SEAL THE GUTTER LINE WITH PG 64-22 ASPHALT CEMENT BY OVERLAPPING 3" ONTO THE WEDGE CURB OR 1" FOR CONCRETE CURB AND EXTENDING 9" ONTO THE CARTWAY IN ACCORDANCE WITH PENN D.O.T. PUBLICATION 408.
2. SUBGRADE DRAINS MAY BE REQUIRED WHERE UNDERGROUND WATER IS ENCOUNTERED.
3. CONSTRUCTION MATERIALS AND INSTALLATION MUST CONFORM TO PENNDOT 408

13	HEAVY DUTY BITUMINOUS
C600	PAVEMENT

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GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER JOSEPH M. SMITH No. PE037761

REVISION RECORD

No	Date	
01	2025-11-11	WPP Updates
02	2025-12-16	ACCD TECHNICAL NPDES RESPONSE
03	2026-01-14	TOWNSHIP SUBMISSION
04	----	----
05	----	----
06	----	----
07	----	----
08	----	-

LAFAYETTE 180
NEWBURY DRIVE
CUDDY, PA 15031

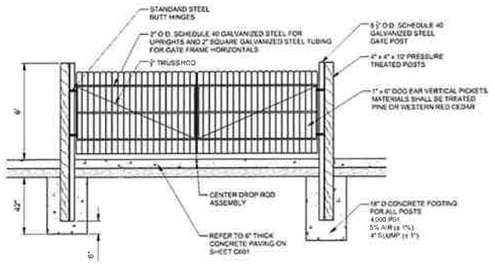
PREPARED FOR:
CE - SF, LP
295 MYOMA ROAD
MARS, PA 16046

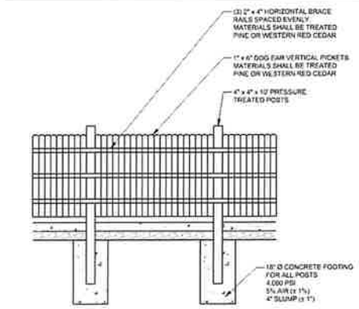
CONSTRUCTION DETAILS

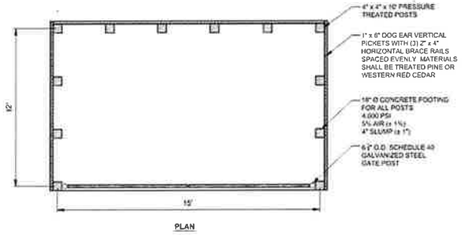
Project Number: C-12199-0025
Drawing Scale: N/A
Date Issued: AUG 2025
Index Number: —
Drawn By: MCL/RRR
Checked By: JMG
Project Manager: JMG

C600

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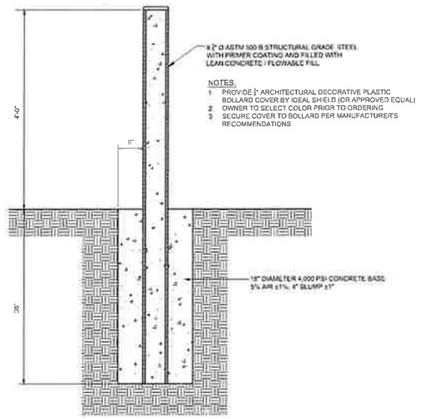


PLAN

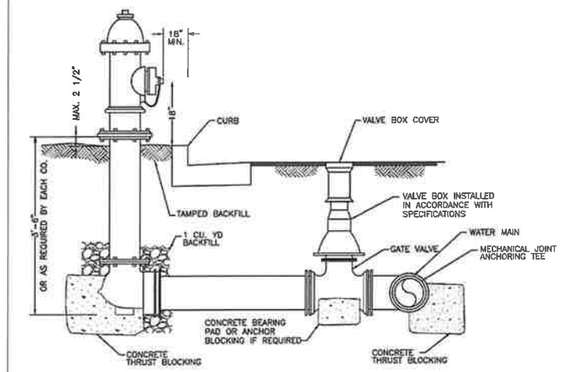
NOTE

1 DETAIL ADAPTED FROM NORTH AMERICAN FENCING CORPORATION (724-274-4100)

1	
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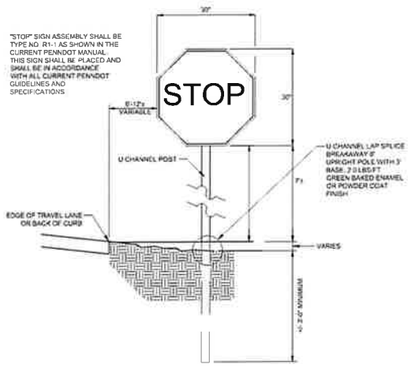


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C601	PROTECTIVE BOLLARD

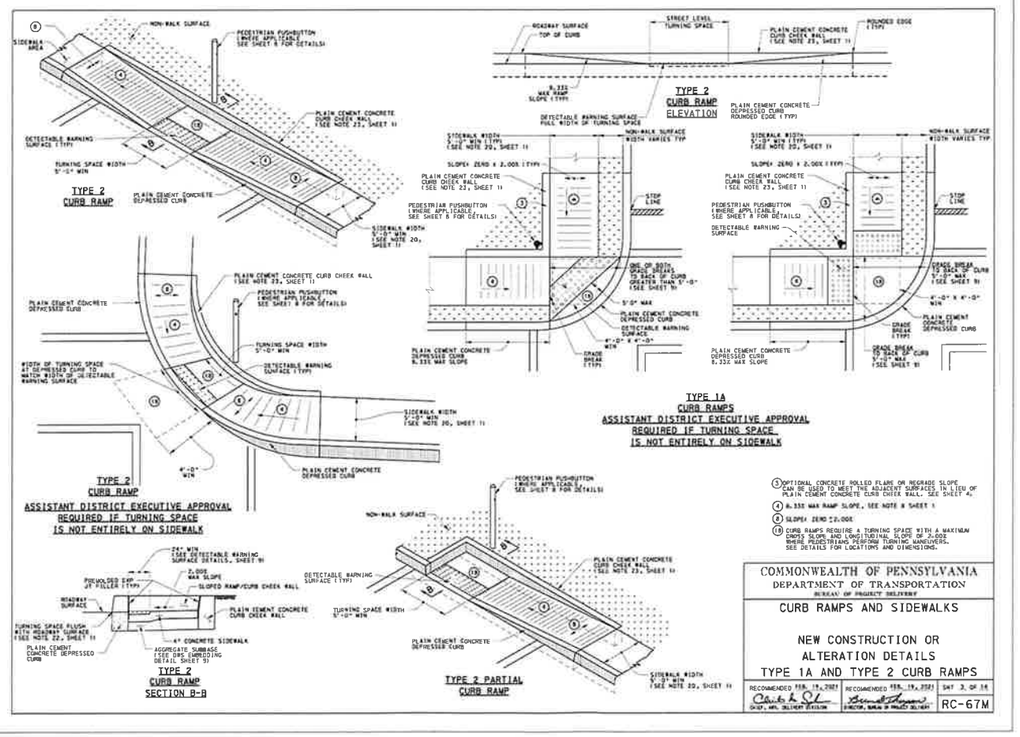


FIRE HYDRANT DETAIL

3	
C601	FIRE HYDRANT DETAIL



4	
C601	'STOP' SIGN



5	
C601	TYPE 2 ADA RAMP

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GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER No. PE087717 PENNSYLVANIA

REVISION RECORD

No	Date	
01	2025-11-11	WPP Updates
02	2025-12-16	ACCD TECHNICAL NPDES RESPONSE
03	2026-01-14	TOWNSHIP SUBMISSION
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08	----	-

LAFAYETTE 180
NEWBURY DRIVE
CUDDY, PA 15031

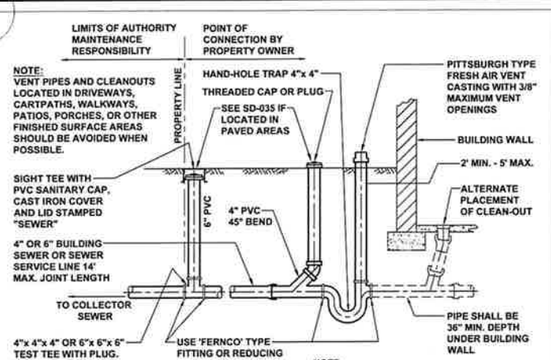
PREPARED FOR:
CE - SF, LP
295 MYOMA ROAD
MARS, PA 16046

CONSTRUCTION DETAILS

Project Number: C-12199-0025
Drawing Scale: N/A
Date Issued: AUG 2025
Index Number: --
Drawn By: MCL/RRR
Checked By: JMG
Project Manager: JMG

C601

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Xref Name: Lafayette 180 - Construction Details.dwg



NOTE:
VENT PIPES AND CLEANOUTS LOCATED IN DRIVEWAYS, CARTPATHS, WALKWAYS, PATIOS, PORCHES, OR OTHER FINISHED SURFACE AREAS SHOULD BE AVOIDED WHEN POSSIBLE.

NOTE:
1. ALL PIPE SHALL BE 4" OR 6" SCH. 40 PVC OR ABS. SLOPE SHALL BE MIN. 1/4" PER FOOT FOR 4" LINE AND 1/8" PER FOOT SLOPE FOR 6" LINE.

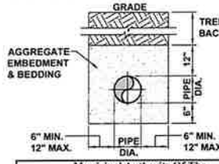
2. CLEAN-OUTS SHALL BE INSTALLED AT 50 FOOT INTERVALS FOR 4" PIPE AND 100 FOOT INTERVALS FOR 6" PIPE.

3. SDR 35 PVC MAY BE USED FROM THE DOWNSTREAM SIDE OF THE TRAP TO THE MAIN.

4. ABS PIPE SHOULD NOT BE GLUED TO PVC PIPE.

5. ALL FERNCO CONNECTIONS WHERE PERMITTED SHALL BE BANDED TYPE.

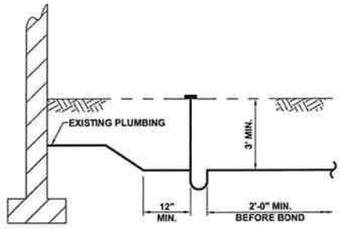
CONDENSED INSTALLATION SPECIFICATIONS
SEWER SERVICE LINE AND SEWER SERVICE CONNECTIONS SHALL BE INSTALLED BY REGISTERED MASTER PLUMBER AT THE COST OF THE CUSTOMER IN ACCORDANCE WITH APPENDIX C OF THE RULES AND REGULATIONS AND DETAILED SPECIFICATIONS OF THE AUTHORITY AND MUST MEET ALL CURRENT ACHD STANDARDS.



SEWER SERVICE LINE PIPE:

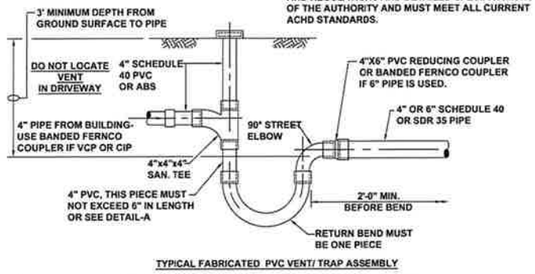
MATERIAL	ASTM SPECIFICATIONS	JOINT	ASTM SPEC.
ABS	D-2751 SCH-40	SOLVENT WELD	D-2751
PVC	D-3034 SDR-35	ELASTOMERIC	D-3212
PVC	D-1875 SCH-40	SOLVENT WELD	D-2564

Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017	SERVICE CONNECTION TO SANITARY SEWER FROM A NEW INSTALLATION
Not to scale / January 2022	Standard Detail SD-025



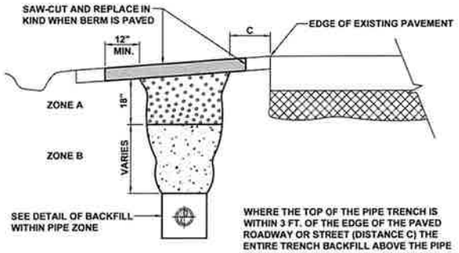
SHALLOW BUILDING SEWER TRAP DETAIL

CONDENSED INSTALLATION SPECIFICATIONS
SEWER SERVICE LINE AND SEWER SERVICE CONNECTIONS SHALL BE INSTALLED BY REGISTERED MASTER PLUMBER AT THE COST OF THE CUSTOMER IN ACCORDANCE WITH APPENDIX C OF THE RULES AND REGULATIONS AND DETAILED SPECIFICATIONS OF THE AUTHORITY AND MUST MEET ALL CURRENT ACHD STANDARDS.



TYPICAL FABRICATED PVC VENT/ TRAP ASSEMBLY

Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017	BUILDING SEWER TRAP DETAILS
Not to scale / January 2022	Standard Detail SD-026

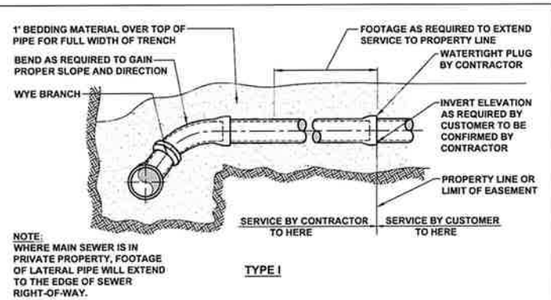


WHERE THE TOP OF THE PIPE TRENCH IS WITHIN 3 FT. OF THE EDGE OF THE PAVED ROADWAY OR STREET (DISTANCE C) THE ENTIRE TRENCH BACKFILL ABOVE THE PIPE ZONE, THAT IS THE BACKFILL PLACED IN ZONES A AND B SHALL CONSIST OF 2-A LIMESTONE MATERIAL MECHANICALLY COMPACTED IN 6" LAYERS.

WHERE THE TOP OF THE PIPE TRENCH IS GREATER THAN 3 FT. FROM THE EDGE OF THE PAVED ROADWAY (DISTANCE C) BACKFILL PLACED IN ZONE B SHALL BE EXCAVATED MATERIAL FROM THE TRENCH, FREE OF ROCKS LARGER THAN 3" AND MECHANICALLY COMPACTED IN 6" LAYERS. BACKFILL MATERIAL PLACED IN ZONE A (THE TOP 18" OF THE TRENCH) SHALL BE 2-A LIMESTONE MATERIAL MECHANICALLY COMPACTED IN 6" LAYERS.

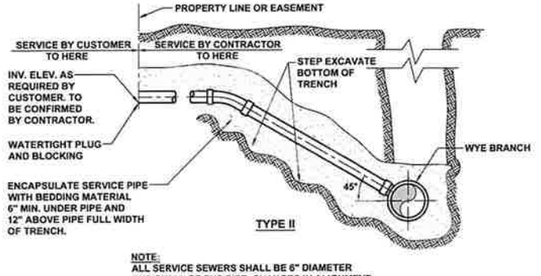
WHERE THE BERM IS NOT PLANTED OR PAVED IT SHALL BE RESTORED FOR ITS ENTIRE WIDTH BY APPLICATION OF RT-2W BITUMINOUS MATERIAL AT A RATE OF 0.2 TO 0.5 GALLONS PER SQUARE YARD DEPENDING UPON LOCATION AND PREVAILING TEMPERATURES AT TIME OF APPLICATION.

Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017	TRENCH BACKFILL WITHIN ROADWAY OR STREET BERMS
Not to scale / January 2022	Standard Detail SD-004



NOTE:
WHERE MAIN SEWER IS IN PRIVATE PROPERTY, FOOTAGE OF LATERAL PIPE WILL EXTEND TO THE EDGE OF SEWER RIGHT-OF-WAY.

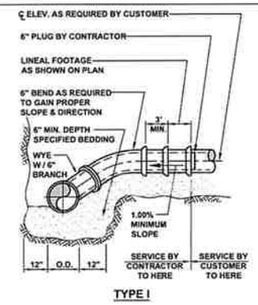
TYPE I



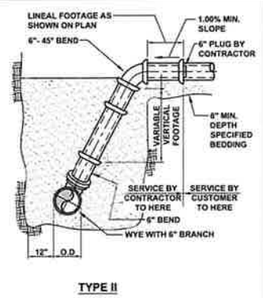
TYPE II

NOTE:
ALL SERVICE SEWERS SHALL BE 6" DIAMETER AND SHALL BE PVC PIPE. CHANGES IN ALIGNMENT AND CONNECTIONS TO MAIN SEWER SHALL BE ACCOMPLISHED WITH PREFABRICATED FITTINGS.

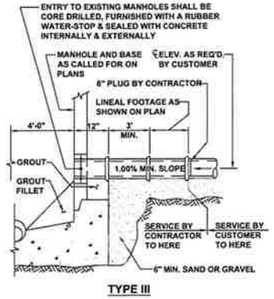
Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017	TYPICAL SERVICE LATERAL CONNECTIONS
Not to scale / January 2022	Standard Detail SD-023



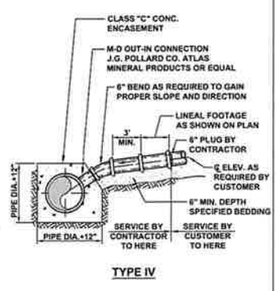
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TYPE II

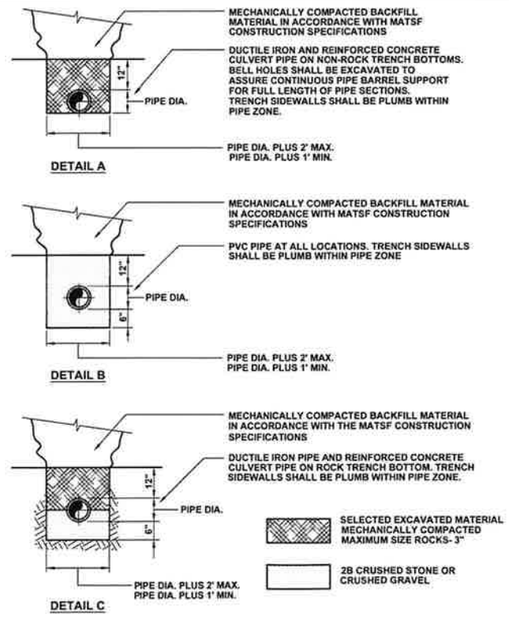


TYPE III



TYPE IV

Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017	SERVICE CONNECTIONS
Not to scale / January 2022	Standard Detail SD-024



Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017	TRENCH PIPE ZONE DETAILS
Not to scale / January 2022	Standard Detail SD-001

GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ENGINEER — No. PE087767 — PENNSYLVANIA

REVISION RECORD

No	Date	
01	2025-11-11	WPP Updates
02	2025-12-16	ACCD TECHNICAL NPDES RESPONSE
03	2026-01-14	TOWNSHIP SUBMISSION
04	----	----
05	----	----
06	----	----
07	----	----
08	----	-

LAFAYETTE 180
NEWBURY DRIVE
CUDDY, PA 15031

PREPARED FOR:
CE - SF, LP
295 MYOMA ROAD
MARS, PA 16046

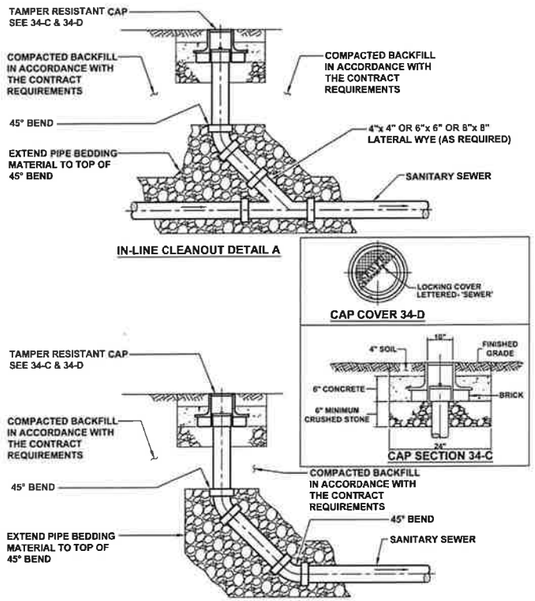
CONSTRUCTION DETAILS

Project Number: C-12199-0025
Drawing Scale: N/A
Date Issued: AUG 2025
Index Number: --
Drawn By: MCL/RRR
Checked By: JMG
Project Manager: JMG

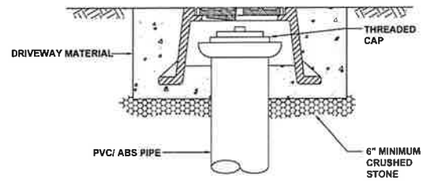
C602

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52 Plan & Files\new\G:\Projects\12000\12199-0025\Cuzza Retail Development\Dwg\02-Sheet\C600 - Construction Details.dwg
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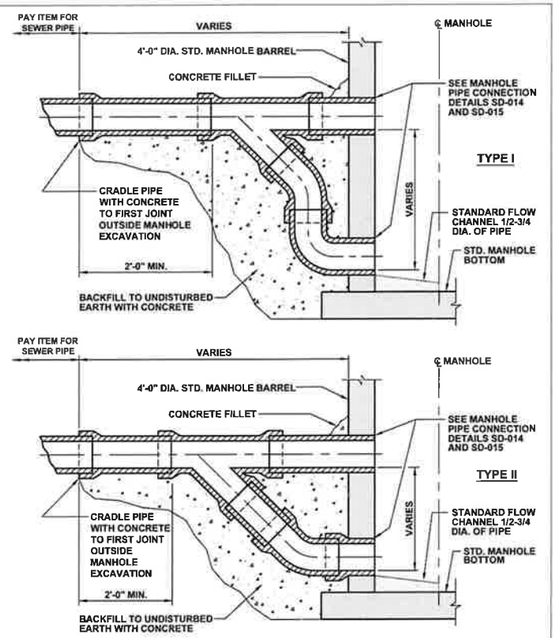


Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		MAIN LINE, IN-LINE, AND END LINE CLEANOUT FOR 6" AND 8" PVC SEWER
Not to scale	January 2022	Standard Detail SD-034

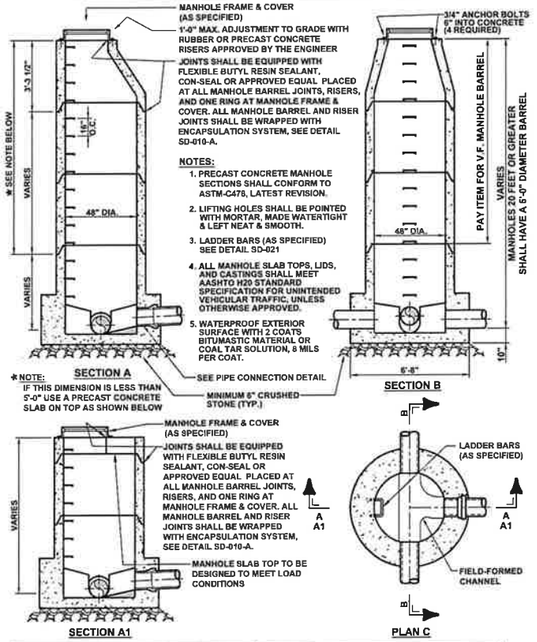


NOTE:
FRAME & COVER SHALL BE VALVCO INC. #668 OR APPROVED EQUAL.

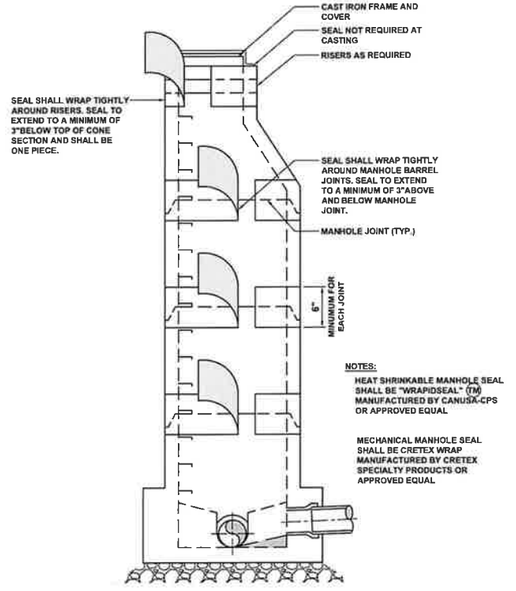
Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		LATERAL SITE TEE/ CLEANOUT IN PAVED AREAS
Not to scale	January 2022	Standard Detail SD-035



Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		OUTSIDE MANHOLE DROP CONNECTION
Not to scale	January 2022	Standard Detail SD-016



Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		PRECAST CONCRETE MANHOLE FOR SEWERS 8" TO 18"
Not to scale	January 2022	Standard Detail SD-010



Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		MANHOLE JOINT ENCAPSULATION SYSTEM
Not to scale	January 2022	Standard Detail SD-010-A

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22 | Kevin & Filenames\G\Projects\12000\12199-KOS\KY\-0025 Cozza Rusall Development\Dwg\02-Sheet\C600 - Construction Details.dwg
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COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER

REVISION RECORD

No	Date	
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07	-----	-----
08	-----	-

LAFAYETTE 180
NEWBURY DRIVE
CUDDY, PA 15031

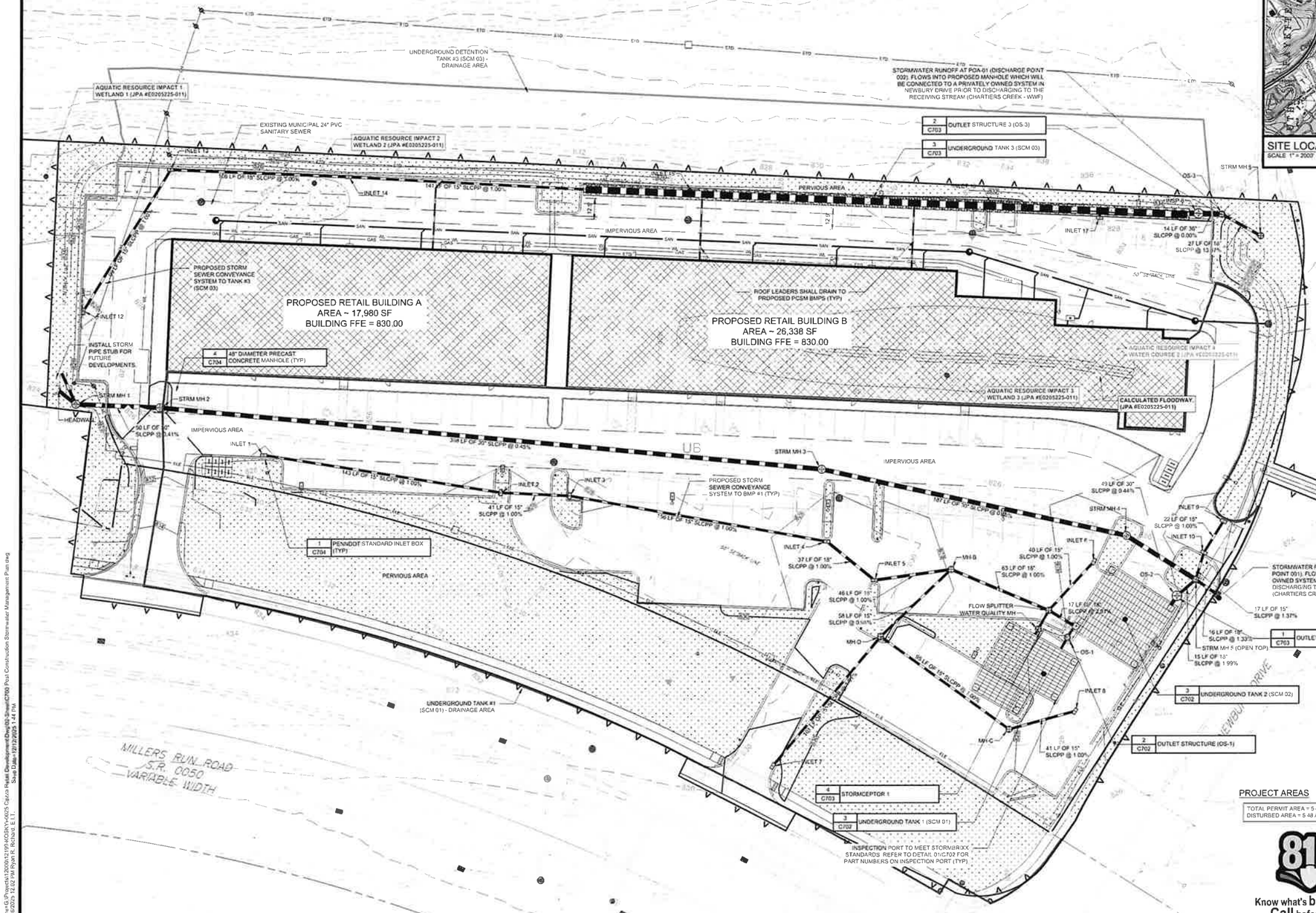
PREPARED FOR:
CE - SF, LP
295 MYOMA ROAD
MARS, PA 16046

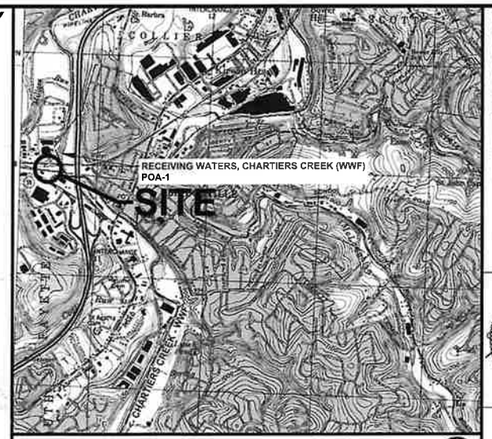
CONSTRUCTION DETAILS

Project Number: C-12199-0025
Drawing Scale: N/A
Date Issued: AUG 2025
Index Number: --
Drawn By: MCL/RRR
Checked By: JMG
Project Manager: JMG

C603

THIS PLAN IS FOR POST CONSTRUCTION STORMWATER MANAGMENT PURPOSES ONLY





SITE LOCATION MAP - USGS BRDIGEVILLE QUAD
SCALE 1" = 2000'

POST CONSTRUCTION STORMWATER MANAGEMENT LEGEND

	1 C704	PENNDOT STANDARD INLET BOX
	2 C704	CLEANOUT
	4 C704	PROPOSED 48" STORM MANHOLE
		PROPOSED STORM LINE
		SOIL BOUNDARIES
		LIMITS OF DISTURBANCE / PERMIT BOUNDARY
		AREAS TO BE PERMANENTLY SEEDED
		AQUATIC RESOURCE WETLANDS
		AQUATIC RESOURCE WATER COURSE
		AQUATIC RESOURCE FLOODWAY

POST CONSTRUCTION STORMWATER MANAGEMENT NOTES:

1. THE CONTRACTOR SHALL COMPLY AT ALL TIMES WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, PROVISIONS, AND POLICIES GOVERNING SAFETY AND HEALTH, INCLUDING THE FEDERAL CONSTRUCTION SAFETY ACT (PUBLIC LAW 91-54), FEDERAL REGISTER, CHAPTER XVII, PART 1926 OF TITLE 29 REGULATIONS, **OCCUPATIONAL SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION**, AND SUBSEQUENT PUBLICATIONS UPDATING THESE REGULATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING THE AREAS AND CONDITIONS UNDER WHICH THE PROJECT IS TO BE CONSTRUCTED PRIOR TO THE SUBMISSION OF THE BID. SUBMISSION OF A BID SHALL BE CONSTRUED TO MEAN THE **CONTRACTOR HAS REVIEWED THE SITE AND IS FAMILIAR WITH CONDITIONS AND CONSTRAINTS OF THE SITE.**
3. BEFORE EXCAVATION, ALL UNDERGROUND UTILITIES SHALL BE LOCATED IN THE FIELD BY THE PROPER AUTHORITIES. THE CONTRACTOR SHALL NOTIFY PENNSYLVANIA ONE CALL SYSTEMS, INC AT 1-800-242-1776. THE LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES ARE APPROXIMATE AND MAY NOT ALL BE SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR **TO DETERMINE THE EXISTENCE AND EXACT LOCATION OF ALL** UTILITIES AND UNDERGROUND STRUCTURES.
4. CONTRACTOR TO PROVIDE SHOP DRAWINGS ON ALL STORM SEWER MANHOLES, INLETS, AND DETENTION SYSTEMS
5. **AN AS-BUILT DRAWING OF NEW UTILITY SERVICES SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE OWNER** UPON COMPLETION OF THE PROJECT
6. ALL STORM PIPE SHALL BE HDPE, SMOOTH INTERIOR, CORRUGATED POLYETHYLENE PIPE, UNLESS OTHERWISE NOTED. ALL STORM SEWER CONSTRUCTION, MATERIALS AND METHODS SHALL BE IN ACCORDANCE WITH PENNDOT SPECIFICATIONS. ALL JOINTS SHALL BE WATERTIGHT.
7. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION
8. **THE CONTRACTOR SHALL ASSURE THAT THERE IS POSITIVE DRAINAGE TO THE INLETS UPON PLACEMENT OF NEW PAVEMENT.**
9. INLETS MUST BE SEED TO ACCEPT THE SPECIFIED PIPE SIZES WITHOUT KNOCKING OUT ANY OF THE INLET CORNERS. ALL PIPES ENTERING OR EXISTING INLETS SHALL BE CUT FLUSH WITH THE **INSIDE WALL OF THE INLET.**
10. NO PERSON SHALL MODIFY, REMOVE, FILL, LANDSCAPE, OR ALTER ANY SWM SMPS, FACILITIES, AREAS, OR STRUCTURES WITHOUT THE WRITTEN APPROVAL OF THE TOWNSHIP
11. **CONTRACTOR IS REQUIRED TO NOTIFY AN ENVIRONMENTAL PROFESSION (EP) PRIOR TO ANY EXCAVATION AND HAVE THEM ON-SITE TO OVERSEE ALL EXCAVATION AND HANDLING OF MATERIAL. THE CONTRACTOR SHALL REFER TO THE SOIL MANAGEMENT PLAN / MATERIAL MANAGEMENT PLAN PREPARED BY CRIBBS & ASSOCIATES, LLC AND THE ON-SITE EP FOR THE REQUIRED SOIL HANDLING, STOCKPILE, DISPOSAL, ETC PROCEDURES.**

PROJECT AREAS

TOTAL PERMIT AREA = 5.48 ACRES
DISTURBED AREA = 5.48 ACRES

811 Know what's **below.** **Call** before you dig.
Serial No. 20231760058

NORTH

GRAPHIC SCALE
0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

GATEWAY ENGINEERS
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COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER No. PE087791

REVISION RECORD

No	Date	
01	2025-11-11	WPP Updates
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03		
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08		

LAFAYETTE 180
NEWBURY DRIVE
CUDDY, PA 15031

PREPARED FOR:
CE - SF, LP
295 MYOMA ROAD
MARS, PA 16046

POST **CONSTRUCTION** STORMWATER MANAGEMENT PLAN

Project Number: C-12159-0025
Drawing Scale: 1" = 30'
Date Issued: AUG 2025
Index Number: –
Drawn By: MCL/RRR
Checked By: JMG
Project Manager: JMG

C700

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Plot Date= 12/19/2025 1:42 PM
Plan & Filename=G:\Projects\12000\12159\400\Civil\0025 Cajca Retail Development\Dwg\00-Sheet\C700 Post Construction Stormwater Management Plan.dwg

MANAGEMENT OF SOIL
BECAUSE OF THE CONSTITUENTS OF CONCERN (COCS) DETECTED IN SOIL SAMPLES COLLECTED AT THE SITE, EXCAVATED SOIL THAT IS DETERMINED TO BE POTENTIALLY IMPACTED, WHETHER DISPOSED OFF-SITE OR USED AS CUT AND FILL MATERIAL SHOULD BE HANDLED IN ACCORDANCE WITH THE FOLLOWING PROTOCOL. THE EXISTING GRADING PLAN DOES NOT CALL FOR LARGE SCALE CUTTING AND FILLING ACTIVITIES, IN FACT, THE CONSTRUCTION PLAN CALLS FOR THE IMPORTATION OF LARGE AMOUNTS OF CLEAN FILL MATERIAL TO BE IMPORTED TO THE SITE TO RAISE THE GRADE OF THE ENTIRE SITE. HOWEVER, IF ANY SOIL IS EXCAVATED AT THE SITE, SPECIFIC STEPS MUST BE CONDUCTED TO ENSURE THAT ANY SOIL REMOVED FROM THE SITE IS MANAGED PROPERLY. THE FOLLOWING SECTIONS DETAIL
THE REQUIRED ACTIONS THAT MUST BE TAKEN IF SOILS ARE EXCAVATED FOR THE INSTALLATION OF STORMWATER INFRASTRUCTURE, UTILITIES, FOOTER CONSTRUCTION OR ANY OTHER REASON OR IF CONTAMINATED SOIL IS UN-EXPECTANTLY ENCOUNTERED ON ANY PART OF THE SITE DURING CONSTRUCTION ACTIVITIES.

ENVIRONMENTAL OVERSIGHT
IF EXCAVATION WORK IS PERFORMED, AN ENVIRONMENTAL PROFESSIONAL (EP) SHOULD BE NOTIFIED PRIOR TO THE INITIATION OF EXCAVATION ACTIVITIES. THE ROLE OF THE EP IS TO ASSESS THE PROPOSED EXCAVATION TO ENSURE THAT IF IMPACTED SOIL IS ENCOUNTERED, IT IS HANDLED PROPERLY. THE DETERMINATION OF IMPACTED SOIL WILL BE BASED PRIMARILY ON THE DEPTH AND LOCATION OF THE EXCAVATION TO DETERMINE IF THE EXCAVATION WILL BE PERFORMED SOLELY IN THE RECENTLY PLACED SHALLOW CLEAN FILL MATERIAL OR IF IT WILL EXTEND DOWN INTO THE EXISTING SOIL. IF THE EXCAVATION IS DETERMINED TO BE ONLY IN THE CLEAN FILL MATERIAL, NO FURTHER OVERSIGHT WILL BE REQUIRED. IF THE ENVIRONMENTAL PROFESSIONAL DETERMINES THAT THE EXCAVATION IS DEEP ENOUGH, AND IN THE AREA OF THE OBSERVED ARSENIC EXCEEDANCE (AREA OF CONCERN #1), ADDITIONAL OVERSIGHT WILL BE REQUIRED, AND THE EP MUST BE PRESENT AT THE TIME OF EXCAVATION. THE FINAL DETERMINATION OF POTENTIALLY IMPACTED MATERIAL WILL BE BASED UPON VISUAL AND OLFACTORY CHARACTERISTICS AS WELL AS HEADSPACE READINGS OBTAINED USING A PHOTOIONIZATION DETECTOR (PID).

HANDLING OF CONTAMINATED SOIL
ONCE POTENTIALLY CONTAMINATED SOIL HAS BEEN REMOVED FROM THE GROUND, IT MUST BE HANDLED AS RESIDUAL WASTE. THIS WASTE MATERIAL MUST BE HANDLED IN A WAY THAT MINIMIZES THE POTENTIAL FOR CONTAMINATION MIGRATION. CONTAMINATED SOIL THAT HAS BEEN REMOVED FROM THE GROUND MUST NOT COME IN CONTACT WITH OTHER SOILS ON THE SITE. THEREFORE, THIS SOIL MUST BE STOCKPILED ON PLASTIC. THE PLASTIC MUST BE A MINIMUM OF 6-MIL IN THICKNESS AND IT MUST BE PLACED IN AN AREA THAT IS NOT PRONE TO SIGNIFICANT AMOUNTS OF SURFACE WATER RUNOFF.

SOIL STOCKPILE MANAGEMENT
CONTAMINATED SOILS MUST BE STORED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF 25 PA CODE §299.101-299-154 OF THE WASTE MANAGEMENT REGULATIONS. IN ADDITION TO THE GENERAL REQUIREMENTS SET FORTH IN §299.133, THE CONTAMINATED SOIL PILES WILL BE COMPLETELY AND SECURELY COVERED, FOR THE DURATION OF THE STORAGE PERIOD WITH AN IMPERMEABLE MATERIAL OF SUFFICIENT STRENGTH, THICKNESS, ANCHORING OR WEIGHTING TO PREVENT TEARING OR LIFTING OF THE COVER, INFILTRATION OF PRECIPITATION OR SURFACE WATER RUN-OFF, AND EXPOSURE OF THE SOIL TO THE ATMOSPHERE. STEPS MUST ALSO BE TAKEN TO DETER PUBLIC ACCESS TO THE STORAGE PILES. THIS MAY INCLUDE FENCING, SIMILAR BARRIERS, SECURITY PATROLS OR WARNING SIGNS.

DISPOSAL OF SOIL
PRIOR TO DISPOSAL OF POTENTIALLY CONTAMINATED SOIL, AN EVALUATION MUST BE CONDUCTED TO DETERMINE WHETHER THE SOIL CAN BE USED AS CLEAN FILL OR IF IT MUST BE MANAGED AS REGULATED FILL AS PER THE PADEP MANAGEMENT OF FILL POLICY, DATED JANUARY 16, 2021 (DOCUMENT # 258-2182-773).

IN THE MANAGEMENT OF FILL POLICY DOCUMENT "CLEAN FILL" IS DEFINED AS "UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE, INERT SOLID MATERIAL USED TO LEVEL AND AREA OR BRING AN AREA TO GRADE." TO BE CONSIDERED "CLEAN FILL" THE MATERIAL MUST NOT EXCEED THE NUMERIC VALUES SPECIFIED IN TABLE 3 (MEDIUM SPECIFIC CONCENTRATIONS (MSCS) FOR ORGANIC REGULATED SUBSTANCES IN SOIL) AND TABLE 4 (MSCS FOR INORGANIC REGULATED SUBSTANCES IN SOIL OF APPENDIX A IN 25 PA. CODE CHAPTER 250 (RELATED TO ADMINISTRATION OF LAND RECYCLING PROGRAM). THE APPLICABLE NUMERIC CLEAN FILL CONCENTRATION LIMIT IS DETERMINED BY COMPARISON OF THE DETECTED CONTAMINANT CONCENTRATIONS WITH THE LOWER OF THE GENERIC SOIL TO GROUNDWATER VALUE MSC OR THE DIRECT CONTACT RESIDENTIAL MSC.

PURSUANT TO 25 PA. CODE 271.101(B)(3) AND 287.101(B)(6), USE OF CLEAN FILL DOES NOT REQUIRE A PERMIT UNDER THE SWMA OR THE MUNICIPAL OR RESIDUAL WASTE REGULATIONS. CLEAN FILL MAY BE USED IN ACCORDANCE WITH ALL APPLICABLE REQUIREMENTS GOVERNING THE PLACEMENT OR USE OF CLEAN FILL, INCLUDING 25 PA. CODE CHAPTER 102 (RELATING TO EROSION AND SEDIMENT CONTROL) AND 25 PA. CODE CHAPTER 105 (RELATING TO DAM SAFETY AND WATERWAY MANAGEMENT). PERSONS USING CLEAN FILL MUST ALSO COMPLY WITH THE FUGITIVE EMISSIONS REGULATIONS UNDER 25 PA. CODE, CHAPTER 123 (RELATING TO STANDARDS FOR CONTAMINANTS) ISSUED UNDER THE AIR POLLUTION CONTROL ACT. THE USE OF CLEAN FILL MAY BE REGULATED UNDER OTHER ENVIRONMENTAL LAWS AND REGULATIONS.

THEREFORE, THE CLEAN FILL ELIGIBILITY DETERMINATION MAY INCLUDE, AMONG OTHER THINGS, ANALYZING SAMPLES FOR THE PARAMETERS LISTED IN TABLE 1 OF THE GUIDANCE TO DETERMINE IF THE FILL CONTAINS CONTAMINANT CONCENTRATIONS WHICH EXCEED THE (CFCLS, WHICH THE GUIDANCE DEFINES AS WITH THE EXCEPTION OF PCBS AND CHLORIDE, THE CONCENTRATIONS OF REGULATED SUBSTANCES THAT DO NOT EXCEED THE NUMERIC VALUES SPECIFIED IN TABLE 3 (MEDIUM-SPECIFIC CONCENTRATIONS (MSCS) FOR ORGANIC REGULATED SUBSTANCES IN SOIL) AND TABLE 4 (MEDIUM-SPECIFIC CONCENTRATIONS (MSCS) FOR INORGANIC REGULATED SUBSTANCES IN SOIL) OF APPENDIX A IN 25 PA. CODE 258-2182-773 / JANUARY 16, 2021 / PAGE III CHAPTER 250 (RELATING TO ADMINISTRATION OF LAND RECYCLING PROGRAM).

IF THE SOIL DOES NOT MEET THE DEFINITION OF CLEAN FILL OR IF THE CONCENTRATIONS EXCEED THE CFCLS, THE MATERIAL MUST BE MANAGED IN ACCORDANCE WITH THE DEPARTMENT'S MUNICIPAL OR RESIDUAL WASTE REGULATIONS, 25 PA. CODE § 271.2 AND § 287.2.

REGULATED FILL IS DEFINED AS FILL MATERIAL THAT HAS BEEN AFFECTED BY A RELEASE OF A REGULATED SUBSTANCE AND IS NOT "UNCONTAMINATED MATERIAL" AS DEFINED IN THE MANAGEMENT OF FILL POLICY DOCUMENT. FILL THAT IS DETERMINED TO BE "REGULATED FILL" CAN BE USED BY PERSONS WHO HAVE APPLIED FOR AND OBTAINED COVERAGE UNDER THE PADEP'S GENERAL PERMIT NO. WMGR096, BENEFICIAL USE OF REGULATED FILL. OTHERWISE, THE MATERIAL WILL NEED TO BE DISPOSED OF IN A PADEP APPROVED LANDFILL FOLLOWING THE RESPECTIVE LANDFILL PERMITTING REQUIREMENTS. IN ADDITION, THE WASTE TRANSPORTATION SAFETY ACT (ACT 90 OF 2002, CHAPTER REQUIRES ALL WASTE TRANSPORTATION VEHICLES (TRUCKS AND TRUCK TRACTORS WITH A REGISTERED GROSS VEHICLE WEIGHT GREATER THAN 17,000 LBS., AND TRAILERS WITH A REGISTERED GROSS VEHICLE WEIGHT GREATER THAN 10,000 LBS.) TRANSPORTING MUNICIPAL OR RESIDUAL WASTE TO WASTE PROCESSING OR DISPOSAL FACILITIES IN PENNSYLVANIA TO HAVE A VALID WASTE TRANSPORTER AUTHORIZATION. THEREFORE, ACT 90 CERTIFIED TRUCKS WOULD BE REQUIRED TO TRANSPORT THE REGULATED FILL MATERIAL.

MANAGEMENT OF CONTAMINATED GROUNDWATER
BECAUSE OF THE AFOREMENTIONED CONSTITUENTS OF CONCERN (COCS) DETECTED IN GROUNDWATER SAMPLES COLLECTED AT THE SITE, ALL GROUNDWATER BROUGHT TO THE SURFACE DURING DEWATERING ACTIVITIES SHOULD BE HANDLED IN ACCORDANCE WITH THE FOLLOWING PROTOCOL. THE EXISTING GRADING PLAN DOES NOT CALL FOR LARGE SCALE CUTTING AND FILLING ACTIVITIES, IN FACT, THE CONSTRUCTION PLAN CALLS FOR THE IMPORTATION OF LARGE AMOUNTS OF CLEAN FILL MATERIAL TO BE IMPORTED TO THE SITE TO RAISE THE GRADE OF THE ENTIRE SITE. THEREFORE, IT IS UNLIKELY THAT GROUNDWATER WILL BE ENCOUNTERED. HOWEVER, IF ANY GROUNDWATER IS BROUGHT TO THE SURFACE, SPECIFIC STEPS MUST BE CONDUCTED TO ENSURE THAT ANY GROUNDWATER REMOVED FROM THE SITE IS MANAGED PROPERLY. THE FOLLOWING SECTIONS DETAIL THE REQUIRED ACTIONS THAT MUST BE TAKEN IF GROUNDWATER IS BROUGHT TO THE SURFACE FOR THE INSTALLATION OF STORMWATER MANAGEMENT INFRASTRUCTURE, UTILITIES, FOOTER CONSTRUCTION OR ANY OTHER REASON OR IF CONTAMINATED GROUNDWATER IS UN-EXPECTANTLY ENCOUNTERED ON ANY PART OF THE PROPERTY DURING CONSTRUCTION ACTIVITIES.

ENVIRONMENTAL OVERSIGHT
IF DEWATERING WORK IS PERFORMED, THE ENVIRONMENTAL PROFESSIONAL (EP) SHOULD BE NOTIFIED PRIOR TO THE INITIATION OF DEWATERING ACTIVITIES. THE ROLE OF THE EP IS TO ASSESS THE GROUNDWATER TO DETERMINE WHETHER THE GROUNDWATER IS IMPACTED AND TO ENSURE THAT IF IMPACTED GROUNDWATER IS ENCOUNTERED, IT IS HANDLED PROPERLY. THE DETERMINATION OF IMPACTED GROUNDWATER WILL BE BASED UPON VISUAL, I.E., IDENTIFICATION OF A SHEEN, AND OLFACTORY OBSERVATIONS. IN ADDITION, A GRAB SAMPLE OF THE COLLECTED GROUNDWATER SHALL BE COLLECTED FOR WASTE CHARACTERIZATION PURPOSES.

HANDLING OF CONTAMINATED GROUNDWATER
ONCE CONTAMINATED GROUNDWATER HAS BEEN REMOVED FROM THE GROUND, IT MUST BE HANDLED PROPERLY. THIS WASTE MATERIAL MUST BE HANDLED IN A WAY THAT MINIMIZES THE POTENTIAL FOR CONTAMINATION MIGRATION. CONTAMINATED GROUNDWATER THAT HAS BEEN REMOVED FROM THE GROUND MUST NOT COME IN CONTACT WITH SITE SOILS, GROUNDWATER OR SURFACE WATER ON THE SITE. THEREFORE, THE COLLECTED GROUNDWATER MUST BE STORED IN A WATER-TIGHT CONTAINER. WHILE CONTAINING CONTAMINATED GROUNDWATER, THE COLLECTION TANK SHOULD BE INSPECTED DAILY FOR EVIDENCE OF LEAKS. THE CONTENTS OF THE COLLECTION TANK MUST BE PROPERLY PROFILED BEFORE EMPTYING THE TANK INTO A TANKER TRUCK FOR OFF-SITE DISPOSAL OR RECYCLING AT A LICENSED FACILITY.

AS DISCUSSED ABOVE, THE WASTE TRANSPORTATION SAFETY ACT (ACT 90 OF 2002, CHAPTER REQUIRES ALL WASTE TRANSPORTATION VEHICLES (TRUCKS AND TRUCK TRACTORS WITH A REGISTERED GROSS VEHICLE WEIGHT GREATER THAN 17,000 LBS., AND TRAILERS WITH A REGISTERED GROSS VEHICLE WEIGHT GREATER THAN 10,000 LBS.) TRANSPORTING MUNICIPAL OR RESIDUAL WASTE TO WASTE PROCESSING OR DISPOSAL FACILITIES IN PENNSYLVANIA TO HAVE A VALID WASTE TRANSPORTER AUTHORIZATION. THEREFORE, ACT 90 CERTIFIED TRUCKS WOULD BE REQUIRED TO TRANSPORT THE IMPACTED GROUNDWATER AS WELL. IN ADDITION, THE WATER WOULD NEED TO BE DISPOSED OF AT A PERMITTED DISPOSAL FACILITY FOLLOWING ALL APPLICABLE PERMIT REQUIRED CHARACTERIZATION/APPROVAL REQUIREMENTS.

HEALTH & SAFETY PLAN
BECAUSE THERE WAS NOT A SINGLE DETECTION OF ANY COMPOUND IN ANY OF THE 36 SOIL SAMPLES DETECTED ABOVE THE NON-RESIDENTIAL DIRECT CONTACT MSCS, THE RISK OF DERMAL CONTACT OR INCIDENTAL INGESTION IS CONSIDERED EXTREMELY MINIMAL. THEREFORE, A HEALTH & SAFETY PLAN IS NOT REQUIRED FOR THE RISK OF DERMAL CONTACT AND INCIDENTAL INGESTION OF CONTAMINATED SOIL FOR CONSTRUCTION WORKERS.

IN ADDITION, THE ONLY EXCEEDANCE OF GROUNDWATER MSC WAS THE DETECTION OF MANGANESE IN TWO OF THE GROUNDWATER SAMPLES COLLECTED DURING THE 2021 PHASE II ESA. THE RESPECTIVE MSC IN THIS CASE, WAS ESTABLISHED BY THE PADEP BASED UPON THE LIFETIME HEALTH ADVISORY LEVEL, WHICH IS A GUIDELINE ISSUED BY THE USEPA FOR THE LEVEL OF A DRINKING WATER CONTAMINANTS BELOW WHICH ADVERSE HEALTH EFFECTS ARE NOT ANTICIPATED OVER A PERSON'S LIFETIME. THEREFORE, THIS MSC WAS BASED ON THE RISK OF UTILIZING A PARTICULAR WATER SOURCE AS A PRIMARY DRINKING SOURCE OVER A STANDARD LIFETIME OF A PERSON. THE MSC IS NOT AN INDICATOR OF RISK FOR DERMAL EXPOSURE TO A CONSTRUCTION WORKER IN A SHORT-TERM CONSTRUCTION PROJECT. COUPLED WITH THE FACT THAT THE WATER TABLE WILL MOST LIKELY NOT BE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES, THERE IS NO NEED FOR A SPECIFIC HEALTH AND SAFETY PLAN FOR THE POTENTIAL EXPOSURE OF MANGANESE IN GROUNDWATER.

HOWEVER, A PROJECT-SPECIFIC HEALTH & SAFETY PLAN SHOULD BE PREPARED BY EACH CONTRACTOR TO ENSURE THE GENERAL SAFETY OF THE CONSTRUCTION WORKERS. A SITE-SPECIFIC HEALTH AND SAFETY PLAN (HASP) WILL BE PREPARED BY THE CONTRACTOR AND SUBCONTRACTOR(S) FOR USE BY ITS PERSONNEL AT THE SUBJECT PROPERTY, WHICH WILL DETAIL HEALTH AND SAFETY PROTOCOLS TO BE FOLLOWED DURING CONSTRUCTION ACTIVITIES AT THE SITE. HASPS THAT INCLUDE PERSONNEL TRAINING RECORDS MUST BE PROVIDED TO THE OWNER'S REPRESENTATIVE AT LEAST ONE WEEK PRIOR TO THE COMMENCEMENT OF ACTIVITIES AT THE SUBJECT PROPERTY AND MUST BE MAINTAINED ON-SITE FOR THE DURATION THE CONTRACTOR OR SUBCONTRACTOR IS PERFORMING THEIR ACTIVITIES.

ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE OSHA STANDARDS AND OSHA WORKER SAFETY REQUIREMENTS. IN ACCORDANCE WITH PENNSYLVANIA LAW, PERSONNEL CONDUCTING EARTHWORK ACTIVITIES AT THE SUBJECT PROPERTY SHOULD, AT A MINIMUM, RECEIVE OSHA 30-HOUR AND 10-HOUR TRAINING PRIOR TO PERFORMING SITE WORK.

BASED ON THE KNOWN CONTAMINANT CONCENTRATIONS, SITE WORKERS SHOULD WEAR LEVEL D PERSONAL PROTECTIVE EQUIPMENT (PPE), WHICH GENERALLY INCLUDES SAFETY GLASSES, GLOVES, BOOTS, AND A HARD HAT, IF NECESSARY. PPE LEVELS SHOULD BE RECONSIDERED AND MODIFIED DEPENDING ON THE CONDITIONS ENCOUNTERED AS THE PROJECT PROGRESSES. THE CONTRACTOR AND ITS SUBCONTRACTORS ARE RESPONSIBLE FOR MEETING AND ADHERING TO ALL APPLICABLE OSHA REQUIREMENTS.

1	SOIL MANAGEMENT PLAN AND MATERIALS
C701	MANAGEMENT PLAN PROCEDURES

CONSTRUCTION STAGING
- NOTE FOR ALL DISTURBED AREAS: AS SOON AS SLOPES, CHANNELS, DITCHES, AND OTHER DISTURBED AREAS REACH FINAL GRADE THEY MUST BE STABILIZED. UPON COMPLETION OR TEMPORARY CESSATION OF EARTH DISTURBANCE ACTIVITY, OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED. NO MORE THAN 15,000 SQUARE FEET OF DISTURBED AREA SHALL REACH FINAL GRADE BEFORE INITIATING SEEDING AND MULCHING OPERATIONS.
- ALL CONSTRUCTION SHALL TAKE PLACE WITHIN THE LIMITS OF DISTURBANCE AS NOTED ON THE DRAWING.
- VEGETATED AREAS MUST ACHIEVE A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OVER THE ENTIRE DISTURBED AREA PRIOR TO REMOVAL OF ANY E&S BMPS. CONTACT THE ALLEGHENY COUNTY CONSERVATION DISTRICT FOR THEIR APPROVAL TO REMOVE THE PARTICULAR CONTROL MEASURES.
- WHEN CLEANING EXCESS SEDIMENT FROM THE E&S CONTROL FACILITIES, PLACE SEDIMENTS IN GRASS AREAS WHICH DO NOT RECEIVE CONCENTRATED STORM FLOWS AND ARE CONTROLLED BY BMPS (WITHIN LIMITS OF DISTURBANCE); THEN SEED OVER AREA USING SEEDING SPECIFICATIONS.
- A LOG SHOWING DATES THAT E&S BMPS WERE INSPECTED, AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION.
- EXCESS TOPSOIL THAT WILL NOT BE RE-SPREAD ON SITE SHALL BE DISPOSED OF AT A PA DEP APPROVED WASTE FACILITY.
- ALL DISTURBED AREAS WHICH ARE AT FINAL GRADE AND WILL NOT BE FURTHER DISTURBED SHALL BE SEEDED PER THE PERMANENT SEEDING SPECIFICATIONS.
- ALL OTHER DISTURBED AREAS THAT WILL NOT RECEIVE ADDITIONAL WORK FOR A PERIOD OF MORE THAN 4 DAYS SHALL BE SEEDED PER THE TEMPORARY SEEDING SPECIFICATIONS.
- AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3-5 INCHES (6-12 INCHES ON COMPACTED SOILS) PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUTSLOPES SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL. DISTURBED AREAS SHALL BE ANCHORED IN-PLACE WITH HYDROSEED AND TACKIFIER. SEED UNTIL VEGETATIVE COVER IS A UNIFORM COVERAGE OR DENSITY OF SEVENTY PERCENT (70%) ACROSS THE ENTIRE DISTURBED AREA.
- ANY SEDIMENT THAT ENTERS INLETS DURING CONSTRUCTION IS TO BE REMOVED WITHIN 24 HOURS.

2	RECYCLING/WASTE
C701	

PERMANENT SEEDING SPECIFICATIONS

MATERIALS:

TOPSOIL — 6" (MINIMUM) TOPSOIL SHALL BE REQUIRED ON ALL LAWN AREAS.

LIMESTONE — RAW, GROUND AGRICULTURAL LIMESTONE CONTAINING MORE THAN 90 PERCENT CALCIUM CARBONATES (ADJUST pH LEVELS TO 6.5 TO 7.0). APPLY AT A RATE OF 6 TON/AC (240 LB/ 1,000 SF), UNLESS OTHERWISE INDICATED BY SOIL TESTS

COMMERCIAL FERTILIZER — IN THE ABSENCE OF A SOIL TEST, USE 1000 LB/AC OF 10-10-20 (25 LB/1000 SF) MIXED INTO SEEDBED PRIOR TO SEEDING, OR IN A TANK WITH SEED WHEN HYDROSEEDING.

INOCULANT — INOCULANT FOR TREATING LEGUMINOUS SEEDS SHALL BE A STANDARD COMMERCIAL PRODUCT CONSISTING OF A SUITABLE CARRIER CONTAINING A CULTURE OF NITROGEN FIXING BACTERIA SPECIFIC FOR SEEDS TO BE INOCULATED. INOCULANT SHALL NOT BE USED LATER THAN DATE INDICATED ON THE CONTAINER

MULCH — CLEAN OAT OR WHEAT STRAW SHALL BE FREE FROM MATURE SEED-BEARING STALKS OR ROOTS OF PROHIBITED OR NOXIOUS WEEDS AS DEFINED BY THE PENNSYLVANIA SEED ACT 1947. APPLY AT A RATE OF 139 POUNDS PER 1,000 SQUARE FEET (3 TONS PER ACRE). PRECAUTIONS SHALL BE TAKEN TO STABILIZE MULCH UNTIL THE VEGETATIVE COVER IS ESTABLISHED. STRAW SHALL BE CRIMPED.

SEED MIXTURE — SEED MIXTURE SHALL BEAR A GUARANTEED STATEMENT OF ANALYSIS AND SHALL BE COMPOSED OF THE FOLLOWING VARIETIES AND MIXED IN PROPORTIONS SPECIFIED

PERMANENT SEEDING — ERNST SEED MIX ERNMX-113: 5 LBS PER 1,000 SF OR 150 LBS PER ACRE

PREPARATION OF SEEDING — GRADE AS NECESSARY TO BRING SUBGRADE TO A TRUE, SMOOTH SLOPE PARALLEL TO AND SIX INCHES BELOW FINISHED GRADE. PLACE TOPSOIL OVER SPECIFIED AREAS TO A DEPTH SUFFICIENTLY GREATER THAN SIX (6) OR EIGHT (8) INCHES SO THAT AFTER SETTLEMENT AND LIGHT ROLLING, THE COMPLETE WORK WILL CONFORM TO LINES, GRADES AND ELEVATIONS SHOWN.

FERTILIZER AND AGRICULTURAL LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE SOIL BY ROTOTILLING OR OTHER METHOD TO A MINIMUM DEPTH OF FOUR (4) INCHES. THE ENTIRE SURFACE SHALL THEN BE REGRADED AND ROLLED. AREAS TO BE SEEDED SHALL THEN BE LOOSENED TO A DEPTH OF TWO (2) INCHES. SEEDING SHALL BE DONE IN TWO SEPARATE OPERATIONS. THE SECOND SEEDING SHALL BE DONE IMMEDIATELY AFTER THE FIRST AND AT RIGHT ANGLES TO THE FIRST SEEDING AND LIGHTLY RAKED INTO THE SOIL. MULCH SEEDED AREAS IMMEDIATELY AFTER SEEDING.

STEEP SLOPE SEEDING SPECIFICATIONS:

(STEEP SLOPE MIX - SLOPES STEEPER THAN 3:1)

MATERIALS:

TOPSOIL — 3" (MINIMUM) TOPSOIL SHALL BE REQUIRED ON SLOPES STEEPER THAN 3:1.

LIMESTONE — RAW, GROUND AGRICULTURAL LIMESTONE CONTAINING MORE THAN 90 PERCENT CALCIUM CARBONATES (ADJUST pH LEVELS TO BETWEEN 6.5 TO 7.0). APPLY AT A RATE OF 6 TONS PER ACRE (275 POUNDS PER 1,000 SQUARE FEET), UNLESS INDICATED OTHERWISE BY SOIL TESTS

COMMERCIAL FERTILIZER — IN THE ABSENCE OF A SOIL TEST, USE 1000 POUNDS 10-20-20 PER ACRE (23 POUNDS PER 1000 SQUARE FEET) MIXED INTO SEEDBED PRIOR TO SEEDING, OR IN A TANK WITH SEED WHEN HYDROSEEDING.

INOCULANT — INOCULANT FOR TREATING LEGUMINOUS SEEDS SHALL BE A STANDARD COMMERCIAL PRODUCT CONSISTING OF A SUITABLE CARRIER CONTAINING A CULTURE OF NITROGEN FIXING BACTERIA SPECIFIC FOR SEEDS TO BE INOCULATED. INOCULANT SHALL NOT BE USED LATER THAN DATE INDICATED ON THE CONTAINER. IF A HYDRAULIC METHOD OF APPLICATION IS USED, INCREASE INOCULANT FOUR (4) TIMES NORMAL APPLICATION RATES

MULCH — CLEAN OAT OR WHEAT STRAW SHALL BE FREE FROM MATURE SEED-BEARING STALKS OR ROOTS OF PROHIBITED OR NOXIOUS WEEDS AS DEFINED BY THE PENNSYLVANIA SEED ACT OF 1947. APPLY AT A RATE OF 139 POUNDS PER 1,000 SQUARE FEET (3 TONS PER ACRE). PRECAUTIONS SHALL BE TAKEN TO STABILIZE MULCH UNTIL THE VEGETATIVE COVER IS ESTABLISHED. STRAW SHALL BE CRIMPED, TACIFIED, NETTED OR OTHERWISE ANCHORED

SEED MIXTURE — SEED MIXTURE SHALL BEAR A GUARANTEED STATEMENT OF ANALYSIS AND SHALL BE COMPOSED OF THE FOLLOWING VARIETIES AND MIXED IN PROPORTIONS SPECIFIED:

SEEDING RATES — ERNST SEED MIX ERNMX-185: 6 LBS PER 1,000 SF

ALL AREAS TO BE SEEDED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF AT LEAST THREE INCHES PARALLEL TO CONTOURS BY MECHANICAL MEANS AS APPROVED BY THE LANDSCAPE ARCHITECT. THE COMMERCIAL FERTILIZER AND AGRICULTURAL GROUND LIMESTONE MAY BE SPREAD EVENLY ON AREAS TO BE SEEDED PRIOR TO TILLAGE AND INCORPORATED INTO THE SOIL AT THE SAME TIME.

MULCH SEEDED AREAS IMMEDIATELY AFTER SEEDING.

SEEDING — SEED ALL SLOPES STEEPER THAN 3:1 WITH STEEP SLOPE MIX UNLESS NOTED OTHERWISE ON THE DRAWINGS

3	PERMANENT SEEDING
C701	SPECIFICATIONS

SITE SOIL TYPES:

	DESCRIPTION	SLOPE	LIMITATIONS	REMEDIAL ACTIONS
SYMBOL UB	URBAN LAND	GENTLY	• CUTBANKS CAVE • CORROSIVE TO CONCRETE AND STEEL • HAZARD OF EROSION • SEASONAL HIGH WATER TABLE • PERMEABILITY • LANDSLIDES • SLOW PERCOLATION • PIPING • POOR SOURCES OF TOPSOIL • FROST ACTION • SHRINK SWELL • POTENTIAL SINKHOLE • SLOPE • SUSCEPTIBILITY TO SLIPS	SOILS SUSCEPTIBLE TO HIGH WATER TABLES AND/OR PIPING AND SEEPING. * PROVIDE PUMPED WATER SEDIMENT REMOVAL FACILITIES * USE CLAY EMBANKMENT CORES. * **UTILIZE ANTI-SEEP COLLARS OR GRAVEL PACKS**. SOILS SUSCEPTIBLE TO MODERATE OR HIGH EROSION POTENTIAL: * LIMIT TIME OF EXPOSURE * USE EROSION CONTROL BLANKETS. * SELECTION OF SEED MIXTURES WITH RAPIDLY GERMINATING SPECIES * SODDING * USE OF SPECIAL STABILIZATION PRODUCTS (E.G. CELLULAR GRIDS, INTERLOCKING CONCRETE BLOCKS. .) SOILS SUSCEPTIBLE TO SLIPS & LANDSLIDES * PREVENT SATURATION OF SLOPES. * PROVIDE ANCHORING OR RETAINING SYSTEMS * PROVIDE BENCHING TO CATCH FALLING DEBRIS * **SEE GEOTECHNICAL NOTE BELOW**. SOILS SUSCEPTIBLE TO CUTBANKS CAVE * PREVENT SATURATION OF SLOPES. * PROVIDE ANCHORING OR RETAINING SYSTEMS * PROVIDE BENCHING TO CATCH FALLING DEBRIS * PROVIDE TRENCH BOXES FOR UTILITY INSTALLATION SOILS CORROSIVE TO CONCRETE/STEEL. * MINIMIZE THE AMOUNT OF SOIL DISTURBANCE. * PROVIDE PROTECTIVE COATING TO CONCRETE AND STEEL * PROVIDE EXTRA CONCRETE AND STEEL THICKNESS SOILS THAT ARE POOR SOURCES OF TOPSOIL: * PERFORM SOIL TESTS TO DETERMINE PROPER APPLICATION OF SOIL AMENDMENTS AND PROPER MOISTURE CONTENT FOR PROPOSED VEGETATIVE COVER * IMPORT TOPSOIL AS NEEDED

A GEOTECHNICAL ENGINEER WILL REVIEW THE SOIL CAPABILITY OF THE SITE AND MAKE RECOMMENDATIONS TO THE OWNER. SOILS HAVING UNSTABLE COMPOSITION, SLIP AND LANDSLIDE POTENTIAL ARE NOT TO BE PLACED AS FILL MATERIAL AT AREAS HAVING 2:1 SLOPES OR NEAR PROXIMITY TO SUCH SLOPES. LOADING PLANES OF SUCH PLACED FILLS SHOULD BEAR ON SUITABLE SOILS KEYED INTO VIRGIN SOILS. REFER TO CUT/FILL DETAILS ON PLANS. ALL CUT SITUATIONS THAT EXPOSE SUCH SOILS TO UNSUPPORTED BEARING BASE REQUIRES THOSE SOILS TO BE EXCAVATED AND REPLACED WITH SUITABLE SOILS THAT DO NOT HAVE THE MENTIONED CHARACTERISTICS.

4	SITE SOIL DATA
C701	

RECYCLING/DISPOSAL OF SOLID WASTE

UPON COMPLETION OF THE PROJECT, RECYCLING OR DISPOSAL OF ALL WASTE MATERIALS SHALL BE THE RESPONSIBILITY OF THE EARTHMOVING CONTRACTOR. CONSTRUCTION WASTE INCLUDES, BUT IS NOT LIMITED TO, EXCESS SOIL MATERIALS, SILT REMOVED FROM EROSION CONTROL FACILITIES, EXCESS BUILDING MATERIALS, CONCRETE WASH WATER, SANITARY WASTES, AND OBSOLETE EROSION CONTROL MATERIALS (SILT FENCE, SILT SACKS, ETC.)

SILT REMOVED FROM SEDIMENT CONTROL FACILITIES SHALL BE SPREAD ON THE TOPSOIL STOCKPILE, OR IN LAWN OR LANDSCAPE AREAS. OBSOLETE EROSION CONTROL MATERIALS AND EXCESS BUILDING MATERIALS MUST BE DISPOSED OF AT A DEP APPROVED SITE.

5	RECYCLING / DISPOSAL OF
C701	WASTES

CONSTRUCTION STAGING
- NOTE FOR ALL DISTURBED AREAS: AS SOON AS SLOPES, CHANNELS, DITCHES, AND OTHER DISTURBED AREAS REACH FINAL GRADE THEY MUST BE STABILIZED. UPON COMPLETION OR TEMPORARY CESSATION OF EARTH DISTURBANCE ACTIVITY, OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED. NO MORE THAN 15,000 SQUARE FEET OF DISTURBED AREA SHALL REACH FINAL GRADE BEFORE INITIATING SEEDING AND MULCHING OPERATIONS.
- ALL CONSTRUCTION SHALL TAKE PLACE WITHIN THE LIMITS OF DISTURBANCE AS NOTED ON THE DRAWING.
- VEGETATED AREAS MUST ACHIEVE A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OVER THE ENTIRE DISTURBED AREA PRIOR TO REMOVAL OF ANY E&S BMPS. CONTACT THE ALLEGHENY COUNTY CONSERVATION DISTRICT FOR THEIR APPROVAL TO REMOVE THE PARTICULAR CONTROL MEASURES.
- WHEN CLEANING

FILL CHART

Material Location	Description	Material Classification	Compaction/Density Requirement (NOTE 3)
FINAL FILL (fill standing from the top of the embedment fill layer. (NOTE 1 and 2)	Suitable Fill Materials as noted in the Project Geotechnical Report and noted on the Site Design Engineer's Plans	See Project Geotechnical Report and Site Design Engineer's Plans	Plate Compact or Static Roll loose lifts to densify fill. Use at least two full passes of the equipment to level the layer. Continue until 24 inches of total fill thickness has been placed above the tank. For AASHTO M145 soils, a minimum of 95% of the Standard Proctor Maximum Dry Density is recommended. After 24 inches of fill is placed, place fill in accordance with the engineer of record's relative compaction requirement or no 95% of the Standard Proctor Maximum Dry Density - whichever is greater.
EMBEDMENT FILL (fill immediately Surrounding the sides and top of tank) (NOTE 4)	Sand-Gravel Mixtures or Open-Graded Crushed Aggregate Blends	AASHTO M145: A-1, A-2-4, A-3 OR AASHTO M43: 3, 357, 4, 467, 5, 56, 57	Plate Compact or Static Roll loose lifts to densify fill. Use at least two full passes of the equipment to level the layer. For AASHTO M145 soils, a minimum of 95% of the Standard Proctor Maximum Dry Density is recommended.
BEDDING FILL (fill immediately below the tank (NOTE 5)			

NOTE 1 - Tree roots can include pavement subbase
NOTE 2 - If open-graded aggregates are used for embedment fill, trees migration from the final to embedment fill layer may be reduced by installing a layer of 6 oz non-woven geotextile fabric at the final and embedment fill interface.
NOTE 3 - See Construction Equipment Table for more information for construction equipment limitations.
NOTE 4 - Import or native soils may be used if the soils meet the material classification listed. Fill material should be selected based on classification, groundwater conditions, and tank invert elevation.

CONSTRUCTION EQUIPMENT CHART

Equipment Make (NOTE 1)	Maximum Gross Vehicle Weight (lbs)	Minimum Fill Depth over Tank (in)
Plate Compactor	3,500	6
Compact Track Loader (NOTE 2)	7,500	6
Rubber-Tired Skid Steer (NOTE 2)	7,500	18
Low Ground Pressure Tracked Excavator (NOTE 3)	25,000	24
Roller - Static Mode	52,000	18
Roller - Vibratory Mode	52,000	24
Dump Trucks and Pans	NOTE 5	

NOTE 1 - Vehicles shall make straight runs only across tank footprint.
NOTE 2 - Maximum ground pressure = 5 psi
NOTE 3 - Maximum axle load = 9,250 lbs
NOTE 4 - Maximum ground pressure = 7 psi
NOTE 5 - Contact ACO for more information regarding dump truck and pan traffic during construction
NOTE 6 - Backfill material may be temporarily unloaded near the excavation. Material shall not be unloaded near the excavation for longer than 24 hours.

COVER CHART

Live Loading Condition	Cover Thickness (Inches) Minimum	Maximum
Non-Trafficked Areas (i.e. Landscaping)	12	180
Passenger Vehicles Parking Lot (i.e. Gross Vehicle Weight <10,000 lbs)	18	180
Passenger Vehicle Parking Lot with one weekly AASHTO HS-20 axle/ea	20	180
Frequent AASHTO HS-20 Traffic	22	180
Passenger Vehicle Parking Lot with one weekly AASHTO HS-25 axle/ea	24	180
Frequent AASHTO HS-25 Traffic	26	180

NOTE 1: Maximum Cover Thickness in non-trafficked areas is based on landscape surface with a 40 degree load distribution. In trafficked areas, Minimum Cover Thicknesses are based on an asphalt surface pavement with a 30 degree load distribution.
NOTE 2: Calculations assume backfill with a minimum 30 degree angle of internal friction and a maximum density of 120 lbs per cubic foot, and a reinforced concrete slab.
NOTE 3: Calculations assume an excavation at least 2 feet below the invert of the tank.

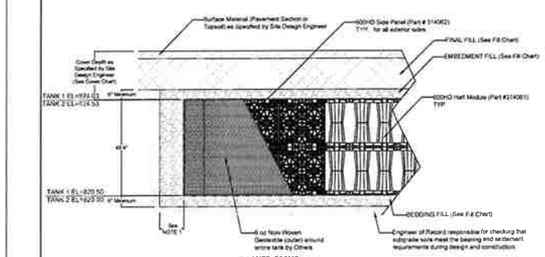


DETAIL A
PIPE WRAP
NTS

SIDE PANEL PIPE DIAMETER CHART

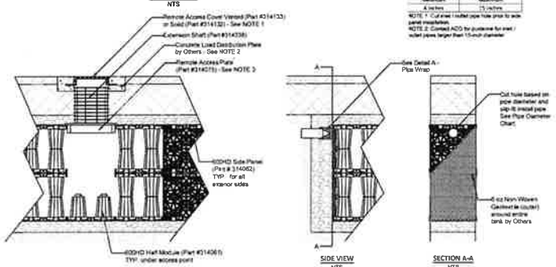
Inlet/Outlet Pipe Diameter	
Minimum	Maximum
4 inches	15 inches

NOTE 1: Cut small inlet/outlet pipe hole prior to side panel installation.
NOTE 2: Contact ACO for guidance for inlet / outlet pipes larger than 15-inch diameter



2 LAYER 600HD
INFILTRATION CROSS SECTION
NTS

NOTE 1 - The minimum width of sidewall backfill is 12" or large enough to accommodate selected compaction equipment, whichever is greater



2 LAYER 600HD
ACCESS POINT CROSS SECTION
NTS

NOTE 1: Ventilation may be crucial to reducing the pressure build up within the system. If solid access covers are used, alternative methods of ventilation are recommended.
NOTE 2: Concrete Load Plate not required for unpaved applications. Consult Engineer of Record for requirements.
NOTE 3: The Remote Access Plate is approximately the size of half of a half-module. The half-module at the top of the tank must be cut in half to accommodate the Remote Access Plate

2 LAYER 600HD
PIPE INSTALLATION
NTS

DRAWN BY	CHECKED BY
A Frye	J Jonke
DATE	REV.
12/23/2024	1

STORMBRIXX STANDARD DETAILS
600HD SYSTEM - 2 LAYER - INFILTRATION

ACO, INC.

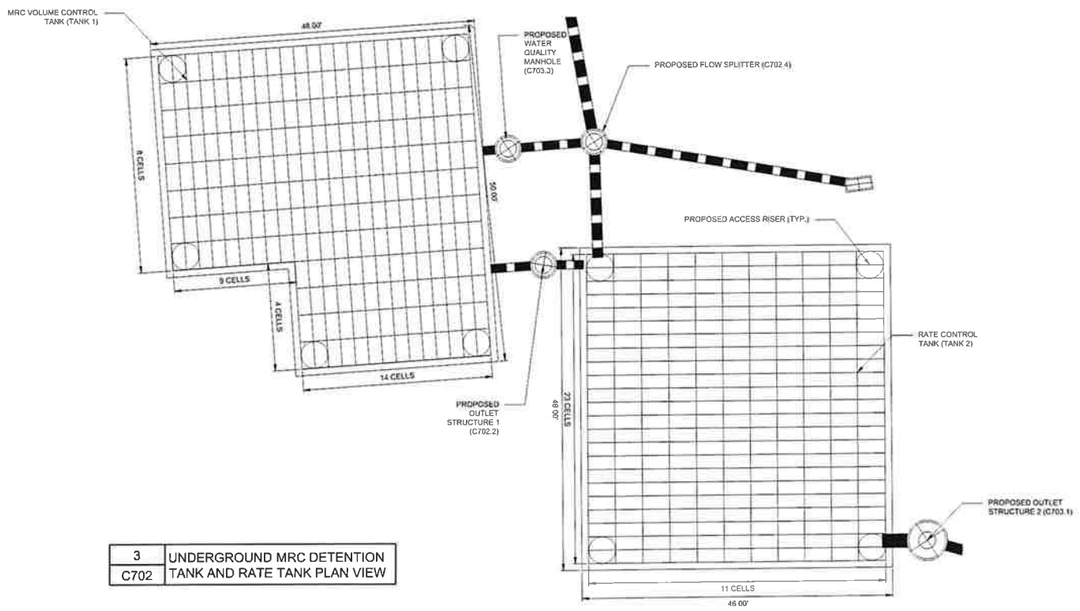
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Tel: (800) 543-4764
Fax: (440) 639-7235

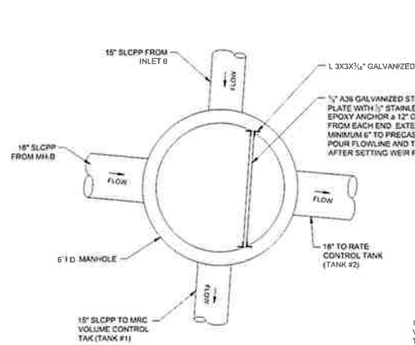
SOUTHEAST SALES OFFICE
487 MOON RD, SUITE #225
FORT MILL, SC 29715
Tel: (440) 639-7230
Fax: (803) 802-1083

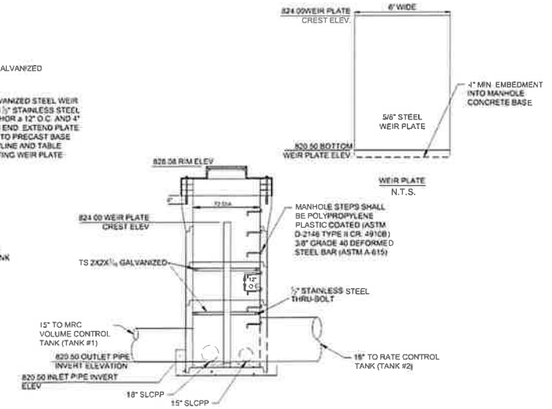
www.acodrain.com

1	UNDERGROUND TANK 1
C702	AND 2

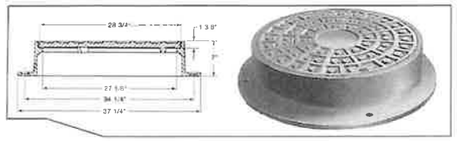


3	UNDERGROUND MRC DETENTION
C702	TANK AND RATE TANK PLAN VIEW

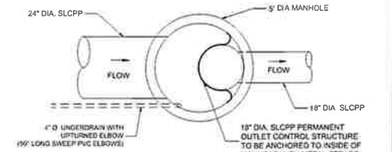




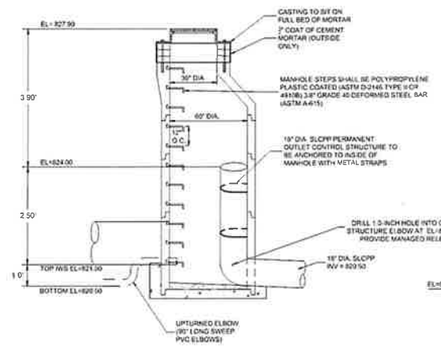
4	TYPICAL FLOW SPLITTER
C702	STRUCTURE



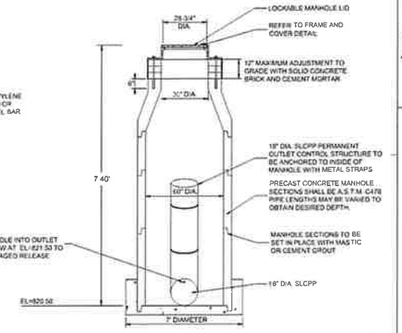
EXCEPT AS NOTED, ALL MANHOLE FRAMES AND COVERS SHALL BE NEENAH FOUNDRY FRAME AND COVER PATTERN NO. R-1753-A, AND LABELED "PRIVATE STORM".



FRAME AND COVER



TOP VIEW



2	OUTLET STRUCTURE 1 (OS 1)
C702	

GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
JAMES M. GRIFFITH
ENGINEER
No. PE087971
PENNSYLVANIA

REVISION RECORD

No	Date	
01	2025-11-11	WPP Updates
02	2025-12-16	ACOD TECHNICAL NPDES RESPONSE
03	----	----
04	----	----
05	----	----
06	----	----
07	----	----
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LAFAYETTE 180
NEWBURY DRIVE
CUDDY, PA 15031

PREPARED FOR:
CE - SF, LP
295 MYOMA ROAD
MARS, PA 16046

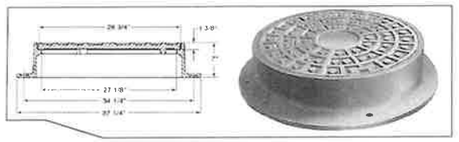
POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS

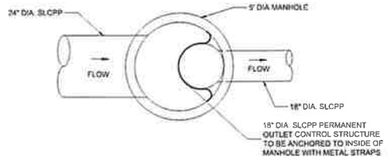
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Drawing Scale: N/A
Date Issued: AUG 2025
Index Number: --
Drawn By: MCL/RRR
Checked By: JMG
Project Manager: JMG

C702

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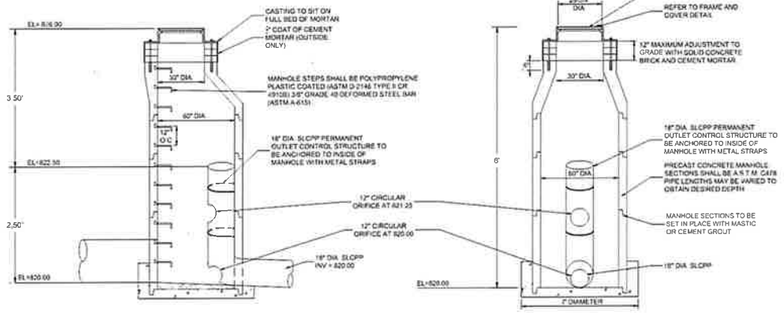




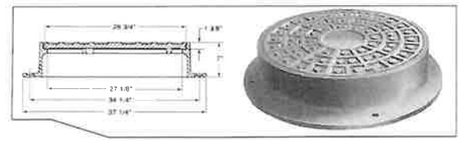
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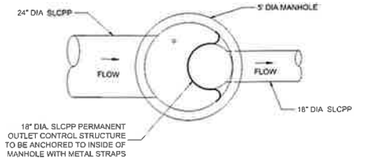
FRAME AND COVER

TOP VIEW



1	OUTLET CONTROL STRUCTURE 2
C703	(OCS 2)

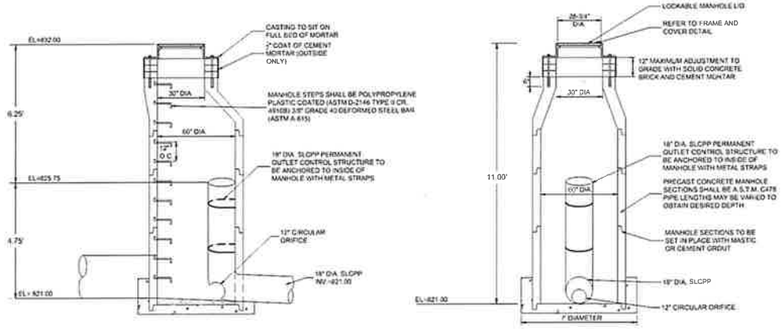




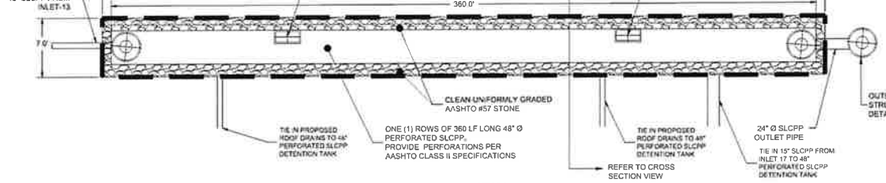
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FRAME AND COVER

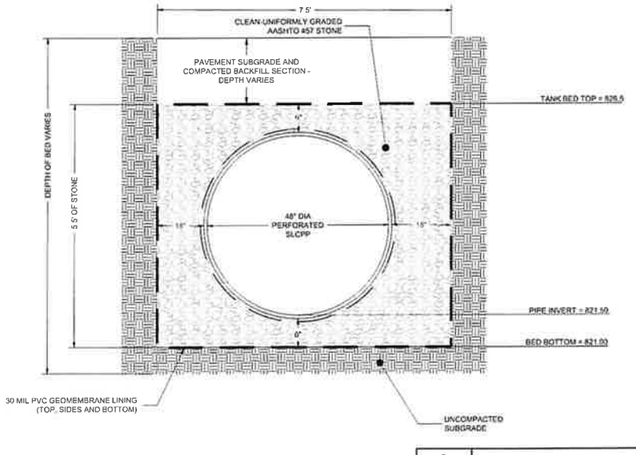
TOP VIEW



2	OUTLET STRUCTURE 3 (OS 3)
C703	

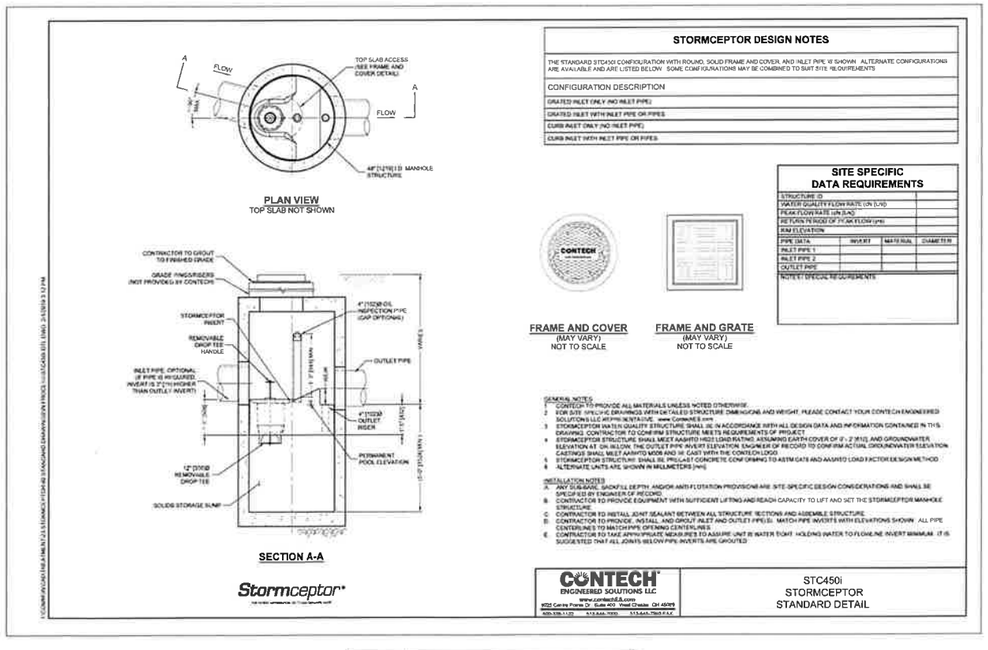


PLAN VIEW
NOT TO SCALE



CROSS SECTION VIEW
NOT TO SCALE

3	UNDERGROUND TANK 3
C703	



4	STORMCEPTOR 1 (STC 450i)
C703	

GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL JAMES M. GRIFFITH ENGINEER No. PE087774

REVISION RECORD

No	Date	
01	2025-11-11	WPP Updates
02	2025-12-16	ACCD TECHNICAL NPDES RESPONSE
03	-----	----
04	-----	----
05	-----	----
06	-----	----
07	-----	----
08	-----	-

LAFAYETTE 180
NEWBURY DRIVE
CUDDY, PA 15031

PREPARED FOR:
CE - SF, LP
295 MYOMA ROAD
MARS, PA 16046

POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS

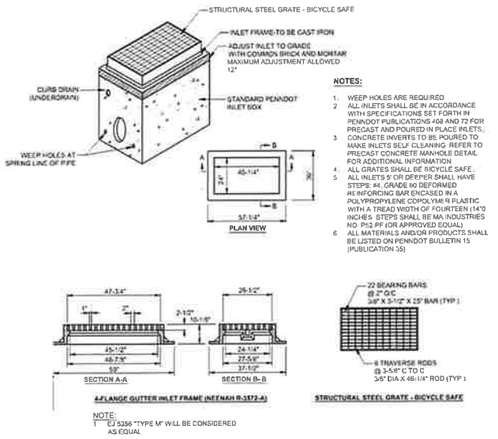
Project Number: C-12199-0025
Drawing Scale: N/A
Date Issued: AUG 2025
Index Number: -
Drawn By: MCL/RRR
Checked By: JMG
Project Manager: JMG

C703

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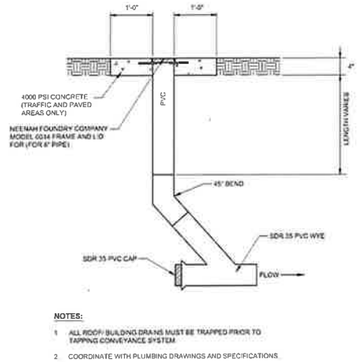


NOTES:

1. WEEP HOLES ARE REQUIRED
2. ALL INLETS SHALL BE IN ACCORDANCE WITH SPECIFICATIONS SET FORTH IN PENNDOT PUBLICATIONS 408 AND 72 FOR PRECAST AND POURED IN PLACE INLETS.
3. CONCRETE INVERTS TO BE POURED TO MAKE INLETS SELF CLEANING. REFER TO PRECAST CONCRETE MANHOLE DETAIL FOR ADDITIONAL INFORMATION
4. ALL GRATES SHALL BE BICYCLE SAFE.
5. ALL INLETS 5' OR DEEPER SHALL HAVE STEPS: #4, GRADE 60 DEFORMED #5 REINFORCING BAR ENCASED IN A POLYPROPYLENE COPOLYMER PLASTIC WITH A TREAD WIDTH OF FOURTEEN (14") INCHES. STEPS SHALL BE MA INDUSTRIES NO. PS3 PF (OR APPROVED EQUAL)
6. ALL MATERIALS AND/OR PRODUCTS SHALL BE LISTED ON PENNDOT BULLETIN 15 (PUBLICATION 35)

NOTE:
1. EJ 5356 "TYPE M" W.I.L. BE CONSIDERED AS EQUAL

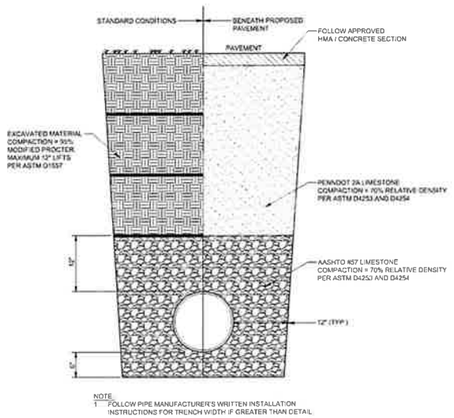
1	PENNDOT STANDARD INLET BOX WITH
C704	TYPE M FRAME AND BIKE SAFE GRATE



NOTES:

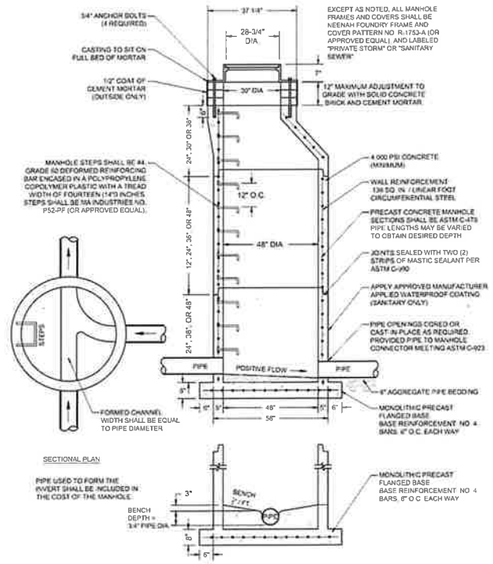
1. ALL ROOF/ BUILDING DRAINS MUST BE TRAPPED PRIOR TO TAPPING CONVEYANCE SYSTEM
2. COORDINATE WITH PLUMBING DRAWINGS AND SPECIFICATIONS

2	CLEANOUT
C704	

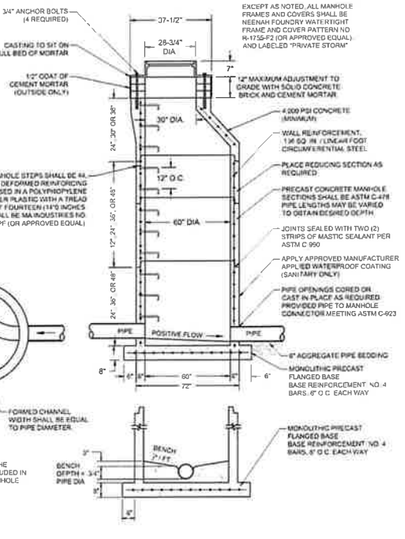


NOTE
1. FOLLOW PIPE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS FOR TRENCH WIDTH IF GREATER THAN DETAIL

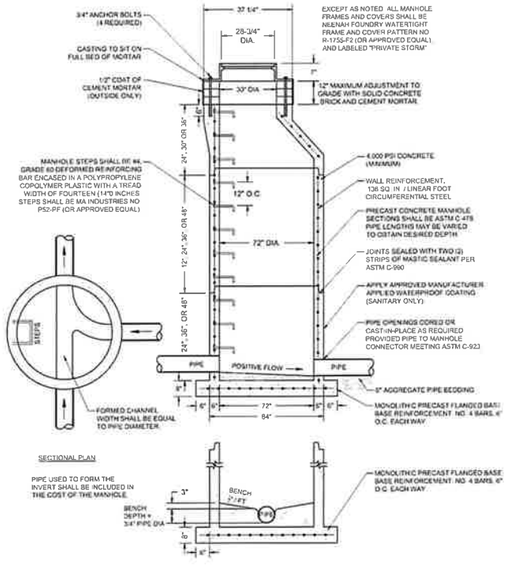
3	UNDERGROUND PIPE OR CONDUIT
C704	BACKFILL



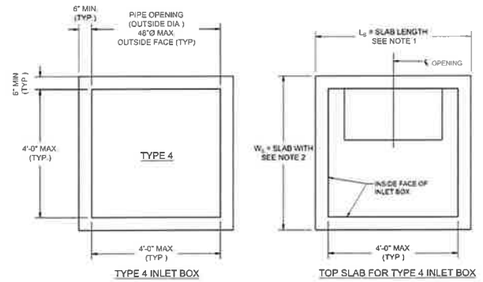
4	48" DIAMETER PRECAST
C704	CONCRETE MANHOLE



5	60" DIAMETER PRECAST
C704	CONCRETE MANHOLE (STORM)



6	72" DIAMETER PRECAST
C704	CONCRETE MANHOLE (STORM)



NOTES:

1. OUT TO OUT DIMENSIONS OF TOP SLABS TO MATCH SIZE OF INLET BOX.
2. SET EDGE OF OPENING AT INSIDE FACE OF INLET BOX FOR ACCESS, IF POSSIBLE.
3. REFER TO PENNDOT RC-64M FOR ADDITIONAL INFORMATION.
4. STORM INLET BOX PIPE CONNECTIONS REQUIRE BOTH AN INTERIOR AND EXTERIOR CONCRETE PARGE.

7	PENNDOT TYPE 4 INLET BOX
C704	

GATEWAY ENGINEERS
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COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ENGINEER — PENNSYLVANIA

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No	Date	
01	2025-11-11	WPP Updates
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LAFAYETTE 180
NEWBURY DRIVE
CUDDY, PA 15031

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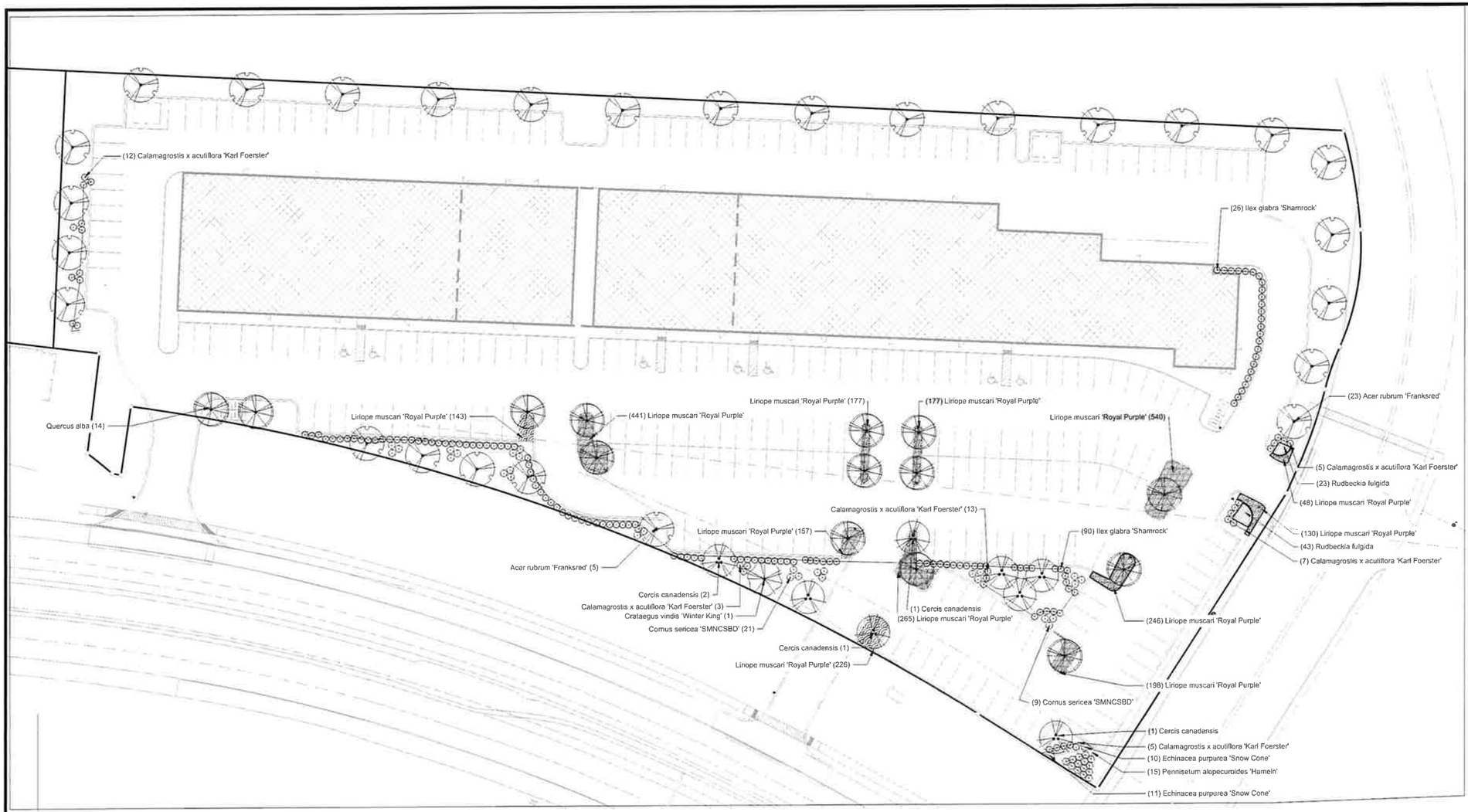
POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS

Project Number: C-12199-0025
Drawing Scale: N/A
Date Issued: AUG 2025
Index Number: –
Drawn By: MCL/RRR
Checked By: JMG
Project Manager: JMG

C704

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LANDSCAPE NOTES:

1. THE CONTRACTOR SHALL COMPLY AT ALL TIMES WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, PROVISIONS AND POLICIES GOVERNING SAFETY AND HEALTH, INCLUDING THE FEDERAL CONSTRUCTION SAFETY ACT (PUBLIC LAW 91-54), FEDERAL REGISTER, CHAPTER XVII, PART 1926 OF TITLE 29 REGULATIONS, OCCUPATIONAL SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION, AND SUBSEQUENT PUBLICATIONS UPDATING THESE REGULATIONS
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING THE AREAS AND CONDITIONS UNDER WHICH THE PROJECT IS TO BE CONSTRUCTED PRIOR TO THE SUBMISSION OF THE BID SUBMISSION OF A BID SHALL BE CONSTRUED TO MEAN THE CONTRACTOR HAS REVIEWED THE SITE AND IS FAMILIAR WITH CONDITIONS AND CONSTRAINTS OF THE SITE.
3. PRIOR TO THE INSTALLATION OF PLANT MATERIAL, THE CONTRACTOR SHALL ACCURATELY LOCATE ALL EXISTING UNDERGROUND UTILITIES, INCLUDING ALL RECENTLY INSTALLED UTILITIES. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE LANDSCAPE ARCHITECT OF ANY CONFLICTS WITH **THE PLANT MATERIAL. ANY UTILITIES DAMAGED AS A RESULT** OF PLANTING ACTIVITIES SHALL BE REPAIRED AND/ OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
4. TREE PROTECTION FENCING MUST BE IN PLACE PRIOR TO ANY DEMOLITION OR LAND DISTURBANCE
5. **NO CHANGES TO THE LANDSCAPE DESIGN SHALL BE MADE** WITHOUT THE WRITTEN CONSENT OF THE LANDSCAPE ARCHITECT
6. ALL PLANTS INDICATED ON PLANS SHALL BE GROWN IN CLIMATES SIMILAR TO PROJECT AREA
7. **PLANT COUNTS ARE FOR REFERENCE ONLY. THE** CONTRACTOR IS REQUIRED TO FULFILL THE INTENT OF THE DRAWINGS. ANY DISCREPANCIES IN THE NUMBER OF PLANTS SHOWN ON THE DRAWING AND THE PLANT LIST SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER PRIOR TO SUBMITTING A BID OR BEGINNING INSTALLATION
8. ALL PLANT MATERIAL SHALL CONFORM TO OR EXCEED THE AMERICAN STANDARD FOR NURSERY STOCK (LATEST EDITION) AS PUBLISHED BY THE AMERICAN ASSOCIATION OF **NURSERYMEN. DO NOT INSTALL DAMAGED, WILTING OR UNHEALTHY PLANTS.**
9. IN THE EVENT THAT A PROPOSED PLANT CANNOT BE ACQUIRED, SUBSTITUTION FOR GENUS, SIZE OR SPECIES SPECIFIED SHALL ONLY BE SUBSTITUTED WITH AN EQUIVALENT **PLANT WHICH MUST BE APPROVED BY THE LANDSCAPE ARCHITECT IN WRITING**
10. PLANTING MAY ONLY OCCUR DURING THE FOLLOWING PERIODS: MARCH 15 – JUNE 15 AND SEPTEMBER 15 – NOVEMBER 15. EXCEPTIONS WILL BE MADE BUT MUST BE APPROVED IN WRITING PRIOR TO ANY INSTALLATION. PROCEED WITH PLANTING ONLY WHEN EXISTING AND FORECASTED WEATHER CONDITIONS PERMIT PLANTING
11. A PRE-EMERGENT HERBICIDE SHALL BE APPLIED TO THE SHRUB BEDS AND MULCH AREAS PRIOR TO THE INSTALLATION OF PLANT MATERIAL. HERBICIDE IS TO BE APPLIED PER **MANUFACTURER'S SPECIFICATIONS. PROPOSED HERBICIDE** SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT AND OWNER PRIOR TO APPLICATION
12. **TOPSOIL SHALL MEET ASTMD 5268, HAVE A PH RANGE OF 5.5-7,** CONTAIN A MINIMUM OF 4% ORGANIC MATERIAL AND BE FREE OF ANY STONES OVER 1" IN ANY DIRECTION AND FREE OF DEBRIS AND NON-ORGANIC MATERIAL. A SOIL SAMPLE SHALL BE TAKEN BY THE CONTRACTOR PRIOR TO PLANTING AND SENT **TO A SOIL TESTING LABORATORY RECOGNIZED BY THE STATE DEPARTMENT OF AGRICULTURE. IF REQUIRED, SOIL** AMENDMENT TYPES AND QUANTITIES TO BE SUBMITTED FOR REVIEW.
13. PRIOR TO INSTALLATION OF ANY PLANT MATERIAL, THE CONTRACTOR SHALL CONFIRM ADEQUATE DRAINAGE IN ALL PITS AND PLANT BEDS. NOTIFY THE LANDSCAPE ARCHITECT IF BEDROCK IS ENCOUNTERED OR IF PROPER DRAINAGE CANNOT BE ACHIEVED.
14. PLANT TREES AND SHRUBS AFTER FINISH GRADES ARE ESTABLISHED AND BEFORE PLANTING LAWNS UNLESS OTHERWISE APPROVED BY THE LANDSCAPE ARCHITECT
15. PLANTING MIXES: PLANTING MIX FOR BACKFILLING PLANT PITS OF DECIDUOUS TREES AND SHRUBS SHALL BE IN THE PROPORTION OF FOUR PARTS BY VOLUME OF TOPSOIL AND ONE PART BY VOLUME OF PEAT MOSS PLUS ONE POUND OF **10-6-4 FERTILIZER PER CUBIC YARD. PLANTING MIX FOR** BACKFILLING PLANT PITS OF NEEDLED EVERGREEN PLANTS SHALL BE IN THE PROPORTION OF TWO PARTS BY VOLUME OF TOPSOIL AND ONE PART BY VOLUME PEAT MOSS PLUS ONE POUND OF 10-6-4 FERTILIZER PER CUBIC YARD. ALL AMENDMENTS SHALL BE THOROUGHLY MIXED
16. REFER TO EROSION AND SEDIMENTATION CONTROL PLAN FOR LIMITS OF DISTURBANCE. ALL DISTURBED AREAS SHALL BE FINE GRADED AND SEEDED WITH PERMANENT SEED MIX UNLESS OTHERWISE NOTED ON PLANS. PRIOR TO INSTALLATION OF SOD OR SEED, ALL LAWN AREAS SHALL RECEIVE TOPSOIL TO A DEPTH OF 4" AFTER LIGHT ROLLING. DO NOT COMPACT. THE AREAS SHALL BE DISKED AND RAKED SMOOTH TO A UNIFORM GRADE AS SHOWN ON THE GRADING PLAN.
17. A 3" THICK DOUBLE SHREDDED HARDWOOD MULCH BED SHALL BE PROVIDED IN ALL AREAS CONTAINING TREES, SHRUBS AND UNDER BUILDING OVERHANGS
18. PLANT IDENTIFICATION TAGS SHALL BE LEFT ON UNTIL INSTALLED PLANTINGS ARE INSPECTED BY THE LANDSCAPE ARCHITECT. ALL TAGS SHALL BE REMOVED AFTER APPROVAL.
19. WARRANTY PERIOD FOR TREES AND SHRUBS IS ONE YEAR WARRANTY PERIOD FOR GROUNDCOVER, LAWNS, GRASSES AND PERENNIALS IS 6 MONTHS. WARRANTY PERIOD FOR **REPLACEMENTS SHALL BE EQUAL TO THE ORIGINAL WARRANTY** PERIOD
20. A SATISFACTORY LAWN IS DEFINED AS A HEALTHY, UNIFORM **CLOSE STAND OF GRASS FREE OF WEEDS AND SURFACE** IRREGULARITIES WITH COVERAGE EXCEEDING 90% OVER 10 SQUARE FEET WITH NO BARE SPOTS EXCEEDING 5"X5" SQUARE.
21. REFER TO LANDSCAPE DETAIL SHEETS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION PERTAINING TO INSTALLATION OF LANDSCAPE INCLUDING BUT NOT LIMITED TO MULCHING, STAKING AND SETTING/ SPACING OF PLANTS

SOUTH FAYETTE TOWNSHIP LANDSCAPE REQUIREMENTS:

1. §240-98 J.(4) BUFFER AREAS AND LANDSCAPING
   IN ANY NONRESIDENTIAL DEVELOPMENT, DECIDUOUS TREES SHALL BE PLANTED IN ACCORDANCE OF THE FOLLOWING SCHEDULE. THESE TREES SHALL BE IN ADDITION TO THE TREES PROVIDED IN ANY REQUIRED BUFFER OR PARKING AREA.

BUILDING FOOTPRINT	REQUIREMENT
30,001 - 75,000 ft²	A MINIMUM OF 30 TREES PLUS 1 TREE FOR EACH 3,000 ft² OF BUILDING FOOTPRINT IN EXCESS OF 30,000 ft²

   THE TREES SHALL BE PLANTED IN CLUSTERS ON THE SITE AND SHALL BE DISTRIBUTED THROUGHOUT THE SITE TO ENHANCE THE OPEN SPACE.

   45,126 ft² BUILDING: 35 TREES REQUIRED
   35 TREES PROVIDED + 16 ADDITIONAL TREES

2. §240-98 J.(6)
   ALL TREES WHICH ARE REQUIRED TO BE PLANTED AS PER THE REGULATIONS OF THIS SUBSECTION J SHALL BE A MINIMUM OF TWO INCHES IN DIAMETER AT A POINT ONE FOOT ABOVE THE GROUND AT THE TIME OF PLANTING MEASURED ALONG THE TRUNK OF A PLANTED TREE, WHICH THE TREE SHALL BE PLANTED IN ACCORDANCE WITH ACCEPTED CONSERVATION PRACTICES.
   PROVIDED

PLANT SCHEDULE

TREES	QTY	BOTANICAL / COMMON NAME	CONDITION	SIZE	
	27	Acer rubrum 'Franksred' / Red Sunset® Maple	B&B	2" CAL.	
	8	Cercis canadensis / Eastern Redbud	B&B	2" CAL.	
	1	Crataegus viridis 'Winter King' / Winter King Hawthorn	B&B	2" CAL.	
	14	Quercus alba / White Oak	B&B	2" CAL.	
SHRUBS	**QTY**	**BOTANICAL / COMMON NAME**	**CONDITION**	**SIZE**	
	45	Calamagrostis x acutiflora 'Karl Foerster' / Karl Foerster Feather Reed Grass	#2 Cont. 18" Ht.		
	30	Cornus sericea 'SMNCSBD' / Arctic Fire® Yellow Dogwood	#5 Cont. 30" HT.		
	115	Ilex glabra 'Shamrock' / Shamrock Inkberry Holly	#5 Cont. 30" HT.		
	15	Pennisetum alopecuroides 'Hameln' / Hameln Fountain Grass	#2 Cont.		
GROUND COVERS	**QTY**	**BOTANICAL / COMMON NAME**	**CONT**		
	21	Echinacea purpurea 'Snow Cone' / Snow Cone Purple Coneflower	1 gal.		18" o.c.
	2,861	Liriope muscari 'Royal Purple' / Royal Purple Lilyturf	1 gal.		12" o.c.
	66	Rudbeckia fulgida / Coneflower	1 gal.		18" o.c.

811 Know what's **below.** **Call** before you dig.
Serial No. 20231760058

NORTH

GRAPHIC SCALE
0 15 30 60 120
(IN FEET)
1 inch = 30 ft

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GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER No. PE087791

REVISION RECORD

No	Date
01	WPP Updates 2025-11-11
02	ACOE TECHNICAL NPDES RESPONSE 2025-12-16
03	TOWNSHIP SUBMISSION 2026-01-14
04	---- ----
05	---- ----
06	---- ----
07	---- ----
08	---- ----

LAFAYETTE 180
NEWBURY DRIVE
CUDDY, PA 15031

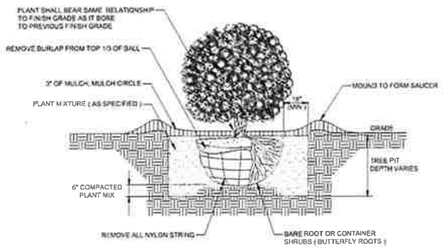
PREPARED FOR:
CE - SF, LP
295 MYOMA ROAD
MARS, PA 16046

LANDSCAPE PLAN

Project Number: C-12199-0025
Drawing Scale: 1" = 30'
Date Issued: AUG 2025
Index Number: --
Drawn By: MCL/RRR
Checked By: JMG
Project Manager: JMG

L100

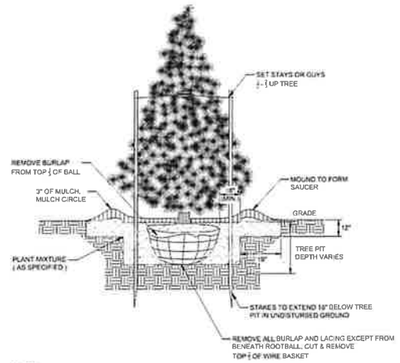
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Plot Date=1/14/2026 1:02 PM Quincy R. Stamer, E.I.T.
Save Date=1/14/2026 12:56 PM



NOTES:

1. DO NOT PRUNE EVERGREENS EXCEPT TO REMOVE DEAD AND BROKEN BRANCHES

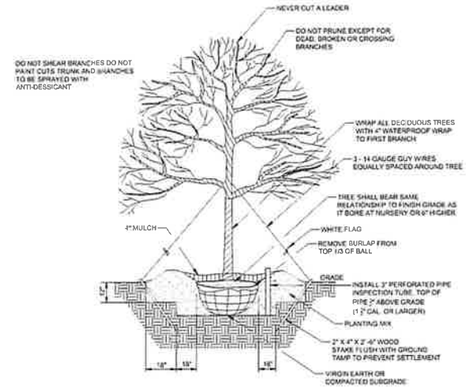
1	SHRUB PLANTING
L100	



NOTES:

1. STAKE ALL EVERGREEN TREES UNDER 12'
2. TREE SHALL BEAR SAME RELATION TO FINISHED GRADE AS IT BORE TO PREVIOUS GRADE
3. NEVER CUT LEADERS, 4. PRUNE ONLY TO REMOVE DAMAGED OR BROKEN BRANCHES

2	EVERGREEN TREE PLANTING
L100	



CUT AND REMOVE ALL BURLAP AND LACING EXCEPT FROM BENEATH ROOTBALL. CUT AND REMOVE TOP 1/3 OF WIRE BASET. SLICE BURLAP WHERE BASKET REMAINS

3	DECIDUOUS TREE PLANTING
L100	

Date	No	REVISION RECORD
2025-11-11	01	WPP Updates
2025-12-16	02	ACCD TECHNICAL NPDES RESPONSE
2026-01-14	03	TOWNSHIP SUBMISSION
----	04	----
----	05	----
----	06	----
----	07	----
	08	-

GATEWAY ENGINEERS
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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ENGINEER
No. PE087757
PENNSYLVANIA

LAFAYETTE 180
NEWBURY DRIVE
CUDDY, PA 15031

PREPARED FOR:
CE - SF, LP
295 MYOMA ROAD
MARS, PA 16046

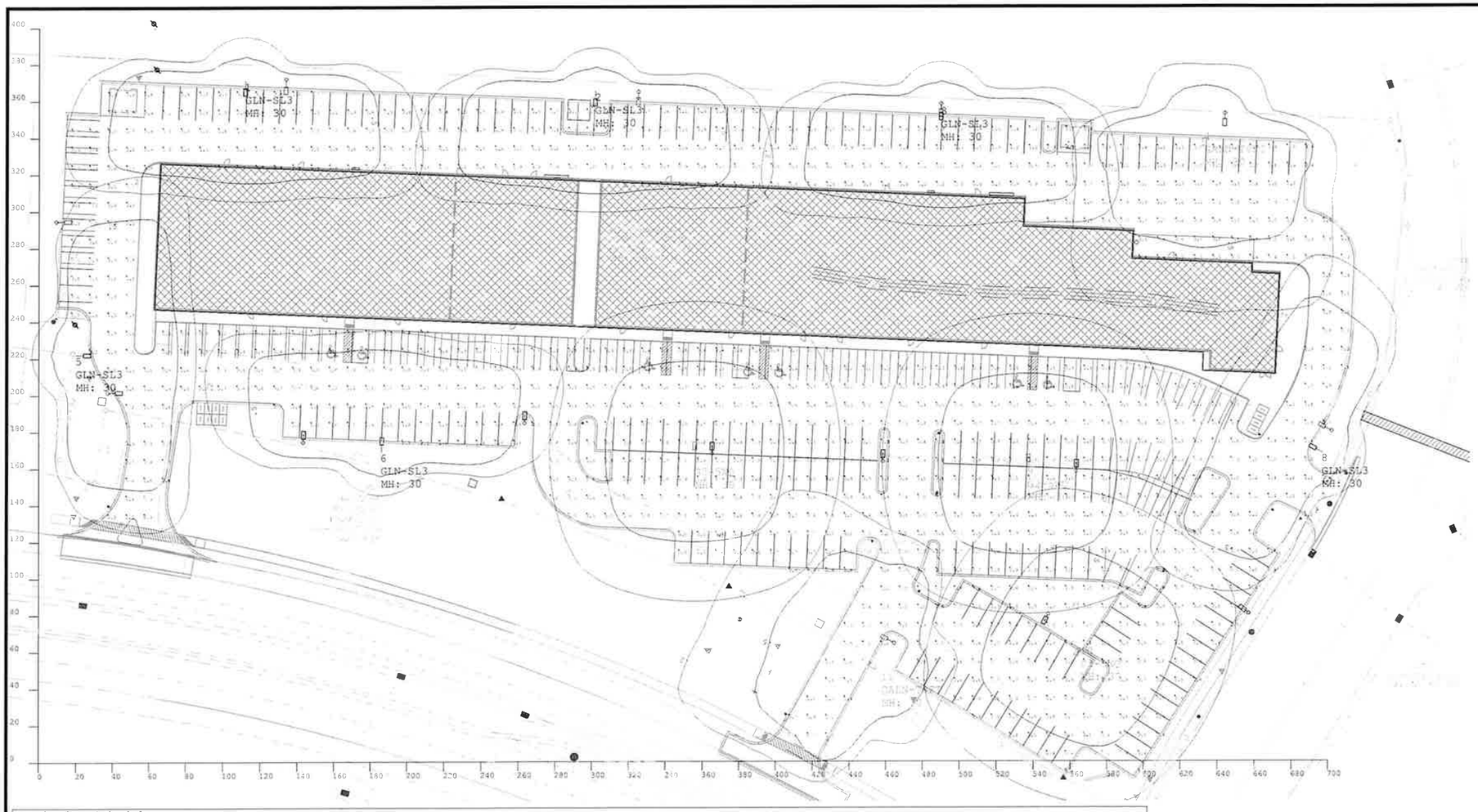
LANDSCAPE PLAN DETAIL

Project Number: C-12199-0025
Drawing Scale: 1" = 30'
Date Issued: AUG 2025
Index Number: --
Drawn By: MCL/RRR
Checked By: JMG
Project Manager: JMG

L101

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22 Plan & Filename=G:\Projects\12000\12199-NOSH(1)\2025 Cozza Retail Development\Dwg\02-Sheet\L100 - Landscape Plan.dwg
Plot Date=1/14/2026 1:02 PM Quincy R. Steiner, E.I.T. Save Date=1/14/2026 12:56 PM



Luminaire Schedule								
Symbol	Qty	Label	Arrangement	Description	LLF	Luminaire Lumens	Luminaire Watts	Total Watts
	3	G2-5WQ	Single	GALN-SA2C-740-U-5WQ	0.912	14797	108	324
	2	GALN-T4FT	Single	GALN-SA2C-740-U-T4FT	0.912	14107	108	216
	6	GLN-SL3	Single	GALN-SA2C-740-U-SL3	0.912	14013	108	648

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Parking Lot	Illuminance	Fc	0.79	3.4	0.2	3.95	17.00

RP-8-21 Recommended Maintained Illuminance Values
Parking Lots (basic requirements, not for security lighting)

Application and Task Parking Lots - All Ages	Grid Ratio	Description	Target Horizontal Levels (fc) Measured at Ground Height	Target Illuminated Levels (fc) Measured at Vertical Plane	Horizontal & Vertical Uniformity (Avg:Min)
All Parking Lots	10 Grids	Open Parking Facilities Top Floor of Parking Garage All Activity Levels	0.20 FC @ 0.0'	0.10 FC @ 5.0'	20:1
Drive Aisles Parking Areas	10 Grids	Open Parking Facilities All Activity Levels	0.20 FC @ 0.0'	0.10 FC @ 5.0'	10:1
Transaction Areas Pedestrian & Vehicle	10 Grids	Area extending 10 feet beyond transaction area in all directions or to curb, property line, or structure	0.5 FC Min - Pre-curfew 0.2 FC Min - Post-curfew	0.30 FC Min - Pre-Curfew 0.10 FC Min - Post-curfew	10:1
Transaction Machines General Areas	Vertical	Vertical illuminance over entire front face of any machines. Coordinate with any machine display lighting requirements.		At Task Height TBD 2.0 FC Min - Pre-curfew 1.0 FC Min - Post-curfew	10:1

Applications, tasks, or viewing specifics encountered on any given project may be different than these and may necessitate different criteria.

Table 17-2 RP-8-21

Luminaire Location Summary					
		Insertion Point			
LumNo	Label	X	Y	Z	Orient
1	GLN-SL3	112	371	30	268.452
2	GLN-SL3	302	365	30	268.452
3	GLN-SL3	490	357	30	268.452
4	GALN-T4FT	633	343	30	268.409
5	GLN-SL3	20	222	30	0
6	GLN-SL3	186	169	30	87.436
7	G2-5WQ	356	168	30	90
8	GLN-SL3	697	168	30	151.699
9	G2-5WQ	537	161	30	90
10	G2-5WQ	566	63	30	242.103
11	GALN-T4FT	458	49	30	151.858

Know what's below. Call before you dig.
Serial No. 20231760058

NORTH

GRAPHIC SCALE
0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

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----	07	----
-	08	-

LAFAYETTE 180
NEWBURY DRIVE
CUDDY, PA 15031

PREPARED FOR:
CE - SF, LP
295 MYOMA ROAD
MARS, PA 16046

LIGHTING PLAN

Project Number: C-12199-0025
Drawing Scale: 1" =30'
Date Issued: AUG 2025
Index Number: --
Drawn By: MCL/RRR
Checked By: JMG
Project Manager: JMG

L200

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Save Date: 1/14/2026 1:34:44 PM | Plotted: 1/14/2026 1:38 AM

Project #		Catalog #	Type
Prepared by		Notes	Date



McGraw-Edison

GALN Galleon II

Area / Site Luminaire

Product Features

Interactive Menu

- Ordering Information page 2
- Mounting Details page 3
- Optical Distributions page 4
- Product Specifications page 5
- Energy and Performance Data page 6
- Control Options page 10

Product Certifications

Quick Facts

- Lumen packages range from 3,300 - 73,500 (33W - 552W)
- 17 optical distributions
- Efficacy up to 159 lumens per watt

Connected Systems

- WaveLinx Lite
- WaveLinx

Dimensional Details

Standard Pole Mount Arm



Pole Drilling Pattern

Type "N"



1-4	16"	22"	29 lb	8.95
5-6	22"	22"	39 lb	8.95
7-8	22"	28-1/8"	48 lb	11

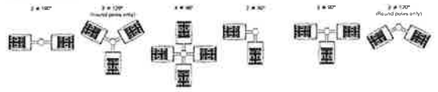
NOTES

1. [illegible]
2. [illegible]

COOPER Lighting Solutions

Mounting Details

Pole Configuration Options



Pole Drilling Patterns

Type "N" Type "R" Type "M"



Quick Mount Universal Arm (CU) +



Quick Mount Mast Arm (QMA) +



Pole Mount Arm with Quick Mount Adaptor (QM) +



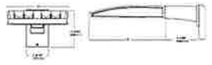
Mast Arm, Fixed (MA) +



Upswept Arm (UP) +



Wall Mount, Fixed (WM)



COOPER Lighting Solutions

Mounting Details

Wall Mount, Adjustable (WA)



Adjustable Arm Range of Motion

- Includes WA, SP, SP3 and PA mounting options
- Adjustable in increments of 5°
- Must use main downward facing orientation



3" Slipfitter, Adjustable (SP)+



2-3/8" Slipfitter, Adjustable (SP3)+



Pole Mount, Adjustable Arm (PA)+

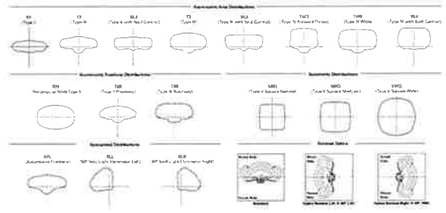


Fixture Weights and EPAs

Tilt Angle	Number of Light Engines	Weight	1	1.5	2	2.5	3	3.5	4
0°	1-2	33.5 lb (15.2 kg)	0.85	1.70	1.46	1.56	2.31	2.25	2.35
	3-4	43.5 lb (19.7 kg)	0.95	1.71	1.62	1.80	2.49	2.35	2.58
	5-6	52.5 lb (23.8 kg)	0.98	1.95	1.75	1.98	2.73	2.56	2.75
	7-8	73.5 lb (33.3 kg)	1.10	1.71	1.95	2.25	2.80	3.30	2.87
15°	1-2	33.5 lb (15.2 kg)	1.10	1.71	1.95	2.25	2.80	3.30	2.87
	3-4	43.5 lb (19.7 kg)	1.42	1.71	2.27	2.72	3.53	3.42	3.75
	5-6	52.5 lb (23.8 kg)	1.56	1.96	2.67	3.27	3.96	4.28	3.72
	7-8	73.5 lb (33.3 kg)	1.72	1.81	2.58	3.21	3.44	4.59	3.53
30°	1-2	33.5 lb (15.2 kg)	1.72	1.81	2.58	3.21	3.44	4.59	3.53
	3-4	43.5 lb (19.7 kg)	2.26	2.29	3.11	4.00	3.97	5.27	4.08
	5-6	52.5 lb (23.8 kg)	2.75	2.86	3.73	4.65	4.73	5.45	4.81
	7-8	73.5 lb (33.3 kg)	2.75	2.86	3.73	4.65	4.73	5.45	4.81
45°	1-2	33.5 lb (15.2 kg)	2.25	2.36	3.18	4.00	3.96	5.43	4.08
	3-4	43.5 lb (19.7 kg)	2.96	2.99	3.81	5.06	4.67	6.49	4.71
	5-6	52.5 lb (23.8 kg)	3.53	3.76	3.72	5.77	5.18	6.83	5.73
	7-8	73.5 lb (33.3 kg)	2.63	2.77	3.49	4.58	4.34	6.21	4.44
60°	1-2	33.5 lb (15.2 kg)	2.63	2.77	3.49	4.58	4.34	6.21	4.44
	3-4	43.5 lb (19.7 kg)	3.46	3.51	4.22	5.84	5.19	7.51	5.32
	5-6	52.5 lb (23.8 kg)	4.27	4.44	5.25	7.15	6.23	9.60	6.46
	7-8	73.5 lb (33.3 kg)	4.27	4.44	5.25	7.15	6.23	9.60	6.46

COOPER Lighting Solutions

Optical Distributions



Product Specifications

Construction
- Die-cast aluminum housing and front trim
- Three housing sizes, using 1 to 5 light squares

Optics
- High-efficiency injection molded AccuLED Optics technology
- 17 optical distributions for area style and roadway applications
- 3 shielding options include IDSI, DRS and PFS
- IDA Certified (3000K CCT and warmer only, fixed mounting options)

Electrical
- Removable power tray assembly includes drivers, surge modules and control modules for ease of maintenance and serviceability
- Standard with 0-10V dimming
- Specified with 10kV surge module, optional 20kV surge module
- Suitable for operation in -40°C to 40°C ambient environments. Optional (-50°C high ambient) available

Mounting
- Arms are factory installed, enabling closest housing installation
- All arms suitable for round or square pole installation
- All arms provide clearance for multiple fixture installations at 90°

Finish
- 5 standard finishes use super durable TGIC polyester powder coat paint, providing 2.5 mil nominal thickness and salt spray tested to 2,000 hours per ASTM B117
- RAL and custom colors matches available
- Coastal Construction (CC) option salt spray tested to 5,000 hours per ASTM B117, achieving a scribe rating of 9 per ASTM D1654

Typical Application
- Outdoor Parking Lots, Walkways, Roadways, Building Areas

Warranty
- Five year limited warranty

Energy and Performance Data

Lumen Maintenance (TM-21)

Ambient Temperature	Expected Percent Lumens at 25,000 hours	Expected Percent Lumens at 50,000 hours	Expected Percent Lumens at 75,000 hours	Expected Percent Lumens at 100,000 hours	Recommended Maximum Operating Current
Up to 1A	25°C	99.4%	99.0%	98.5%	98.3%	> 2.4M
	40°C	98.7%	98.3%	98.1%	97.4%	> 1.19M
	50°C	98.2%	97.2%	96.5%	95.7%	> 851,000
2.2A	25°C	99.4%	99.0%	98.5%	98.3%	> 2.4M
	40°C	98.5%	97.9%	97.7%	96.7%	> 1.2M

Lumen Multiplier

Ambient Temperature	Lumen Multiplier
0°C	1.02
10°C	1.01
25°C	1.00
40°C	0.99
50°C	0.97

COOPER Lighting Solutions

Control Options

0-10V (DMI)

Photocontrol (NPC, PR and PRCI)

Bluetooth (BT)

After Hours Dim (AHD)

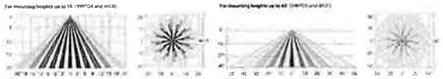
Dimming Occupancy Sensor (DTR and MS/DIM 3.0V)

Wireless

Lumen Edge Integrated Network Security Camera (LD)

Emulate (DMYR)

Sensor Switch (SSWF)



COOPER Lighting Solutions

GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER

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08	-	-

LAFAYETTE 180
NEWBURY DRIVE
CUDDY, PA 15031

PREPARED FOR:
CE - SF, LP
295 MYOMA ROAD
MARS, PA 16046

LIGHTING DETAIL

Project Number: C-12199-0025
Drawing Scale: N/A
Date Issued: AUG 2025
Index Number: --
Drawn By: MCL/RRR
Checked By: JMG
Project Manager: JMG

L201

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Last Saved: 1/14/2026 1:07 PM By: Casey K. Kinard
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Gibson-Thomas ENGINEERING

Pittsburgh Office
9951 Old Perry Highway
Wexford, PA 15090
Phone: **724-935-8188**
Fax: **724-935-8189**
www.gibson-thomas.com

February 19, 2026

GTE 18663

MEMO TO: Mr. John Barrett, Manager
South Fayette Township
100 Township Drive
South Fayette, PA 15017

FROM: Gibson-Thomas Engineering Co., Inc.
Brandon S. Wiltrout, PE, Planning Commission Representative
brandon.wiltrout@gibson-thomas.com

SUBJECT: Final Land Development – **Review #1**

PLAN NAME: Lafayette 180

LOCATION: Parcel Nos. 256-L-1, 256-L-2, 256-L-9
Millers Run Road & Newbury Drive
Bridgeville, PA 15017

ZONING: C-2 Highway Commercial

MADE BY: The Gateway Engineers, Inc. (Contact: Joseph Galbraith)
100 McMorris Road
Pittsburgh, PA 15205
(855) 634-9284

MADE FOR: Craig Cozza
295 Myoma Road
Mars, PA 16046
(412) 417-9700

DATE OF PLAN: August 2025 (Revised January 14, 2026)

RECEIVED IN GTE OFFICE: January 20, 2026

SUBMITTED MATERIAL:

- Land Development Plan (26 Sheets)
- Applications (Township/County)
- Deeds
- Agent Authorization Form
- Elevation Renderings
- Geotechnical Review
- NPDES Approval
- Sales Agreement
- Traffic Study
- TIS Addendum
- Utility Availability Letters
- Reports (SWM, E&S, Wetlands)

General Comments

1. Gibson-Thomas Engineering Co., on behalf of South Fayette Township, reserves the right to re-review ordinances, address and apply other existing ordinances as we deem necessary to assure compliance with any and all drawings, reports, and exhibits when submitted or resubmitted on behalf of the applicant.

2. When resubmitting the revised plan, a review response letter addressing the comments contained herein is required.

3. This project proposes a shopping center with parking lot and associated utilities within the Township. The parcel is currently developed with access to public sewer, water, gas, and electricity. The stormwater management system will include a series of pipe networks and underground tanks that will discharge into the existing storm system. The total disturbed area for the project is 5.48 acres.

4. The Applicant shall address any third-party review and comments prior to final approval.

5. The Approval of this Land Development Plan is contingent on the approval of the accompanying Subdivision Plan (S-01-2026). Any changes made to the Subdivision Plan shall be reflected on the Land Development plan.

6. The following variances were previously granted for this project:

    I. On July 26, 2023, a variance has been granted by the South Fayette Township Zoning Hearing Board to Section 240-51.a(1) to allow the lot area of 4.4 acres departure from the required 5.0 acres for a planned shopping center.
    II. On July 26, 2023, a variance has been granted by the South Fayette Township Zoning Hearing Board to section 240-111.j(2) reducing the setback on Millers Run Road side yard parking setback from 20 feet to 1 foot.
    III. On July 26, 2023, a variance has been granted by the South Fayette Township Zoning Hearing Board to section 240-111.j(2) reducing the front yard parking setback from 20 feet to 8 feet, as it is related to Newbury Drive.
    IV. On July 26, 2023, a variance has been granted by the South Fayette Township Zoning Hearing Board to section 240-51.c to allow exceedance of maximum impervious surface area from the required 70 percent to 84 percent.

Traffic Impact Study Comments

1. The previous Traffic Impact Study prepared for this project was approved by PennDOT 12/28/2023. The approval letter states that any modification to the previously reviewed materials will warrant a revised TIS. Please provide PennDOT documentation that they have reviewed the TIS addendum for this modified project and provide any comments related to the review and the corresponding approval letter.

2. The TIS addendum states that the site will now contain the following land uses/sizes: Retail Plaza (46,046 SF), Warehouse (4,000 SF), and General Office Building (8,374 SF). The site plan calls for the following land uses/sizes: Retail Building (58,420 SF) broken into the following parts, Retail Plaza (54,420 SF) and Storage Area (4,000 SF). It is recommended that the revised trip generation calculations reflect the land uses listed on the submitted Site Plan. This would result in using the entire 58,420 SF as Shopping Center and the following trip estimates:

	IN	OUT	TOTAL
ADT	1910	1909	3879
AM Peak Hour	58	35	93
PM Peak Hour	136	142	278
SAT Peak Hour	149	138	287

   The trip estimate for the revised site plan shows a minimal increase versus the original site plan so the original TIS does not need to be reevaluated. However, the above PM Peak Hour trip generation should be used to calculate the Traffic Impact Fee for the site.

3. It is recommended that a 'post development' review of traffic conditions be required following the development construction and an agreed upon percentage of occupancy. This post-development traffic review would observe movements from vehicles entering and exiting the proposed development onto Newbury Drive in both directions. There is concern with the existing observed stacking of vehicles on Newbury Drive and the potential traffic conflicts that could occur post-development in this area. Details of this post-development review should be incorporated into the Developer's Agreement for the project.

4. § 211-14: This project is located in the Township's South Transportation Service Area (TSA) and is subject to traffic impact fees of $1,418 per new PM Peak Hour Trip. Based on information provided, the 142 PM Peak Hour trips will require an impact fee amount of $201,356.00.

Chapter 160 – Floodplain Management Comments

1. § 160-402.A.2 – Within any floodway area, no new construction or development shall be allowed, unless the appropriate permit is obtained from the Department of Environmental Protection Regional Office.

Chapter 210 – Streets and Sidewalks Comments

1. § 210-2.A – The Applicant shall obtain a street opening permit for the proposed electric line crossing Newbury Drive. The excavation shall follow the specifications outlined in this Chapter. Provide details of traffic control relating to the street opening installation.

Chapter 215 – Subdivision/Land Development Comments

1. § 215-42.E.1 – The Applicant shall adjust the cover sheet to reflect “Final Land Development Plan”.

2. § 215-42.E.14 – The Applicant shall provide any proposed pavement markings to the plans. A crosswalk shall be added to the driveway crossing on Newbury Drive.

3. § 215-42.E.24 – The Applicant shall provide the location of width of all storm drainage easements.

4. § 215-52.B – At the Township Engineer's discretion, an inspector may be required to be present at the site on a continual basis while work is in progress. The cost of providing a full-time or part-time inspector shall be charged to the developer in accordance with § 215-90C of this chapter.

5. § 215-54 – Upon completion of the public and/or private improvements in a plan, as-built plans and profiles of the public and/or private improvements, as constructed, shall be filed with the Township Manager by the developer within 10 days of the mailing of the notice of completion. A sepia and print of each as-built drawing shall be submitted. As-built plans and profiles shall be marked "as-built" and shall contain the final grade of all sanitary and storm sewers and appurtenances.

6. § 215-62 – Following issuance of the certificate of completion and release of the amenities bond, the landowner shall be responsible for maintaining all private improvements in good condition and repair to the satisfaction of the Township.

7. § 215-64.C – The Applicant shall provide any easements required by the utility companies.

8. § 215-64.D – The location and type of fire hydrants shall be subject to the review and approval by the Chief of the Volunteer Fire Department.

9. § 215-76 – Easements for sanitary sewers, water lines and stormwater management facilities shall be required to have a minimum width of 20 feet. Where a subdivision or land development is or will be traversed by a watercourse, there shall be provided a stormwater easement or drainage right-of-way of a width sufficient for the purpose, but not less than 20 feet.

10. § 215-77.C – For double frontage lots, vehicular access shall be limited to only one street. The Applicant shall request a modification to this section.

11. It is recommended that the overhead electric line on the Westerly property boundary be relocated outside of the dumpster area, placed subsurface, or provide documentation to ensure that the line will not be disturbed as the dumpster is emptied.

12. § 215-82.B – The Applicant shall expand the landscaping plan to specify the ground cover of all areas not currently hatched, i.e. mulch or lawn.

13. § 215-84.A – Manholes shall be vacuum tested and all sanitary sewer lines shall be lamped and air tested by the developer in the presence of the Municipal Authority's inspector. Air tests shall be conducted in accordance with the specifications established by currently accepted engineering standards.

14. § 215-84.1 – It has been noted that wetlands are present on site as per Sheet C400 but are not identified on the National Wetlands Inventory. No NWI impacts will be observed as approved by the ACCD.

Chapter 215-78 - Stormwater Management Comments

1. There are details provided for several different manhole sizes. The Applicant shall specify the installation size for each manhole on the profiles.

2. The Applicant shall ensure the Inlet Drainage Map and corresponding analysis accurately represents the location and names of structures as listed on the site plan. Provide calculations for all pipes on site to ensure all structures have appropriate capacity and do not surcharge.

3. It is recommended that Inlet 16 be relocated to the other side of the landscaped island, outside of the dumpster pad area to protect water quality.

4. § 215-78.D.1.c.2 – The Applicant shall provide the following signature block: "(Municipal official or designated plan reviewer (Subsection D(3)(a)), on this date (Signature date), has reviewed and hereby certifies that the SWM site plan meets all design standards and criteria of the Municipal Ordinance No. (_____, except where waivers have been granted as noted on the plan. The review is based on a survey and plan prepared by others and assumes that all information is correct and valid as submitted."

5. § 215-78.D.1.c.3.f – The Applicant shall provide the expected project time schedule to the site plan.

6. § 215-78.D.1.c.3.j – The Applicant shall clearly label POA-1 on the site plan. It appears DP 001 and DP 002 are flowing into different storm sewer systems. In accordance with § 215-78.E.1.h, it is recommended that DP 001 and DP 002 be analyzed as separate points of analysis as that is where runoff exits the property.

7. § 215-78.D.1.c.3.n – The Applicant shall provide the flow path and segments used to determine time of concentrations for each watershed on the drainage area maps.

8. § 215-78.E.2.d – The minimum pipe slope shall be 1.0% grade or maintain velocity of two feet per square.

9. § 215-78.F.2.a – Prior to final approval of the SWM site plan, the property owner shall sign and record an operation and maintenance (O&M) agreement (see Appendix B[16]) covering all stormwater control facilities which are to be privately owned.

Chapter 240 - Zoning Comments

1. § 240-51.I – The Applicant shall provide the proposed structure height on the elevation renderings to ensure compliance with this section.

2. § 240-95.A.36.j – A minimum of 20% of the gross site area shall be reserved and maintained as public or private open space. Provide documentation if a variance was obtained for this section. Ensure all variances pertaining to this project are listed on the cover sheet.

3. § 240-98.J.3.c – In a planned shopping center, the area in the front yard between the street right-of-way and the parking area shall be landscaped with an earthen mound that is a minimum of three feet in height and a mix of landscaping materials from the list of suggested plant materials in Appendix D[3], including ground cover, trees and shrubs. The location of these landscaping materials shall not obstruct visibility for traffic entering or leaving the site and shall comply with the clear sight triangle requirements of § 240-99D. Provide documentation if a variance was obtained for this section. Ensure all variances pertaining to this project are listed on the cover sheet.

4. § 240-99.A – Corner lots shall provide front yards on each street frontage. The remaining two yards shall constitute side yards.

5. § 240-111.B.4 – Fire lanes shall be provided in accordance with the requirements of the Township Fire Code and the volunteer fire departments.

6. § 240-111.L – If applicable, one shopping cart return area shall be provided for each 10,000 square feet of gross floor area in retail stores that provide shopping carts.

7. § 240-111.M – The Applicant shall ensure the luminaire schedule matches the light placement on the site plan and follows the following standards: The lighting system shall furnish an average minimum of 1.0 footcandle during hours of operation and shall be designed with cutoff luminaires that have a cutoff angle of 60° or less. (See Illustration in Appendix B.[1]) There shall be no spillover of illumination at any property line in excess of 0.2 footcandle.

8. § 240-112 – The Applicant has satisfied the shopping center parking requirements for the usable area, excluding the storage space. It is noted that the site includes 54,420 square feet of usable area and an additional 4,000 square feet designated as storage. Discuss how the mix of uses stated in this plan package may vary based on the building use (i.e. restaurant, office or shopping use).

9. § 240-119.C.1.b – In the C-2 District, the aggregate surface area of all wall signs for each business shall not exceed one square foot for each lineal foot of width of the front wall of the building or portion of the building occupied by the business or a maximum of 100 square feet, whichever is less.

10. § 240-119.C.2 – The Applicant shall provide a rendering of the proposed ground sign for the shopping center in accordance with this section.

Sincerely,

GIBSON-THOMAS ENGINEERING CO., INC.



Brandon S. Wiltrout, PE
Project Manager

The plans have been reviewed for conformance to the South Fayette Township adopted ordinances only. Gibson Thomas Engineering reserves the right to provide further and additional comments on the submitted plans upon the request of the South Fayette Township. The review has been based on surveys and drawings prepared by others and assumes this information is correct and valid as submitted. The Applicant shall acknowledge that any and all comments from this letter and any successive letters must be addressed before final approval.

September 19, 2023

Gary Hartz
Planning Director
South Fayette Township
515 Millers Run Road
South Fayette, PA 15064

Projects:	**Second Revision to the Kosky Plan of Lots & Lafayette 180 Planned Shopping Center**
Location:	180 Millers Run Road
Description:	Subdivision / Land Development (C-2 District)
Area:	7.83 acres (4.7 acres to be developed)
ACED File#:	23-246 SU & 23-247 SP

Dear Mr. Hartz:

We received the above-referenced applications on August 18, 2023 one for the minor subdivision of parcels 256-L-1, 256-L-2, and 256-L-9 into two lots in South Fayette Township and the second for the development of one of the resulting lots. We have reviewed the applications and offer the following comment:

Minor Subdivision:

The parcels have different owners, and in order to record the plans all owners must sign them. Currently only the owners of parcel 256-L-2, CE-S.F. LP, are included in the plans, but parcel 256-L-1 is owned by Anthoni Mals Peterson and parcel 256-L-9 is owned by John Jr & Madeline Kosky. This means that the plans must have the following:

- Owner and Notary Clauses for each of the owners. Be advised the language of the clauses changes depending on the kind of owners and each of the parcels is owned by a different type. The recommended language can be found in Appendix 3 of the Allegheny County SALDO available online.
- Either three distinct Title Clauses with the owners, mortgage, and deed information for each parcel, or one Title Clause with the owners, mortgage, and deed information for all three parcels with signature lines for each of the owners and their corresponding witnesses.

LANCE CHIMKA, DIRECTOR
ALLEGHENY COUNTY ECONOMIC DEVELOPMENT
KOPPERS BUILDING • 436 SEVENTH AVE, SUITE 500• PITTSBURGH, PA 15219
PHONE (412) 350-1000 • WWW.ALLEGHENYCOUNTY.US/ECONOMIC/

- A Deed Required Notification Clause with signature lines for each of the owners and their corresponding witnesses. This is to ensure that the owners are aware that recording a plan of subdivision alone does not change the ownership of the property, and a deed must also be recorded in order to transfer the title of the property from one landowner to another. Attached is our handout with the required language for this clause.
- All three owners' information must be included under "Property Owner" in Sheet 2.

The owner's name used in the Clauses must be the same as the one in the deed, currently the owner's name in the deed for parcel 256-L-2 is "CE-S.F. **One,** LP" not CE-S.F. LP as shown in the plans. This should be corrected.

Section 215-13.L(5) of the South Fayette Township's SALDO requires plans to show "building or setback lines and lines of existing and proposed streets and rights-of-way, lots, reservations, easements and areas dedicated to public use, including grants, restrictions and rights-of-way". Currently the plan does not include the easements within parcel 256-L-9 described in DBV 17543 Page 340. These easements should be described with their own bearings, distances, and area in both acres and square feet.

All lots and parcels in the lot consolidation must be completely described, and no distances, bearings, or curve data can be missing. Lot lines to be extinguished must be described with distances and bearings. Currently none of the lot tines to be extinguished have distances or bearings.

Land Development:

The row of parking spaces along Newbury Drive, and the two rows of back-to-back spaces on the southeast corner of the lot all have parking count numbers that do not match the amount drawn on the plans. This should be corrected.

Section 240-111.C of the South Fayette Township's Zoning Ordinance requires all handicapped parking spaces to measure 12 feet by 18 feet. The handicapped parking spaces shown in the plans do not meet this requirement. In the drawing all the spaces and aisles are nine feet wide, and the details only show that the spaces should be a minimum of eight feet wide. This should be corrected.

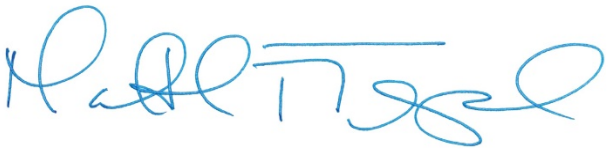
Section 240-113 of the South Fayette Township's Zoning Ordinance requires development to provide a loading berth of "at least 65 feet in length and 12 feet in width with an overhead clearance of 14 feet". No such space is provided on the plans.

The side yard shown in the Zoning Requirements table is incorrect, it states the minimum is 50 feet, but this is only the requirement if the lot is adjoining an R District which is not the case with this project. The minimum side yard required by section 240-51.F(1) is 20 feet. This should be corrected.

The 50 foot setback lines drawn on the plans do not follow the contour of the new Lot1 lines and continue in to Lot 2 as if both lots were consolidated. This should be corrected.

Should you have any questions, please contact Natalia Cains Febles at 412-350-4356 or by e-mail at Natalia.CainsFebles@AlleghenyCounty.US.

Sincerely,



Matthew T. Trepal, AICP
Manager, Planning Division

MTT:NCF

SOUTH FAYETTE TOWNSHIP

A Community Growing Together

Review Referral

www.southfayettepa.com

Plan Name: **Lafayette 180 Planned Shopping Center**	Plan File Number: **SP-01-2026**
Location: **256-L-1, 256-L-2, 256-L-9**	Application Type: **Land Development**
Zoning**: C-2**	Applicant: **Craig Cozza**

The Township of South Fayette requests your review and comment on the above-mentioned land development plan.

	Code Enf.	Public Works	Works Police	Fire Dept.	EAC	SFSD	MATSF	ACED		Engr Cons.	Trfc Engr.
Reports: Environmental											
Geotechnical											
Traffic											
Plans:											
Other:											

Please forward your comments to South Fayette Township, 515 Millers Run Road, Morgan PA, 15064 or by calling (412) 221-8700.

Gary Hartz, Planning Director

01/16/2026
Date

Agency Comments: MATSF

Please see attached KLH review letter.

Nick Goettman
Agency Signature

2-17-26
Date

KLH ENGINEERS, INC

February 13, 2026
Ref. No. 217-03-063

Mr. Joseph Galbraith, P.E.
The Gateway Engineers, Inc.
100 McMorris Road
Pittsburgh, PA 15205

Dear Mr. Galbraith:

Municipal Authority of the Township of South Fayette
Lafayette 180
Sanitary Sewer Plan Review

As requested by the Municipal Authority of the Township of South Fayette (MATSF), KLH Engineers, Inc. (KLH) has completed a review of the sanitary sewer plans for the proposed Lafayette 180 planned shopping center. The plans are dated August 2025 with the latest revision being a January 14, 2026, submission to the Township. The plans were prepared by The Gateway Engineers, Inc. and received by our office on January 19, 2026. KLH reviewed the plans for compliance with MATSF standards and regulations. We offer the following comments:

1. All sewers shall be designed and constructed in accordance with MATSF standards and regulations, including Appendix A, Basic Design and Construction Parameter Checklist, which can be obtained from MATSF.

2. A Developer's Sewage Service Agreement is required. The standard agreement can be obtained from MATSF. The Developer shall provide escrowed funds/bonding with MATSF for the construction of the proposed sanitary sewers.

3. In advance of obtaining a Township building permit, a sanitary sewer connection fee must be paid to MATSF. The developer shall contact MATSF for the appropriate forms and fees. Payment of the sanitary sewer connection fee, however, is not required for construction of the proposed sanitary sewers.

4. Due to the proximity of the proposed sewer to the building, it does not appear the required easements will be available. Therefore, MATSF will not take ownership of the proposed sewers and they will remain private. Therefore, no easements are necessary on behalf of MATSF. If it is the developer's intent to turn the sewers over to MATSF, please shift the proposed sewer to provide a 20' sanitary sewer easement.

5. Acquisition of all permits shall be the responsibility of the Developer should they be required. The Developer shall follow all regulatory requirements including but not limited to preparation and implementation of an Erosion & Sedimentation Pollution Control Plan.

6. The Developer shall follow the PA One Call law during design and construction. If present, all existing utilities shall be shown on the plans. All utilities crossing the proposed sanitary sewers need to be shown in the profiles.

5173 Campbells Run Road Pittsburgh, PA 15205 Phone: 412.494.0510 Fax: 412.494.0426 info@klhengineers.com
www.klhengineers.com

7. MATSF Standard Detail Drawings were updated in February 2025 and shall be included on the plans. The February 2025 Standard Detail Drawings are attached.

8. Per MATSF specifications, 100% stone backfill is required under all improved surfaces including private roads, Township Streets, State Highways, driveways, parking areas, and sidewalks. This backfill shall consist of (for the entire trench width and depth) 2A limestone mechanically compacted in 6" lifts.

9. Sanitary sewer pipes located in fill areas require at least 95% compaction density and evidence of test results per MATSF specifications.

10. It appears the horizontal distances between manholes shown on the plans are centerline to centerline measurements. These measurements were used to calculate the slopes shown for each pipe run on the profile drawings. The design engineer has included a note on the sanitary sewer profile drawings so that it does not get missed by the contractor as the slopes and distances shown do not reflect actual proposed pipe lengths and slopes. As-built drawings should reflect actual pipe lengths and slopes.

11. The plans must show influent and effluent inverts for all manholes. Provide a minimum 0.10 feet difference in elevation between the influent and effluent pipes in all manholes.

12. Please note, all manhole joints, with the exception of the frame to the cone, must be wrapped with "Wrapidseal" or approved equal. Refer to MATSF Standard Detail Drawings.

13. Provide proposed sanitary service lateral wye stations based on stationing as measured from the downstream manhole and show on the plan and/or profile drawings in tabular form.

14. The plans indicate an outside drop connection for connection of the proposed 8" sewer to the existing manhole. Please revise to indicate an inside drop connection and include the applicable Standard Detail Drawings.

15. A final "Issued for Construction" set of plans shall be provided to MATSF.

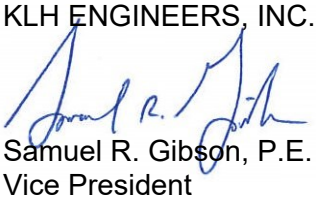
16. The developer shall provide final as-built record drawings after completion of construction. As-built drawings should reflect actual pipe lengths and slopes installed.

Based on the foregoing, KLH recommends the above revisions prior to approval. Additional comments may follow after review of subsequent submissions. Final approval by MATSF occurs when the Developer's Agreement is approved and signed.

Should you have any questions, please feel free to contact our office.

Very truly yours,

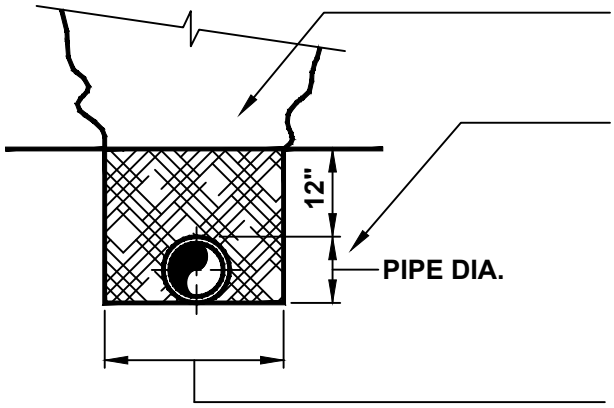
KLH ENGINEERS, INC.



Samuel R. Gibson, P.E.
Vice President

Enclosures

cc: Nick Goettman, Operations Manager, MATSF

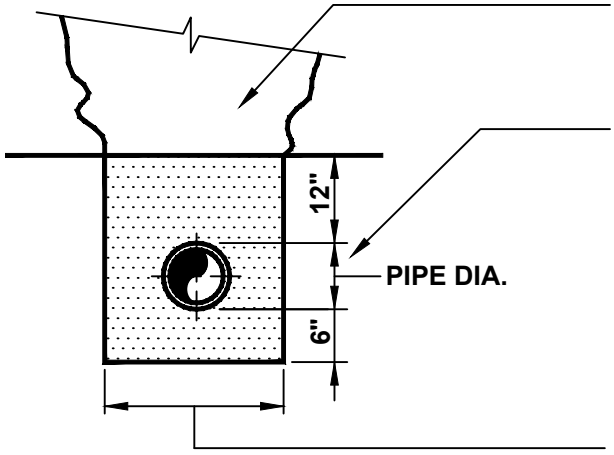


MECHANICALLY COMPACTED BACKFILL MATERIAL IN ACCORDANCE WITH MATSF CONSTRUCTION SPECIFICATIONS

DUCTILE IRON AND REINFORCED CONCRETE CULVERT PIPE ON NON-ROCK TRENCH BOTTOMS. BELL HOLES SHALL BE EXCAVATED TO ASSURE CONTINUOUS PIPE BARREL SUPPORT FOR FULL LENGTH OF PIPE SECTIONS. TRENCH SIDEWALLS SHALL BE PLUMB WITHIN PIPE ZONE.

PIPE DIA. PLUS 2' MAX.
PIPE DIA. PLUS 1' MIN.

DETAIL A

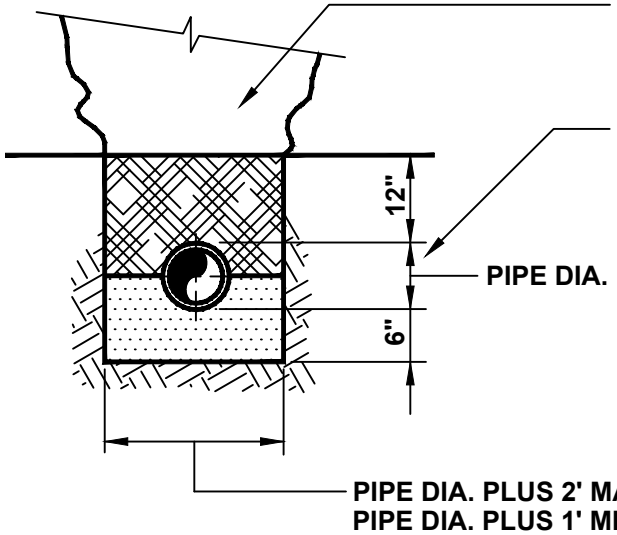


MECHANICALLY COMPACTED BACKFILL MATERIAL IN ACCORDANCE WITH MATSF CONSTRUCTION SPECIFICATIONS

PVC PIPE AT ALL LOCATIONS. TRENCH SIDEWALLS SHALL BE PLUMB WITHIN PIPE ZONE

PIPE DIA. PLUS 2' MAX.
PIPE DIA. PLUS 1' MIN.

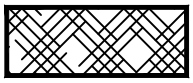
DETAIL B



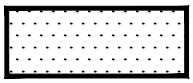
MECHANICALLY COMPACTED BACKFILL MATERIAL IN ACCORDANCE WITH THE MATSF CONSTRUCTION SPECIFICATIONS

DUCTILE IRON PIPE AND REINFORCED CONCRETE CULVERT PIPE ON ROCK TRENCH BOTTOM. TRENCH SIDEWALLS SHALL BE PLUMB WITHIN PIPE ZONE.

PIPE DIA. PLUS 2' MAX.
PIPE DIA. PLUS 1' MIN.



SELECTED EXCAVATED MATERIAL MECHANICALLY COMPACTED MAXIMUM SIZE ROCKS- 3"



2B CRUSHED STONE OR CRUSHED GRAVEL

DETAIL C

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		TRENCH PIPE ZONE DETAILS
Not to scale	February 2025	Standard Detail SD-001

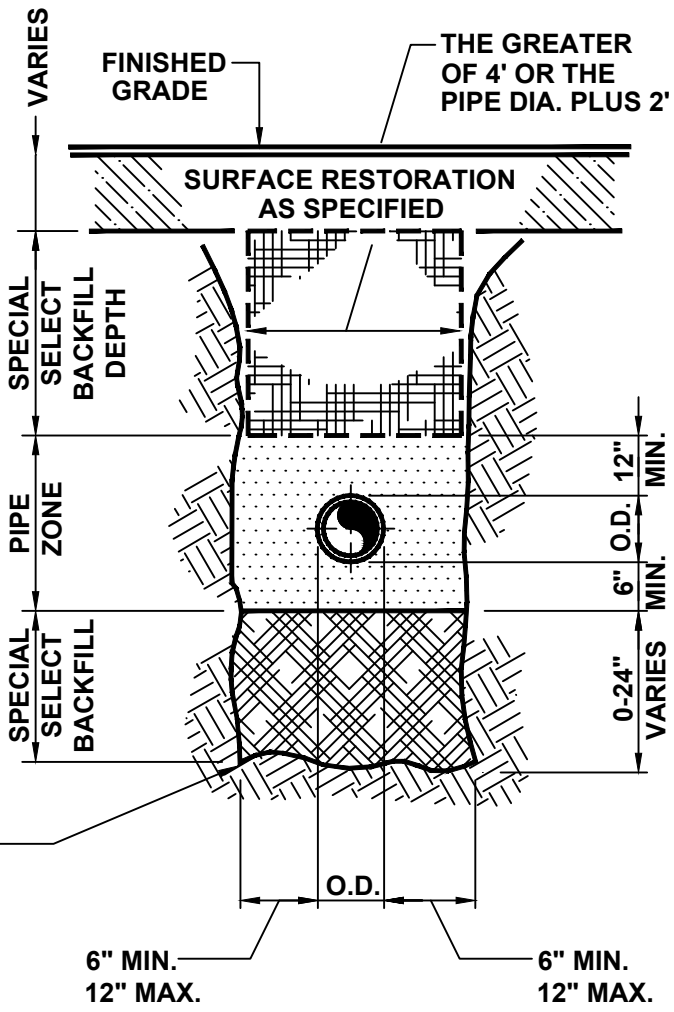
NOTE:

WHERE SPECIAL SELECT BACKFILL IS REQUIRED BETWEEN THE PIPE ZONE AND THE SURFACE MATERIAL, THE PIPE ZONE SHALL EXTEND 12" ABOVE THE PIPE REGARDLESS OF PIPE MATERIAL

SELECTED EXCAVATED MATERIAL MECHANICALLY COMPACTED MAXIMUM SIZE ROCKS- 3"

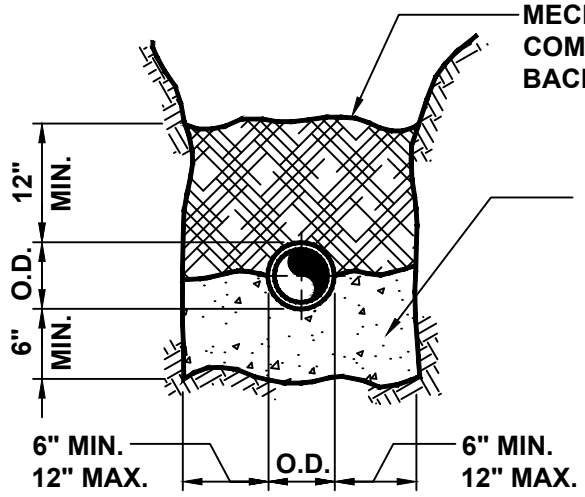
2B CRUSHED STONE OR CRUSHED GRAVEL

CLASS "C" CONCRETE OR BETTER

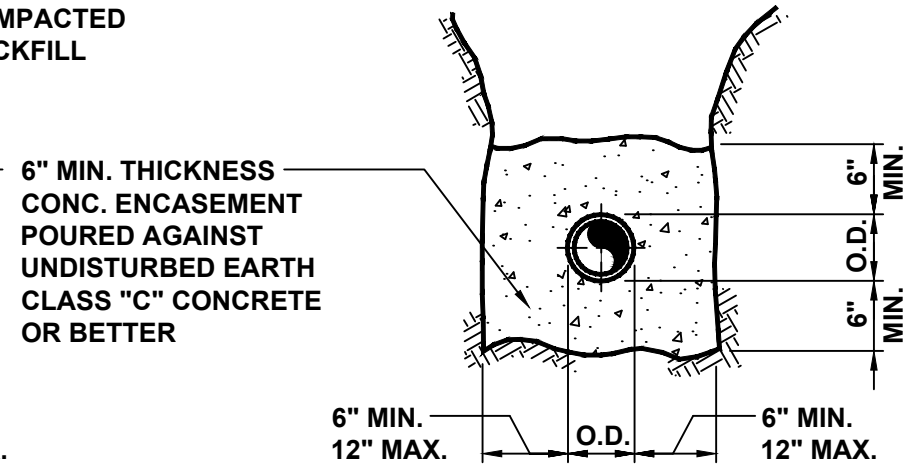


WHERE EXCAVATION EXPOSES THE BOTTOM OF PROPOSED TRENCHES WHERE VERY SOFT OR OTHER UNSTABLE PIPE FOUNDATION MATERIALS EXIST, THE CONTRACTOR WILL BE DIRECTED TO OVERCUT OR STABILIZE / OVERCUT AND REPLACE WITH R4 RIP RAP CHOCKED WITH AASHTO #57 STONE. THE CONTRACTOR SHALL BE COMPENSATED FOR THE ADDITIONAL EXCAVATION IN ACCORDANCE WITH THE PROVISIONS SPECIFIED IN THE GENERAL CONDITIONS.

SPECIAL BACKFILL DETAIL A

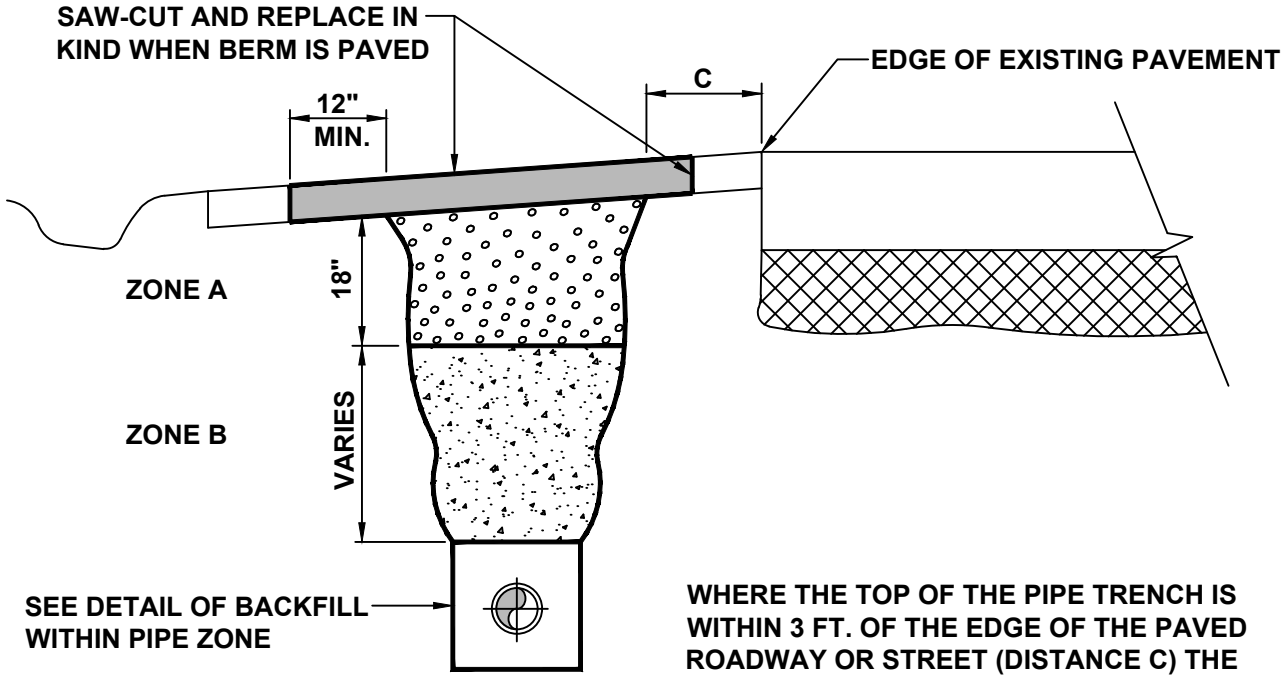


TYPICAL CONCRETE CRADLE DETAIL B



TYPICAL CONCRETE ENCASEMENT DETAIL C

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		PIPE BEDDING DETAILS
Not to scale	February 2025	Standard Detail SD-002

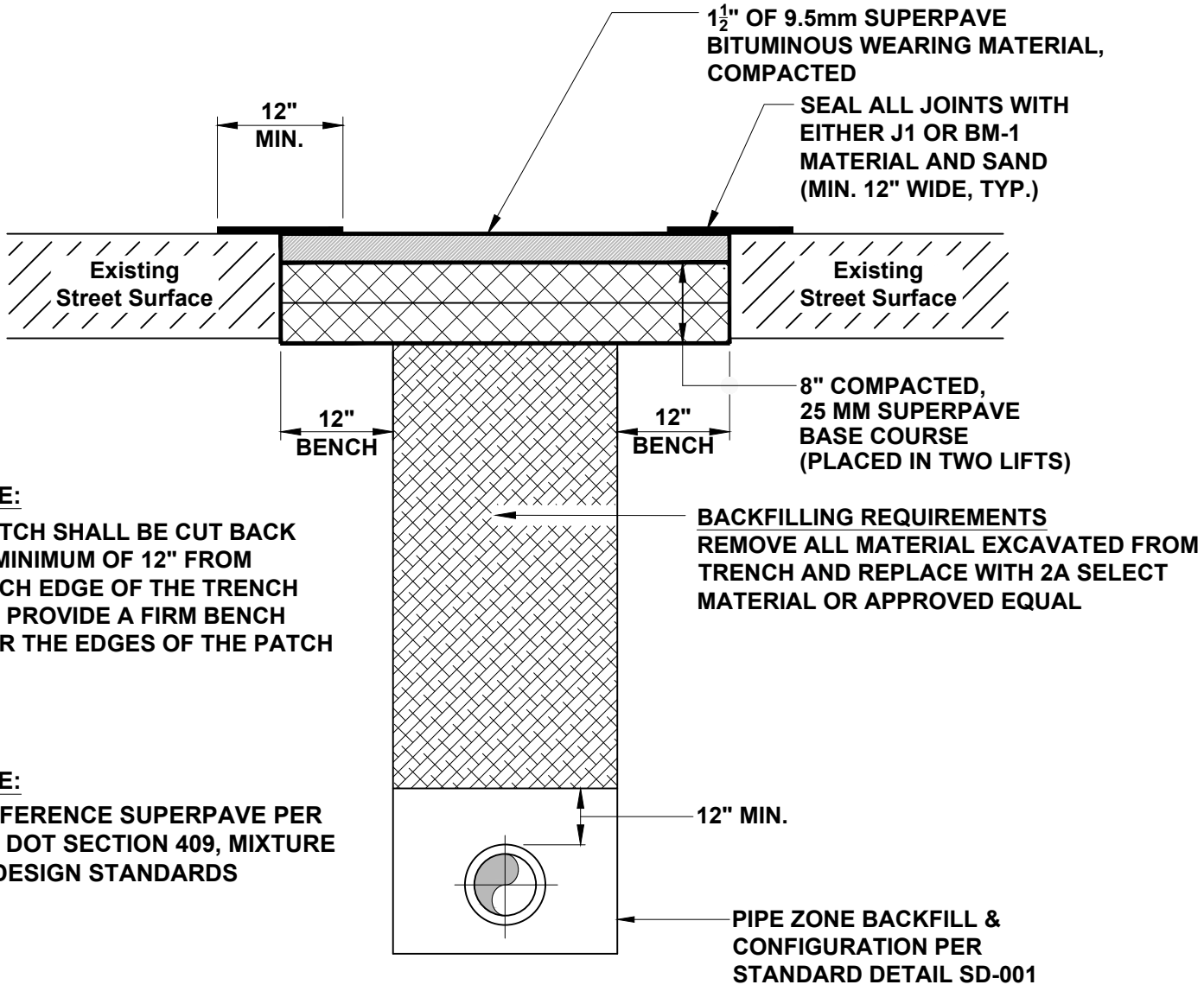


WHERE THE TOP OF THE PIPE TRENCH IS WITHIN 3 FT. OF THE EDGE OF THE PAVED ROADWAY OR STREET (DISTANCE C) THE ENTIRE TRENCH BACKFILL ABOVE THE PIPE ZONE, THAT IS THE BACKFILL PLACED IN ZONES A AND B SHALL CONSIST OF 2-A LIMESTONE MATERIAL MECHANICALLY COMPACTED IN 6" LAYERS.

WHERE THE TOP OF THE PIPE TRENCH IS GREATER THAN 3 FT. FROM THE EDGE OF THE PAVED ROADWAY (DISTANCE C) BACKFILL PLACED IN ZONE B SHALL BE EXCAVATED MATERIAL FROM THE TRENCH, FREE OF ROCKS LARGER THAN 3" AND MECHANICALLY COMPACTED IN 6" LAYERS. BACKFILL MATERIAL PLACED IN ZONE A (THE TOP 18" OF THE TRENCH) SHALL BE 2-A LIMESTONE MATERIAL MECHANICALLY COMPACTED IN 6" LAYERS.

WHERE THE BERM IS NOT PLANTED OR PAVED IT SHALL BE RESTORED FOR ITS ENTIRE WIDTH BY APPLICATION OF RT-2W BITUMINOUS MATERIAL AT A RATE OF 0.2 TO 0.5 GALLONS PER SQUARE YARD DEPENDING UPON LOCATION AND PREVAILING TEMPERATURES AT TIME OF APPLICATION.

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		TRENCH BACKFILL WITHIN ROADWAY OR STREET BERMS
Not to scale	February 2025	Standard Detail SD-004



NOTE:

PATCH SHALL BE CUT BACK A MINIMUM OF 12" FROM EACH EDGE OF THE TRENCH TO PROVIDE A FIRM BENCH FOR THE EDGES OF THE PATCH

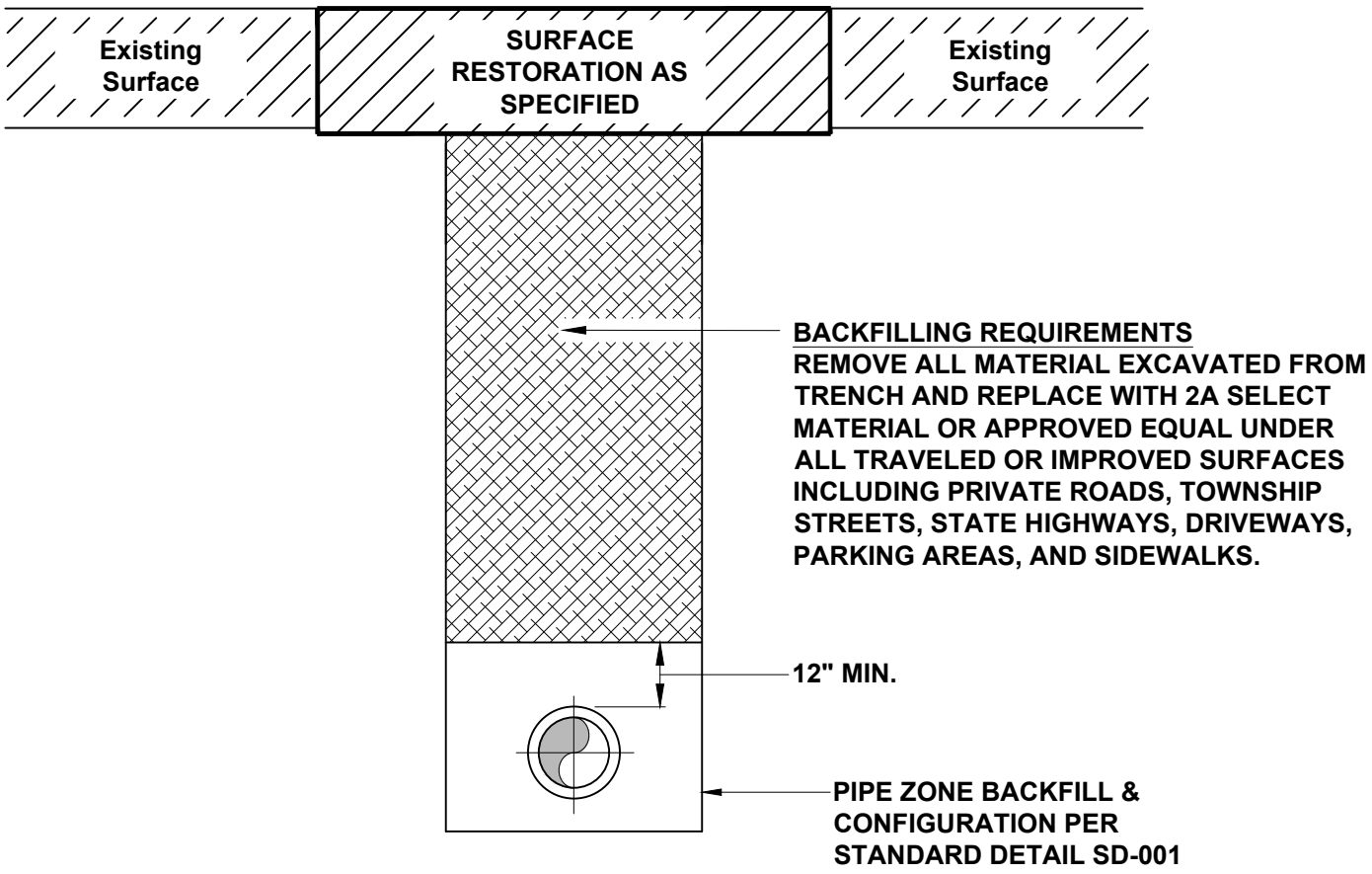
NOTE:

REFERENCE SUPERPAVE PER PA DOT SECTION 409, MIXTURE & DESIGN STANDARDS

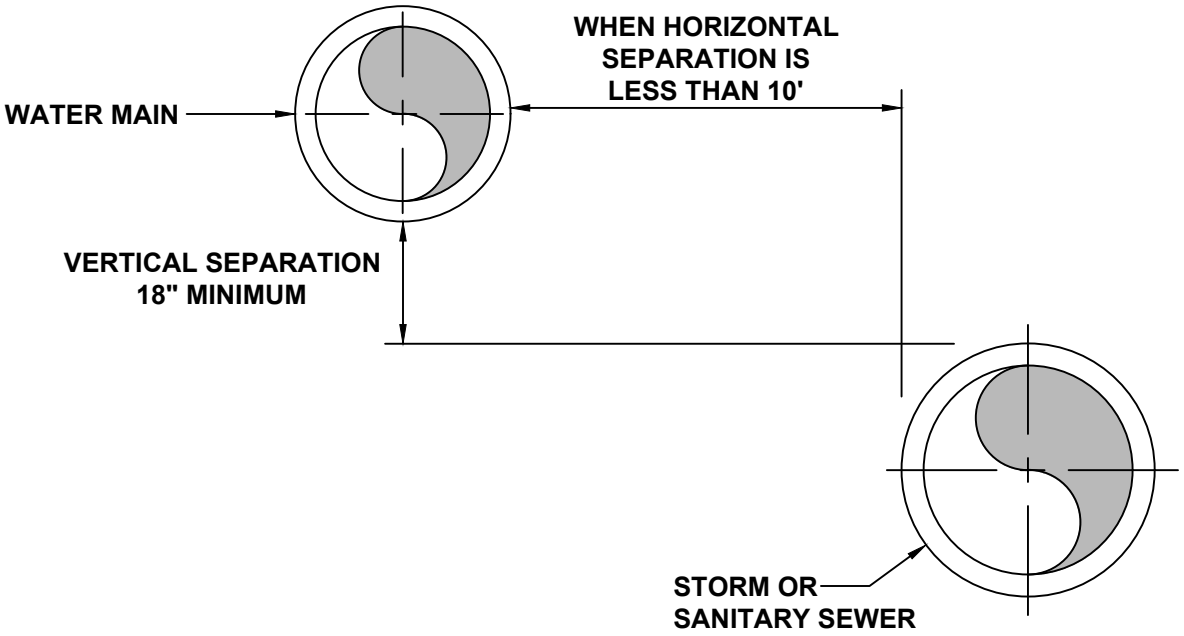
NOTE:

DURING COLD WEATHER WHEN SUPERPAVE MATERIAL IS NOT AVAILABLE FROM THE ASPHALT PLANTS THE TRENCH SHALL BE BACKFILLED WITH BEDDING MATERIAL TO AN ELEVATION WITHIN 3" OF THE ROAD SURFACE. THE TRENCH SHALL THEN BE SURFACED WITH A TEMPORARY PATCH OF COLD PATCH MATERIAL. AS SOON AS THE ASPHALT PLANTS OPEN IN THE SPRING, THE CONTRACTOR SHALL REMOVE THE COLD PATCH MATERIAL AND SAW-CUT THE REQUIRED BENCHES AND THE SUPERPAVE MATERIAL SHALL THEN BE PLACED AND SEALED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE ON THE TEMPORARY PATCH AND SHALL KEEP A SMOOTH RIDING SURFACE ON THE STREET.

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		TRENCH BACKFILL AND PAVEMENT REQUIREMENTS FOR TOWNSHIP ROADS
Not to scale	February 2025	Standard Detail SD-005A



Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		TRENCH BACKFILL REQUIREMENTS FOR TRAVELED OR IMPROVED SURFACES
Not to scale	February 2025	Standard Detail SD-005



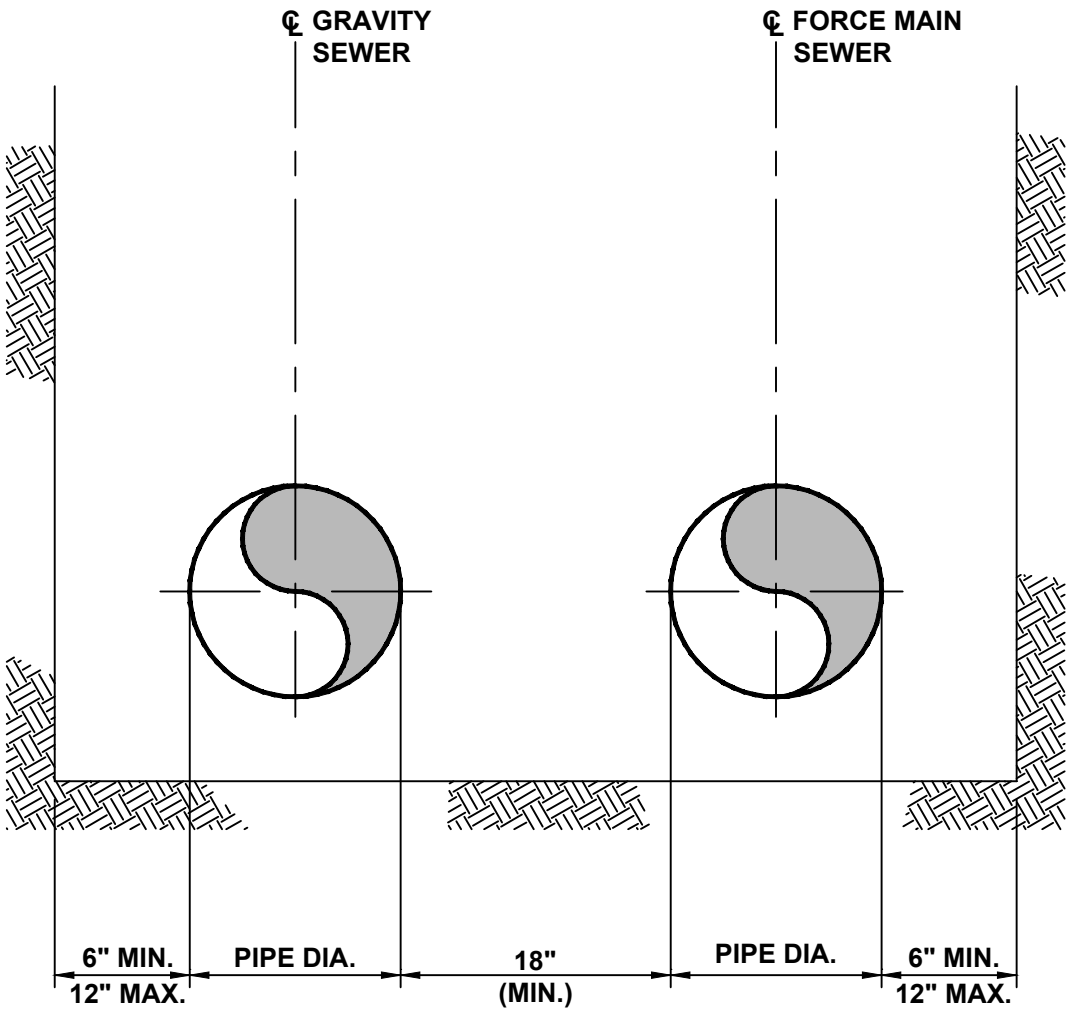
NOTES:

1. WHEN THE HORIZONTAL SEPARATION OF THE WATER MAIN AND SEWER LINE IS LESS THAN 10', THE VERTICAL SEPARATION BETWEEN THE TOP (CROWN) OF THE SEWER LINE AND THE BOTTOM (INVERT) OF THE WATER MAIN SHALL BE AT LEAST 18". SEWER LINE SHALL BE ENCASED IN CONCRETE FOR 10' ON EITHER SIDE OF THE WATER MAIN WHERE SEWER / WATER LINE CROSSINGS OCCUR AND WHERE CONDITIONS PREVENT AN 18" VERTICAL SEPARATION.

2. THERE SHALL BE AT LEAST A 10' HORIZONTAL SEPARATION BETWEEN WATER MAINS AND SANITARY SEWER FORCE MAINS. FORCE MAINS CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18" BETWEEN THE OUTSIDE OF THE FORCE MAIN AND THE OUTSIDE OF THE WATER MAIN.

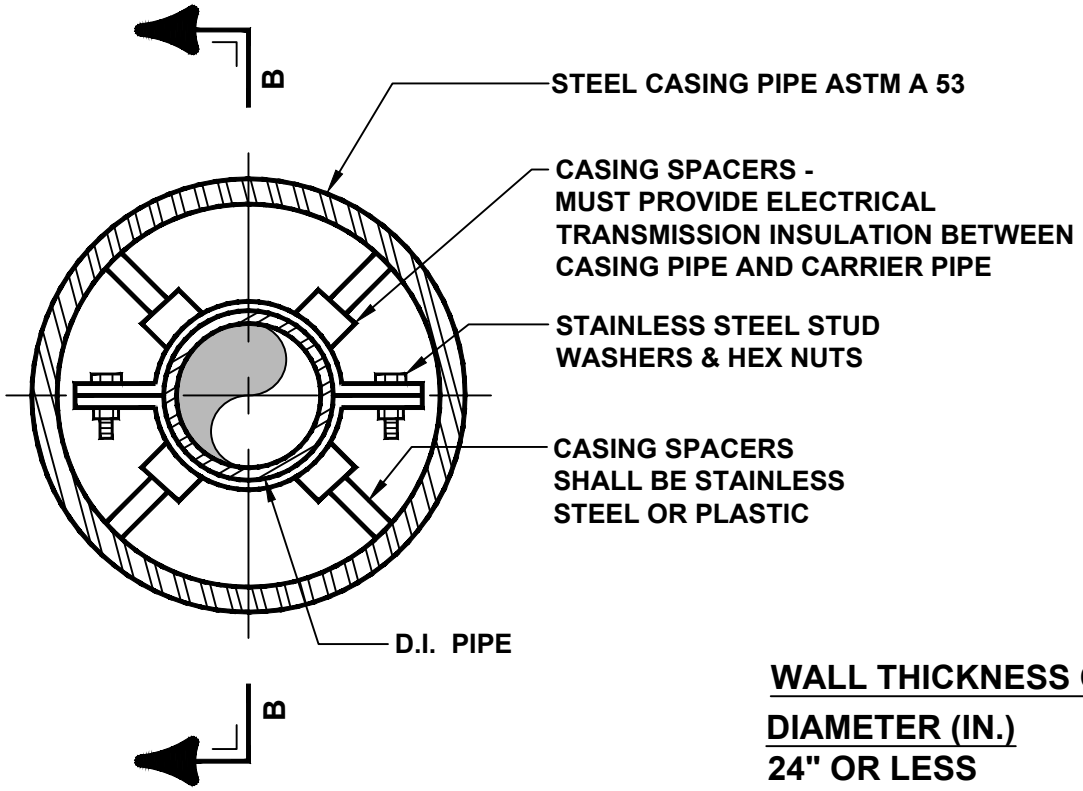
Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		DESIRED DISTANCES BETWEEN WATER AND SEWER PIPES
Not to scale	February 2025	Standard Detail SD-006

REFERENCE TRENCH ZONE DETAILS SD-001 AND PIPE BEDDING SD-002



NOTE:
FORCE MAIN TO BE INSTALLED ON RISING GRADIENT

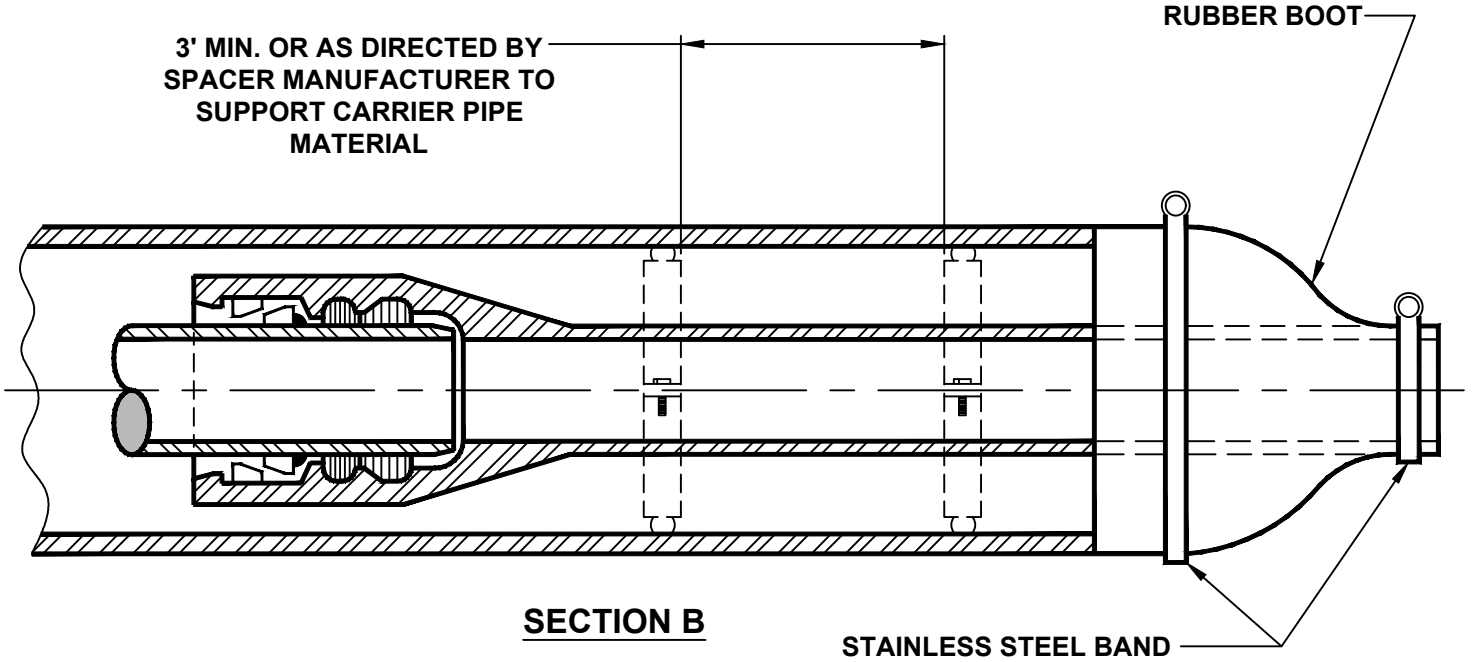
Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		**GRAVITY SEWER AND FORCE MAIN CONSTRUCTED PARALLEL IN COMMON TRENCH**
Not to scale	**February 2025**	**Standard Detail SD-007**



SECTIONAL PLAN A

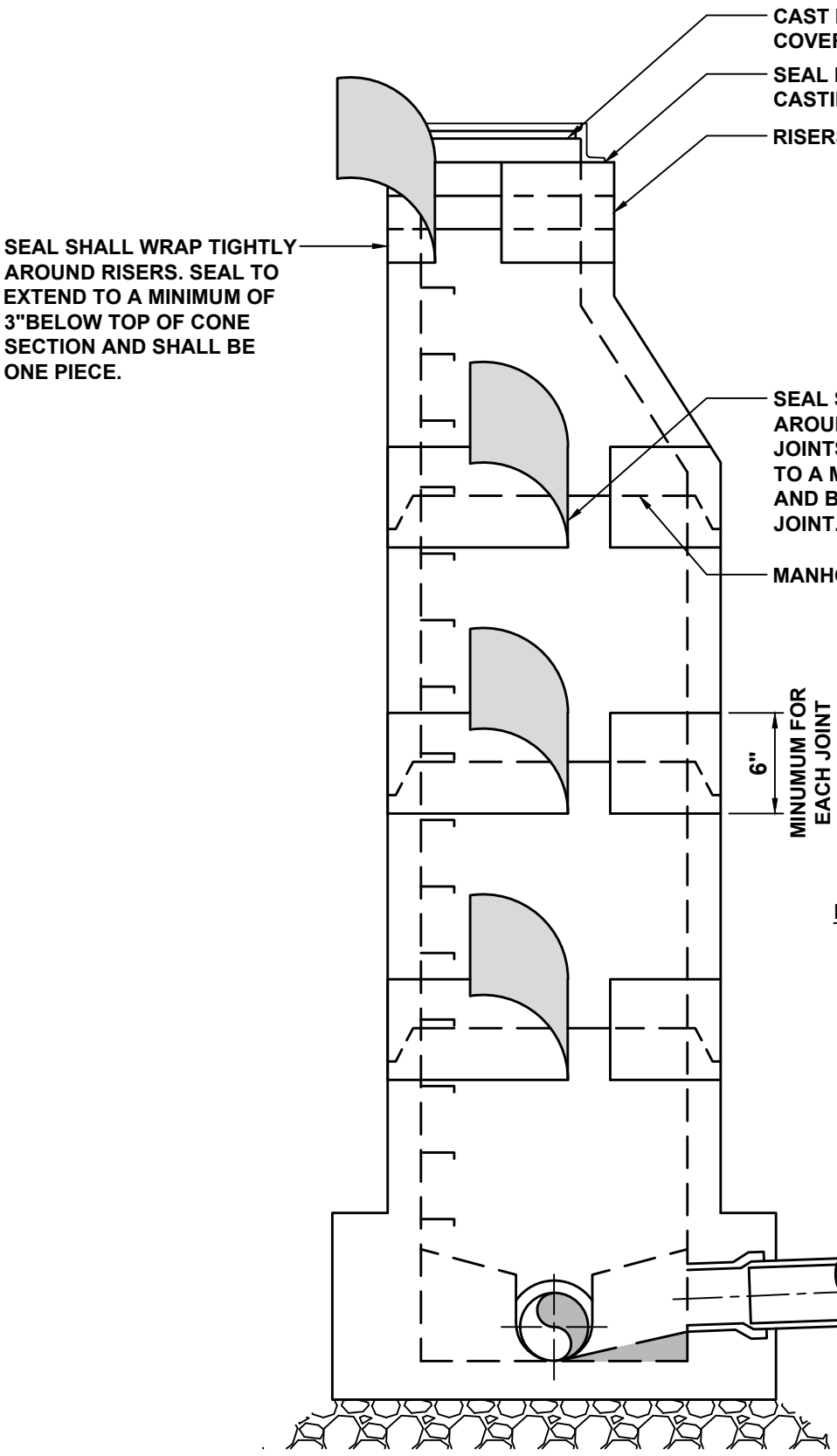
WALL THICKNESS OF CASING PIPE

DIAMETER (IN.)	THICKNESS (IN.)
24" OR LESS	1/4"
28" AND 32"	3/8"
42" AND LARGER	1/2"



SECTION B

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		STEEL CASING AND D.I. OR PVC CARRIER PIPES INSTALLED BY BORING
Not to scale	February 2025	Standard Detail SD-008

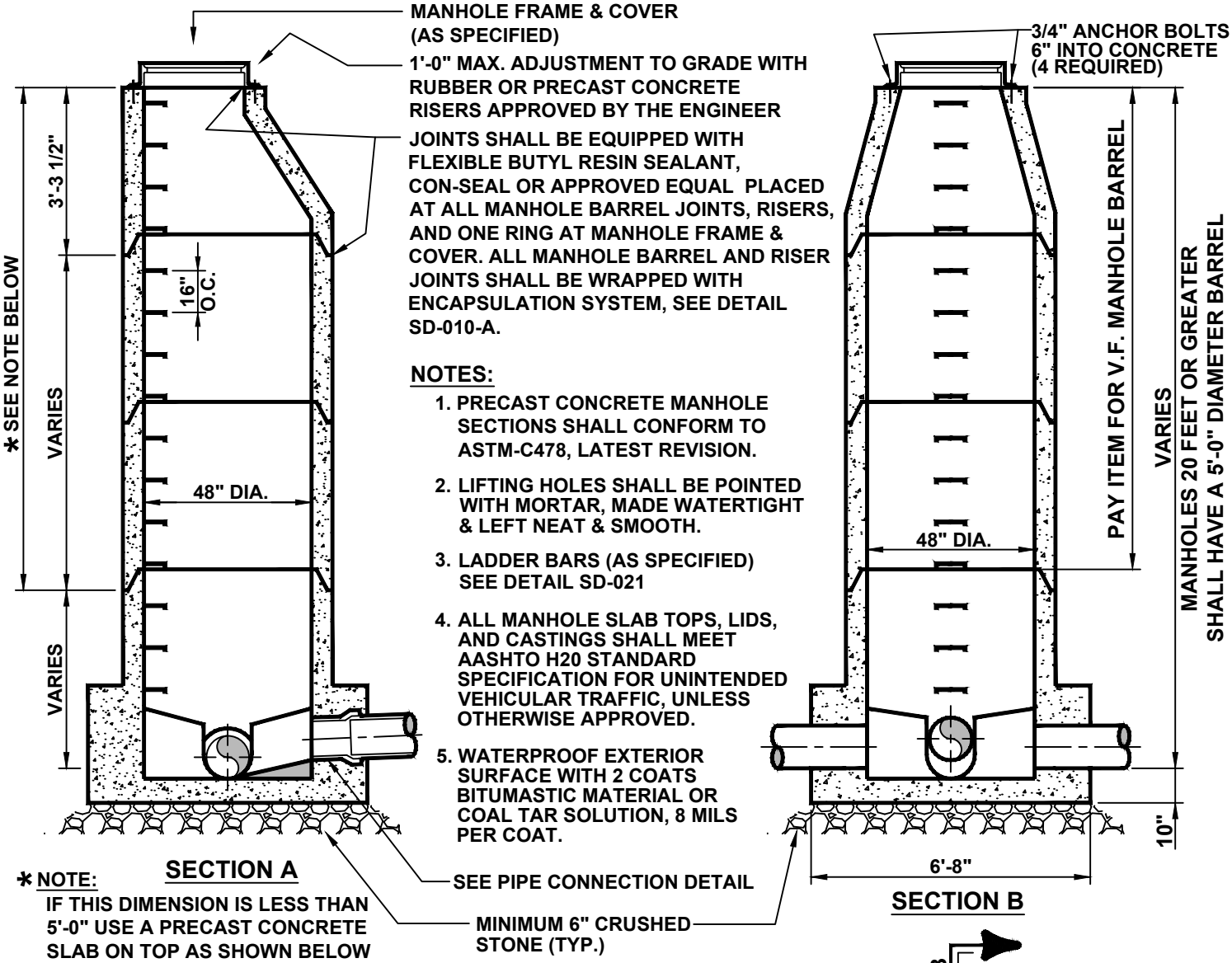


NOTES:

HEAT SHRINKABLE MANHOLE SEAL SHALL BE "WRAPIDSEAL" (TM) MANUFACTURED BY CANUSA-CPS OR APPROVED EQUAL

MECHANICAL MANHOLE SEAL SHALL BE CRETEX WRAP MANUFACTURED BY CRETEX SPECIALTY PRODUCTS OR APPROVED EQUAL

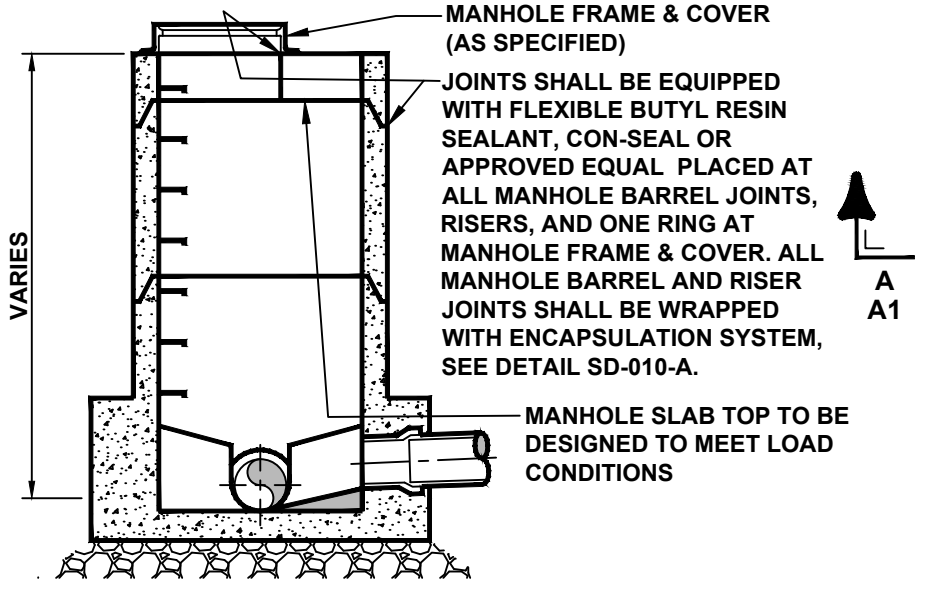
Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		MANHOLE JOINT ENCAPSULATION SYSTEM
Not to scale	February 2025	Standard Detail SD-010-A



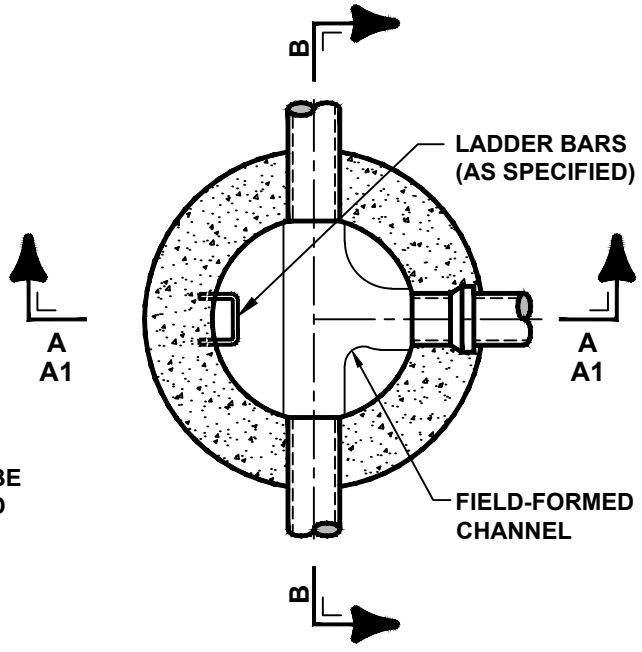
NOTES:

1. PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO ASTM-C478, LATEST REVISION.
2. LIFTING HOLES SHALL BE POINTED WITH MORTAR, MADE WATERTIGHT & LEFT NEAT & SMOOTH.
3. LADDER BARS (AS SPECIFIED) SEE DETAIL SD-021
4. ALL MANHOLE SLAB TOPS, LIDS, AND CASTINGS SHALL MEET AASHTO H20 STANDARD SPECIFICATION FOR UNINTENDED VEHICULAR TRAFFIC, UNLESS OTHERWISE APPROVED.
5. WATERPROOF EXTERIOR SURFACE WITH 2 COATS BITUMASTIC MATERIAL OR COAL TAR SOLUTION, 8 MILS PER COAT.

* **NOTE:** IF THIS DIMENSION IS LESS THAN 5'-0" USE A PRECAST CONCRETE SLAB ON TOP AS SHOWN BELOW

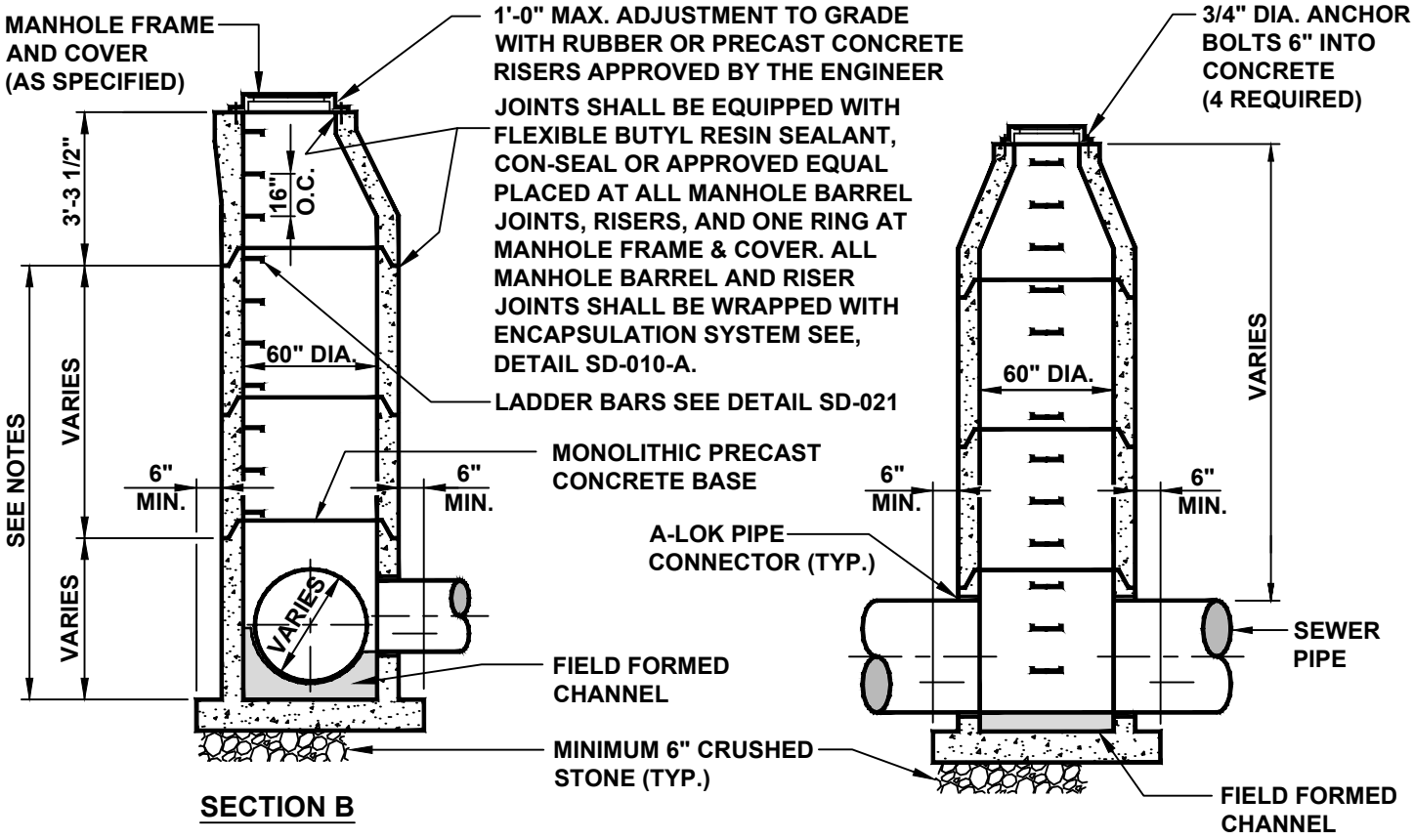


SECTION A1



PLAN C

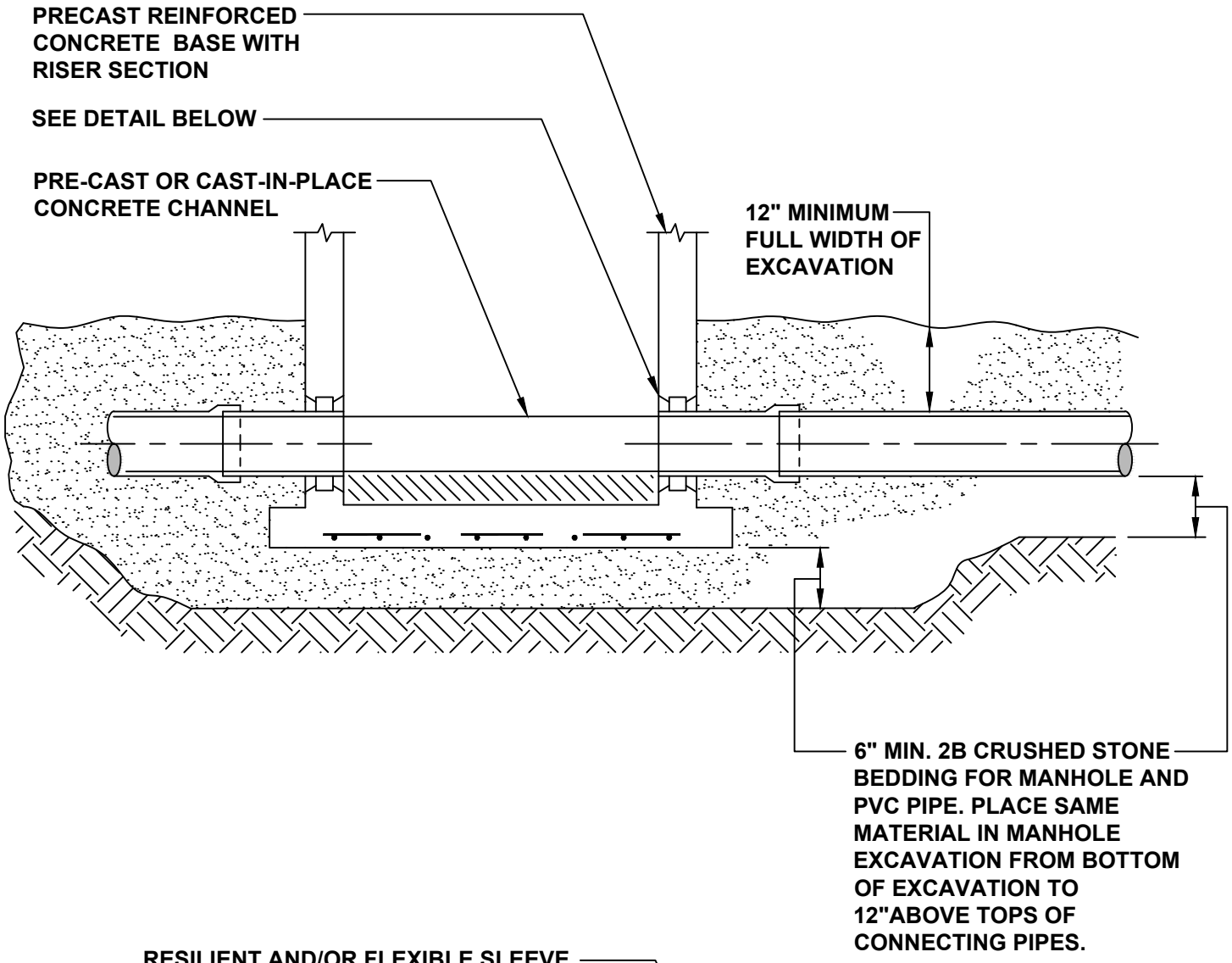
Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		PRECAST CONCRETE MANHOLE FOR SEWERS 8" TO 18"
Not to scale	February 2025	Standard Detail SD-010

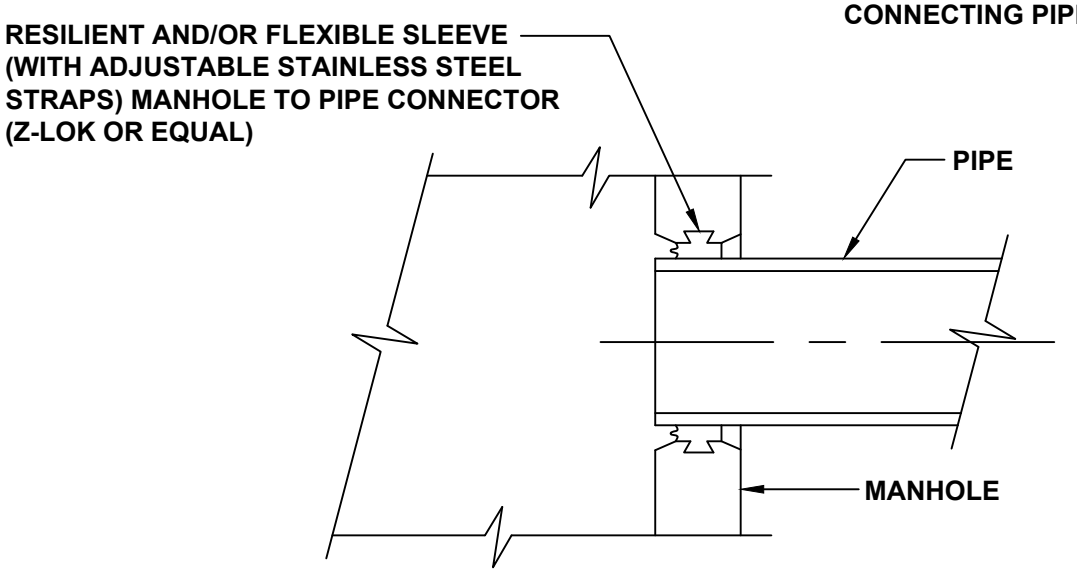


NOTES:

1. PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO ASTM C478, LATEST REVISION.
2. WATERPROOF EXTERIOR SURFACE WITH TWO COATS BITUMASTIC MATERIAL OR COAL TAR SOLUTION, 8 MILS PER COAT.
3. DROP CONNECTIONS ARE NOT PERMITTED FOR PIPES LARGER THAN 30" DIA.
4. LIFTING HOLES SHALL BE POINTED WITH MORTAR, MADE WATERTIGHT & LEFT NEAT & SMOOTH.
5. FOR DEPTHS LESS THAN 5'-0", INSTALL PRECAST CONCRETE SLAB TOP DESIGNED TO MEET LOAD CONDITIONS. MANHOLE TO BE 60" DIA. FULL DEPTH.
6. ALL JOINTS TO RECEIVE CON-SEAL SEALER, OR APPROVED EQUAL. ALL MANHOLE BARREL AND RISER JOINTS SHALL BE WRAPPED WITH ENCAPSULATION SYSTEM, SEE DETAIL SD-010-A.
7. ALL MANHOLE SLAB TOPS, LIDS, AND CASTINGS SHALL MEET AASHTO H20 STANDARD SPECIFICATION FOR UNINTENDED VEHICULAR TRAFFIC, UNLESS OTHERWISE APPROVED.

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		PRECAST CONCRETE MANHOLE FOR SEWERS 24" - 48"
Not to scale	February 2025	Standard Detail SD-011





Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		PRECAST MANHOLE BASE DETAIL
Not to scale	February 2025	Standard Detail SD-012

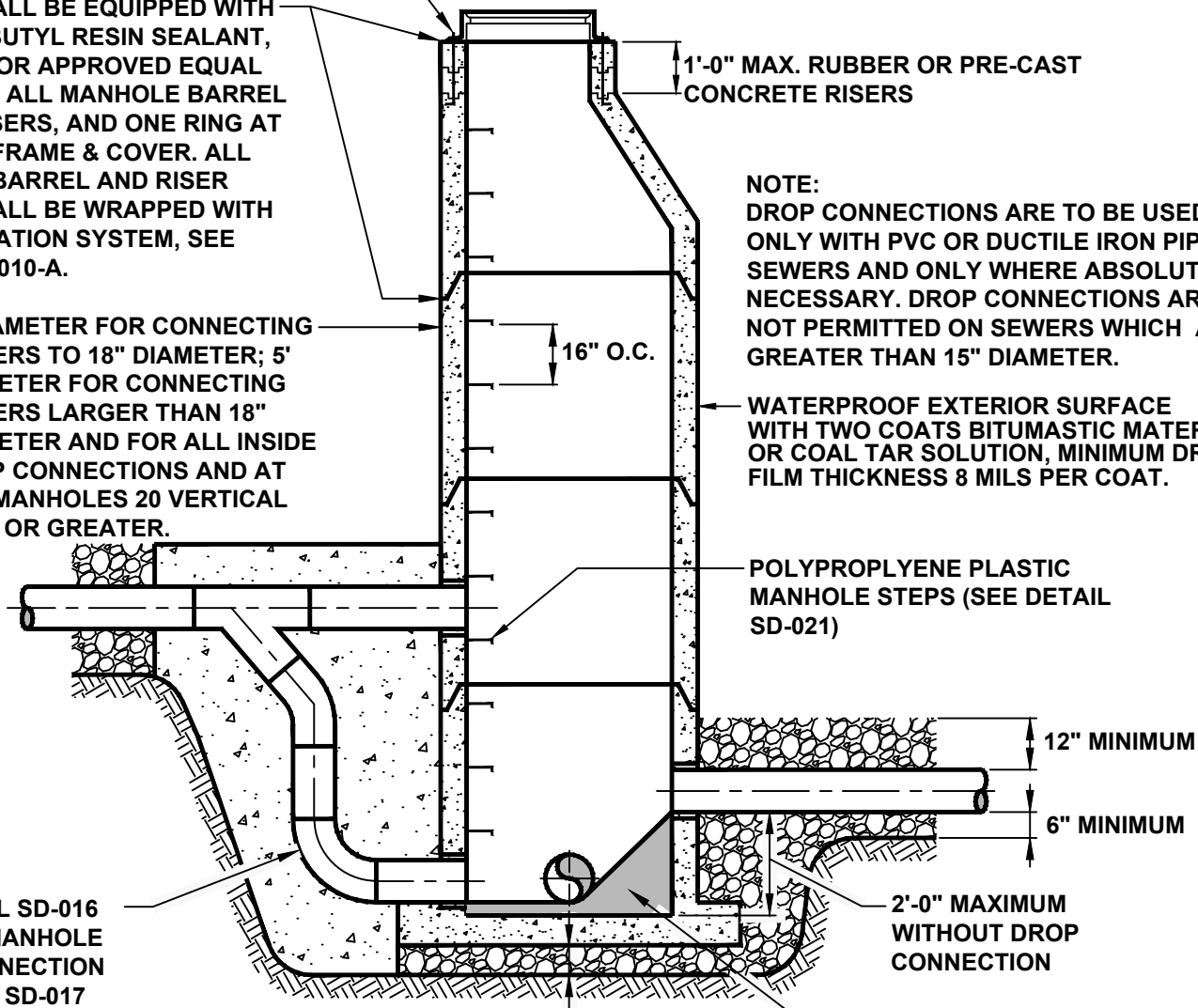
MANHOLE BARREL SHALL BE PRE-CAST CONCRETE ASTM C478 OR GLASS FIBER REINFORCED ASTM D3753. FOR CONNECTING PIPES 18" DIAMETER OR LESS, THE MANHOLE BARREL SHALL BE 4' DIAMETER; WHERE THERE ARE LARGER CONNECTING PIPES OR MORE THAN ONE INSIDE DROP CONNECTIONS, THE DIAMETER SHALL BE 5'.

NOTE:
TYPICAL DROP CONNECTION SHALL BE OF THE INSIDE DROP TYPE. OUTSIDE DROP CONNECTIONS MUST BE SPECIFICALLY APPROVED BY THE AUTHORITY ENGINEER

3/4" ANCHOR BOLTS 6" INTO CONCRETE (4 REQUIRED)

JOINTS SHALL BE EQUIPPED WITH FLEXIBLE BUTYL RESIN SEALANT, CON-SEAL OR APPROVED EQUAL PLACED AT ALL MANHOLE BARREL JOINTS, RISERS, AND ONE RING AT MANHOLE FRAME & COVER. ALL MANHOLE BARREL AND RISER JOINTS SHALL BE WRAPPED WITH ENCAPSULATION SYSTEM, SEE DETAIL SD-010-A.

4' DIAMETER FOR CONNECTING SEWERS TO 18" DIAMETER; 5' DIAMETER FOR CONNECTING SEWERS LARGER THAN 18" DIAMETER AND FOR ALL INSIDE DROP CONNECTIONS AND AT ALL MANHOLES 20 VERTICAL FEET OR GREATER.



NOTE:
DROP CONNECTIONS ARE TO BE USED ONLY WITH PVC OR DUCTILE IRON PIPE SEWERS AND ONLY WHERE ABSOLUTELY NECESSARY. DROP CONNECTIONS ARE NOT PERMITTED ON SEWERS WHICH ARE GREATER THAN 15" DIAMETER.

WATERPROOF EXTERIOR SURFACE WITH TWO COATS BITUMASTIC MATERIAL OR COAL TAR SOLUTION, MINIMUM DRY FILM THICKNESS 8 MILS PER COAT.

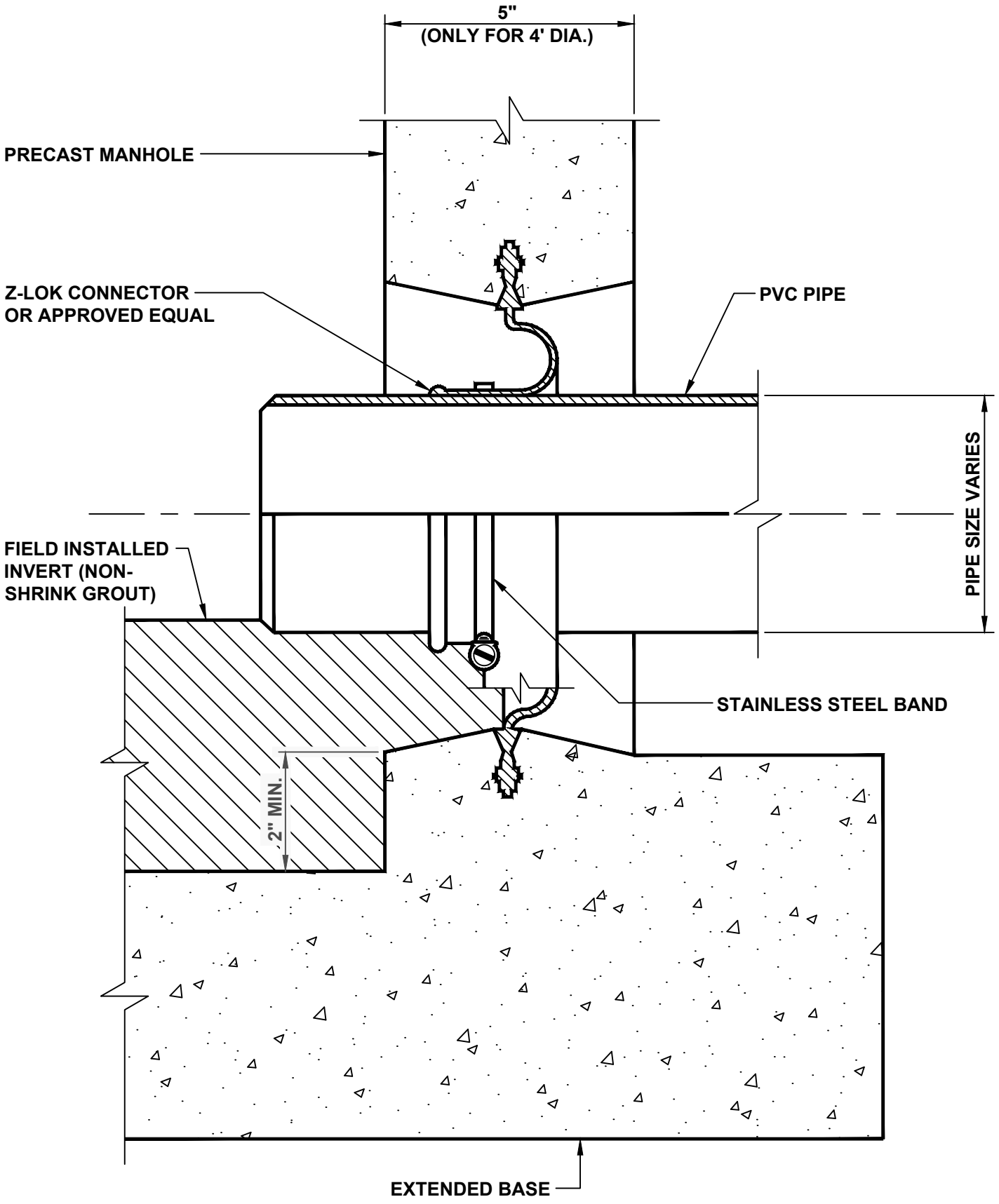
POLYPROPLYENE PLASTIC MANHOLE STEPS (SEE DETAIL SD-021)

SEE DETAIL SD-016 OUTSIDE MANHOLE DROP CONNECTION OR DETAIL SD-017 INSIDE MANHOLE DROP CONNECTION.

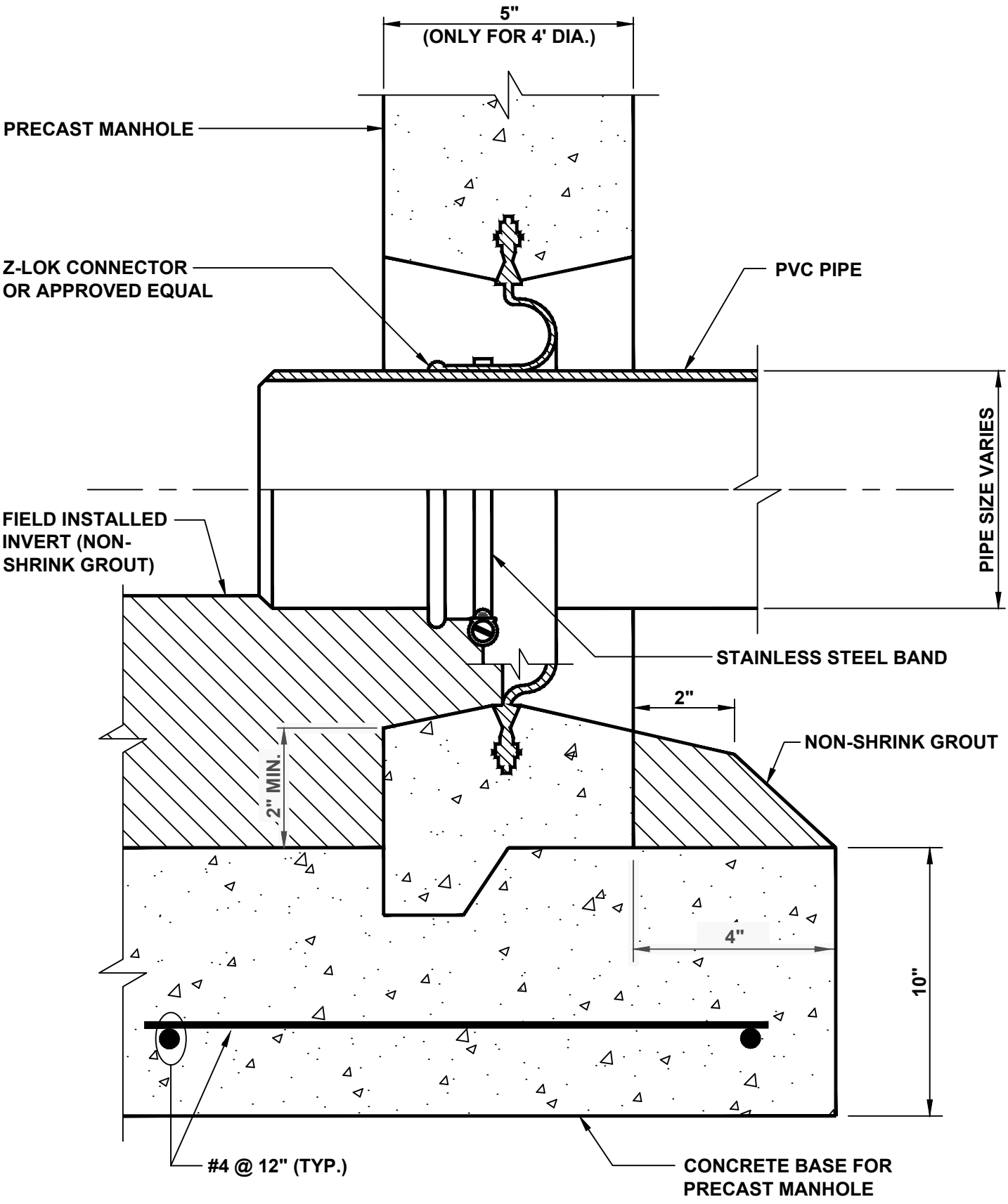
6" MINIMUM 2B CRUSHED STONE OR CRUSHED GRAVEL

NOTE:
SUPPORT MANHOLE STRUCTURE AND ALL PIPING CONNECTIONS ON A MINIMUM OF 6" THICKNESS 2B BEDDING MATERIAL. ENCAPSULATE ALL PIPES WITHIN MANHOLE EXCAVATION IN THE SAME MATERIAL TO AN ELEVATION OF 12" ABOVE THE TOP OF PIPES. OUTSIDE MANHOLE DROP CONNECTIONS SHALL BE ENCASED WITH CONCRETE.

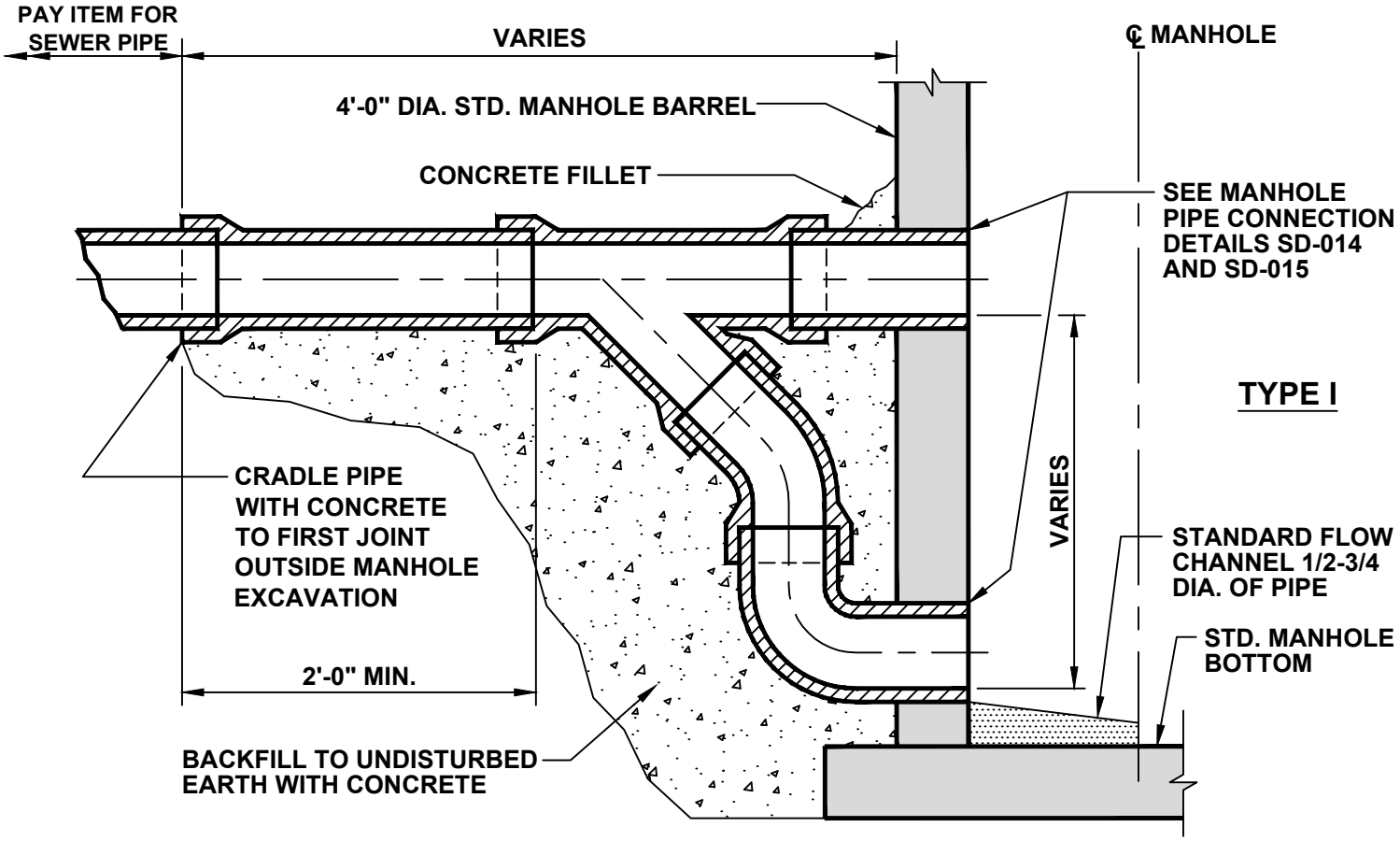
Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		MANHOLE FOR SEWERS FOR DEPTHS GREATER THAN 5 FEET
Not to scale	February 2025	Standard Detail SD-013

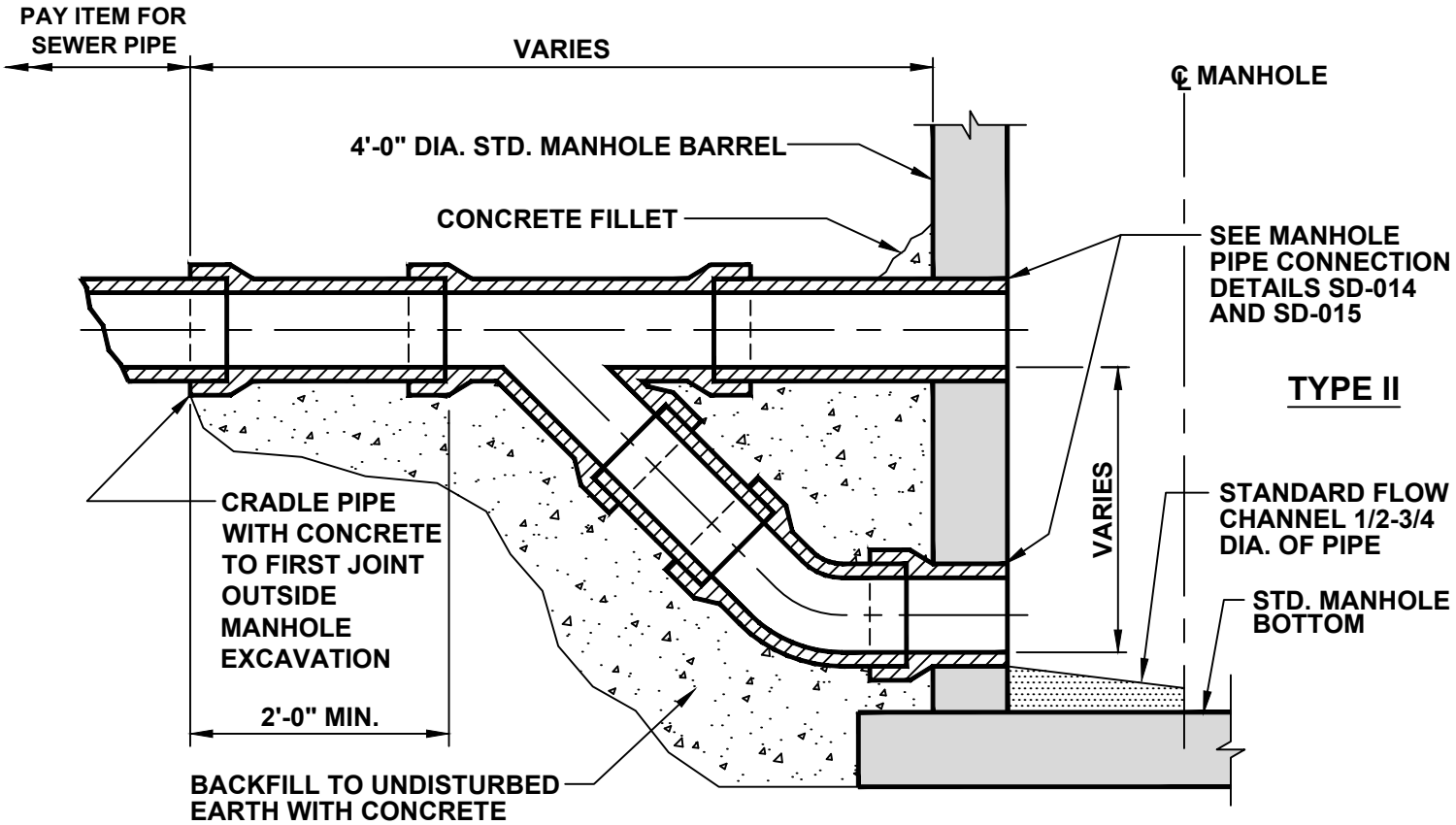


Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		MANHOLE CONNECTION FOR PVC PIPE (PRE-CAST BASE)
Not to scale	February 2025	Standard Detail SD-014



Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		MANHOLE CONNECTION FOR PVC PIPE (CAST-IN-PLACE BASE)
Not to scale	February 2025	Standard Detail SD-015

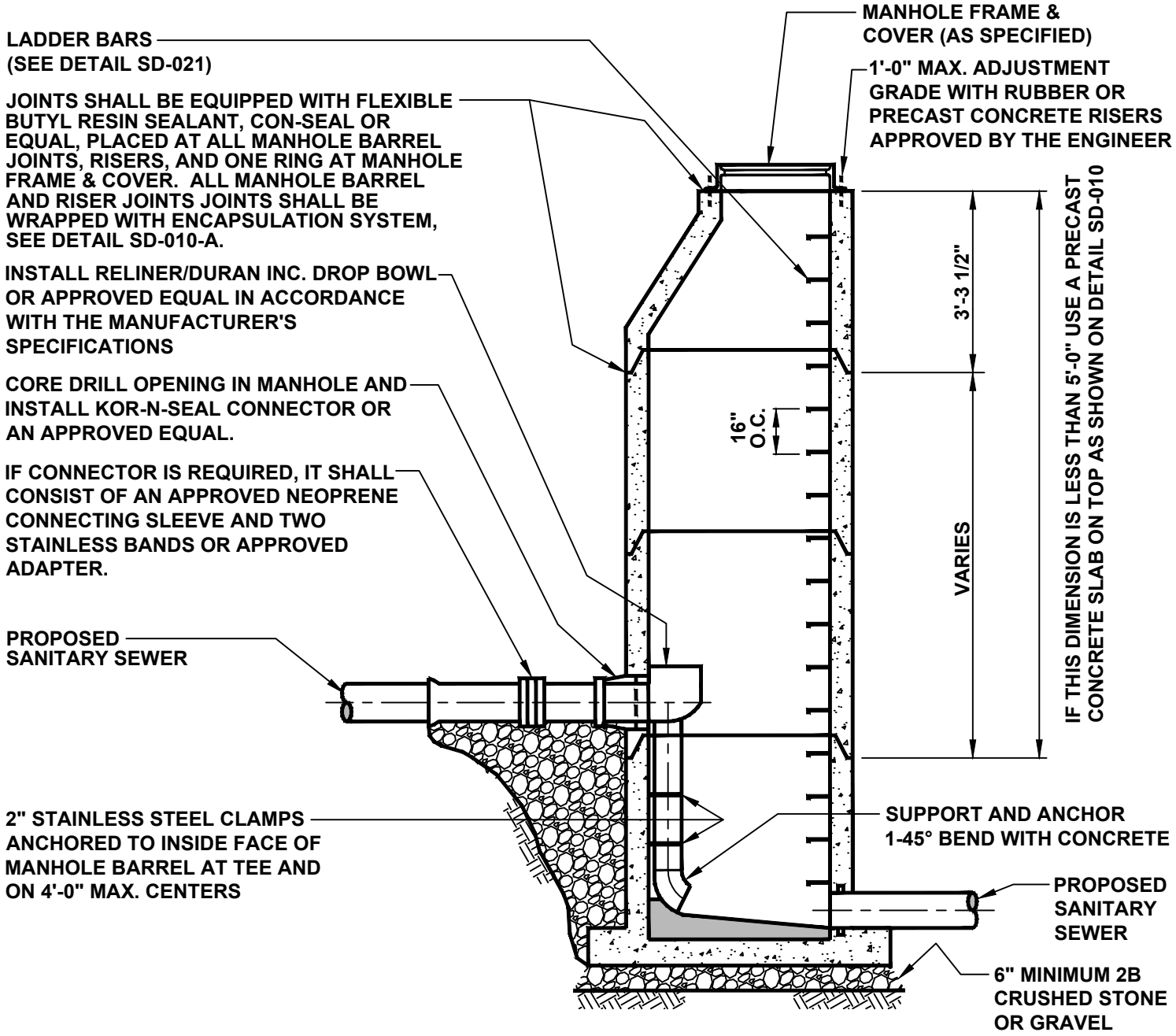




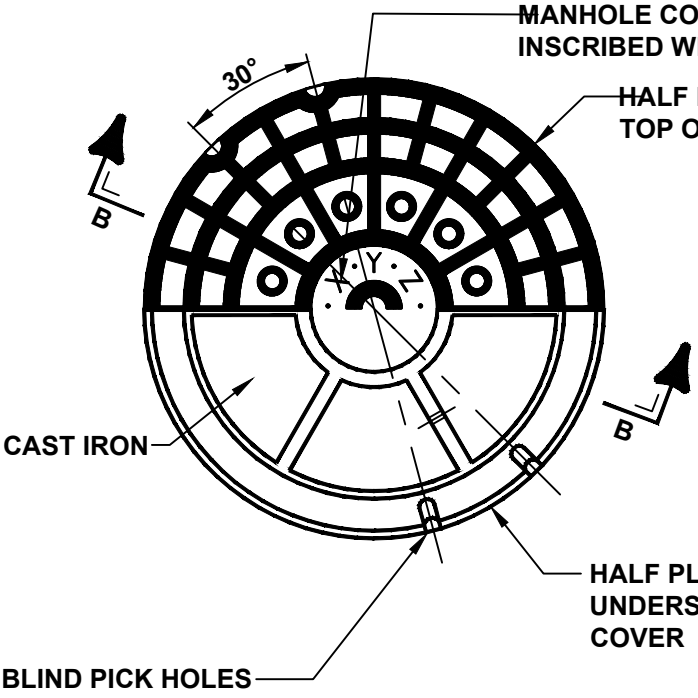
Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		OUTSIDE MANHOLE DROP CONNECTION
Not to scale	February 2025	Standard Detail SD-016

NOTES:

1. PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO ASTMC478, LATEST REVISION.
2. LIFTING HOLES SHALL BE PAINTED WITH MORTAR, MADE WATERTIGHT AND LEFT NEAT.
3. DROP CONNECTION INLET PIPE TEE AND BENDS SHALL BE PVC PIPE CONFORMING TO ASTMD3034, SDR-35.
4. FOR FORCE MAINS, INSTALL RUN OF TEE IN VERTICAL POSITION.
5. ALL OTHER MANHOLE STANDARD DETAIL REQUIREMENTS APPLY. SEE SD-2-010
6. ALL JOINTS TO RECEIVE CON-SEAL SEALER OR APPROVED EQUAL. ALL MANHOLE BARREL AND RISER JOINTS SHALL BE WRAPPED WITH ENCAPSULATION SYSTEM, SEE DETAIL SD-010-A.
7. ALL MANHOLE SLABTOPS, LIDS, AND CASTINGS SHALL MEET AASHTO H20 STANDARD SPECIFICATION FOR UNINTENDED VEHICULAR TRAFFIC, UNLESS OTHERWISE APPROVED.
8. ONLY ONE (1) INSIDE DROP CONNECTION WILL BE PERMITTED FOR MANHOLES OF 4'-0" DIAMETER AND ONLY TWO (2) DROP CONNECTIONS FOR MANHOLES 5'0" IN DIAMETER. MORE THAN TWO (2) DROP CONNECTIONS IN THE SAME MANHOLE SHALL BE OUTSIDE DROP TYPE CONNECTIONS.

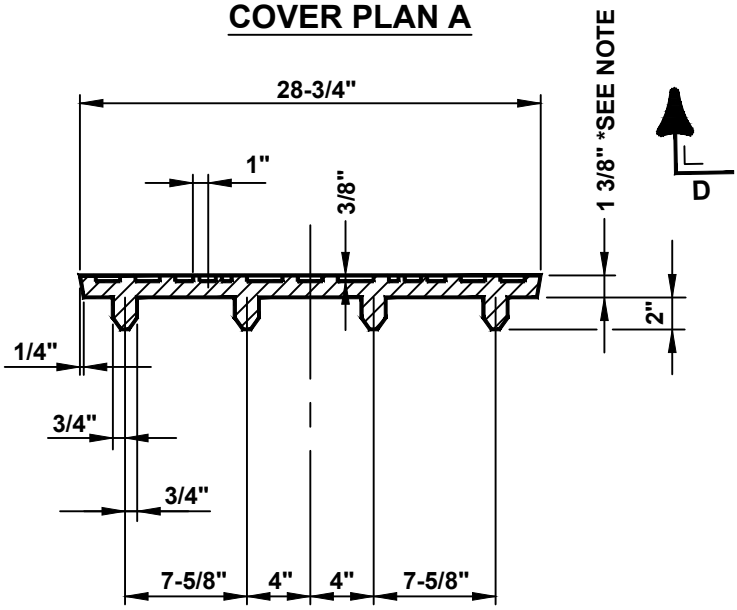


Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		INSIDE MANHOLE BOWL DROP CONNECTION
Not to scale	February 2025	Standard Detail SD-017

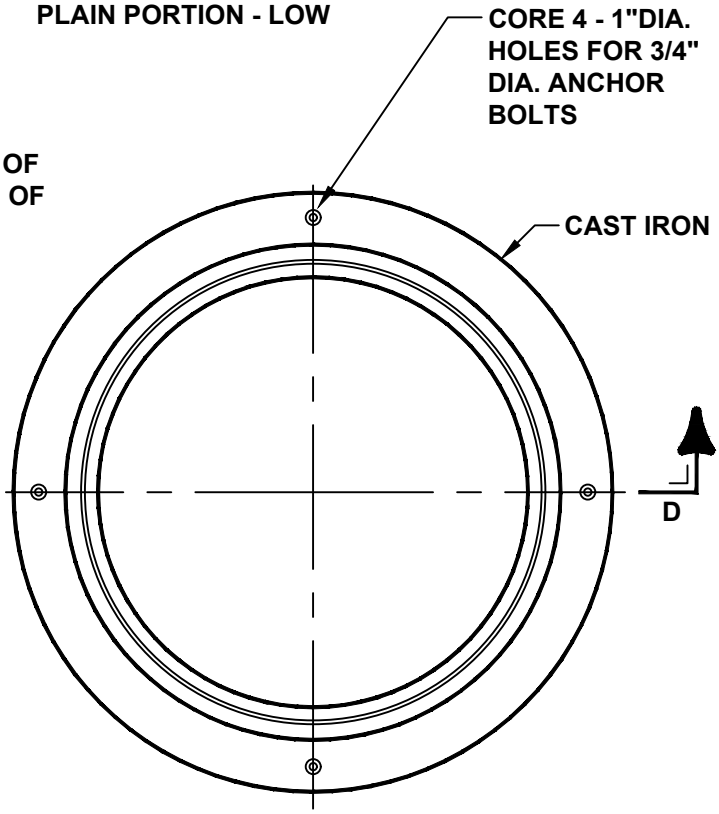


NOTE:
SHADED PORTION - HIGH
PLAIN PORTION - LOW

COVER PLAN A

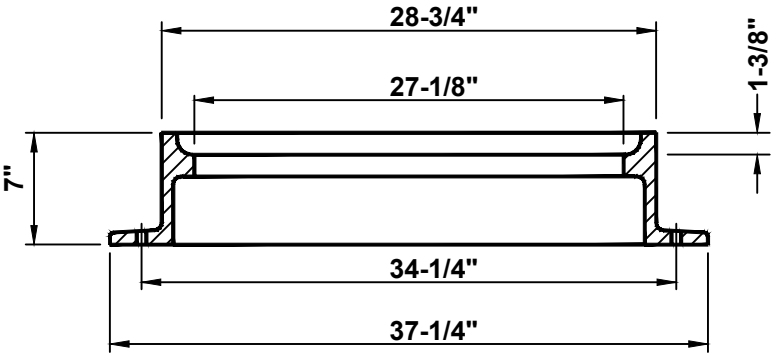


SECTION B



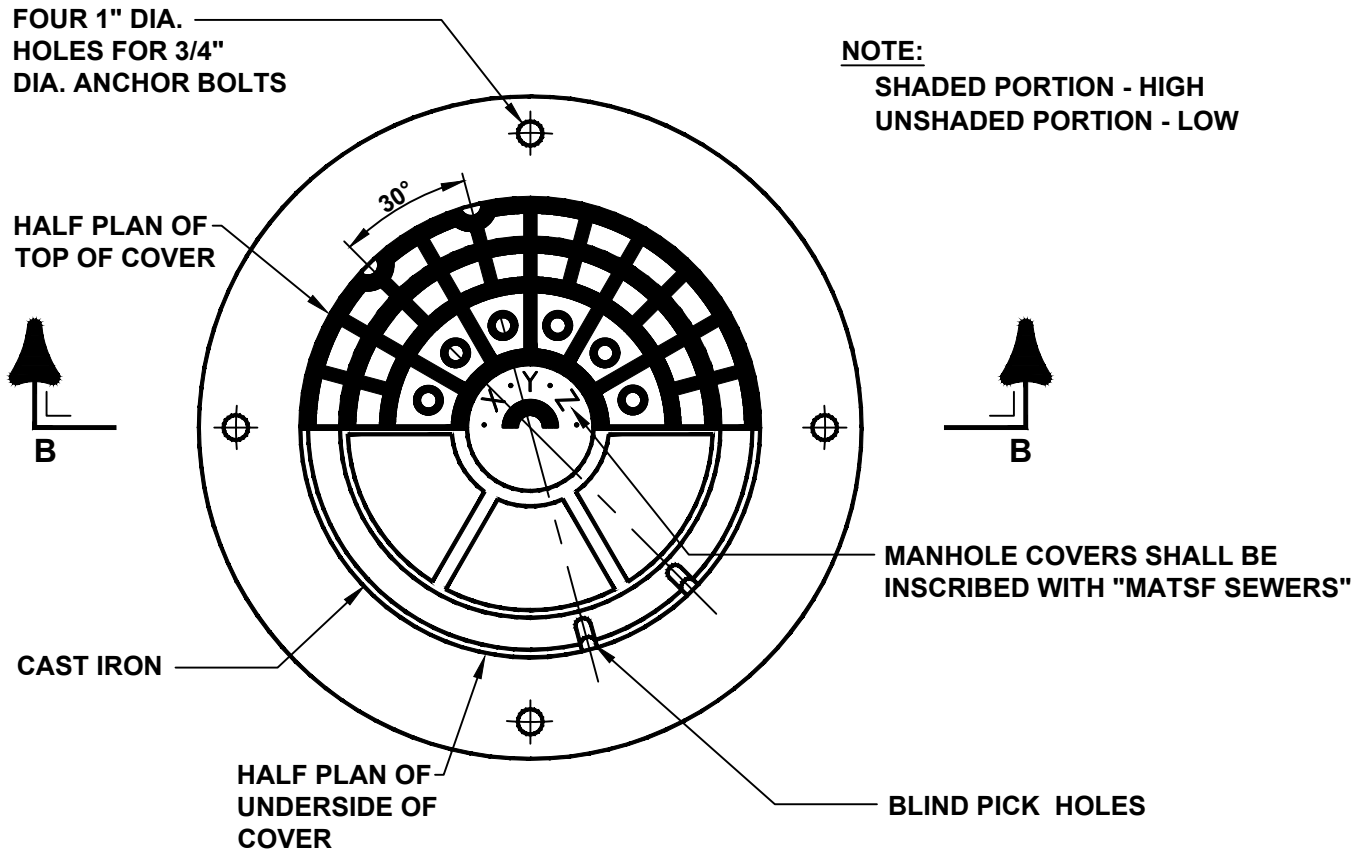
FRAME PLAN C

NOTE:
MANHOLE COVERS SHALL BE MACHINED TO 1 $\frac{3}{16}$" THICKNESS TO ACCOMODATE MANHOLE INFLOW PROTECTOR (MANPAN OR EQUAL) WHERE MANHOLE IS INSTALLED IN IMPERVIOUS AREA.

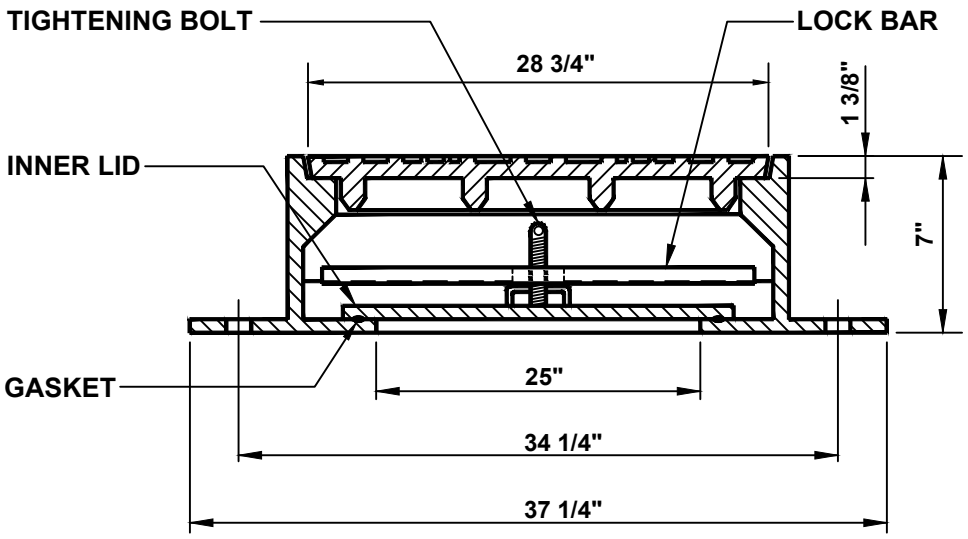


BOTTOM FLANGE - SECTION D

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		STANDARD CAST IRON MANHOLE FRAME AND COVER
Not to scale	February 2025	Standard Detail SD-018

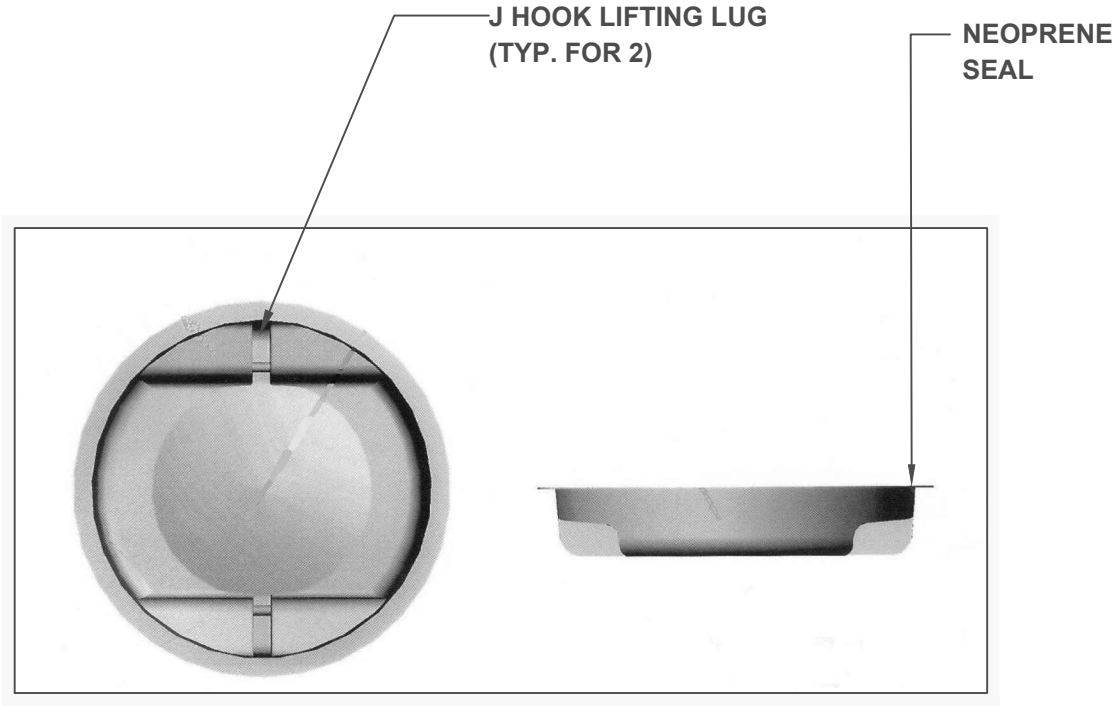


PLAN A



SECTION B

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		WATERTIGHT MANHOLE FRAME AND COVER
Not to scale	February 2025	Standard Detail SD-019

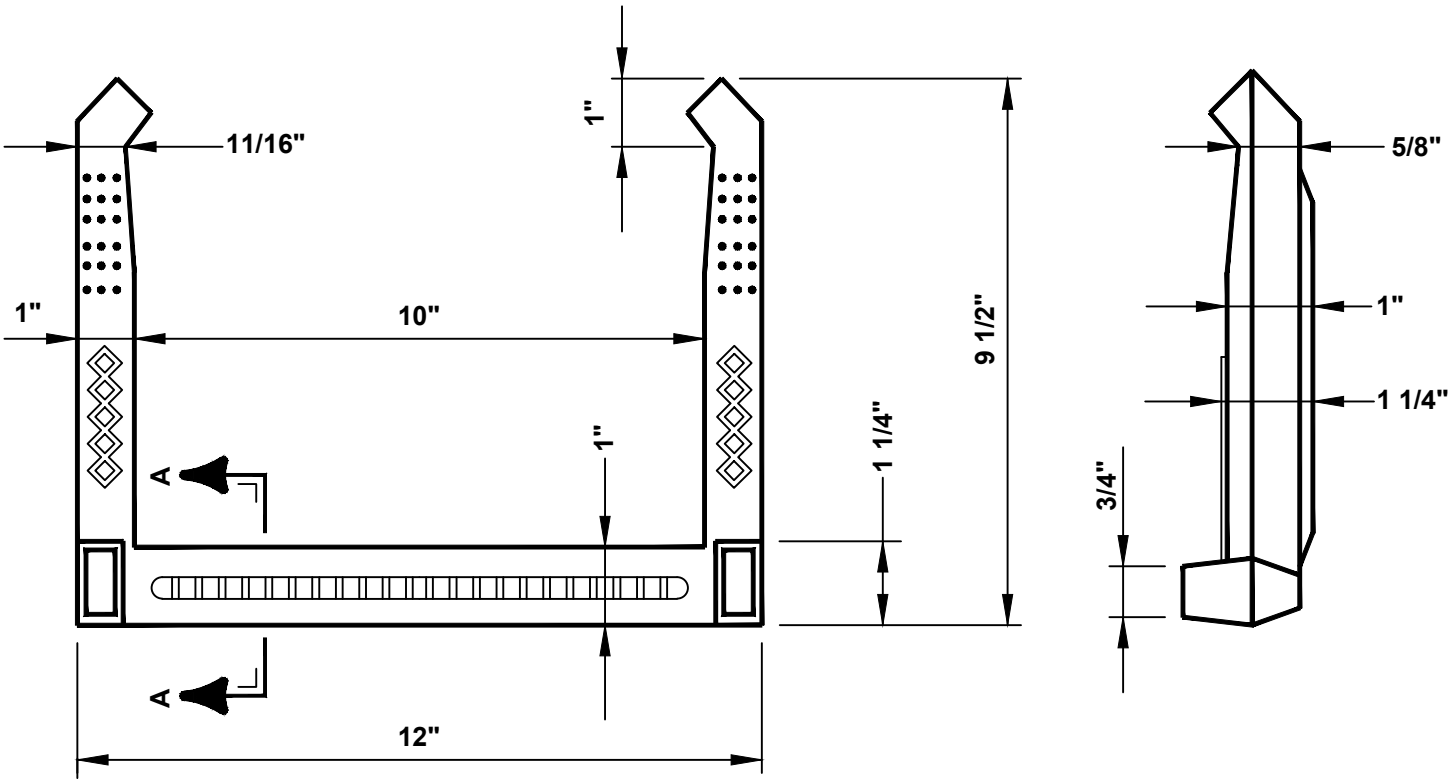


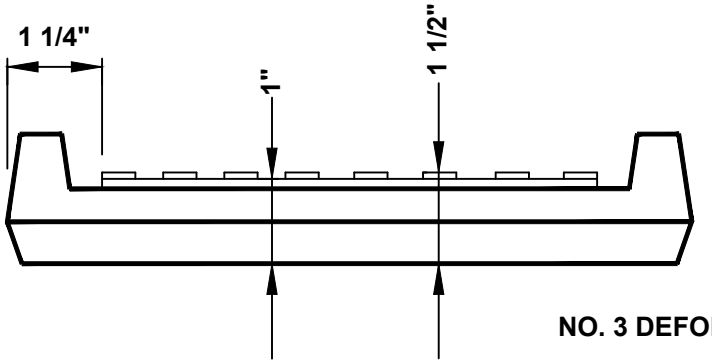
TOP VIEW **SIDE VIEW**

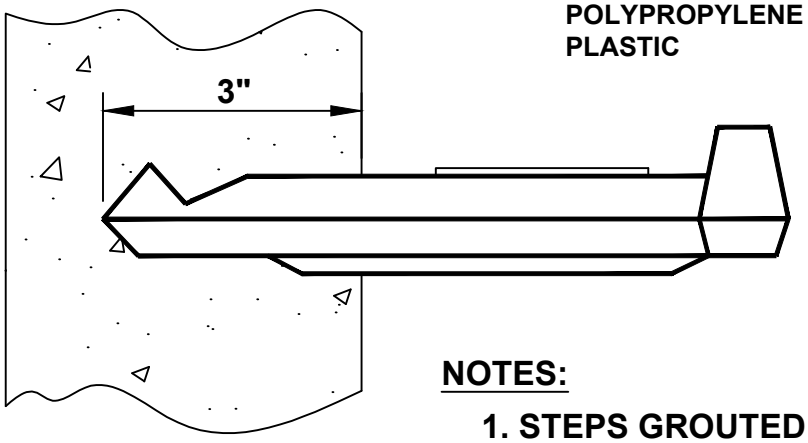
NOTES:

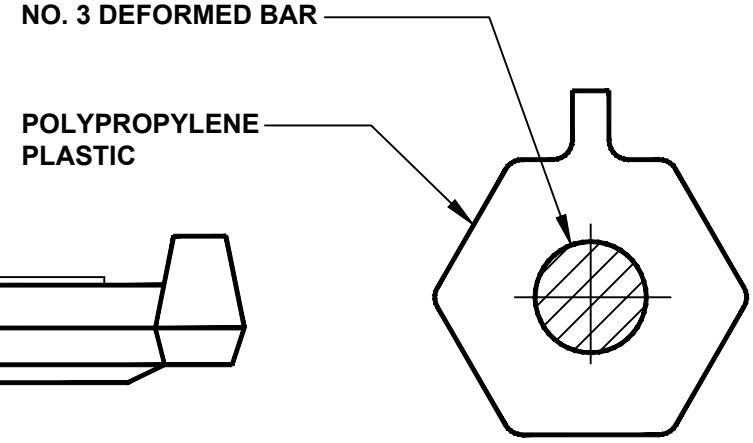
1. INFLOW PROTECTOR SHALL BE MAN-PAN OR APPROVED EQUAL AND SHALL BE INSTALLED WITH ALL NON-WATER TIGHT MANHOLE COVERS IN IMPERVIOUS AREAS ONLY.
2. INFLOW PROTECTORS SHALL BE FABRICATED AND SIZED TO FIT PROPOSED MANHOLE FRAMES.
3. MANHOLE COVERS SHALL BE MACHINED TO ACCOMODATE MANHOLE INFLOW PROTECTORS.

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		MANHOLE INFLOW PROTECTOR
Not to scale	February 2025	Standard Detail SD-020







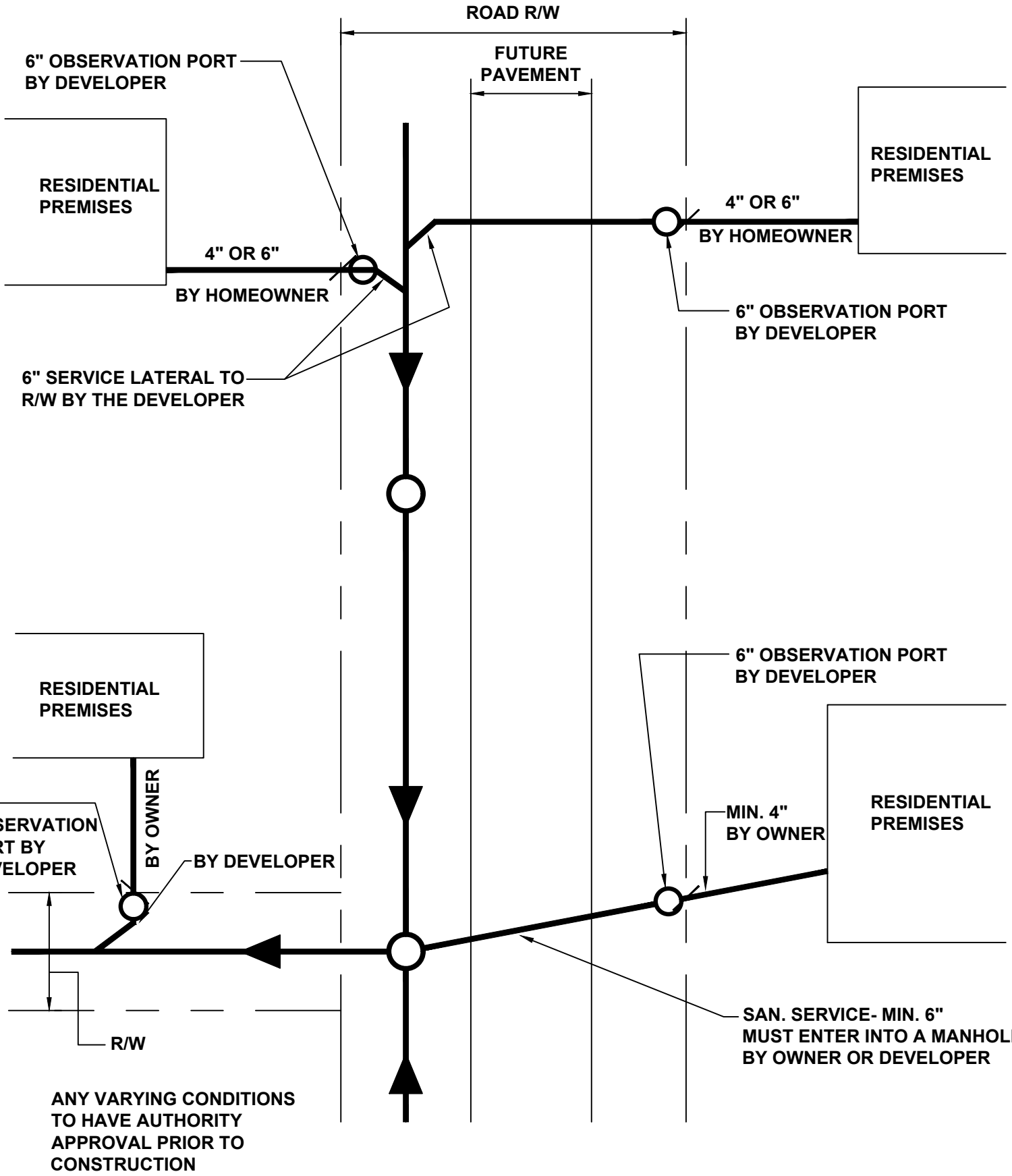


SECTION A

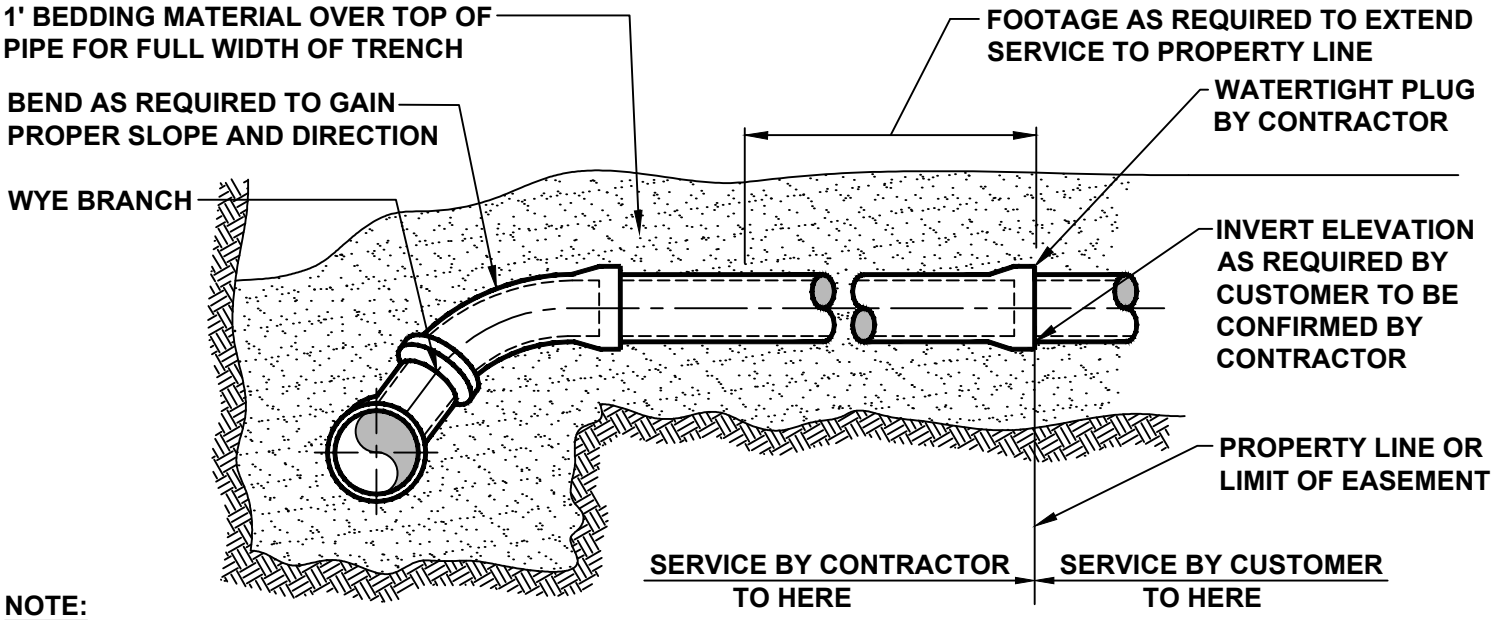
NOTES:

1. STEPS GROUTED IN PLACE
2. INSTALL STEPS ON 16" C:C

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		POLYPROPYLENE PLASTIC MANHOLE STEP
Not to scale	February 2025	Standard Detail SD-021

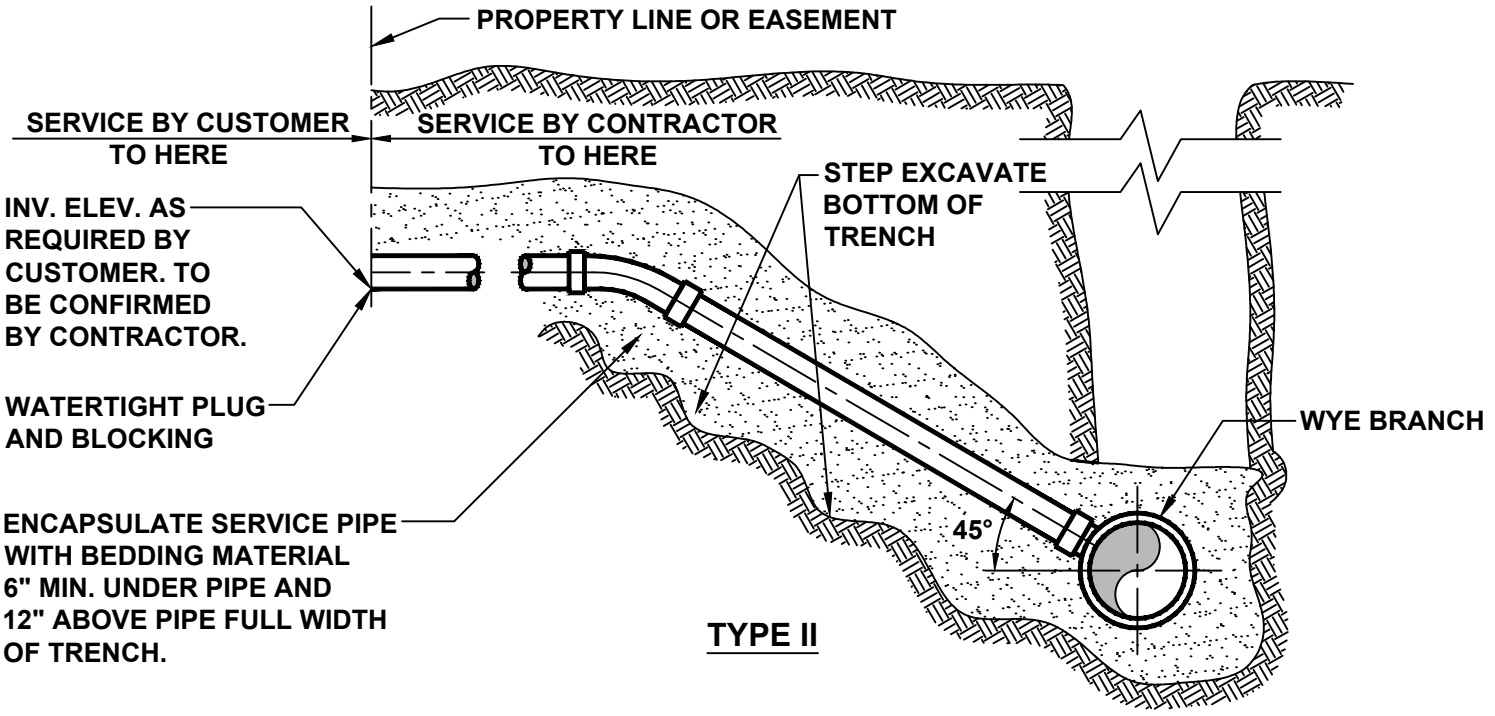


Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		SERVICE LINE CONNECTIONS
Not to scale	February 2025	Standard Detail SD-022



NOTE:
WHERE MAIN SEWER IS IN PRIVATE PROPERTY, FOOTAGE OF LATERAL PIPE WILL EXTEND TO THE EDGE OF SEWER RIGHT-OF-WAY.

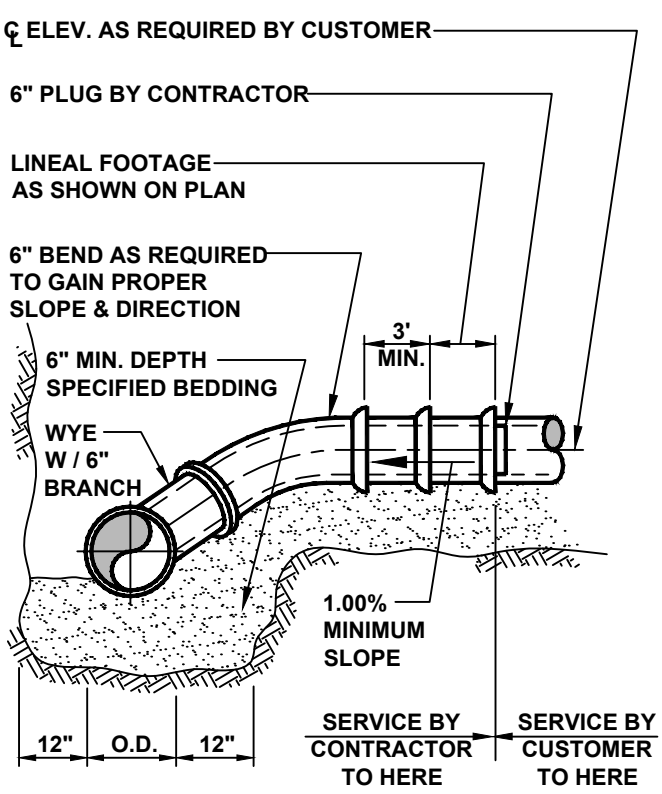
TYPE I



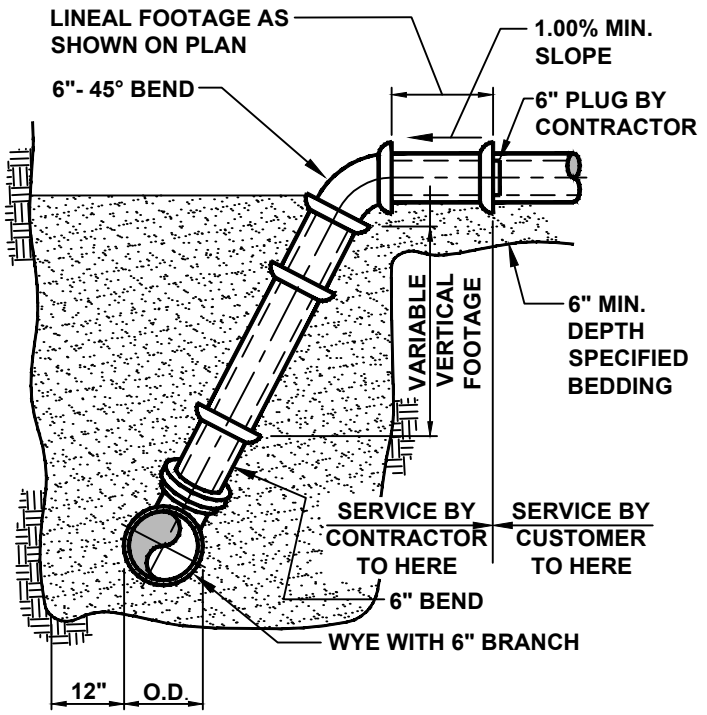
TYPE II

NOTE:
ALL SERVICE SEWERS SHALL BE 6" DIAMETER AND SHALL BE PVC PIPE. CHANGES IN ALIGNMENT AND CONNECTIONS TO MAIN SEWER SHALL BE ACCOMPLISHED WITH PREFABRICATED FITTINGS.

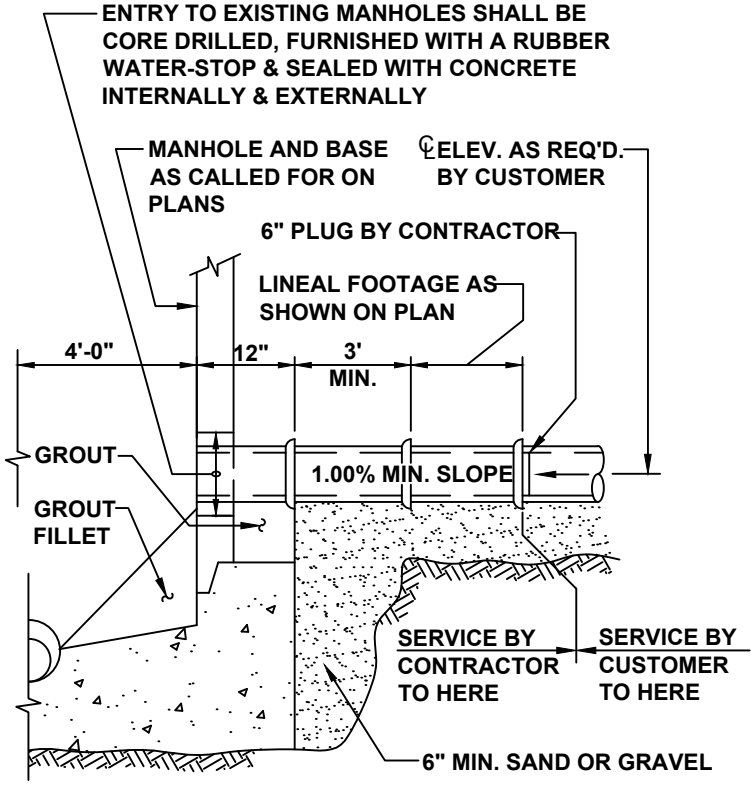
Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		TYPICAL SERVICE LATERAL CONNECTIONS
Not to scale	February 2025	Standard Detail SD-023



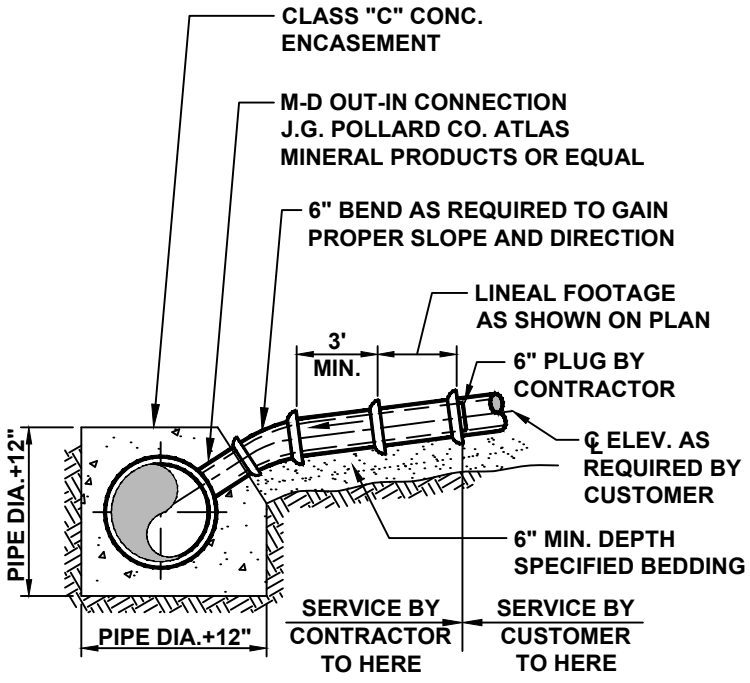
TYPE I



TYPE II

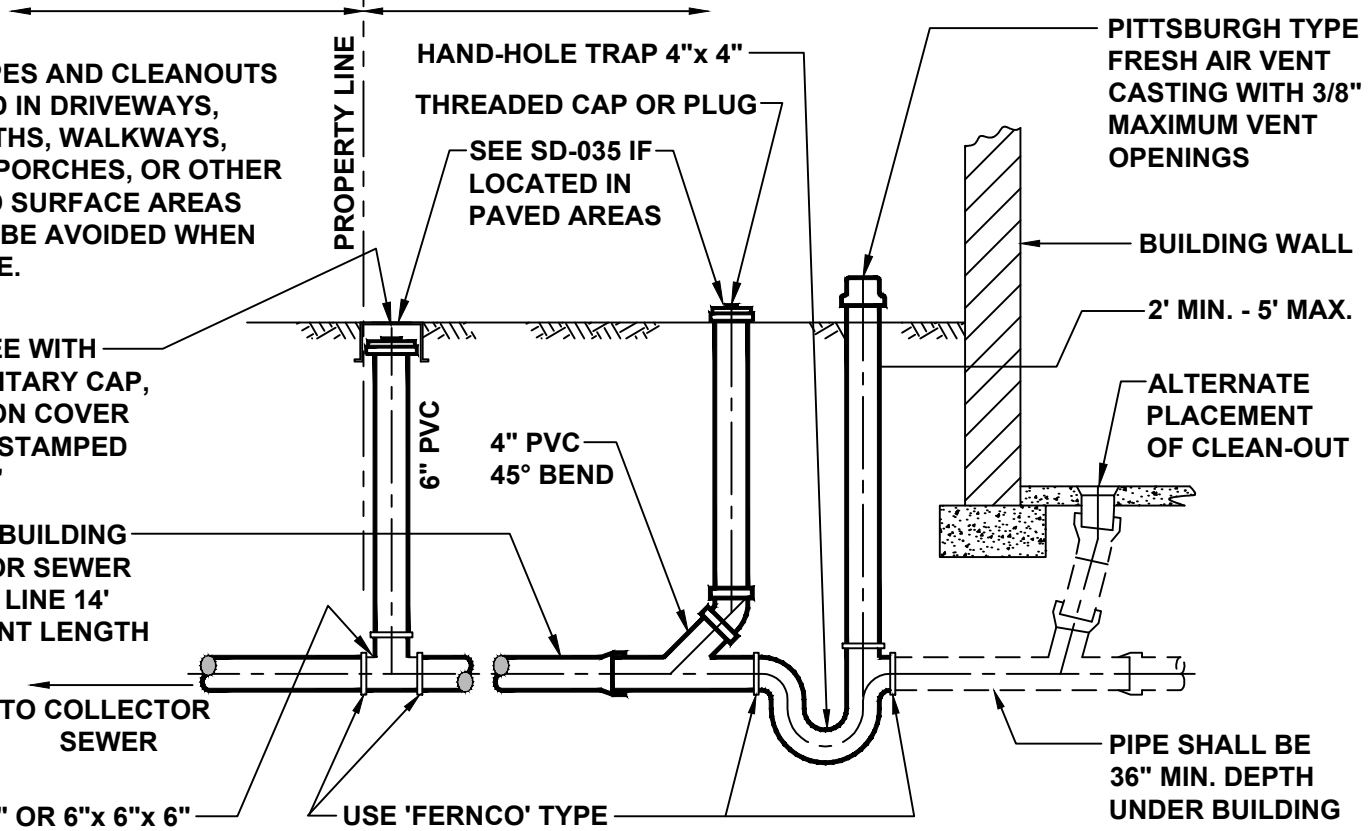


TYPE III



TYPE IV

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		**SERVICE CONNECTIONS**
Not to scale	**February 2025**	**Standard Detail SD-024**



NOTE:
VENT PIPES AND CLEANOUTS LOCATED IN DRIVEWAYS, CARTPATHS, WALKWAYS, PATIOS, PORCHES, OR OTHER FINISHED SURFACE AREAS SHOULD BE AVOIDED WHEN POSSIBLE.

NOTE:

1. ALL PIPE SHALL BE 4" OR 6" SCH. 40 PVC OR ABS. SLOPE SHALL BE MIN. 1/4" PER FOOT FOR 4" LINE AND 1/8" PER FOOT SLOPE FOR 6" LINE.

2. CLEAN-OUTS SHALL BE INSTALLED AT 50 FOOT INTERVALS FOR 4" PIPE AND 100 FOOT INTERVALS FOR 6" PIPE.

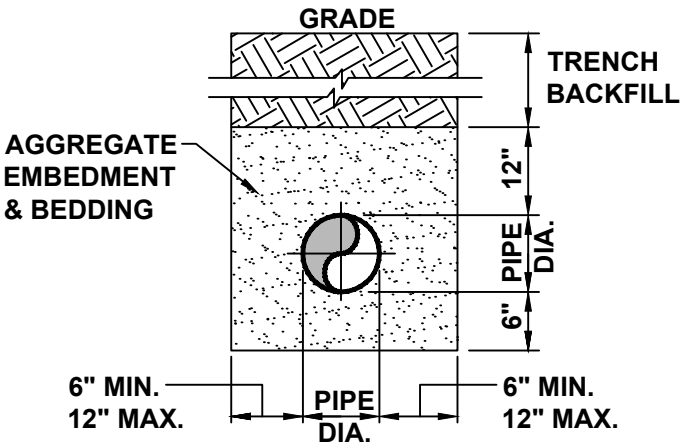
3. SDR 35 PVC MAY BE USED FROM THE DOWNSTREAM SIDE OF THE TRAP TO THE MAIN.

4. ABS PIPE SHOULD NOT BE GLUED TO PVC PIPE.

5. ALL FERNCO CONNECTIONS WHERE PERMITTED SHALL BE BANDED TYPE.

CONDENSED INSTALLATION SPECIFICATIONS

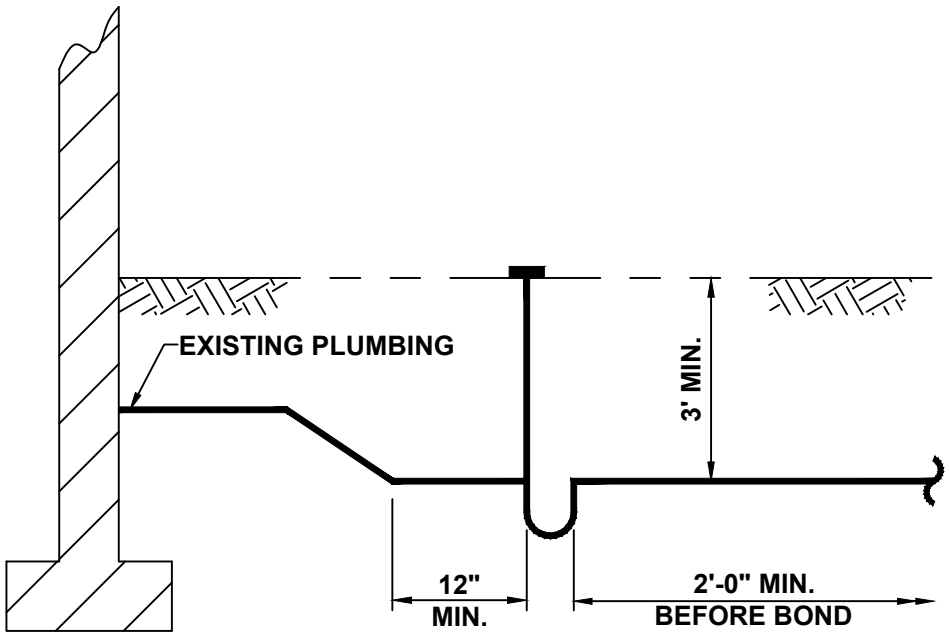
SEWER SERVICE LINE AND SEWER SERVICE CONNECTIONS SHALL BE INSTALLED BY REGISTERED MASTER PLUMBER AT THE COST OF THE CUSTOMER IN ACCORDANCE WITH APPENDIX C OF THE RULES AND REGULATIONS AND DETAILED SPECIFICATIONS OF THE AUTHORITY AND MUST MEET ALL CURRENT ACHD STANDARDS.



SEWER SERVICE LINE PIPE:

MATERIAL	ASTM SPECIFICATIONS	JOINT		ASTM SPEC.
ABS	D-2751	SCH-40	SOLVENT WELD	D-2751
PVC	D-3034	SDR-35	ELASTOMERIC	D-3212
PVC	D-1875	SCH-40	SOLVENT WELD	D-2564

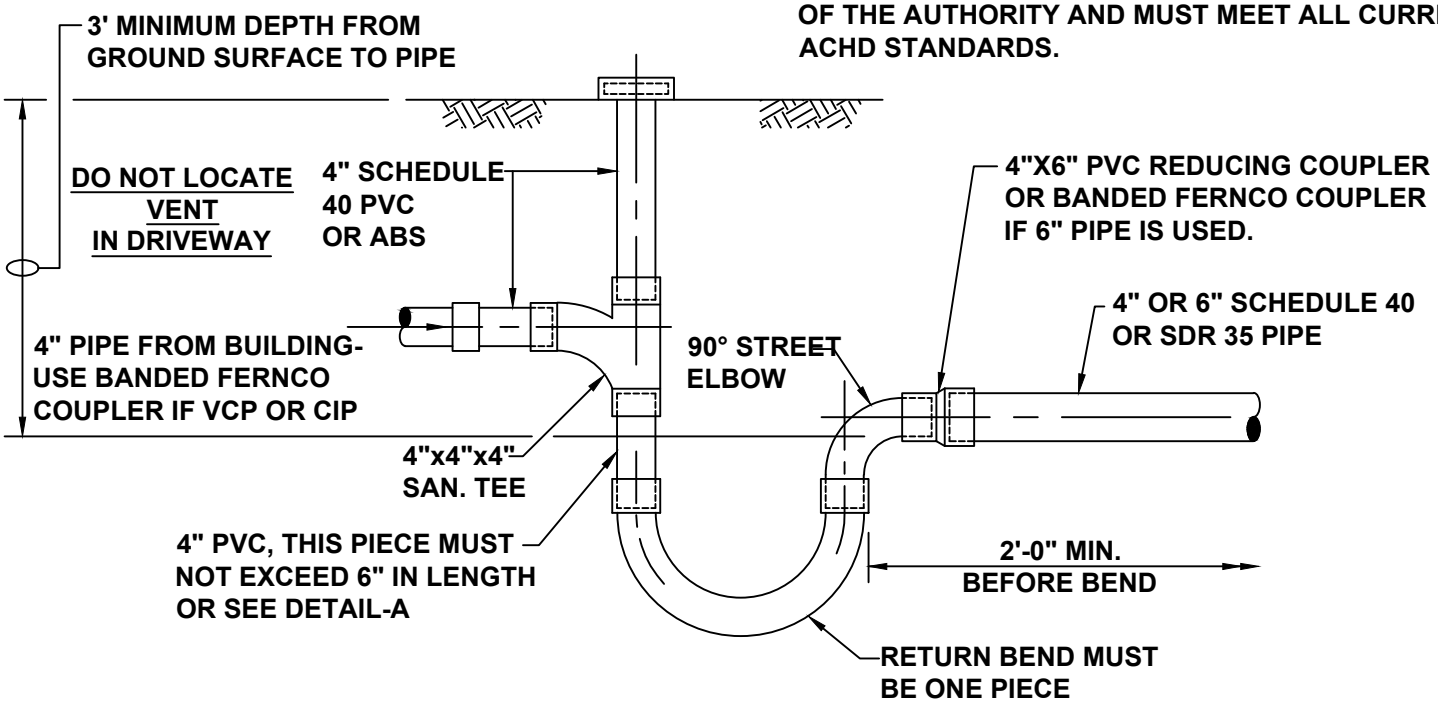
Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		SERVICE CONNECTION TO SANITARY SEWER FROM A NEW INSTALLATION
Not to scale	February 2025	Standard Detail SD-025



SHALLOW BUILDING SEWER TRAP DETAIL

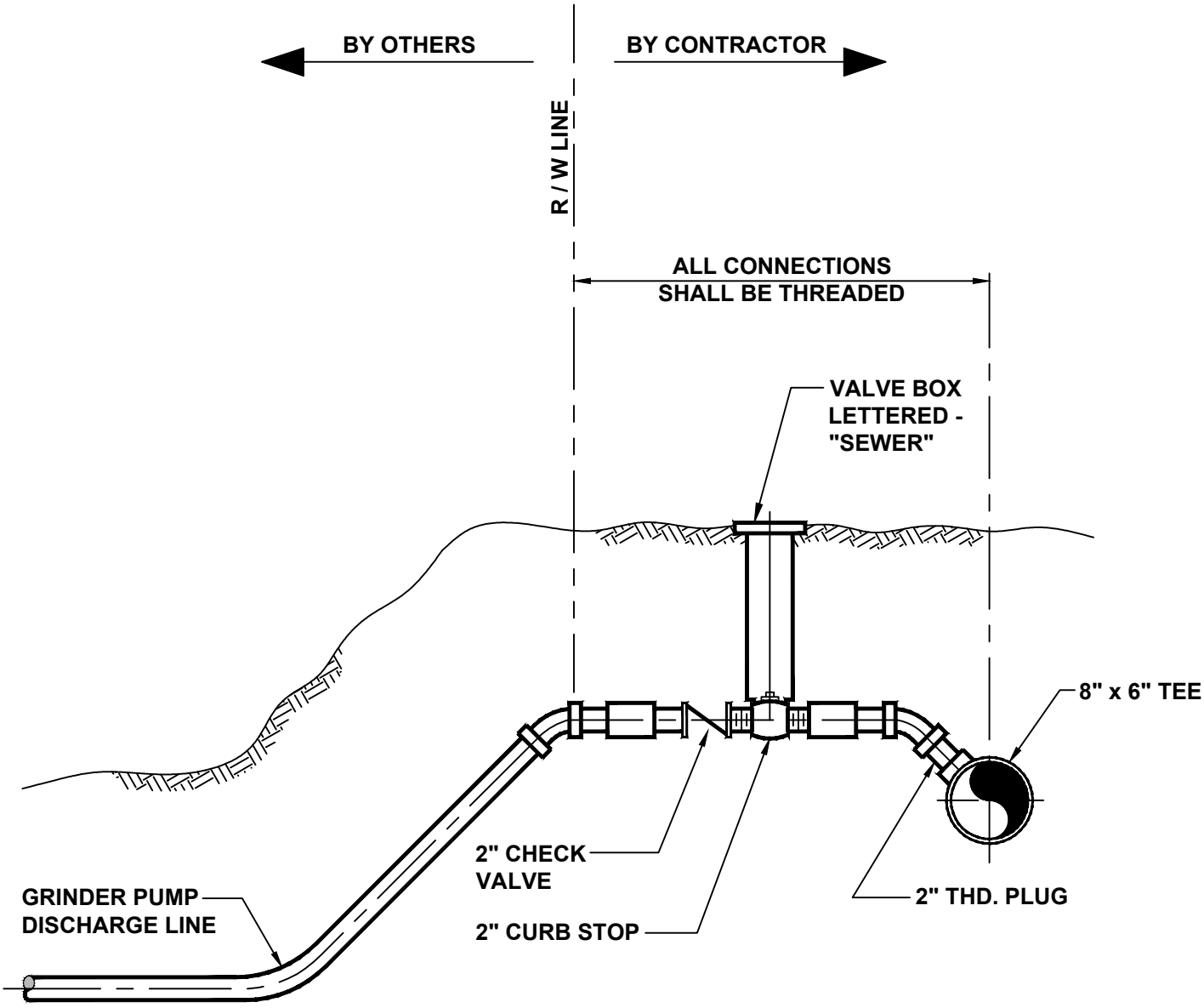
CONDENSED INSTALLATION SPECIFICATIONS

SEWER SERVICE LINE AND SEWER SERVICE CONNECTIONS SHALL BE INSTALLED BY REGISTERED MASTER PLUMBER AT THE COST OF THE CUSTOMER IN ACCORDANCE WITH APPENDIX C OF THE RULES AND REGULATIONS AND DETAILED SPECIFICATIONS OF THE AUTHORITY AND MUST MEET ALL CURRENT ACHD STANDARDS.

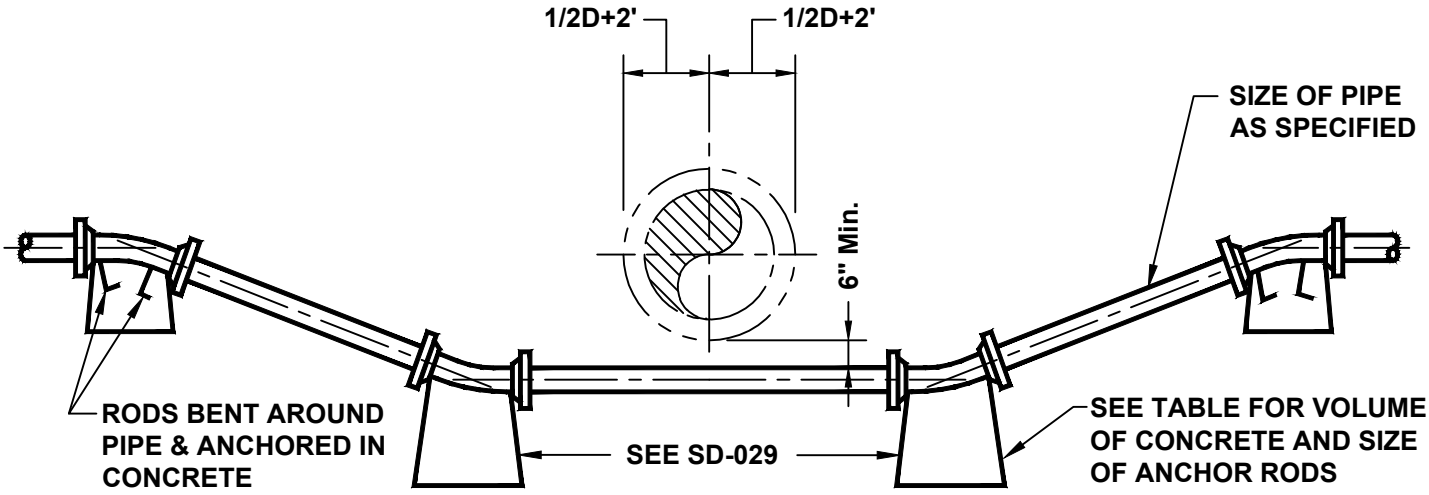


TYPICAL FABRICATED PVC VENT/ TRAP ASSEMBLY

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		**BUILDING SEWER TRAP DETAILS**
Not to scale	**February 2025**	**Standard Detail SD-026**



Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		SMALL DIAMETER FORCE MAIN CONNECTION
Not to scale	February 2025	Standard Detail SD-027

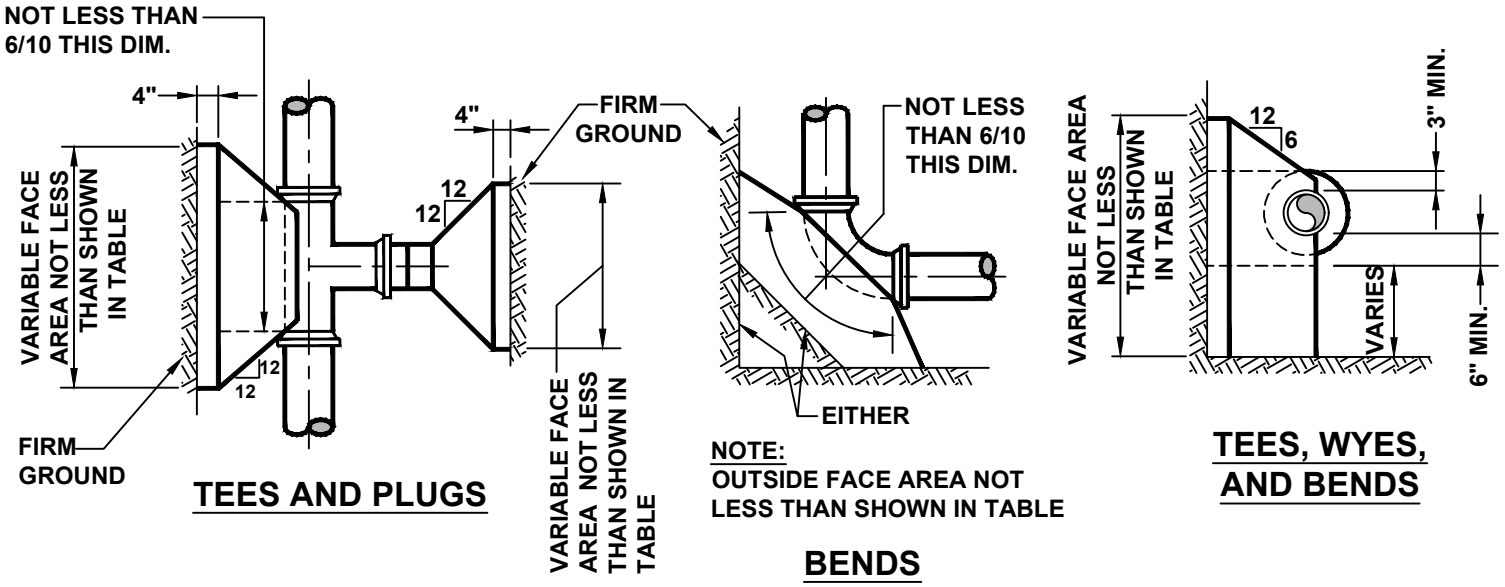


NOTE:
THE TABLE IS BASED ON 225 PSI TEST PRESSURE. ALL BLOCKS HAVING LENGTH OF 3'-0" OR MORE TO BE REINFORCED WITH #4 @ 6" PLACED 3" FROM TOP OF BLOCK.

NOTE:
ALL FITTINGS SHALL BE WRAPPED IN PLASTIC PRIOR TO POURING CONCRETE ANCHORS.

		VOLUME IN CUBIC FEET			SIZE AND NO. OF ANCHOR RODS		
PIPE SIZE	TOTAL FORCE (lbs)	45 DEGREE BENDS	22 1/2 DEGREE BENDS	11 1/4 DEGREE BENDS	45 DEGREE BENDS	22 1/2 DEGREE BENDS	11 1/4 DEGREE BENDS
4	4275	22.7	11.6	5.9	1-#4	1-#4	1-#4
6	8550	45.5	23.3	11.9	2-#4	1-#4	1-#4
8	14625	77.8	39.6	20.3	2-#4	2-#4	1-#4
10	21825	116.1	59.1	30.3	2-#4	2-#4	2-#4
12	30825	164.0	83.5	42.8	2-#5	2-#4	2-#4
14	41400	220.2	112.1	57.5	2-#6	2-#4	2-#4
16	53550	284.9	145.0	73.4	2-#7	2-#5	2-#4
18	67275	357.9	182.2	93.4	2-#7	2-#5	2-#4
20	82575	439.2	223.6	114.7	2-#8	2-#6	2-#4
24	117675	626.0	318.7	183.4	2-#9	2-#7	2-#5

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		CONCRETE ANCHORS AND METHOD OF LAYING FORCE MAINS UNDER OBSTRUCTIONS
Not to scale	February 2025	Standard Detail SD-028



NOTES:

1. ALL TEES, WYES, CROSSES, PLUGS AND BENDS OF 10° OR MORE SHALL BE BLOCKED AGAINST FIRM EARTH WITH CONCRETE.

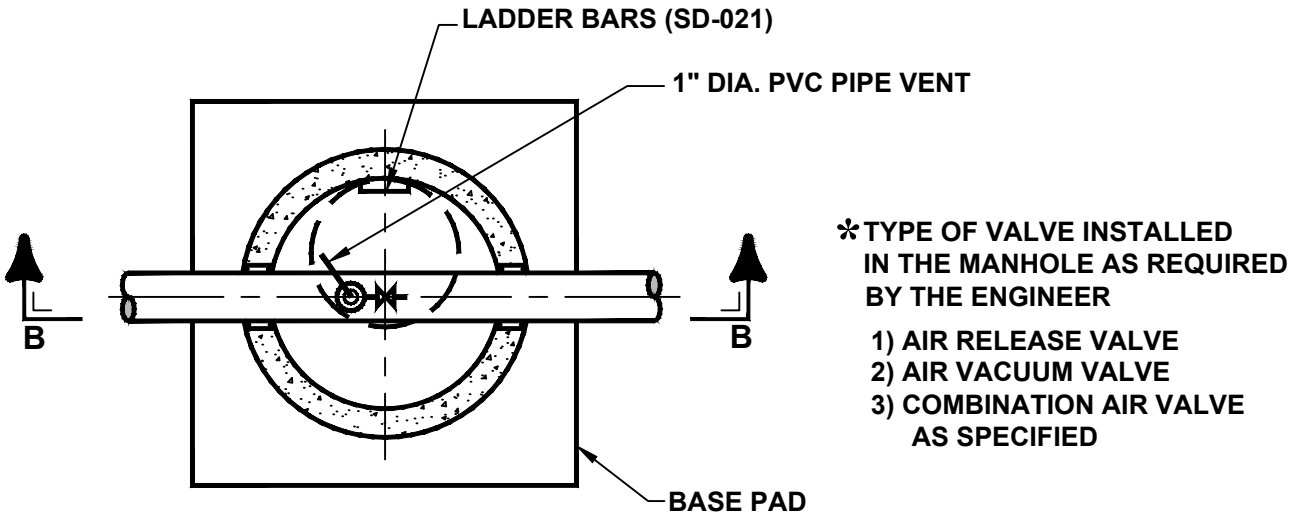
2. EARTH PRESSURE FIGURED AT 4000 PSF. IF EARTH ENCOUNTERED WILL NOT WITHSTAND THIS PRESSURE, THE AREA OF THE BLOCK MUST BE INCREASED PROPORTIONATELY.

3. ALL FITTINGS SHALL BE WRAPPED IN PLASTIC PRIOR TO POURING CONCRETE BLOCKING.

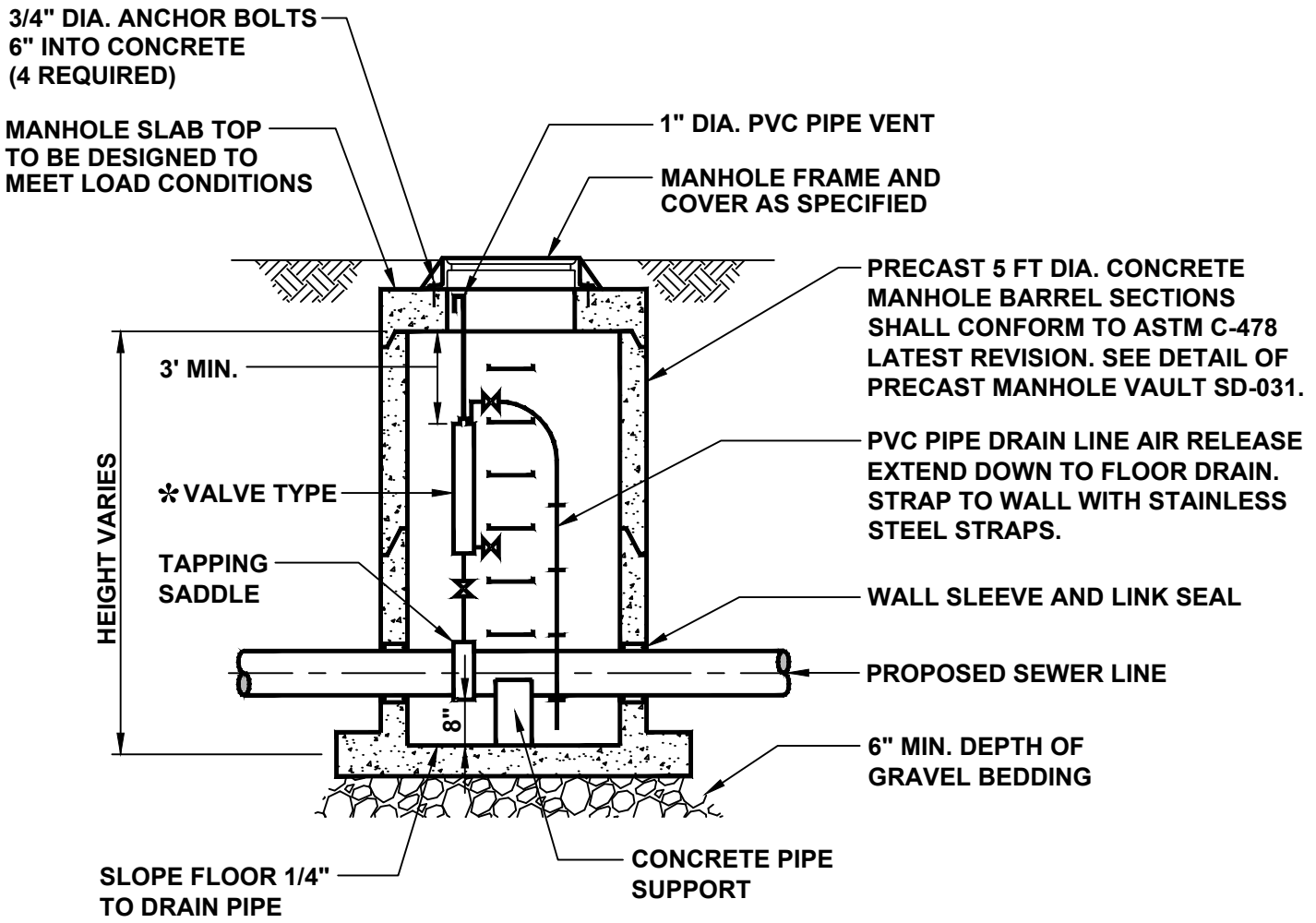
			AREA OF BLOCK IN SQUARE FEET				
PIPE SIZE (in)	AREA* (sq in)	TOTAL FORCE (lbs)	TEES & PLUGS	90 DEGREE BENDS	45 DEGREE BENDS	22 1/2 DEGREE BENDS	11 1/4 DEGREE BENDS
4	19	4,275	1.1	1.5	1.0	1.0	1.0
6	38	8,550	2.2	3.0	1.6	1.0	1.0
8	65	14,625	3.7	5.2	2.8	1.4	1.0
10	97	21,825	5.5	7.7	4.2	2.1	1.1
12	137	30,825	7.7	10.9	5.9	3.0	1.5
14	184	41,400	10.4	14.6	7.9	4.0	2.1
16	238	53,550	13.4	18.9	10.3	5.2	2.7
18	299	67,275	16.8	23.8	12.9	6.6	3.4
20	367	82,575	20.7	29.2	15.8	8.1	4.1
24	523	117,675	29.4	41.6	22.5	11.5	5.9
30	805	96,600	24.2	34.2	18.5	9.4	4.8
36	1152	138,240	34.6	48.9	26.5	13.5	6.9

CALCULATIONS ARE BASED ON 225 PSI PRESSURE OR 150 PSI WORKING PRESSURE PLUS 50% INCREASE FOR WATER HAMMER FOR SIZES 4" TO 24" INCLUSIVE. FOR SIZES 30" & 36" THE TABLE IS BASED ON 120 PSI PRESSURE OR 75 PSI WORKING PRESSURE PLUS 50% WATER HAMMER.

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		CONCRETE THRUST BLOCKING
Not to scale	February 2025	Standard Detail SD-029

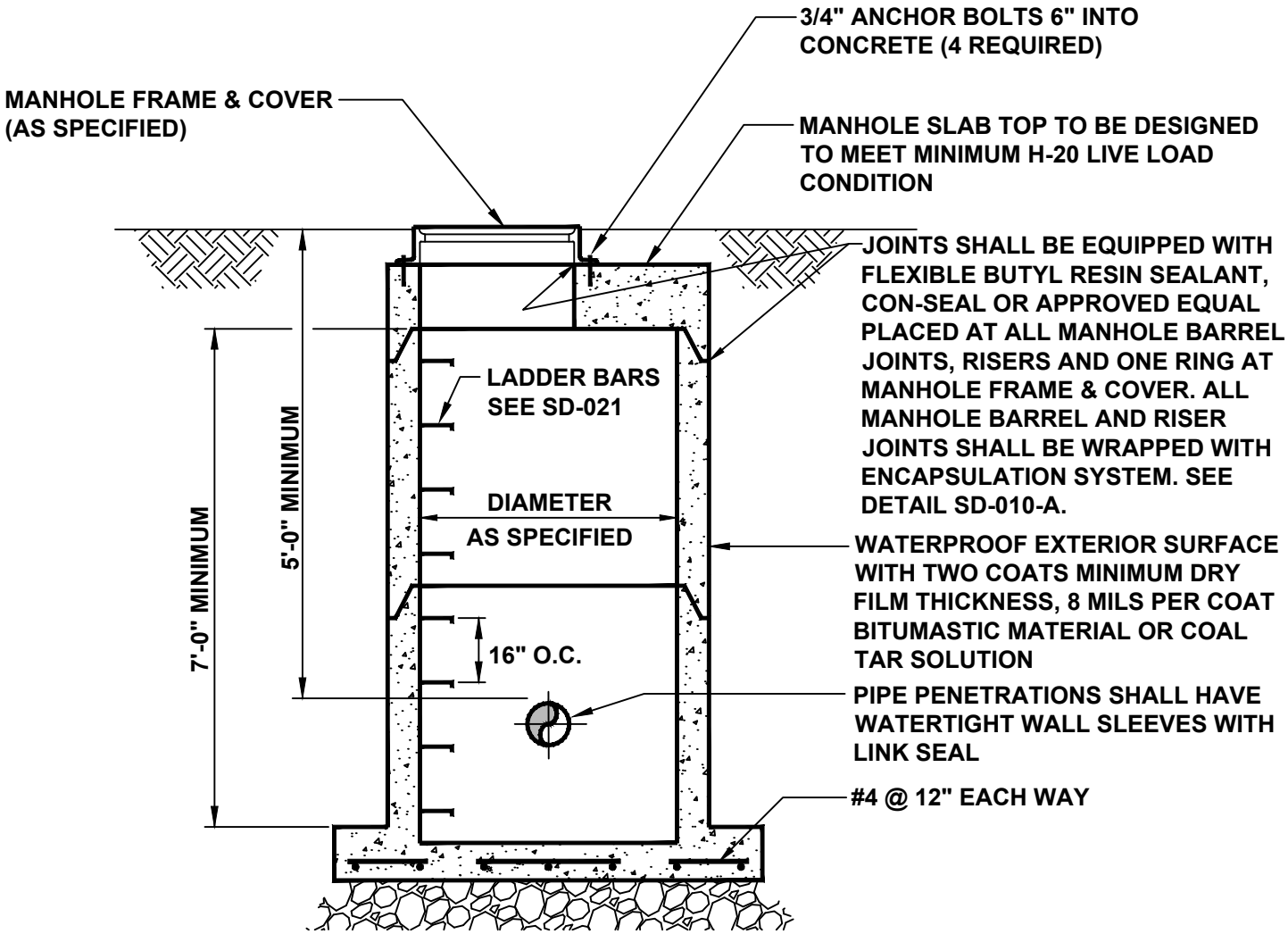


PLAN 2-040-A



SECTION B

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		**SEWAGE AIR AND VACUUM RELEASE VALVE AND MANHOLE**
Not to scale	**February 2025**	**Standard Detail SD-030**

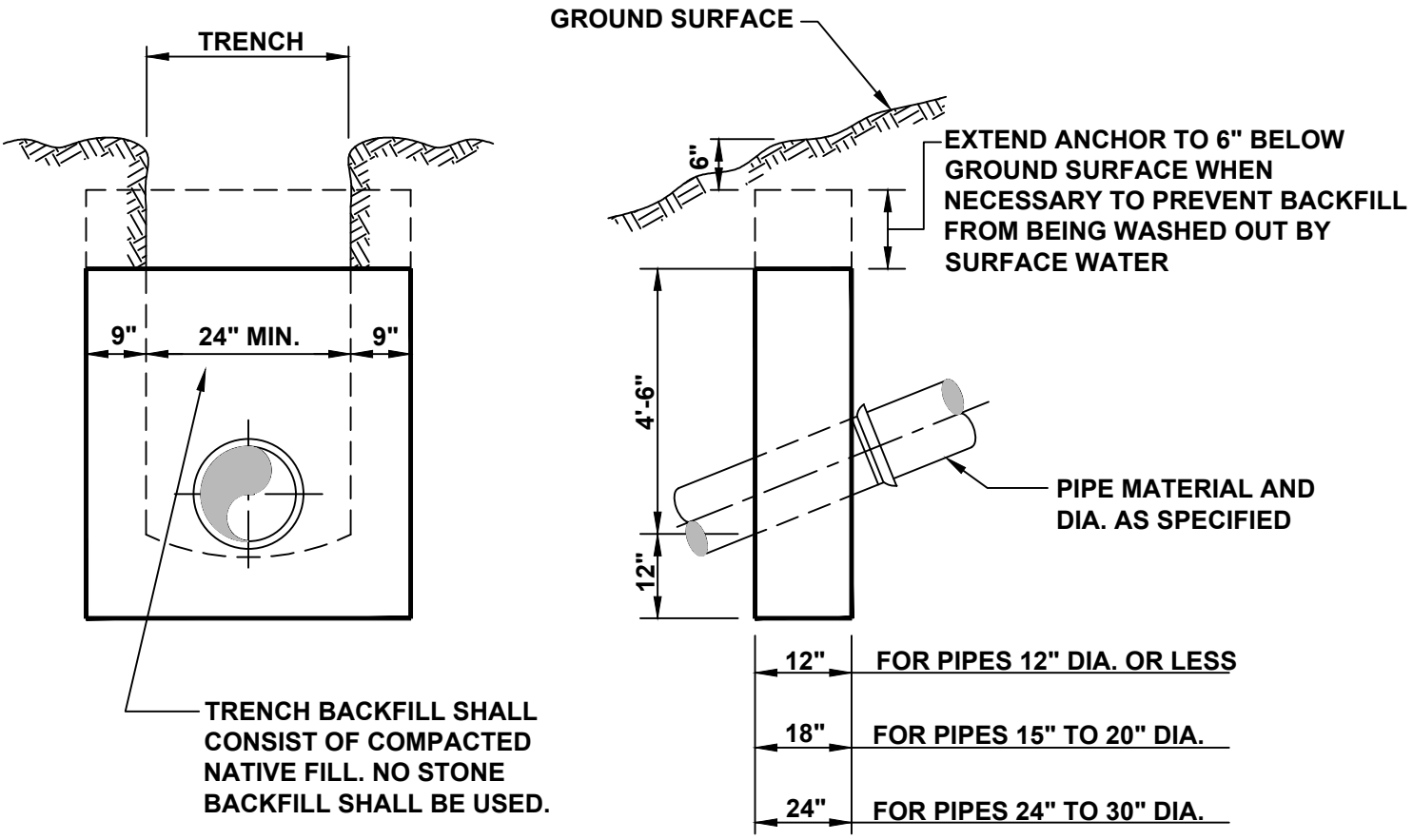


SECTION A-A

NOTES:

1. PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO ASTM-C478, LATEST REVISION.
2. WHERE MANHOLE FOUNDATION IS IN ROCK, REINFORCEMENT WILL NOT BE REQUIRED.
3. LIFTING HOLES SHALL BE PAINTED WITH MORTAR, MADE WATERTIGHT AND LEFT NEAT & SMOOTH.
4. SUPPORT MANHOLE STRUCTURE AND ALL PIPING CONNECTIONS ON A MINIMUM OF 6" THICKNESS 2B BEDDING MATERIAL. ENCAPSILATE ALL PIPES WITHIN MANHOLE EXCAVATION IN THE SAME MATERIAL TO AN ELEVATION OF 12" ABOVE THE TOPS OF PIPES.

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		PRECAST CONCRETE MANHOLE VAULT
Not to scale	February 2025	Standard Detail SD-031



CONCRETE ANCHORS FOR PIPES ON STEEP GRADES

PROVIDE NO ANCHORS ON GRADES LESS THAN 20% UNLESS NOTED
PROVIDE ANCHORS 36' C-C ON GRADES BETWEEN 20% AND 34%
PROVIDE ANCHORS 24' C-C ON GRADES BETWEEN 34% AND 50%
PROVIDE ANCHORS 16' C-C ON GRADES BETWEEN 50% AND 70%

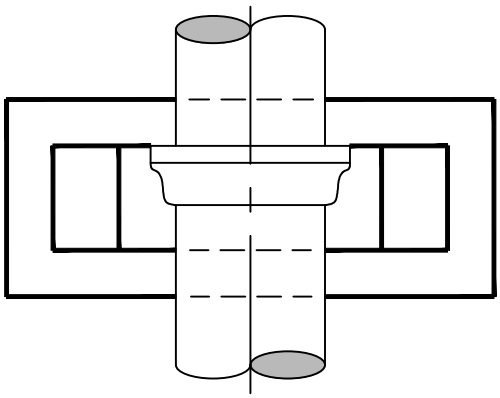
NOTE:

1. FOR CONDITIONS OTHER THAN SHOWN HEREON ANCHORS SHALL BE PROVIDED AS REQUIRED BY THE CONTRACT PLANS OR ORDERED IN THE FIELD BY THE OWNER'S REPRESENTATIVE.

2. ALL PIPE ON SLOPES GREATER THAN 30% SHALL BE DUCTILE IRON WITH FIELD LOK GASKETS.

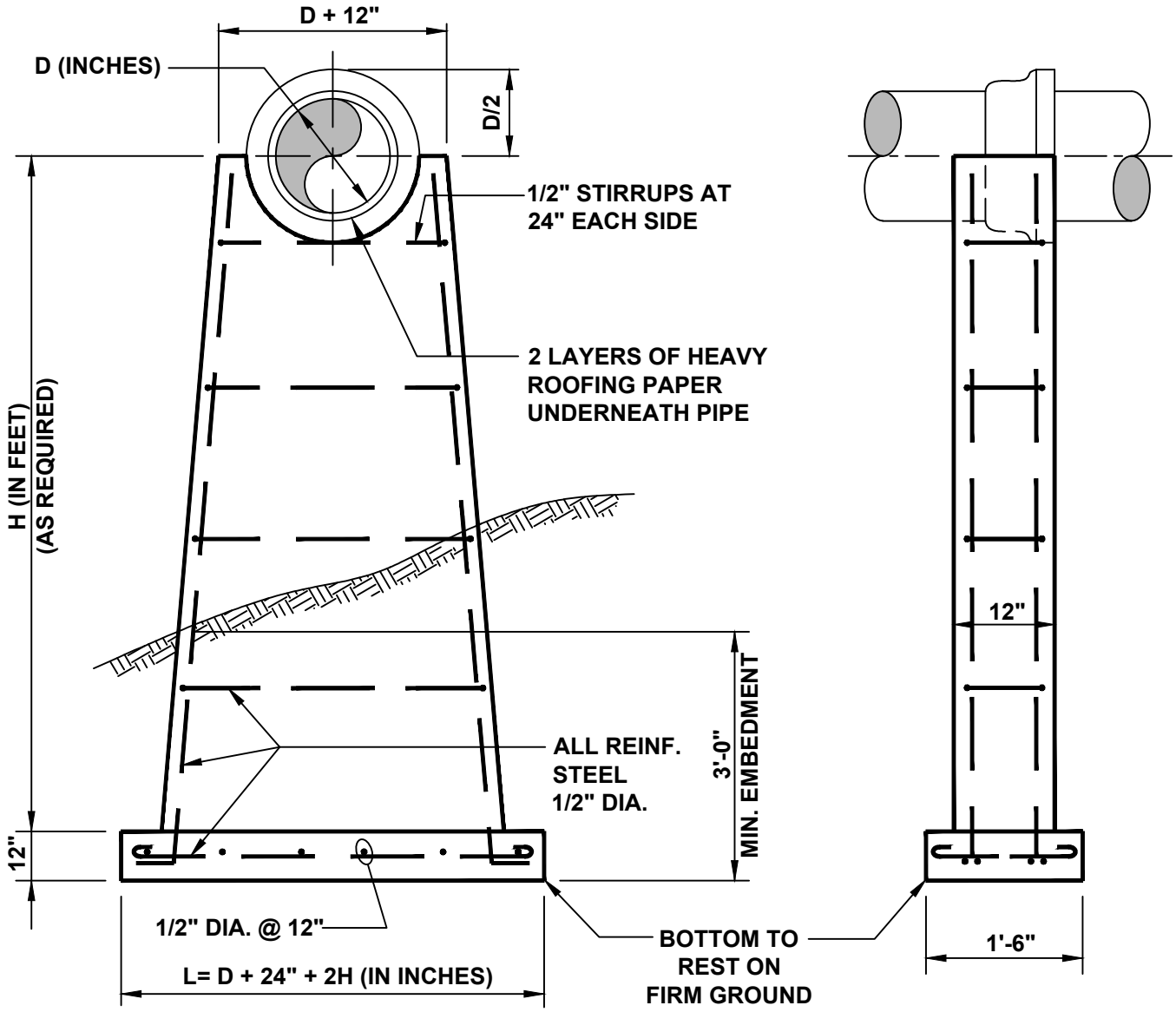
3. WHERE PIPES ARE INSTALLED ON STEEP GRADES, CONTRACTOR SHALL INSTALL CONCRETE THRUST BLOCKING AT THE BOTTOM OF THE PIPE RUN AT THE MANHOLE CONNECTION.

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		CONCRETE ANCHORS FOR PIPELINES
Not to scale	February 2025	Standard Detail SD-032



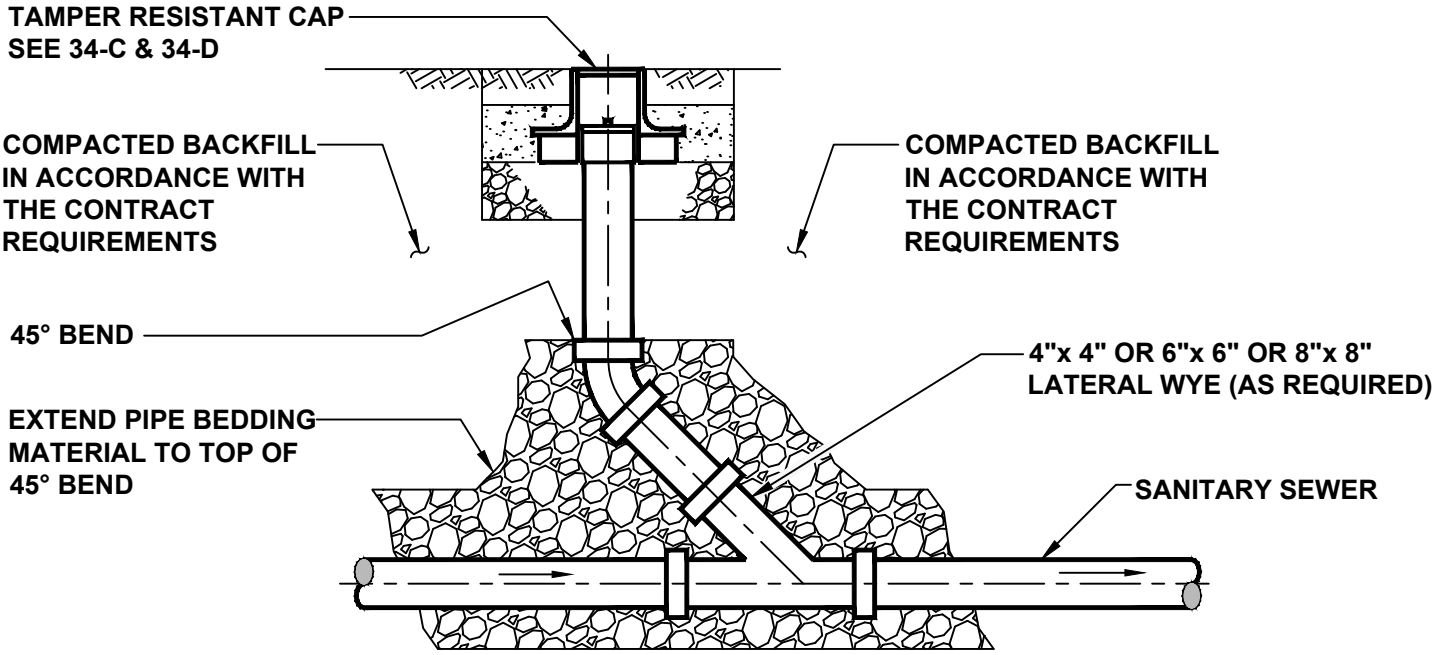
NOTE:

THESE PIERS SHALL BE CONSTRUCTED AT ALL LOCATIONS WHERE PIPE ALIGNMENT OR PROFILE PROHIBITS PIPE SUPPORT ON ORIGINAL UNDISTURBED GROUND. SPACING BETWEEN PIERS SHALL ACCOMODATE PIPE JOINTS UNLESS OTHERWISE SHOWN ON THE THE PLANS OR DIRECTED IN THE FIELD

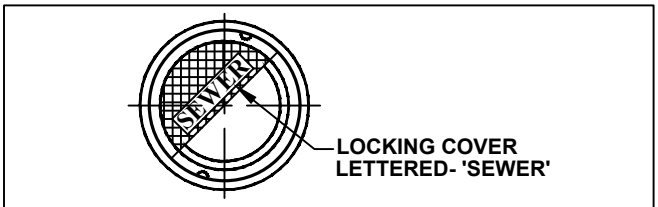


EXAMPLE: D=12"
H=10'-0"
L=12"+24"+(2X10)=56"

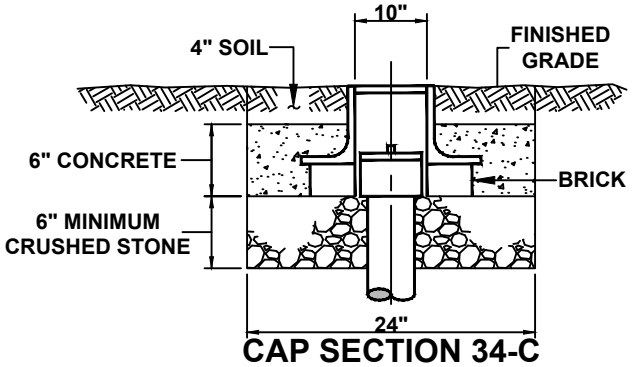
Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		**PIPE SUPPORT PIERS FOR ALIGNEMENTS ABOVE ORIGINAL UNDISTURBED GROUND**
Not to scale	**February 2025**	**Standard Detail SD-033**



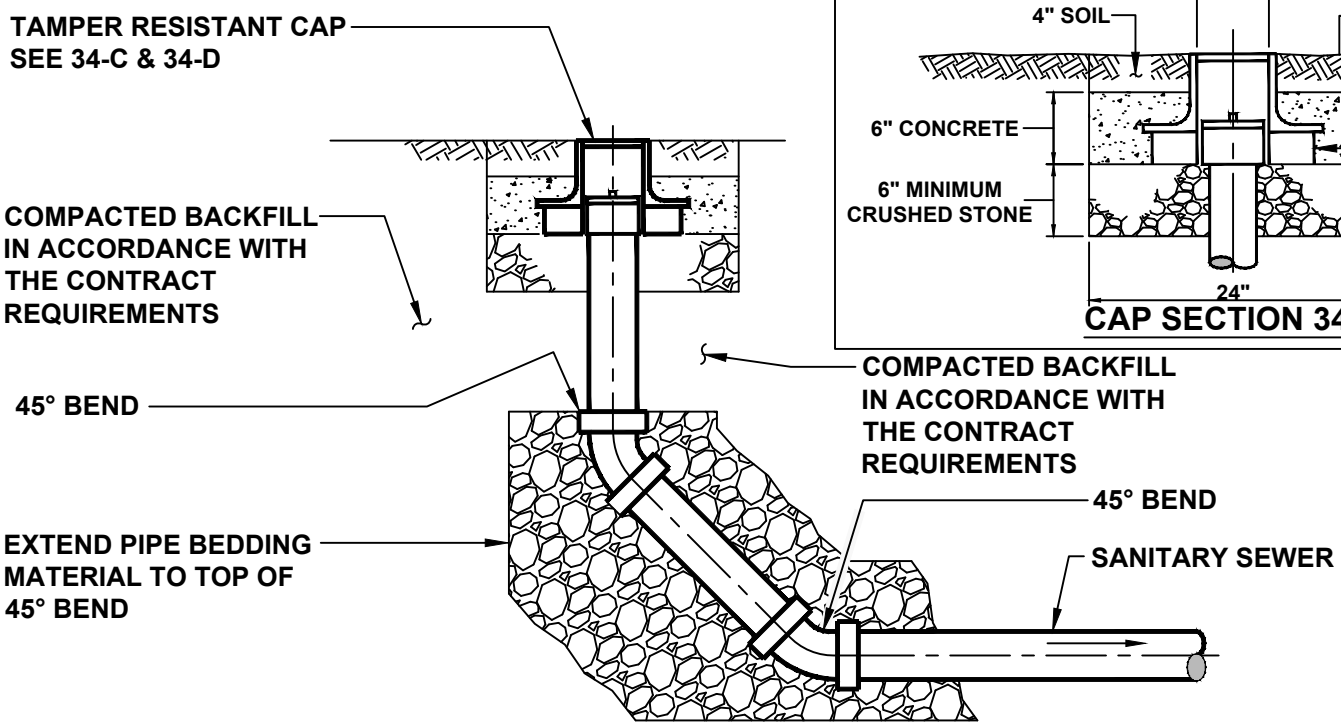
IN-LINE CLEANOUT DETAIL A



CAP COVER 34-D

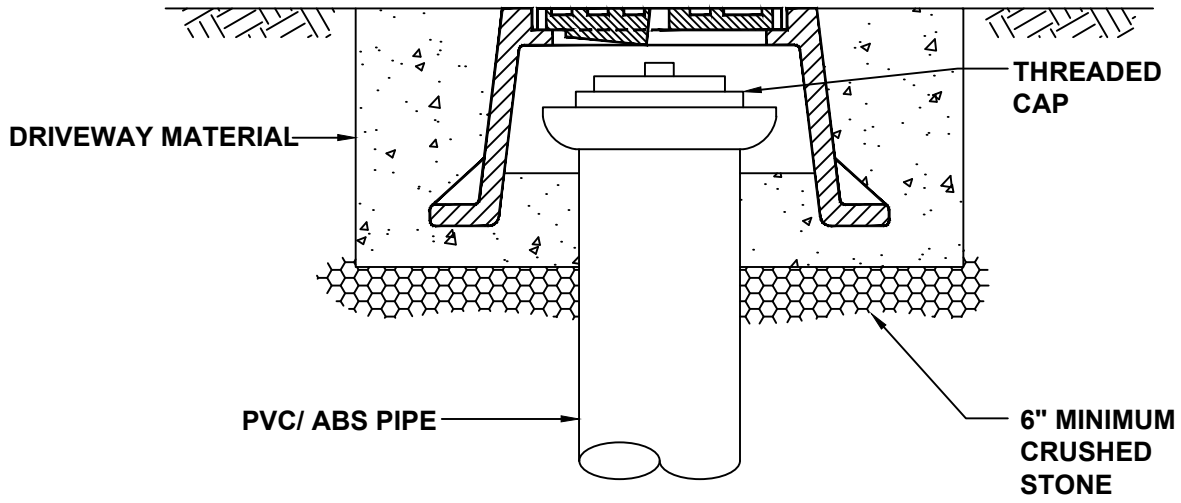


CAP SECTION 34-C



END-LINE CLEANOUT DETAIL B

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		MAIN LINE, IN-LINE, AND END LINE CLEANOUT FOR 6" AND 8" PVC SEWER
Not to scale	February 2025	Standard Detail SD-034



NOTE:
FRAME & COVER SHALL BE VALVCO INC. #668 OR APPROVED EQUAL.

Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		LATERAL SITE TEE/ CLEANOUT IN PAVED AREAS
Not to scale	February 2025	Standard Detail SD-035

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GatewayEngineers.com

January 14, 2022
C-12199-0020

Cozza Enterprises, LLC
P.O. Box 453
Carnegie, PA 15106

Attn: Craig Cozza

Subject: Geotechnical Engineering Review
Proposed Building Addition
180 Millers Run Road, South Fayette Township
Allegheny County, Pennsylvania

As authorized, we have completed our review of subsurface conditions at the above-referenced site. This report describes the findings of the review and presents recommendations for the design and construction of foundations to support the proposed building addition.

SITE LOCATION AND CONDITIONS

The subject site consists of Lot 256-L-2 as reported on the Allegheny County Real Estate website, and is situated north of Millers Run Road, north of its intersection with Newbury Drive, in South Fayette Township, Allegheny County, Pennsylvania. It is mostly covered with stone and vegetation around an existing single-story building. The ground surface in the area investigated generally plateaued at about 830 feet, as as estimated from Google Earth. The elevations referenced appear to be based on North American Vertical Datum of 1988 (NAVD88).

GEOLOGIC RECONNAISSANCE

Geologically, the site is located on the east flank of the south-trending Carnegie Syncline (a trough-like fold in the bedrock strata) about 0.4 miles from its axis. Surficial bedrock strata at the site dip, and groundwater in the bedrock migrates, gently south on a grade of about 1.2 percent (1.2 ft in vertical rise in 100 feet horizontal distance).

The Pennsylvania Department of Environmental Resources, Mineral Resource Report 89, Coal Resources of Allegheny County, Pennsylvania, Part 1, dated 1986, indicates that the base of the Pittsburgh Coal seam horizon - a significant marker bed in this locale - lies at about elev 800, or at least 30 feet below the site, and has been deep mined south of Millers Run Road and the subject site. In addition, mining maps available on the Pennsylvania Mine Map Portal (minemaps.psu.edu/) of the U.S. Steel National Mine No. 1 (attached), indicate the subject site is north of the old alignment of Millers Run Road and the mine workings. These resources do not indicate any other coal seams below the site. Therefore, mine subsidence is not a factor for this project.

Bedrock at the site represents the Casselman Formation, Conemaugh Group, Pennsylvanian System, consisting of sandstones and shales, with some limestone and coal seams. This formation is overlain by alluvial soil deposited by Millers Run and Chartiers Creek.

AERIAL AND USGS QUADRANGLE RECONNAISSANCE

Based on the review of historical aerials dated back to 1949 and topographic maps dated back to 1904, the subject site has existed at the current surface elevation since 1904. A structure was first built by the late 1940s, as 1940 and 1944 updates to the 1904 quadrangle illustrate no structure on the north side of Millers Run until that time. "Scott's Ponds", which are the surface ponds indicated on the U.S. Steel mine mapping were backfilled starting in the late 1940s. This is notable, as the ponds are a consistent physical barrier between the mine limits and the subject site. USGS mapping from 1904 and 1953 are attached.

DISCUSSION AND RECOMMENDATIONS

Based on our understanding, the project will consist of the construction of an addition to the existing building on the property which will require foundation and floor slab construction. No cut or filling for slopes will be performed.

FOUNDATION BEARING CAPACITY AND SETTLEMENT CONSIDERATIONS

Based on our review of the site, there may exist thick variable layers of imported fill and alluvial soil. These materials may be of variable density and compressibility, which can negatively impact the performance of the proposed foundations and floor slab. Therefore, prior to foundation and floor slab construction, at least four test pits should be performed within the proposed footprint of the building addition. The test pits should extend to a depth of 10 feet or bedrock, whichever first occurs. The test pits should be observed and logged by a licensed professional geotechnical engineer or their representative. The engineer should compare and contrast the test pit information and the considerations provided below. Should the soil and rock conditions observed not support the considerations provided, then better informed recommendations should be prepared and the report revised consistent with those recommendations.

In general, to prepare for shallow foundation and floor slab construction, all topsoil, vegetation, soft to medium soils, and other deleterious materials should be removed from the subgrade areas. The areas shall consist of the width of the footing plus 3-ft wide strips inside and outside the footing to facilitated proofrolling by a ride-on vibratory roller compactor.

The exposed subgrades should be proof-rolled with a minimum of ten passes with a vibratory roller compactor, such as a Catapillar CS56, or equal. Soft or loose zones delineated by the proof-rolling should be undercut to competent material or to an additional depth of one foot, whichever first occurs. Should the additionally undercut subgrade remain unsuitable, it should be stabilized with suitable, inert (non-carbonaceous, non-pyritiferous, non-expansive, and non-slag) American Association of State Transportation Officials (AASHTO) No. 1 stone. The vacated volume can then be backfilled to final subgrade level with suitable, inert, on- or off-site borrow that is compacted as described below, in the Fill/Backfill Considerations section.

Fill/Backfill Considerations

It is recommended that borrow soil used as backfill be either placed and compacted as soon as possible to limit its exposure to rainfall events, or protected with plastic tarps if the construction activity requires multiple days.

Cohesive fill should be compacted to a minimum of 95 percent of the maximum modified proctor dry density as determined by ASTM International Test Designation: D1557-12, at water contents within three percent (±3%) of the optimum water content established by that test. Granular fill should be compacted to at least 70 percent relative density as determined by ASTM International Test Designations: D4253- and 4254-16.

QUALITY VERIFICATION/CONSIDERATIONS

It should be noted that this is a cursory review of the project conditions and test borings or pits should be excavated prior to construction. It is essential that all test pits, foundation construction, floor slab subgrade preparation, and fill/backfill operations be monitored on a full-time basis by our personnel to verify that the recommended bearing horizons/materials and fill/backfill compaction requirements are consistently implemented. All recommendations presented herein are contingent upon such field verification.

This report has been prepared using cursory review methods conforming to commonly accepted local geotechnical engineering practices. All recommendations and/or conclusions herein pertain only to this specific project and should not be used or interpreted by others for modifications to this project, unless reviewed and approved by us, or for other projects or sites. Even within the project context, subsurface conditions can only be determined by boring or test pits, and actual conditions between/beyond borings or test pits may vary. Due in part to such variability in subsurface conditions, the implementation of the recommended measures must be informed and validated by the recommended test pits and inspected by our personnel to confirm that the subsurface conditions encountered during construction are consistent with the borings or test pits and our engineering analysis, and to verify that the subgrades, backfills, and all other geomaterials used are behaving as anticipated. Some conditions or material/subgrade behavior and/or performance may require modifications to our recommendations, which can typically only be determined "on-the-spot" during full-time inspections by one of our soil technicians, under the direct supervision of our professional (licensed) geotechnical engineers.

Not only could the interpretation and field inspection of our recommendations by others result in a structure that does not perform as intended, but inspection by individuals not qualified and/or

not under the direct supervision of a professional geotechnical engineer could result in structure failures. We therefore will not be responsible nor professionally liable for the performance and/or suitability of any structures affected by geotechnical elements of the project inspected by others. The selected inspection agency must take full responsibility for proper implementation and performance of the project geotechnical recommendations for this site.

We sincerely appreciate the opportunity to be of service to you on this project. Should you have any questions regarding our findings or recommendations, please do not hesitate to contact us.



Respectfully submitted,

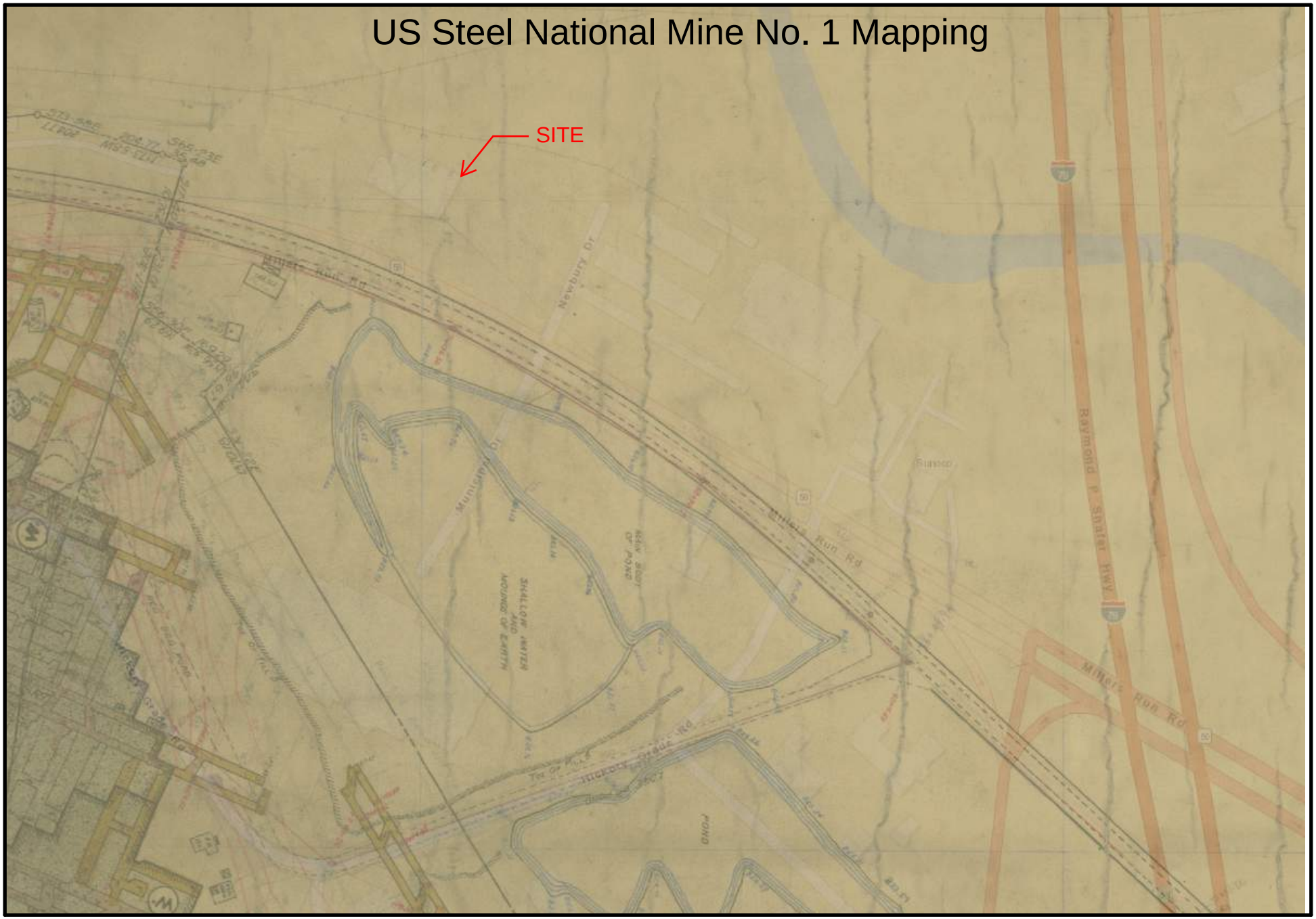
THE GATEWAY ENGINEERS, INC.

BY:_____

Nathaniel S. Hayes, P.E.
Project Manager

G:\Projects\12000\12199-KOSKY\-0020 Cozza\Docs\Engineering\Geotech\Report\12199 Cozza Geotech Report 2022.01.14.docx

IUPASG_00431 Close Up



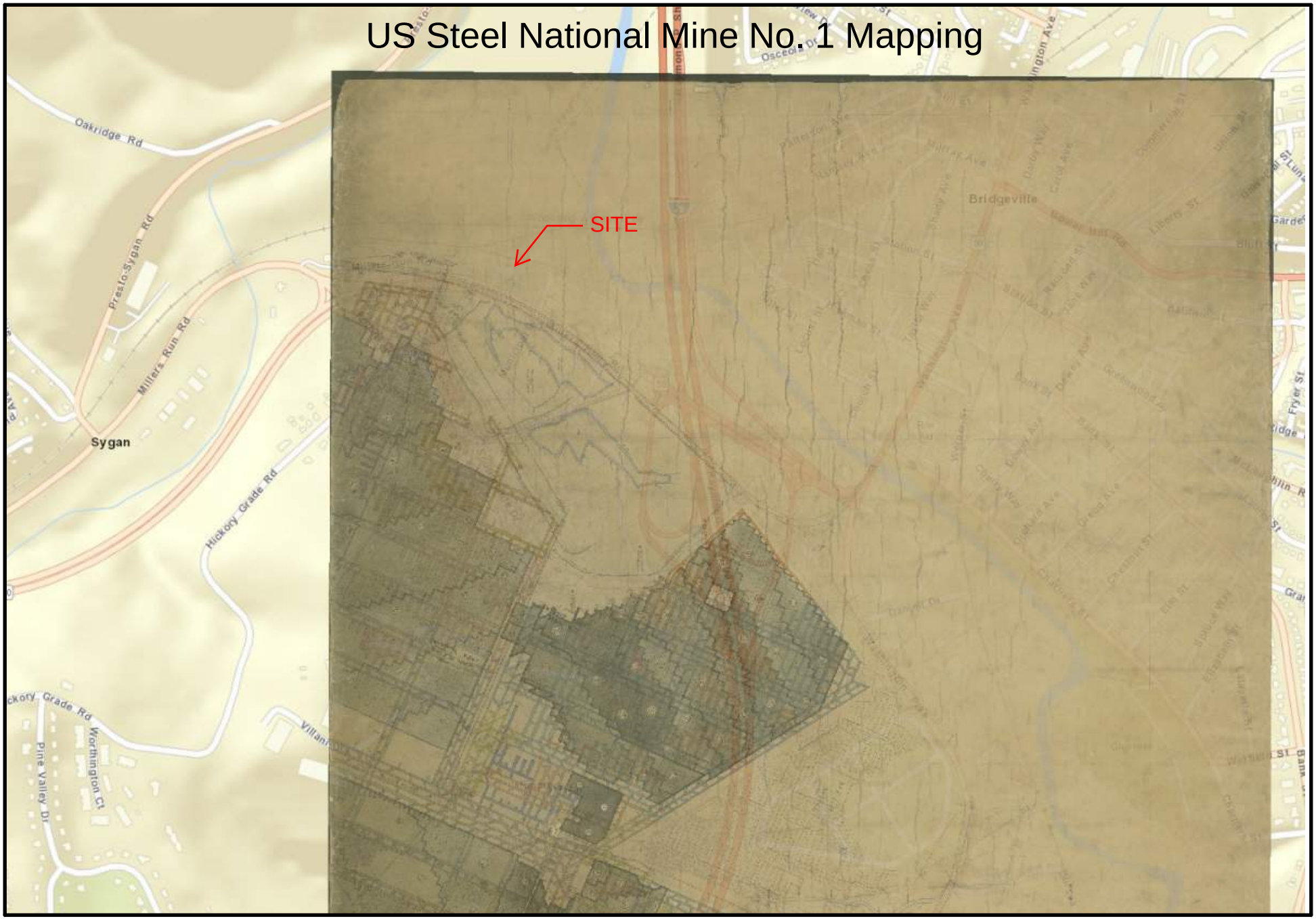
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Created on: 01/12/22

pennsylvania DEPARTMENT OF ENVIRONMENTAL PROTECTION

IUPASG_00431

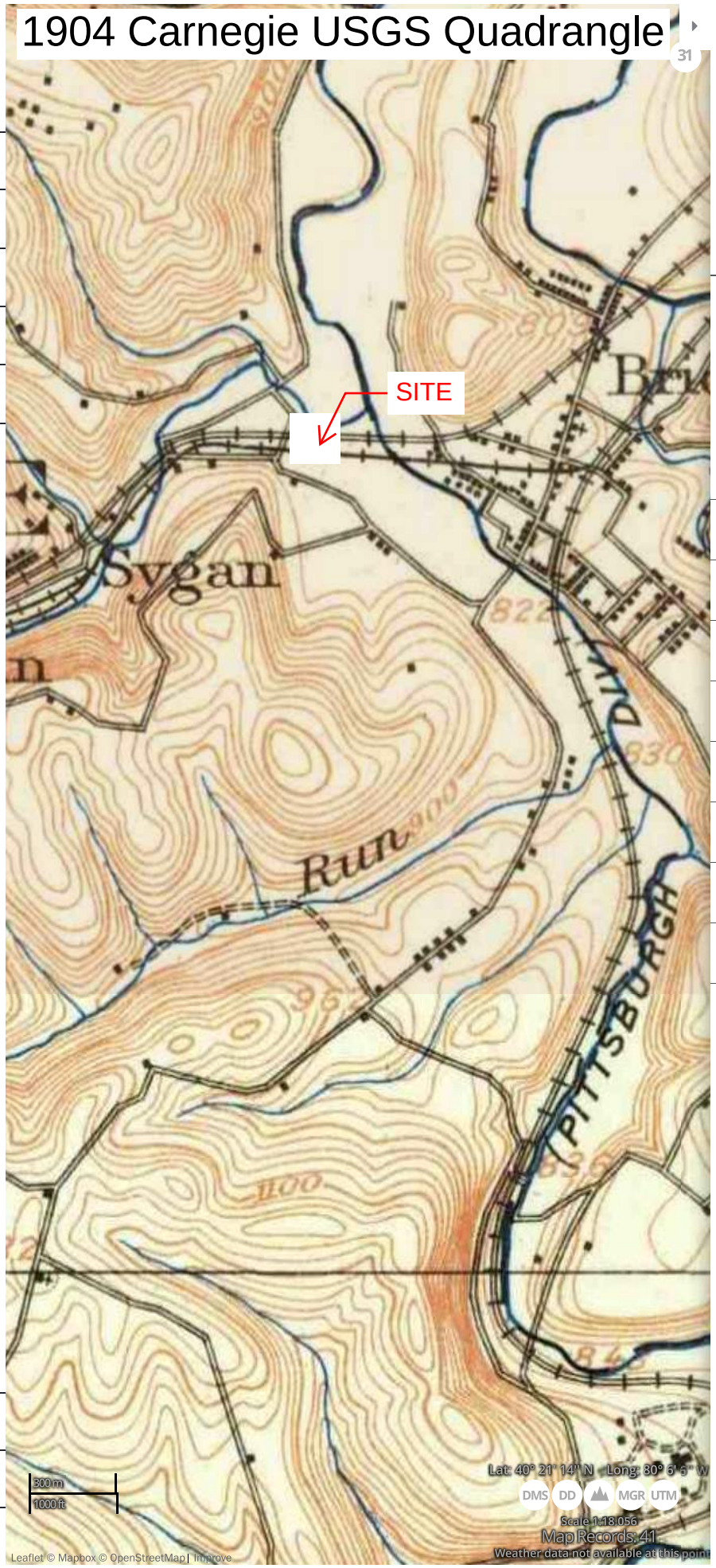


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DEPARTMENT OF ENVIRONMENTAL PROTECTION



topoView

Location | Map Name

Search by location

1880 — 2021

All 250K 100K 63K 48K 24K HTMC UST All

31 maps here | Scale: All, Date: 1880-2021, Series: All
Elevation @ 40.359, -80.123 is 831 ft. (253 m)

Filter records

Name Date Scale State

Carnegie, PA
1904 (HTMC, 1954 ed.) Scale 1:62500
JPEG (3 MB) GeoTiff (9 MB)
KMZ (4 MB) GeoPDF (10 MB)
HIDE INFO ZOOM PAN PIN FIX
MAP TRANSPARENCY

Carnegie, PA
1906 (HTMC, 1906 ed.) Scale 1:62500

Carnegie, PA
1906 (HTMC, 1913 ed.) Scale 1:62500

Carnegie, PA
1906 (HTMC, 1920 ed.) Scale 1:62500

Carnegie, PA
1906 (HTMC, 1927 ed.) Scale 1:62500

Carnegie, PA
1906 (HTMC, 1935 ed.) Scale 1:62500

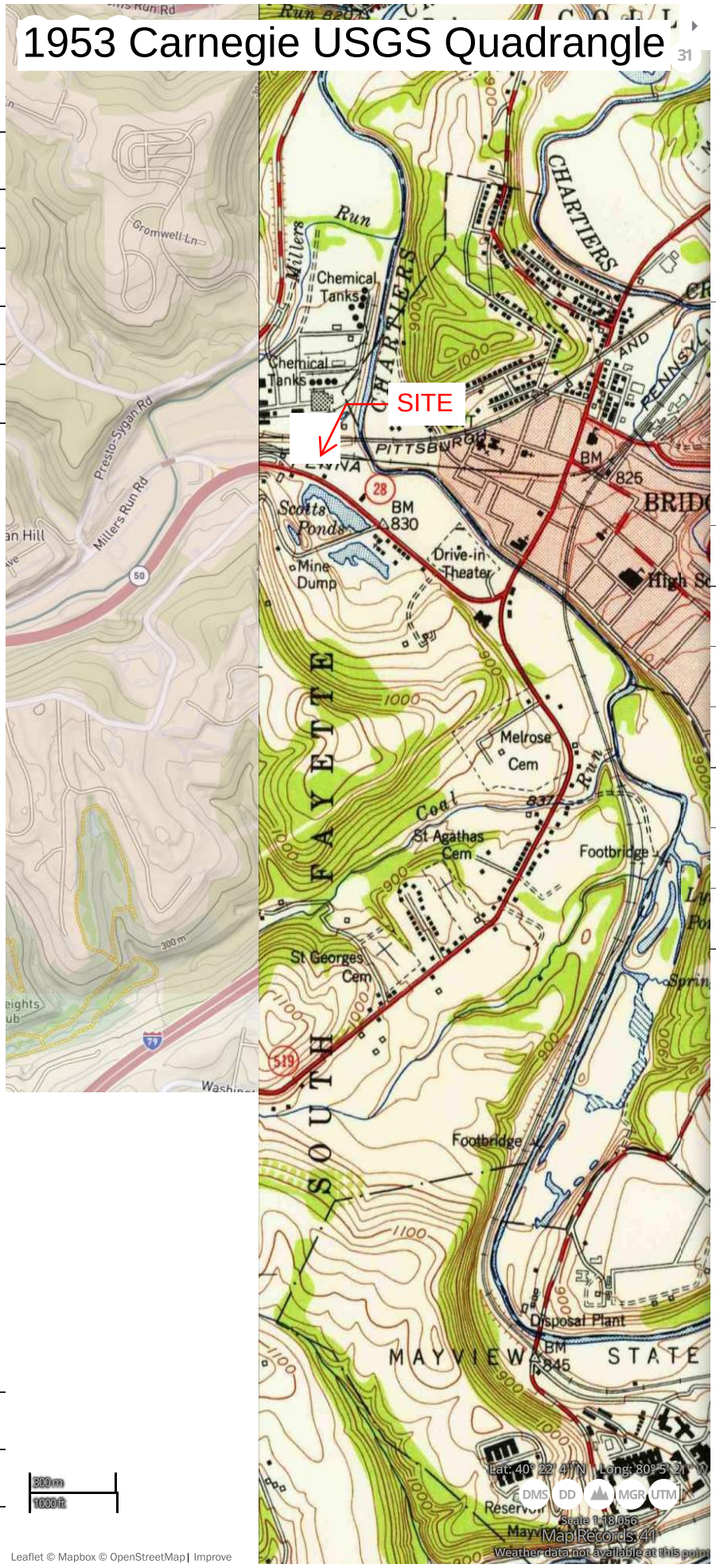
Carnegie, PA
1906 (HTMC, 1940 ed.) Scale 1:62500

Carnegie, PA
1906 (HTMC, 1944 ed.) Scale 1:62500

Carnegie, PA
1908 (HTMC, 1910 ed.) Scale 1:62500

Canton, OH

1953 Carnegie USGS Quadrangle



topoView

Location | Map Name

Search by location

1880 — 2021

All 250K 100K 63K 48K 24K HTMC UST All

31 maps here | Scale: All, Date: 1880-2021, Series: All
Elevation @ 40.359, -80.123 is 831 ft. (253 m)

Filter records

Name Date Scale State

Bridgeville, PA
1953 (HTMC, 1955 ed.) Scale 1:24000
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KMZ (4 MB) GeoPDF (14 MB)
HIDE INFO ZOOM PAN PIN FIX
MAP TRANSPARENCY

Canton, OH
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Canton, OH
1957 (HTMC, 1978 ed.) Scale 1:250000

Canton, OH
1957 (HTMC, 1978 ed.) Scale 1:250000

Bridgeville, PA
1960 (HTMC, 1961 ed.) Scale 1:24000

Bridgeville, PA
1960 (HTMC, 1966 ed.) Scale 1:24000

Bridgeville, PA
1960 (HTMC, 1971 ed.) Scale 1:24000

Bridgeville, PA
1960 (HTMC, 1979 ed.) Scale 1:24000

Bridgeville, PA
1960 (HTMC, 1984 ed.) Scale 1:24000

Pennsylvania Department of Environmental Protection

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

PAG-02
AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR DISCHARGES OF STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES

NPDES PERMIT NO: PAC021240

In compliance with the provisions of the Clean Water Act, 33 U.S.C.A. §§ 1251--1387 and the Clean Streams Law, as amended, 35 P.S. §§ 691.1--691.1001,

Craig Cozza
CE-SF, LP
295 Myoma Road
Mars, PA 16046

(permittee) is authorized to discharge from a project site known as **Lafayette 180**, located in **South Fayette Township**, **Allegheny County** to **Chartiers Creek** in accordance with the effluent limitations, monitoring and reporting requirements, best management practices (BMPs), stormwater control measures (SCMs) and other conditions set forth in Parts A, B, and C herein.

APPROVAL OF COVERAGE TO DISCHARGE UNDER THIS GENERAL NPDES PERMIT IS *AUTHORIZED BEGINNING ON JANUARY 12, 2026* AND WILL *EXPIRE ON DECEMBER 7, 2029*. WHEN THE GENERAL PERMIT IS RENEWED, REISSUED OR MODIFIED, THE FACILITY OR ACTIVITY COVERED BY THE APPROVAL FOR COVERAGE MUST COMPLY WITH THE FINAL RENEWED, REISSUED OR MODIFIED GENERAL PERMIT.

Coverage and authorization to discharge under the PAG-02 NPDES General Permit ("General Permit") are subject to the following conditions:

1. The permittee's Notice of Intent (NOI), Erosion and Sediment Control (E&S) Plan, and Post-Construction Stormwater Management (PCSM) Plan are incorporated into this approval of coverage.

2. If there is a conflict between the requirements in the NOI or its supporting documents and the terms and conditions of the General Permit, the permittee must comply with the terms and conditions of the General Permit.

3. The permittee's failure to comply with the terms, conditions, and effluent limitations of the General Permit is grounds for the Department of Environmental Protection (DEP) and/or a delegated county conservation district (CCD) to take an enforcement action, and/or to terminate or revoke coverage under this General Permit.

Coverage under the PAG-02 General Permit is authorized by:

Matt Gordon

Matt Gordon
Regulatory Team Director
Allegheny County Conservation District

WOOSTER
STRAIGHTFORWARD & UNWAVERING

323 North Shore Drive
Suite 300
Pittsburgh, PA 15212

Ph: (412) 921 - 3303

January 14, 2026

Mr. John M. Barrett
Township Manager
South Fayette Township
100 Township Drive
South Fayette, PA 15017

Reference: TIS Addendum for the Proposed Retail Development in South Fayette Township, Allegheny County, PA (ePS No. 323385)

Dear Mr. Barrett:

David E. Wooster and Associates, LLC (Wooster) prepared a Transportation Impact Study (TIS) dated November 28, 2023 for a proposed retail development located on the northwest corner of the intersection of Millers Run Road (SR 0050) with Newbury Drive / Todd A. Miller Drive in South Fayette Township, Allegheny County, Pennsylvania. By way of correspondence dated December 28, 2023, PennDOT Engineering District 11-0 (PennDOT) approved the TIS, which contemplated the construction of ~45,126 SF of retail space. Access to the site was (and is still) proposed to consist of three (3) site accesses:

- Two (2) right-in / right-out access site drives (Site Drives A and B) along the northern side of Millers Run Road (SR 0050).
- One (1) full access site drive (Site Drive C) along the western side of Newbury Drive.

Since that time, the applicant has modified the plan to include an additional ~13,000 SF of second-story office and warehousing/storage space. The overall building footprint and access to the site has not changed.

As such, the purpose of this correspondence is to demonstrate that the site plan change will not impact the results, findings, or conclusions of the approved TIS.

APPROVED STUDY CONDITIONS

The approved daily trips (ADT), morning (AM), evening (PM), and Saturday midday (SAT) peak hour trips associated with the ~45,126 SF of retail space are summarized in **Table 1** below. The data utilized to populate Table 1 is taken directly from Table 2 of the approved *Transportation Impact Study for the Proposed Retail Development* dated November 28, 2023 (2023 TIS) and is based on the Institute of Transportation Engineers' (ITE's) *Trip Generation Manual*, 11th Edition:

Table 1
Trip Generation Summary
Approved 2023 TIS Trips

TIME PERIOD	ANTICIPATED TRIP GENERATION		
	IN	OUT	TOTAL
LUC #821 – *Shopping Plaza (40-150k) without Supermarket* – 45,126 SF			
ADT	**1,524**	**1,524**	**3,048**
AM Peak Hour	48	30	78
PM Peak Hour	115	119	234
SAT Peak Hour	131	120	251

PROPOSED CONDITIONS

To evaluate traffic impacts associated with the site plan modification, Wooster utilized the Institute of Transportation Engineers' (ITE's) *Trip Generation Manual*, 12th Edition to re-evaluate the total trip generation potential of the site, as currently proposed. Specifically, Land Use Codes (LUCs) #821 – *40-150k Shopping Center without Supermarket*, #150 – *Warehouse*, and #710 – *General Office Building* were utilized. These trips are summarized in **Table 2** on the following page.

A copy of the trip generation calculations utilized to populate Table 2 can be found in the enclosures section at the end of this correspondence.

Table 2
Trip Generation Summary
Current Site Plan (2026)

TIME PERIOD	ANTICIPATED TRIP GENERATION		
	IN	OUT	TOTAL
LUC #821 – *Shopping Plaza (40-150k) without Supermarket* – 46,046 SF			
ADT	**1,506**	**1,506**	**3,012**
AM Peak Hour	45	28	73
PM Peak Hour	107	112	219
SAT Peak Hour	122	113	235
LUC #150 – *Warehouse* – 4,000 SF			
ADT	**3**	**3**	**6**
AM Peak Hour	0	0	0
PM Peak Hour	0	1	1
SAT Peak Hour	0	0	0
LUC #710 – *General Office Building* – 8,374 SF			
ADT	**33**	**33**	**66**
AM Peak Hour	9	1	10
PM Peak Hour	2	8	10
SAT Peak Hour	4	3	7
TOTAL			
ADT	**1,542**	**1,542**	**3,084**
AM Peak Hour	54	29	83
PM Peak Hour	109	121	230
SAT Peak Hour	126	116	242

TRIP GENERATION COMPARISON

Table 3 below depicts the net change in site-generated trips associated with the proposed site plan change.[1]

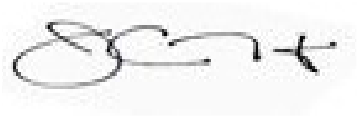
Table 3
Trip Generation Comparison

TIME PERIOD	ANTICIPATED TRIP GENERATION		
	IN	OUT	TOTAL
ADT	**+18**	**+18**	**+36**
AM Peak Hour	+6	-1	+5
PM Peak Hour	-6	+2	-4
SAT Peak Hour	-5	-4	-9

As demonstrated in the table, the change in projected daily and peak hour trips associated with the site plan change is *de minimis* and will therefore have no impact on the results, findings, or conclusions of the 2023 TIS.[2]

We trust that this correspondence has been submitted in the proper form. If you have any questions or require additional information, please feel free to contact me.

Sincerely,



Joshua A. Haydo, P.E., PTOE
Senior Traffic Engineer / Deputy COO

Enclosures: ITE Trip Generation Calculations

W:\4392 011426 TIS Addendum

[1] Trips depicted in Table 3 were derived by subtracting the approved TIS trips (Table 1) from the trips associated with the current plan (Table 2).
[2] Despite the increase in overall square footage, some analysis periods experience a *decrease* in projected site-generated trips. This is due to modifications to various trip generation rates in the 12th Edition of the ITE *Trip Generation Manual* (the 2023 TIS utilized the 11th Edition, which was the current version of the manual at that time).

Shopping Plaza (40-150k) - Supermarket - No (821)

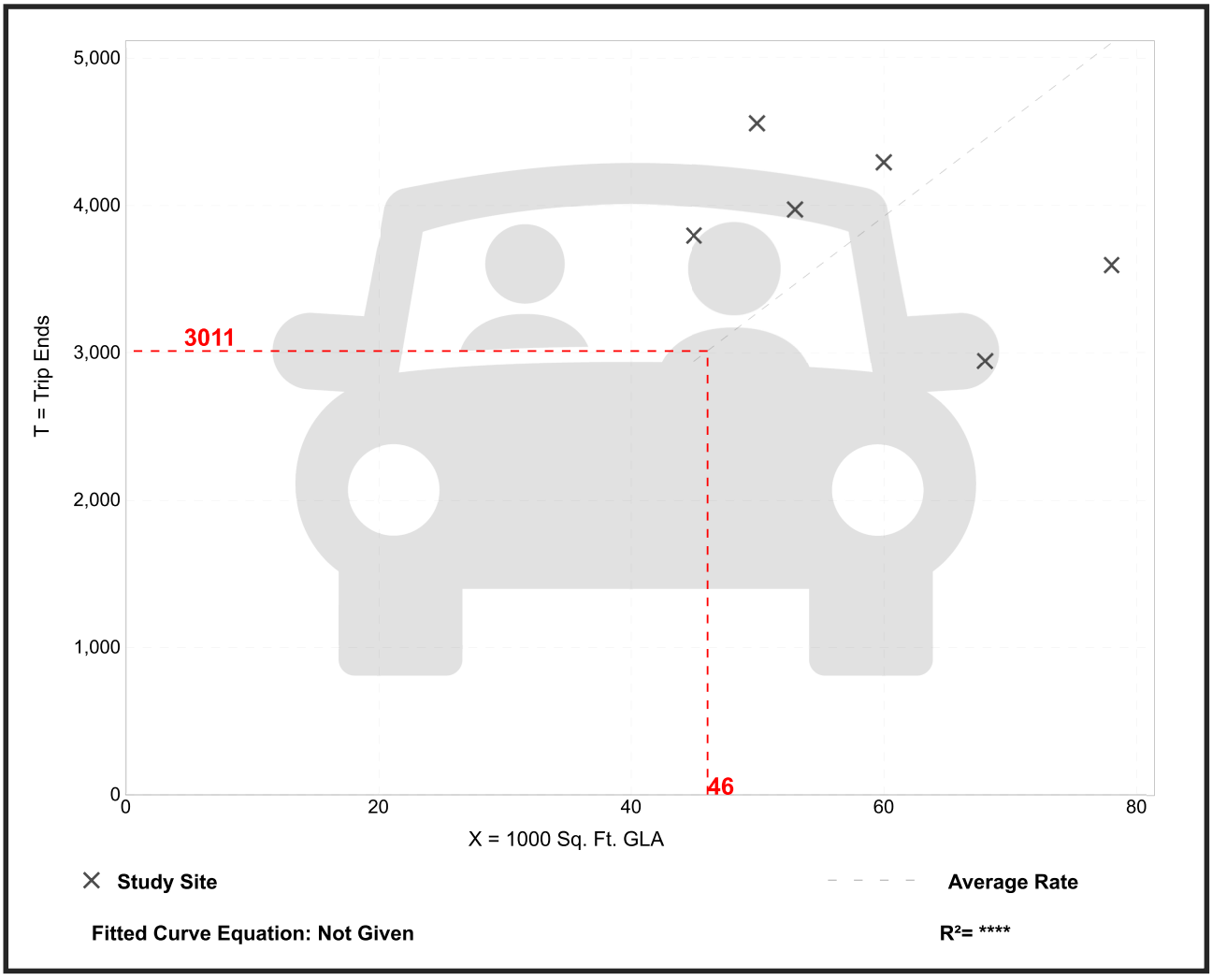
Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 6
Avg. 1000 Sq. Ft. GLA: 59
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
65.38	43.29 - 91.06	20.03

Data Plot and Equation



Trip Gen Manual, 12th Edition • Institute of Transportation Engineers

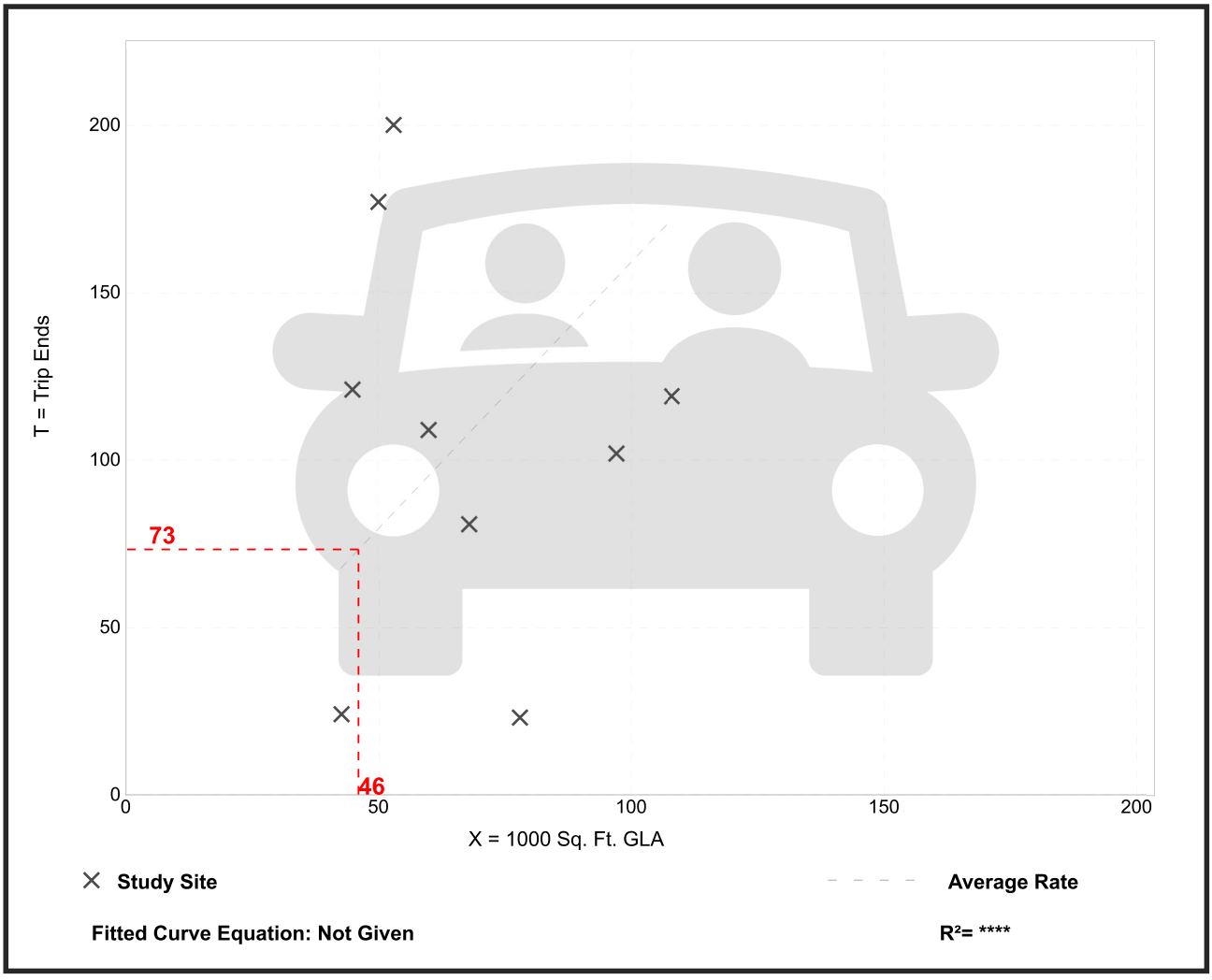
Shopping Plaza (40-150k) - Supermarket - No (821)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GLA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	9
Avg. 1000 Sq. Ft. GLA:	67
Directional Distribution:	62% entering, 38% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
1.59	0.29 - 3.77	1.18

Data Plot and Equation



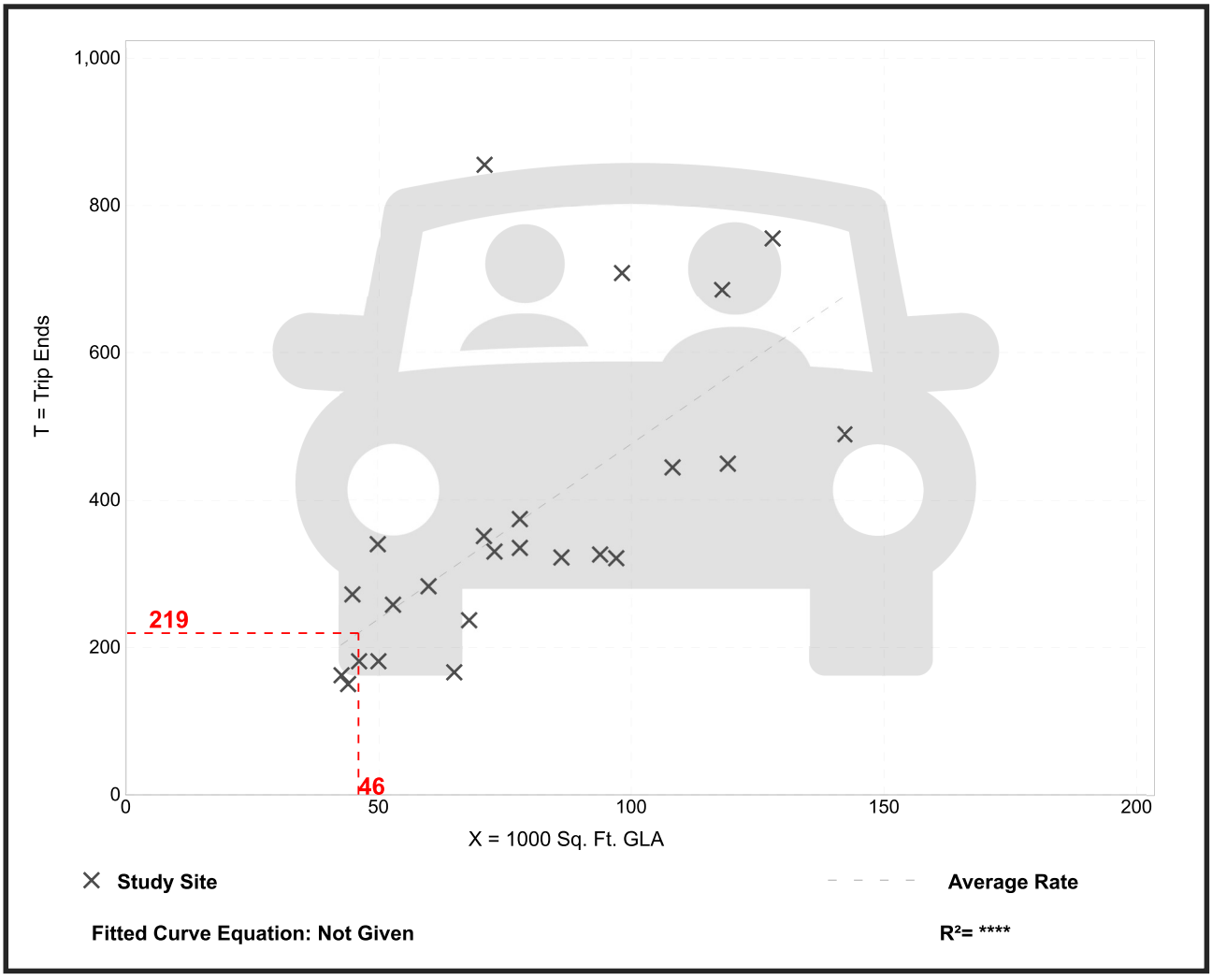
Shopping Plaza (40-150k) - Supermarket - No (821)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GLA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	24
Avg. 1000 Sq. Ft. GLA:	79
Directional Distribution:	49% entering, 51% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
4.76	2.55 - 12.04	1.89

Data Plot and Equation



Trip Gen Manual, 12th Edition ● Institute of Transportation Engineers

Shopping Plaza (40-150k) - Supermarket - No (821)

Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Saturday, Peak Hour of Generator**

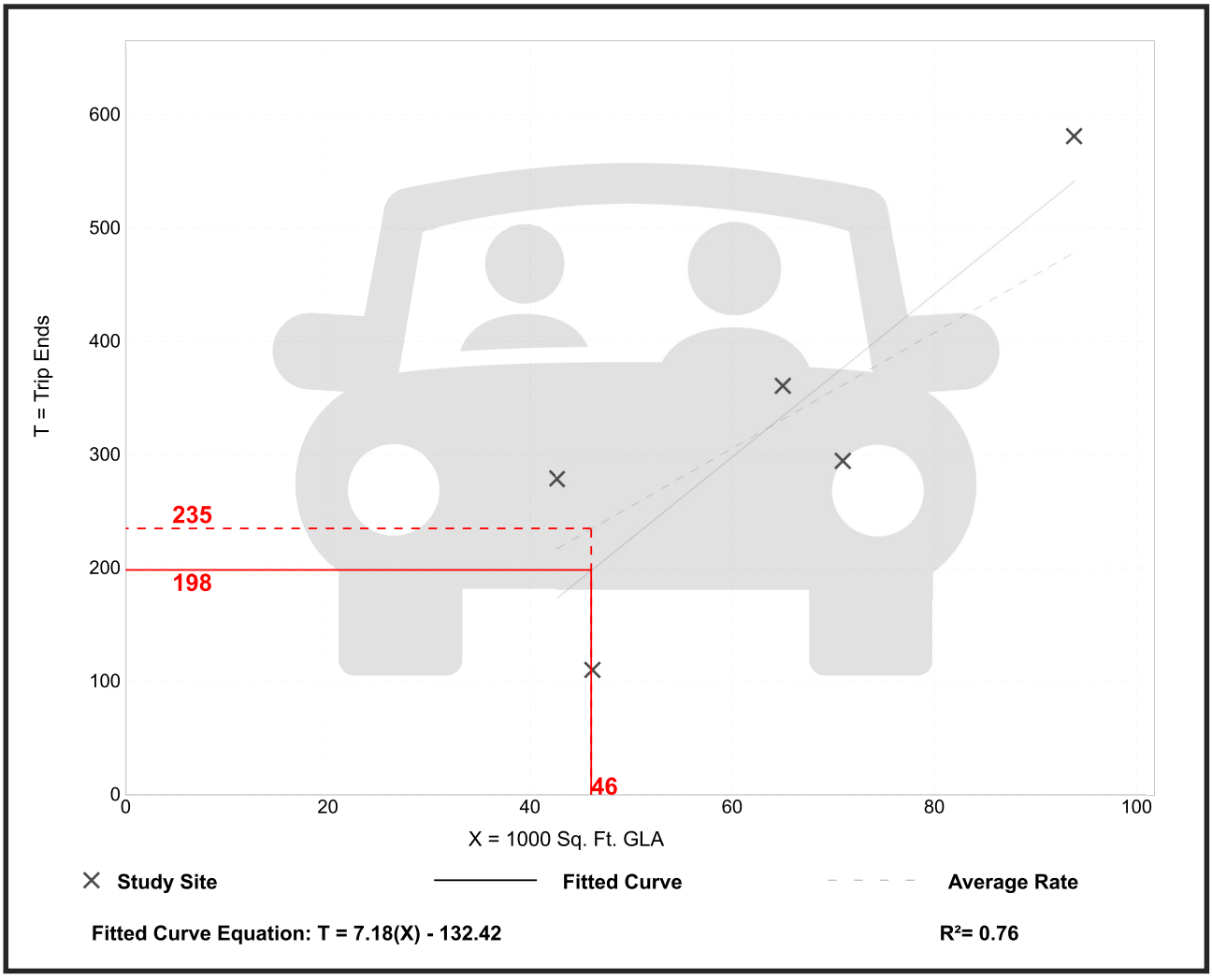
Setting/Location: **General Urban/Suburban**
Number of Studies: 5
Avg. 1000 Sq. Ft. GLA: 64
Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
5.10	2.38 - 6.53	1.56

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: T = 7.18(X) - 132.42

R^2= 0.76

Trip Gen Manual, 12th Edition ● Institute of Transportation Engineers

Warehouse
(150)

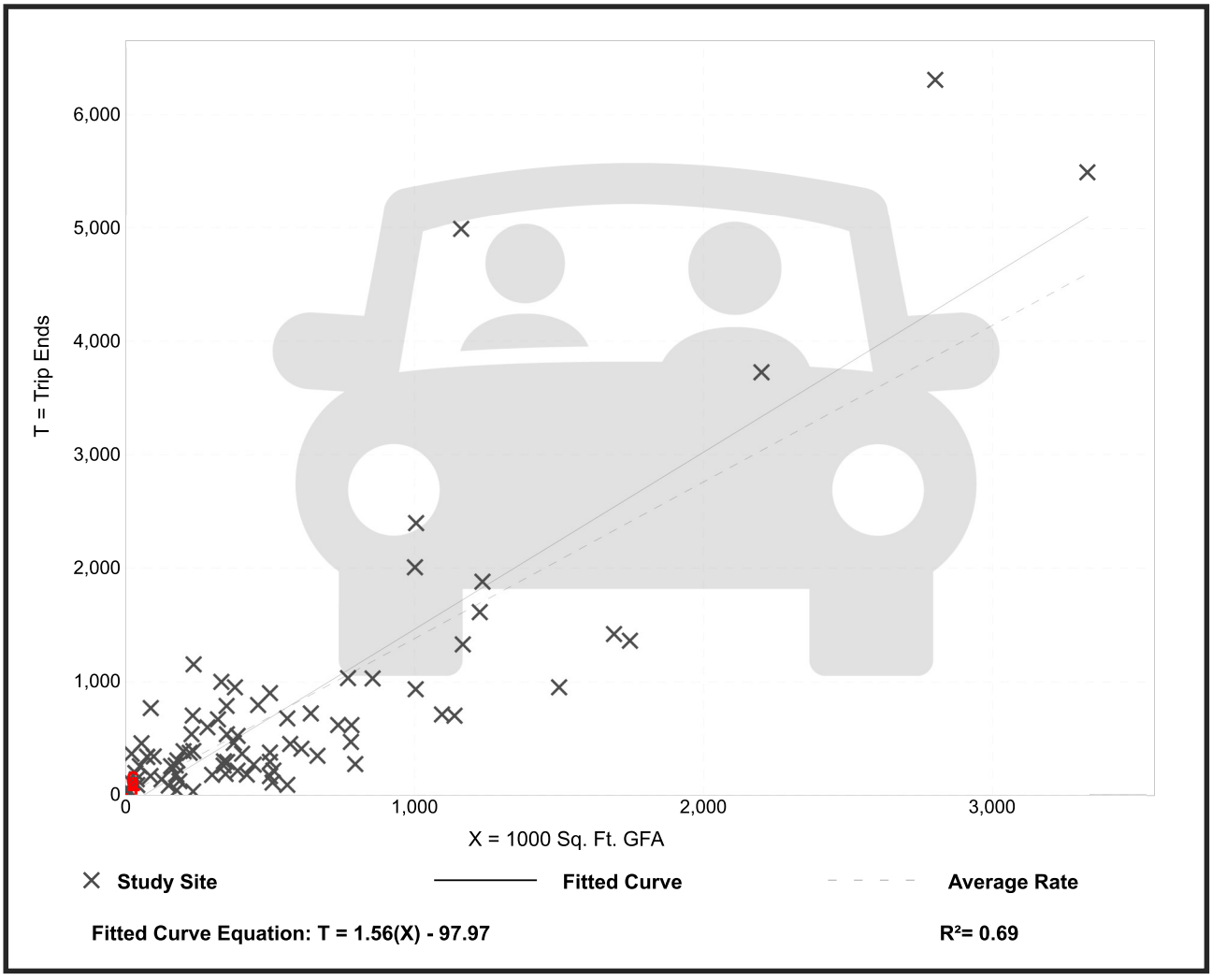
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 81
Avg. 1000 Sq. Ft. GFA: 554
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.38	0.15 - 16.93	1.05

Data Plot and Equation



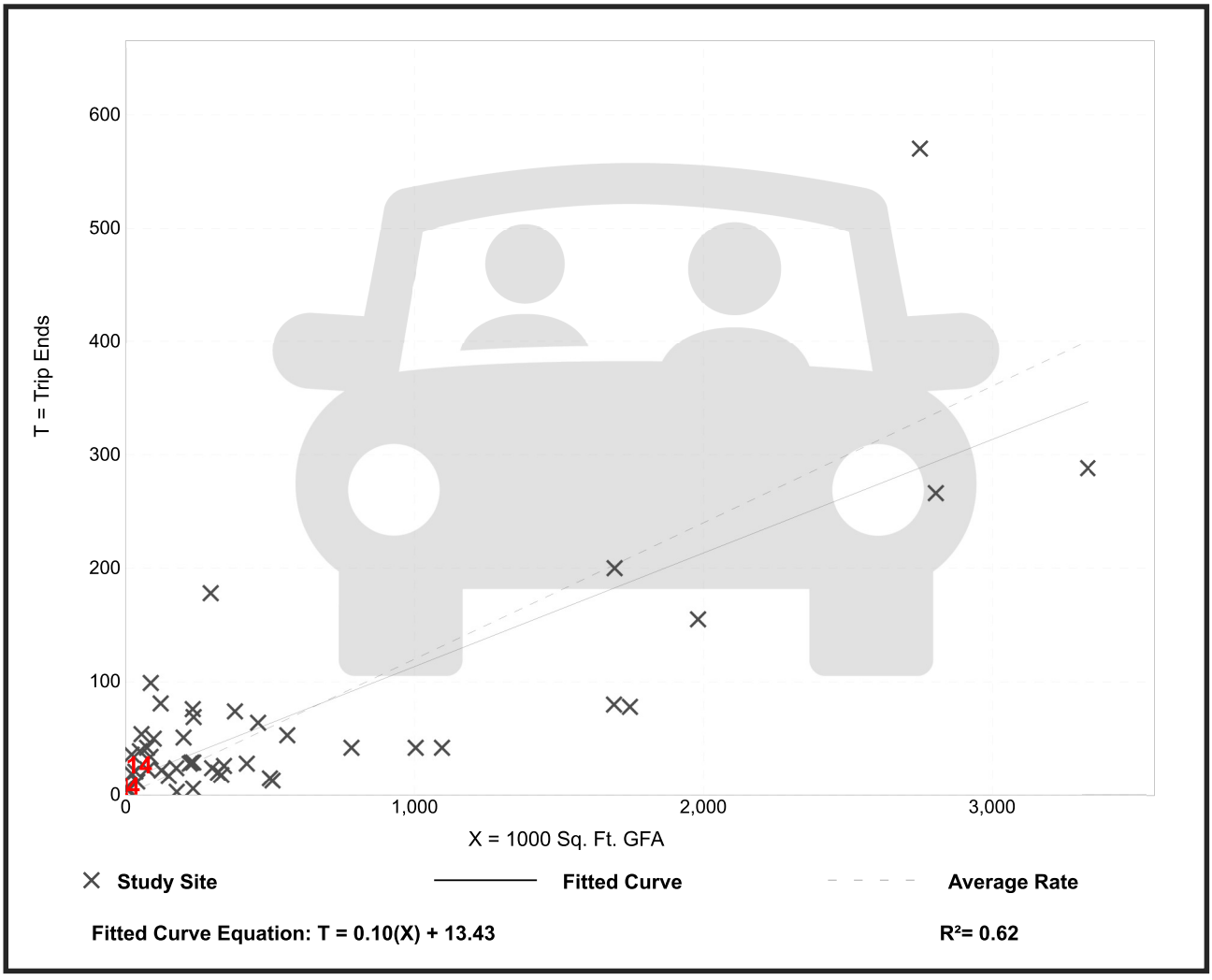
Warehouse
(150)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	47
Avg. 1000 Sq. Ft. GFA:	559
Directional Distribution:	77% entering, 23% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.12	0.02 - 1.80	0.14

Data Plot and Equation



Trip Gen Manual, 12th Edition ● Institute of Transportation Engineers

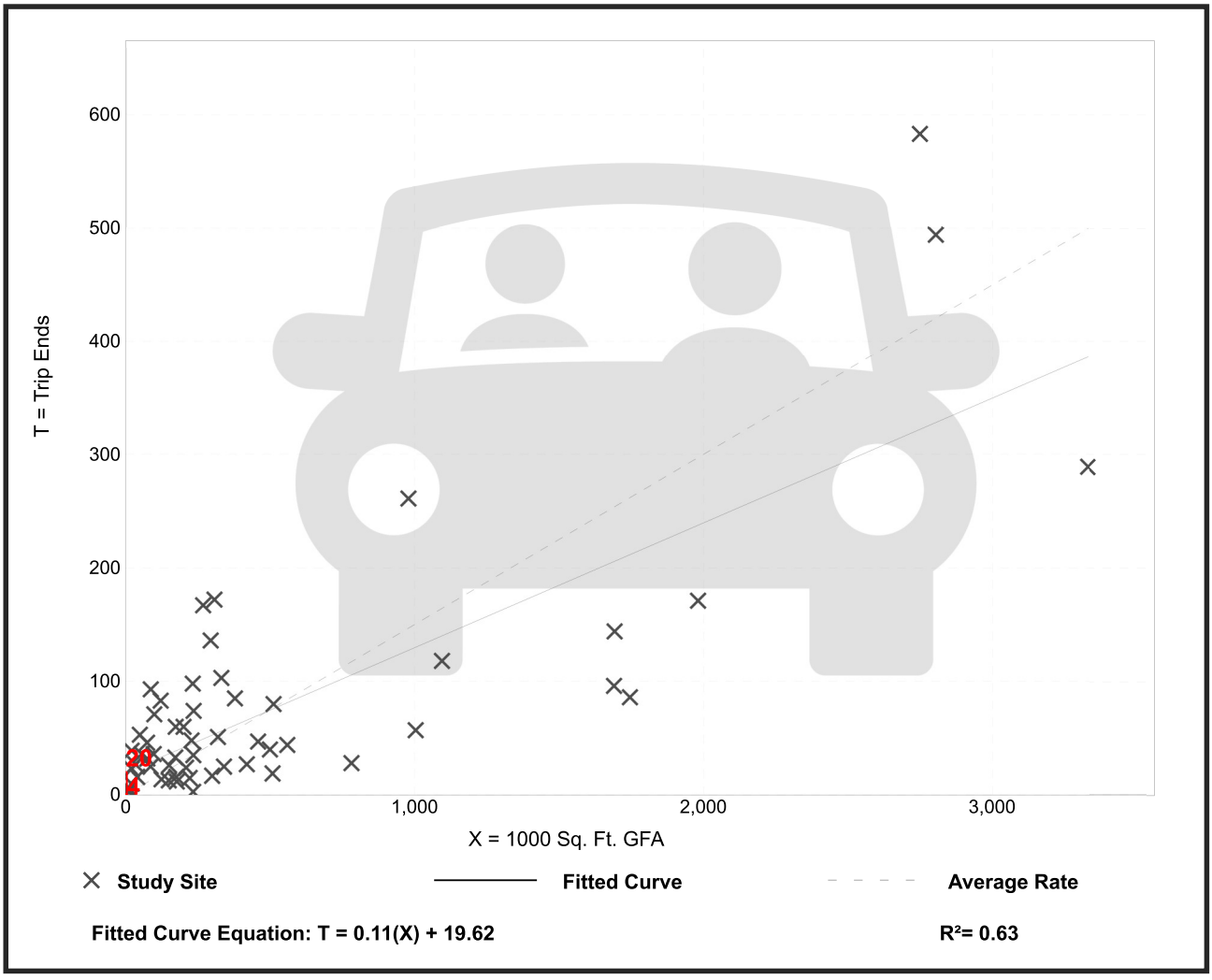
Warehouse
(150)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	58
Avg. 1000 Sq. Ft. GFA:	503
Directional Distribution:	28% entering, 72% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.15	0.01 - 1.80	0.15

Data Plot and Equation



Warehouse
(150)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Saturday, Peak Hour of Generator**

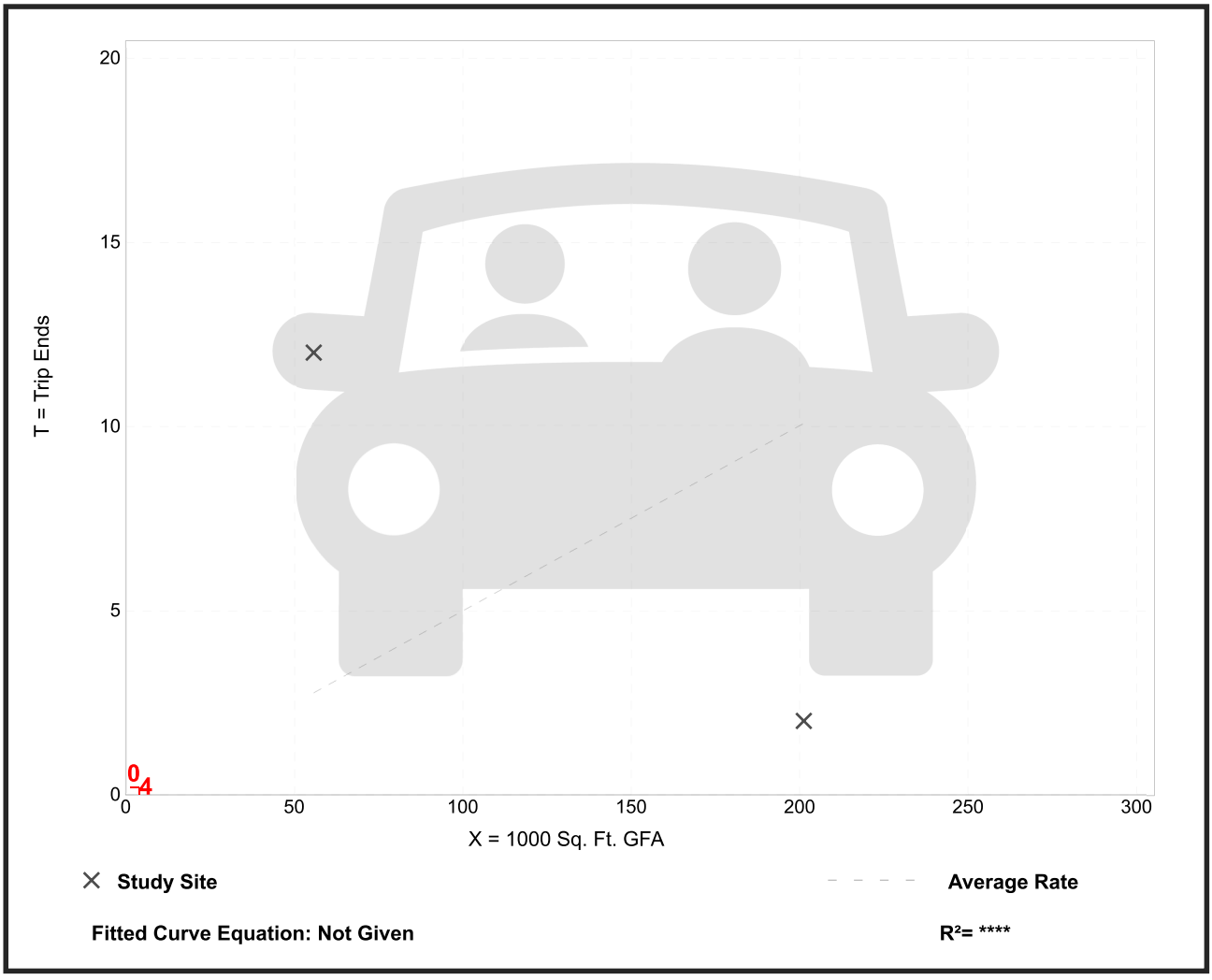
Setting/Location: **General Urban/Suburban**
Number of Studies: 2
Avg. 1000 Sq. Ft. GFA: 129
Directional Distribution: 64% entering, 36% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.05	0.01 - 0.22	*

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= **

Trip Gen Manual, 12th Edition ● Institute of Transportation Engineers

General Office Building
(710)

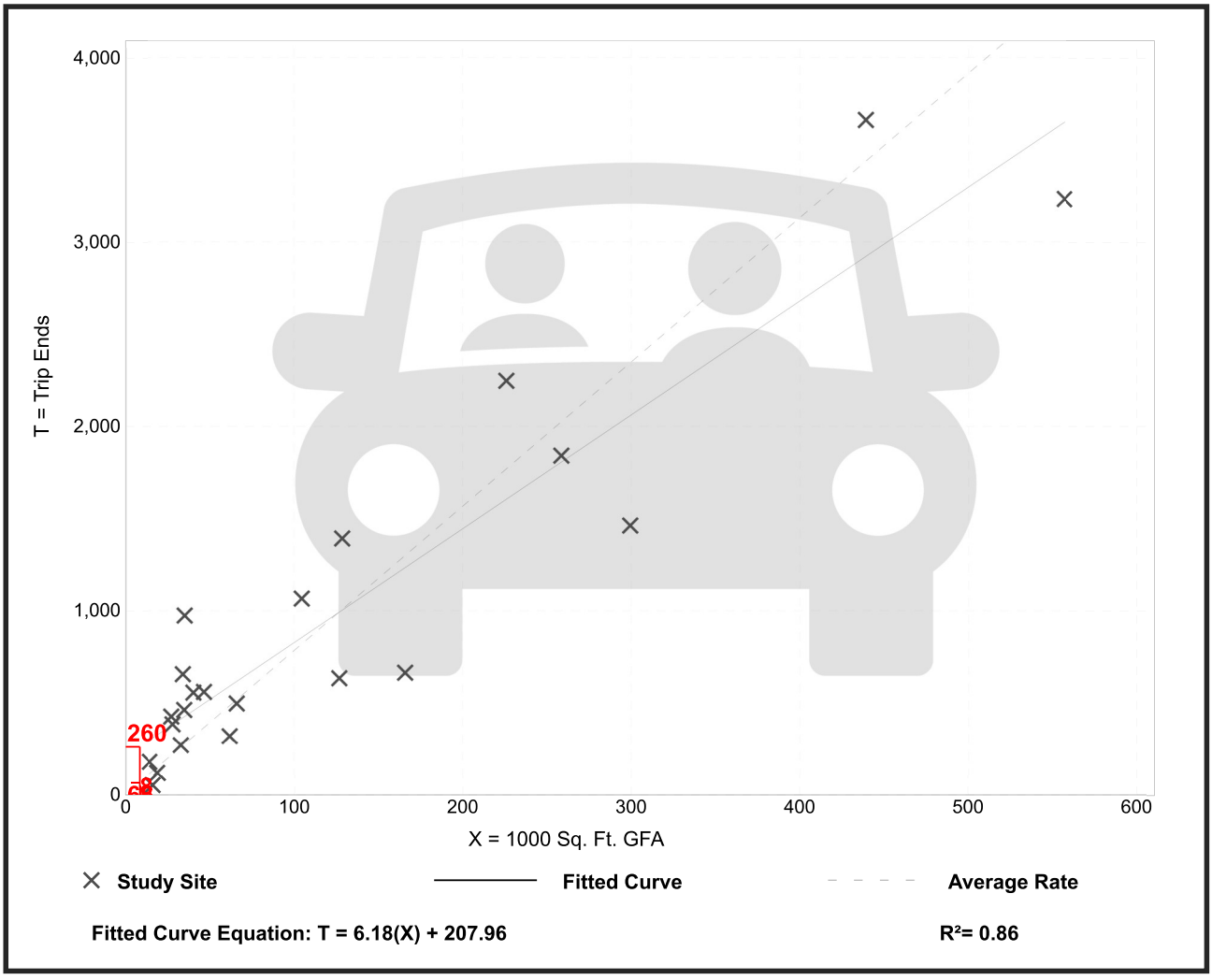
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 22
Avg. 1000 Sq. Ft. GFA: 126
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
7.83	3.27 - 27.56	3.71

Data Plot and Equation



Fitted Curve Equation: T = 6.18(X) + 207.96

R^2= 0.86

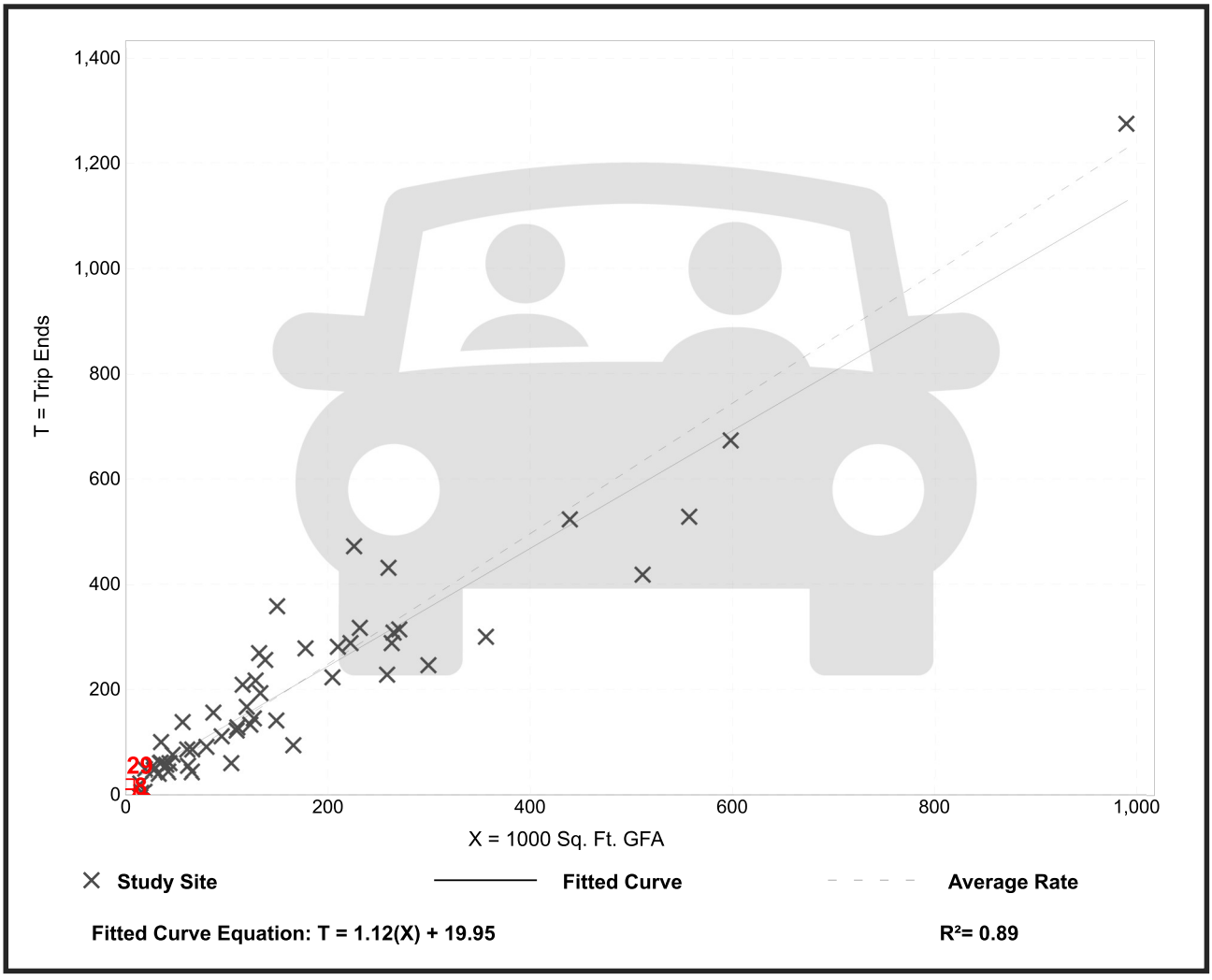
General Office Building
(710)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 54
Avg. 1000 Sq. Ft. GFA: 170
Directional Distribution: 88% entering, 12% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.24	0.32 - 2.83	0.40

Data Plot and Equation



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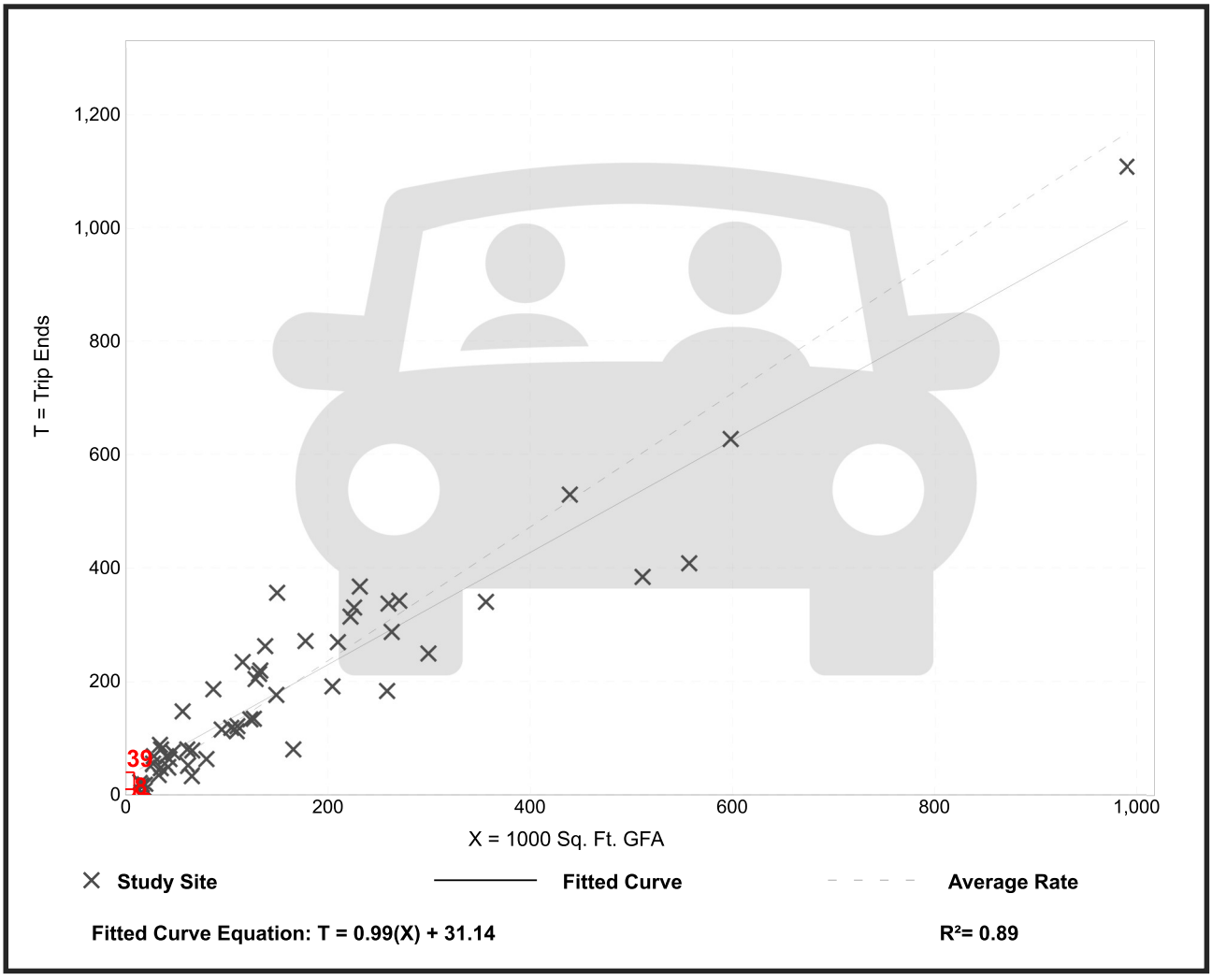
General Office Building
(710)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 53
Avg. 1000 Sq. Ft. GFA: 166
Directional Distribution: 16% entering, 84% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.18	0.26 - 2.59	0.41

Data Plot and Equation



General Office Building
(710)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Saturday, Peak Hour of Generator**

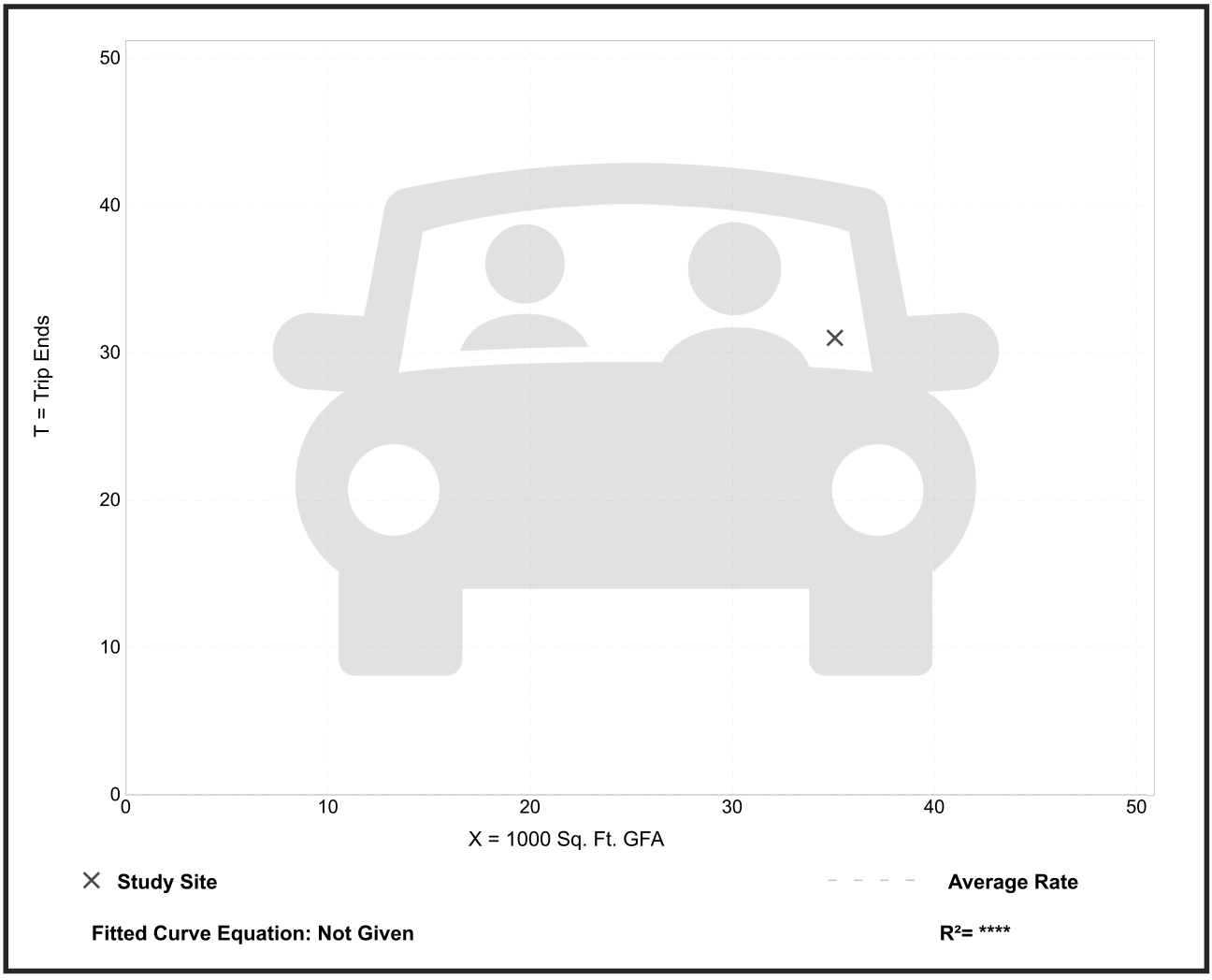
Setting/Location: **General Urban/Suburban**
Number of Studies: 1
Avg. 1000 Sq. Ft. GFA: 35
Directional Distribution: 54% entering, 46% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.88	0.88 - 0.88	*

Data Plot and Equation

Caution – Small Sample Size



TRANSPORTATION IMPACT STUDY

for the proposed

RETAIL DEVELOPMENT

South Fayette Township, Allegheny County, Pennsylvania

October 17, 2023

TRANSPORTATION IMPACT STUDY

for the proposed

RETAIL DEVELOPMENT

South Fayette Township, Allegheny County, PA

October 17, 2023

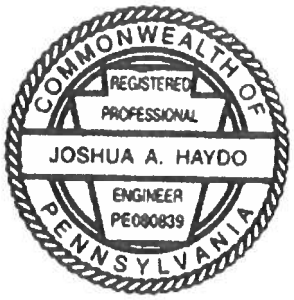
Prepared for: **Cozza Enterprises, LLC**
PO Box 453
Carnegie, PA 15106

Prepared by: **David E. Wooster and Associates, LLC**
Two East Crafton Avenue
Pittsburgh, PA 15205

Project Engineer(s): Jesse Nelson & Suleiman A. Swai, P.E.

Supervising Engineer: Joshua A. Haydo, P.E., PTOE

Seal



10/17/23
Date

TABLES

Table 1 – Level-of-Service Summaries

1A – Millers Run Road (SR 0050) with Newbury Drive / Todd A. Miller Drive

1B – Newbury Drive with Plaza Access / Site Drive C

1C – Millers Run Road (SR 0050) with Site Drive A

1D – Millers Run Road (SR 0050) with Site Drive B

Table 2 – Trip Generation Summary

Table 3 – Queuing Summaries

3A – Millers Run Road (SR 0050) with Newbury Drive / Todd A. Miller Drive

3B – Newbury Drive with Plaza Access / Site Drive C

3C – Millers Run Road (SR 0050) with Site Drive A

3D – Millers Run Road (SR 0050) with Site Drive B

FIGURES

Figure 1 – Site Location Graphic

Figure 2 – Preliminary Site Plan

Figure 3a – Existing Year 2023 Condition Peak Hour Traffic Volumes

Figure 3b – Existing Year 2023 Condition Peak Hour LOS

Figure 4 – Opening Year 2024 Base Condition Peak Hour Volumes

Figure 5 – Design Year 2029 Base Condition Peak Hour Volumes

Figure 6a – Primary Trip Distribution Percentages (The Piazza Retail Development)

Figure 6b – Primary Trips (The Piazza Retail Development)

Figure 7a – Pass-By Trip Distribution Percentages (The Piazza Retail Development)

Figure 7b – Pass-By Trips (The Piazza Retail Development)

Figure 8a – Primary Trip Distribution Percentages (South Fayette Commons Development)

Figure 8b – Primary Trips (South Fayette Commons Development)

Figure 9a – Primary Trip Distribution Percentages (Newbury: Cigar Lounge, Bar & Restaurant Development)

Figure 9b – Primary Trips (Newbury: Cigar Lounge, Bar & Restaurant Development)

Figure 10 – Total Background Trips

Figure 11a – Opening Year 2024 Without Development Condition Peak Hour Volumes

Figure 11b – Opening Year 2024 Without Development Condition Peak Hour LOS

Figure 12a – Design Year 2029 Without Development Condition Peak Hour Volumes

Figure 12b – Design Year 2029 Without Development Condition Peak Hour LOS

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Transportation Impact Study
Proposed Retail Development
South Fayette Township, Allegheny County, Pennsylvania

EXECUTIVE SUMMARY

Project Description

The proposed project is located on the northwestern corner of the intersection of Millers Run Road (SR 0050) with Newbury Drive / Todd A. Miller Drive in South Fayette Township, Allegheny County, Pennsylvania. The development is proposed to consist of ~45,126-square foot of retail space.

This report analyzes the impact of this project on the traffic operations of the adjacent roadway network under:

- Existing Year 2023 Condition
- Opening Year 2024 Without and With Development Conditions
- Design Year 2029 Without and With Development Conditions

Existing and Future Without Development Conditions

A linear growth rate of 1.00% was obtained from a representative of the Southwestern Pennsylvania Commission (SPC) for South Fayette Township. This rate was applied to the Existing Year 2023 Condition peak hour traffic volumes to develop the Opening Year 2024 and Design Year 2029 Base Condition traffic volumes.

Trip Generation and Distribution

Trip Generation

The Institute of Transportation Engineers' (ITE's) *Trip Generation Manual*, 11th Edition, was used to determine the trip generation rates associated with the proposed development and background development trips (specifically, Land Use Codes #821 – *Shopping Plaza 40k-150k without Supermarket,* #931 – *Fine Dining Restaurant,* #932 – *High-Turnover Sit-Down Restaurant,* and #934 – *Fast Food Restaurant with Drive-Through Window*). The rates for LUC #821 were utilized to determine the additional trips anticipated to be generated by the proposed development on a typical weekday and during the AM, PM, and SAT peak hours, which are summarized as follows:

- 3,048 additional vehicles during a typical weekday (1,524 entering and 1,524 existing)

- 78 additional vehicles during the AM peak hour (48 entering and 30 exiting)
- 234 additional vehicles during the PM peak hour (115 entering and 119 exiting)
- 251 additional vehicles during the SAT peak hour (131 entering and 120 exiting)

Trip Distribution

The trip generation data, the distribution of traffic at the existing study intersections, and the location of the proposed development were all used to assign the site-generated traffic to the study area roadway network.

List of Study Intersections

The study area for this project includes two (2) existing intersections and two (2) proposed intersections:

- Millers Run Road (SR 0050) with Newbury Drive / Todd A. Miller Drive
- Newbury Drive with Plaza Access / Site Drive C
- Millers Run Road (SR 0050) with Site Drive A
- Millers Run Road (SR 0050) with Site Drive B

Conclusions and Recommendations

The proposed retail development in South Fayette Township, Allegheny County, Pennsylvania is not anticipated to impact traffic operations in the study area. The following is a summary of the results and recommended improvements at each of the study intersections:

Millers Run Road (SR 0050) with Newbury Drive / Todd A. Miller Drive

- Impacts to this intersection will be minimal with increases in average overall intersection delay of less than 2.0 seconds per vehicle during the AM, PM, and SAT peak hours.
- No roadway improvements are recommended.

Newbury Drive with Plaza Access / Site Drive C

- Impacts to this intersection will be minimal with increases in average overall intersection delay of less than 10.0 seconds per vehicle during the AM, PM, and SAT peak hours.
- Construct a full access site drive (Site Drive C) along the western side of Newbury Drive, as depicted on the site plan.
- Maintain clear sight lines by way of on-site clearing and grading, as necessary.
- No additional roadway improvements recommended.

Millers Run Road (SR 0050) with Site Drive A

- Construct a right-in / right-out access site drive (Site Drive A) along the northern side of Millers Run Road (SR 0050), as depicted on the site plan.
- Maintain clear sight lines by way of on-site clearing and grading, as necessary.
- No additional roadway improvements recommended.

Millers Run Road (SR 0050) with Site Drive B

- Construct a right-in / right-out access site drive (Site Drive B) along the northern side of Millers Run Road (SR 0050), as depicted on the site plan.
- Maintain clear sight lines by way of on-site clearing and grading, as necessary.
- No additional roadway improvements recommended.

Transportation Impact Study
Proposed Retail Development
South Fayette Township, Allegheny County, Pennsylvania

1.0 INTRODUCTION / PROJECT SUMMARY

David E. Wooster and Associates (Wooster) has completed a Transportation Impact Study (TIS) to determine the impacts to traffic operations resulting from the construction of a proposed retail development located on the northwestern corner of the intersection of Millers Run Road (SR 0050) with Newbury Drive / Todd A. Miller Drive in South Fayette Township, Allegheny County, Pennsylvania. The development is proposed to consist of ~45,126-square foot of retail space.

A site location graphic is shown on **Figure 1** and a preliminary Site Plan can be seen on **Figure 2** in the Figures section at the end of this report. The project is anticipated to open by the end of 2024. As such, this report analyzes the impact of this project on the traffic operations of the adjacent roadway network under:

- Existing Year 2023 Condition
- Opening Year 2024 Without and With Development Conditions
- Design Year 2029 Without and With Development Conditions

Traffic volumes have been developed for each scenario, capacity analyses have been performed, and the results have been reported in terms of both Level-of-Service (LOS) and average delay per vehicle. The capacity analyses contained in this report were performed using Synchro Software Version 11 (Synchro).

A virtual TIS Scoping Meeting was held on Thursday, September 14, 2023 and was attended by representatives of PennDOT Engineering District 11-0 (PennDOT), South Fayette Township, the applicant, and Wooster. A copy of the TIS Scoping Checklist has been included in **Appendix A** at the end of this report.

2.0 DATA COLLECTION

2.1 Turning Movement Counts

Turning movement counts were performed at the existing study intersections on a typical weekday (Tuesday through Thursday) between the hours of 7:00 a.m. and 9:00 a.m. and between the hours of 4:00 p.m. and 6:00 p.m. Counts were also performed on a typical Saturday between the hours of 11:00 a.m. and 2:00 p.m. These times were chosen because they typically reflect the morning (AM), evening (PM), and Saturday midday (SAT) peak hours for vehicular traffic. These counts were performed in September 2023.

Summaries of the turning movement counts can be found in **Appendix B** at the end of this report. This information was then utilized to determine the Existing Year 2023 Condition peak hour traffic volumes, which can be seen graphically on **Figure 3a**.

2.2 Crash Data

Copies of crash data summaries for the five (5) most recent calendar years were obtained from the Pennsylvania Department of Transportation (PennDOT) Crash Information Tool (PCIT) for the existing study intersections. As the crash data is property of PennDOT, a summary of the identified crashes and the corresponding crash reports are included in a separately-bound appendix to this report.

3.0 STUDY AREA CONDITIONS

3.1 Study Area

The study area for this project includes two (2) existing intersections and two (2) proposed intersections:

- Millers Run Road (SR 0050) with Newbury Drive / Todd A. Miller Drive
- Newbury Drive with Plaza Access / Site Drive C
- Millers Run Road (SR 0050) with Site Drive A
- Millers Run Road (SR 0050) with Site Drive B

3.2 Existing Study Intersection Descriptions

3.2.1 Millers Run Road (SR 0050) with Newbury Drive / Todd A. Miller Drive

The intersection of Millers Run Road (SR 0050) with Newbury Drive / Todd A. Miller Drive is a signalized intersection with four (4) approaches. The eastbound approach (Millers Run Road) consists of an exclusive left turn lane, an exclusive through lane, and a shared through / right turn lane. The westbound approach (Millers Run Road) consists of an exclusive left turn lane, two (2) exclusive through lanes, and an exclusive, channelized right turn lane, which is yield controlled. The posted speed limit on Millers Run Road (SR 0050) is 40 mph. The northbound approach (Todd A. Miller Drive) consists of an exclusive left turn lane, an exclusive through lane, and an exclusive, channelized right turn lane, which is yield controlled. There is no posted speed limit on Todd A. Miller Drive.[1] The southbound approach (Newbury Drive) consists of two (2) exclusive left turn lanes and a shared through / right turn lane. There is no posted speed limit on Newbury Drive.

[1] HCM 6th Edition supports only speed limits within the range of 25-55 mph. As such, a speed limit of 25 mph was assumed for all roadways without a posted speed limit or a speed limit less than 25 mph.

3.2.2 Newbury Drive with Plaza Access / Site Drive C

The intersection of Newbury Drive with Plaza Access / Existing Site Access[2] is an unsignalized intersection with four (4) approaches. The eastbound approach (Existing Site Access) consists of a single lane that is used to perform all possible movements and is stop-controlled. There is no posted speed limit on the Existing Site Access. The westbound approach (Plaza Access) consists of a single lane that is used to perform all possible movements and is stop-controlled. There is no posted speed limit on the Plaza Access. The northbound approach (Newbury Drive) consists of a shared left turn / through lane and a shared through / right turn lane, which operate under free-flow conditions. The southbound approach (Newbury Drive) consists of a shared left turn / through lane and a shared through / right turn lane, which operate under free-flow conditions. There is no posted speed limit on Newbury Drive.

A complete photo log of the existing study intersections can be found in **Appendix C** at the end of this report.

3.3 Signal Permit Plans

Traffic signal permit plans were requested for the signalized study intersection from a representative of PennDOT. The signal permit plans were utilized to model the Existing Year 2023 Condition in Synchro.

Copies of the signal permit plans have been included in **Appendix D** at the end of this report.

3.4 Existing Condition Capacity Analysis

The capacity analyses contained in this report were performed using Synchro Software Version 11 (Synchro) HCM 6th Edition reports. Using the traffic volumes developed for each scenario, Synchro assigns a Level of Service (LOS) for each approach to each study intersection. These LOS range from "A" to "F", similar to a school's grading system, with LOS A being the best possible traffic operation conditions and LOS F being the worst. A summary of these guidelines has been included in **Appendix E** at the end of this report.

The Existing Year 2023 Condition capacity analyses show acceptable overall intersection and movement / lane group LOS (LOS D or better) at the existing study intersections during the AM, PM, and SAT peak hours.

[2] Existing Site Access will become the proposed Site Drive C.

Tables 1A and **1B** in the Tables section at the end of this report show the Existing Year 2023 Condition AM, PM, and SAT peak hour LOS for the existing study intersection. The Existing Year 2023 Condition peak hour LOS can be seen graphically on **Figure 3b**.

Synchro and HCM printouts for the Existing Year 2023 Condition can be found in **Appendix F** and **Appendix G**, respectively, at the end of this report.

4.0 OPENING YEAR 2024 WITHOUT DEVELOPMENT CONDITION

4.1 Base Condition Traffic Volume Development

A linear growth rate of 1.00% was applied to the Existing Year 2023 Condition peak hour traffic volumes (Figure 3a) to develop the Opening Year 2024 and Design Year 2029 Base Condition traffic volumes, which can be seen graphically on **Figure 4** and **Figure 5**, respectively.

4.2 Background Developments (Piazza Retail, South Fayette Commons, and Newbury: Cigar Bar & Restaurant Developments)

Trips associated with several developments that have not yet been constructed (or fully constructed) were added to the Opening Year 2024 Base Condition to develop the Opening Year 2024 Without Development Condition. These developments are discussed in the following sections. Source data for these developments (i.e. email correspondence, development descriptions, site plans, TIA/TIS figures, etc.) can be found in **Appendix H** at the end of this report.

The background developments include the construction of the Piazza Retail, South Fayette Commons, and Newbury (specifically, the Cigar Lounge, Bar & Restaurant) developments.

- The Piazza Retail development consists of a 8,250-SF Fast Food Restaurant with a Drive-Through and a 6,800-SF High-Turnover (Sit-Down) Restaurant.
- The South Fayette Commons development consists of a 10,500-SF Specialty Retail Center and a 3,000-SF High-Turnover (Sit-Down) Restaurant.
- The Newbury Cigar Lounge, Bar, & Restaurant development consists of a 9,377-SF Fine Dining Restaurant.

Trips associated with these developments that anticipated to travel through the study area during the AM, PM, and SAT peak hours can be seen graphically on **Figure 6a** through **Figure 10**.

4.3 Without Development Condition Traffic Volume Development

The background development trips (Figure 10) were added to the Opening Year 2024 Base Condition traffic volumes (Figure 4) to develop the Opening Year 2024 Without Development Condition traffic volumes, which can be seen graphically on **Figure 11a.**

4.4 Capacity Analysis

The analysis performed for the Opening Year 2024 Without Development Condition assumed the same intersection geometry and traffic control used in the Existing Year 2023 Condition analysis.

The Opening Year 2024 Without Development Condition capacity analyses show acceptable overall intersection and movement / lane group LOS (LOS D or better) at the existing study intersections during the AM, PM, and SAT peak hours.

Tables 1A and **1B** in the Tables section at the end of this report show the Opening Year 2024 Without Development Condition AM, PM, and SAT peak hour LOS for the existing study intersection. The Opening Year 2024 Without Development Condition peak hour LOS can be seen graphically on **Figure 11b**.

Synchro and HCM printouts for the Opening Year 2024 Without Development Condition can be found in **Appendix I** and **Appendix J**, respectively, at the end of this report.

5.0 DESIGN YEAR 2029 WITHOUT DEVELOPMENT CONDITION

5.1 Traffic Volume Development

Once again, background development trips (Figure 10) were added to the Design Year 2029 Base Condition traffic volumes (Figure 5) to develop the Design Year 2029 Without Development Condition traffic volumes, which can be seen graphically on **Figure 12a.**

5.3 Capacity Analysis

The analysis performed for the Design Year 2029 Without Development Condition assumed the same intersection geometry and traffic control used in the Existing Year 2023 Condition analysis.

The Design Year 2029 Without Development Condition capacity analyses show acceptable overall intersection and movement / lane group LOS (LOS D or better) at the existing study intersections during the AM, PM, and SAT peak hours.

Tables 1A and **1B** in the Tables section at the end of this report show the Design Year 2029 Without Development Condition AM, PM, and SAT peak hour LOS for the existing study intersection. The Design Year 2029 Without Development Condition peak hour LOS can be seen graphically on **Figure 12b**.

Synchro and HCM printouts for the Design Year 2029 Without Development Condition can be found in **Appendix K** and **Appendix L**, respectively, at the end of this report.

6.0 DEVELOPMENT DESCRIPTION

6.1 Proposed Development

The development is proposed to consist of ~45,126-square foot of retail space.

6.2 Proposed Access

Access to the site is proposed via three (3) site drives:

- Two (2) right-in / right-out access site drives (Site Drives A and B) along the northern side of Millers Run Road (SR 0050).
- One (1) full access site drive (Site Drive C) along the western side of Newbury Drive.

6.3 Trip Generation

The Institute of Transportation Engineers' (ITE's) *Trip Generation Manual*, 11th Edition, was used to determine the trip generation rates associated with the proposed development and background development trips (specifically, Land Use Codes #821 – *Shopping Plaza 40k-150k without Supermarket,* #931 – *Fine Dining Restaurant,* #932 – *High-Turnover Sit-Down Restaurant,* and #934 – *Fast Food Restaurant with Drive-Through Window*). The rates for LUC #821 were utilized to determine the additional trips anticipated to be generated by the proposed development on a typical weekday and during the AM, PM, and SAT peak hours, which are summarized as follows:

- 3,048 additional vehicles during a typical weekday (1,524 entering and 1,524 existing)
- 78 additional vehicles during the AM peak hour (48 entering and 30 exiting)
- 234 additional vehicles during the PM peak hour (115 entering and 119 exiting)
- 251 additional vehicles during the SAT peak hour (131 entering and 120 exiting)

The site-generated trips were then split into primary trips and pass-by trips. The pass-by trip percentages were determined using the information contained in ITE's *Trip Gen Web-Based App* and are summarized as follows:

ITE Land Use Code #821 – *Shopping Plaza*

- AM peak hour – 30% reduction (PM-10%)
- PM peak hour – 40% reduction (2021 Pass-By Rates)
- SAT peak hour – 31% reduction (2021 Pass-By Rates)

Table 2 in the Tables section at the end of this report summarizes the traffic anticipated to be generated by the proposed development. Copies of the trip generation calculations can be found in **Appendix M** at the end of this report.

6.4 Trip Distribution

6.4.1 Primary Trips

The trip generation data, the distribution of traffic at the existing study intersections, and the location of the proposed development were all used to assign the site-generated traffic to the study area roadway network. Additionally, site drive selection was governed generally[3] by the following assumptions:

- 30% of inbound trips originating from the east were assumed to utilize Site Drive A; 60% were assumed to utilize Site Drive B; the remaining 10% were assumed to utilize Site Drive C.
- 45% of outbound trips destined to the west were assumed to utilize Site Drive A; 45% were assumed to utilize to utilize Site Drive B; the remaining 10% were assumed to utilize to utilize Site Drive C.

The projected primary trip distribution and primary trips associated with the proposed GetGo can be seen graphically on **Figure 13a** and **Figure 13b**, respectively.

6.4.2 Pass-By Trips

In order to project the pass-by trip distribution for the site-generated traffic, the turning movement count data at the existing intersections were utilized. Additionally, site drive selection was once again governed generally by the same assumptions utilized for the primary trip distribution (Section 6.4.1).

[3] Engineering judgment was also utilized in estimating the distribution of both primary and pass-by trips. As such, the percentages listed in Section 6.4.1 may not be reflected exactly in the report figures, and may differ somewhat between the primary and pass-by distributions based on motorists' origins and destinations, which differ depending on whether their trip is primary or pass-by in nature.

The existing intersection distribution percentages can be seen graphically on **Figure 14**. The pass-by trip distribution percentage for each approach to the site (from the east, west, north, and south) can be seen graphically on **Figures 15a** through **15d**. Each movement on each approach was evaluated separately.

The individual (i.e. directional) pass-by trip distribution percentages were then combined to develop the overall pass-by trip distribution, which can be seen graphically on **Figure 16a**. The projected site-generated pass-by trips associated with the proposed development can be seen graphically on **Figure 16b**.

The site-generated primary trips (Figure 13b) and pass-by trips (Figure 16b) were then combined onto **Figure 17**, which depicts the total site-generated traffic associated with the proposed development.

7.0 OPENING YEAR 2024 WITH DEVELOPMENT CONDITION

7.1 Traffic Volume Development

To develop the Opening Year 2024 With Development Condition traffic volumes, the proposed site-generated trips (Figure 17) were added to the Opening Year 2024 Without Development Condition traffic volumes (Figure 11a). The resulting Opening Year 2024 With Development Condition traffic volumes can be seen graphically on **Figure 18a**.

7.2 Capacity Analysis

The analysis performed for the Opening Year 2024 With Development Condition assumed the same intersection geometry and traffic control used in the Opening Year 2024 Without Development Condition analysis.

The Opening Year 2024 With Development Condition capacity analyses show acceptable overall intersection and movement / lane group LOS (LOS D or better) at the study intersections during the AM, PM, and SAT peak hours.

Additionally, the capacity analyses show minimal increases in average delay (less than 10.0 seconds per vehicle) under the Opening Year 2024 With Development Condition when compared to the Opening Year 2024 Without Development Condition at the existing study intersections during the AM, PM, and SAT peak hours.

Tables 1A through **1D** in the Tables section at the end of this report show the Opening Year 2024 With Development Condition AM, PM, and SAT peak hour LOS for the study

intersections. The Opening Year 2024 With Development Condition peak hour LOS can be seen graphically on **Figure 18b**.

Synchro and HCM printouts for the Opening Year 2024 With Development Condition can be found in **Appendix N** and **Appendix O**, respectively, at the end of this report.

8.0 DESIGN YEAR 2029 WITH DEVELOPMENT CONDITION

8.1 Traffic Volume Development

Similar to the Opening Year 2024 With Development Condition, the proposed site-generated trips (Figure 17) were added to the Design Year 2029 Without Development Condition traffic volumes (Figure 12a) to determine the Design Year 2029 With Development Condition traffic volumes, which can be seen graphically on **Figure 19a**.

8.2 Capacity Analysis

The analysis performed for the Design Year 2029 With Development Condition assumed the same intersection geometry and traffic control used in the Design Year 2029 Without Development Condition analysis.

The Design Year 2029 With Development Condition capacity analyses show acceptable overall intersection and movement / lane group LOS (LOS D or better) at the study intersections during the AM, PM, and SAT peak hours.

Additionally, the capacity analyses show minimal increases in average delay (less than 10.0 seconds per vehicle) under the Design Year 2029 With Development Condition when compared to the Design Year 2029 Without Development Condition at the existing study intersections during the AM, PM, and SAT peak hours.

Tables 1A through **1D** in the Tables section at the end of this report show the Design Year 2029 With Development Condition AM, PM, and SAT peak hour LOS for the study intersections. The Design Year 2029 With Development Condition peak hour LOS can be seen graphically on **Figure 19b**.

Synchro and HCM printouts for the Design Year 2029 With Development Condition can be found in **Appendix P** and **Appendix Q**, respectively, at the end of this report.

9.0 SIGHT DISTANCE EVALUATION

Sight distance requirements were evaluated at the proposed site drives in accordance with PennDOT Title 67, Chapter 441, *Access To And Occupancy Of Highways by Driveways and Local Roads*.

Sight distance requirements were based on observed 85th percentile speeds or a design speed (posted speed limit plus 5 mph) on the abutting roadway(s), whichever is greater. The observed 85th percentile speeds along Newbury Drive were obtained via a radar speed study. The radar speed data can be found in **Appendix R** at the end of this report. Appropriate friction factors from Table B of PennDOT Publication 212 were also utilized, where appropriate, to determine the required minimum sight distances.

A complete photo log of the existing sight distance at the proposed site drives can be found in **Appendix S** at the end of this report. The results of the sight distance analyses are summarized in the table below:

Sight Line	Approach Grade (%)	Required Sight Distance (feet)	Available Sight Distance (feet)
Millers Run Road (SR 0050) with Site Drive A			
Speed Limit = 40 mph			
Corner Sight Distance Looking Left	N/A[4]	383'	>1,000'
Millers Run Road (SR 0050) with Site Drive B			
Speed Limit = 40 mph			
Corner Sight Distance Looking Left	N/A	383'	>1,000'
Newbury Drive with Site Drive C			
Speed Limit = Not Posted; 85th Percentile Speed (NB/SB) = 24 mph / 28 mph			
Corner Sight Distance Looking Left	-2.2%	176'	~270'
Corner Sight Distance Looking Right	-1.8%	201'	~270'
Stopping Sight Distance Looking Ahead	-2.8%	177'	~290'
Stopping Sight Distance from Behind	-1.8%	201'	~250'

[4] Because available sight line is greater than 1,000 feet, approach grade is inconsequential. Assumed 0.0% for calculations/table.

As demonstrated in the table, adequate sight distance is available at all of the proposed site drives.

***** UNLESS OTHERWISE NOTED, THE AVAILABLE SIGHT DISTANCES REPORTED IN THIS STUDY ASSUME THAT ON-SITE CLEARING AND/OR GRADING WILL BE PERFORMED, AS NECESSARY, IN ORDER TO MAXIMIZE SIGHT LINES TO THE EXTENT POSSIBLE *****

10.0 QUEUING ANALYSIS

Queuing analyses were performed to compare pre-development and post-development queuing at the study intersections. The Design Year 2029 Without and With Development Conditions were modeled in Synchro and transferred to SimTraffic. Five (5) separate 60-minute simulations (utilizing a ten-minute seeding interval) were performed for each individual peak hour.

Queue reports from SimTraffic for the Design Year 2029 Without and With Development Conditions can be found in **Appendix T** and **Appendix U**, respectively, at the end of this report. Spreadsheets summarizing the 95th percentile queue averages are also included. The results for the Design Year 2029 Without and With Development Condition queues are summarized in **Tables 3A** through **3D** for the AM, PM, and SAT peak hours.

As can be seen in the Tables, queue lengths are generally not anticipated to increase significantly (no more than 1-2 car lengths) under the Design Year 2029 With Development Condition when compared to the Design Year 2029 Without Development Condition.

In addition, queue lengths are not projected to exceed their respective storage capacities under the Design Year 2029 Without or With Development Conditions during the AM, PM, or SAT peak hours.

11.0 SUMMARY AND CONCLUSIONS

In conclusion, the proposed development in South Fayette Township, Allegheny County, Pennsylvania is not anticipated to impact traffic operations in the study area. The following is a summary of the results and recommended improvements at each of the study intersections:

Millers Run Road (SR 0050) with Newbury Drive / Todd A. Miller Drive

- Impacts to this intersection will be minimal with increases in average overall intersection delay of less than 10.0 seconds per vehicle during the AM, PM, and SAT peak hours.
- No roadway improvements are recommended.

Newbury Drive with Plaza Access / Site Drive C

- Impacts to this intersection will be minimal with increases in average overall intersection delay of less than 10.0 seconds per vehicle during the AM, PM, and SAT peak hours.
- Construct a full access site drive (Site Drive C) along the western side of Newbury Drive, as depicted on the site plan.
- Maintain clear sight lines by way of on-site clearing and grading, as necessary.
- No additional roadway improvements recommended.

Millers Run Road (SR 0050) with Site Drive A

- Construct a right-in / right-out access site drive (Site Drive A) along the northern side of Millers Run Road (SR 0050), as depicted on the site plan.
- Maintain clear sight lines by way of on-site clearing and grading, as necessary.
- No additional roadway improvements recommended.

Millers Run Road (SR 0050) with Site Drive B

- Construct a right-in / right-out access site drive (Site Drive B) along the northern side of Millers Run Road (SR 0050), as depicted on the site plan.
- Maintain clear sight lines by way of on-site clearing and grading, as necessary.
- No additional roadway improvements recommended.

REPORT TABLES

Table 1A - Level-of-Service Summary

Intersection		AM Peak Hour Millers Run Road (SR 0050) with Newbury Drive / Todd A. Miller Drive						
Millers Run Road (SR 0050)		East/West Roadway						
Direction	Approach / Movement	Existing Year 2023	Opening Year 2024 - Without Development	Opening Year 2024 - With Development	Opening Year 2024 - With Development & Mitigation	Design Year 2029 - Without Development	Design Year 2029 - With Development	Design Year 2029 - With Development & Mitigation
Eastbound	Left Turn	C (24.8)	C (26.9)	C (26.2)	NM	C (27.4)	C (26.9)	NM
	Through Right Turn	B (14.4)	B (17.0)	B (17.1)	NM	B (17.2)	B (17.4)	NM
	Approach	**B (14.8)**	**B (17.3)**	**B (17.7)**	**NM**	**B (17.6)**	**B (17.9)**	**NM**
Westbound	Left Turn	C (23.5)	C (25.2)	C (25.3)	NM	C (25.8)	C (25.9)	NM
	Through	B (11.6)	B (11.8)	B (12.7)	NM	B (11.9)	B (12.8)	NM
	Right Turn	YIELD	YIELD	YIELD	NM	YIELD	YIELD	NM
	Approach	**B (13.2)**	**B (15.1)**	**B (15.7)**	**NM**	**B (15.2)**	**B (15.9)**	**NM**
Newbury Drive / Todd A. Miller Drive		North/South Roadway						
Northbound	Left Turn	C (33.9)	C (25.1)	C (25.2)	NM	C (25.8)	C (25.9)	NM
	Through	C (28.3)	C (26.3)	C (26.5)	NM	C (27.0)	C (27.2)	NM
	Right Turn	YIELD	YIELD	YIELD	NM	YIELD	YIELD	NM
	Approach	**C (29.8)**	**C (25.5)**	**C (25.6)**	**NM**	**C (26.2)**	**C (26.3)**	**NM**
Southbound	Left Turn	C (21.0)	C (22.9)	C (22.8)	NM	C (23.4)	C (23.3)	NM
	Through Right Turn	B (19.2)	C (23.2)	C (22.9)	NM	C (23.6)	C (23.3)	NM
	Approach	**C (20.8)**	**C (22.9)**	**C (22.8)**	**NM**	**C (23.4)**	**C (23.3)**	**NM**
	Overall Intersection	***B (15.4)***	***B (18.0)***	***B (18.3)***	***NM***	***B (18.2)***	***B (18.6)***	***NM***

NM = No Mitigation

Intersection		PM Peak Hour Millers Run Road (SR 0050) with Newbury Drive / Todd A. Miller Drive						
Millers Run Road (SR 0050)		East/West Roadway						
Direction	Approach / Movement	Existing Year 2023	Opening Year 2024 - Without Development	Opening Year 2024 - With Development	Opening Year 2024 - With Development & Mitigation	Design Year 2029 - Without Development	Design Year 2029 - With Development	Design Year 2029 - With Development & Mitigation
Eastbound	Left Turn	C (24.5)	C (25.8)	C (26.4)	NM	C (26.0)	C (27.1)	NM
	Through Right Turn	B (14.0)	B (16.0)	B (16.5)	NM	B (16.4)	B (16.7)	NM
	Approach	**B (14.8)**	**B (16.8)**	**B (17.7)**	**NM**	**B (17.1)**	**B (18.0)**	**NM**
Westbound	Left Turn	C (24.7)	C (26.7)	C (27.3)	NM	C (26.9)	C (27.9)	NM
	Through	B (14.9)	B (15.3)	B (17.0)	NM	B (15.8)	B (17.3)	NM
	Right Turn	YIELD	YIELD	YIELD	NM	YIELD	YIELD	NM
	Approach	**B (15.4)**	**B (16.8)**	**B (18.2)**	**NM**	**B (17.2)**	**B (18.6)**	**NM**
Newbury Drive / Todd A. Miller Drive		North/South Roadway						
Northbound	Left Turn	C (27.2)	C (25.4)	C (25.9)	NM	C (25.5)	C (26.4)	NM
	Through	C (25.6)	C (25.7)	C (26.2)	NM	C (25.9)	C (26.7)	NM
	Right Turn	YIELD	YIELD	YIELD	NM	YIELD	YIELD	NM
	Approach	**C (26.2)**	**C (25.5)**	**C (26.0)**	**NM**	**C (25.7)**	**C (26.5)**	**NM**
Southbound	Left Turn	C (20.8)	C (22.1)	C (22.2)	NM	C (22.1)	C (22.6)	NM
	Through Right Turn	B (19.1)	C (22.0)	C (21.5)	NM	C (21.9)	C (21.8)	NM
	Approach	**C (20.5)**	**C (22.1)**	**C (22.1)**	**NM**	**C (22.1)**	**C (22.4)**	**NM**
	Overall Intersection	***B (16.5)***	***B (18.3)***	***B (19.3)***	***NM***	***B (18.6)***	***B (19.6)***	***NM***

NM = No Mitigation

Intersection		SAT Peak Hour Millers Run Road (SR 0050) with Newbury Drive / Todd A. Miller Drive						
Millers Run Road (SR 0050)		East/West Roadway						
Direction	Approach / Movement	Existing Year 2023	Opening Year 2024 - Without Development	Opening Year 2024 - With Development	Opening Year 2024 - With Development & Mitigation	Design Year 2029 - Without Development	Design Year 2029 - With Development	Design Year 2029 - With Development & Mitigation
Eastbound	Left Turn	C (24.7)	C (26.6)	C (27.9)	NM	C (26.7)	C (27.8)	NM
	Through Right Turn	B (13.9)	B (17.4)	B (17.9)	NM	B (17.8)	B (18.4)	NM
	Approach	**B (14.7)**	**B (18.1)**	**B (19.3)**	**NM**	**B (18.6)**	**B (19.7)**	**NM**
Westbound	Left Turn	C (25.5)	C (27.1)	C (27.7)	NM	C (27.3)	C (27.8)	NM
	Through	B (14.3)	B (15.3)	B (17.0)	NM	B (15.7)	B (17.6)	NM
	Right Turn	YIELD	YIELD	YIELD	NM	YIELD	YIELD	NM
	Approach	**B (14.8)**	**B (17.3)**	**B (18.7)**	**NM**	**B (17.6)**	**B (19.1)**	**NM**
Newbury Drive / Todd A. Miller Drive		North/South Roadway						
Northbound	Left Turn	C (31.0)	C (26.1)	C (26.7)	NM	C (26.3)	C (26.9)	NM
	Through	C (27.7)	C (26.4)	C (26.9)	NM	C (26.6)	C (27.1)	NM
	Right Turn	YIELD	YIELD	YIELD	NM	YIELD	YIELD	NM
	Approach	**C (28.9)**	**C (26.2)**	**C (26.8)**	**NM**	**C (26.4)**	**C (27.0)**	**NM**
Southbound	Left Turn	C (20.6)	C (22.4)	C (22.5)	NM	C (22.4)	C (22.6)	NM
	Through Right Turn	B (18.4)	C (22.1)	C (21.7)	NM	C (22.0)	C (21.6)	NM
	Approach	**C (20.3)**	**C (22.3)**	**C (22.3)**	**NM**	**C (22.3)**	**C (22.4)**	**NM**
	Overall Intersection	***B (16.3)***	***B (19.4)***	***C (20.3)***	***NM***	***B (19.6)***	***C (20.6)***	***NM***

NM = No Mitigation

Table 1B - Level-of-Service Summary

		AM Peak Hour						
Intersection		Newbury Drive with Plaza Access / Site Drive C						
Plaza Access / Site Drive C		East/West Roadway						
Direction	Approach / Movement	Existing Year 2023	Opening Year 2024 - Without Development	Opening Year 2024 - With Development	Opening Year 2024 - With Development & Mitigation	Design Year 2029 - Without Development	Design Year 2029 - With Development	Design Year 2029 - With Development & Mitigation
Eastbound	Left Turn			B (10.1)	NM		B (10.2)	NM
	Through							
	Right Turn							
	Approach			**B (10.1)**	**NM**		**B (10.2)**	**NM**
Westbound	Left Turn	B (11.6)	B (11.9)	B (13.4)	NM	B (12.0)	B (13.7)	NM
	Through							
	Right Turn							
	Approach	**B (11.6)**	**B (11.9)**	**B (13.4)**	**NM**	**B (12.0)**	**B (13.7)**	**NM**
Newbury Drive		North/South Roadway						
Northbound	Left Turn			A (7.8)	NM		A (7.9)	NM
	Through	FREE	FREE	A (0.1)	NM	FREE	A (0.1)	NM
	Right Turn			A (0.0)	NM		A (0.0)	NM
	Approach	**FREE**	**FREE**	**A (0.7)**	**NM**	**FREE**	**A (0.7)**	**NM**
Southbound	Left Turn	A (7.9)	A (7.9)	A (7.9)	NM	A (7.9)	A (7.9)	NM
	Through			A (0.1)	NM		A (0.1)	NM
	Right Turn			A (0.0)	NM		A (0.0)	NM
	Approach	**A (0.7)**	**A (0.7)**	**A (0.7)**	**NM**	**A (0.7)**	**A (0.6)**	**NM**
	Overall Intersection	***A (1.3)***	***A (1.3)***	***A (2.0)***	***NM***	***A (1.3)***	***A (2.0)***	***NM***

NM = No Mitigation

		PM Peak Hour						
Intersection		Newbury Drive with Plaza Access / Site Drive C						
Plaza Access / Site Drive C		East/West Roadway						
Direction	Approach / Movement	Existing Year 2023	Opening Year 2024 - Without Development	Opening Year 2024 - With Development	Opening Year 2024 - With Development & Mitigation	Design Year 2029 - Without Development	Design Year 2029 - With Development	Design Year 2029 - With Development & Mitigation
Eastbound	Left Turn			B (13.3)	NM		B (13.6)	NM
	Through							
	Right Turn							
	Approach			**B (13.3)**	**NM**		**B (13.6)**	**NM**
Westbound	Left Turn	B (13.7)	B (14.5)	C (19.6)	NM	B (15.0)	C (20.6)	NM
	Through							
	Right Turn							
	Approach	**B (13.7)**	**B (14.5)**	**C (19.6)**	**NM**	**B (15.0)**	**C (20.6)**	**NM**
Newbury Drive		North/South Roadway						
Northbound	Left Turn			A (8.3)	NM		A (8.4)	NM
	Through	FREE	FREE	A (0.2)	NM	FREE	A (0.2)	NM
	Right Turn			A (0.0)	NM		A (0.0)	NM
	Approach	**FREE**	**FREE**	**A (1.0)**	**NM**	**FREE**	**A (0.9)**	**NM**
Southbound	Left Turn	A (8.2)	A (8.3)	A (8.3)	NM	A (8.3)	A (8.3)	NM
	Through			A (0.1)	NM		A (0.1)	NM
	Right Turn			A (0.0)	NM		A (0.0)	NM
	Approach	**A (0.4)**	**A (0.4)**	**A (0.4)**	**NM**	**A (0.4)**	**A (0.4)**	**NM**
	Overall Intersection	***A (1.6)***	***A (1.5)***	***A (3.3)***	***NM***	***A (1.5)***	***A (3.2)***	***NM***

NM = No Mitigation

		SAT Peak Hour						
Intersection		Newbury Drive with Plaza Access / Site Drive C						
Plaza Access / Site Drive C		East/West Roadway						
Direction	Approach / Movement	Existing Year 2023	Opening Year 2024 - Without Development	Opening Year 2024 - With Development	Opening Year 2024 - With Development & Mitigation	Design Year 2029 - Without Development	Design Year 2029 - With Development	Design Year 2029 - With Development & Mitigation
Eastbound	Left Turn			C (15.9)	NM		C (16.4)	NM
	Through							
	Right Turn							
	Approach			**C (15.9)**	**NM**		**C (16.4)**	**NM**
Westbound	Left Turn	C (20.3)	C (24.5)	F (59.1)	NM	D (26.0)	F (67.5)	NM
	Through							
	Right Turn							
	Approach	**C (20.3)**	**C (24.5)**	**F (59.1)**	**NM**	**D (26.0)**	**F (67.5)**	**NM**
Newbury Drive		North/South Roadway						
Northbound	Left Turn			A (8.5)	NM		A (8.5)	NM
	Through	FREE	FREE	A (0.3)	NM	FREE	A (0.3)	NM
	Right Turn			A (0.0)	NM		A (0.0)	NM
	Approach	**FREE**	**FREE**	**A (1.0)**	**NM**	**FREE**	**A (1.0)**	**NM**
Southbound	Left Turn	A (8.6)	A (8.8)	A (8.8)	NM	A (8.9)	A (8.8)	NM
	Through			A (0.1)	NM		A (0.1)	NM
	Right Turn			A (0.0)	NM		A (0.0)	NM
	Approach	**A (0.6)**	**A (0.5)**	**A (0.5)**	**NM**	**A (0.5)**	**A (0.5)**	**NM**
	Overall Intersection	***A (3.1)***	***A (3.3)***	***A (8.3)***	***NM***	***A (3.3)***	***A (9.0)***	***NM***

NM = No Mitigation

Table 1C - Level-of-Service Summary

		AM Peak Hour						
Intersection		Millers Run Road (SR 0050) with Site Drive A						
Millers Run Road (SR 0050)		East/West Roadway						
Direction	Approach / Movement	Existing Year 2023	Opening Year 2024 - Without Development	Opening Year 2024 - With Development	Opening Year 2024 - With Development & Mitigation	Design Year 2029 - Without Development	Design Year 2029 - With Development	Design Year 2029 - With Development & Mitigation
Eastbound	Left Turn							
	Through			FREE	NM		FREE	NM
	Right Turn							
	Approach			**FREE**	**NM**		**FREE**	**NM**
Westbound	Left Turn							
	Through			FREE	NM		FREE	NM
	Right Turn							
	Approach			**FREE**	**NM**		**FREE**	**NM**
Site Drive A		North/South Roadway						
Northbound	Left Turn							
	Through							
	Right Turn							
	Approach							
Southbound	Left Turn							
	Through							
	Right Turn			A (9.8)	NM		A (9.9)	NM
	Approach			**A (9.8)**	**NM**		**A (9.9)**	**NM**
	Overall Intersection			***A (0.0)***	***NM***		***A (0.0)***	***NM***

NM = No Mitigation

		PM Peak Hour						
Intersection		Millers Run Road (SR 0050) with Site Drive A						
Millers Run Road (SR 0050)		East/West Roadway						
Direction	Approach / Movement	Existing Year 2023	Opening Year 2024 - Without Development	Opening Year 2024 - With Development	Opening Year 2024 - With Development & Mitigation	Design Year 2029 - Without Development	Design Year 2029 - With Development	Design Year 2029 - With Development & Mitigation
Eastbound	Left Turn							
	Through			FREE	NM		FREE	NM
	Right Turn							
	Approach			**FREE**	**NM**		**FREE**	**NM**
Westbound	Left Turn							
	Through			FREE	NM		FREE	NM
	Right Turn							
	Approach			**FREE**	**NM**		**FREE**	**NM**
Site Drive A		North/South Roadway						
Northbound	Left Turn							
	Through							
	Right Turn							
	Approach							
Southbound	Left Turn							
	Through							
	Right Turn			B (11.7)	NM		B (11.9)	NM
	Approach			**B (11.7)**	**NM**		**B (11.9)**	**NM**
	Overall Intersection			***A (0.1)***	***NM***		***A (0.1)***	***NM***

NM = No Mitigation

		SAT Peak Hour						
Intersection		Millers Run Road (SR 0050) with Site Drive A						
Millers Run Road (SR 0050)		East/West Roadway						
Direction	Approach / Movement	Existing Year 2023	Opening Year 2024 - Without Development	Opening Year 2024 - With Development	Opening Year 2024 - With Development & Mitigation	Design Year 2029 - Without Development	Design Year 2029 - With Development	Design Year 2029 - With Development & Mitigation
Eastbound	Left Turn							
	Through			FREE	NM		FREE	NM
	Right Turn							
	Approach			**FREE**	**NM**		**FREE**	**NM**
Westbound	Left Turn							
	Through			FREE	NM		FREE	NM
	Right Turn							
	Approach			**FREE**	**NM**		**FREE**	**NM**
Site Drive A		North/South Roadway						
Northbound	Left Turn							
	Through							
	Right Turn							
	Approach							
Southbound	Left Turn							
	Through							
	Right Turn			B (10.8)	NM		B (11.0)	NM
	Approach			**B (10.8)**	**NM**		**B (11.0)**	**NM**
	Overall Intersection			***A (0.1)***	***NM***		***A (0.1)***	***NM***

NM = No Mitigation

Table 1D - Level-of-Service Summary

Intersection		AM Peak Hour						
Millers Run Road (SR 0050)		Millers Run Road (SR 0050) with Site Drive B						
		East/West Roadway						
Direction	Approach / Movement	Existing Year 2023	Opening Year 2024 - Without Development	Opening Year 2024 - With Development	Opening Year 2024 - With Development & Mitigation	Design Year 2029 - Without Development	Design Year 2029 - With Development	Design Year 2029 - With Development & Mitigation
Eastbound	Left Turn							
	Through			FREE	NM		FREE	NM
	Right Turn							
	Approach			**FREE**	**NM**		**FREE**	**NM**
Westbound	Left Turn							
	Through			FREE	NM		FREE	NM
	Right Turn							
	Approach			**FREE**	**NM**		**FREE**	**NM**
Site Drive A		North/South Roadway						
Northbound	Left Turn							
	Through							
	Right Turn							
	Approach							
Southbound	Left Turn							
	Through							
	Right Turn			A (9.8)	NM		A (9.9)	NM
	Approach			**A (9.8)**	**NM**		**A (9.9)**	**NM**
	Overall Intersection			***A (0.0)***	***NM***		***A (0.0)***	***NM***

NM = No Mitigation

Intersection		PM Peak Hour						
Millers Run Road (SR 0050)		Millers Run Road (SR 0050) with Site Drive B						
		East/West Roadway						
Direction	Approach / Movement	Existing Year 2023	Opening Year 2024 - Without Development	Opening Year 2024 - With Development	Opening Year 2024 - With Development & Mitigation	Design Year 2029 - Without Development	Design Year 2029 - With Development	Design Year 2029 - With Development & Mitigation
Eastbound	Left Turn							
	Through			FREE	NM		FREE	NM
	Right Turn							
	Approach			**FREE**	**NM**		**FREE**	**NM**
Westbound	Left Turn							
	Through			FREE	NM		FREE	NM
	Right Turn							
	Approach			**FREE**	**NM**		**FREE**	**NM**
Site Drive A		North/South Roadway						
Northbound	Left Turn							
	Through							
	Right Turn							
	Approach							
Southbound	Left Turn							
	Through							
	Right Turn			B (11.8)	NM		B (12.0)	NM
	Approach			**B (11.8)**	**NM**		**B (12.0)**	**NM**
	Overall Intersection			***A (0.2)***	***NM***		***A (0.2)***	***NM***

NM = No Mitigation

Intersection		SAT Peak Hour						
Millers Run Road (SR 0050)		Millers Run Road (SR 0050) with Site Drive B						
		East/West Roadway						
Direction	Approach / Movement	Existing Year 2023	Opening Year 2024 - Without Development	Opening Year 2024 - With Development	Opening Year 2024 - With Development & Mitigation	Design Year 2029 - Without Development	Design Year 2029 - With Development	Design Year 2029 - With Development & Mitigation
Eastbound	Left Turn							
	Through			FREE	NM		FREE	NM
	Right Turn							
	Approach			**FREE**	**NM**		**FREE**	**NM**
Westbound	Left Turn							
	Through			FREE	NM		FREE	NM
	Right Turn							
	Approach			**FREE**	**NM**		**FREE**	**NM**
Site Drive A		North/South Roadway						
Northbound	Left Turn							
	Through							
	Right Turn							
	Approach							
Southbound	Left Turn							
	Through							
	Right Turn			B (11.0)	NM		B (11.1)	NM
	Approach			**B (11.0)**	**NM**		**B (11.1)**	**NM**
	Overall Intersection			***A (0.1)***	***NM***		***A (0.1)***	***NM***

Table 2
Trip Generation Summary

TIME PERIOD	ANTICIPATED TRIP GENERATION		
	IN	OUT	TOTAL
LUC #821 – *Shopping Plaza (40-150k) without Supermarket* – 45,126 SF			
ADT	**1,524**	**1,524**	**3,048**
AM Peak Hour	**48**	**30**	**59**
Primary Trips	*34*	*21*	*55*
Pass-By Trips (26%)	*14*	*9*	*13*
PM Peak Hour	**115**	**119**	**234**
Primary Trips	*69*	*71*	*140*
Pass-By Trips (36%)	*46*	*48*	*94*
SAT Peak Hour	**131**	**120**	**251**
Primary Trips	*90*	*83*	*173*
Pass-By Trips (26%)	*41*	*37*	*78*

Table 3A - Queue Summary

Intersection		AM Peak Hour Millers Run Road (SR 0050) with Newbury Drive / Todd A. Miller Drive		
Millers Run Road (SR 0050)		East/West Roadway		
Direction	Approach / Movement	Available Storage Length	Design Year 2029 Without Development *95th Percentile Queue Length*	Design Year 2029 With Development *95th Percentile Queue Length*
Eastbound	Left Turn	225'	50'	81'
	Through		194'	195'
	Through		171'	172'
	Right Turn			
Westbound	Left Turn	200'	113'	126'
	Through		125'	133'
	Through		74'	95'
	Right Turn	350'	11'	25'
Newbury Drive / Todd A. Miller Drive		North/South Roadway		
Northbound	Left Turn		74'	72'
	Through		64'	69'
	Right Turn		37'	29'
Southbound	Left Turn	375'	115'	110'
	Left Turn		142'	134'
	Through		91'	81'
	Right Turn			

Intersection		PM Peak Hour Millers Run Road (SR 0050) with Newbury Drive / Todd A. Miller Drive		
Millers Run Road (SR 0050)		East/West Roadway		
Direction	Approach / Movement	Available Storage Length	Design Year 2029 Without Development *95th Percentile Queue Length*	Design Year 2029 With Development *95th Percentile Queue Length*
Eastbound	Left Turn	225'	73'	99'
	Through		170'	163'
	Through		135'	148'
	Right Turn			
Westbound	Left Turn	200'	121'	112'
	Through		202'	217'
	Through		159'	178'
	Right Turn	350'	32'	52'
Newbury Drive / Todd A. Miller Drive		North/South Roadway		
Northbound	Left Turn		87'	86'
	Through		69'	67'
	Right Turn		48'	43'
Southbound	Left Turn	375'	154'	171'
	Left Turn		181'	198'
	Through		116'	124'
	Right Turn			

Intersection		SAT Peak Hour Millers Run Road (SR 0050) with Newbury Drive / Todd A. Miller Drive		
Millers Run Road (SR 0050)		East/West Roadway		
Direction	Approach / Movement	Available Storage Length	Design Year 2029 Without Development *95th Percentile Queue Length*	Design Year 2029 With Development *95th Percentile Queue Length*
Eastbound	Left Turn	225'	79'	109'
	Through		169'	163'
	Through		147'	142'
	Right Turn			
Westbound	Left Turn	200'	104'	103'
	Through		178'	188'
	Through		124'	146'
	Right Turn	350'	49'	58'
Newbury Drive / Todd A. Miller Drive		North/South Roadway		
Northbound	Left Turn		91'	91'
	Through		72'	70'
	Right Turn		34'	44'
Southbound	Left Turn	375'	155'	176'
	Left Turn		180'	202'
	Through		116'	118'
	Right Turn			

Table 3B - Queue Summary

Intersection		AM Peak Hour Newbury Drive with Plaza Access / Site Drive C		
Plaza Access / Site Drive C		East/West Roadway		
Direction	Approach / Movement	Available Storage Length	Design Year 2029 Without Development *95th Percentile Queue Length*	Design Year 2029 With Development *95th Percentile Queue Length*
Eastbound	Left Turn			17'
	Through			
	Right Turn			
Westbound	Left Turn		39'	49'
	Through			
	Right Turn			
Newbury Drive		North/South Roadway		
Northbound	Left Turn			24'
	Through		0'	
	Through		3'	0'
	Right Turn			
Southbound	Left Turn		30'	20'
	Through			
	Through		0'	0'
	Right Turn			

Intersection		PM Peak Hour Newbury Drive with Plaza Access / Site Drive C		
Plaza Access / Site Drive C		East/West Roadway		
Direction	Approach / Movement	Available Storage Length	Design Year 2029 Without Development *95th Percentile Queue Length*	Design Year 2029 With Development *95th Percentile Queue Length*
Eastbound	Left Turn			39'
	Through			
	Right Turn			
Westbound	Left Turn		60'	68'
	Through			
	Right Turn			
Newbury Drive		North/South Roadway		
Northbound	Left Turn			44'
	Through		0'	
	Through		0'	3'
	Right Turn			
Southbound	Left Turn		37'	23'
	Through			
	Through		0'	3'
	Right Turn			

Intersection		SAT Peak Hour Newbury Drive with Plaza Access / Site Drive C		
Plaza Access / Site Drive C		East/West Roadway		
Direction	Approach / Movement	Available Storage Length	Design Year 2029 Without Development *95th Percentile Queue Length*	Design Year 2029 With Development *95th Percentile Queue Length*
Eastbound	Left Turn			47'
	Through			
	Right Turn			
Westbound	Left Turn		92'	143'
	Through			
	Right Turn			
Newbury Drive		North/South Roadway		
Northbound	Left Turn			51'
	Through		0'	
	Through		9'	5'
	Right Turn			
Southbound	Left Turn		51'	37'
	Through			
	Through		0'	6'
	Right Turn			

Table 3C - Queue Summary

Intersection		AM Peak Hour Millers Run Road (SR 0050) with Site Drive A		
Millers Run Road (SR 0050)		East/West Roadway		
Direction	Approach / Movement	Available Storage Length	Design Year 2029 Without Development *95th Percentile Queue Length*	Design Year 2029 With Development *95th Percentile Queue Length*
Eastbound	Left Turn			
	Through			0'
	Through			0'
	Right Turn			
Westbound	Left Turn			
	Through			0'
	Through			0'
	Right Turn			
Site Drive A		North/South Roadway		
Northbound	Left Turn			
	Through			
	Right Turn			
Southbound	Left Turn			
	Through			
	Right Turn			0'

Intersection		PM Peak Hour Millers Run Road (SR 0050) with Site Drive A		
Millers Run Road (SR 0050)		East/West Roadway		
Direction	Approach / Movement	Available Storage Length	Design Year 2029 Without Development *95th Percentile Queue Length*	Design Year 2029 With Development *95th Percentile Queue Length*
Eastbound	Left Turn			
	Through			0'
	Through			0'
	Right Turn			
Westbound	Left Turn			
	Through			0'
	Through			0'
	Right Turn			
Site Drive A		North/South Roadway		
Northbound	Left Turn			
	Through			
	Right Turn			
Southbound	Left Turn			
	Through			
	Right Turn			7'

Intersection		SAT Peak Hour Millers Run Road (SR 0050) with Site Drive A		
Millers Run Road (SR 0050)		East/West Roadway		
Direction	Approach / Movement	Available Storage Length	Design Year 2029 Without Development *95th Percentile Queue Length*	Design Year 2029 With Development *95th Percentile Queue Length*
Eastbound	Left Turn			
	Through			0'
	Through			0'
	Right Turn			
Westbound	Left Turn			
	Through			0'
	Through			0'
	Right Turn			
Site Drive A		North/South Roadway		
Northbound	Left Turn			
	Through			
	Right Turn			
Southbound	Left Turn			
	Through			
	Right Turn			5'

Table 3D - Queue Summary

Intersection		AM Peak Hour Millers Run Road (SR 0050) with Site Drive B		
Millers Run Road (SR 0050)		East/West Roadway		
Direction	Approach / Movement	Available Storage Length	Design Year 2029 Without Development *95th Percentile Queue Length*	Design Year 2029 With Development *95th Percentile Queue Length*
Eastbound	Left Turn			
	Through			0'
	Through			0'
	Right Turn			
Westbound	Left Turn			
	Through			0'
	Through			0'
	Right Turn			
Site Drive B		North/South Roadway		
Northbound	Left Turn			
	Through			
	Right Turn			
Southbound	Left Turn			
	Through			
	Right Turn			0'

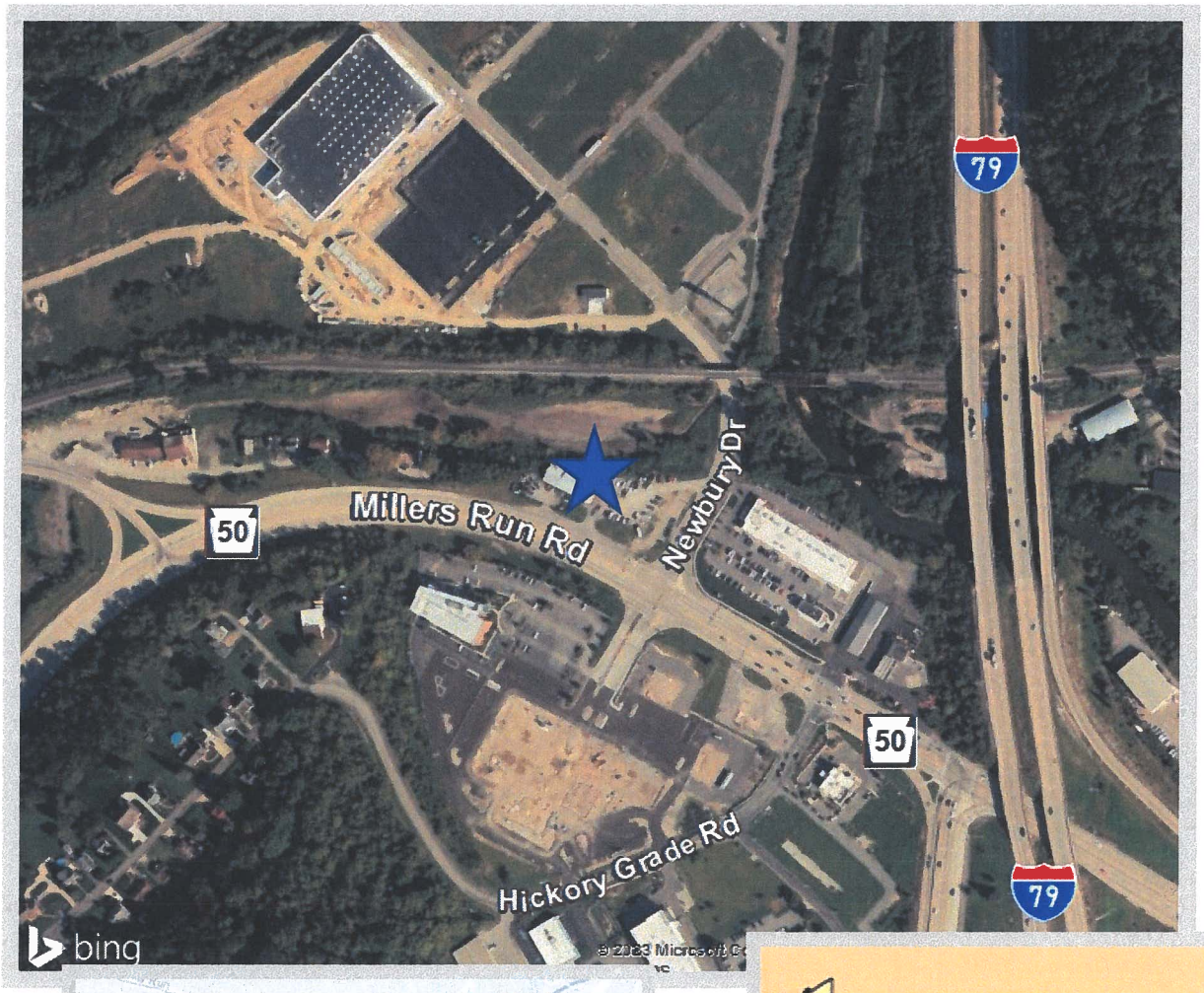
Intersection		PM Peak Hour Millers Run Road (SR 0050) with Site Drive B		
Millers Run Road (SR 0050)		East/West Roadway		
Direction	Approach / Movement	Available Storage Length	Design Year 2029 Without Development *95th Percentile Queue Length*	Design Year 2029 With Development *95th Percentile Queue Length*
Eastbound	Left Turn			
	Through			0'
	Through			0'
	Right Turn			
Westbound	Left Turn			
	Through			0'
	Through			0'
	Right Turn			
Site Drive B		North/South Roadway		
Northbound	Left Turn			
	Through			
	Right Turn			
Southbound	Left Turn			
	Through			
	Right Turn			8'

Intersection		SAT Peak Hour Millers Run Road (SR 0050) with Site Drive B		
Millers Run Road (SR 0050)		East/West Roadway		
Direction	Approach / Movement	Available Storage Length	Design Year 2029 Without Development *95th Percentile Queue Length*	Design Year 2029 With Development *95th Percentile Queue Length*
Eastbound	Left Turn			
	Through			0'
	Through			0'
	Right Turn			
Westbound	Left Turn			
	Through			0'
	Through			0'
	Right Turn			
Site Drive B		North/South Roadway		
Northbound	Left Turn			
	Through			
	Right Turn			
Southbound	Left Turn			
	Through			
	Right Turn			9'

REPORT FIGURES

Proposed Development

South Fayette Township, Allegheny County, Pennsylvania

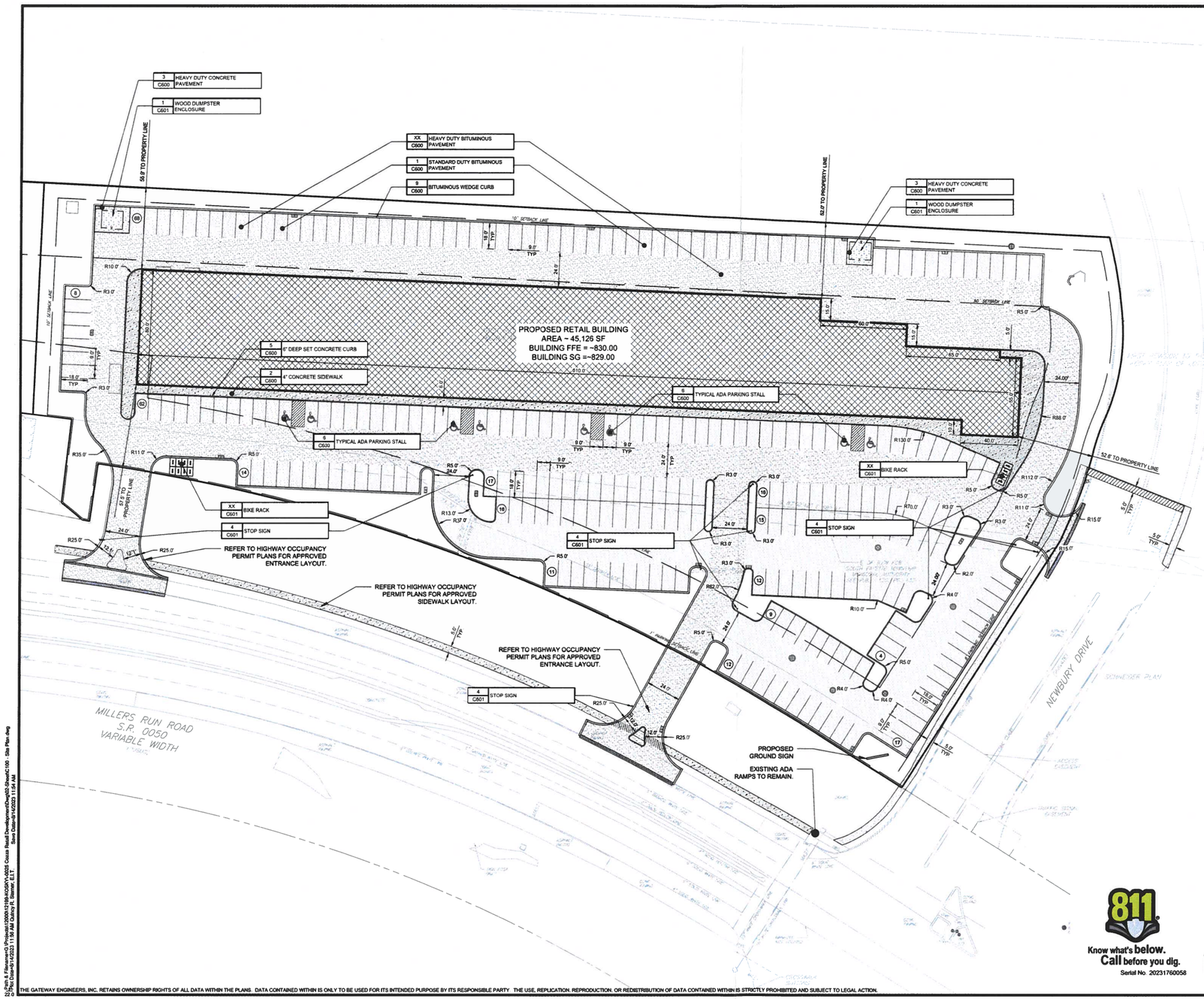






WOOSTER
TRAFFIC ▲ PERMITS ▲ SIGNALS

Figure 1



SITE LEGEND

●	5 C703	PROPOSED 48" STORM MANHOLE
●	0 C000	PROPOSED 48" SANITARY MANHOLE
●	3 C703	PROPOSED CLEANOUT
	1 C703	PROPOSED TYPE 'M' INLET
	7 C403	PROPOSED HEADWALL/ ENDWALL
	15 C601	PROPOSED HYDRANT
	XX C000	PROPOSED LIGHT STANDARD
	10 C600	PROPOSED ADA SYMBOL
	7 C600	PROPOSED CONCRETE WHEEL STOP
●	14 C601	PROPOSED BOLLARD
	XX C000	PROPOSED WALL
	0 C000	PROPOSED DEPRESSED CURB
	2 C600	PROPOSED CONCRETE SIDEWALK
	XX C000	PROPOSED HEAVY DUTY CONCRETE PAVEMENT
	1 C600	PROPOSED STANDARD DUTY BITUMINOUS PAVEMENT
	XX C000	PROPOSED HEAVY DUTY BITUMINOUS PAVEMENT
	XX C000	PROPOSED PAVEMENT PATCH
		PROPOSED UTILITY POLE
0		PROPOSED PARKING COUNT
		PROPOSED SIGN

SITE PLAN NOTES:

1. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR THE EXACT LOCATION OF UTILITY ENTRANCES, BUILDING DIMENSIONS, ROOF LEADERS, EXIT DOORS EXIT RAMPS AND PORCHES.
2. ALL DIMENSIONS ARE TO BUILDING FACE FACE OF CURB OR EDGE OF SIDEWALK UNLESS NOTED OTHERWISE.
3. CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIALS FOR THE INSTALLATION OF SIGNAGE AND PAVEMENT MARKINGS AS SHOWN ON THE CONSTRUCTION PLANS.
4. LABELED DIMENSIONS OVERRIDE SCALED DIMENSIONS
5. ALL NEW MATERIALS AND CONSTRUCTION METHODS MUST MEET PADOT PUBLICATION 408 STANDARDS.
6. CONTRACTOR TO WORK AROUND EXISTING UTILITIES, IF ADJUSTMENTS ARE NECESSARY WORK WILL BE CONSIDERED INCIDENTAL.
7. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE NECESSARY SAFETY MEASURES TO SECURE THE SITE DURING CONSTRUCTION ACTIVITIES.
8. THE GATEWAY ENGINEERS, INC. IS NOT RESPONSIBLE TO INSPECT PROJECT SITES TO ENSURE COMPLIANCE WITH OCCUPATIONAL SAFETY HEALTH ADMINISTRATION (OSHA) STANDARDS.
9. TACK COAT SHALL BE REQUIRED IF PAVING LIFTS ARE NOT COMPLETED WITHIN 3 DAYS OF EACH OTHER, TACK COAT VERTICAL SURFACES ALONG SAW CUT LIMITS
10. ALL NON-LANDSCAPED ISLANDS SHALL BE PAINTED WITH STRIPES 4' WIDE, AT 45° AND 2 FEET O.C. UNLESS OTHERWISE SPECIFIED USE ALKYD-RESIN TYPE, READY MIX COMPLYING WITH AASHTO M248, TYPE I COLOR WHITE.
11. WITHIN THE LIMITS OF THE PROPOSED DRIVEWAYS THE CONTRACTOR SHALL SAW CUT AND REMOVE THE EXISTING PAVEMENT AND THE EXISTING CURB AND SHOULDER. THE CURB SECTION OF THE PROPOSED DRIVEWAYS SHALL BE DEPRESSED ACROSS THE LIMITS OF EACH DRIVEWAY. THE PROPOSED CURB SHALL MATCH INTO THE EXISTING PAVEMENT AT ALL DRIVEWAY LOCATIONS. THE CONTRACTOR SHALL CLEAN CONTACT SURFACES OF ALL EXISTING PAVEMENTS BEFORE PLACEMENT OF PROPOSED ADJACENT PAVEMENT. ALL JOINTS SHALL BE SEALED WITH A 4-INCH STRIP OF PG 64-22.
12. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TRAFFIC CONTROL MEASURES IN ACCORDANCE WITH PA DOT PUBLICATION 213 "WORK ZONE TRAFFIC CONTROL" (LATEST REVISION), AND AS REQUIRED BY LOCAL AGENCIES WHEN WORKING IN AND/OR ALONG STREETS, ROADS, HIGHWAYS, ETC. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO OBTAIN APPROVAL AND COORDINATE WITH LOCAL AND/OR STATE AGENCIES REGARDING THE NEED EXTENT, AND LIMITATIONS ASSOCIATED WITH INSTALLING AND MAINTAINING TRAFFIC CONTROL MEASURES

Know what's below. Call before you dig. Serial No. 20231760058

NORTH

GRAPHIC SCALE

1 15 30 60 120

(IN FEET)
1 inch = 30 ft.

THE GATEWAY ENGINEERS, INC. RETAINS OWNERSHIP RIGHTS OF ALL DATA WITHIN THE PLANS. DATA CONTAINED WITHIN IS ONLY TO BE USED FOR ITS INTENDED PURPOSE BY ITS RESPONSIBLE PARTY. THE USE, REPLICATION, REPRODUCTION, OR REDISTRIBUTION OF DATA CONTAINED WITHIN IS STRICTLY PROHIBITED AND SUBJECT TO LEGAL ACTION.

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GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM
One Chatham Center, Suite 450, Pittsburgh, PA 15219 412.391.9260

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL ENGINEER — JAMES M. GRIFFITH

REVISION RECORD

No	Date	
01	2023-05-05	GRADING PERMIT RESUBMISSION
02	2023-07-07	LANDSCAPE SUBMISSION
03	2023-09-14	LAND DEVELOPMENT SUBMISSION
04	-	-
05	-	-
06	-	-
07	-	-
08	-	-

LAFAYETTE 180
NEWBURY DRIVE
CUDDY, PA 15031

PREPARED FOR:
COZZA ENTERPRISES LLC
1215 BRIGHTON ROAD
PITTSBURGH, PA 15233

SITE PLAN

Project Number: C-12199-0025
Drawing Scale: 1"=30'
Date Issued: AUGUST 2023
Index Number: -
Drawn By: LSR
Checked By: JMG
Project Manager: JMG

C100

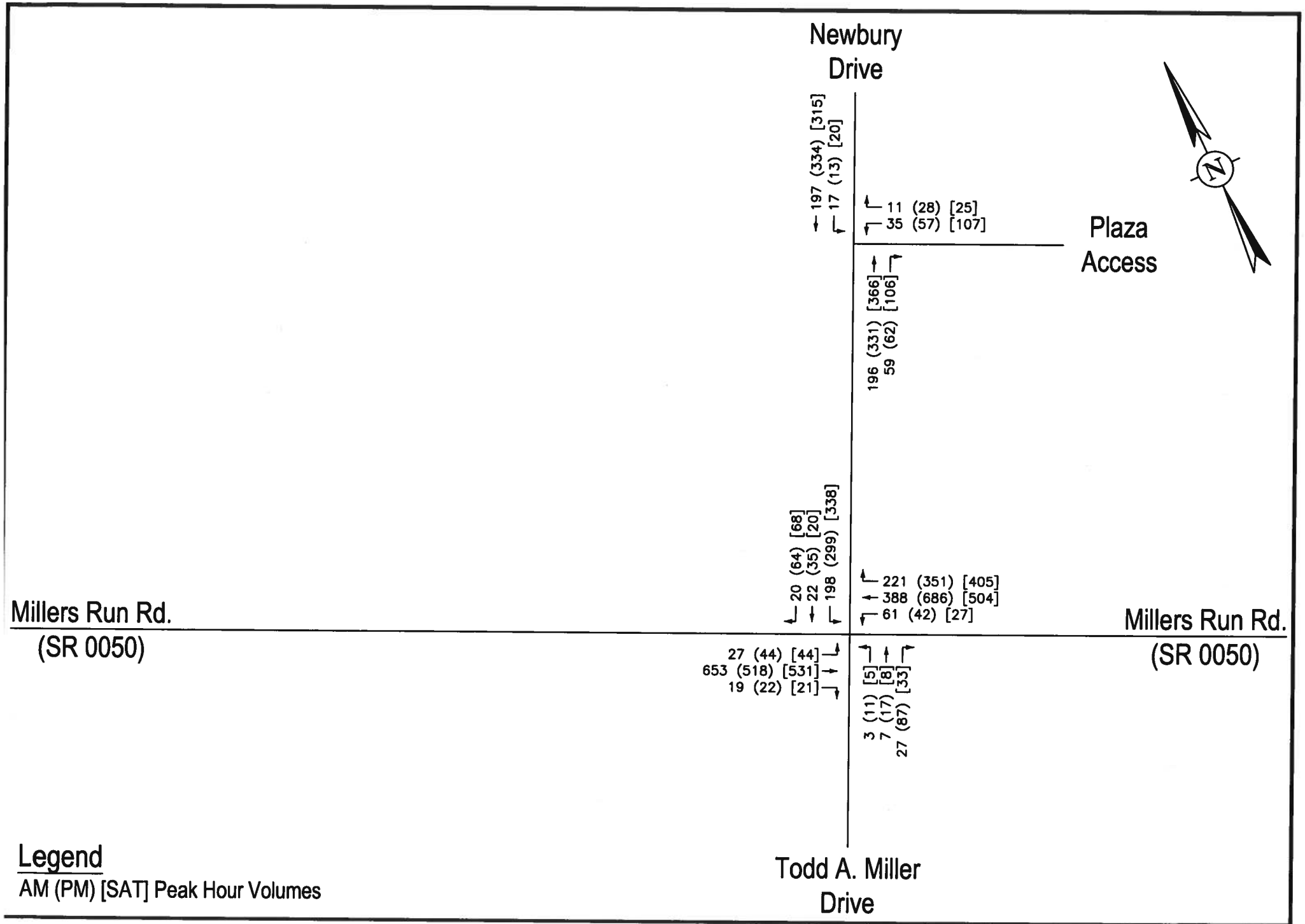
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Base Created: 4/2023 11:54 AM

NOTE:
NOT TO SCALE

PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Preliminary Site Plan

DAVID E. WOOSTER & ASSOC., LLC

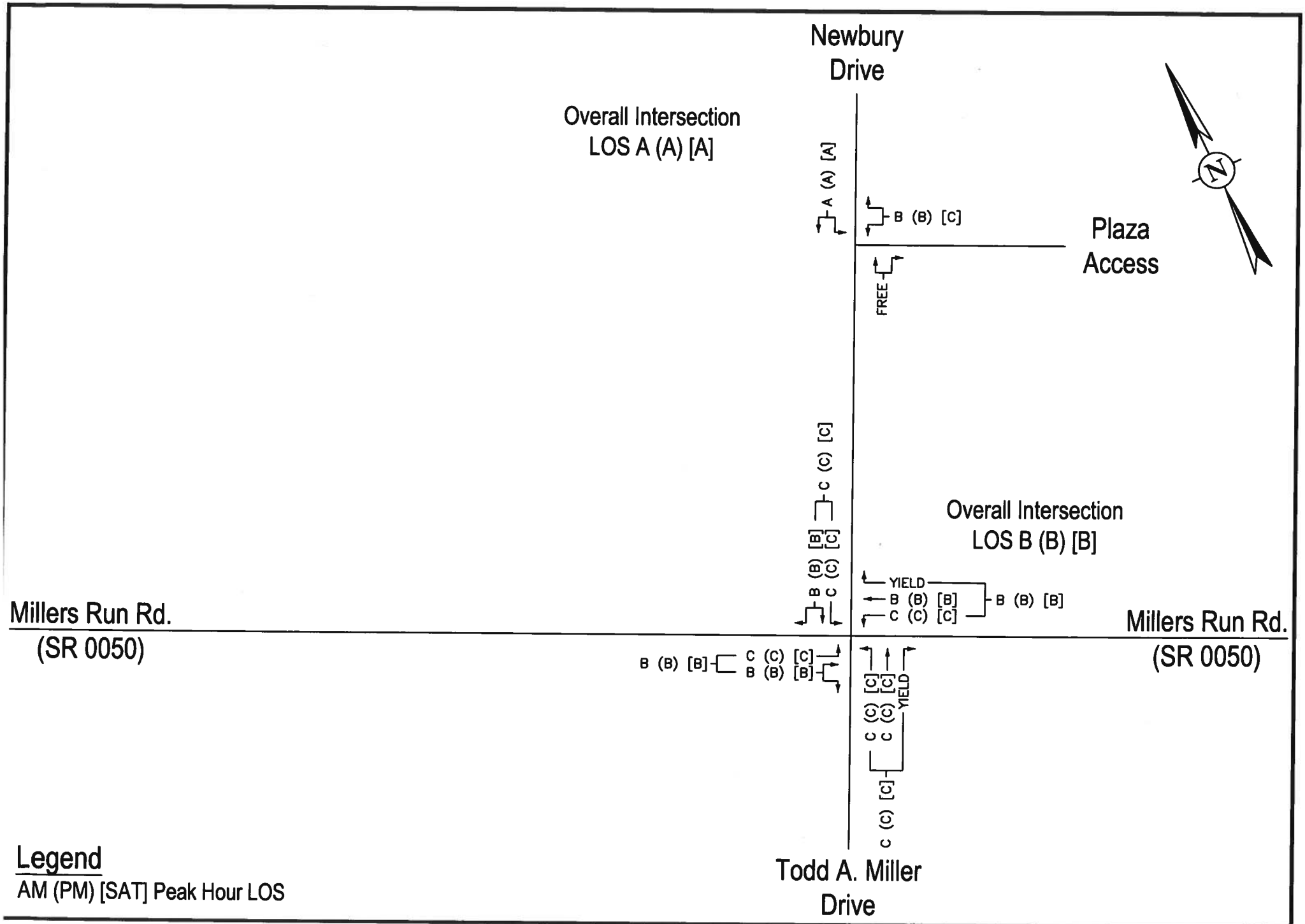
FIGURE 2
4392-092723



PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Existing Year 2023 Condition Peak Hour Traffic Volumes

DAVID E. WOOSTER & ASSOC., LLC

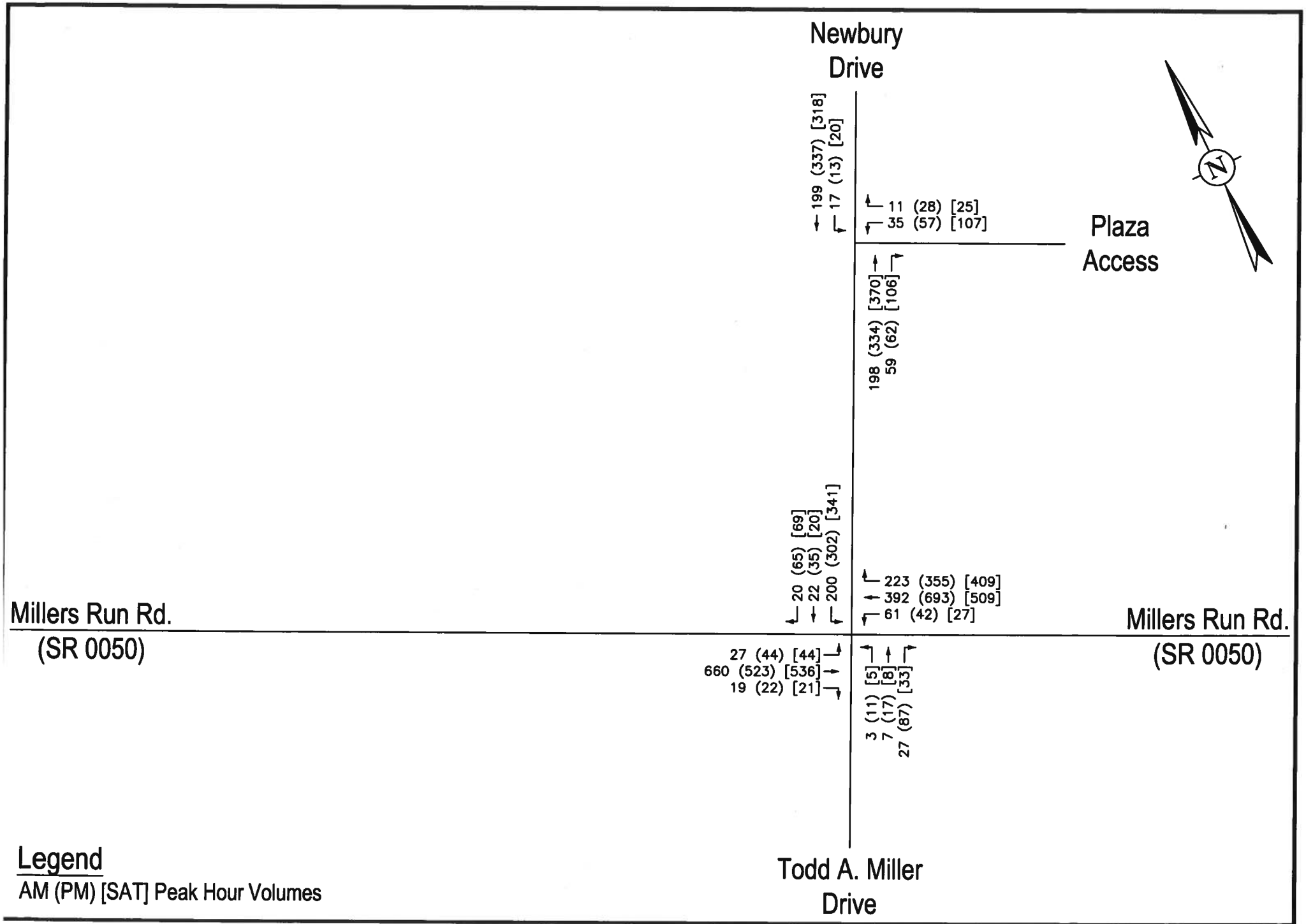
FIGURE 3a
4392-092723



PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Existing Year 2023 Condition Peak Hour LOS

DAVID E. WOOSTER & ASSOC., LLC

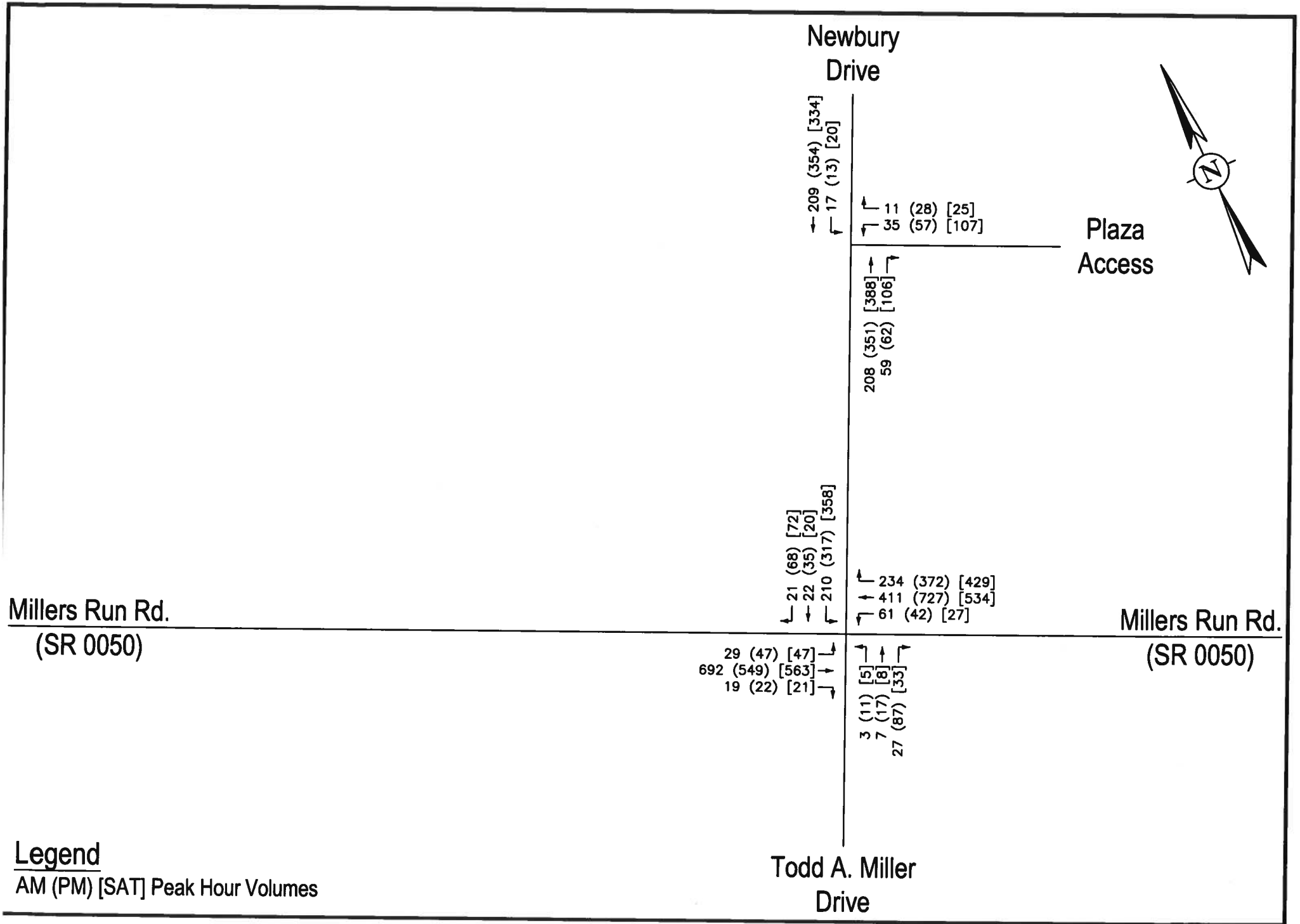
FIGURE 3b
4392-092723



PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Opening Year 2024 Base Condition Peak Hour Traffic Volumes

DAVID E. WOOSTER & ASSOC., LLC

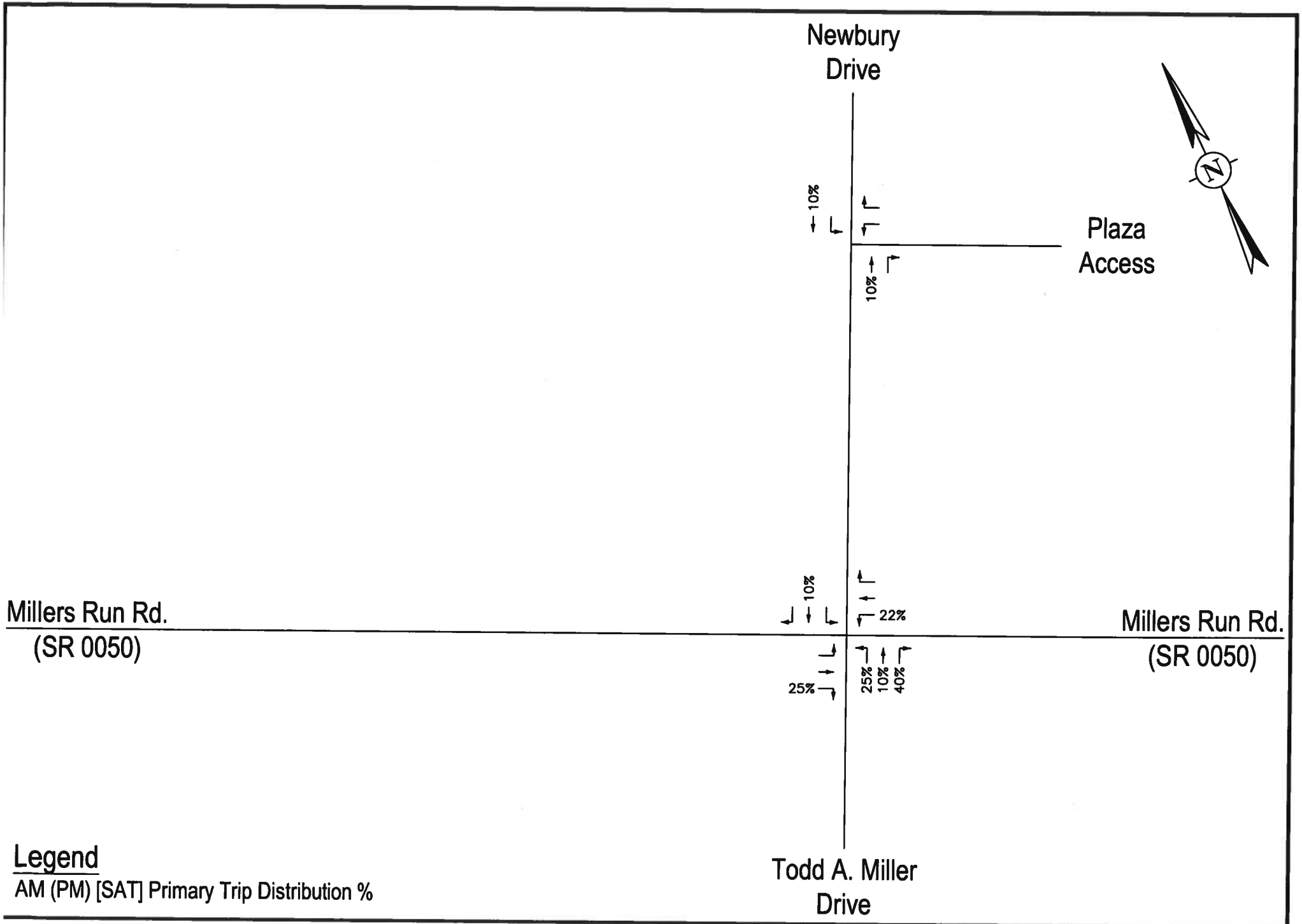
FIGURE 4
4392-092723



PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Design Year 2029 Base Condition Peak Hour Traffic Volumes

DAVID E. WOOSTER & ASSOC., LLC

FIGURE 5
4392-092723



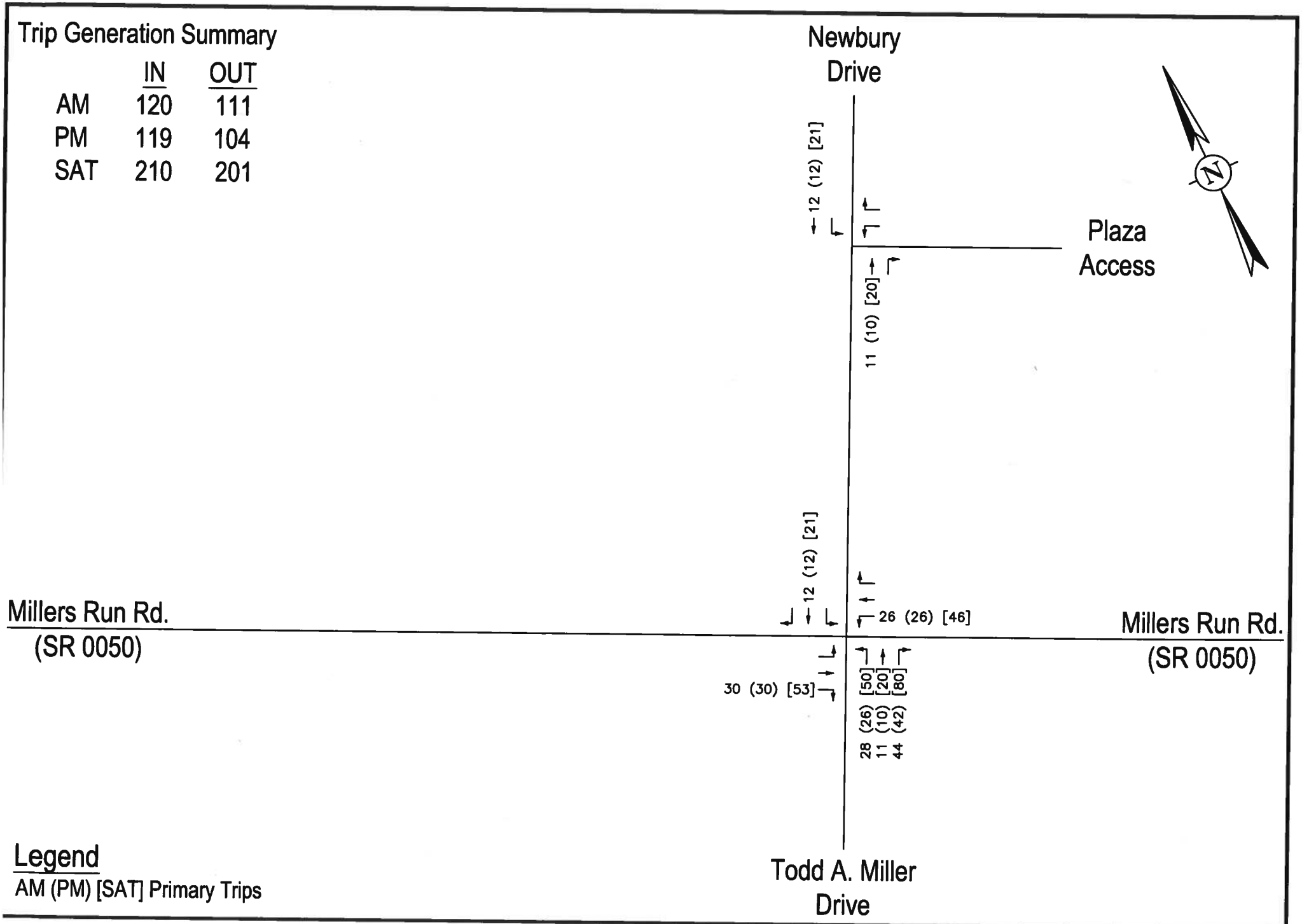
PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Primary Trip Distribution Percentages (The Piazza Retail Development)

DAVID E. WOOSTER & ASSOC., LLC

FIGURE 6a
4392-092723

Trip Generation Summary

	IN	OUT
AM	120	111
PM	119	104
SAT	210	201



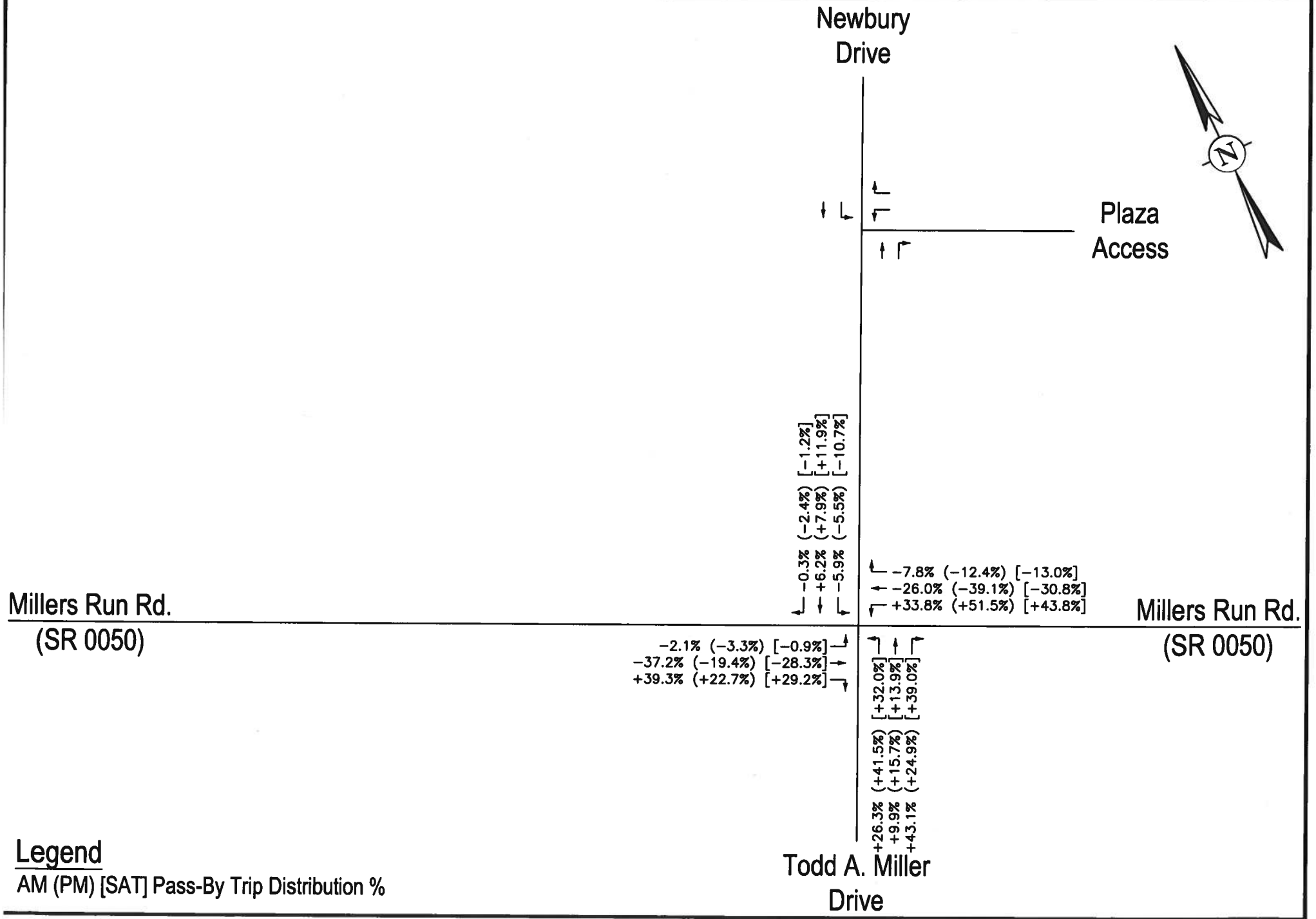
Legend

AM (PM) [SAT] Primary Trips

PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Primary Trips (The Piazza Retail Development)

DAVID E. WOOSTER & ASSOC., LLC

FIGURE 6b
4392-092723



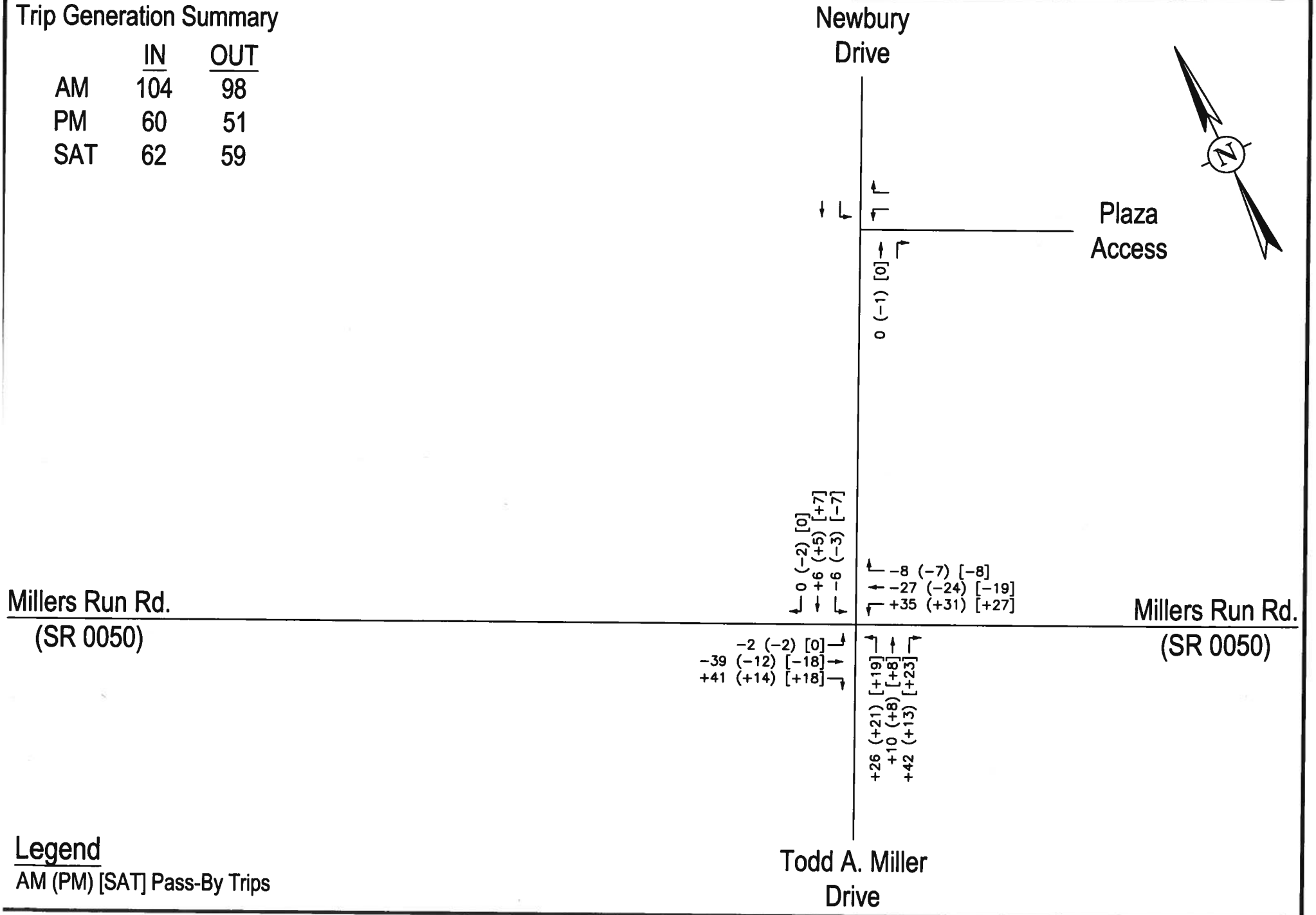
PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Pass–By Trip Distribution Percentages (The Piazza Retail Development)

DAVID E. WOOSTER & ASSOC., LLC

FIGURE 7a
4392-092723

Trip Generation Summary

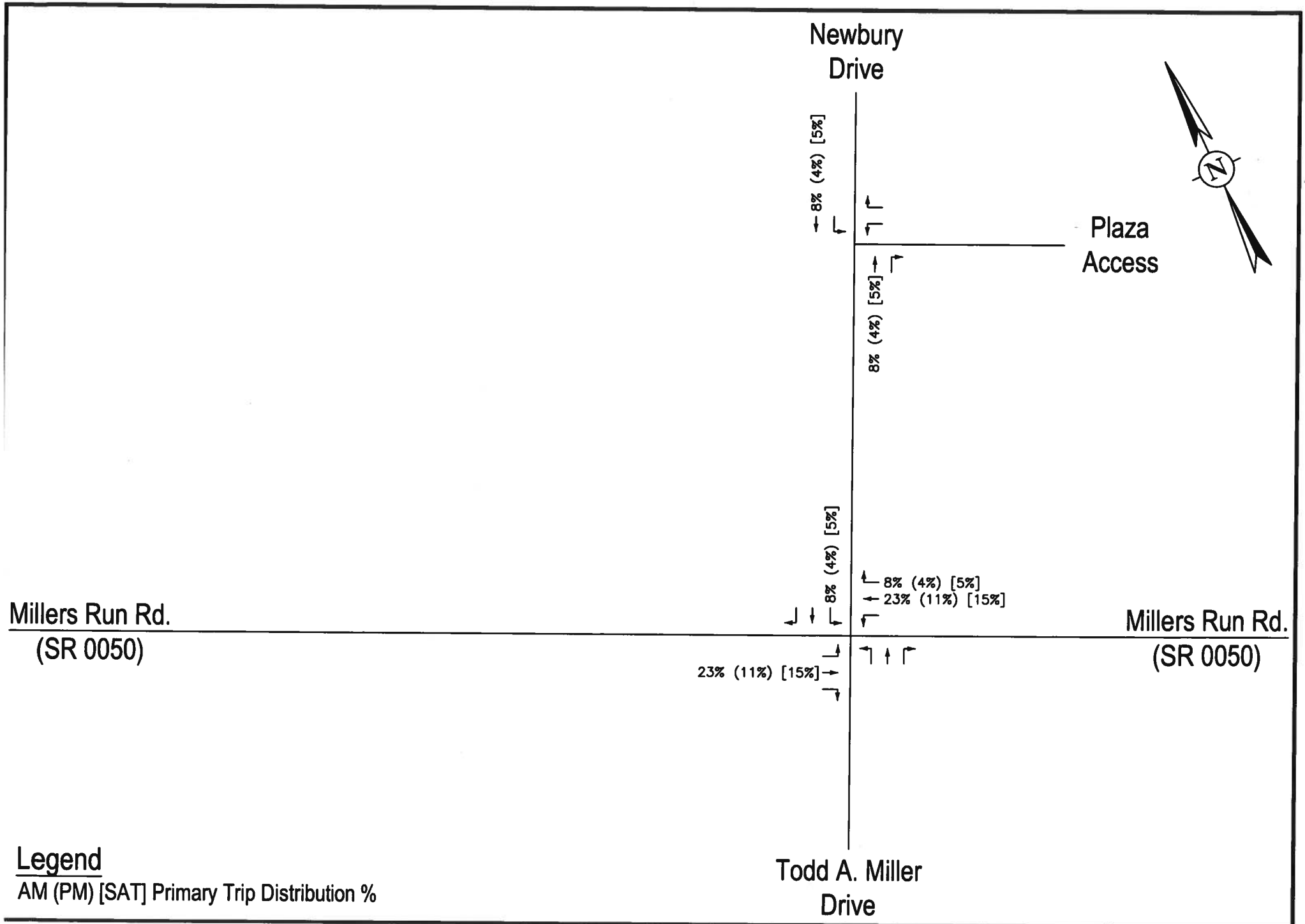
	IN	OUT
AM	104	98
PM	60	51
SAT	62	59



PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Pass–By Trips (The Piazza Retail Development)

DAVID E. WOOSTER & ASSOC., LLC

FIGURE 7b
4392-092723



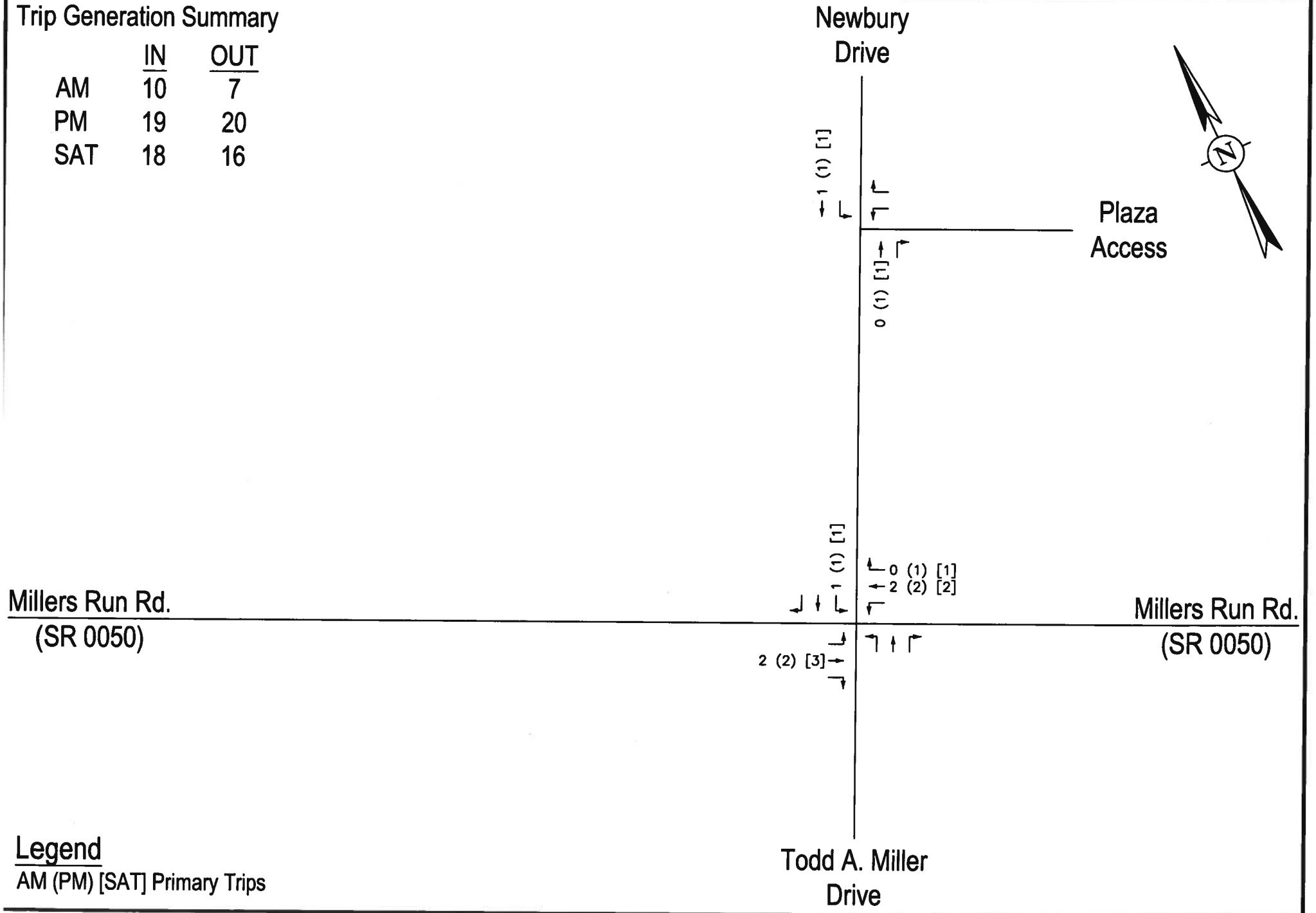
PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Primary Trip Distribution Percentages (South Fayette Commons Development)

DAVID E. WOOSTER & ASSOC., LLC

FIGURE 8a
4392-092723

Trip Generation Summary

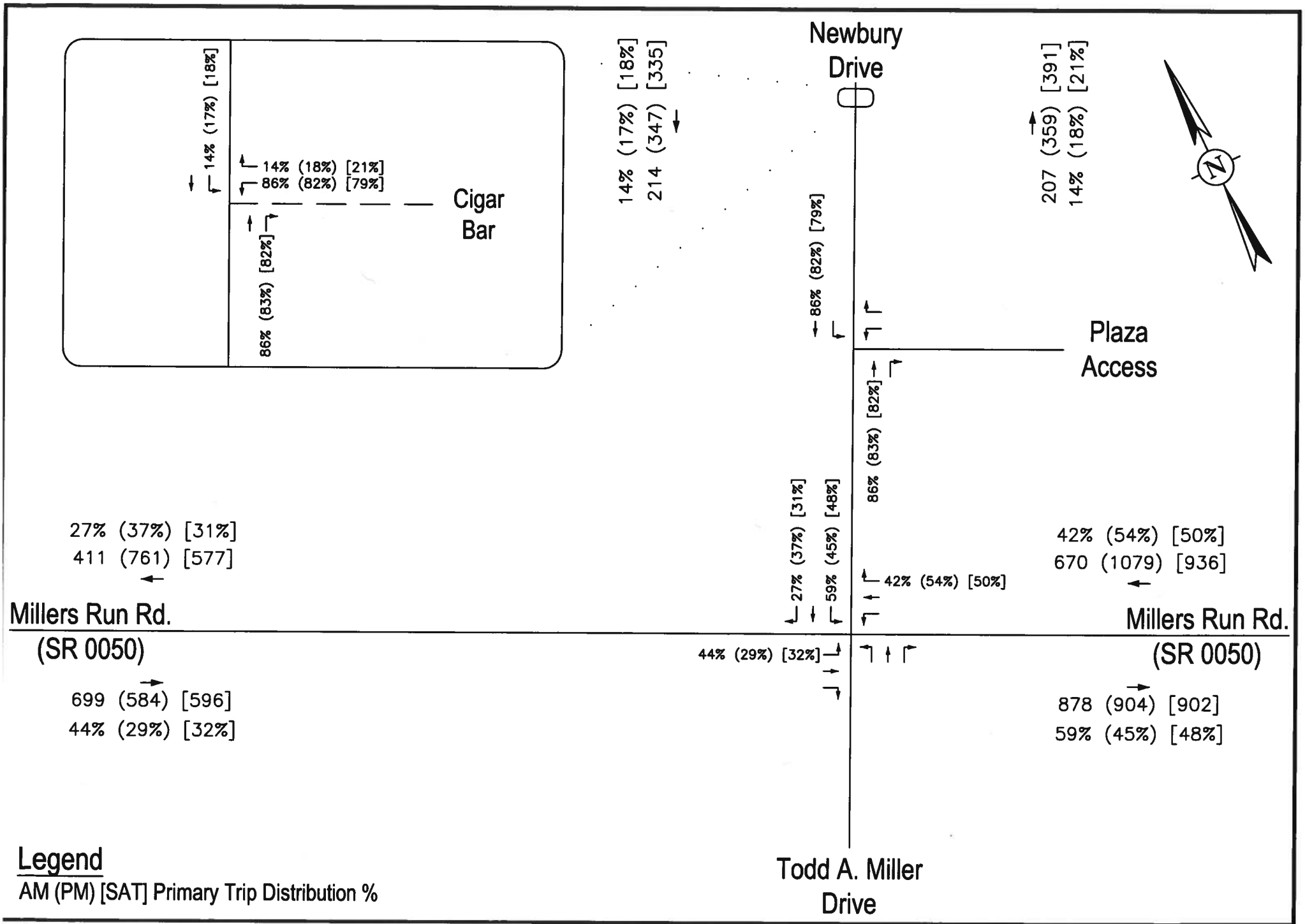
	IN	OUT
AM	10	7
PM	19	20
SAT	18	16



PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Primary Trips (South Fayette Commons Development)

DAVID E. WOOSTER & ASSOC., LLC

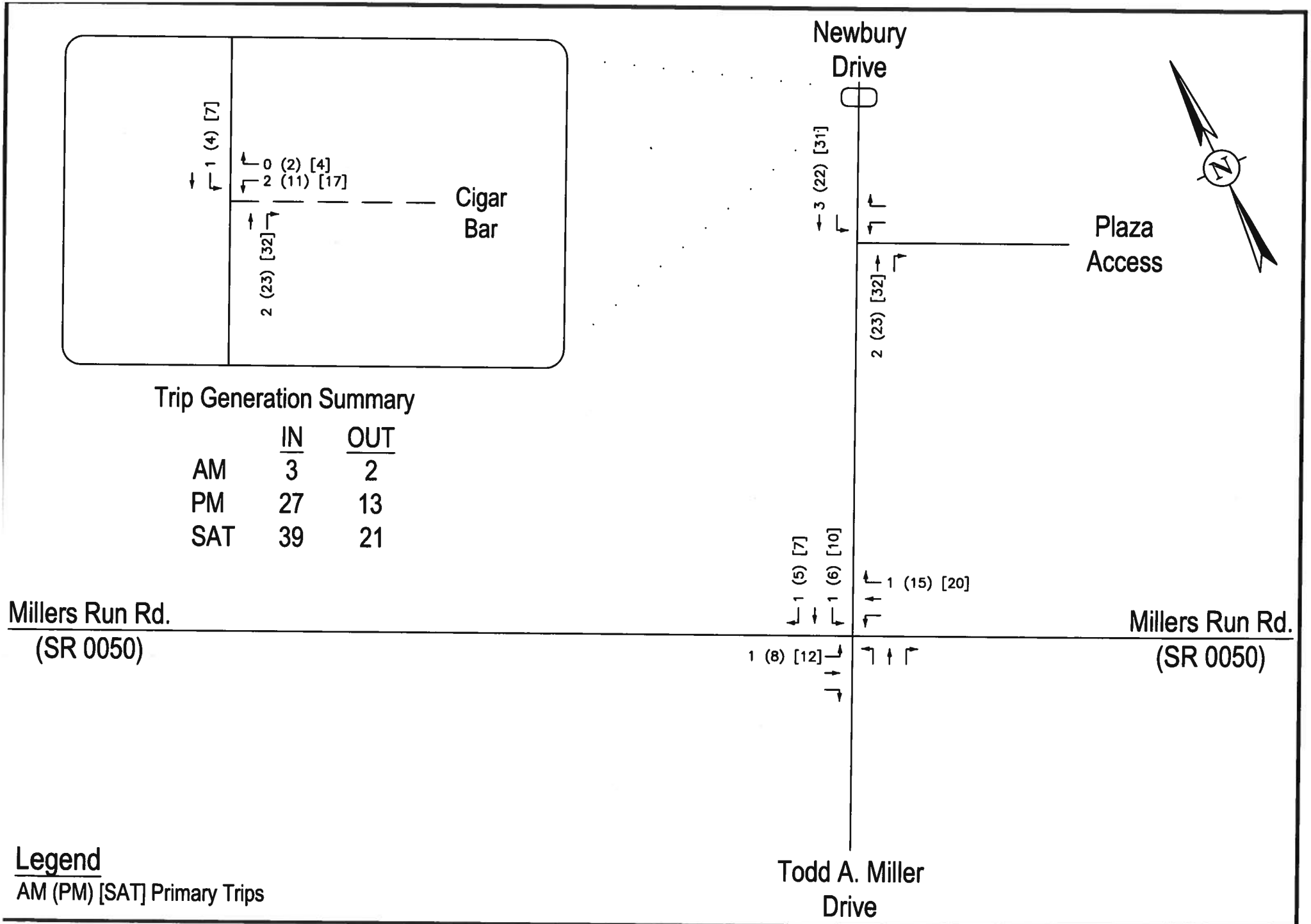
FIGURE 8b
4392-092723



PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Primary Trip Distribution Percentages (Cigar Lounge, Bar & Restaurant Development)

DAVID E. WOOSTER & ASSOC., LLC

FIGURE 9a
4392-092723



Trip Generation Summary

	IN	OUT
AM	3	2
PM	27	13
SAT	39	21

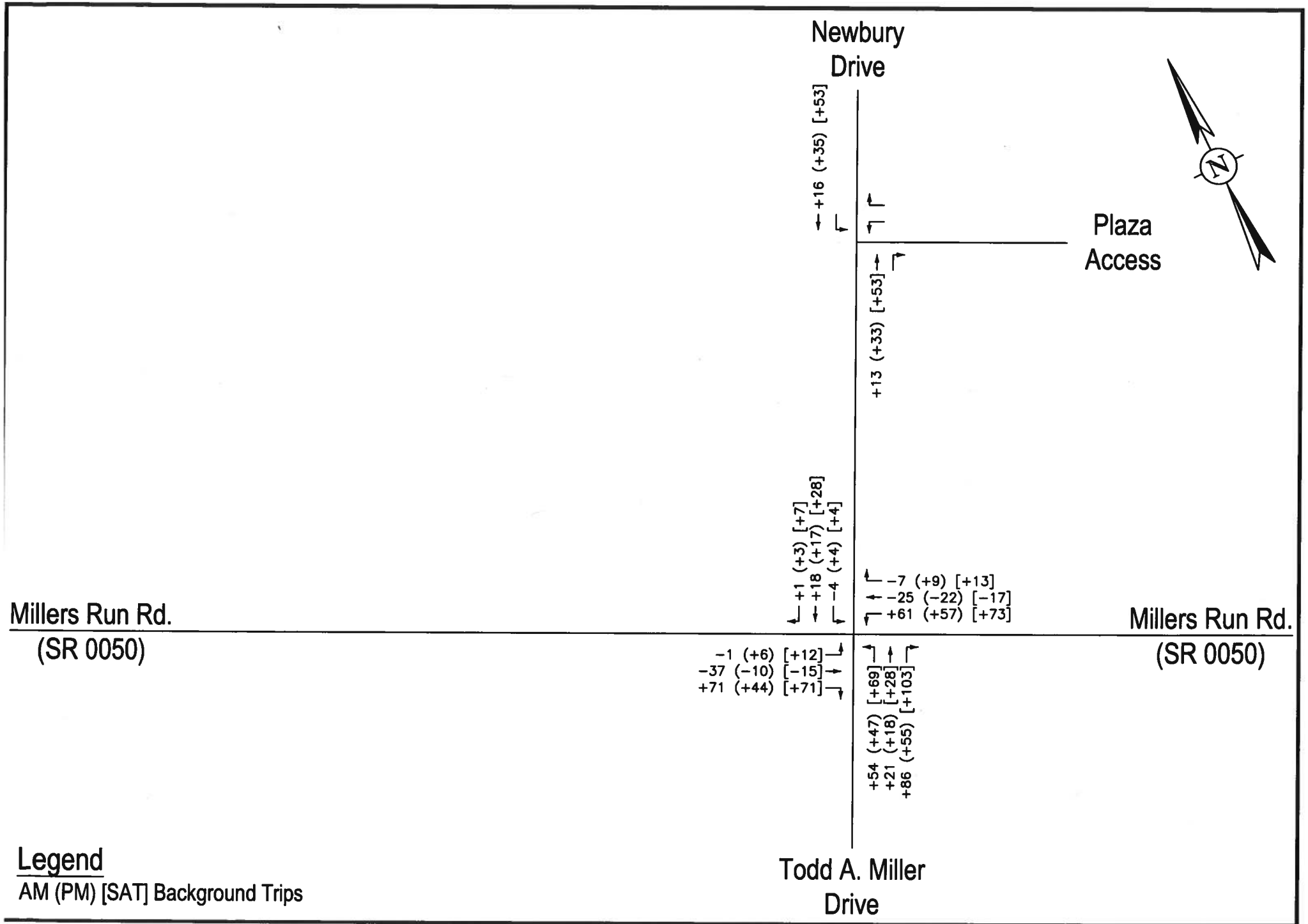
Legend

AM (PM) [SAT] Primary Trips

PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Primary Trips (Cigar Lounge, Bar & Restaurant Development)

DAVID E. WOOSTER & ASSOC., LLC

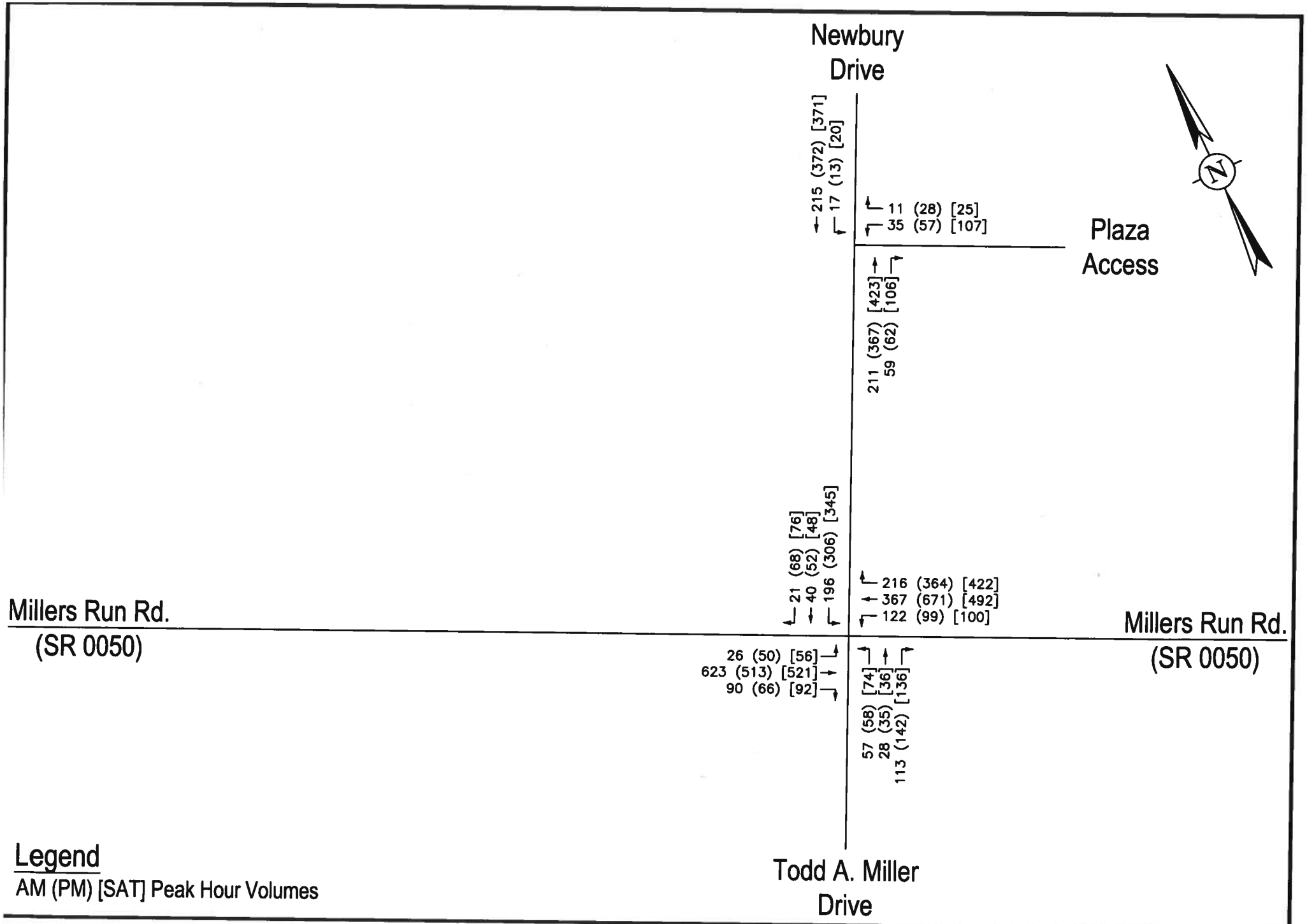
FIGURE 9b
4392-092723



PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Total Background Trips

DAVID E. WOOSTER & ASSOC., LLC

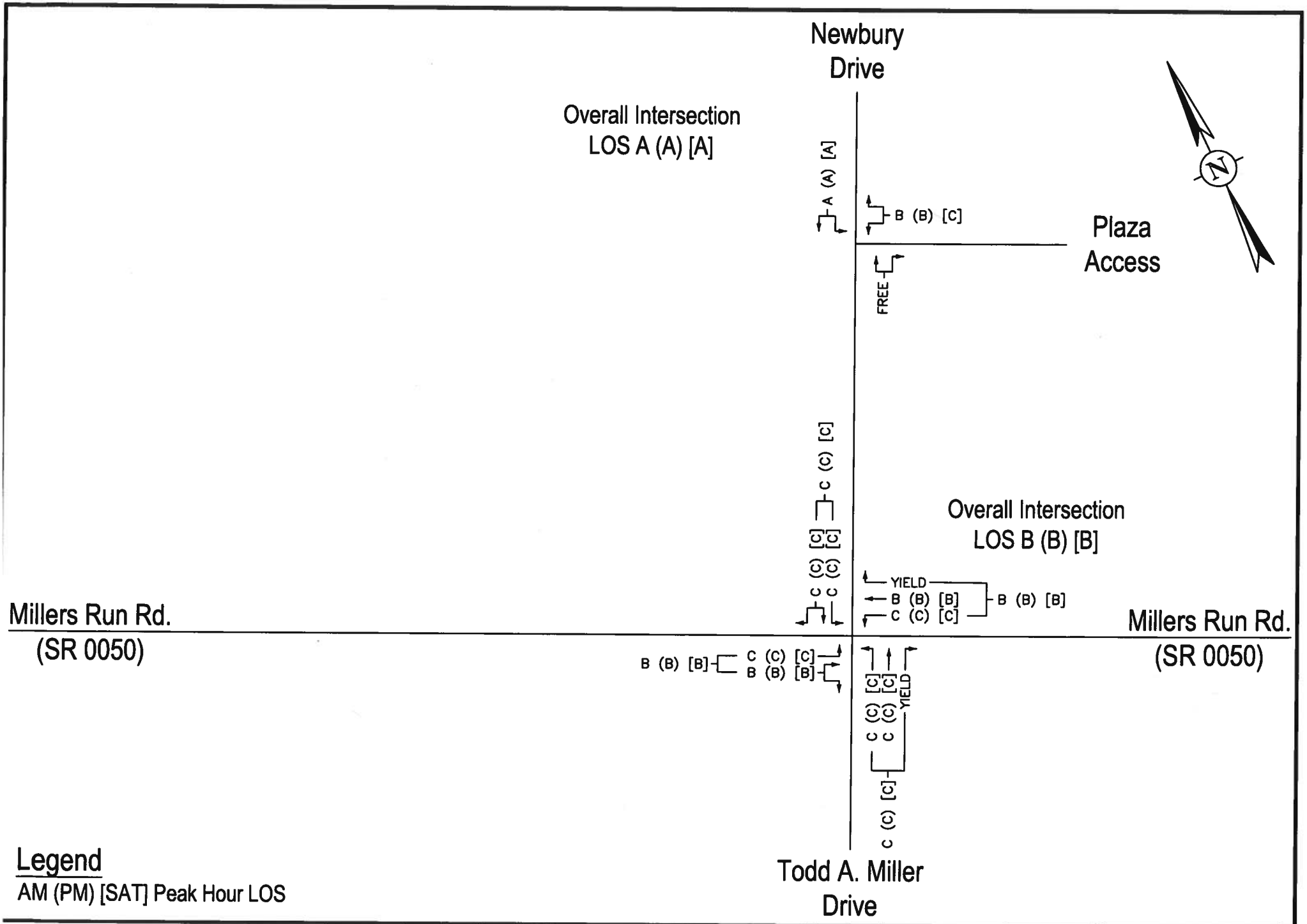
FIGURE 10
4392-092723



PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Opening Year 2024 Without Development Condition Peak Hour Traffic Volumes

DAVID E. WOOSTER & ASSOC., LLC

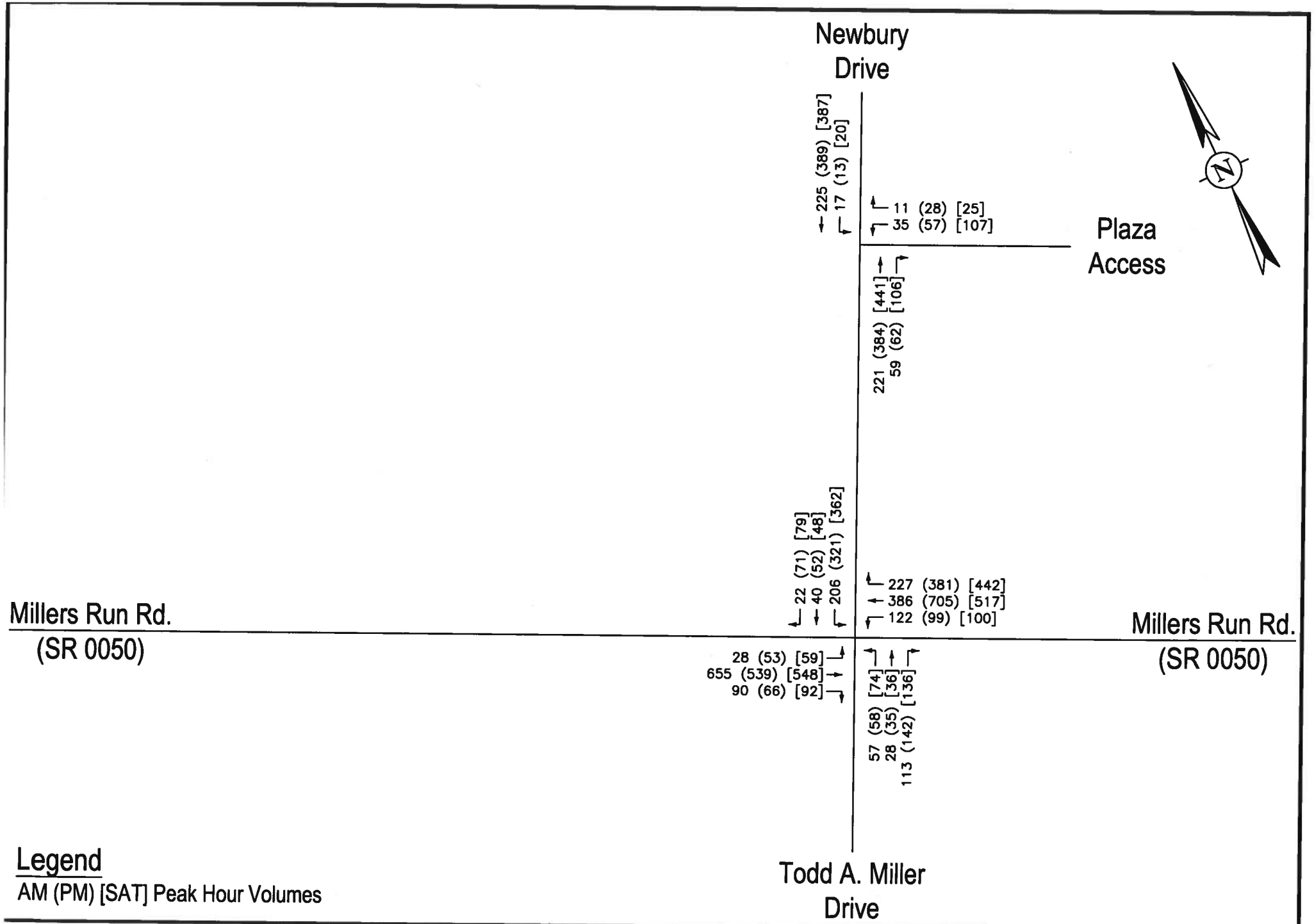
FIGURE 11a
4392-092723



PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Opening Year 2024 Without Development Condition Peak Hour LOS

DAVID E. WOOSTER & ASSOC., LLC

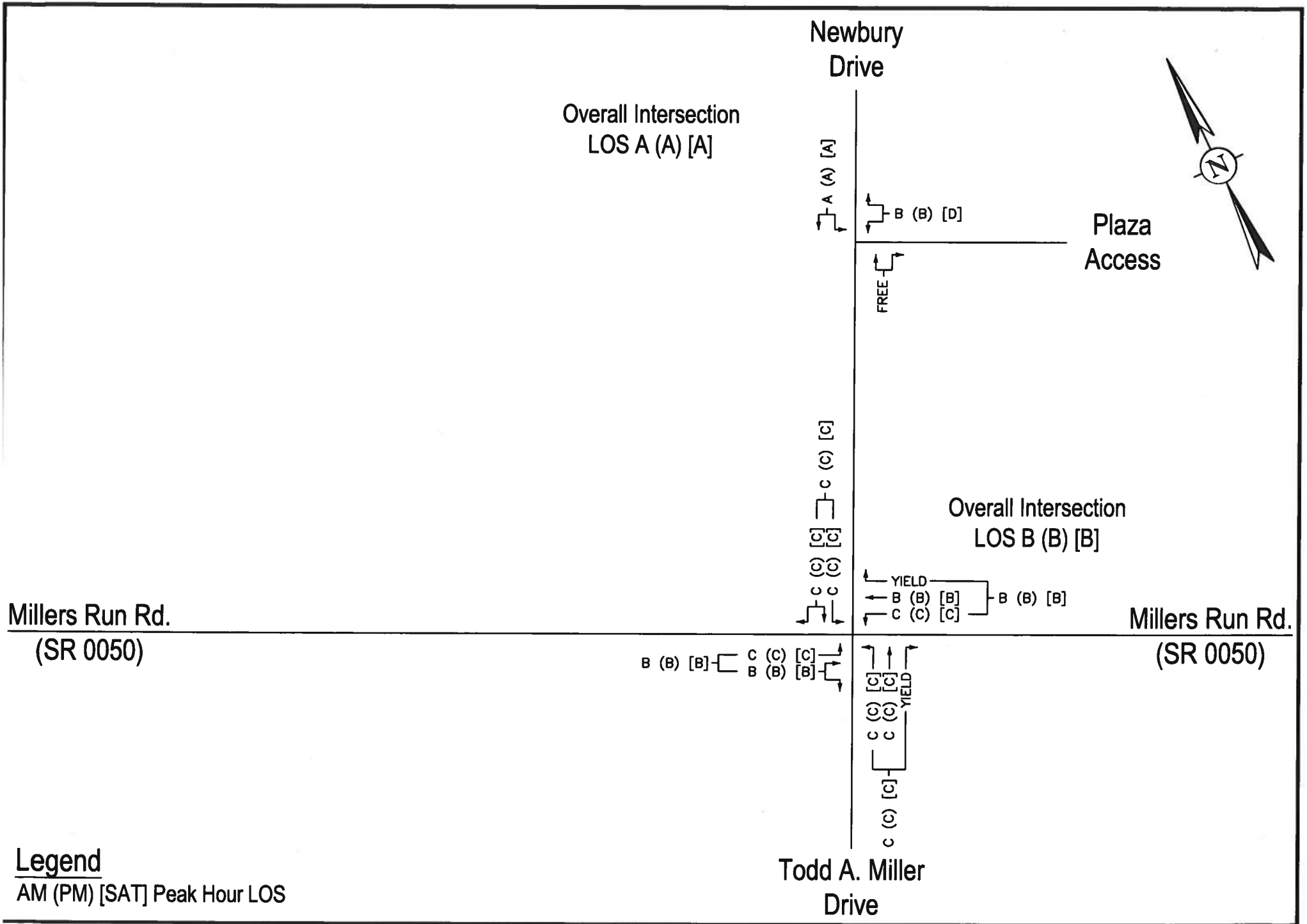
FIGURE 11b
4392-092723



PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Design Year 2029 Without Development Condition Peak Hour Traffic Volumes

DAVID E. WOOSTER & ASSOC., LLC

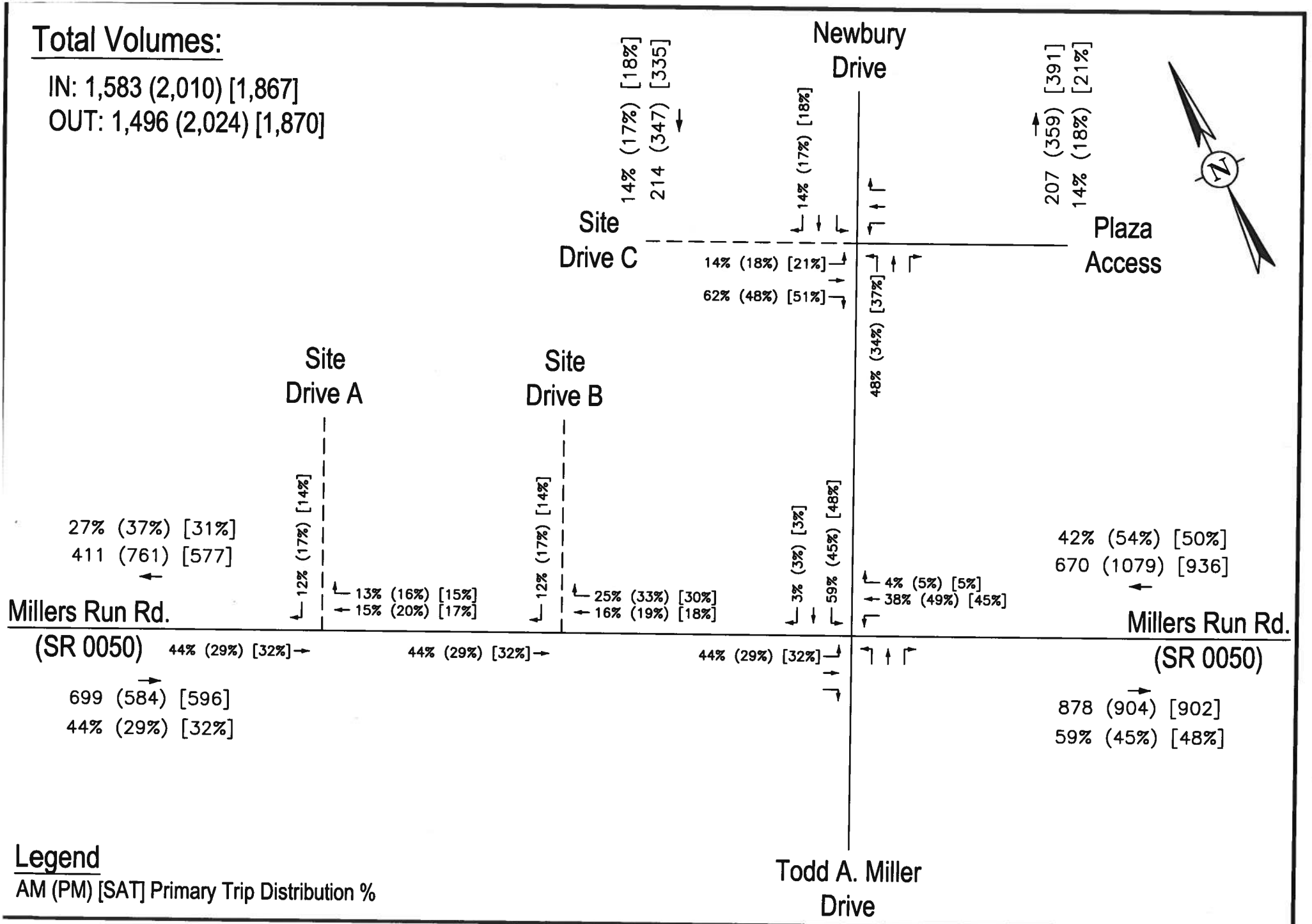
FIGURE 12a
4392-092723



PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Design Year 2029 Without Development Condition Peak Hour LOS

DAVID E. WOOSTER & ASSOC., LLC

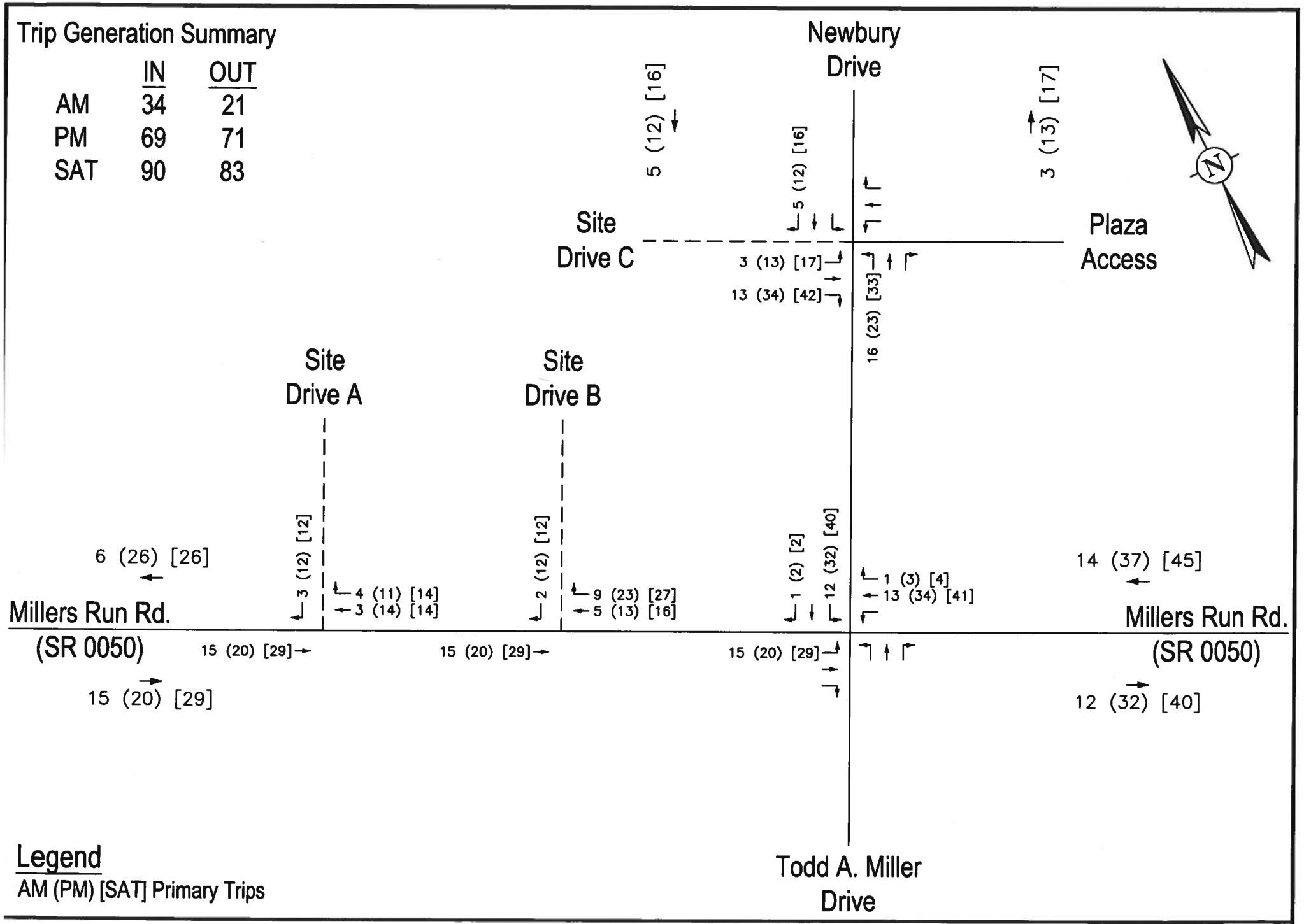
FIGURE 12b
4392-092723



PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Primary Trip Distribution Percentages

DAVID E. WOOSTER & ASSOC., LLC

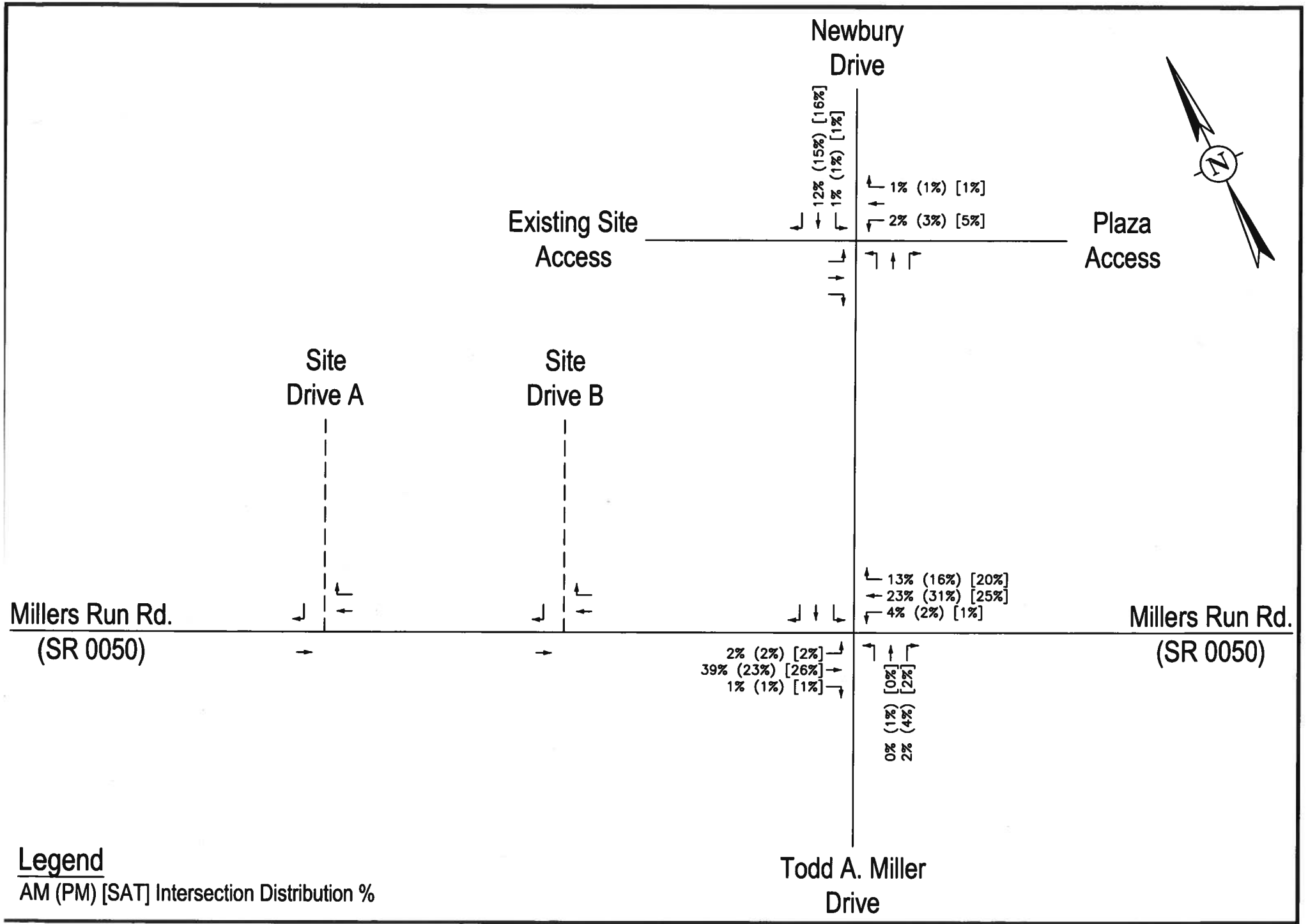
FIGURE 13a
4392-092723



PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Site-Generated Primary Trips

DAVID E. WOOSTER & ASSOC., LLC

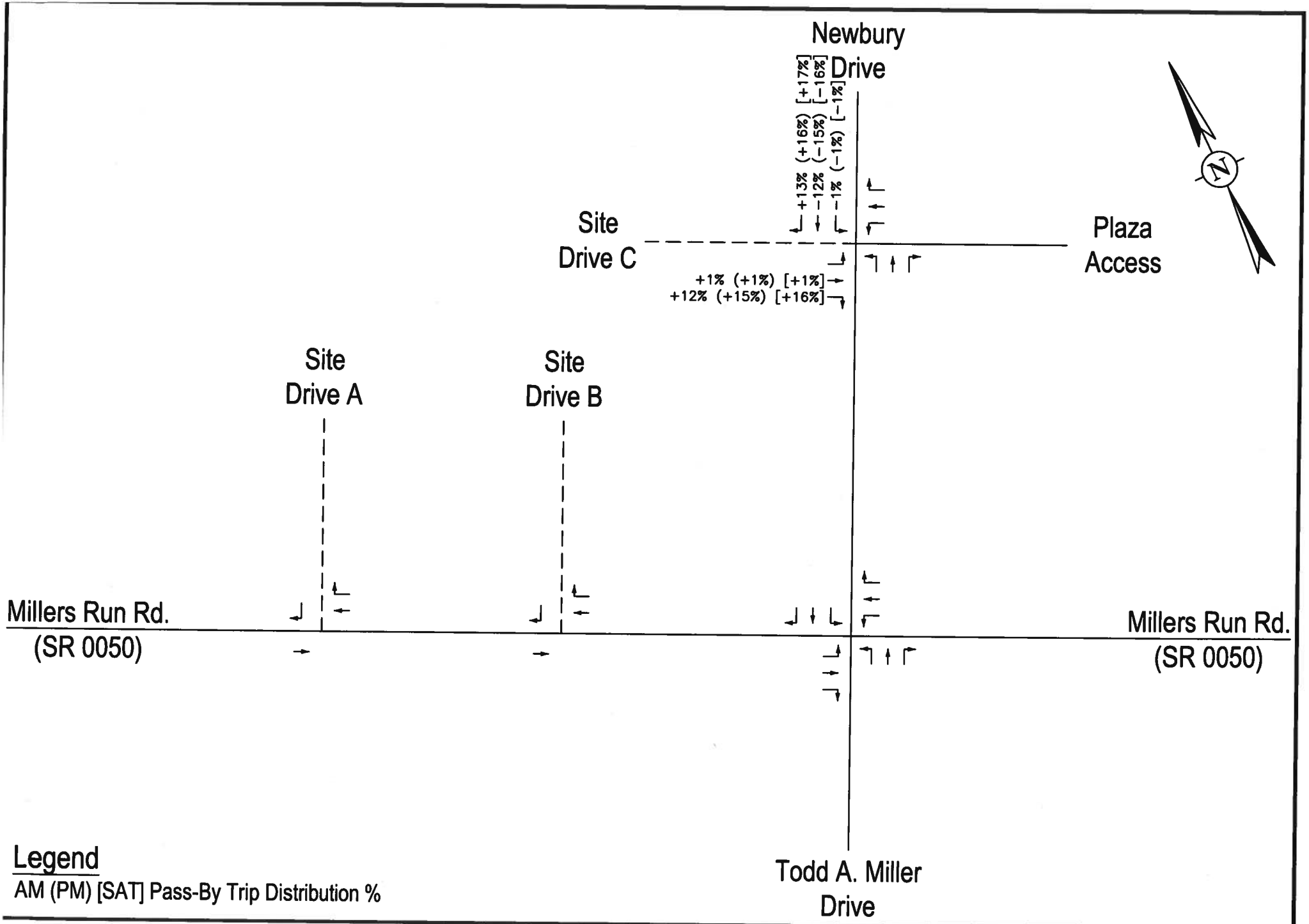
FIGURE 13b
4392-092723



PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Intersection Distribution Percentages

DAVID E. WOOSTER & ASSOC., LLC

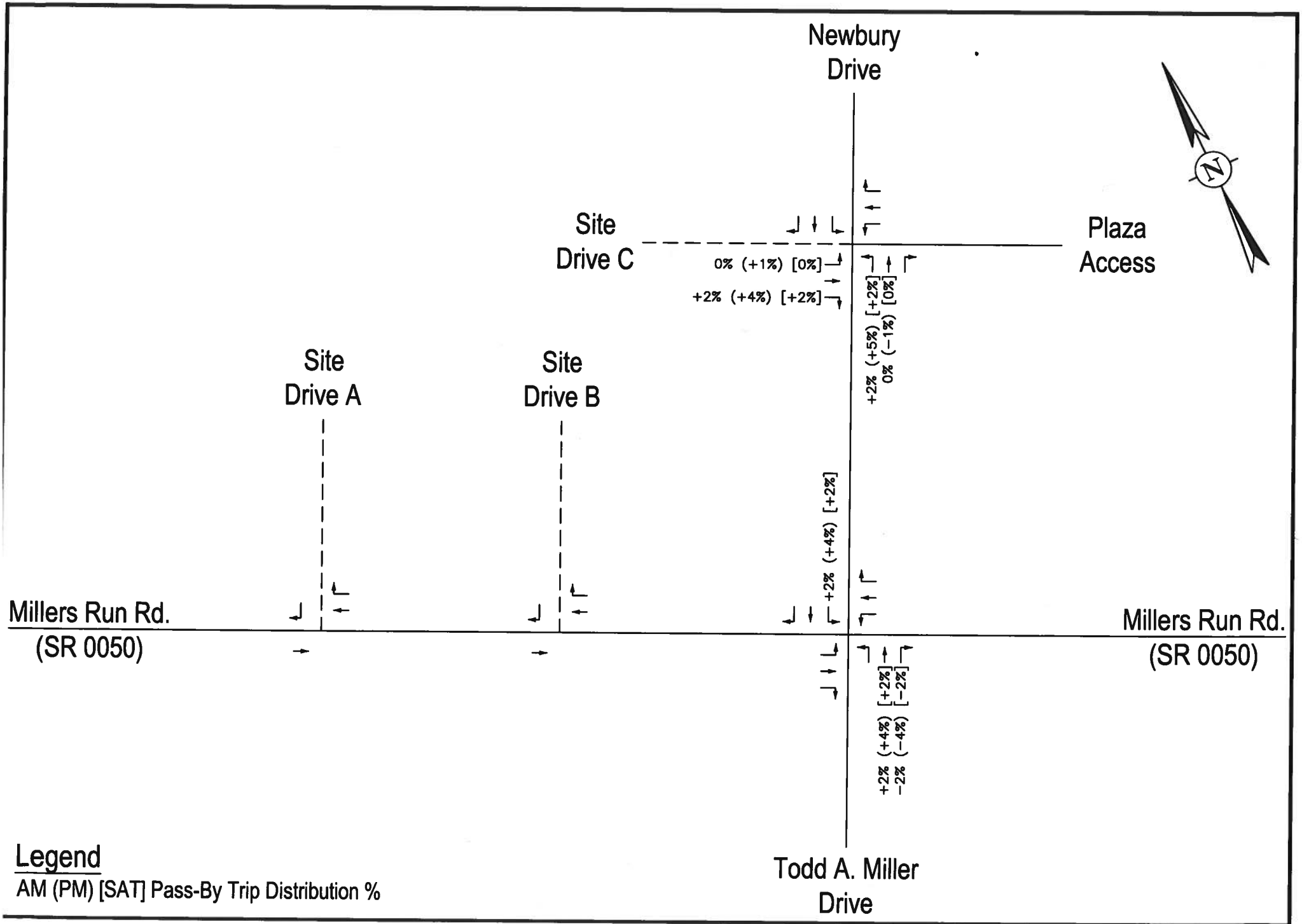
FIGURE 14
4392-092723



PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Pass-By Trip Distribution Percentages (From North)

DAVID E. WOOSTER & ASSOC., LLC

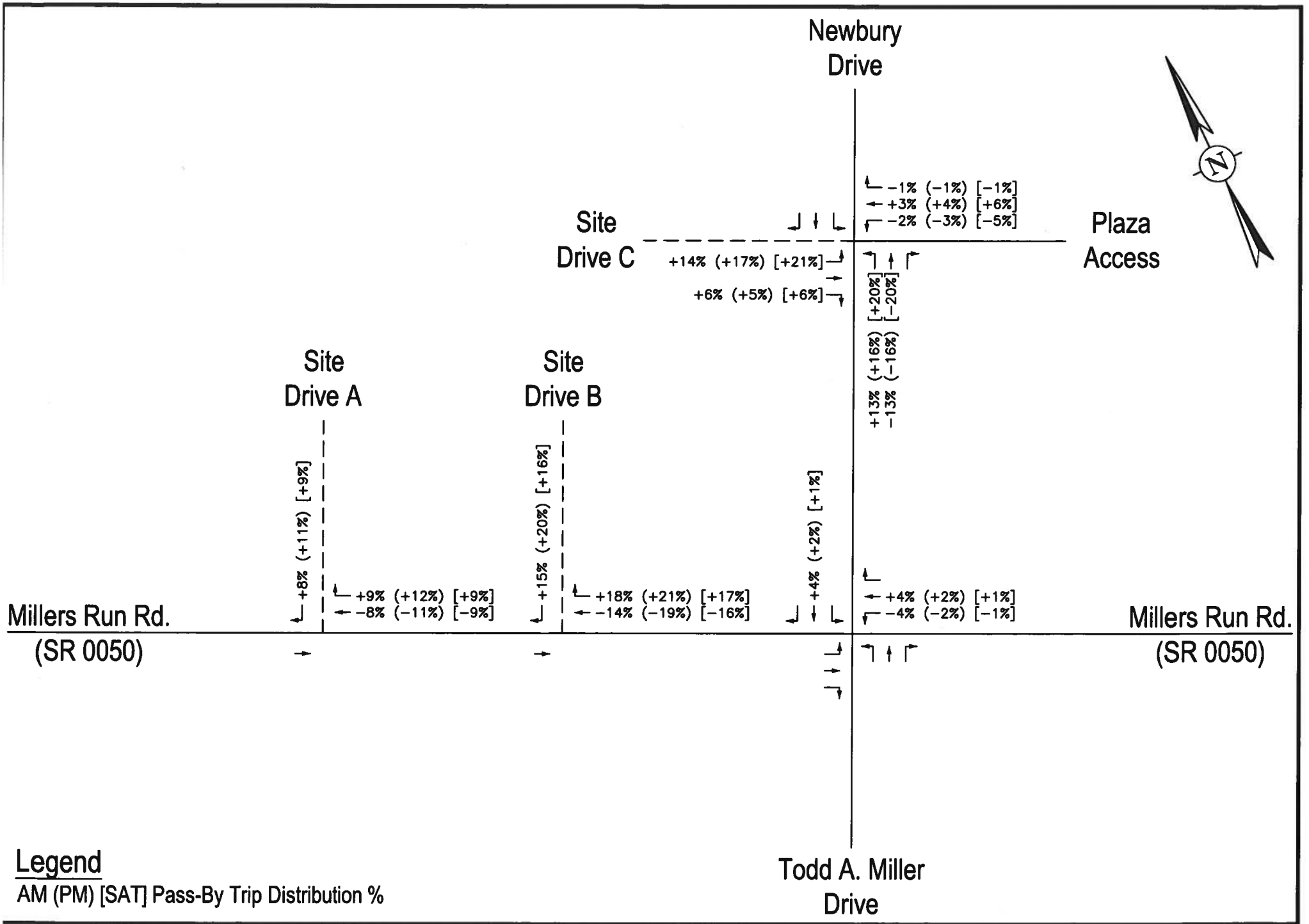
FIGURE 15a
4392-092723



PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Pass–By Trip Distribution Percentages (From South)

DAVID E. WOOSTER & ASSOC., LLC

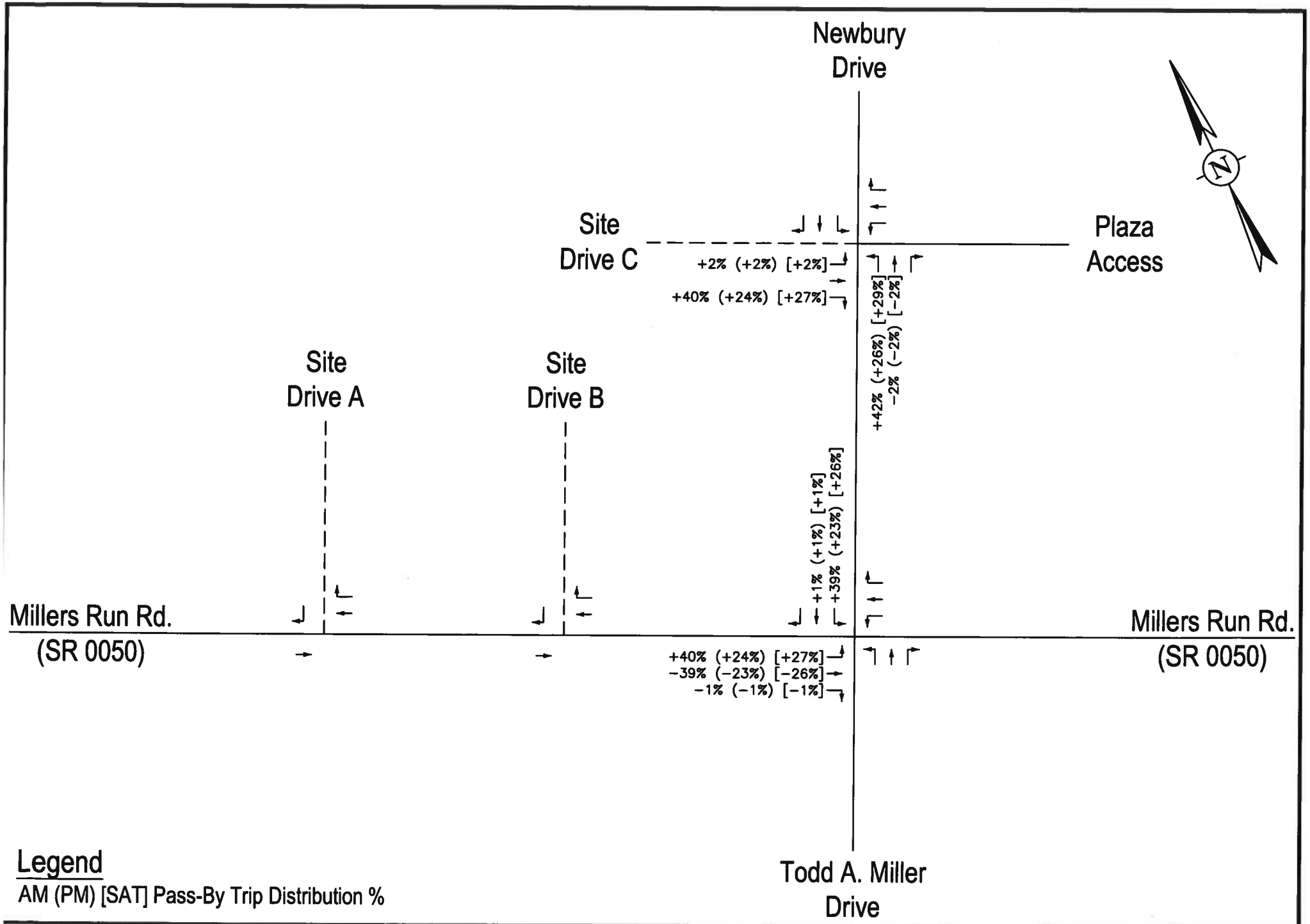
FIGURE 15b
4392-092723



PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Pass-By Trip Distribution Percentages (From East)

DAVID E. WOOSTER & ASSOC., LLC

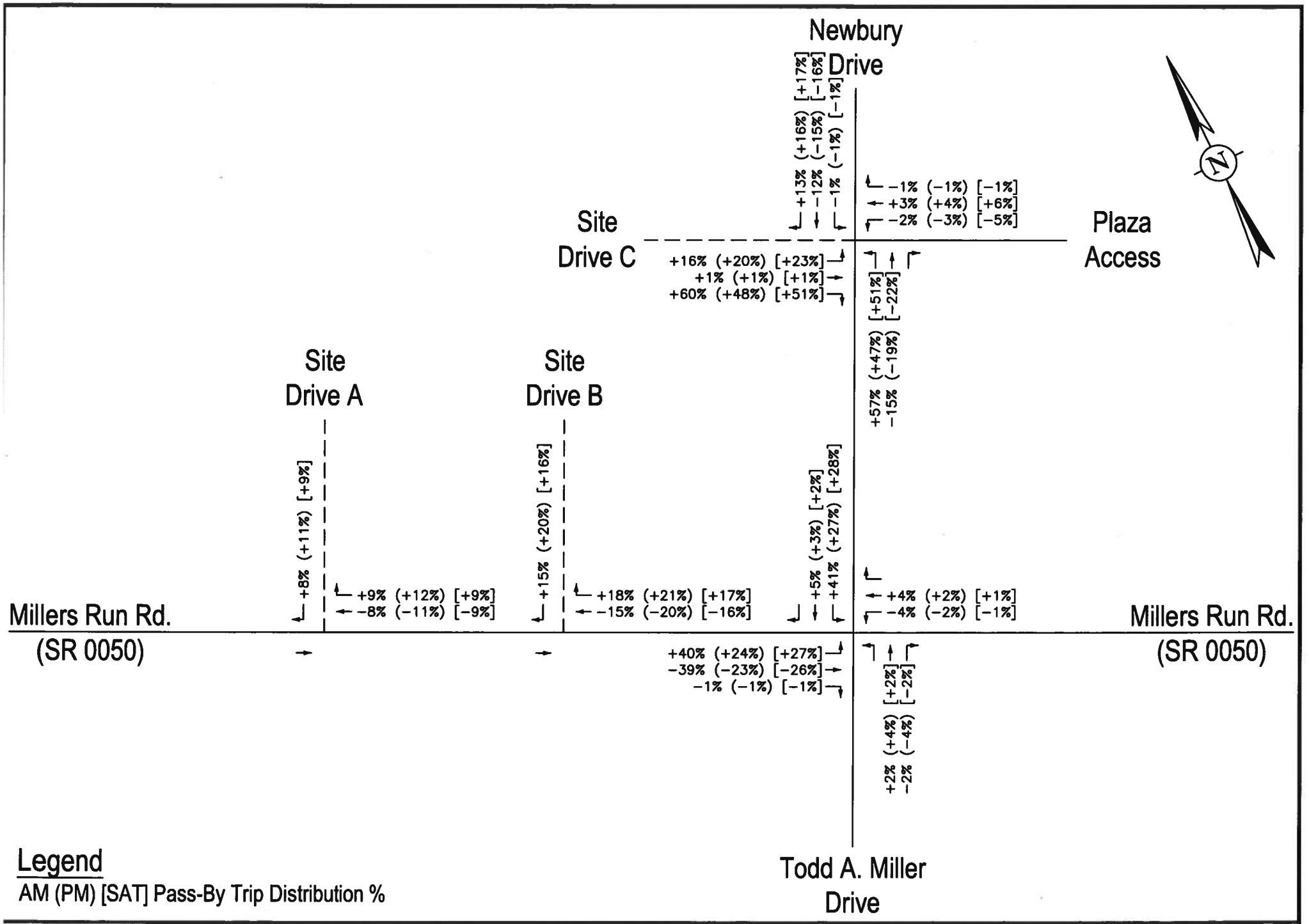
FIGURE 15c
4392-092723



PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Pass-By Trip Distribution Percentages (From West)

DAVID E. WOOSTER & ASSOC., LLC

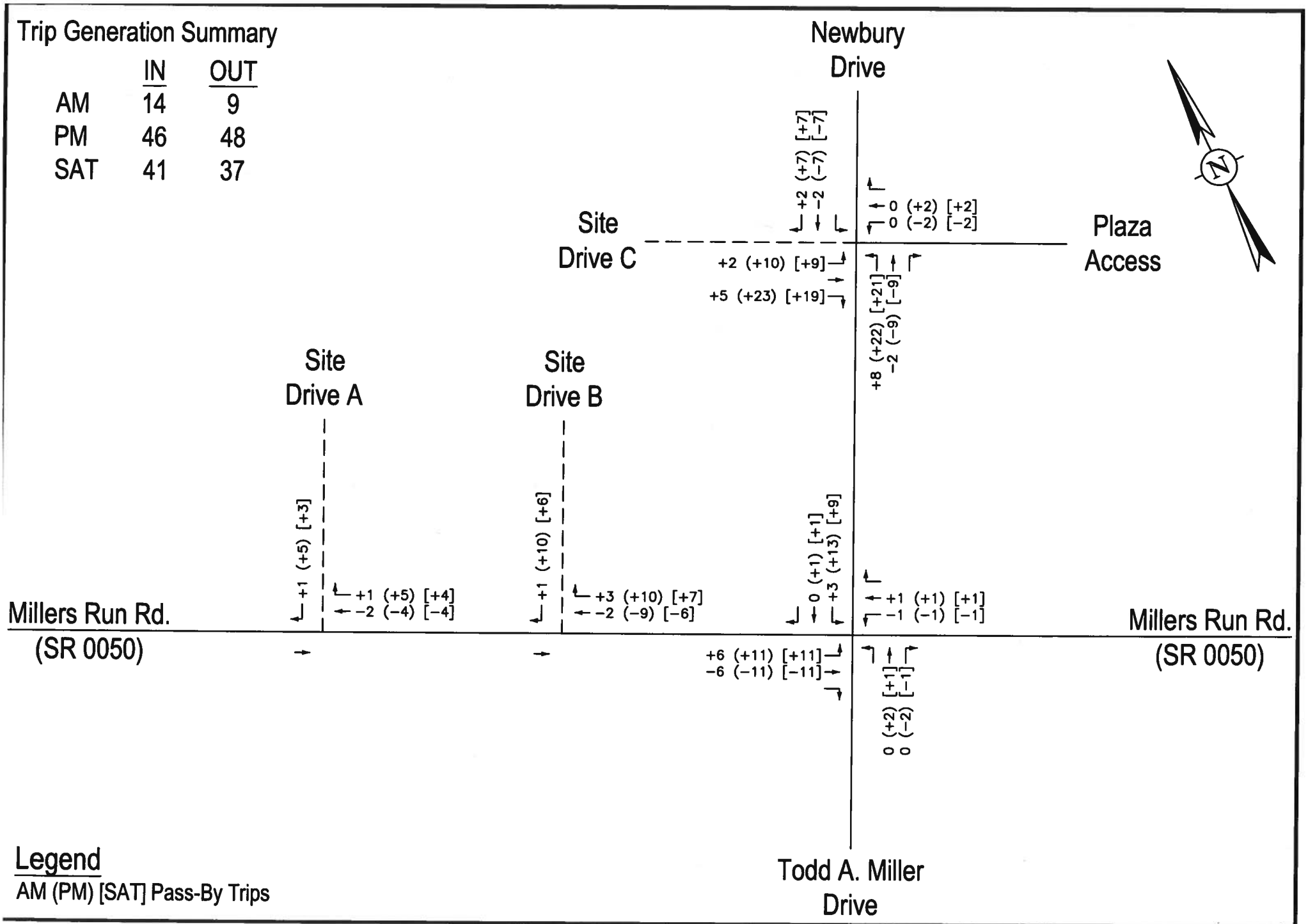
FIGURE 15d
4392-092723



PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Pass–By Trip Distribution Percentages (Total)

DAVID E. WOOSTER & ASSOC., LLC

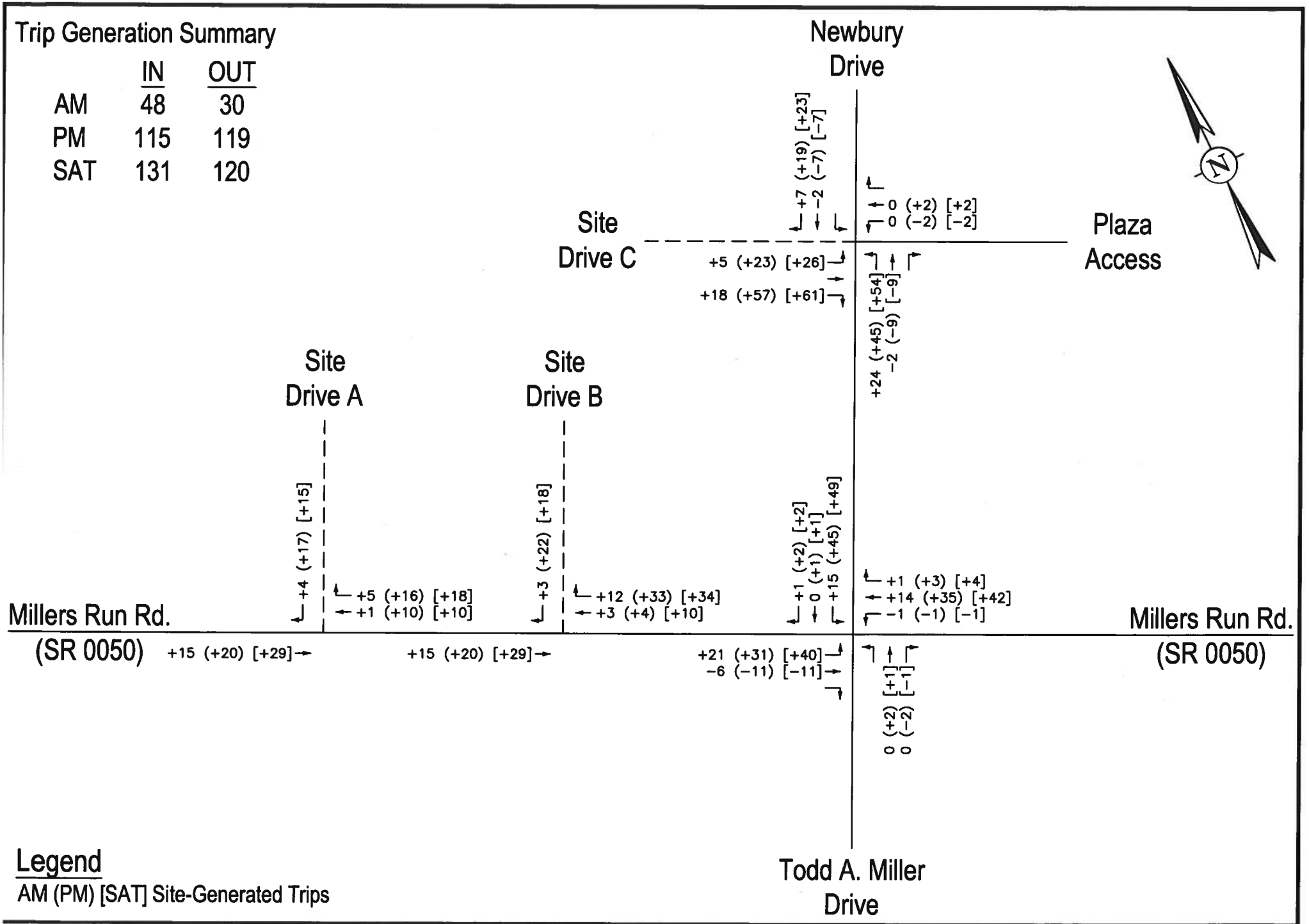
FIGURE 16a
4392–092723



PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Site-Generated Pass-By Trips

DAVID E. WOOSTER & ASSOC., LLC

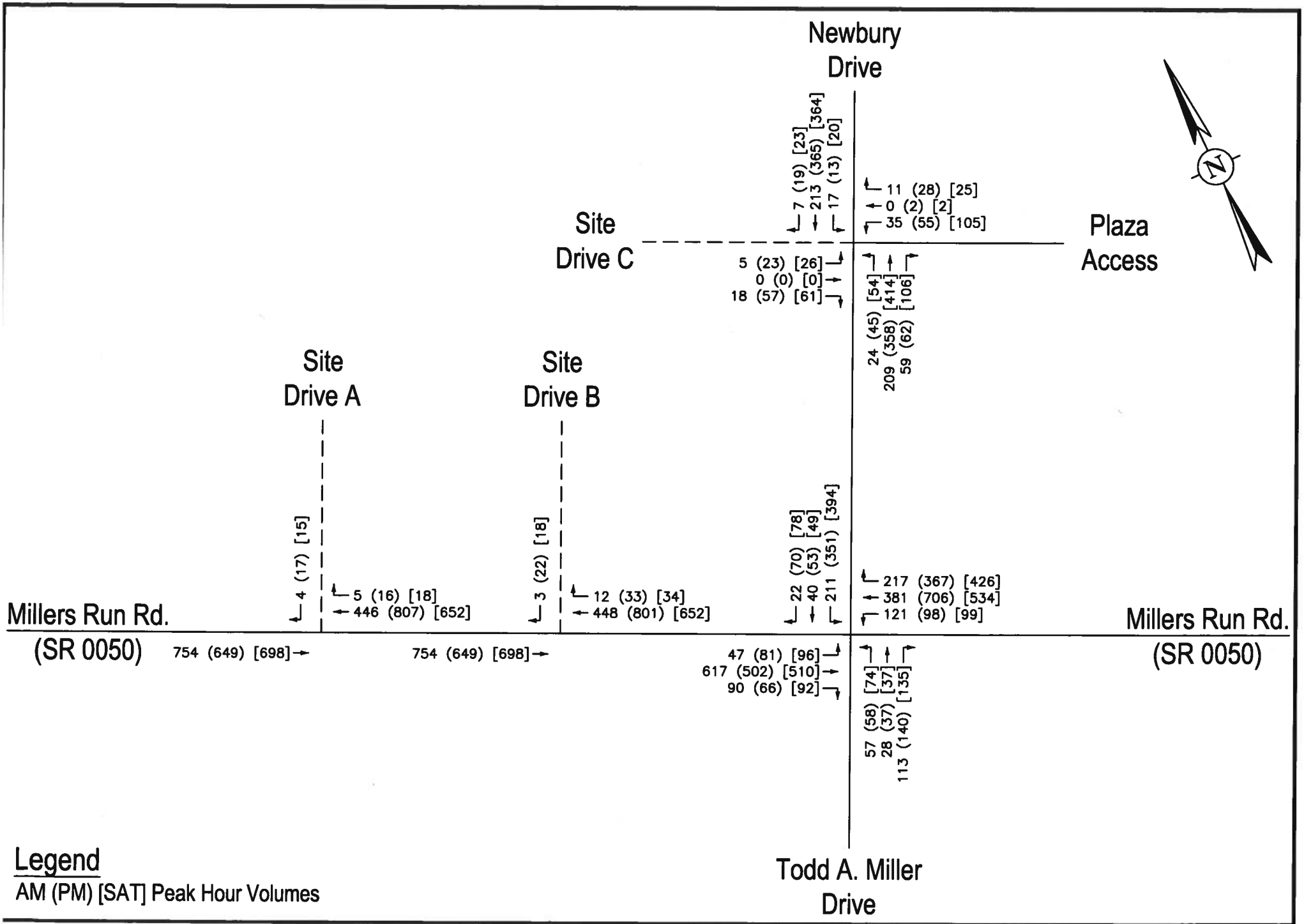
FIGURE 16b
4392-092723



PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Total Site-Generated Trips

FIGURE 17
4392-092723

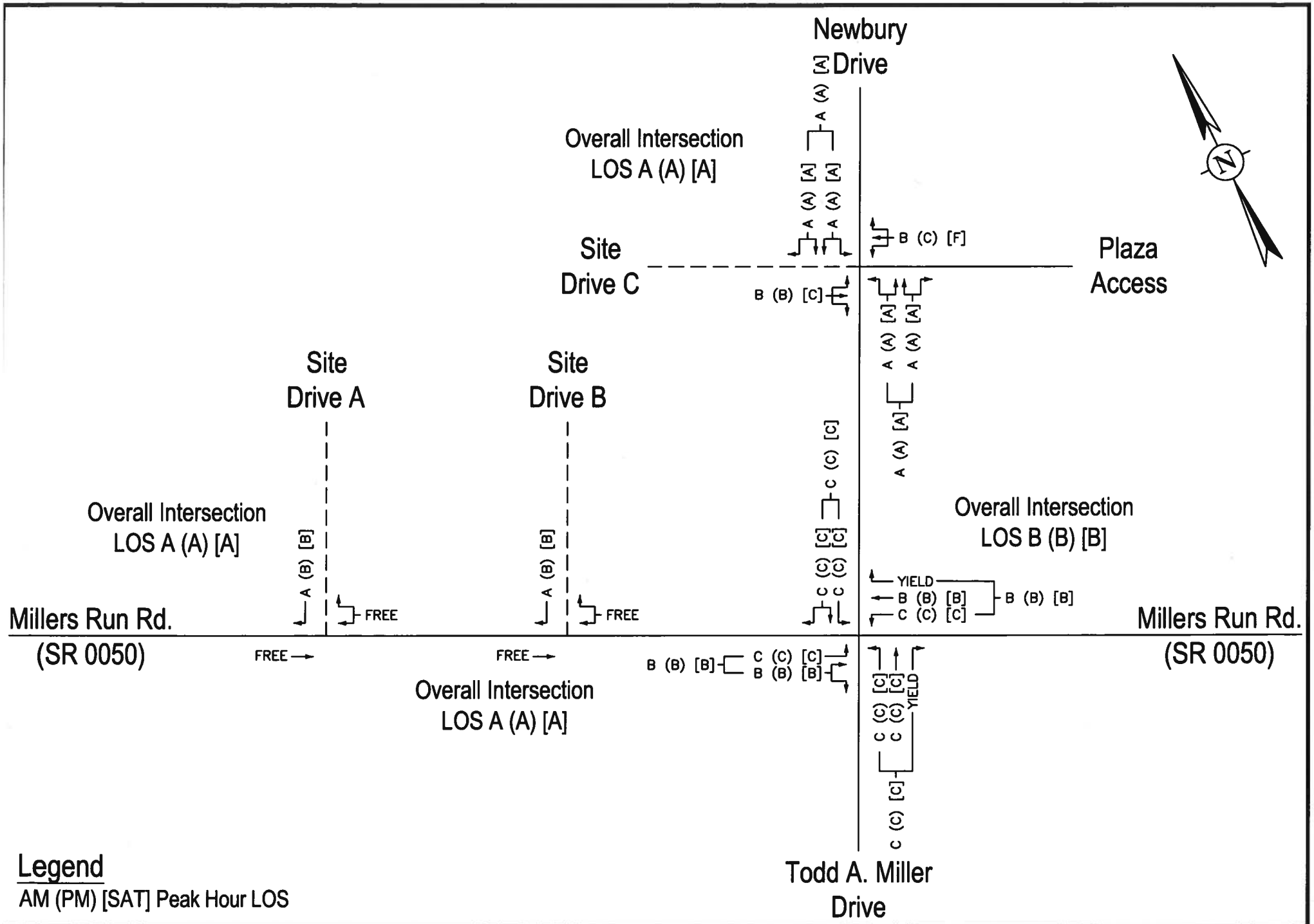
DAVID E. WOOSTER & ASSOC., LLC



PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Opening Year 2024 With Development Condition Peak Hour Traffic Volumes

DAVID E. WOOSTER & ASSOC., LLC

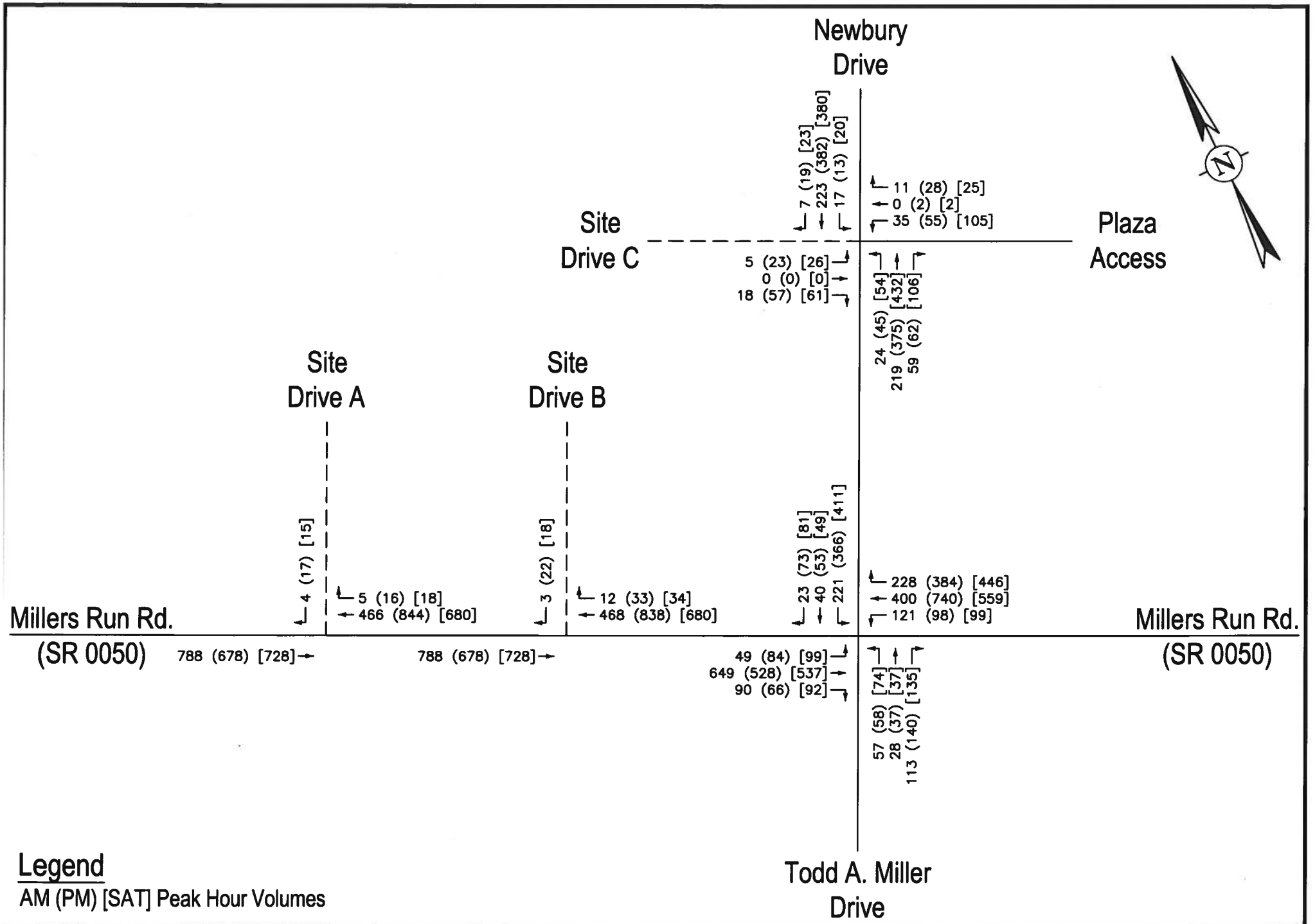
FIGURE 18a
4392-092723



PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Opening Year 2024 With Development Condition Peak Hour LOS

FIGURE 18b
4392-092723

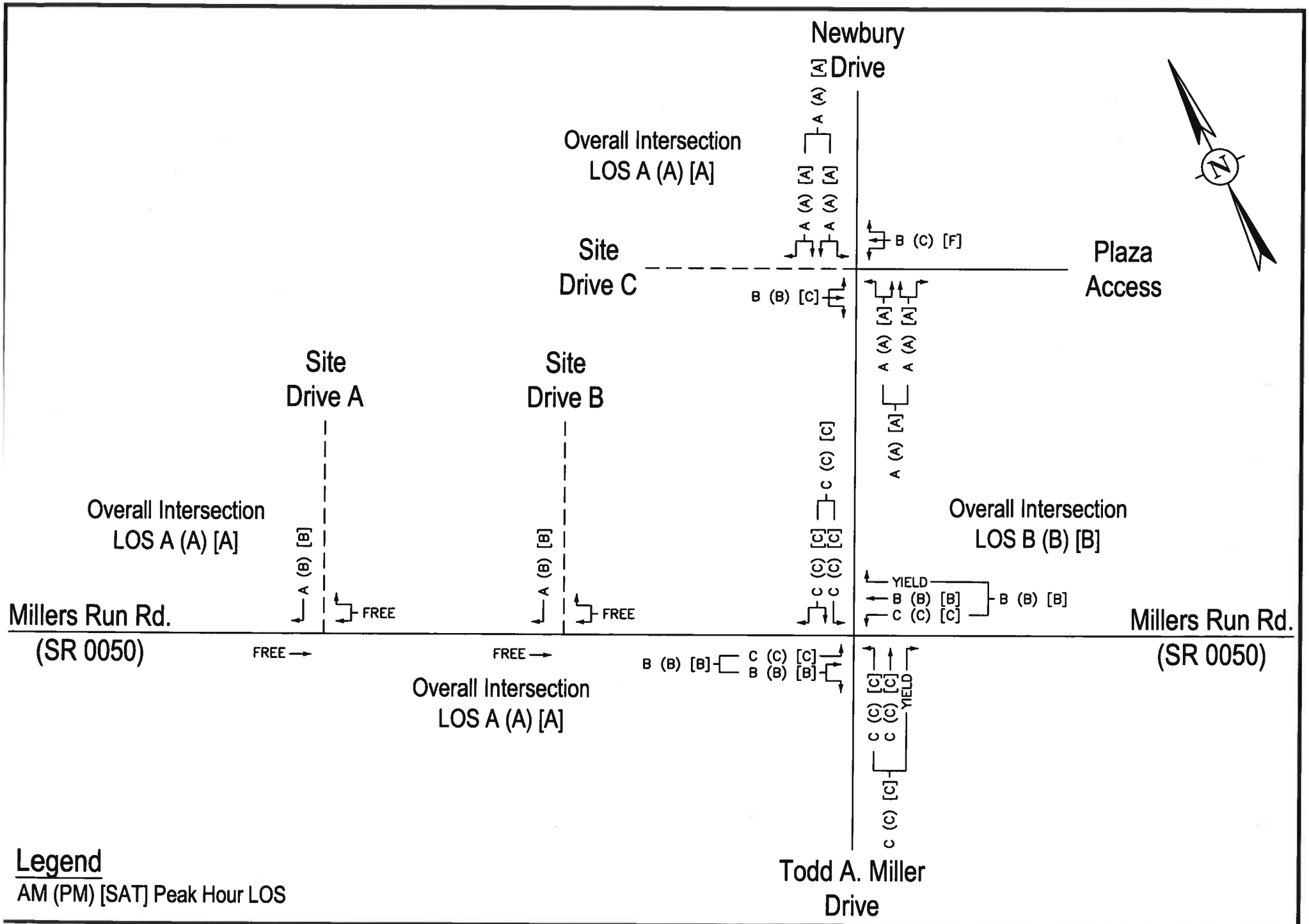
DAVID E. WOOSTER & ASSOC., LLC



PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Design Year 2029 With Development Condition Peak Hour Traffic Volumes

DAVID E. WOOSTER & ASSOC., LLC

FIGURE 19a
4392-092723



PROPOSED RETAIL DEVELOPMENT – South Fayette Township
Design Year 2029 With Development Condition Peak Hour LOS

DAVID E. WOOSTER & ASSOC., LLC

FIGURE 19b
4392-092723

APPENDICES

APPENDIX A

TIS Scoping Checklist

TRANSPORTATION IMPACT STUDY (TIS)
SCOPING MEETING CHECKLIST

Scoping Meeting Date: **Thursday, September 14, 2023 – 10:00 AM – via Microsoft Teams**

Applicant: **Cozza Enterprises, LLC**

Applicants Consultant: **David E. Wooster and Associates, LLC** Phone: **412-921-3303**

Applicant's Primary Contact: **Craig Cozza** Phone: **412-417-9700**

(1) LOCATION OF PROPOSED DEVELOPMENT:

***Site location map is attached to this checklist.**

PennDOT Engineering Dist.: **11-0** County: **Allegheny**

Municipality: **South Fayette Township**

State Route(s): **SR 0050**

From Segment / Offset: **0090 / 1000**

To Segment / Offset: **0090 / 1359**

(2) DESCRIPTION OF PROPOSED DEVELOPMENT:

***Preliminary site plan attached to this checklist.**

Proposed site access: **Two (2) right-in right-out only (RIRO) site access proposed along the northern side of Millers Run Road (SR 0050); full access site drive along the western side of Newbury Drive.**

Proposed land uses: **Retail**

Community linkages: **Sidewalk requirements per South Fayette Township ordinances (if any); no additional bus stops proposed; no new cross easements proposed; pedestrian accommodations (if any) in the study area to be maintained.**

(3) DEVELOPMENT SCHEDULE AND STAGING:

Anticipated Opening Date: **2024**

Full Buildout Date: -

Describe Proposed Development Schedule/Staging:

None.

(4) TRIP GENERATION:

Trip generation for the proposed development will be based on:

X ITE Trip Generation Manual

- **LU Code #821 (Shopping Plaza 40-150k *without* Supermarket) with gross floor area as the independent variable.**

___ Other independent surveys

List land development and trip generation information, as appropriate. If necessary, attach additional sheets to indicate additional land uses or development phases.

Land Use(s)	Size	ADT (In / Out)	Peak Hour Trips (In / Out)		
			AM Peak	PM Peak	SAT Peak
#821	~ 45,126 SF	3,048 (1,524 / 1,524)	78 (48 / 30)	234 (115 / 119)	251 (131 / 120)
		Primary	*55 (34 / 21)*	*140 (69 / 71)*	*173 (90 / 83)*
		Pass-By	*23 (14 / 9)*	*94 (46 / 48)*	*78 (41 / 37)*
	Totals	**3,048 (1,524 / 1,524)**	**78 (48 / 30)**	**234 (115 / 119)**	**251 (131 / 120)**

***The 11th Edition of the Trip Generation Manual was used.**

(5) ESTIMATED DAILY TRIP GENERATION/DRIVEWAY CLASSIFICATION:

(a) Estimated Daily Trip Generation of Proposed Development – Assuming One Access Point and Full Buildout/Occupancy of Entire Tract: **3,048** trips/day

(b) Driveway Classification Based on Trip Generation and One Access Point:

Minimum Use: _____ Medium Volume: _____

Low Volume: _____ High Volume: X

(6) TRAFFIC IMPACT STUDY REQUIRED?

_____ No

X Yes, based on:
- X 3,000 or more vehicle trips/day generated
- X During any one-hour time period, 100 or more new (added) vehicle trips generated entering or 100 or more new (added) vehicle trips generated exiting development
- _____ Other considerations described below:

(7) TRAFFIC IMPACT ASSESSMENT REQUIRED?

X No

_____ Yes

If a TIS or TIA is required, the following sections of this checklist will be discussed at the TIS Scoping Meeting. The applicant may provide preliminary information.

(8) TIS STUDY AREA:

(a) Roadway and Study Intersections

- **Millers Run Road (SR 0050) with Newbury Drive/Todd A. Miller Drive – *Existing Signalized***
- **Proposed Site Drives**

(b) Land Use Context

Suburban Corridor

(c) Known Congestion Areas

- **Millers Run Road (SR 0050) with Newbury Drive/Todd A. Miller Drive**
- **Proposed Cane's Restaurant (Concern by Township/PennDOT)**

(d) Known Safety Concerns

None.

(e) Known Environmental Constraints

None.

(f) Pedestrian / Bike Review

Not Applicable.

(g) Transit Review

Not Applicable.

(9) STUDY AREA TYPE Urban **X** Rural _____

(10) TIS ANALYSIS PERIODS AND TIMES:

Existing Year 2023 Condition
Opening Year 2024 Without and With Development
Design Year 2029 Without and With Development

(11) TRAFFIC ADJUSTMENT FACTORS:

(a) Seasonal Adjustment:

No Seasonal Adjustment proposed. Counts will be performed during a typical weekday.

Source

(b) Annual Base Traffic Growth: **1.00%** %/yr (linear) **SPC – 4/25/2023**

(c) Pass-By Trips:

Land Use	%	Source – *ITETripGen Web-based App*
#821	**30% AM** **40% PM** **31% SAT**	**PM – 10%** **2021 Pass-By Rates (PM)** **2021 Pass-By Rates (SAT)**

(d) Captured Trips for Multi-Use Sites:

Not Applicable.

(e) Modal Split Reductions:

Not Applicable.

(f) Other Reductions:

Not Applicable.

(12) OTHER PROJECTS WITHIN STUDY AREA TO BE ADDED TO BASE TRAFFIC:

- **The Piazza Development**
  - **6,800 SF High-Turnover (Sit-Down) Restaurant**
  - **4,000 SF Fast Food Restaurant with Drive-Through Window**
  - **4,250 SF Fast Food Restaurant with Drive-Through Window (Cane's)**
- **South Fayette Commons Development**
- **Cigar, Bar, & Restaurant (Newbury)**

(13) TRIP DISTRIBUTION AND ASSIGNMENT:

Distribution of the development trips will be based on the turning movement count data at the existing study intersection, as well as engineering judgment relative to the convenience of accessing the site from various directions.

(14) APPROVAL OF DATA COLLECTION ELEMENTS AND METHODOLOGIES:

Location	Period	Type
Existing intersection(s) listed in Section (8a) above	**7:00-9:00 am (T-Th) 4:00-6:00 pm (T-Th) 11:00 am-2:00 pm (Sat)**	**Turning Movement Counts**

(15) CAPACITY/LOS ANALYSES:

Location	Period	Type
Intersections listed in Section (8a)	**AM, PM, & SAT Peak Hours**	**HCM 6th Ed. Synchro 11**

(16) ROADWAY IMPROVEMENTS/MODIFICATIONS BY OTHERS TO BE INCLUDED:

None.

(17) OTHER NEEDED ANALYSES:

(a) Sight Distance Analyses:

Yes – at all proposed site accesses.

(b) Signal Warrant Analysis:

If/as necessary.

(c) Required Signal Phasing/Timing Modifications:

If/as necessary.

(d) Traffic Signal Corridor/Network Analyses:

If/as necessary.

(e) Analyses of the Need for Turning Lanes:

Wooster will compare forecasted traffic volumes at the proposed site access with criteria outlined in *Publication 46, Chapter 11 Traffic Studies*, dated 2012 for the consideration of auxiliary turn lanes under future With Development conditions.

(f) Turning Lane Lengths:

Length of any required turn lanes will be based on criteria outlined in *Publication 46, Chapter 11 Traffic Studies*, dated 2012, which includes SimTraffic (queuing) analyses. Existing turn lane lengths will be evaluated to ensure that they are equipped to adequately accommodate projected traffic volumes.

(g) Left Turn Signal Phasing Analyses:

If/as necessary.

(h) Queuing Analyses:

Yes – queue analyses will be performed using SimTraffic to determine if existing turn lanes are of sufficient length to accommodate the projected traffic. To perform these analyses, five (5) separate 60-minute simulations with a 10-minute seeding interval will be evaluated for each peak hour and averaged.

(i) Gap Studies:

Not Applicable.

(j) Crash Analyses:

Yes – reportable crash data will be obtained from the Pennsylvania Department of Transportation (PennDOT) Pennsylvania Crash Information Tool (PCIT) for the study area.

(k) Weaving Analyses:

Not Applicable.

(l) Other Required Studies:

None.

(18) ADDITIONAL COMMENTS OR RECOMMENDATIONS RELATIVE TO THE SCOPE OF THE TIS:

None.

Joshua A. Haydo, P.E., PTOE

Signature of Applicant's Engineer
Wooster and Associates

Date: *10-11-2023*

Signature of District Traffic PennDOT Representative
PennDOT District 11-0

Date: _____

Signature of District Permit PennDOT Representative
PennDOT District 11-0

Date: _____

Signature of Municipal Representative
South Fayette Township

Date: _____

APPENDIX B

Turning Movement Counts

David E. Wooster and Associates : Main Account
2 East Crafton Ave.

Pittsburgh, Pennsylvania, United States 15205
412-921-3303 jnelson@dewooster.com

Count Name: SR 50 & Newbury Dr. (7-9 am)
Site Code: 4392
Start Date: 09/21/2023

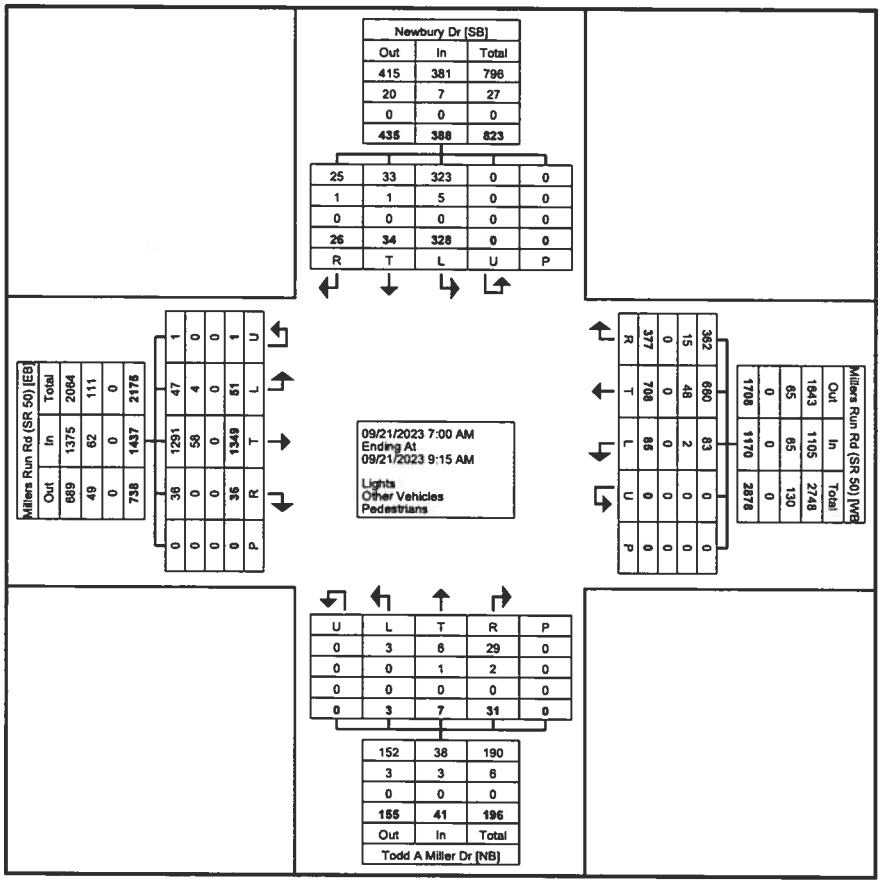
Turning Movement Data

Start Time	Millers Run Rd (SR 50) Eastbound							Millers Run Rd (SR 50) Westbound							Todd A Miller Dr Northbound							Newbury Dr Southbound							Int. Total
	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	
7:00 AM	0	4	179	3	0	0	186	0	3	73	30	10	0	116	0	0	0	0	0	0	0	0	32	0	0	1	0	33	335
7:15 AM	0	4	184	4	0	0	192	0	3	79	28	3	0	113	0	0	0	0	0	0	0	0	27	2	0	0	0	29	334
7:30 AM	1	5	160	3	1	0	170	0	5	75	26	3	0	109	0	0	0	1	2	0	3	0	26	3	1	1	0	31	313
7:45 AM	0	11	173	5	1	0	190	0	13	93	47	9	0	162	0	0	0	0	1	0	1	0	45	7	3	0	0	55	408
Hourly Total	1	24	696	15	2	0	738	0	24	320	131	25	0	500	0	0	0	1	3	0	4	0	130	12	4	2	0	148	1390
8:00 AM	0	7	159	5	0	0	171	0	25	92	33	9	0	159	0	1	2	0	4	0	7	0	41	8	2	1	0	52	389
8:15 AM	0	3	174	2	0	0	179	0	13	76	43	11	0	143	0	0	1	0	4	0	5	0	37	4	2	3	0	46	373
8:30 AM	0	8	161	7	0	0	176	0	11	117	51	11	0	190	0	1	3	0	8	0	12	0	65	3	2	3	0	73	451
8:45 AM	0	9	159	5	0	0	173	0	12	103	41	22	0	178	0	1	1	0	11	0	13	0	55	7	0	7	0	69	433
Hourly Total	0	27	653	19	0	0	699	0	61	388	168	53	0	670	0	3	7	0	27	0	37	0	198	22	6	14	0	240	1646
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	1	51	1349	34	2	0	1437	0	85	708	299	78	0	1170	0	3	7	1	30	0	41	0	328	34	10	16	0	388	3036
Approach %	0.1	3.5	93.9	2.4	0.1	-	-	0.0	7.3	60.5	25.6	6.7	-	-	0.0	7.3	17.1	2.4	73.2	-	-	0.0	84.5	8.8	2.6	4.1	-	-	-
Total %	0.0	1.7	44.4	1.1	0.1	-	47.3	0.0	2.8	23.3	9.8	2.6	-	38.5	0.0	0.1	0.2	0.0	1.0	-	1.4	0.0	10.8	1.1	0.3	0.5	-	12.8	-
Lights	1	47	1291	34	2	-	1375	0	83	660	284	78	-	1105	0	3	6	1	28	-	38	0	323	33	10	15	-	381	2899
% Lights	100.0	92.2	95.7	100.0	100.0	-	95.7	-	97.6	93.2	95.0	100.0	-	94.4	-	100.0	85.7	100.0	93.3	-	92.7	-	98.5	97.1	100.0	93.8	-	98.2	95.5
Other Vehicles	0	4	58	0	0	-	62	0	2	48	15	0	-	65	0	0	1	0	2	-	3	0	5	1	0	1	-	7	137
% Other Vehicles	0.0	7.8	4.3	0.0	0.0	-	4.3	-	2.4	6.8	5.0	0.0	-	5.6	-	0.0	14.3	0.0	6.7	-	7.3	-	1.5	2.9	0.0	6.3	-	1.8	4.5
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

David E. Wooster and Associates : Main Account
2 East Crafton Ave.

Pittsburgh, Pennsylvania, United States 15205
412-921-3303 jnelson@dewooster.com

Count Name: SR 50 & Newbury Dr. (7-9 am)
Site Code: 4392
Start Date: 09/21/2023



Turning Movement Data Plot

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2 East Crafton Ave.

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Count Name: SR 50 & Newbury Dr. (7-9 am)
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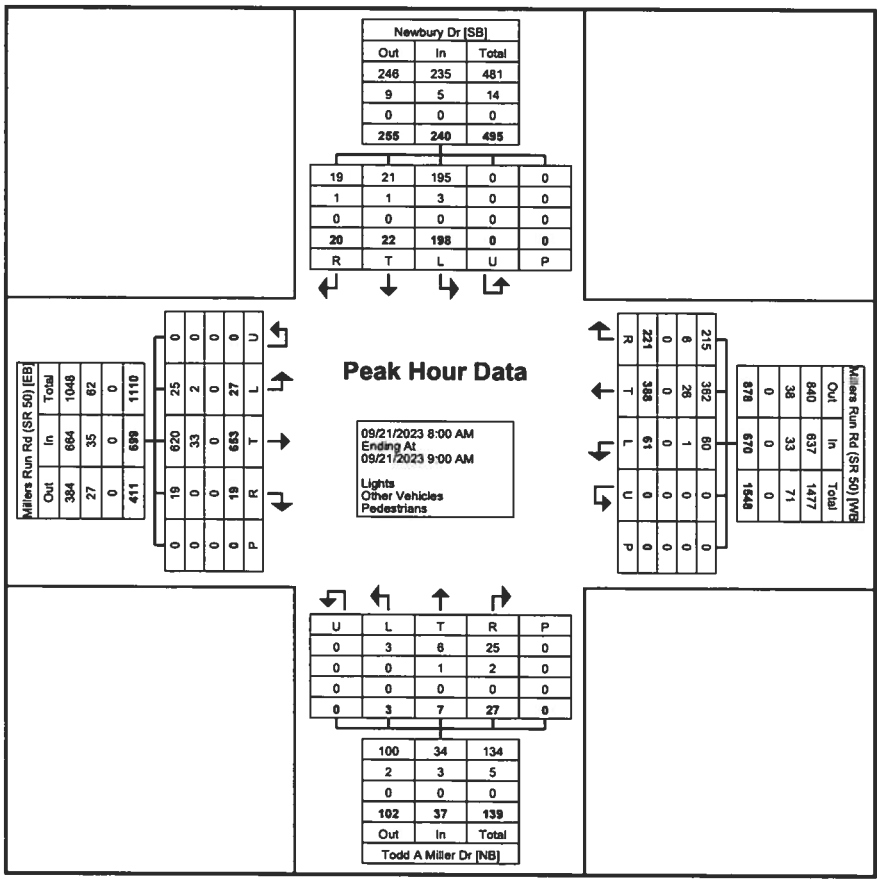
Turning Movement Peak Hour Data (8:00 AM)

Start Time	Millers Run Rd (SR 50) Eastbound							Millers Run Rd (SR 50) Westbound							Todd A Miller Dr Northbound							Newbury Dr Southbound							Int. Total
	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	
8:00 AM	0	7	159	5	0	0	171	0	25	92	33	9	0	159	0	1	2	0	4	0	7	0	41	8	2	1	0	52	389
8:15 AM	0	3	174	2	0	0	179	0	13	76	43	11	0	143	0	0	1	0	4	0	5	0	37	4	2	3	0	46	373
8:30 AM	0	8	161	7	0	0	176	0	11	117	51	11	0	190	0	1	3	0	8	0	12	0	65	3	2	3	0	73	451
8:45 AM	0	9	159	5	0	0	173	0	12	103	41	22	0	178	0	1	1	0	11	0	13	0	55	7	0	7	0	69	433
Total	0	27	653	19	0	0	699	0	61	388	168	53	0	670	0	3	7	0	27	0	37	0	198	22	6	14	0	240	1646
Approach %	0.0	3.9	93.4	2.7	0.0	-	-	0.0	9.1	57.9	25.1	7.9	-	-	0.0	8.1	18.9	0.0	73.0	-	-	0.0	82.5	9.2	2.5	5.8	-	-	-
Total %	0.0	1.6	39.7	1.2	0.0	-	42.5	0.0	3.7	23.6	10.2	3.2	-	40.7	0.0	0.2	0.4	0.0	1.6	-	2.2	0.0	12.0	1.3	0.4	0.9	-	14.6	-
PHF	0.000	0.750	0.938	0.679	0.000	-	0.976	0.000	0.610	0.829	0.824	0.602	-	0.882	0.000	0.750	0.583	0.000	0.614	-	0.712	0.000	0.762	0.688	0.750	0.500	-	0.822	0.912
Lights	0	25	620	19	0	-	664	0	60	362	162	53	-	637	0	3	6	0	25	-	34	0	195	21	6	13	-	235	1570
% Lights	-	92.6	94.9	100.0	-	-	95.0	-	98.4	93.3	96.4	100.0	-	95.1	-	100.0	85.7	-	92.6	-	91.9	-	98.5	95.5	100.0	92.9	-	97.9	95.4
Other Vehicles	0	2	33	0	0	-	35	0	1	26	6	0	-	33	0	0	1	0	2	-	3	0	3	1	0	1	-	5	76
% Other Vehicles	-	7.4	5.1	0.0	-	-	5.0	-	1.6	6.7	3.6	0.0	-	4.9	-	0.0	14.3	-	7.4	-	8.1	-	1.5	4.5	0.0	7.1	-	2.1	4.6
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Pittsburgh, Pennsylvania, United States 15205
412-921-3303 jnelson@dewooster.com

Count Name: SR 50 & Newbury Dr. (7-9 am)
Site Code: 4392
Start Date: 09/21/2023



Turning Movement Peak Hour Data Plot (8:00 AM)

David E. Wooster and Associates : Main Account
2 East Crafton Ave.

Pittsburgh, Pennsylvania, United States 15205
412-921-3303 jnelson@dewooster.com

Count Name: SR 50 & Newbury Dr. (4-6 pm)
Site Code: 4392
Start Date: 09/21/2023

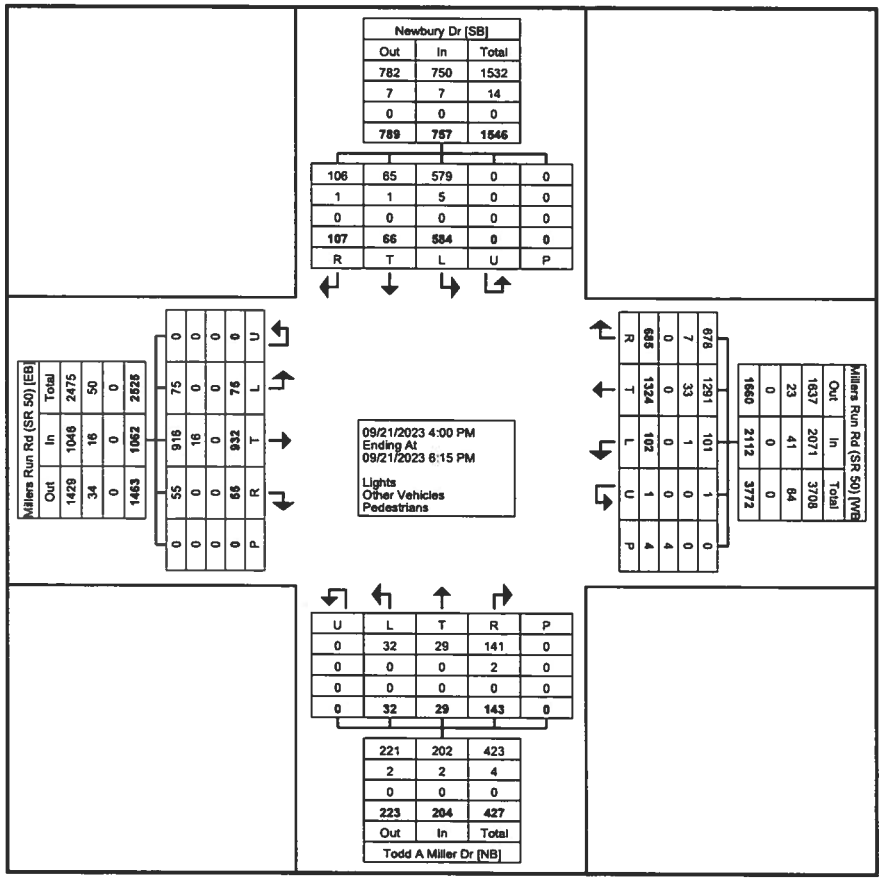
Turning Movement Data

Start Time	Millers Run Rd (SR 50) Eastbound							Millers Run Rd (SR 50) Westbound							Todd A Miller Dr Northbound							Newbury Dr Southbound							Int. Total
	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	
4:00 PM	0	10	133	4	0	0	147	0	7	184	60	20	0	271	0	3	1	6	22	0	32	0	82	13	8	8	0	111	561
4:15 PM	0	10	146	4	1	0	161	0	15	167	50	17	0	249	0	4	4	9	7	0	24	0	86	10	13	7	0	116	550
4:30 PM	0	13	121	4	1	0	139	1	8	156	68	34	0	267	0	4	6	8	15	0	33	0	64	4	6	11	0	85	524
4:45 PM	0	11	118	7	1	0	137	0	12	179	67	35	0	293	0	0	6	8	12	0	26	0	67	8	5	6	0	86	542
Hourly Total	0	44	518	19	3	0	584	1	42	686	245	106	0	1080	0	11	17	31	56	0	115	0	299	35	32	32	0	398	2177
5:00 PM	0	12	102	8	1	0	123	0	15	150	39	35	0	239	0	8	5	3	7	0	23	0	77	9	4	7	0	97	482
5:15 PM	0	7	110	7	1	0	125	0	17	176	57	15	0	265	0	3	3	9	6	0	21	0	54	11	10	2	0	77	488
5:30 PM	0	6	106	9	0	0	121	0	17	171	63	38	2	289	0	6	1	13	8	0	28	0	77	6	7	3	0	93	531
5:45 PM	0	6	96	7	0	0	109	0	11	141	64	23	2	239	0	4	3	3	7	0	17	0	77	5	1	9	0	92	457
Hourly Total	0	31	414	31	2	0	478	0	60	638	223	111	4	1032	0	21	12	28	28	0	89	0	285	31	22	21	0	359	1958
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	75	932	50	5	0	1062	1	102	1324	468	217	4	2112	0	32	29	59	84	0	204	0	584	66	54	53	0	757	4135
Approach %	0.0	7.1	87.8	4.7	0.5	-	-	0.0	4.8	62.7	22.2	10.3	-	-	0.0	15.7	14.2	28.9	41.2	-	-	0.0	77.1	8.7	7.1	7.0	-	-	-
Total %	0.0	1.8	22.5	1.2	0.1	-	25.7	0.0	2.5	32.0	11.3	5.2	-	51.1	0.0	0.8	0.7	1.4	2.0	-	4.9	0.0	14.1	1.6	1.3	1.3	-	18.3	-
Lights	0	75	916	50	5	-	1046	1	101	1291	463	215	-	2071	0	32	29	58	83	-	202	0	579	65	53	53	-	750	4069
% Lights	-	100.0	98.3	100.0	100.0	-	98.5	100.0	99.0	97.5	98.9	99.1	-	98.1	-	100.0	100.0	98.3	98.8	-	99.0	-	99.1	98.5	98.1	100.0	-	99.1	98.4
Other Vehicles	0	0	16	0	0	-	16	0	1	33	5	2	-	41	0	0	0	1	1	-	2	0	5	1	1	0	-	7	66
% Other Vehicles	-	0.0	1.7	0.0	0.0	-	1.5	0.0	1.0	2.5	1.1	0.9	-	1.9	-	0.0	0.0	1.7	1.2	-	1.0	-	0.9	1.5	1.9	0.0	-	0.9	1.6
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	4	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

David E. Wooster and Associates : Main Account
2 East Crafton Ave.

Pittsburgh, Pennsylvania, United States 15205
412-921-3303 jnelson@dewooster.com

Count Name: SR 50 & Newbury Dr. (4-6 pm)
Site Code: 4392
Start Date: 09/21/2023
Page No: 2



Turning Movement Data Plot

David E. Wooster and Associates : Main Account
2 East Crafton Ave.

Pittsburgh, Pennsylvania, United States 15205
412-921-3303 jnelson@dewooster.com

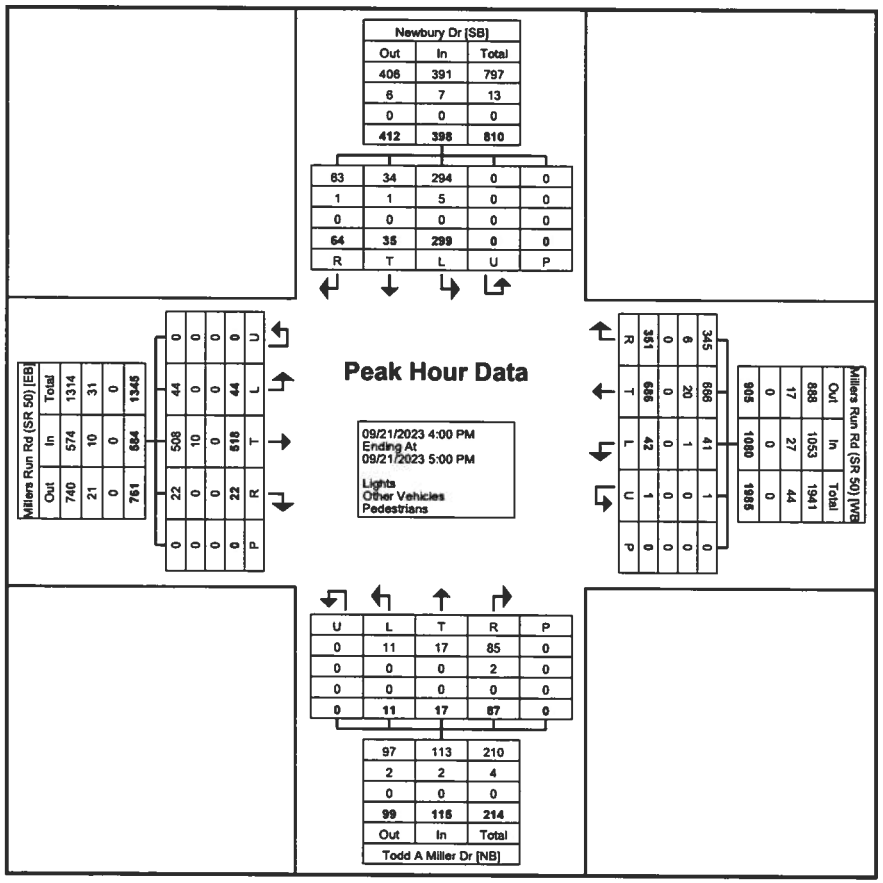
Count Name: SR 50 & Newbury Dr. (4-6 pm)
Site Code: 4392
Start Date: 09/21/2023

Turning Movement Peak Hour Data (4:00 PM)

Start Time	Millers Run Rd (SR 50) Eastbound							Millers Run Rd (SR 50) Westbound							Todd A Miller Dr Northbound							Newbury Dr Southbound							Int. Total
	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	
4:00 PM	0	10	133	4	0	0	147	0	7	184	60	20	0	271	0	3	1	6	22	0	32	0	82	13	8	8	0	111	561
4:15 PM	0	10	146	4	1	0	161	0	15	167	50	17	0	249	0	4	4	9	7	0	24	0	86	10	13	7	0	116	550
4:30 PM	0	13	121	4	1	0	139	1	8	156	68	34	0	267	0	4	6	8	15	0	33	0	64	4	6	11	0	85	524
4:45 PM	0	11	118	7	1	0	137	0	12	179	67	35	0	293	0	0	6	8	12	0	26	0	67	8	5	6	0	86	542
Total	0	44	518	19	3	0	584	1	42	686	245	106	0	1080	0	11	17	31	56	0	115	0	299	35	32	32	0	398	2177
Approach %	0.0	7.5	88.7	3.3	0.5	-	-	0.1	3.9	63.5	22.7	9.8	-	-	0.0	9.6	14.8	27.0	48.7	-	-	0.0	75.1	8.8	8.0	8.0	-	-	-
Total %	0.0	2.0	23.8	0.9	0.1	-	26.8	0.0	1.9	31.5	11.3	4.9	-	49.6	0.0	0.5	0.8	1.4	2.6	-	5.3	0.0	13.7	1.6	1.5	1.5	-	18.3	-
PHF	0.000	0.846	0.887	0.679	0.750	-	0.907	0.250	0.700	0.932	0.901	0.757	-	0.922	0.000	0.688	0.708	0.861	0.636	-	0.871	0.000	0.869	0.673	0.615	0.727	-	0.858	0.970
Lights	0	44	508	19	3	-	574	1	41	666	241	104	-	1053	0	11	17	30	55	-	113	0	294	34	31	32	-	391	2131
% Lights	-	100.0	98.1	100.0	100.0	-	98.3	100.0	97.6	97.1	98.4	98.1	-	97.5	-	100.0	100.0	96.8	98.2	-	98.3	-	98.3	97.1	96.9	100.0	-	98.2	97.9
Other Vehicles	0	0	10	0	0	-	10	0	1	20	4	2	-	27	0	0	0	1	1	-	2	0	5	1	1	0	-	7	46
% Other Vehicles	-	0.0	1.9	0.0	0.0	-	1.7	0.0	2.4	2.9	1.6	1.9	-	2.5	-	0.0	0.0	3.2	1.8	-	1.7	-	1.7	2.9	3.1	0.0	-	1.8	2.1
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

David E. Wooster and Associates : Main Account
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Turning Movement Peak Hour Data Plot (4:00 PM)

David E. Wooster and Associates : Main Account
2 East Crafton Ave.

Pittsburgh, Pennsylvania, United States 15205
412-921-3303 jnelson@dewooster.com

Count Name: SR 50 & Newbury Dr. (SAT 11-2)
Site Code: 4392
Start Date: 09/23/2023

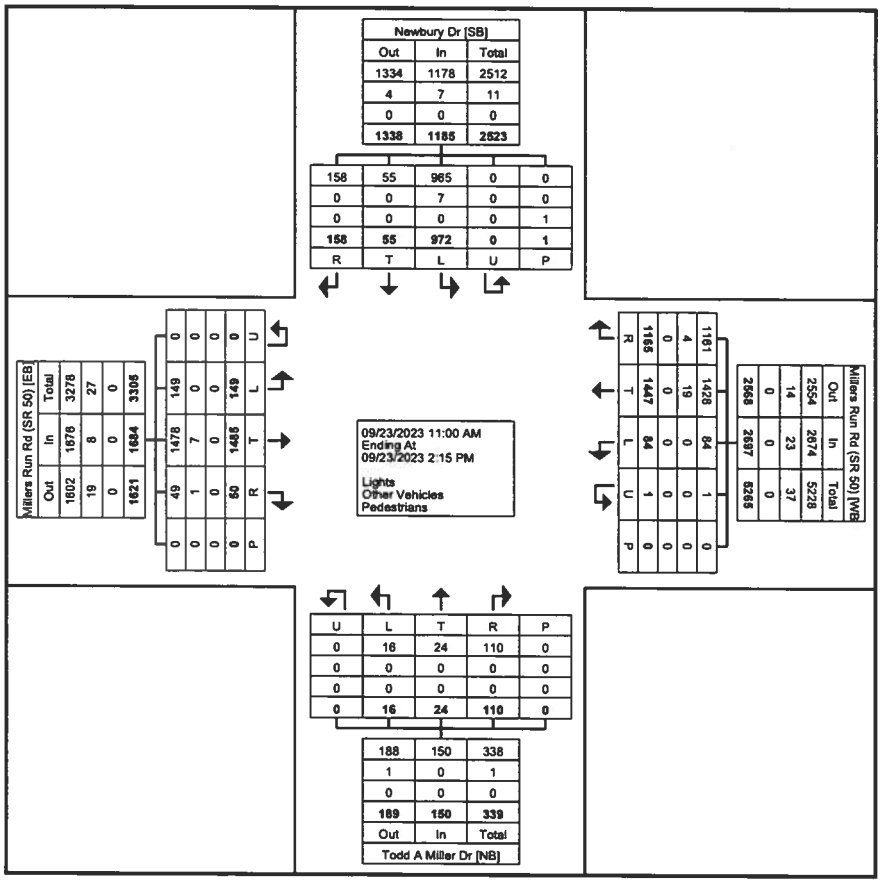
Turning Movement Data

Start Time	Millers Run Rd (SR 50) Eastbound							Millers Run Rd (SR 50) Westbound							Todd A Miller Dr Northbound							Newbury Dr Southbound							
	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	Int. Total
11:00 AM	0	16	116	2	0	0	134	1	2	121	79	24	0	227	0	0	1	3	5	0	9	0	64	8	2	5	0	79	449
11:15 AM	0	10	130	4	0	0	144	0	7	138	62	17	0	224	0	0	1	5	5	0	11	0	88	8	3	9	0	108	487
11:30 AM	0	13	108	2	0	0	123	0	9	78	96	15	0	198	0	2	0	0	2	0	4	0	73	1	4	10	0	88	413
11:45 AM	0	12	119	6	0	0	137	0	12	111	71	22	0	216	0	2	3	2	6	0	13	0	100	9	4	8	1	121	487
Hourly Total	0	51	473	14	0	0	538	1	30	448	308	78	0	865	0	4	5	10	18	0	37	0	325	26	13	32	1	396	1836
12:00 PM	0	9	132	3	0	0	144	0	7	117	57	15	0	196	0	1	6	5	3	0	15	0	71	3	5	7	0	86	441
12:15 PM	0	10	171	5	2	0	188	0	6	113	82	19	0	220	0	2	1	2	6	0	11	0	81	7	5	3	0	96	515
12:30 PM	0	14	130	9	2	0	155	0	5	115	78	21	0	219	0	2	0	4	2	0	8	0	75	3	5	9	0	92	474
12:45 PM	0	11	122	1	0	0	134	0	6	142	70	38	0	256	0	1	5	3	5	0	14	0	104	4	14	16	0	138	542
Hourly Total	0	44	555	18	4	0	621	0	24	487	287	93	0	891	0	6	12	14	16	0	48	0	331	17	29	35	0	412	1972
1:00 PM	0	9	108	2	0	0	119	0	10	134	74	23	0	241	0	0	2	9	2	0	13	0	78	6	9	7	0	100	473
1:15 PM	0	11	106	3	1	0	121	0	8	124	65	30	0	227	0	1	1	3	5	0	10	0	77	4	4	3	0	88	446
1:30 PM	0	19	129	4	0	0	152	0	6	140	86	32	0	264	0	4	2	8	12	0	26	0	83	2	5	5	0	95	537
1:45 PM	0	15	114	4	0	0	133	0	6	114	64	25	0	209	0	1	2	3	10	0	16	0	78	0	6	10	0	94	452
Hourly Total	0	54	457	13	1	0	525	0	30	512	289	110	0	941	0	6	7	23	29	0	65	0	316	12	24	25	0	377	1908
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	149	1485	45	5	0	1684	1	84	1447	884	281	0	2697	0	16	24	47	63	0	150	0	972	55	66	92	1	1185	5716
Approach %	0.0	8.8	88.2	2.7	0.3	-	-	0.0	3.1	53.7	32.8	10.4	-	-	0.0	10.7	16.0	31.3	42.0	-	-	0.0	82.0	4.6	5.6	7.8	-	-	-
Total %	0.0	2.6	26.0	0.8	0.1	-	29.5	0.0	1.5	25.3	15.5	4.9	-	47.2	0.0	0.3	0.4	0.8	1.1	-	2.6	0.0	17.0	1.0	1.2	1.6	-	20.7	-
Lights	0	149	1478	44	5	-	1676	1	84	1428	880	281	-	2674	0	16	24	47	63	-	150	0	965	55	66	92	-	1178	5678
% Lights	-	100.0	99.5	97.8	100.0	-	99.5	100.0	100.0	98.7	99.5	100.0	-	99.1	-	100.0	100.0	100.0	100.0	-	100.0	-	99.3	100.0	100.0	100.0	-	99.4	99.3
Other Vehicles	0	0	7	1	0	-	8	0	0	19	4	0	-	23	0	0	0	0	0	-	0	0	7	0	0	0	-	7	38
% Other Vehicles	-	0.0	0.5	2.2	0.0	-	0.5	0.0	0.0	1.3	0.5	0.0	-	0.9	-	0.0	0.0	0.0	0.0	-	0.0	-	0.7	0.0	0.0	0.0	-	0.6	0.7
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

David E. Wooster and Associates : Main Account
2 East Crafton Ave.

Pittsburgh, Pennsylvania, United States 15205
412-921-3303 jnelson@dewooster.com

Count Name: SR 50 & Newbury Dr. (SAT 11-2)
Site Code: 4392
Start Date: 09/23/2023



Turning Movement Data Plot

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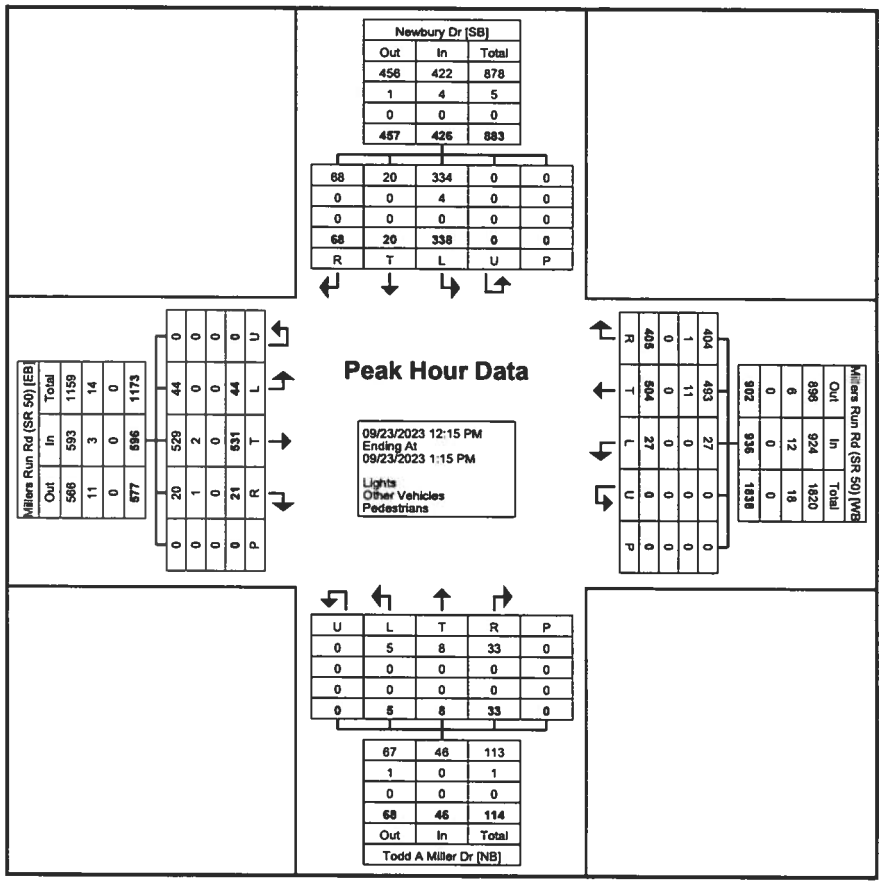
Turning Movement Peak Hour Data (12:15 PM)

Start Time	Millers Run Rd (SR 50) Eastbound							Millers Run Rd (SR 50) Westbound							Todd A Miller Dr Northbound							Newbury Dr Southbound							Int. Total
	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	U-Turn	Left	Thru	Right	Right on Red	Peds	App. Total	
12:15 PM	0	10	171	5	2	0	188	0	6	113	82	19	0	220	0	2	1	2	6	0	11	0	81	7	5	3	0	96	515
12:30 PM	0	14	130	9	2	0	155	0	5	115	78	21	0	219	0	2	0	4	2	0	8	0	75	3	5	9	0	92	474
12:45 PM	0	11	122	1	0	0	134	0	6	142	70	38	0	256	0	1	5	3	5	0	14	0	104	4	14	16	0	138	542
1:00 PM	0	9	108	2	0	0	119	0	10	134	74	23	0	241	0	0	2	9	2	0	13	0	78	6	9	7	0	100	473
Total	0	44	531	17	4	0	596	0	27	504	304	101	0	936	0	5	8	18	15	0	46	0	338	20	33	35	0	426	2004
Approach %	0.0	7.4	89.1	2.9	0.7	-	-	0.0	2.9	53.8	32.5	10.8	-	-	0.0	10.9	17.4	39.1	32.6	-	-	0.0	79.3	4.7	7.7	8.2	-	-	-
Total %	0.0	2.2	26.5	0.8	0.2	-	29.7	0.0	1.3	25.1	15.2	5.0	-	46.7	0.0	0.2	0.4	0.9	0.7	-	2.3	0.0	16.9	1.0	1.6	1.7	-	21.3	-
PHF	0.000	0.786	0.776	0.472	0.500	-	0.793	0.000	0.675	0.887	0.927	0.664	-	0.914	0.000	0.625	0.400	0.500	0.625	-	0.821	0.000	0.813	0.714	0.589	0.547	-	0.772	0.924
Lights	0	44	529	16	4	-	593	0	27	493	303	101	-	924	0	5	8	18	15	-	46	0	334	20	33	35		422	1985
% Lights	-	100.0	99.6	94.1	100.0		99.5	-	100.0	97.8	99.7	100.0		98.7	-	100.0	100.0	100.0	100.0	-	100.0	-	98.8	100.0	100.0	100.0	-	99.1	99.1
Other Vehicles	0	0	2	1	0	-	3	0	0	11	1	0		12	0	0	0	0	0	-	0	0	4	0	0	0		4	19
% Other Vehicles	-	0.0	0.4	5.9	0.0	-	0.5	-	0.0	2.2	0.3	0.0	-	1.3	-	0.0	0.0	0.0	0.0	-	0.0	-	1.2	0.0	0.0	0.0	-	0.9	0.9
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

David E. Wooster and Associates : Main Account
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Count Name: SR 50 & Newbury Dr. (SAT 11-2)
Site Code: 4392
Start Date: 09/23/2023



Turning Movement Peak Hour Data Plot (12:15 PM)

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David E. Wooster and Associates : Main Account
2 East Crafton Ave.

Pittsburgh, Pennsylvania, United States 15205
412-921-3303 jnelson@dewooster.com

Count Name: Newbury Dr. & Plaza Access (7-9 am)
Site Code: 4392
Start Date: 09/21/2023

Turning Movement Data

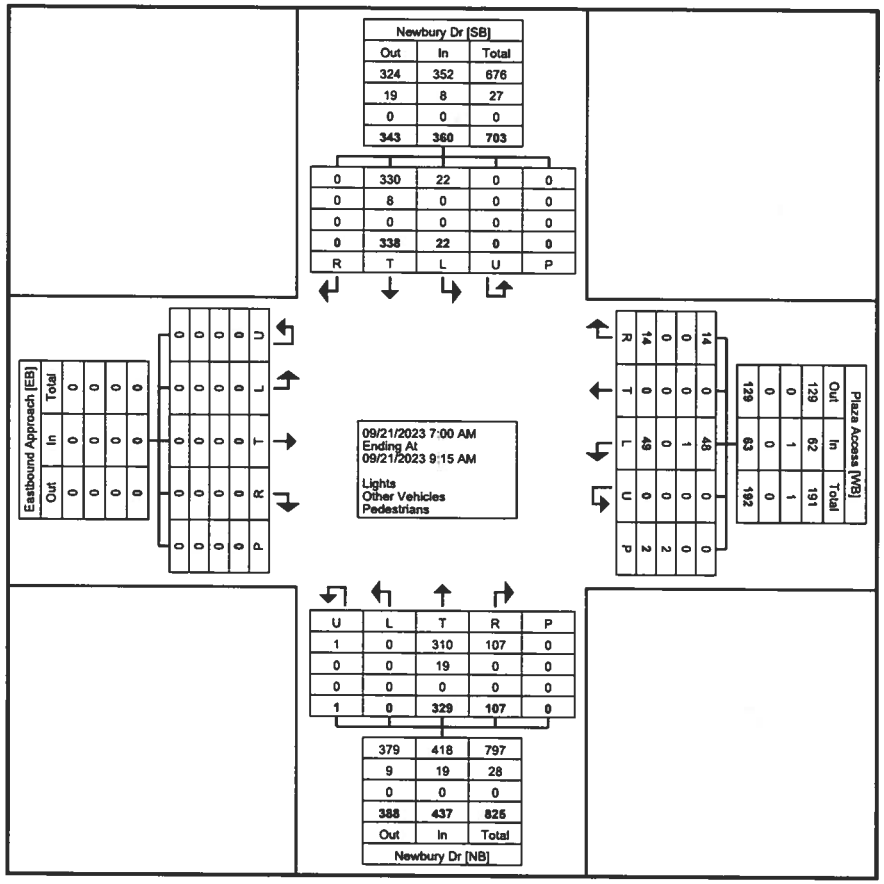
Start Time	Eastbound Approach Eastbound						Plaza Access Westbound						Newbury Dr Northbound						Newbury Dr Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	37	7	0	44	0	0	32	0	0	32	77
7:15 AM	0	0	0	0	0	0	0	5	0	0	0	5	0	0	21	15	0	36	0	2	25	0	0	27	68
7:30 AM	0	0	0	0	0	0	0	5	0	0	0	5	0	0	29	6	0	35	0	1	37	0	0	38	78
7:45 AM	0	0	0	0	0	0	0	4	0	2	0	6	0	0	46	20	0	66	0	2	47	0	0	49	121
Hourly Total	0	0	0	0	0	0	0	14	0	3	0	17	0	0	133	48	0	181	0	5	141	0	0	146	344
8:00 AM	0	0	0	0	0	0	0	10	0	3	0	13	0	0	35	15	0	50	0	4	37	0	0	41	104
8:15 AM	0	0	0	0	0	0	0	6	0	4	0	10	0	0	46	13	0	59	0	5	42	0	0	47	116
8:30 AM	0	0	0	0	0	0	0	11	0	1	0	12	1	0	57	16	0	74	0	3	63	0	0	66	152
8:45 AM	0	0	0	0	0	0	0	8	0	3	2	11	0	0	58	15	0	73	0	5	55	0	0	60	144
Hourly Total	0	0	0	0	0	0	0	35	0	11	2	46	1	0	196	59	0	256	0	17	197	0	0	214	516
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	49	0	14	2	63	1	0	329	107	0	437	0	22	338	0	0	360	860
Approach %	0.0	0.0	0.0	0.0	-	-	0.0	77.8	0.0	22.2	-	-	0.2	0.0	75.3	24.5	-	-	0.0	6.1	93.9	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	0.0	5.7	0.0	1.6	-	7.3	0.1	0.0	38.3	12.4	-	50.8	0.0	2.6	39.3	0.0	-	41.9	-
Lights	0	0	0	0	-	0	0	48	0	14	-	62	1	0	310	107	-	418	0	22	330	0	-	352	832
% Lights	-	-	-	-	-	-	-	98.0	-	100.0	-	98.4	100.0	-	94.2	100.0	-	95.7	-	100.0	97.6	-	-	97.8	96.7
Other Vehicles	0	0	0	0	-	0	0	1	0	0	-	1	0	0	19	0	-	19	0	0	8	0	-	8	28
% Other Vehicles	-	-	-	-	-	-	-	2.0	-	0.0	-	1.6	0.0	-	5.8	0.0	-	4.3	-	0.0	2.4	-	-	2.2	3.3
Pedestrians	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-

WOOSTER
TRAFFIC ▲ PERMITS ▲ SIGNALS

David E. Wooster and Associates : Main Account
2 East Crafton Ave.

Pittsburgh, Pennsylvania, United States 15205
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Count Name: Newbury Dr. & Plaza Access (7-9 am)
Site Code: 4392
Start Date: 09/21/2023



Turning Movement Data Plot

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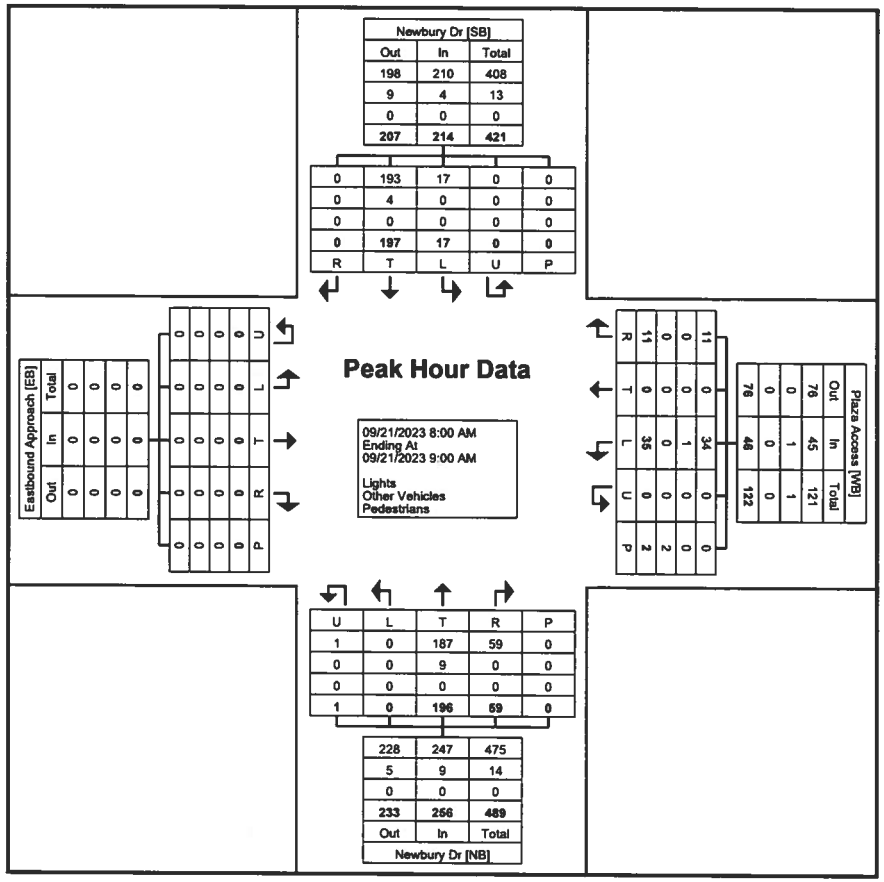
Count Name: Newbury Dr. & Plaza Access (7-9 am)
Site Code: 4392
Start Date: 09/21/2023

Turning Movement Peak Hour Data (8:00 AM)

Start Time	Eastbound Approach Eastbound						Plaza Access Westbound						Newbury Dr Northbound						Newbury Dr Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
8:00 AM	0	0	0	0	0	0	0	10	0	3	0	13	0	0	35	15	0	50	0	4	37	0	0	41	104
8:15 AM	0	0	0	0	0	0	0	6	0	4	0	10	0	0	46	13	0	59	0	5	42	0	0	47	116
8:30 AM	0	0	0	0	0	0	0	11	0	1	0	12	1	0	57	16	0	74	0	3	63	0	0	66	152
8:45 AM	0	0	0	0	0	0	0	8	0	3	2	11	0	0	58	15	0	73	0	5	55	0	0	60	144
Total	0	0	0	0	0	0	0	35	0	11	2	46	1	0	196	59	0	256	0	17	197	0	0	214	516
Approach %	0.0	0.0	0.0	0.0	-	-	0.0	76.1	0.0	23.9	-	-	0.4	0.0	76.6	23.0	-	-	0.0	7.9	92.1	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	0.0	6.8	0.0	2.1	-	8.9	0.2	0.0	38.0	11.4	-	49.6	0.0	3.3	38.2	0.0	-	41.5	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.000	0.795	0.000	0.688	-	0.885	0.250	0.000	0.845	0.922	-	0.865	0.000	0.850	0.782	0.000	-	0.811	0.849
Lights	0	0	0	0	-	0	0	34	0	11	-	45	1	0	187	59	-	247	0	17	193	0	-	210	502
% Lights	-	-	-	-	-	-	-	97.1	-	100.0	-	97.8	100.0	-	95.4	100.0	-	96.5	-	100.0	98.0	-	-	98.1	97.3
Other Vehicles	0	0	0	0	-	0	0	1	0	0	-	1	0	0	9	0	-	9	0	0	4	0	-	4	14
% Other Vehicles	-	-	-	-	-	-	-	2.9	-	0.0	-	2.2	0.0	-	4.6	0.0	-	3.5	-	0.0	2.0	-	-	1.9	2.7
Pedestrians	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-

David E. Wooster and Associates : Main Account
2 East Crafton Ave.

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Turning Movement Peak Hour Data Plot (8:00 AM)

David E. Wooster and Associates : Main Account
2 East Crafton Ave.

Pittsburgh, Pennsylvania, United States 15205
412-921-3303 jnelson@dewooster.com

Count Name: Newbury Dr. & Plaza Access (4-6 pm)
Site Code: 4392
Start Date: 09/21/2023

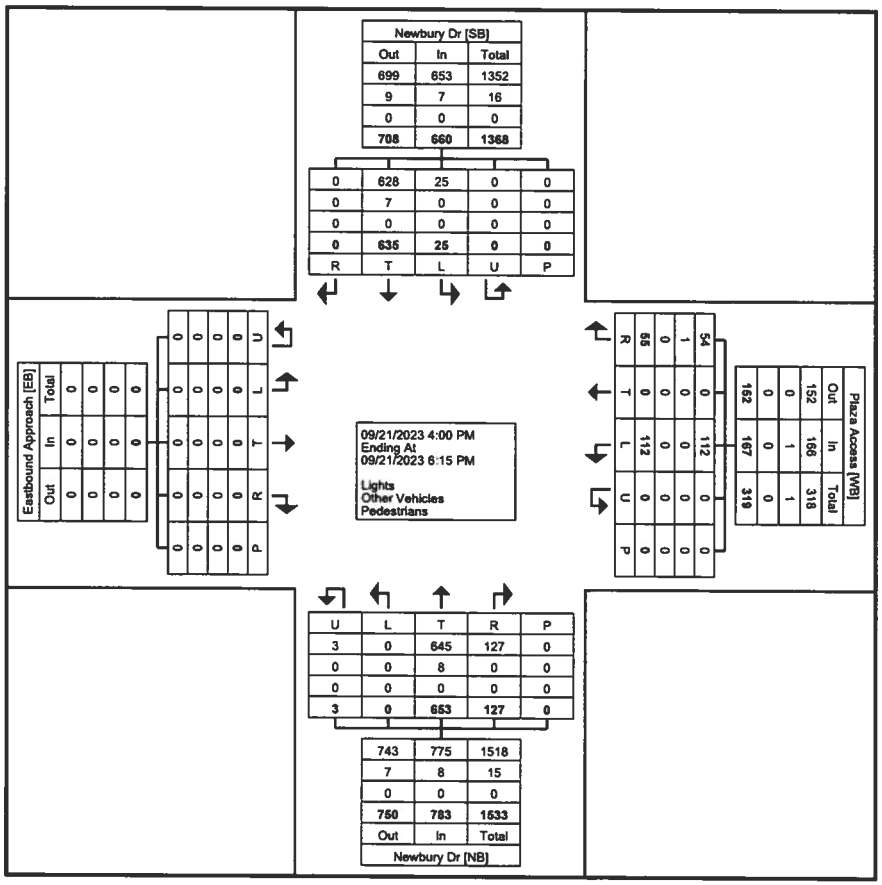
Turning Movement Data

Start Time	Eastbound Approach Eastbound						Plaza Access Westbound						Newbury Dr Northbound						Newbury Dr Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
4:00 PM	0	0	0	0	0	0	0	10	0	9	0	19	0	0	75	11	0	86	0	4	115	0	0	119	224
4:15 PM	0	0	0	0	0	0	0	17	0	7	0	24	0	0	64	12	0	76	0	6	80	0	0	86	186
4:30 PM	0	0	0	0	0	0	0	15	0	5	0	20	0	0	101	17	0	118	0	1	65	0	0	66	204
4:45 PM	0	0	0	0	0	0	0	15	0	7	0	22	0	0	91	22	0	113	0	2	74	0	0	76	211
Hourly Total	0	0	0	0	0	0	0	57	0	28	0	85	0	0	331	62	0	393	0	13	334	0	0	347	825
5:00 PM	0	0	0	0	0	0	0	19	0	9	0	28	0	0	82	15	0	97	0	4	76	0	0	80	205
5:15 PM	0	0	0	0	0	0	0	18	0	8	0	26	0	0	69	15	0	84	0	5	66	0	0	71	181
5:30 PM	0	0	0	0	0	0	0	7	0	8	0	15	0	0	89	18	0	107	0	0	81	0	0	81	203
5:45 PM	0	0	0	0	0	0	0	11	0	2	0	13	3	0	82	17	0	102	0	3	78	0	0	81	196
Hourly Total	0	0	0	0	0	0	0	55	0	27	0	82	3	0	322	65	0	390	0	12	301	0	0	313	785
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	112	0	55	0	167	3	0	653	127	0	783	0	25	635	0	0	660	1610
Approach %	0.0	0.0	0.0	0.0	-	-	0.0	67.1	0.0	32.9	-	-	0.4	0.0	83.4	16.2	-	-	0.0	3.8	96.2	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	0.0	7.0	0.0	3.4	-	10.4	0.2	0.0	40.6	7.9	-	48.6	0.0	1.6	39.4	0.0	-	41.0	-
Lights	0	0	0	0	-	0	0	112	0	54	-	166	3	0	645	127	-	775	0	25	628	0	-	653	1594
% Lights	-	-	-	-	-	-	-	100.0	-	98.2	-	99.4	100.0	-	98.8	100.0	-	99.0	-	100.0	98.9	-	-	98.9	99.0
Other Vehicles	0	0	0	0	-	0	0	0	0	1	-	1	0	0	8	0	-	8	0	0	7	0	-	7	16
% Other Vehicles	-	-	-	-	-	-	-	0.0	-	1.8	-	0.6	0.0	-	1.2	0.0	-	1.0	-	0.0	1.1	-	-	1.1	1.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

David E. Wooster and Associates : Main Account
2 East Crafton Ave.

Pittsburgh, Pennsylvania, United States 15205
412-921-3303 jnelson@dewooster.com

Count Name: Newbury Dr. & Plaza Access (4-6 pm)
Site Code: 4392
Start Date: 09/21/2023



Turning Movement Data Plot

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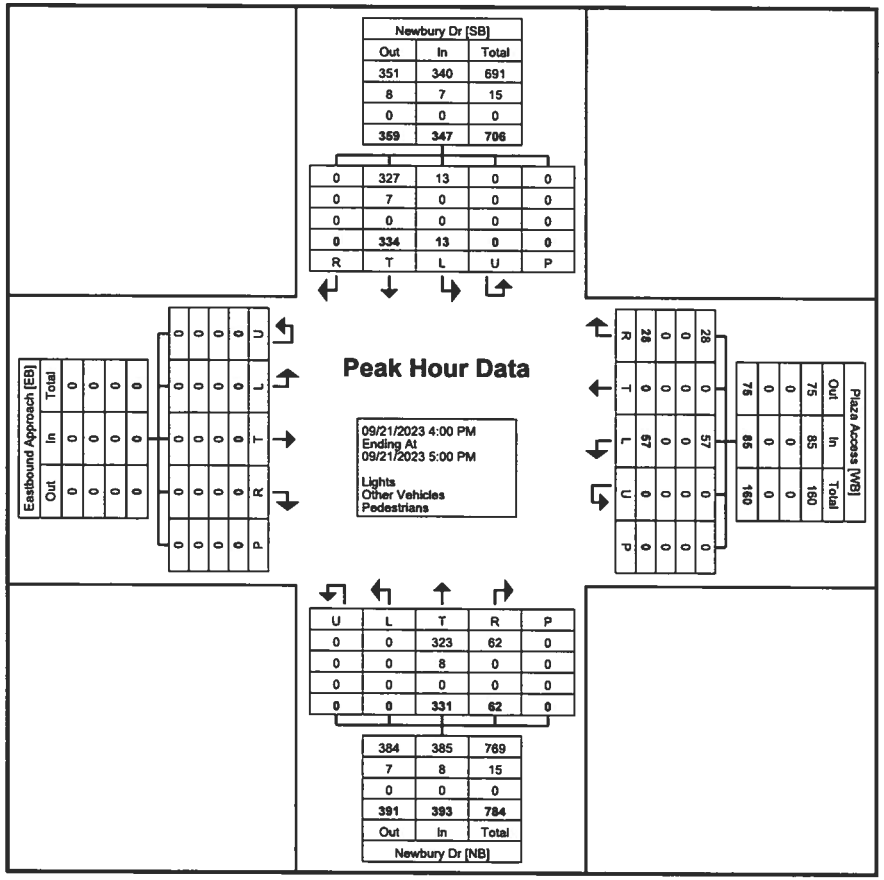
Count Name: Newbury Dr. & Plaza Access (4-6 pm)
Site Code: 4392
Start Date: 09/21/2023

Turning Movement Peak Hour Data (4:00 PM)

Start Time	Eastbound Approach Eastbound						Plaza Access Westbound						Newbury Dr Northbound						Newbury Dr Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
4:00 PM	0	0	0	0	0	0	0	10	0	9	0	19	0	0	75	11	0	86	0	4	115	0	0	119	224
4:15 PM	0	0	0	0	0	0	0	17	0	7	0	24	0	0	64	12	0	76	0	6	80	0	0	86	186
4:30 PM	0	0	0	0	0	0	0	15	0	5	0	20	0	0	101	17	0	118	0	1	65	0	0	66	204
4:45 PM	0	0	0	0	0	0	0	15	0	7	0	22	0	0	91	22	0	113	0	2	74	0	0	76	211
Total	0	0	0	0	0	0	0	57	0	28	0	85	0	0	331	62	0	393	0	13	334	0	0	347	825
Approach %	0.0	0.0	0.0	0.0	-	-	0.0	67.1	0.0	32.9	-	-	0.0	0.0	84.2	15.8	-	-	0.0	3.7	96.3	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	0.0	6.9	0.0	3.4	-	10.3	0.0	0.0	40.1	7.5	-	47.6	0.0	1.6	40.5	0.0	-	42.1	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.000	0.838	0.000	0.778	-	0.885	0.000	0.000	0.819	0.705	-	0.833	0.000	0.542	0.726	0.000	-	0.729	0.921
Lights	0	0	0	0	-	0	0	57	0	28	-	85	0	0	323	62	-	385	0	13	327	0	-	340	810
% Lights	-	-	-	-	-	-	-	100.0	-	100.0	-	100.0	-	-	97.6	100.0	-	98.0	-	100.0	97.9	-	-	98.0	98.2
Other Vehicles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	8	0	-	8	0	0	7	0	-	7	15
% Other Vehicles	-	-	-	-	-	-	-	0.0	-	0.0	-	0.0	-	-	2.4	0.0	-	2.0	-	0.0	2.1	-	-	2.0	1.8
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Turning Movement Peak Hour Data Plot (4:00 PM)

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412-921-3303 jnelson@dewooster.com

Count Name: Newbury Dr. & Plaza Access (SAT 11-2)
Site Code: 4392
Start Date: 09/23/2023

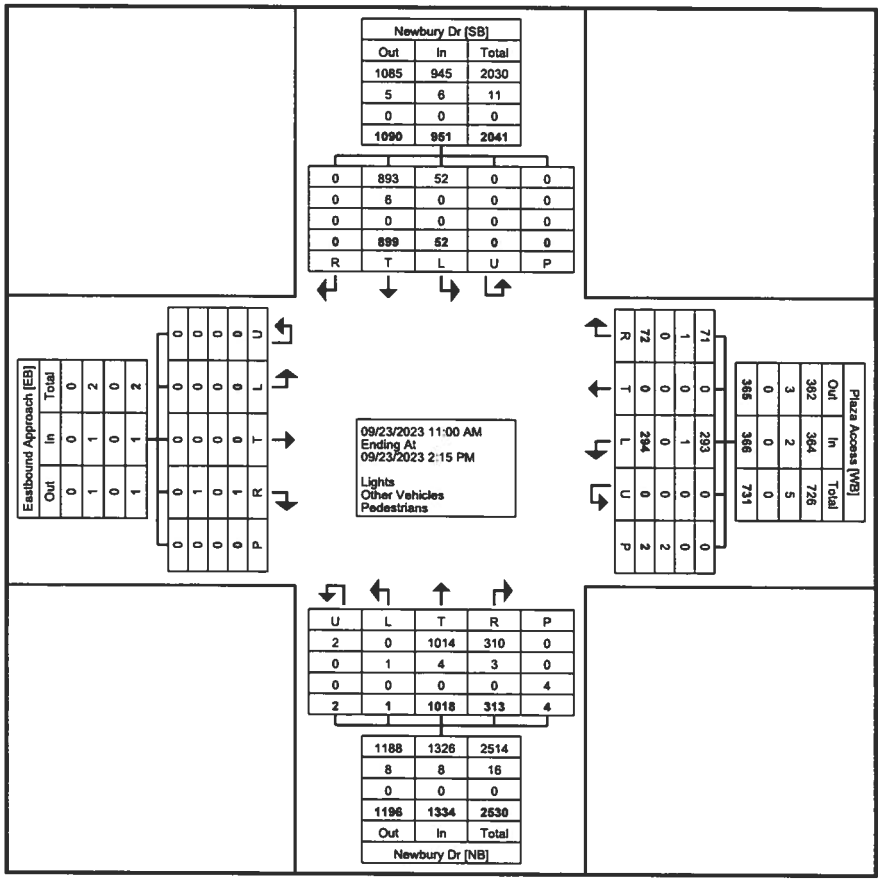
Turning Movement Data

Start Time	Eastbound Approach Eastbound						Plaza Access Westbound						Newbury Dr Northbound						Newbury Dr Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
11:00 AM	0	0	0	0	0	0	0	14	0	7	0	21	0	1	87	28	0	116	0	4	68	0	0	72	209
11:15 AM	0	0	0	0	0	0	0	29	0	3	0	32	0	0	74	18	0	92	0	3	79	0	0	82	206
11:30 AM	0	0	0	0	0	0	0	24	0	7	0	31	0	0	95	33	0	128	0	5	65	0	0	70	229
11:45 AM	0	0	0	0	0	0	0	22	0	10	0	32	0	0	71	31	0	102	0	4	98	0	0	102	236
Hourly Total	0	0	0	0	0	0	0	89	0	27	0	116	0	1	327	110	0	438	0	16	310	0	0	326	880
12:00 PM	0	0	0	0	0	0	0	24	0	4	0	28	1	0	67	21	0	89	0	4	66	0	0	70	187
12:15 PM	0	0	0	0	0	0	0	22	0	8	2	30	0	0	78	36	4	114	0	3	71	0	0	74	218
12:30 PM	0	0	0	1	0	1	0	26	0	5	0	31	0	0	91	24	0	115	0	3	66	0	0	69	216
12:45 PM	0	0	0	0	0	0	0	36	0	9	0	45	0	0	91	31	0	122	0	6	104	0	0	110	277
Hourly Total	0	0	0	1	0	1	0	108	0	26	2	134	1	0	327	112	4	440	0	16	307	0	0	323	898
1:00 PM	0	0	0	0	0	0	0	19	0	8	0	27	1	0	88	22	0	111	0	3	76	0	0	79	217
1:15 PM	0	0	0	0	0	0	0	27	0	1	0	28	0	0	85	20	0	105	0	4	62	0	0	66	199
1:30 PM	0	0	0	0	0	0	0	25	0	7	0	32	0	0	102	33	0	135	0	7	73	0	0	80	247
1:45 PM	0	0	0	0	0	0	0	26	0	3	0	29	0	0	89	16	0	105	0	6	71	0	0	77	211
Hourly Total	0	0	0	0	0	0	0	97	0	19	0	116	1	0	364	91	0	456	0	20	282	0	0	302	874
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	1	0	1	0	294	0	72	2	366	2	1	1018	313	4	1334	0	52	899	0	0	951	2652
Approach %	0.0	0.0	0.0	100.0	-	-	0.0	80.3	0.0	19.7	-	-	0.1	0.1	76.3	23.5	-	-	0.0	5.5	94.5	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	0.0	11.1	0.0	2.7	-	13.8	0.1	0.0	38.4	11.8	-	50.3	0.0	2.0	33.9	0.0	-	35.9	-
Lights	0	0	0	0	-	0	0	293	0	71	-	364	2	0	1014	310	-	1326	0	52	893	0	-	945	2635
% Lights	-	-	-	0.0	-	0.0	-	99.7	-	98.6	-	99.5	100.0	0.0	99.6	99.0	-	99.4	-	100.0	99.3	-	-	99.4	99.4
Other Vehicles	0	0	0	1	-	1	0	1	0	1	-	2	0	1	4	3	-	8	0	0	6	0	-	6	17
% Other Vehicles	-	-	-	100.0	-	100.0	-	0.3	-	1.4	-	0.5	0.0	100.0	0.4	1.0	-	0.6	-	0.0	0.7	-	-	0.6	0.6
Pedestrians	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	4	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

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Count Name: Newbury Dr. & Plaza Access (SAT 11-2)
Site Code: 4392
Start Date: 09/23/2023



Turning Movement Data Plot

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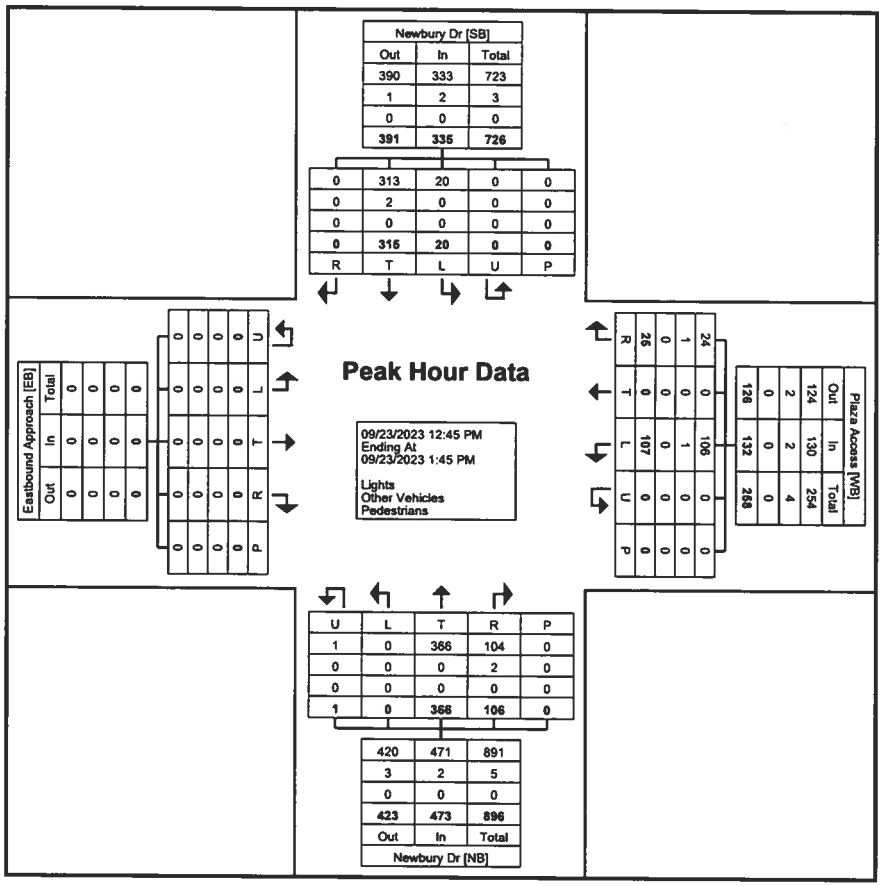
Turning Movement Peak Hour Data (12:45 PM)

Start Time	Eastbound Approach Eastbound						Plaza Access Westbound						Newbury Dr Northbound						Newbury Dr Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
12:45 PM	0	0	0	0	0	0	0	36	0	9	0	45	0	0	91	31	0	122	0	6	104	0	0	110	277
1:00 PM	0	0	0	0	0	0	0	19	0	8	0	27	1	0	88	22	0	111	0	3	76	0	0	79	217
1:15 PM	0	0	0	0	0	0	0	27	0	1	0	28	0	0	85	20	0	105	0	4	62	0	0	66	199
1:30 PM	0	0	0	0	0	0	0	25	0	7	0	32	0	0	102	33	0	135	0	7	73	0	0	80	247
Total	0	0	0	0	0	0	0	107	0	25	0	132	1	0	366	106	0	473	0	20	315	0	0	335	940
Approach %	0.0	0.0	0.0	0.0	-	-	0.0	81.1	0.0	18.9	-	-	0.2	0.0	77.4	22.4	-	-	0.0	6.0	94.0	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	0.0	11.4	0.0	2.7	-	14.0	0.1	0.0	38.9	11.3	-	50.3	0.0	2.1	33.5	0.0	-	35.6	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.000	0.743	0.000	0.694	-	0.733	0.250	0.000	0.897	0.803	-	0.876	0.000	0.714	0.757	0.000	-	0.761	0.848
Lights	0	0	0	0	-	0	0	106	0	24	-	130	1	0	366	104	-	471	0	20	313	0	-	333	934
% Lights	-	-	-	-	-	-	-	99.1	-	96.0	-	98.5	100.0	-	100.0	98.1	-	99.6	-	100.0	99.4	-	-	99.4	99.4
Other Vehicles	0	0	0	0	-	0	0	1	0	1	-	2	0	0	0	2	-	2	0	0	2	0	-	2	6
% Other Vehicles	-	-	-	-	-	-	-	0.9	-	4.0	-	1.5	0.0	-	0.0	1.9	-	0.4	-	0.0	0.6	-	-	0.6	0.6
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Count Name: Newbury Dr. & Plaza Access (SAT 11-2)
Site Code: 4392
Start Date: 09/23/2023



Turning Movement Peak Hour Data Plot (12:45 PM)

APPENDIX C

Photo Log of Existing Study Intersections



On Todd A .Miller Drive, looking north toward the intersection with Millers Run Road (SR 0050) / Newbury Drive



On Newbury Drive, looking south toward the intersection with Millers Run Road (SR 0050) / Todd A .Miller Drive



On Millers Run Road (SR 0050), looking east toward the intersection with Newbury Drive / Todd A .Miller Drive



On Millers Run Road (SR 0050), looking west toward the intersection with Newbury Drive / Todd A .Miller Drive



On Newbury Drive, looking north toward the intersection with the Plaza Access / Proposed Site Drive C



On Newbury Drive, looking south toward the intersection with the Plaza Access / Proposed Site Drive C



At the Proposed Site Drive C, looking east across Newbury Drive to the intersection with the Plaza Access



At the Plaza Access, looking west across Newbury Drive to the Proposed Site Drive C

APPENDIX D

Traffic Signal Permit Plans

PERMIT NO. 1-105-14 SHEET 2 OF 3

DATE ISSUED _____ DATE REVISED 9/10/2018

SIGNS

PLAN SYMBOL	SERIES DESIGNATION	SIZE W x H	DESCRIPTION	QTY.
A	R10-3EL	9"x15"	EDUC. PUSH BUTTON FOR WALK SIGNAL WITH COUNTDOWN TIMER SIGN ←	4
B	R10-3ER	9"x15"	EDUC. PUSH BUTTON FOR WALK SIGNAL WITH COUNTDOWN TIMER SIGN →	4
C	R3-5L	30"x36"	LEFT TURN	5
D	R3-5S	30"x36"	STRAIGHT THRU	4
E	R3-5R	30"x36"	RIGHT TURN	2
F	R3-6SR	30"x36"	OPTIONAL RIGHT TURN	2
G	D3-4*	**	Millers Run Rd	2
H	D3-5*	**	← Newbury Dr / Municipal Dr →	1
I	D3-5*	**	← Municipal Dr / Newbury Dr →	1
J	R1-2	36"x36"	YIELD	2
K	R1-5L	18"x18"	YIELD HERE TO PEDESTRIANS ↙	2
L	R10-10L	30"x36"	LEFT TURN SIGNAL	5
M	OM1-3	18"x18"	OBJECT MARKER	1
N	R4-7	24"x30"	KEEP RIGHT	1
O	R4-102	30"x36"	LEFT LANE NO TRUCKS	1

*WHITE LEGEND ON GREEN BACKGROUND

**THE CONTRACTOR IS RESPONSIBLE TO PROVIDE SHOP DRAWINGS, DETAILING THE REQUIRED SIGN SIZE, IN ACCORDANCE WITH PENNDOT PUBLICATION 111M, TC-8700 SERIES MOST RECENT VERSION, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

SIGNAL ASSEMBLY NOTES:

EQUIP VEHICLE SIGNALS WITH SCOOP TUNNEL VISORS.

EQUIP ALL VEHICLE SIGNALS WITH METAL LOUVERED REFLECTIVE BACK PLATES.

ALL SIGNALS L.E.D. MODULES.

MIN/MAX HEIGHT FOR VEHICULAR SIGNALS OVER ROADWAY SHALL BE 17'/18'.

MIN/MAX HEIGHT FOR PEDESTRIAN SIGNALS SHALL BE 10'/15'.

ALL PEDESTRIAN SIGNALS SINGLE UNIT, HAND/MAN OVERLAY, EQUIPPED WITH L.E.D. LENSES.

FINAL PLACEMENT OF SIGNALS DETERMINED BY REPRESENTATIVE OF TRAFFIC ENGINEERING UNIT.

LASH SIGNAL CABLE TO SPAN. NO CABLE TIES PERMITTED.

NOTES:

1. SEE SHEET 2 of 20 FOR:
   - DETECTOR LAYOUT DETAIL
   - ELECTRICAL SERVICE TYPE B MODIFIED DETAIL
   - ELECTRICAL SERVICE TYPE B MODIFIED GROUND DETAIL
   - TYPICAL SIGNAL SUPPORT GROUNDING DETAIL
   - GENERAL NOTES
2. SEE SIGNING, PAVEMENT MARKING & DELINEATION PLANS FOR ADDITIONAL INFORMATION

REVISIONS:
- INSTALLED CONTROLLER ASSEMBLY
- INSTALLED RADIO COMMUNICATION SYSTEM
- INSTALLED ADAPTIVE TRAFFIC SIGNAL SYSTEM AND VIDEO DETECTION
- INSTALLED LUMINAIRE ARMS

LEGEND

DY/4" - DOUBLE YELLOW/WIDTH
BW/6" - BROKEN WHITE LINE/WIDTH
W/6" - SOLID WHITE LINE/WIDTH
Y/4" - SOLID YELLOW LINE/WIDTH
dW/6" - DASHED WHITE LINE/WIDTH
6 - MAST ARM
2 - STRAIN POLE
2 - PEDESTAL POLE
C/2" - CONDUIT/SIZE
- CONTROLLER ASSEMBLY
- DETECTABLE WARNING SURFACE
- WORK DONE BY OTHERS
- RADIO COMMUNICATION ANTENNA
1 - VEHICLE VIDEO DETECTOR
(1) - VIDEO DETECTION ZONE

14 - PEDESTRIAN SIGNAL HEAD
4 - VEHICULAR SIGNAL HEAD
A - SIGN
4 - VEHICLE DETECTOR
4 - PEDESTRIAN PUSH BUTTON
4 - JUNCTION BOX
0 - PREEMPTION DETECTOR
- CONFIRMATION LIGHT
- EXISTING FENCE
- EXISTING VEHICLE DETECTOR
- EXISTING SIGN
- EXISTING JUNCTION BOX
C/2 - EXISTING CONDUIT/SIZE
- LUMINAIRE ARM

NEWBURY DRIVE
NO POSTED SPEED LIMIT
NO SIGNALS WITHIN ONE MILE
+1.00%
BW/6"
W/6"
Y/4"

32' STRAIN POLE 3

14' PEDESTAL POLE 4
INCORPORATE BREAKAWAY POLE FOUNDATION INTO CURB RAMP BACKWALL

SR 0050 STA 209+73.75
SEG 0090 OFFSET 1219
SEG 0091 OFFSET 1304

PAVE AREA TO PEDESTRIAN ACCESSIBLE CONDITION

1280' TO SIGNAL AT SR 0050 & MILLERS RUN ROAD

SR 0050 MILLERS RUN ROAD

SHOULDER
10' SHOULDER
40 MPH -0.5%
(2) 6'x6' Ø2
(2) C/1"
JB12
250' TO STOP BAR
55' MAST ARM 7
L.A. 25'
L.A. 15'
L.A. 30'
W/24" TYP
W/12" TYP
10' TYP
4-C/1"
(6) C/1"
JB27
C/2"
C/3"
2-C/3"
2-C/1"
(2) C/1"
JB12

32' POLE 8
60' MAST ARM 6
40' MAST ARM 8
250' TO STOP BAR
50' MA
TO HICKORY GRADE RD
LEGAL RIGHT OF WAY LINE
515' TO SIGNAL AT HICKORY GRADE ROAD

CONTROLLER ASSMEBLY TYPE II MOUNTING ELECTRICAL SERVICE TYPE C MODIFIED

*EXISTING ITEM FROM SIGNAL AT HICKORY GRADE RD

32' STRAIN POLE 2
INCORPORATE POLE FOUNDATION INTO CURB RAMP BACKWALL

14' PEDESTAL POLE 9
INCORPORATE BREAKAWAY POLE FOUNDATION INTO CURB RAMP BACKWALL

MUNICIPAL DRIVE
NO SIGNALS WITHIN ONE MILE
NO POSTED SPEED LIMIT

NOTE:

DRIVEWAY CONSTRUCTION BEYOND THE RIGHT OF WAY TO BE DONE BY OTHERS. COORDINATE INSTALLATION OF TRAFFIC POLES, SIGNS, MARKINGS AND DETECTORS WITH DRIVEWAY CONTRACTOR(S).

SIGNALS

SIGNALS 1-4-7-8-11
SIGNALS 2-3-5-6-9 10-12-13
SYMBOL TYPE B PEDESTRIAN SIGNAL WITH COUNTDOWN TIMER
SIGNALS 14-15-16-17 18-19-20-21
a-b-c-d

REVISIONS ONLY

DANIEL RAY FRITZ — REGISTERED PROFESSIONAL — ENGINEER — 10/16/2018

RAYMOND FRANCIS CARUSO — COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ENGINEER

COUNTY: ALLEGHENY
MUNICIPALITY: SOUTH FAYETTE TOWNSHIP
INTERSECTION: S.R. 0050 (MILLERS RUN RD.) AND NEWBURY DR. / MUNICIPAL DR.

APPROVED BY: _____ 10-24-2018
MUNICIPAL OFFICIAL DATE

RECOMMENDED: _____ 10/24/18
DISTRICT TRAFFIC ENGINEER DATE

SCALE: 0 25 50 FEET

PLOTTED: 9/17/2018 2:53:11 PM
OPERATOR: cbaker
FILE NAME: N:\35013-000\CADD\Traffic\2015 GLG 127 - South Fayette\Final Permit Plans\26-003-35013-TSP (SR 50 AT MUNICIPAL DR AND NEWBURY DR) REVISED 110-041

PERMIT NO. 1-105-14 SHEET 3 OF 3

DATE ISSUED _____ DATE REVISED 9/10/2018

PHASING DIAGRAM

NEMA RACKMOUNT CONTROLLER WITH MANUAL CORD UPS AND BATTERY BACKUP

	PHASE 1+5	PHASE 1+6	PHASE 2+5	PHASE 2+6	PHASE 3+7	PHASE 3+8	PHASE 4+7	PHASE 4+8	PREEMPT 1+6	PREEMPT 2+5	PREEMPT 3+8	PREEMPT 4+7	EMERGENCY FLASHING
	INTERVALS	INTERVALS	INTERVALS	INTERVALS	INTERVALS	INTERVALS	INTERVALS	INTERVALS	INTERVALS	INTERVALS	INTERVALS	INTERVALS	
SIGNALS	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	
1	-G- -Y- R	-G- -G- -Y- R	R R R R	R R R R	R R R	R R R	R R R R	R R R R	SELECTIVE CLEARANCE -G- -Y- R	SELECTIVE CLEARANCE R R R	SELECTIVE CLEARANCE R R R	SELECTIVE CLEARANCE R R R	OFF
2-3	R R R	G G Y R	R R R R	G G Y R	R R R	R R R R	R R R R	R R R R	G Y R	R R R	R R R	R R R	Y
4	-G- -Y- R	R R R R	-G- -G- -Y- R	R R R R	R R R	R R R R	R R R R	R R R R	R R R	-G- -Y- R	R R R	R R R	OFF
5-6	R R R	R R R R	G G Y R	G G Y R	R R R	R R R R	R R R R	R R R R	R R R	G Y R	R R R	R R R	Y
7-8	R R R	R R R R	R R R R	R R R R	-G- -Y- R	R R R R	-G- -Y- R	R R R R	R R R	R R R	R R R	-G- -Y- R	OFF
9-10	R R R	R R R R	R R R R	R R R R	R R R	R R R R	G Y R R	R R R R	R R R	R R R	R R R	G Y R	R
11	R R R	R R R R	R R R R	R R R R	-G- -Y- R	-G- -G- -Y- R	R R R R	R R R R	R R R	R R R	-G- -Y- R	R R R	OFF
12-13	R R R	R R R R	R R R R	R R R R	G G Y R	R R R R	R R R R	G G Y R	R R R	R R R	G Y R	R R R	R
◇P 14-19	DW DW DW	DW DW DW DW	DW DW DW DW	DW DW DW DW	DW DW DW	W FD DW DW	DW DW DW DW	W FD DW DW	OFF DW DW DW	OFF DW DW DW	OFF DW DW DW	OFF DW DW DW	OFF
◇P 15-16	DW DW DW	DW DW DW DW	W FD DW DW	DW DW DW DW	DW DW DW	DW DW DW DW	DW DW DW DW	DW DW DW DW	OFF DW DW DW	OFF DW DW DW	OFF DW DW DW	OFF DW DW DW	OFF
◇P 17-18	DW DW DW	W FD DW DW	DW DW DW DW	W FD DW DW	DW DW DW	DW DW DW DW	DW DW DW DW	W FD DW DW	OFF DW DW DW	OFF DW DW DW	OFF DW DW DW	OFF DW DW DW	OFF
◇P 20-21	DW DW DW	DW DW DW DW	DW DW DW DW	DW DW DW DW	DW DW DW	DW DW DW DW	DW DW DW DW	W FD DW DW	OFF DW DW DW	OFF DW DW DW	OFF DW DW DW	OFF DW DW DW	OFF
a	OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF OFF	OFF ON OFF OFF	OFF OFF OFF OFF	OFF
b	OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF OFF	OFF ON OFF OFF	OFF
c	OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF OFF	OFF ON OFF OFF	OFF OFF OFF OFF	OFF OFF OFF OFF	OFF
d	OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF OFF	OFF ON OFF OFF	OFF OFF OFF OFF	OFF OFF OFF OFF	OFF OFF OFF OFF	OFF
FIXED	X 4 2	X 4 2	X 4 2	X 4 2	X 3 3	X 3 3	X 3 3	X 3 3	(X) 4 2	(X) 4 2	(X) 3 3	(X) 3 3	
MIN. INITIAL	5	5	5	15	5	5	5	5					
SEC. ACT.				2.1									
MAX. INITIAL				25									
PASSAGE	2	2	2	10	2	2	2	2	(11)	(11)	(11)	(11)	
BEFORE RED.				15									
TO REDUCE.				10									
MIN. GAP				6									
MAX. I	25	25	10	60	20	20	20	35					
MAX. II	25	25	10	60	20	20	20	35					
			10				20						
PEDESTRIAN		(P)	(P)	7 23		(P2)	(P2)	7 23					
MEMORY	L	L	L	MN	L	L	L	NL					

MEMORY INCLUDES

MAX I - ALL OTHER TIMES
MAX II - 0600 TO 0900, MON THRU FRI
MAX III - 1500 TO 1800, MON THRU FRI

◇P UPON PEDESTRIAN ACTIVATION, OTHERWISE "DON'T WALK" AT ALL TIMES.
(P) TIMING WILL BE AS SHOWN IN PHASE 2+6. IT MAY TIME OUT IN THIS PHASE OR BE COMPLETED IN PHASE 2+6
(P2) TIMING WILL BE AS SHOWN IN PHASE 4+8 IT MAY TIME OUT IN THIS PHASE OR BE COMPLETED IN PHASE 4+8
(X) DURATION OF EMERGENCY VEHICLE ACTUATION OR MAXIMUM OF 60 SECONDS.

COORDINATION NOTES

CONTROLLERS INTERCONNECTED USING WIRELESS RADIO COMMUNICATION SYSTEM AND ARE PART OF AN ADAPTIVE SIGNAL SYSTEM AT THE FOLLOWING INTERSECTIONS:

S.R. 0050 AT S.R. 3026 (MILLERS RUN RD)
S.R. 0050 AT MUNICIPAL DR & NEWBURY DR
S.R. 0050 AT HICKORY GRADE RD
S.R. 0050 AT I-79 SB RAMPS
S.R. 0050 AT I-79 NB RAMPS
S.R. 0050 AT S.R. 3003 (WASHINGTON PIKE)
S.R. 0050 AT S.R. 3034 (CHARTIERS ST) & CHURCH ST
S.R. 3003 (WASHINGTON PIKE) AT DANIELL DR

PHASING NOTES

(1) →G- IF PHASE 1+6 FOLLOWS
(2) →G- IF PHASE 1+5 FOLLOWS
(3) →G- IF PHASE 2+5 FOLLOWS
(4) G IF PHASE 2+6 FOLLOWS
(5) G IF PHASE 1+6 FOLLOWS
(6) G IF PHASE 2+5 FOLLOWS
(7) →G- IF PHASE 4+7 FOLLOWS
(8) →G- IF PHASE 3+7 FOLLOWS
(9) →G- IF PHASE 3+8 FOLLOWS
(10) G IF PHASE 4+8 FOLLOWS
(11) PASSAGE TIME EQUALS THE TIME THE EMERGENCY VEHICLE ACTUATION IS IN CONTROL OF THE INTERSECTION.
(X) DURATION OF EMERGENCY VEHICLE ACTUATION OR MAXIMUM OF 60 SECONDS.

EMERGENCY VEHICLE PREEMPTION NOTES

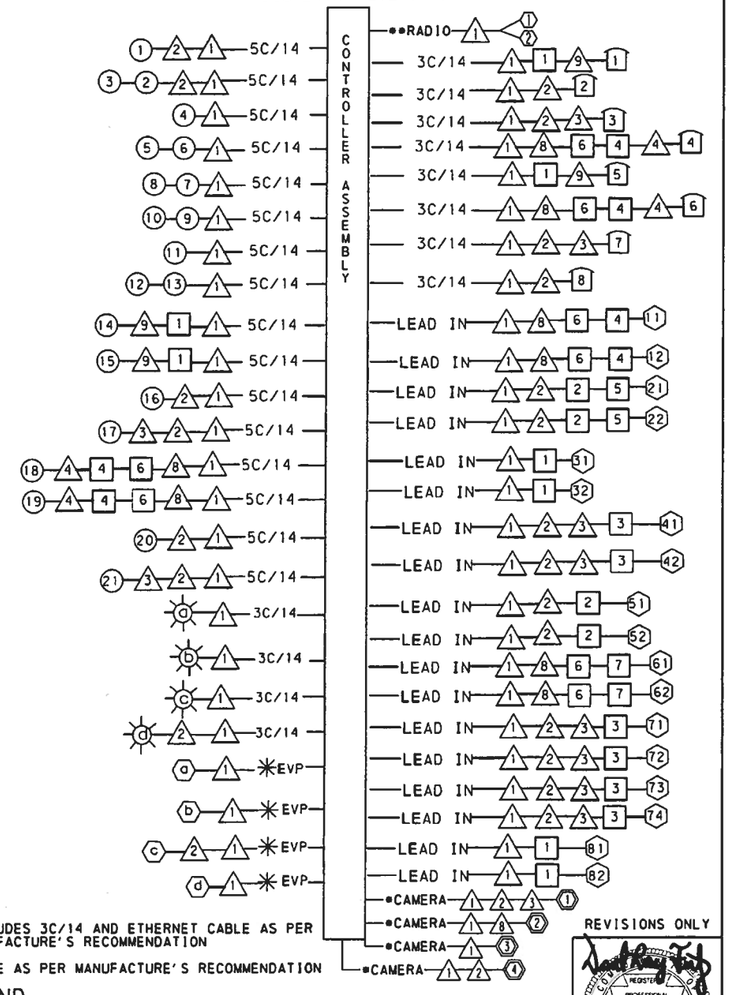
EMERGENCY PREEMPTION MAY OCCUR DURING ANY INTERVAL OF THE NORMAL CONTROLLER OPERATION. DEPENDING ON THE DIRECTION OF TRAVEL OF THE EMERGENCY VEHICLE, ONE OF THE FOLLOWING SHALL BE DISPLAYED: EMERGENCY PREEMPT PHASE 1+6, 2+5, 3+8, OR 4+7. THE SYSTEM SHALL PROVIDE SERVICE ON A FIRST-COME-FIRST-SERVED BASIS. ONCE THE FIRST PRIORITY VEHICLE CALLS THE SYSTEM, OTHER PREEMPTIVE VEHICLES SHALL BE PREVENTED FROM ENTERING CALLS UNTIL THE FIRST EMERGENCY VEHICLE RELEASES CONTROL AND CLEARS THE INTERSECTION.

UPON ACTIVATION OF AN EMERGENCY VEHICLE:

1. IF THE CONTROLLER OPERATION IS IN INTERVAL 1 OF A NON-PREEMPTION PHASE, THE CONTROLLER SHALL TERMINATE THE INTERVAL IMMEDIATELY AND PROCEED NORMALLY THROUGH THE YELLOW AND ALL RED INTERVALS PROCEEDING TO THE PREEMPTION PHASE.
2. IF THE CONTROLLER OPERATION IS IN INTERVAL 1 OF A PREEMPTION PHASE, THE CONTROLLER SHALL REMAIN IN THAT INTERVAL.
3. IF THE CONTROLLER OPERATION IS IN THE YELLOW OR ALL RED INTERVAL OF ANY PHASE, THE CONTROLLER SHALL TIME OUT THOSE INTERVALS NORMALLY BEFORE PROCEEDING TO THE PREEMPTION PHASES.
4. PROVIDE A FAIL SAFE INDICATION CONSISTING OF A FLASHING WHITE LIGHT FOR THE DIRECTION ON WHICH THE EMERGENCY VEHICLE IS APPROACHING. WHEN A CALL IS RECEIVING, THE FAIL SAFE INDICATION SHALL BE ACTIVATED. FLASH AT A RATE NOT LESS THAN 50 NOT MORE THAN 60 TIMES PER MINUTE.
5. UPON TERMINATION OF THE PREEMPTION PHASES, THE CONTROLLER SHALL PROCEED NORMALLY THROUGH THE YELLOW AND ALL RED INTERVALS TO NORMAL "PHASE NEXT" OPERATION.
6. ANY WALK INDICATION SHALL TERMINATE IMMEDIATELY FOLLOWED BY A FLASHING DON'T WALK INDICATION FOR THE NORMAL PEDESTRIAN CLEARANCE INTERVAL BEFORE PROCEEDING TO THE EMERGENCY PREEMPTION ROUTINE IN NOTES 1 & 2.
7. DISPLAY ANY FLASHING DON'T WALK INDICATION FOR NORMAL PEDESTRIAN CLEARANCE INTERVAL BEFORE PROCEEDING TO THE EMERGENCY PREEMPTION ROUTINE IN NOTES 1 & 2.
8. THE PREEMPTION PHASE GREEN INTERVAL SHALL BE 10 SECONDS AND THEN EXTEND FOR THE LENGTH OF THE PREEEMPTION ACTUATION OR A MAXIMUM OF 60 SECONDS.
9. IF THE PREEMPTION OCCURS DURING CONFLICT/TIME CLOCK FLASH THE TRAFFIC SIGNAL SHALL CONTINUE FLASHING.
10. PREEMPT TO COORDINATION: USED WHEN EMERGENCY PREEMPTION IS ACTIVATED DURING COORDINATION OPERATION TO ALLOW THE NEXT PERMISSIVE PHASE IN THE COORDINATION CYCLE TO BE SERVICED FOLLOWING PREEMPTION.

WIRING DIAGRAM

DISPLAYS DETECTORS



* INCLUDES 3C/14 AND ETHERNET CABLE AS PER MANUFACTURE'S RECOMMENDATION

** CABLE AS PER MANUFACTURE'S RECOMMENDATION

LEGEND

5C/14 - CABLE.
(NO. OF CONDUCTORS/SIZE AWG.)

- SIGNAL SUPPORT
- SIGNAL HEAD
- DETECTOR
- CONFIRMATION LIGHT
- PREEMPTION DETECTOR
- JUNCTION BOX
- PEDESTRIAN PUSH BUTTON
- VIDEO DETECTOR
- RADIO COMMUNICATION ANTENNA

REVISIONS ONLY

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL DANIEL RAY FRITZ ENGINEER NO. PE076640
10/16/2018

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL RAYMOND FRANCIS CARUSO ENGINEER No. 44106
FVC

COUNTY: ALLEGHENY
MUNICIPALITY: SOUTH FAYETTE TOWNSHIP
INTERSECTION: S.R. 0050 (MILLERS RUN RD.) AND NEWBURY DR. / MUNICIPAL DR.

APPROVED BY:
MUNICIPAL OFFICIAL — DATE 10-24-2018

RECOMMENDED:
DISTRICT TRAFFIC ENGINEER — DATE

PLOTTED: 9/17/2018 2:53:30 PM
OPERATOR: cbaker
FILE NAME: N:\35013-000\CADD\Traffic\2015 GLG 127 - South Fayette\Final Permit Plans\26-004-35013-TSP (SR 50 AT MUNICIPAL DR AND NEWBURY DR) REVISED 10-041 2013-TSP.dgn

APPENDIX E

Level of Service (LOS) Criteria Summary

LEVEL-OF-SERVICE CRITERIA
SIGNALIZED INTERSECTIONS

Level-of-Service for signalized intersections is defined in terms of delay. Delay is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. Specifically, Level-of-Service criteria are stated in terms of the average stopped delay per vehicle for a 15-minute analysis period.

Level-of-Service A describes operations with very low delay, i.e., less than 10.0 seconds per vehicle.

Level-of-Service B describes operations with delay in the range of 10.1 to 20.0 seconds per vehicle.

Level-of-Service C describes operations with delay in the range of 20.1 to 35.0 seconds per vehicle.

Level-of-Service D describes operations with delay in the range of 35.1 to 55.0 seconds per vehicle.

Level-of-Service E describes operations with delay in the range of 55.1 to 80.0 seconds per vehicle. This is considered to be the limit of acceptable delay.

Level-of-Service F describes operations with delay in excess of 80.0 seconds per vehicle. This is considered to be unacceptable to most drivers.

UNSIGNALIZED INTERSECTIONS

AVERAGE TOTAL DELAY (sec/veh)	LEVEL OF SERVICE	EXPECTED DELAY TO MINOR STREET TRAFFIC
≤ 10	A	Little or no delay
>10 and $\leq$15	B	Short traffic delays
>15 and $\leq$25	C	Average traffic delays
>25 and $\leq$35	D	Long traffic delays
>35 and $\leq$50	E	Very long delays
>50	F	*

* -- When demand volume exceeds the capacity of the lane, extreme delays will be encountered with queuing which may cause severe congestion affecting other traffic movements in the intersection. This condition usually warrants improvements to the intersection.

APPENDIX F

Synchro Printouts – *Existing Year 2023 Condition*

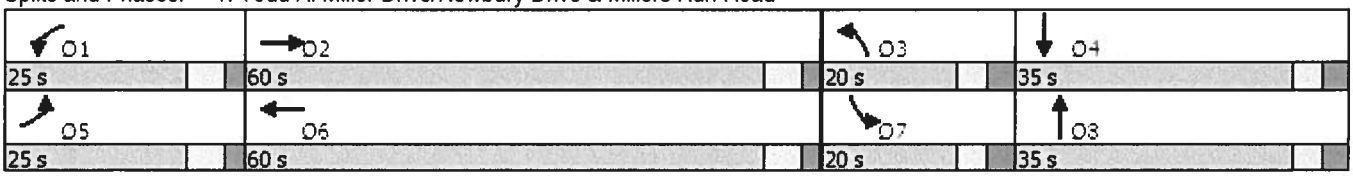
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	653	19	61	388	221	3	7	27	198	22	20
Future Volume (vph)	27	653	19	61	388	221	3	7	27	198	22	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	11	13	12	12	12	12	12	12
Grade (%)		-1%			-1%			-4%			1%	
Storage Length (ft)	225		0	200		350	0		0	375		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor												
Frt		0.996				0.850			0.850		0.928	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1639	3331	0	1778	3278	1613	1841	1700	1540	3416	1656	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1639	3331	0	1778	3278	1613	1841	1700	1540	3416	1656	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				243			117		22	
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		1114			644			295			551	
Travel Time (s)		19.0			11.0			8.0			15.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	5%	0%	2%	7%	4%	0%	14%	7%	2%	5%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	30	718	21	67	426	243	3	8	30	218	24	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	739	0	67	426	243	3	8	30	218	46	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Detector Phase	5	2		1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	21.0		11.0	21.0	21.0	11.0	11.0	11.0	11.0	11.0	
Total Split (s)	25.0	60.0		25.0	60.0	60.0	20.0	35.0	35.0	20.0	35.0	
Total Split (%)	17.9%	42.9%		17.9%	42.9%	42.9%	14.3%	25.0%	25.0%	14.3%	25.0%	
Maximum Green (s)	19.0	54.0		19.0	54.0	54.0	14.0	29.0	29.0	14.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.1		2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	6.0		3.0	6.0	6.0	3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	15.0		0.0	15.0	15.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	10.0		0.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	6.8	24.8		8.0	31.2	31.2	5.8	5.9	5.9	9.9	12.8	
Actuated g/C Ratio	0.11	0.38		0.12	0.48	0.48	0.09	0.09	0.09	0.15	0.20	
v/c Ratio	0.18	0.58		0.30	0.27	0.27	0.02	0.05	0.12	0.42	0.13	
Control Delay	37.7	19.8		36.6	12.9	3.3	38.3	38.1	1.0	32.2	18.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	37.7	19.8		36.6	12.9	3.3	38.3	38.1	1.0	32.2	18.6	
LOS	D	B		D	B	A	D	D	A	C	B	
Approach Delay		20.5			11.9			11.0			29.8	
Approach LOS		C			B			B			C	
Queue Length 50th (ft)	13	139		28	47	0	1	3	0	46	8	
Queue Length 95th (ft)	44	226		76	118	42	11	19	0	94	42	
Internal Link Dist (ft)		1034			564			215			471	
Turn Bay Length (ft)	225			200		350				375		
Base Capacity (vph)	554	2678		601	2635	1344	458	877	851	851	865	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.05	0.28		0.11	0.16	0.18	0.01	0.01	0.04	0.26	0.05	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 64.6
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 18.1 Intersection LOS: B
Intersection Capacity Utilization 50.1% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road



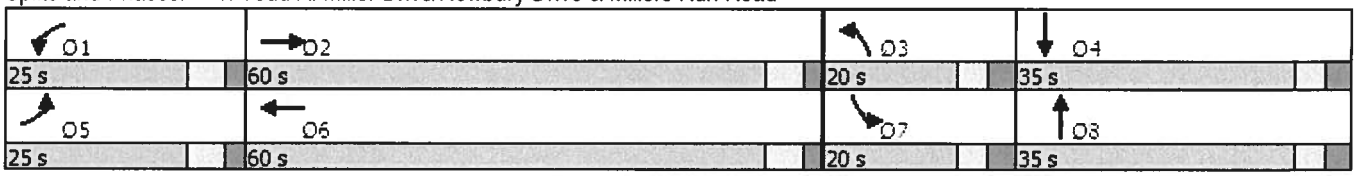
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	518	22	42	686	351	11	17	87	299	35	64
Future Volume (vph)	44	518	22	42	686	351	11	17	87	299	35	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	11	13	12	12	12	12	12	12
Grade (%)		-1%			-1%			-4%			1%	
Storage Length (ft)	225		0	200		350	0		0	375		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor												
Frt		0.994				0.850			0.850		0.903	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1754	3420	0	1778	3405	1644	1841	1938	1599	3416	1657	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1754	3420	0	1778	3405	1644	1841	1938	1599	3416	1657	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				362			117		59	
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		1114			644			295			551	
Travel Time (s)		19.0			11.0			8.0			15.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	2%	3%	2%	0%	0%	3%	2%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	45	534	23	43	707	362	11	18	90	308	36	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	557	0	43	707	362	11	18	90	308	102	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Detector Phase	5	2		1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	21.0		11.0	21.0	21.0	11.0	11.0	11.0	11.0	11.0	
Total Split (s)	25.0	60.0		25.0	60.0	60.0	20.0	35.0	35.0	20.0	35.0	
Total Split (%)	17.9%	42.9%		17.9%	42.9%	42.9%	14.3%	25.0%	25.0%	14.3%	25.0%	
Maximum Green (s)	19.0	54.0		19.0	54.0	54.0	14.0	29.0	29.0	14.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.1		2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	6.0		3.0	6.0	6.0	3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	15.0		0.0	15.0	15.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	10.0		0.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	7.5	31.1		7.4	31.0	31.0	6.1	6.3	6.3	13.7	19.2	
Actuated g/C Ratio	0.10	0.42		0.10	0.42	0.42	0.08	0.08	0.08	0.18	0.26	
v/c Ratio	0.25	0.39		0.24	0.50	0.40	0.07	0.11	0.37	0.49	0.22	
Control Delay	44.2	16.5		44.2	18.0	3.2	45.3	45.1	9.6	36.6	17.8	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	44.2	16.5		44.2	18.0	3.2	45.3	45.1	9.6	36.6	17.8	
LOS	D	B		D	B	A	D	D	A	D	B	
Approach Delay		18.6			14.2			18.3			31.9	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)	22	105		21	143	0	6	9	0	76	16	
Queue Length 95th (ft)	66	156		64	206	47	26	35	31	154	78	
Internal Link Dist (ft)		1034			564			215			471	
Turn Bay Length (ft)	225			200		350				375		
Base Capacity (vph)	524	2559		531	2547	1321	405	885	793	753	788	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.09	0.22		0.08	0.28	0.27	0.03	0.02	0.11	0.41	0.13	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 74.4
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.50
Intersection Signal Delay: 18.8 Intersection LOS: B
Intersection Capacity Utilization 53.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road



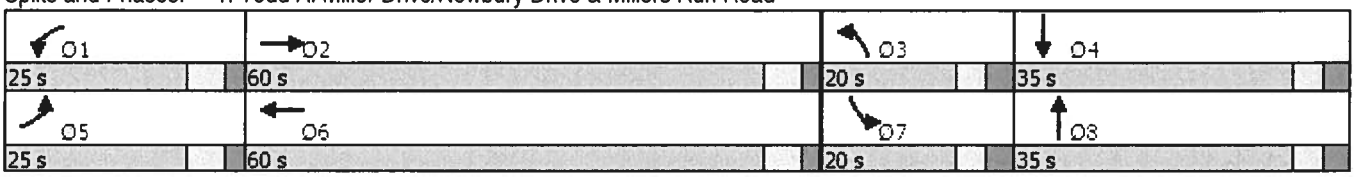
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	531	21	27	504	405	5	8	33	338	20	68
Future Volume (vph)	44	531	21	27	504	405	5	8	33	338	20	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	11	13	12	12	12	12	12	12
Grade (%)		-1%			-1%			-4%			1%	
Storage Length (ft)	225		0	200		350	0		0	375		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor												
Frt		0.994				0.850			0.850		0.884	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1754	3478	0	1814	3438	1677	1841	1938	1647	3450	1671	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1754	3478	0	1814	3438	1677	1841	1938	1647	3450	1671	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				440			117		74	
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		1114			644			295			551	
Travel Time (s)		19.0			11.0			8.0			15.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	6%	0%	2%	0%	0%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	48	577	23	29	548	440	5	9	36	367	22	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	600	0	29	548	440	5	9	36	367	96	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Detector Phase	5	2		1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	21.0		11.0	21.0	21.0	11.0	11.0	11.0	11.0	11.0	
Total Split (s)	25.0	60.0		25.0	60.0	60.0	20.0	35.0	35.0	20.0	35.0	
Total Split (%)	17.9%	42.9%		17.9%	42.9%	42.9%	14.3%	25.0%	25.0%	14.3%	25.0%	
Maximum Green (s)	19.0	54.0		19.0	54.0	54.0	14.0	29.0	29.0	14.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.1		2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	6.0		3.0	6.0	6.0	3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	15.0		0.0	15.0	15.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	10.0		0.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	7.2	24.4		6.4	21.5	21.5	5.7	5.7	5.7	15.6	17.0	
Actuated g/C Ratio	0.11	0.39		0.10	0.34	0.34	0.09	0.09	0.09	0.25	0.27	
v/c Ratio	0.24	0.45		0.16	0.47	0.51	0.03	0.05	0.14	0.43	0.19	
Control Delay	36.1	16.5		36.8	19.3	4.3	37.8	37.5	1.2	27.8	11.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	36.1	16.5		36.8	19.3	4.3	37.8	37.5	1.2	27.8	11.6	
LOS	D	B		D	B	A	D	D	A	C	B	
Approach Delay		17.9			13.3			11.4			24.4	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)	18	81		11	104	0	2	3	0	68	5	
Queue Length 95th (ft)	63	163		45	155	53	14	21	0	#162	57	
Internal Link Dist (ft)		1034			564			215			471	
Turn Bay Length (ft)	225			200		350				375		
Base Capacity (vph)	588	2878		608	2844	1463	455	992	901	853	892	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.08	0.21		0.05	0.19	0.30	0.01	0.01	0.04	0.43	0.11	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 63.1
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 17.0 Intersection LOS: B
Intersection Capacity Utilization 50.8% ICU Level of Service A
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road



APPENDIX G

HCM Printouts – *Existing Year 2023 Condition*

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	653	19	61	388	221	3	7	27	198	22	20
Future Volume (veh/h)	27	653	19	61	388	221	3	7	27	198	22	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1834	1864	1939	1909	1834	1954	2057	1847	1952	1864	1820	1790
Adj Flow Rate, veh/h	30	718	21	67	426	0	3	8	0	218	24	7
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	7	5	0	2	7	4	0	14	7	2	5	7
Cap, veh/h	60	1115	33	113	1202		8	19		353	148	43
Arrive On Green	0.03	0.32	0.32	0.06	0.34	0.00	0.00	0.01	0.00	0.10	0.11	0.11
Sat Flow, veh/h	1747	3514	103	1818	3485	1656	1959	1847	1654	3445	1354	395
Grp Volume(v), veh/h	30	362	377	67	426	0	3	8	0	218	0	31
Grp Sat Flow(s),veh/h/ln	1747	1771	1846	1818	1743	1656	1959	1847	1654	1722	0	1749
Q Serve(g_s), s	0.8	8.3	8.3	1.7	4.3	0.0	0.1	0.2	0.0	2.9	0.0	0.8
Cycle Q Clear(g_c), s	0.8	8.3	8.3	1.7	4.3	0.0	0.1	0.2	0.0	2.9	0.0	0.8
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	60	562	586	113	1202		8	19		353	0	191
V/C Ratio(X)	0.50	0.64	0.64	0.60	0.35		0.37	0.41		0.62	0.00	0.16
Avail Cap(c_a), veh/h	702	2023	2108	731	3981		580	1133		1020	0	1073
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.4	13.8	13.8	21.6	11.6	0.0	23.5	23.2	0.0	20.3	0.0	19.1
Incr Delay (d2), s/veh	2.4	0.6	0.5	1.9	0.1	0.0	10.4	5.1	0.0	0.7	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.6	2.8	0.7	1.3	0.0	0.1	0.1	0.0	1.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.8	14.4	14.4	23.5	11.6	0.0	33.9	28.3	0.0	21.0	0.0	19.2
LnGrp LOS	C	B	B	C	B		C	C		C	A	B
Approach Vol, veh/h		769			493			11			249	
Approach Delay, s/veh		14.8			13.2			29.8			20.8	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.9	21.0	6.2	11.2	7.6	22.3	10.8	6.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	19.0	54.0	14.0	29.0	19.0	54.0	14.0	29.0
Max Q Clear Time (g_c+I1), s	3.7	10.3	2.1	2.8	2.8	6.3	4.9	2.2
Green Ext Time (p_c), s	0.1	3.0	0.0	0.1	0.0	1.9	0.3	0.0

Intersection Summary	
HCM 6th Ctrl Delay	15.4
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	518	22	42	686	351	11	17	87	299	35	64
Future Volume (veh/h)	44	518	22	42	686	351	11	17	87	299	35	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1939	1909	1939	1909	1894	1986	2057	2057	2012	1864	1850	1850
Adj Flow Rate, veh/h	45	534	20	43	707	0	11	18	0	308	36	33
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	2	0	2	3	2	0	0	3	2	3	3
Cap, veh/h	86	1101	41	82	1106		28	46		456	125	114
Arrive On Green	0.05	0.31	0.31	0.05	0.31	0.00	0.01	0.02	0.00	0.13	0.14	0.14
Sat Flow, veh/h	1847	3566	133	1818	3599	1683	1959	2057	1705	3445	889	814
Grp Volume(v), veh/h	45	271	283	43	707	0	11	18	0	308	0	69
Grp Sat Flow(s),veh/h/ln	1847	1814	1885	1818	1800	1683	1959	2057	1705	1722	0	1703
Q Serve(g_s), s	1.2	5.9	6.0	1.1	8.3	0.0	0.3	0.4	0.0	4.2	0.0	1.8
Cycle Q Clear(g_c), s	1.2	5.9	6.0	1.1	8.3	0.0	0.3	0.4	0.0	4.2	0.0	1.8
Prop In Lane	1.00		0.07	1.00		1.00	1.00		1.00	1.00		0.48
Lane Grp Cap(c), veh/h	86	560	582	82	1106		28	46		456	0	239
V/C Ratio(X)	0.52	0.48	0.49	0.52	0.64		0.40	0.39		0.68	0.00	0.29
Avail Cap(c_a), veh/h	719	2006	2085	708	3981		562	1222		988	0	1012
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.7	13.7	13.7	22.8	14.6	0.0	23.9	23.5	0.0	20.2	0.0	18.8
Incr Delay (d2), s/veh	1.8	0.3	0.3	1.9	0.3	0.0	3.4	2.0	0.0	0.7	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.0	2.0	0.5	2.7	0.0	0.1	0.2	0.0	1.6	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.5	14.0	14.0	24.7	14.9	0.0	27.2	25.6	0.0	20.8	0.0	19.1
LnGrp LOS	C	B	B	C	B		C	C		C	A	B
Approach Vol, veh/h		599			750			29			377	
Approach Delay, s/veh		14.8			15.4			26.2			20.5	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	21.1	6.7	12.8	8.3	21.0	12.5	7.1
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	19.0	54.0	14.0	29.0	19.0	54.0	14.0	29.0
Max Q Clear Time (g_c+I1), s	3.1	8.0	2.3	3.8	3.2	10.3	6.2	2.4
Green Ext Time (p_c), s	0.0	2.1	0.0	0.2	0.0	3.4	0.4	0.0

Intersection Summary	
HCM 6th Ctrl Delay	16.5
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	531	21	27	504	405	5	8	33	338	20	68
Future Volume (veh/h)	44	531	21	27	504	405	5	8	33	338	20	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1939	1939	1849	1939	1909	2017	2057	2057	2057	1879	1894	1894
Adj Flow Rate, veh/h	48	577	19	29	548	0	5	9	0	367	22	36
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	6	0	2	0	0	0	0	1	0	0
Cap, veh/h	90	1163	38	61	1102		13	24		519	100	163
Arrive On Green	0.05	0.32	0.32	0.03	0.30	0.00	0.01	0.01	0.00	0.15	0.15	0.15
Sat Flow, veh/h	1847	3640	120	1847	3628	1709	1959	2057	1743	3472	646	1058
Grp Volume(v), veh/h	48	292	304	29	548	0	5	9	0	367	0	58
Grp Sat Flow(s),veh/h/ln	1847	1842	1918	1847	1814	1709	1959	2057	1743	1736	0	1704
Q Serve(g_s), s	1.3	6.3	6.3	0.8	6.1	0.0	0.1	0.2	0.0	5.0	0.0	1.5
Cycle Q Clear(g_c), s	1.3	6.3	6.3	0.8	6.1	0.0	0.1	0.2	0.0	5.0	0.0	1.5
Prop In Lane	1.00		0.06	1.00		1.00	1.00		1.00	1.00		0.62
Lane Grp Cap(c), veh/h	90	588	613	61	1102		13	24		519	0	263
V/C Ratio(X)	0.53	0.50	0.50	0.47	0.50		0.38	0.37		0.71	0.00	0.22
Avail Cap(c_a), veh/h	711	2015	2097	711	3968		556	1208		985	0	1001
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.9	13.6	13.6	23.4	14.1	0.0	24.4	24.2	0.0	20.0	0.0	18.3
Incr Delay (d2), s/veh	1.8	0.3	0.3	2.1	0.2	0.0	6.6	3.5	0.0	0.7	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.1	2.2	0.3	2.0	0.0	0.1	0.1	0.0	1.9	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.7	13.9	13.9	25.5	14.3	0.0	31.0	27.7	0.0	20.6	0.0	18.4
LnGrp LOS	C	B	B	C	B		C	C		C	A	B
Approach Vol, veh/h		644			577			14			425	
Approach Delay, s/veh		14.7			14.8			28.9			20.3	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	21.8	6.3	13.6	8.4	21.0	13.4	6.6
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	19.0	54.0	14.0	29.0	19.0	54.0	14.0	29.0
Max Q Clear Time (g_c+I1), s	2.8	8.3	2.1	3.5	3.3	8.1	7.0	2.2
Green Ext Time (p_c), s	0.0	2.3	0.0	0.2	0.0	2.5	0.5	0.0

Intersection Summary	
HCM 6th Ctrl Delay	16.3
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	1.3					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	11	196	59	17	197
Future Vol, veh/h	35	11	196	59	17	197
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	-1	-	-	1
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	3	0	5	0	0	2
Mvmt Flow	41	13	231	69	20	232

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	422	150	0	0	300	0
Stage 1	266	-	-	-	-	-
Stage 2	156	-	-	-	-	-
Critical Hdwy	6.86	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	557	876	-	-	1273	-
Stage 1	751	-	-	-	-	-
Stage 2	853	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	547	876	-	-	1273	-
Mov Cap-2 Maneuver	547	-	-	-	-	-
Stage 1	751	-	-	-	-	-
Stage 2	838	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	601	1273	-
HCM Lane V/C Ratio	-	-	0.09	0.016	-
HCM Control Delay (s)	-	-	11.6	7.9	0.1
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	28	331	62	13	334
Future Vol, veh/h	57	28	331	62	13	334
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	-1	-	-	1
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	62	30	360	67	14	363

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	604	214	0	0	427	0
Stage 1	394	-	-	-	-	-
Stage 2	210	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	435	797	-	-	1143	-
Stage 1	656	-	-	-	-	-
Stage 2	811	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	428	797	-	-	1143	-
Mov Cap-2 Maneuver	428	-	-	-	-	-
Stage 1	656	-	-	-	-	-
Stage 2	799	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.7	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	505	1143	-
HCM Lane V/C Ratio	-	-	0.183	0.012	-
HCM Control Delay (s)	-	-	13.7	8.2	0.1
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.7	0	-

Intersection						
Int Delay, s/veh	3.1					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	107	25	366	106	20	315
Future Vol, veh/h	107	25	366	106	20	315
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	-1	-	-	1
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	1	4	0	2	0	1
Mvmt Flow	126	29	431	125	24	371

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	728	278	0	0	556	0
Stage 1	494	-	-	-	-	-
Stage 2	234	-	-	-	-	-
Critical Hdwy	6.82	6.98	-	-	4.1	-
Critical Hdwy Stg 1	5.82	-	-	-	-	-
Critical Hdwy Stg 2	5.82	-	-	-	-	-
Follow-up Hdwy	3.51	3.34	-	-	2.2	-
Pot Cap-1 Maneuver	361	713	-	-	1025	-
Stage 1	582	-	-	-	-	-
Stage 2	786	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	351	713	-	-	1025	-
Mov Cap-2 Maneuver	351	-	-	-	-	-
Stage 1	582	-	-	-	-	-
Stage 2	763	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.3	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	388	1025	-
HCM Lane V/C Ratio	-	-	0.4	0.023	-
HCM Control Delay (s)	-	-	20.3	8.6	0.1
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.9	0.1	-

APPENDIX H

Source Data for Background Developments

From: Michael J. Haberman, P.E. <mhaberman@gatewayengineers.com>
Sent: Tuesday, October 3, 2023 2:54 PM
To: Josh Haydo <jhaydo@dewooster.com>
Cc: Mark Szewcow <mark.szewcow@gibson-thomas.com>; Paone, Talia <tpaone@pa.gov>; John M. Barrett <JBarrett@sftwp.com>; Eileen Botti <eileen.botti@gibson-thomas.com>; Simmons, Michael (PENNDOT) <MICSIMMONS@pa.gov>; Miller, Ed M. <edmille@pa.gov>; Siewe, Emmanuel <esiewe@pa.gov>; Fedio, Daniel <dafedio@pa.gov>; Jesse Nelson <jnelson@dewooster.com>; Suleiman Swai <sswai@dewooster.com>; Joseph M. Galbraith, P.E. <jgalbraith@gatewayengineers.com>
Subject: RE: [External] #4392 - Retail Development - Former Pro Bike + Run - TIS Scoping

Josh,

A formal study was not completed for the Raising Cane's. The developer's consultant submitted a trip generation addendum for the purposes of developing an updated amount for traffic impact fees. I've attached the original TIS for The Piazza development, the trip generation addendum for the Raising Cane's, and the amended site plan for The Piazza with the removal of the drive-in bank and inclusion of the Raising Cane's (note that the final size of the Raising Cane's is 4,250 s.f., not what is show on the plan). Note the following as it relates to The Piazza development:

- To date, the following uses within The Piazza are built/occupied:
  - 11,700 s.f. of high-turnover sit-down restaurants (building #1 and Building #4 on site plan)
  - 21,200 s.f. of shopping center (building #3 and part of building #5 on site plan)
  - 3,000 s.f. fast-food restaurant without drive-through (within building #5 on site plan)
- The following uses within The Piazza are not yet constructed/occupied:
  - 6,800 s.f. of high-turnover sit-down restaurant (building #2 on site plan)
  - 4,000 s.f. fast-food restaurant with drive-through (building #6 on site plan)
  - 4,250 s.f. fast-food restaurant with drive-through (Raising Cane's)

You'll need to use the above summary and attached reports to establish the additional approved background trips for your study associated with The Piazza.

As for the South Fayette Commons development (Dunkin Donuts and Washington Federal), I've attached the original approved TIS for that development (prepared by Wooster) and the trip generation for the Taco Bell (prepared by Wooster). To date, the only uses that have been constructed are the Dunkin Donuts and the Washington Federal Bank. The Taco Bell is approved and under construction. To simplify the trip generation and background trips associated with South Fayette Commons, I would recommend taking the difference between the total trips in the approved TIS and the estimated trips associated with the Dunkin Donuts and Washington Federal Bank and adding those to the study area. That way the trips associated with the Taco Bell and the remainder of the development will be included in the background for this study. If PennDOT and/or Gibson Thomas feel differently about that approach, I will defer to them.

There is no study for the Cigar Bar that I am aware of, so you'll have to estimate the trips associated with that land use as well.

Let me know if you want to discuss any of this in more detail or if you have any questions.

Thanks,
Mike

From: Mark Szewcow
Sent: Friday, September 15, 2023 11:31 AM
To: Paone, Talia <tpaone@pa.gov>; John M. Barrett <JBarrett@sftwp.com>; Eileen Botti <eileen.botti@gibson-thomas.com>; Josh Haydo <jhaydo@dewooster.com>; Simmons, Michael (PENNDOT) <MICSIMMONS@pa.gov>; Miller, Ed M. <edmille@pa.gov>; Siewe, Emmanuel <esiewe@pa.gov>; Fedio, Daniel <dafedio@pa.gov>
Subject: RE: [External] #4392 - Retail Development - Former Pro Bike + Run - TIS Scoping

Hello all,

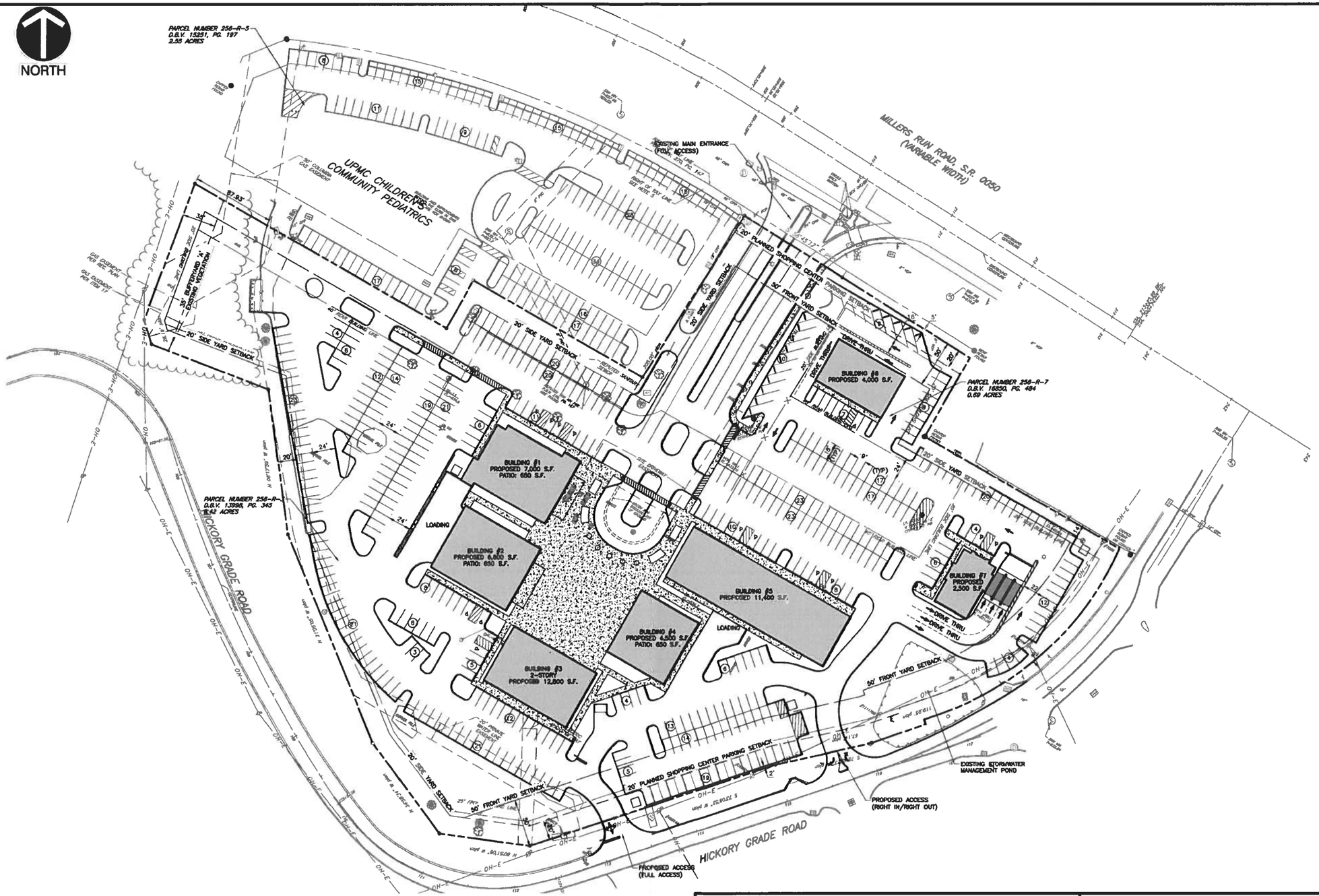
I wanted to follow up on some issues that were discussed at the meeting yesterday. After talking with John Barrett, here is a summary of the responses from the Township.

1.) The Township agrees to only add traffic from developments that are currently approved but not yet constructed in the Newberry Site. There is currently a 9,377 SF Cigar Bar and Restaurant approved to be constructed near Top Golf.
2.) The Township is agreeable to the intersections and time periods to be studied.

If anybody has any questions concerning this matter, please do not hesitate to call or email me.

Thanks

Mark Szewcow, PE
Phone: 724-539-8562
Cell: 412-417-7712
mark.szewcow@gibson-thomas.com



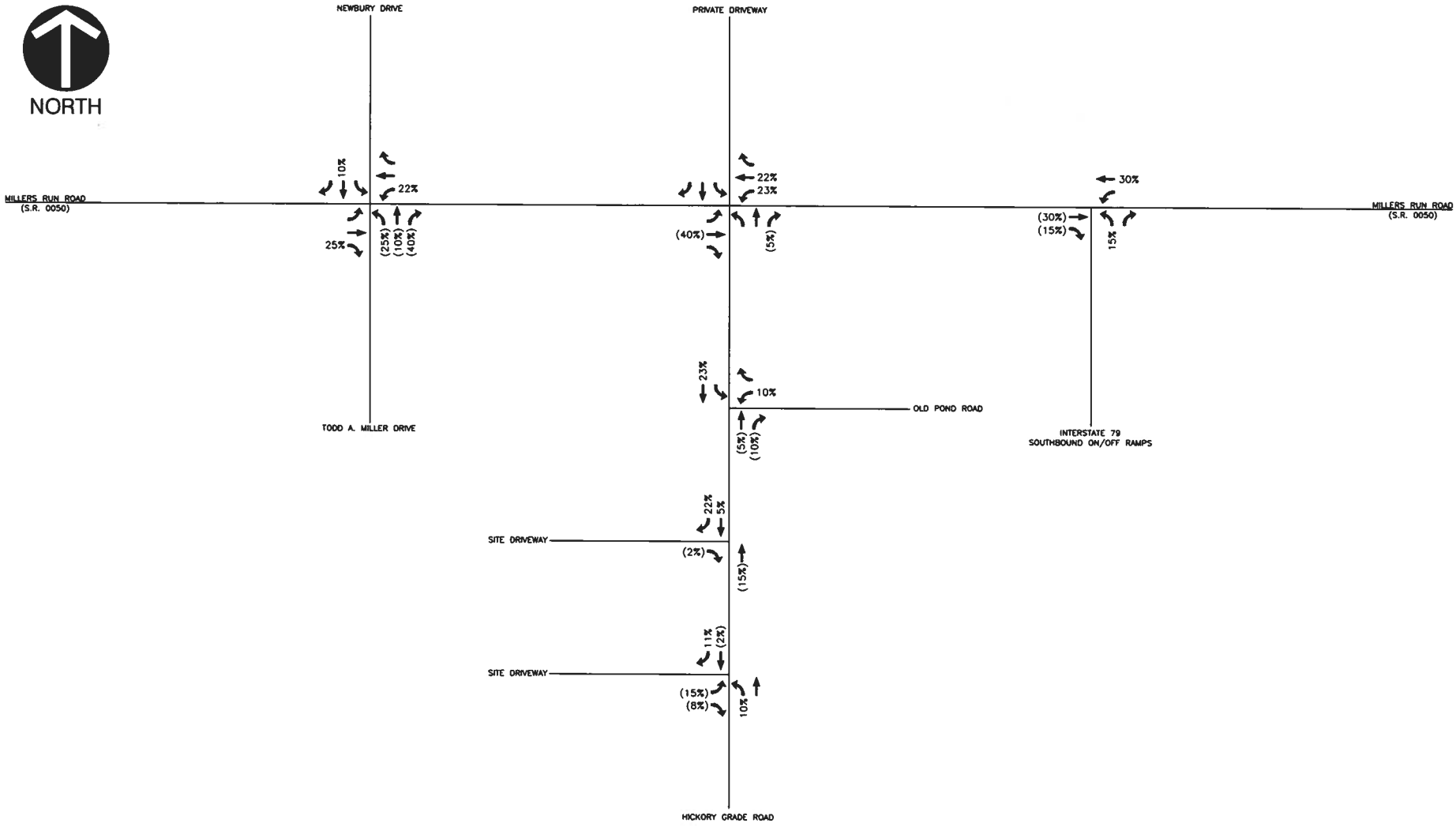
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THE PIAZZA RETAIL DEVELOPMENT
TRAFFIC IMPACT STUDY
SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY, PENNSYLVANIA

SITE PLAN

DRAWN BY:	QAB	CHECKED BY:	JRT	APPROVED BY:	JMD	FIGURE NO.:	2
DATE:	APRIL 2020	DWG SCALE:	NOT TO SCALE	PROJECT NO:	191-730		

P:\2019\191-730\-CADD\Dwg\TR02\191730-TR02-Figures-11x17.dwg[SITE PLAN] LS:(5/5/2020 - qberkey) - LP: 5/5/2020 12:27 PM



LEGEND

12% Arrival Trip Distribution

(12%) Departure Trip Distribution

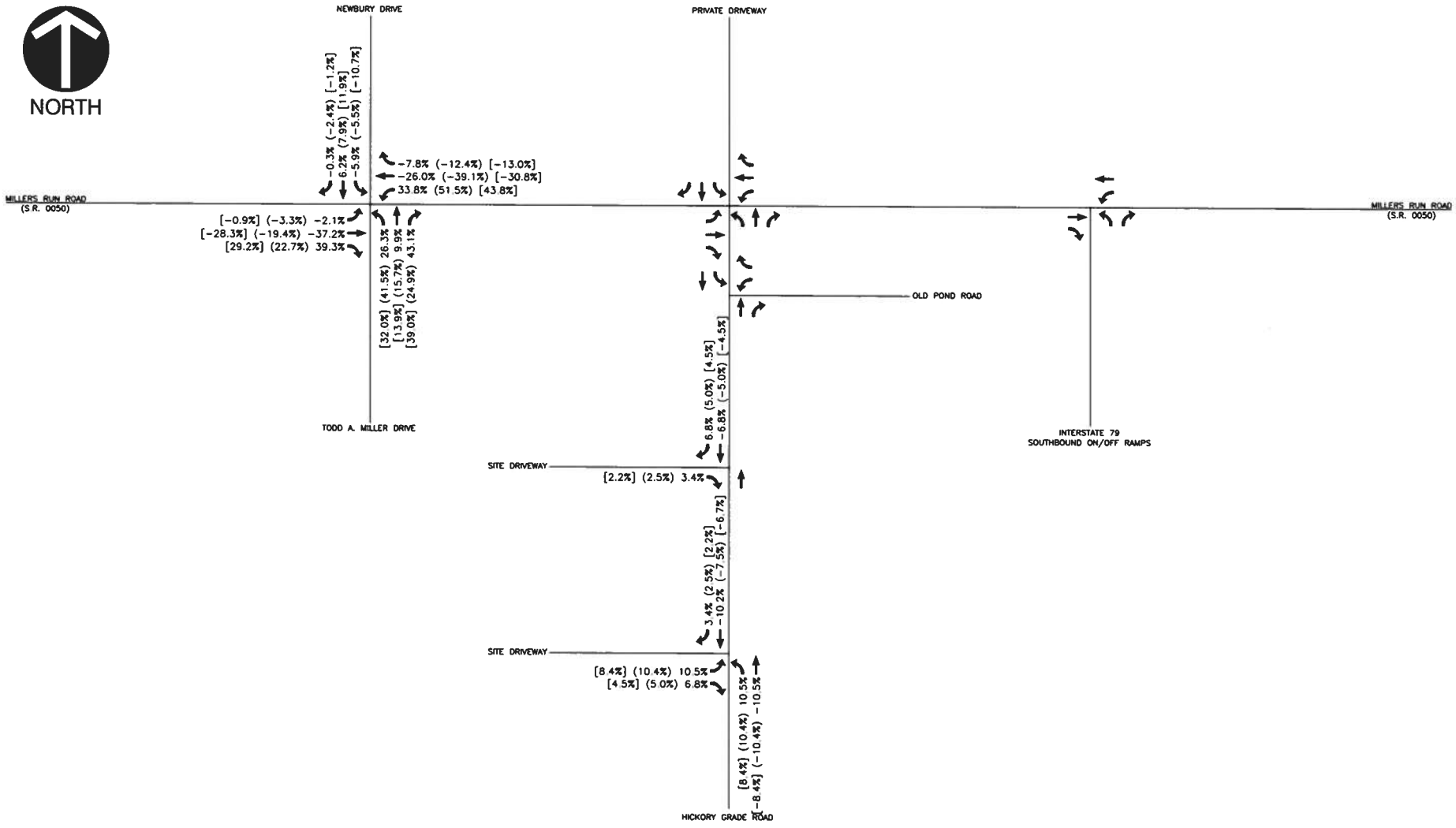
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THE PIAZZA RETAIL DEVELOPMENT
TRAFFIC IMPACT STUDY
SOUTH FAYETTE TOWNSHIP,
ALLEGHENY COUNTY, PENNSYLVANIA

SITE GENERATED
PRIMARY TRIP DISTRIBUTION

DRAWN BY:	QAB	CHECKED BY:	JRT	APPROVED BY:	JMD	FIGURE NO.: 15
DATE:	APRIL 2020	DWG SCALE:	NOT TO SCALE	PROJECT NO:	191-730	

P:\2019\191-730\-CAD0\Dwg\TR02\191730-TR02-Figures-11x17.dwg[PRIMARY TRIP DISTRIB] LS:5/5/2020 - qbarkey) - LP: 5/5/2020 12:27 PM



LEGEND

12%	A.M. Trip Distribution Percentage
(12%)	P.M. Trip Distribution Percentage
[12%]	Saturday Trip Distribution Percentage

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THE PIAZZA RETAIL DEVELOPMENT
TRAFFIC IMPACT STUDY
SOUTH FAYETTE TOWNSHIP,
ALLEGHENY COUNTY, PENNSYLVANIA

SITE GENERATED
PASS-BY TRIP DISTRIBUTION

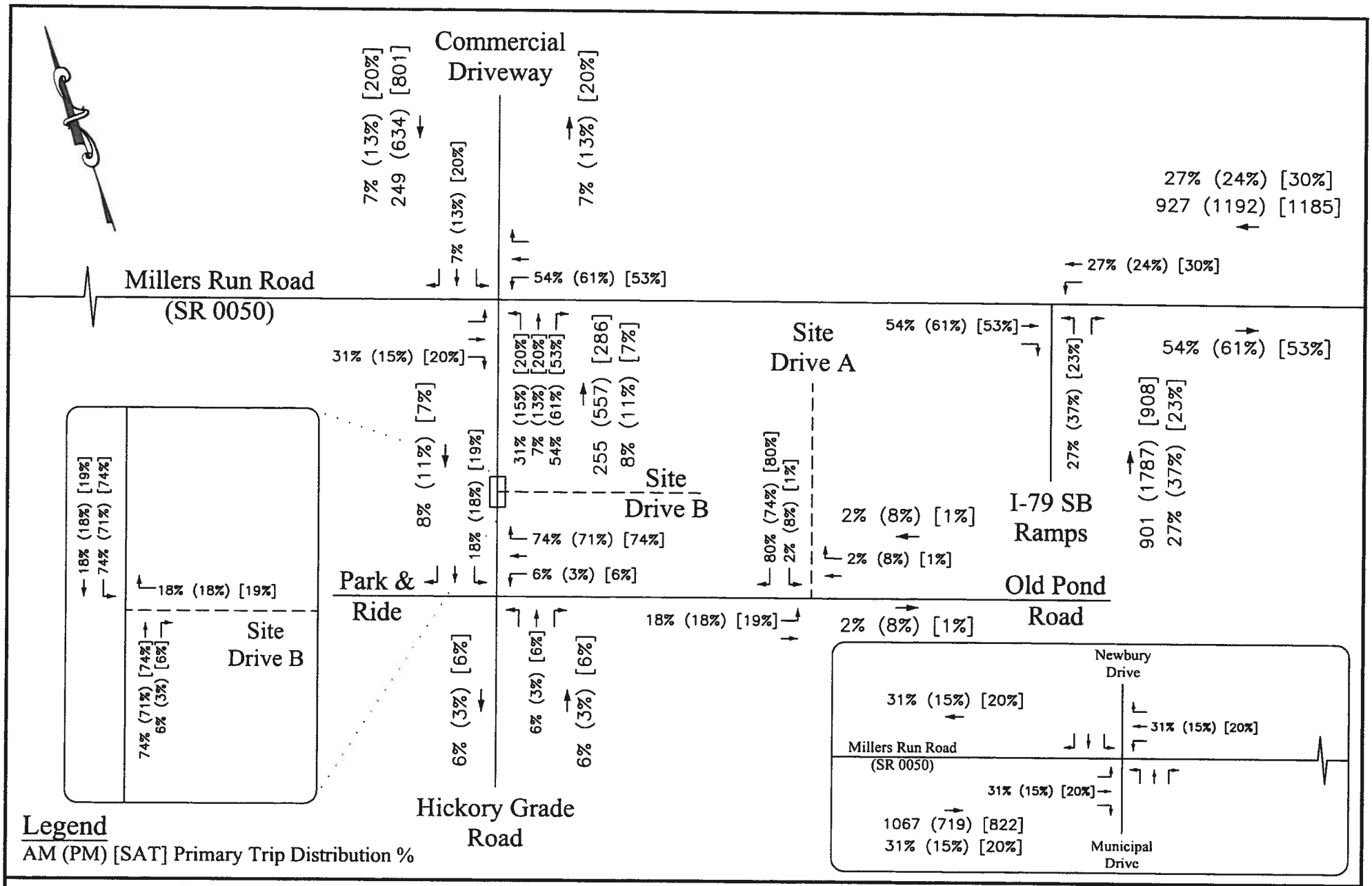
DRAWN BY:	QAB	CHECKED BY:	JRT	APPROVED BY:	JMD	FIGURE NO.:	16
DATE:	APRIL 2020	DWG SCALE:	NOT TO SCALE	PROJECT NO:	191-730		

P:\2019\191-730\-CADD\Dwg\TR02\191730-TR02-Figures-11x17.dwg[PASS BY TRIP DISTRIB.] LS:(5/5/2020 - qbertay) - LP: 5/5/2020 12:27 PM

Table 2

Trip Generation Summary

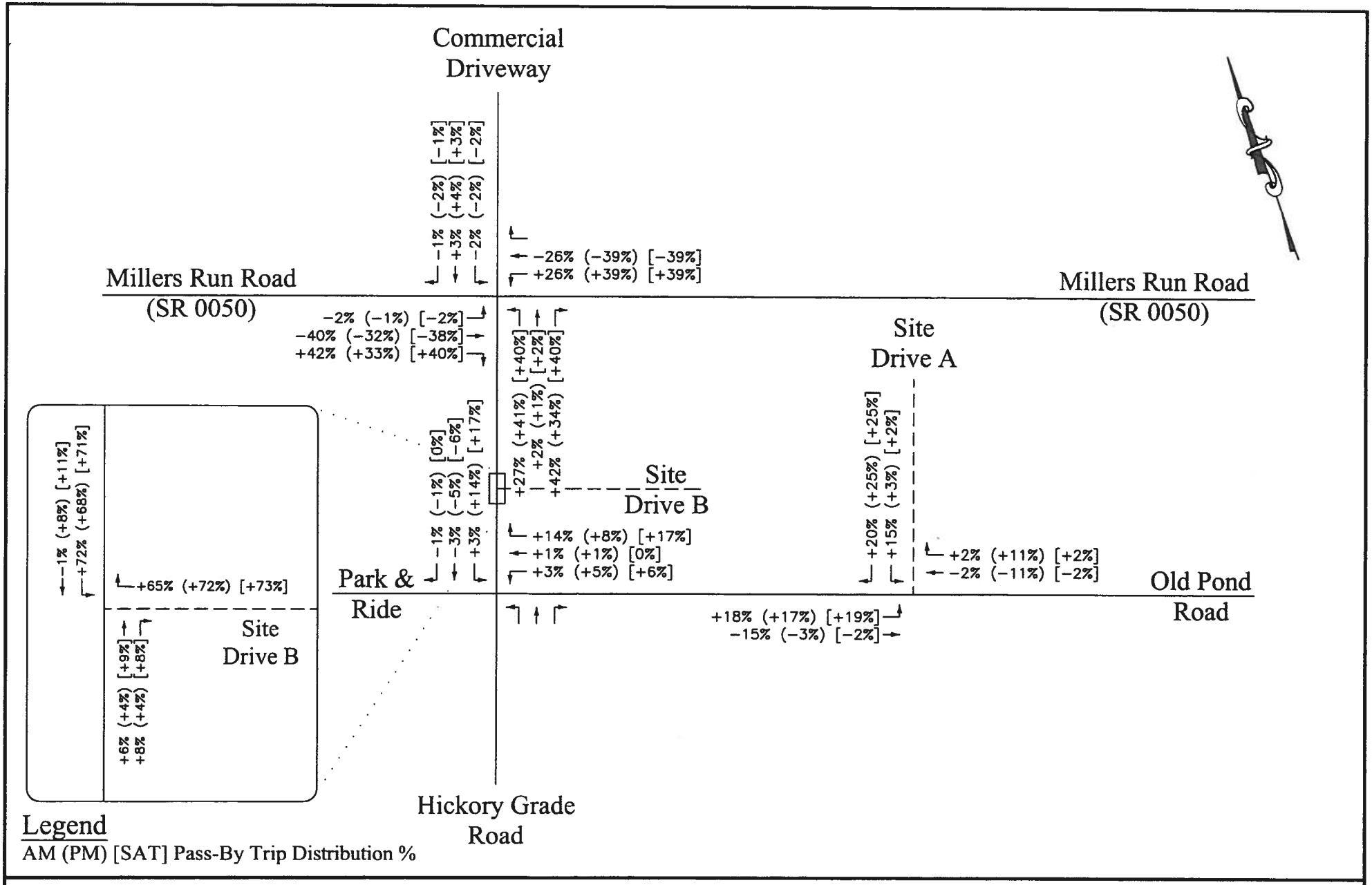
Time Period	Anticipated Trip Generation		
	In	Out	Total
LU Code #826 - Specialty Retail Center - 10,500 SF			
ADT	244	244	488
AM Peak Hour	0	0	0
Internal Trips (18%)	*0*	*0*	*0*
Primary Trips	*0*	*0*	*0*
Pass-By Trips (0%)	*0*	*0*	*0*
PM Peak Hour	21	26	47
Internal Trips (40%)	*8*	*10*	*18*
Primary Trips	*13*	*16*	*29*
Pass-By Trips (0%)	*0*	*0*	*0*
SAT Peak Hour	23	21	44
Internal Trips (53%)	*12*	*11*	*23*
Primary Trips	*11*	*10*	*21*
Pass-By Trips (0%)	*0*	*0*	*0*
LU Code #912 - Drive-in Bank - 3 drive-in lanes			
ADT	209	209	418
AM Peak Hour	17	11	28
Internal Trips (18%)	*3*	*2*	*5*
Primary Trips	*9*	*6*	*15*
Pass-By Trips (37%)	*5*	*3*	*8*
PM Peak Hour	49	51	100
Internal Trips (40%)	*20*	*20*	*40*
Primary Trips	*15*	*16*	*31*
Pass-By Trips (47%)	*14*	*15*	*29*
SAT Peak Hour	42	44	86
Internal Trips (53%)	*22*	*23*	*45*
Primary Trips	*13*	*13*	*26*
Pass-By Trips (37%)	*7*	*8*	*15*
LU Code #932 - High-Turnover (Sit-Down) Restaurant - 3,000 SF			
ADT	191	191	382
AM Peak Hour	18	14	32
Internal Trips (18%)	*3*	*3*	*6*
Primary Trips	*10*	*7*	*17*
Pass-By Trips (33%)	*5*	*4*	*9*
PM Peak Hour	18	12	30
Internal Trips (40%)	*7*	*5*	*12*
Primary Trips	*6*	*4*	*10*
Pass-By Trips (43%)	*5*	*3*	*8*
SAT Peak Hour	22	20	42
Internal Trips (53%)	*12*	*11*	*23*
Primary Trips	*7*	*6*	*13*
Pass-By Trips (33%)	*3*	*3*	*6*
LU Code #934 - Fast-Food Restaurant with Drive-Through Window - 2,800 SF			
ADT	695	695	1,390
AM Peak Hour	65	62	127
Internal Trips (18%)	*12*	*11*	*23*
Primary Trips	*27*	*26*	*53*
Pass-By Trips (49%)	*26*	*25*	*51*
PM Peak Hour	47	44	91
Internal Trips (40%)	*19*	*18*	*37*
Primary Trips	*14*	*13*	*27*
Pass-By Trips (50%)	*14*	*13*	*27*
SAT Peak Hour	84	81	165
Internal Trips (53%)	*45*	*43*	*88*
Primary Trips	*23*	*23*	*46*
Pass-By Trips (40%)	*16*	*15*	*31*
Total Trip Generation			
ADT	1,339	1,339	2,678
AM Peak Hour	100	87	187
Internal Trips	*18*	*16*	*34*
Primary Trips	*46*	*39*	*85*
Pass-By Trips	*36*	*32*	*68*
PM Peak Hour	135	133	268
Internal Trips	*54*	*53*	*107*
Primary Trips	*48*	*49*	*97*
Pass-By Trips	*33*	*31*	*64*
SAT Peak Hour	171	166	337
Internal Trips	*91*	*88*	*179*
Primary Trips	*54*	*52*	*106*
Pass-By Trips	*26*	*26*	*52*



PROPOSED COMMERCIAL DEVELOPMENT – South Fayette Township, PA
Primary Trip Distribution Percentages

DAVID E. WOOSTER & ASSOC., INC.

FIGURE 7a
2876051815



PROPOSED COMMERCIAL DEVELOPMENT – South Fayette Township, PA
Total Pass-By Trip Distribution Percentages

DAVID E. WOOSTER & ASSOC., INC.

FIGURE 10a
2876051815

APPENDIX I

Synchro Printouts – *Opening Year 2024 Without Development Condition*

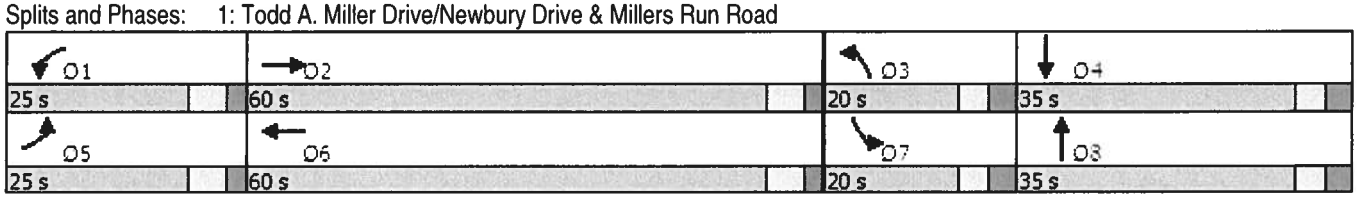
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	623	90	122	367	216	57	28	113	196	40	21
Future Volume (vph)	26	623	90	122	367	216	57	28	113	196	40	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	11	13	12	12	12	12	12	12
Grade (%)		-1%			-1%			-4%			1%	
Storage Length (ft)	225		0	200		350	0		0	375		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor												
Frt		0.981				0.850			0.850		0.949	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1639	3296	0	1778	3278	1613	1841	1700	1540	3416	1698	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1639	3296	0	1778	3278	1613	1841	1700	1540	3416	1698	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				237			124		17	
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		1114			644			295			551	
Travel Time (s)		19.0			11.0			8.0			15.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	5%	0%	2%	7%	4%	0%	14%	7%	2%	5%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	29	685	99	134	403	237	63	31	124	215	44	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	784	0	134	403	237	63	31	124	215	67	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Detector Phase	5	2		1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	21.0		11.0	21.0	21.0	11.0	11.0	11.0	11.0	11.0	
Total Split (s)	25.0	60.0		25.0	60.0	60.0	20.0	35.0	35.0	20.0	35.0	
Total Split (%)	17.9%	42.9%		17.9%	42.9%	42.9%	14.3%	25.0%	25.0%	14.3%	25.0%	
Maximum Green (s)	19.0	54.0		19.0	54.0	54.0	14.0	29.0	29.0	14.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.1		2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	6.0		3.0	6.0	6.0	3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	15.0		0.0	15.0	15.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	10.0		0.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	6.5	28.9		11.5	39.7	39.7	7.8	6.8	6.8	10.3	8.7	
Actuated g/C Ratio	0.08	0.35		0.14	0.48	0.48	0.09	0.08	0.08	0.12	0.11	
v/c Ratio	0.22	0.68		0.54	0.26	0.26	0.36	0.22	0.52	0.51	0.35	
Control Delay	46.6	25.9		45.1	14.6	2.9	46.4	45.6	17.1	41.5	36.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	46.6	25.9		45.1	14.6	2.9	46.4	45.6	17.1	41.5	36.5	
LOS	D	C		D	B	A	D	D	B	D	D	
Approach Delay		26.6			16.3			29.6			40.3	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)	14	168		64	67	0	31	15	0	53	24	
Queue Length 95th (ft)	49	287		150	119	41	85	52	56	113	78	
Internal Link Dist (ft)		1034			564			215			471	
Turn Bay Length (ft)	225			200		350				375		
Base Capacity (vph)	395	2263		428	2247	1180	327	625	645	607	635	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.07	0.35		0.31	0.18	0.20	0.19	0.05	0.19	0.35	0.11	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 82.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 25.0 Intersection LOS: C
Intersection Capacity Utilization 54.1% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road



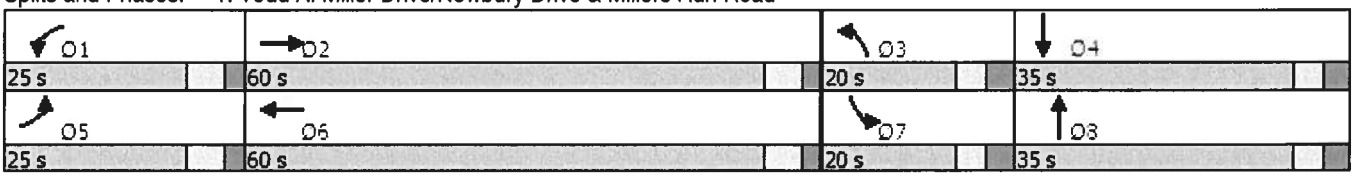
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	513	66	99	671	364	58	35	142	306	52	68
Future Volume (vph)	50	513	66	99	671	364	58	35	142	306	52	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	11	13	12	12	12	12	12	12
Grade (%)		-1%			-1%			-4%			1%	
Storage Length (ft)	225		0	200		350	0		0	375		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor												
Frt		0.983				0.850			0.850		0.915	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1754	3387	0	1778	3405	1644	1841	1938	1599	3416	1679	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1754	3387	0	1778	3405	1644	1841	1938	1599	3416	1679	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12				375			146		42	
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		1114			644			295			551	
Travel Time (s)		19.0			11.0			8.0			15.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	2%	3%	2%	0%	0%	3%	2%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	52	529	68	102	692	375	60	36	146	315	54	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	597	0	102	692	375	60	36	146	315	124	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Detector Phase	5	2		1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	21.0		11.0	21.0	21.0	11.0	11.0	11.0	11.0	11.0	
Total Split (s)	25.0	60.0		25.0	60.0	60.0	20.0	35.0	35.0	20.0	35.0	
Total Split (%)	17.9%	42.9%		17.9%	42.9%	42.9%	14.3%	25.0%	25.0%	14.3%	25.0%	
Maximum Green (s)	19.0	54.0		19.0	54.0	54.0	14.0	29.0	29.0	14.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.1		2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	6.0		3.0	6.0	6.0	3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	15.0		0.0	15.0	15.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	10.0		0.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	7.6	28.6		10.0	30.7	30.7	7.8	7.2	7.2	13.5	11.3	
Actuated g/C Ratio	0.09	0.35		0.12	0.38	0.38	0.10	0.09	0.09	0.17	0.14	
v/c Ratio	0.32	0.50		0.47	0.54	0.44	0.34	0.21	0.53	0.56	0.46	
Control Delay	47.6	22.2		47.0	21.4	3.7	47.3	45.1	15.9	40.6	33.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	47.6	22.2		47.0	21.4	3.7	47.3	45.1	15.9	40.6	33.5	
LOS	D	C		D	C	A	D	D	B	D	C	
Approach Delay		24.2			17.9			28.0			38.6	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)	26	123		51	143	0	30	18	0	79	39	
Queue Length 95th (ft)	77	203		128	226	51	86	58	60	#178	118	
Internal Link Dist (ft)		1034			564			215			471	
Turn Bay Length (ft)	225			200		350				375		
Base Capacity (vph)	448	2373		454	2382	1262	346	755	712	643	680	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.12	0.25		0.22	0.29	0.30	0.17	0.05	0.21	0.49	0.18	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 81.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 24.2 Intersection LOS: C
Intersection Capacity Utilization 53.1% ICU Level of Service A
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road



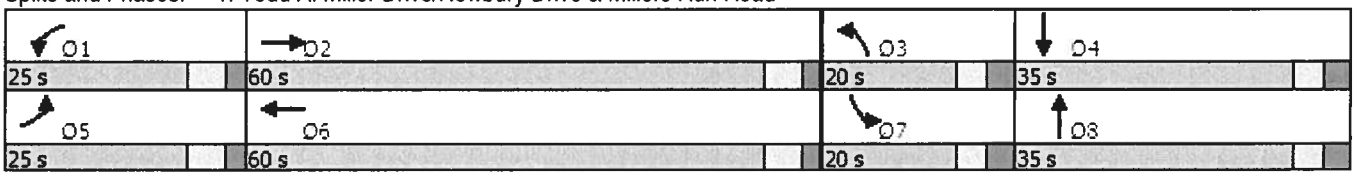
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	521	92	100	492	422	74	36	136	345	48	76
Future Volume (vph)	56	521	92	100	492	422	74	36	136	345	48	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	11	13	12	12	12	12	12	12
Grade (%)		-1%			-1%			-4%			1%	
Storage Length (ft)	225		0	200		350	0		0	375		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor												
Frt		0.977				0.850			0.850		0.908	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1754	3396	0	1814	3438	1677	1841	1938	1647	3450	1717	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1754	3396	0	1814	3438	1677	1841	1938	1647	3450	1717	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17				459			148		52	
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		1114			644			295			551	
Travel Time (s)		19.0			11.0			8.0			15.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	6%	0%	2%	0%	0%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	61	566	100	109	535	459	80	39	148	375	52	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	61	666	0	109	535	459	80	39	148	375	135	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Detector Phase	5	2		1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	21.0		11.0	21.0	21.0	11.0	11.0	11.0	11.0	11.0	
Total Split (s)	25.0	60.0		25.0	60.0	60.0	20.0	35.0	35.0	20.0	35.0	
Total Split (%)	17.9%	42.9%		17.9%	42.9%	42.9%	14.3%	25.0%	25.0%	14.3%	25.0%	
Maximum Green (s)	19.0	54.0		19.0	54.0	54.0	14.0	29.0	29.0	14.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.1		2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	6.0		3.0	6.0	6.0	3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	15.0		0.0	15.0	15.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	10.0		0.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	7.7	24.4		9.7	29.2	29.2	8.4	7.3	7.3	14.5	16.3	
Actuated g/C Ratio	0.10	0.30		0.12	0.36	0.36	0.10	0.09	0.09	0.18	0.20	
v/c Ratio	0.37	0.64		0.50	0.43	0.51	0.42	0.22	0.52	0.60	0.35	
Control Delay	45.1	26.7		44.7	21.4	4.2	44.9	41.4	14.6	38.7	26.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	45.1	26.7		44.7	21.4	4.2	44.9	41.4	14.6	38.7	26.0	
LOS	D	C		D	C	A	D	D	B	D	C	
Approach Delay		28.2			16.5			27.6			35.3	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)	28	140		49	105	0	36	18	0	84	35	
Queue Length 95th (ft)	83	237		127	179	60	101	57	58	#210	115	
Internal Link Dist (ft)		1034			564			215			471	
Turn Bay Length (ft)	225			200		350				375		
Base Capacity (vph)	428	2360		442	2384	1303	331	722	706	620	672	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.14	0.28		0.25	0.22	0.35	0.24	0.05	0.21	0.60	0.20	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 80.8
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 24.6 Intersection LOS: C
Intersection Capacity Utilization 56.9% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road



APPENDIX J

HCM Printouts – *Opening Year 2024 Without Development Condition*

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	623	90	122	367	216	57	28	113	196	40	21
Future Volume (veh/h)	26	623	90	122	367	216	57	28	113	196	40	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1834	1864	1939	1909	1834	1954	2057	1847	1952	1864	1820	1790
Adj Flow Rate, veh/h	29	685	99	134	403	0	63	31	0	215	44	8
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	7	5	0	2	7	4	0	14	7	2	5	7
Cap, veh/h	58	935	135	176	1270		113	64		342	114	21
Arrive On Green	0.03	0.30	0.30	0.10	0.36	0.00	0.06	0.03	0.00	0.10	0.08	0.08
Sat Flow, veh/h	1747	3106	448	1818	3485	1656	1959	1847	1654	3445	1499	272
Grp Volume(v), veh/h	29	390	394	134	403	0	63	31	0	215	0	52
Grp Sat Flow(s),veh/h/ln	1747	1771	1784	1818	1743	1656	1959	1847	1654	1722	0	1771
Q Serve(g_s), s	0.8	10.1	10.1	3.7	4.3	0.0	1.6	0.8	0.0	3.1	0.0	1.4
Cycle Q Clear(g_c), s	0.8	10.1	10.1	3.7	4.3	0.0	1.6	0.8	0.0	3.1	0.0	1.4
Prop In Lane	1.00		0.25	1.00		1.00	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	58	533	537	176	1270		113	64		342	0	135
V/C Ratio(X)	0.50	0.73	0.73	0.76	0.32		0.56	0.48		0.63	0.00	0.38
Avail Cap(c_a), veh/h	648	1867	1880	674	3673		535	1046		941	0	1002
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.4	16.1	16.1	22.6	11.7	0.0	23.5	24.3	0.0	22.2	0.0	22.5
Incr Delay (d2), s/veh	2.5	0.9	0.9	2.6	0.1	0.0	1.6	2.1	0.0	0.7	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.4	3.5	1.5	1.3	0.0	0.7	0.4	0.0	1.2	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.9	17.0	17.0	25.2	11.8	0.0	25.1	26.3	0.0	22.9	0.0	23.2
LnGrp LOS	C	B	B	C	B		C	C		C	A	C
Approach Vol, veh/h		813			537			94			267	
Approach Delay, s/veh		17.3			15.1			25.5			22.9	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	21.4	9.0	9.9	7.7	24.7	11.1	7.8
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	19.0	54.0	14.0	29.0	19.0	54.0	14.0	29.0
Max Q Clear Time (g_c+I1), s	5.7	12.1	3.6	3.4	2.8	6.3	5.1	2.8
Green Ext Time (p_c), s	0.1	3.3	0.0	0.1	0.0	1.8	0.3	0.1

Intersection Summary	
HCM 6th Ctrl Delay	18.0
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	513	66	99	671	364	58	35	142	306	52	68
Future Volume (veh/h)	50	513	66	99	671	364	58	35	142	306	52	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1939	1909	1939	1909	1894	1986	2057	2057	2012	1864	1850	1850
Adj Flow Rate, veh/h	52	529	65	102	692	0	60	36	0	315	54	37
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	2	0	2	3	2	0	0	3	2	3	3
Cap, veh/h	94	944	116	135	1129		109	80		456	118	81
Arrive On Green	0.05	0.29	0.29	0.07	0.31	0.00	0.06	0.04	0.00	0.13	0.12	0.12
Sat Flow, veh/h	1847	3253	398	1818	3599	1683	1959	2057	1705	3445	1023	701
Grp Volume(v), veh/h	52	294	300	102	692	0	60	36	0	315	0	91
Grp Sat Flow(s),veh/h/ln	1847	1814	1838	1818	1800	1683	1959	2057	1705	1722	0	1724
Q Serve(g_s), s	1.4	7.1	7.2	2.8	8.4	0.0	1.5	0.9	0.0	4.5	0.0	2.5
Cycle Q Clear(g_c), s	1.4	7.1	7.2	2.8	8.4	0.0	1.5	0.9	0.0	4.5	0.0	2.5
Prop In Lane	1.00		0.22	1.00		1.00	1.00		1.00	1.00		0.41
Lane Grp Cap(c), veh/h	94	526	533	135	1129		109	80		456	0	199
V/C Ratio(X)	0.55	0.56	0.56	0.75	0.61		0.55	0.45		0.69	0.00	0.46
Avail Cap(c_a), veh/h	679	1894	1919	668	3759		531	1154		933	0	967
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.0	15.5	15.6	23.5	15.1	0.0	23.8	24.3	0.0	21.4	0.0	21.4
Incr Delay (d2), s/veh	1.9	0.4	0.4	3.2	0.2	0.0	1.6	1.5	0.0	0.7	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.5	2.5	1.2	2.8	0.0	0.7	0.4	0.0	1.7	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.8	16.0	16.0	26.7	15.3	0.0	25.4	25.7	0.0	22.1	0.0	22.0
LnGrp LOS	C	B	B	C	B		C	C		C	A	C
Approach Vol, veh/h		646			794			96			406	
Approach Delay, s/veh		16.8			16.8			25.5			22.1	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.8	21.0	8.9	12.0	8.6	22.2	12.8	8.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	19.0	54.0	14.0	29.0	19.0	54.0	14.0	29.0
Max Q Clear Time (g_c+I1), s	4.8	9.2	3.5	4.5	3.4	10.4	6.5	2.9
Green Ext Time (p_c), s	0.1	2.3	0.0	0.3	0.0	3.3	0.4	0.1

Intersection Summary	
HCM 6th Ctrl Delay	18.3
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	521	92	100	492	422	74	36	136	345	48	76
Future Volume (veh/h)	56	521	92	100	492	422	74	36	136	345	48	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1939	1939	1849	1939	1909	2017	2057	2057	2057	1879	1894	1894
Adj Flow Rate, veh/h	61	566	96	109	535	0	80	39	0	375	52	45
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	6	0	2	0	0	0	0	1	0	0
Cap, veh/h	103	888	150	144	1102		128	85		516	117	101
Arrive On Green	0.06	0.28	0.28	0.08	0.30	0.00	0.07	0.04	0.00	0.15	0.12	0.12
Sat Flow, veh/h	1847	3153	533	1847	3628	1709	1959	2057	1743	3472	937	811
Grp Volume(v), veh/h	61	330	332	109	535	0	80	39	0	375	0	97
Grp Sat Flow(s),veh/h/ln	1847	1842	1843	1847	1814	1709	1959	2057	1743	1736	0	1748
Q Serve(g_s), s	1.7	8.3	8.4	3.1	6.4	0.0	2.1	1.0	0.0	5.5	0.0	2.7
Cycle Q Clear(g_c), s	1.7	8.3	8.4	3.1	6.4	0.0	2.1	1.0	0.0	5.5	0.0	2.7
Prop In Lane	1.00		0.29	1.00		1.00	1.00		1.00	1.00		0.46
Lane Grp Cap(c), veh/h	103	519	519	144	1102		128	85		516	0	218
V/C Ratio(X)	0.59	0.64	0.64	0.76	0.49		0.63	0.46		0.73	0.00	0.44
Avail Cap(c_a), veh/h	659	1868	1869	659	3679		515	1120		913	0	952
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.5	16.7	16.8	24.1	15.1	0.0	24.3	25.0	0.0	21.6	0.0	21.6
Incr Delay (d2), s/veh	2.0	0.6	0.6	3.1	0.2	0.0	1.9	1.4	0.0	0.7	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.0	3.0	1.3	2.2	0.0	1.0	0.5	0.0	2.1	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.6	17.3	17.4	27.1	15.3	0.0	26.1	26.4	0.0	22.4	0.0	22.1
LnGrp LOS	C	B	B	C	B		C	C		C	A	C
Approach Vol, veh/h		723			644			119			472	
Approach Delay, s/veh		18.1			17.3			26.2			22.3	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	21.0	9.5	12.6	9.0	22.2	13.9	8.2
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	19.0	54.0	14.0	29.0	19.0	54.0	14.0	29.0
Max Q Clear Time (g_c+I1), s	5.1	10.4	4.1	4.7	3.7	8.4	7.5	3.0
Green Ext Time (p_c), s	0.1	2.6	0.1	0.3	0.0	2.4	0.5	0.1

Intersection Summary	
HCM 6th Ctrl Delay	19.4
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	1.3					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	11	211	59	17	215
Future Vol, veh/h	35	11	211	59	17	215
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	-1	-	-	1
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	3	0	5	0	0	2
Mvmt Flow	41	13	248	69	20	253

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	450	159	0	0	317	0
Stage 1	283	-	-	-	-	-
Stage 2	167	-	-	-	-	-
Critical Hdwy	6.86	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	535	864	-	-	1255	-
Stage 1	737	-	-	-	-	-
Stage 2	842	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	525	864	-	-	1255	-
Mov Cap-2 Maneuver	525	-	-	-	-	-
Stage 1	737	-	-	-	-	-
Stage 2	826	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	579	1255	-
HCM Lane V/C Ratio	-	-	0.093	0.016	-
HCM Control Delay (s)	-	-	11.9	7.9	0.1
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection						
Int Delay, s/veh	1.5					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	28	367	62	13	372
Future Vol, veh/h	57	28	367	62	13	372
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	-1	-	-	1
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	62	30	399	67	14	404

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	663	233	0	0	466	0
Stage 1	433	-	-	-	-	-
Stage 2	230	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	399	775	-	-	1106	-
Stage 1	627	-	-	-	-	-
Stage 2	792	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	393	775	-	-	1106	-
Mov Cap-2 Maneuver	393	-	-	-	-	-
Stage 1	627	-	-	-	-	-
Stage 2	779	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.5	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	469	1106	-
HCM Lane V/C Ratio	-	-	0.197	0.013	-
HCM Control Delay (s)	-	-	14.5	8.3	0.1
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.7	0	-

Intersection						
Int Delay, s/veh	3.3					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	107	25	423	106	20	371
Future Vol, veh/h	107	25	423	106	20	371
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	-1	-	-	1
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	1	4	0	2	0	1
Mvmt Flow	126	29	498	125	24	436

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	827	312	0	0	623	0
Stage 1	561	-	-	-	-	-
Stage 2	266	-	-	-	-	-
Critical Hdwy	6.82	6.98	-	-	4.1	-
Critical Hdwy Stg 1	5.82	-	-	-	-	-
Critical Hdwy Stg 2	5.82	-	-	-	-	-
Follow-up Hdwy	3.51	3.34	-	-	2.2	-
Pot Cap-1 Maneuver	312	678	-	-	968	-
Stage 1	538	-	-	-	-	-
Stage 2	757	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	302	678	-	-	968	-
Mov Cap-2 Maneuver	302	-	-	-	-	-
Stage 1	538	-	-	-	-	-
Stage 2	732	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.5	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	337	968	-
HCM Lane V/C Ratio	-	-	0.461	0.024	-
HCM Control Delay (s)	-	-	24.5	8.8	0.1
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	2.3	0.1	-

APPENDIX K

Synchro Printouts – *Design Year 2029 Without Development Condition*

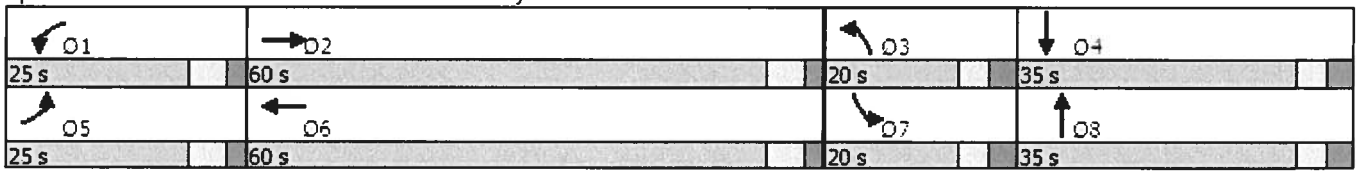
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	655	90	122	386	227	57	28	113	206	40	22
Future Volume (vph)	28	655	90	122	386	227	57	28	113	206	40	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	11	13	12	12	12	12	12	12
Grade (%)		-1%			-1%			-4%			1%	
Storage Length (ft)	225		0	200		350	0		0	375		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor												
Frt		0.982				0.850			0.850		0.947	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1639	3299	0	1778	3278	1613	1841	1700	1540	3416	1694	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1639	3299	0	1778	3278	1613	1841	1700	1540	3416	1694	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12				249			124		18	
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		1114			644			295			551	
Travel Time (s)		19.0			11.0			8.0			15.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	5%	0%	2%	7%	4%	0%	14%	7%	2%	5%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	31	720	99	134	424	249	63	31	124	226	44	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	31	819	0	134	424	249	63	31	124	226	68	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Detector Phase	5	2		1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	21.0		11.0	21.0	21.0	11.0	11.0	11.0	11.0	11.0	
Total Split (s)	25.0	60.0		25.0	60.0	60.0	20.0	35.0	35.0	20.0	35.0	
Total Split (%)	17.9%	42.9%		17.9%	42.9%	42.9%	14.3%	25.0%	25.0%	14.3%	25.0%	
Maximum Green (s)	19.0	54.0		19.0	54.0	54.0	14.0	29.0	29.0	14.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.1		2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	6.0		3.0	6.0	6.0	3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	15.0		0.0	15.0	15.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	10.0		0.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	6.7	30.9		11.7	41.7	41.7	7.9	6.8	6.8	10.7	9.0	
Actuated g/C Ratio	0.08	0.36		0.14	0.49	0.49	0.09	0.08	0.08	0.13	0.11	
v/c Ratio	0.24	0.68		0.55	0.26	0.27	0.37	0.23	0.52	0.53	0.35	
Control Delay	48.4	26.0		46.9	14.6	2.9	48.0	47.3	17.5	43.2	37.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	48.4	26.0		46.9	14.6	2.9	48.0	47.3	17.5	43.2	37.3	
LOS	D	C		D	B	A	D	D	B	D	D	
Approach Delay		26.8			16.3			30.6			41.8	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)	16	181		67	73	0	32	16	0	58	25	
Queue Length 95th (ft)	53	304		154	125	41	87	52	57	122	80	
Internal Link Dist (ft)		1034			564			215			471	
Turn Bay Length (ft)	225			200		350				375		
Base Capacity (vph)	383	2198		416	2194	1162	317	607	629	589	616	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.08	0.37		0.32	0.19	0.21	0.20	0.05	0.20	0.38	0.11	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 85.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 25.3 Intersection LOS: C
Intersection Capacity Utilization 55.3% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road



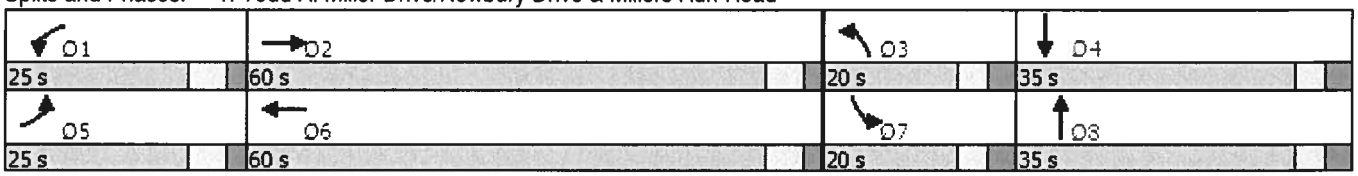
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	539	66	99	705	381	58	35	142	321	52	71
Future Volume (vph)	53	539	66	99	705	381	58	35	142	321	52	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	11	13	12	12	12	12	12	12
Grade (%)		-1%			-1%			-4%			1%	
Storage Length (ft)	225		0	200		350	0		0	375		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor												
Frt		0.984				0.850			0.850		0.914	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1754	3391	0	1778	3405	1644	1841	1938	1599	3416	1678	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1754	3391	0	1778	3405	1644	1841	1938	1599	3416	1678	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				393			146		44	
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		1114			644			295			551	
Travel Time (s)		19.0			11.0			8.0			15.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	2%	3%	2%	0%	0%	3%	2%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	55	556	68	102	727	393	60	36	146	331	54	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	55	624	0	102	727	393	60	36	146	331	127	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Detector Phase	5	2		1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	21.0		11.0	21.0	21.0	11.0	11.0	11.0	11.0	11.0	
Total Split (s)	25.0	60.0		25.0	60.0	60.0	20.0	35.0	35.0	20.0	35.0	
Total Split (%)	17.9%	42.9%		17.9%	42.9%	42.9%	14.3%	25.0%	25.0%	14.3%	25.0%	
Maximum Green (s)	19.0	54.0		19.0	54.0	54.0	14.0	29.0	29.0	14.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.1		2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	6.0		3.0	6.0	6.0	3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	15.0		0.0	15.0	15.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	10.0		0.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	7.8	32.3		10.1	34.3	34.3	7.9	7.3	7.3	14.4	11.5	
Actuated g/C Ratio	0.09	0.38		0.12	0.40	0.40	0.09	0.08	0.08	0.17	0.13	
v/c Ratio	0.35	0.49		0.49	0.54	0.44	0.36	0.22	0.54	0.58	0.48	
Control Delay	49.7	21.7		49.7	21.2	3.5	49.5	46.6	16.2	42.8	34.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	49.7	21.7		49.7	21.2	3.5	49.5	46.6	16.2	42.8	34.7	
LOS	D	C		D	C	A	D	D	B	D	C	
Approach Delay		24.0			17.9			29.0			40.5	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)	29	131		54	154	0	32	19	0	88	42	
Queue Length 95th (ft)	81	215		128	243	52	87	58	61	#194	120	
Internal Link Dist (ft)		1034			564			215			471	
Turn Bay Length (ft)	225			200		350				375		
Base Capacity (vph)	420	2255		426	2260	1223	325	709	678	603	642	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.13	0.28		0.24	0.32	0.32	0.18	0.05	0.22	0.55	0.20	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 86
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 24.5 Intersection LOS: C
Intersection Capacity Utilization 57.0% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road



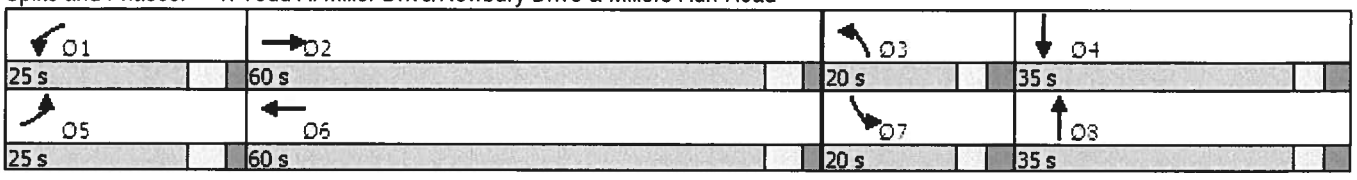
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	548	92	100	517	442	74	36	136	362	48	79
Future Volume (vph)	59	548	92	100	517	442	74	36	136	362	48	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	11	13	12	12	12	12	12	12
Grade (%)		-1%			-1%			-4%			1%	
Storage Length (ft)	225		0	200		350	0		0	375		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor												
Frt		0.978				0.850			0.850		0.907	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1754	3401	0	1814	3438	1677	1841	1938	1647	3450	1715	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1754	3401	0	1814	3438	1677	1841	1938	1647	3450	1715	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16				480			148		54	
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		1114			644			295			551	
Travel Time (s)		19.0			11.0			8.0			15.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	6%	0%	2%	0%	0%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	64	596	100	109	562	480	80	39	148	393	52	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	696	0	109	562	480	80	39	148	393	138	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Detector Phase	5	2		1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	21.0		11.0	21.0	21.0	11.0	11.0	11.0	11.0	11.0	
Total Split (s)	25.0	60.0		25.0	60.0	60.0	20.0	35.0	35.0	20.0	35.0	
Total Split (%)	17.9%	42.9%		17.9%	42.9%	42.9%	14.3%	25.0%	25.0%	14.3%	25.0%	
Maximum Green (s)	19.0	54.0		19.0	54.0	54.0	14.0	29.0	29.0	14.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.1		2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	6.0		3.0	6.0	6.0	3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	15.0		0.0	15.0	15.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	10.0		0.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	8.0	26.2		10.0	31.1	31.1	8.5	7.5	7.5	14.6	16.5	
Actuated g/C Ratio	0.10	0.31		0.12	0.37	0.37	0.10	0.09	0.09	0.18	0.20	
v/c Ratio	0.38	0.65		0.50	0.44	0.52	0.43	0.23	0.52	0.65	0.36	
Control Delay	47.3	26.6		46.5	21.4	4.1	46.9	43.2	14.8	41.4	27.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	47.3	26.6		46.5	21.4	4.1	46.9	43.2	14.8	41.4	27.1	
LOS	D	C		D	C	A	D	D	B	D	C	
Approach Delay		28.3			16.5			28.6			37.7	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)	30	148		50	112	0	37	18	0	92	37	
Queue Length 95th (ft)	89	254		134	192	60	106	59	59	#246	122	
Internal Link Dist (ft)		1034			564			215			471	
Turn Bay Length (ft)	225			200		350				375		
Base Capacity (vph)	418	2309		432	2329	1290	323	705	693	605	658	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.15	0.30		0.25	0.24	0.37	0.25	0.06	0.21	0.65	0.21	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 83.4
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 25.2 Intersection LOS: C
Intersection Capacity Utilization 58.1% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road



APPENDIX L

HCM Printouts – *Design Year 2029 Without Development Condition*

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	655	90	122	386	227	57	28	113	206	40	22
Future Volume (veh/h)	28	655	90	122	386	227	57	28	113	206	40	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1834	1864	1939	1909	1834	1954	2057	1847	1952	1864	1820	1790
Adj Flow Rate, veh/h	31	720	99	134	424	0	63	31	0	226	44	9
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	7	5	0	2	7	4	0	14	7	2	5	7
Cap, veh/h	60	970	133	175	1296		112	64		353	117	24
Arrive On Green	0.03	0.31	0.31	0.10	0.37	0.00	0.06	0.03	0.00	0.10	0.08	0.08
Sat Flow, veh/h	1747	3128	430	1818	3485	1656	1959	1847	1654	3445	1466	300
Grp Volume(v), veh/h	31	407	412	134	424	0	63	31	0	226	0	53
Grp Sat Flow(s),veh/h/ln	1747	1771	1787	1818	1743	1656	1959	1847	1654	1722	0	1766
Q Serve(g_s), s	0.9	10.8	10.9	3.8	4.6	0.0	1.6	0.9	0.0	3.3	0.0	1.5
Cycle Q Clear(g_c), s	0.9	10.8	10.9	3.8	4.6	0.0	1.6	0.9	0.0	3.3	0.0	1.5
Prop In Lane	1.00		0.24	1.00		1.00	1.00		1.00	1.00		0.17
Lane Grp Cap(c), veh/h	60	549	554	175	1296		112	64		353	0	141
V/C Ratio(X)	0.51	0.74	0.74	0.76	0.33		0.56	0.48		0.64	0.00	0.38
Avail Cap(c_a), veh/h	631	1818	1835	657	3578		522	1019		917	0	974
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.9	16.3	16.3	23.2	11.8	0.0	24.2	24.9	0.0	22.7	0.0	23.0
Incr Delay (d2), s/veh	2.5	0.9	0.9	2.6	0.1	0.0	1.6	2.1	0.0	0.7	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.7	3.7	1.6	1.4	0.0	0.8	0.4	0.0	1.3	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.4	17.2	17.2	25.8	11.9	0.0	25.8	27.0	0.0	23.4	0.0	23.6
LnGrp LOS	C	B	B	C	B		C	C		C	A	C
Approach Vol, veh/h		850			558			94			279	
Approach Delay, s/veh		17.6			15.2			26.2			23.4	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	22.3	9.0	10.2	7.8	25.6	11.4	7.8
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	19.0	54.0	14.0	29.0	19.0	54.0	14.0	29.0
Max Q Clear Time (g_c+I1), s	5.8	12.9	3.6	3.5	2.9	6.6	5.3	2.9
Green Ext Time (p_c), s	0.1	3.5	0.0	0.1	0.0	1.9	0.3	0.1

Intersection Summary	
HCM 6th Ctrl Delay	18.2
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	539	66	99	705	381	58	35	142	321	52	71
Future Volume (veh/h)	53	539	66	99	705	381	58	35	142	321	52	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1939	1909	1939	1909	1894	1986	2057	2057	2012	1864	1850	1850
Adj Flow Rate, veh/h	55	556	65	102	727	0	60	36	0	331	54	40
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	2	0	2	3	2	0	0	3	2	3	3
Cap, veh/h	97	944	110	135	1115		109	80		472	119	88
Arrive On Green	0.05	0.29	0.29	0.07	0.31	0.00	0.06	0.04	0.00	0.14	0.12	0.12
Sat Flow, veh/h	1847	3273	382	1818	3599	1683	1959	2057	1705	3445	987	731
Grp Volume(v), veh/h	55	307	314	102	727	0	60	36	0	331	0	94
Grp Sat Flow(s),veh/h/ln	1847	1814	1841	1818	1800	1683	1959	2057	1705	1722	0	1718
Q Serve(g_s), s	1.5	7.6	7.6	2.9	9.1	0.0	1.6	0.9	0.0	4.8	0.0	2.6
Cycle Q Clear(g_c), s	1.5	7.6	7.6	2.9	9.1	0.0	1.6	0.9	0.0	4.8	0.0	2.6
Prop In Lane	1.00		0.21	1.00		1.00	1.00		1.00	1.00		0.43
Lane Grp Cap(c), veh/h	97	523	531	135	1115		109	80		472	0	207
V/C Ratio(X)	0.57	0.59	0.59	0.76	0.65		0.55	0.45		0.70	0.00	0.45
Avail Cap(c_a), veh/h	675	1883	1911	664	3737		527	1147		927	0	958
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.1	15.9	15.9	23.6	15.5	0.0	23.9	24.4	0.0	21.4	0.0	21.3
Incr Delay (d2), s/veh	1.9	0.5	0.5	3.2	0.3	0.0	1.6	1.5	0.0	0.7	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.6	2.7	1.2	3.1	0.0	0.7	0.4	0.0	1.8	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.0	16.3	16.4	26.9	15.8	0.0	25.5	25.9	0.0	22.1	0.0	21.9
LnGrp LOS	C	B	B	C	B		C	C		C	A	C
Approach Vol, veh/h		676			829			96			425	
Approach Delay, s/veh		17.1			17.2			25.7			22.1	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	21.0	8.9	12.3	8.7	22.1	13.1	8.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	19.0	54.0	14.0	29.0	19.0	54.0	14.0	29.0
Max Q Clear Time (g_c+I1), s	4.9	9.6	3.6	4.6	3.5	11.1	6.8	2.9
Green Ext Time (p_c), s	0.1	2.4	0.0	0.3	0.0	3.5	0.4	0.1

Intersection Summary	
HCM 6th Ctrl Delay	18.6
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	548	92	100	517	442	74	36	136	362	48	79
Future Volume (veh/h)	59	548	92	100	517	442	74	36	136	362	48	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1939	1939	1849	1939	1909	2017	2057	2057	2057	1879	1894	1894
Adj Flow Rate, veh/h	64	596	96	109	562	0	80	39	0	393	52	48
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	6	0	2	0	0	0	0	1	0	0
Cap, veh/h	106	889	143	144	1089		127	85		534	118	109
Arrive On Green	0.06	0.28	0.28	0.08	0.30	0.00	0.06	0.04	0.00	0.15	0.13	0.13
Sat Flow, veh/h	1847	3179	511	1847	3628	1709	1959	2057	1743	3472	907	837
Grp Volume(v), veh/h	64	345	347	109	562	0	80	39	0	393	0	100
Grp Sat Flow(s),veh/h/ln	1847	1842	1847	1847	1814	1709	1959	2057	1743	1736	0	1743
Q Serve(g_s), s	1.8	8.9	8.9	3.1	6.9	0.0	2.1	1.0	0.0	5.8	0.0	2.8
Cycle Q Clear(g_c), s	1.8	8.9	8.9	3.1	6.9	0.0	2.1	1.0	0.0	5.8	0.0	2.8
Prop In Lane	1.00		0.28	1.00		1.00	1.00		1.00	1.00		0.48
Lane Grp Cap(c), veh/h	106	515	517	144	1089		127	85		534	0	226
V/C Ratio(X)	0.60	0.67	0.67	0.76	0.52		0.63	0.46		0.74	0.00	0.44
Avail Cap(c_a), veh/h	655	1856	1861	655	3654		512	1113		907	0	943
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.7	17.1	17.1	24.2	15.5	0.0	24.4	25.1	0.0	21.7	0.0	21.5
Incr Delay (d2), s/veh	2.1	0.7	0.7	3.1	0.2	0.0	1.9	1.5	0.0	0.8	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.2	3.3	1.3	2.4	0.0	1.0	0.5	0.0	2.3	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.7	17.8	17.8	27.3	15.7	0.0	26.3	26.6	0.0	22.4	0.0	22.0
LnGrp LOS	C	B	B	C	B		C	C		C	A	C
Approach Vol, veh/h		756			671			119			493	
Approach Delay, s/veh		18.6			17.6			26.4			22.3	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	21.0	9.5	13.0	9.1	22.1	14.2	8.2
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	19.0	54.0	14.0	29.0	19.0	54.0	14.0	29.0
Max Q Clear Time (g_c+I1), s	5.1	10.9	4.1	4.8	3.8	8.9	7.8	3.0
Green Ext Time (p_c), s	0.1	2.8	0.1	0.3	0.0	2.6	0.5	0.1

Intersection Summary	
HCM 6th Ctrl Delay	19.6
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	11	221	59	17	225
Future Vol, veh/h	35	11	221	59	17	225
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	-1	-	-	1
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	3	0	5	0	0	2
Mvmt Flow	41	13	260	69	20	265

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	468	165	0	0	329	0
Stage 1	295	-	-	-	-	-
Stage 2	173	-	-	-	-	-
Critical Hdwy	6.86	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	521	857	-	-	1242	-
Stage 1	727	-	-	-	-	-
Stage 2	837	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	511	857	-	-	1242	-
Mov Cap-2 Maneuver	511	-	-	-	-	-
Stage 1	727	-	-	-	-	-
Stage 2	821	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	566	1242	-
HCM Lane V/C Ratio	-	-	0.096	0.016	-
HCM Control Delay (s)	-	-	12	7.9	0.1
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection						
Int Delay, s/veh	1.5					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	28	384	62	13	389
Future Vol, veh/h	57	28	384	62	13	389
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	-1	-	-	1
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	62	30	417	67	14	423

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	691	242	0	0	484	0
Stage 1	451	-	-	-	-	-
Stage 2	240	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	383	765	-	-	1089	-
Stage 1	614	-	-	-	-	-
Stage 2	783	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	376	765	-	-	1089	-
Mov Cap-2 Maneuver	376	-	-	-	-	-
Stage 1	614	-	-	-	-	-
Stage 2	770	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	452	1089	-
HCM Lane V/C Ratio	-	-	0.204	0.013	-
HCM Control Delay (s)	-	-	15	8.3	0.1
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.8	0	-

Intersection	
Int Delay, s/veh	3.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	107	25	441	106	20	387
Future Vol, veh/h	107	25	441	106	20	387
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	-1	-	-	1
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	1	4	0	2	0	1
Mvmt Flow	126	29	519	125	24	455

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	858	322	0	0	644	0
Stage 1	582	-	-	-	-	-
Stage 2	276	-	-	-	-	-
Critical Hdwy	6.82	6.98	-	-	4.1	-
Critical Hdwy Stg 1	5.82	-	-	-	-	-
Critical Hdwy Stg 2	5.82	-	-	-	-	-
Follow-up Hdwy	3.51	3.34	-	-	2.2	-
Pot Cap-1 Maneuver	298	668	-	-	951	-
Stage 1	525	-	-	-	-	-
Stage 2	749	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	288	668	-	-	951	-
Mov Cap-2 Maneuver	288	-	-	-	-	-
Stage 1	525	-	-	-	-	-
Stage 2	724	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26	0	0.5
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	323	951	-
HCM Lane V/C Ratio	-	-	0.481	0.025	-
HCM Control Delay (s)	-	-	26	8.9	0.1
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	2.5	0.1	-

APPENDIX M

Trip Generation Calculations

South Fayette Commons
Trip Generation Summary

Time Period	Anticipated Trip Generation		
	In	Out	Total
LU Code #826 - Specialty Retail Center - 10,500 SF			
ADT	**244**	**244**	**488**
AM Peak Hour	**0**	**0**	**0**
Internal Trips (18%)	*0*	*0*	*0*
Primary Trips	*0*	*0*	*0*
Pass-By Trips (0%)	*0*	*0*	*0*
PM Peak Hour	**21**	**26**	**47**
Internal Trips (40%)	*8*	*10*	*18*
Primary Trips	*13*	*16*	*29*
Pass-By Trips (0%)	*0*	*0*	*0*
SAT Peak Hour	**23**	**21**	**44**
Internal Trips (53%)	*12*	*11*	*23*
Primary Trips	*11*	*10*	*21*
Pass-By Trips (0%)	*0*	*0*	*0*
LU Code #932 - High-Turnover (Sit-Down) Restaurant - 3,000 SF			
ADT	**191**	**191**	**382**
AM Peak Hour	**18**	**14**	**32**
Internal Trips (18%)	*3*	*3*	*6*
Primary Trips	*10*	*7*	*17*
Pass-By Trips (33%)	*5*	*4*	*9*
PM Peak Hour	**18**	**12**	**30**
Internal Trips (40%)	*7*	*5*	*12*
Primary Trips	*6*	*4*	*10*
Pass-By Trips (43%)	*5*	*3*	*8*
SAT Peak Hour	**22**	**20**	**42**
Internal Trips (53%)	*12*	*11*	*23*
Primary Trips	*7*	*6*	*13*
Pass-By Trips (33%)	*3*	*3*	*6*
Remaining Development Trips			
ADT	**435**	**435**	**870**
AM Peak Hour	**18**	**14**	**32**
Internal Trips	*3*	*3*	*6*
Primary Trips	*10*	*7*	*17*
Pass-By Trips	*5*	*4*	*9*
PM Peak Hour	**39**	**38**	**77**
Internal Trips	*15*	*15*	*30*
Primary Trips	*19*	*20*	*39*
Pass-By Trips	*5*	*3*	*8*
SAT Peak Hour	**45**	**41**	**86**
Internal Trips	*24*	*22*	*46*
Primary Trips	*18*	*16*	*34*
Pass-By Trips	*3*	*3*	*6*

The Piazza Development
Trip Generation Summary

Time Period	Anticipated Trip Generation		
	In	Out	Total
LU Code #932 - *High-Turnover (Sit-Down) Restaurant* - 6,800 SF			
ADT	**365**	**365**	**730**
AM Peak Hour	**36**	**29**	**65**
Primary Trips	*24*	*19*	*43*
Pass-By Trips (33%)	*12*	*10*	*22*
PM Peak Hour	**38**	**24**	**62**
Primary Trips	*22*	*14*	*36*
Pass-By Trips (43%)	*16*	*10*	*26*
SAT Peak Hour	**39**	**37**	**76**
Primary Trips	*26*	*25*	*51*
Pass-By Trips (33%)	*13*	*12*	*25*
LU Code #934 - *Fast-Food Restaurant with Drive-Through Window* - 8,250 SF			
ADT	**1,929**	**1,929**	**250**
AM Peak Hour	**188**	**180**	**368**
Primary Trips	*96*	*92*	*188*
Pass-By Trips (49%)	*92*	*88*	*180*
PM Peak Hour	**141**	**131**	**272**
Primary Trips	*97*	*90*	*187*
Pass-By Trips (31%)	*44*	*41*	*85*
SAT Peak Hour	**233**	**223**	**456**
Primary Trips	*184*	*176*	*360*
Pass-By Trips (21%)	*49*	*47*	*96*
Total Trip Generation			
ADT	**2,294**	**2,294**	**980**
AM Peak Hour	**224**	**209**	**433**
Primary Trips	*120*	*111*	*231*
Pass-By Trips	*104*	*98*	*202*
PM Peak Hour	**179**	**155**	**334**
Primary Trips	*119*	*104*	*223*
Pass-By Trips	*60*	*51*	*111*
SAT Peak Hour	**272**	**260**	**532**
Primary Trips	*210*	*201*	*411*
Pass-By Trips	*62*	*59*	*121*

TRIP GENERATION

David E. Wooster and Associates, LLC
2 East Crafton Avenue
Pittsburgh, PA 15205

County : Allegheny County
Municipality : South Fayette Township
Client Code: #4392

Land Use Code: 821
Description: Shopping Plaza (40-150k) without Supermarket

SF Gross Leasable Area: 45,126
X = 1,000 Square Feet Gross Leasable Area

Page: 212 ADT

Equation: Not Given *Average Rate = 67.52*

T =	3,048 ADT	
50% entering =		1,524
50% exiting =		1,524

Page: 213 AM Peak Hour (adjacent street between 7 and 9 a.m.)

Equation: Not Given *Average Rate = 1.73*

T =	78 AM Peak	
62% entering =		48
38% exiting =		30

Table E.9

Primary	Pass-by (30%)*
34	14
21	9

Page: 214 PM Peak Hour (adjacent street between 4 and 6 p.m.)

Equation: Not Given *Average Rate = 5.19*

T =	234 PM Peak	
49% entering =		115
51% exiting =		119

Table E.9

Primary	Pass-by (40%)
69	46
71	48

Page: 218 Saturday (Peak hour of generator)

Equation: T = 7.75 (X) - 98.93 R^2 = 0.58

T =	251 SAT Peak	
52% entering =		131
48% exiting =		120

Table E.10

Primary	Pass-by (31%)
90	41
83	37

* PM peak hour minus 10%

TRIP GENERATION

David E. Wooster and Associates, LLC
2 East Crafton Avenue
Pittsburgh, PA 15205

County : Allegheny County
Municipality : South Fayette Township
Client Code: #4392

Land Use Code: 932
Description: High-Turnover (Sit-Down) Restaurant

SF Gross Floor Area: 6,800

PIAZZA BACKGROUND TRIPS

X = 1,000 Square Feet Gross Floor Area

Page: 673 **ADT**

Equation: Not Given *Average Rate = 107.20*

T = 730 ADT

50% entering =	365
50% exiting =	365

Page: 674 **AM Peak Hour (adjacent street between 7 and 9 a.m.)**

Equation: Not Given *Average Rate = 9.57*

T = 65 AM Peak

		Table E.30	
		Primary	Pass-by (33%)*
55% entering =	36	24	12
45% exiting =	29	19	10

Page: 675 **PM Peak Hour (adjacent street between 4 and 6 p.m.)**

Equation: Not Given *Average Rate = 9.05*

T = 62 PM Peak

		Table E.30	
		Primary	Pass-by (43%)
61% entering =	38	22	16
39% exiting =	24	14	10

Page: 682 **Saturday (peak hour of generator)**

Equation: Not Given *Average Rate = 11.19*

T = 76 SAT Peak

		Table E.30	
		Primary	Pass-by (33%)*
51% entering =	39	26	13
49% exiting =	37	25	12

* PM peak hour minus 10%

TRIP GENERATION

David E. Wooster and Associates, LLC
2 East Crafton Avenue
Pittsburgh, PA 15205

County : Allegheny County
Municipality : South Fayette Township
Client Code: #4392

Land Use Code: 934
Description: Fast-Food Restaurant with Drive-Through Window

SF Gross Floor Area: 8,250
X = 1,000 Square Feet Gross Floor Area

PIAZZA BACKGROUND TRIPS

Page: 725 ADT

Equation: Not Given *Average Rate = 467.48*

T =	3,858 ADT	
50% entering =		1,929
50% exiting =		1,929

Page: 726 AM Peak Hour (adjacent street between 7 and 9 a.m.)

Equation: Not Given *Average Rate = 44.61*

T =	368 AM Peak	
51% entering =		188
49% exiting =		180

Table E.31

Primary	Pass-by (49%)
96	92
92	88

Page: 727 PM Peak Hour (adjacent street between 4 and 6 p.m.)

Equation: Not Given *Average Rate = 33.03*

T =	272 PM Peak	
52% entering =		141
48% exiting =		131

Table E.32

Primary	Pass-by (31%)
97	44
90	41

Page: 731 Saturday (peak hour of generator)

Equation: Not Given *Average Rate = 55.25*

T =	456 SAT Peak	
51% entering =		233
49% exiting =		223

Table E.32

Primary	Pass-by (21%)*
184	49
176	47

* PM peak hour minus 10%

TRIP GENERATION

David E. Wooster and Associates, LLC
2 East Crafton Avenue
Pittsburgh, PA 15205

County : Allegheny County
Municipality : South Fayette Township
Client Code: #4392

Land Use Code: 931
Description: Fine Dining Restaurant

SF Gross Floor Area: 9,377
X = 1,000 Square Feet Gross Floor Area

NEWBURY CIGAR LOUNGE, BAR, AND RESTAURTANT

Page: 646 ADT

Equation: Not Given *Average Rate = 83.84*

T =	788 ADT	
50% entering =		394
50% exiting =		394

Page: 647 AM Peak Hour (adjacent street between 7 and 9 a.m.)

Equation: Not Given *Average Rate = 0.73*

T =	7 AM Peak	
**50% entering =		4
**50% exiting =		3

Table E.29

Primary	Pass-by (34%)*
3	1
2	1

Page: 648 PM Peak Hour (adjacent street between 4 and 6 p.m.)

Equation: Not Given *Average Rate = 7.80*

T =	73 PM Peak	
67% entering =		49
33% exiting =		24

Table E.29

Primary	Pass-by (44%)
27	22
13	11

Page: 652 Saturday (peak hour of generator)

Equation: Not Given *Average Rate = 10.68*

T =	100 SAT Peak	
59% entering =		59
41% exiting =		41

Table E.29

Primary	Pass-by (34%)*
39	20
21	20

**-Directional Distribution Not Available. Distribution Assumed.

* PM peak hour minus 10%

APPENDIX N

Synchro Printouts – *Opening Year 2024 With Development Condition*

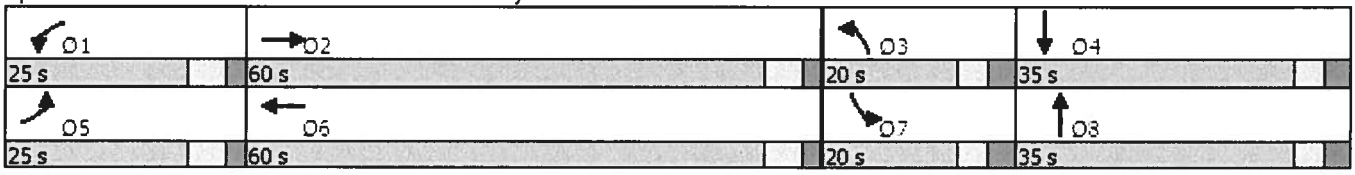
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	617	90	121	381	217	57	28	113	211	40	22
Future Volume (vph)	47	617	90	121	381	217	57	28	113	211	40	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	11	13	12	12	12	12	12	12
Grade (%)		-1%			-1%			-4%			1%	
Storage Length (ft)	225		0	200		350	0		0	375		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor												
Frt		0.981				0.850			0.850		0.947	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1639	3297	0	1778	3278	1613	1841	1700	1540	3416	1694	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1639	3297	0	1778	3278	1613	1841	1700	1540	3416	1694	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				238			124		18	
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		472			644			295			539	
Travel Time (s)		8.0			11.0			8.0			14.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	5%	0%	2%	7%	4%	0%	14%	7%	2%	5%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	52	678	99	133	419	238	63	31	124	232	44	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	777	0	133	419	238	63	31	124	232	68	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Detector Phase	5	2		1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	21.0		11.0	21.0	21.0	11.0	11.0	11.0	11.0	11.0	
Total Split (s)	25.0	60.0		25.0	60.0	60.0	20.0	35.0	35.0	20.0	35.0	
Total Split (%)	17.9%	42.9%		17.9%	42.9%	42.9%	14.3%	25.0%	25.0%	14.3%	25.0%	
Maximum Green (s)	19.0	54.0		19.0	54.0	54.0	14.0	29.0	29.0	14.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.1		2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	6.0		3.0	6.0	6.0	3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	15.0		0.0	15.0	15.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	10.0		0.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	7.7	28.8		11.5	35.8	35.8	7.8	6.7	6.7	10.6	8.9	
Actuated g/C Ratio	0.09	0.35		0.14	0.43	0.43	0.09	0.08	0.08	0.13	0.11	
v/c Ratio	0.34	0.67		0.54	0.30	0.29	0.36	0.22	0.52	0.53	0.34	
Control Delay	47.0	25.9		45.3	17.1	3.3	46.3	45.6	17.0	41.6	35.8	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	47.0	25.9		45.3	17.1	3.3	46.3	45.6	17.0	41.6	35.8	
LOS	D	C		D	B	A	D	D	B	D	D	
Approach Delay		27.2			17.7			29.5			40.3	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)	25	167		64	74	0	31	15	0	57	24	
Queue Length 95th (ft)	75	284		148	130	43	86	51	57	121	77	
Internal Link Dist (ft)		392			564			215			459	
Turn Bay Length (ft)	225			200		350				375		
Base Capacity (vph)	394	2260		428	2243	1179	326	625	644	606	634	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.13	0.34		0.31	0.19	0.20	0.19	0.05	0.19	0.38	0.11	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 82.8
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 25.8 Intersection LOS: C
Intersection Capacity Utilization 54.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road



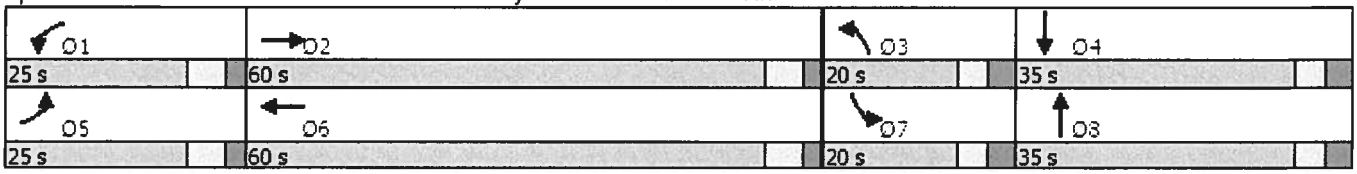
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	502	66	98	706	367	58	37	140	351	53	70
Future Volume (vph)	81	502	66	98	706	367	58	37	140	351	53	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	11	13	12	12	12	12	12	12
Grade (%)		-1%			-1%			-4%			1%	
Storage Length (ft)	225		0	200		350	0		0	375		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor												
Frt		0.983				0.850			0.850		0.915	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1754	3388	0	1778	3405	1644	1841	1938	1599	3416	1679	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1754	3388	0	1778	3405	1644	1841	1938	1599	3416	1679	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12				378			144		42	
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		472			644			295			539	
Travel Time (s)		8.0			11.0			8.0			14.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	2%	3%	2%	0%	0%	3%	2%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	84	518	68	101	728	378	60	38	144	362	55	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	586	0	101	728	378	60	38	144	362	127	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Detector Phase	5	2		1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	21.0		11.0	21.0	21.0	11.0	11.0	11.0	11.0	11.0	
Total Split (s)	25.0	60.0		25.0	60.0	60.0	20.0	35.0	35.0	20.0	35.0	
Total Split (%)	17.9%	42.9%		17.9%	42.9%	42.9%	14.3%	25.0%	25.0%	14.3%	25.0%	
Maximum Green (s)	19.0	54.0		19.0	54.0	54.0	14.0	29.0	29.0	14.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.1		2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	6.0		3.0	6.0	6.0	3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	15.0		0.0	15.0	15.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	10.0		0.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	9.3	33.5		10.1	37.6	37.6	7.8	7.4	7.4	14.6	17.3	
Actuated g/C Ratio	0.10	0.37		0.11	0.41	0.41	0.09	0.08	0.08	0.16	0.19	
v/c Ratio	0.47	0.47		0.51	0.52	0.42	0.38	0.24	0.55	0.66	0.36	
Control Delay	52.1	22.0		51.9	21.8	3.5	51.7	48.3	16.7	46.0	31.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.1	22.0		51.9	21.8	3.5	51.7	48.3	16.7	46.0	31.9	
LOS	D	C		D	C	A	D	D	B	D	C	
Approach Delay		25.8			18.6			30.3			42.4	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)	45	121		54	160	0	32	21	0	99	43	
Queue Length 95th (ft)	114	202		131	257	54	89	62	61	#233	125	
Internal Link Dist (ft)		392			564			215			459	
Turn Bay Length (ft)	225			200		350				375		
Base Capacity (vph)	384	2115		389	2121	1166	297	648	630	551	589	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.22	0.28		0.26	0.34	0.32	0.20	0.06	0.23	0.66	0.22	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 90.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 26.0 Intersection LOS: C
Intersection Capacity Utilization 58.2% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road



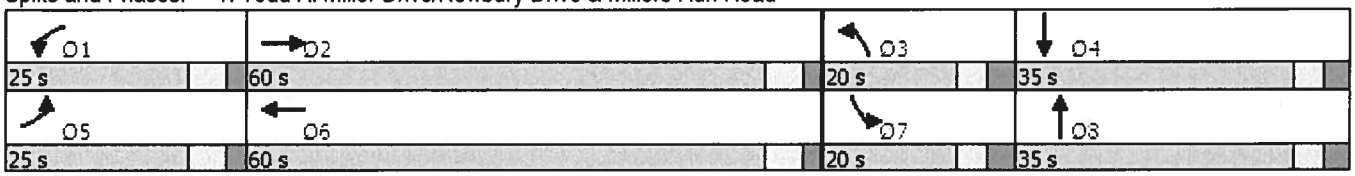
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	510	92	99	534	426	74	37	135	394	49	78
Future Volume (vph)	96	510	92	99	534	426	74	37	135	394	49	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	11	13	12	12	12	12	12	12
Grade (%)		-1%			-1%			-4%			1%	
Storage Length (ft)	225		0	200		350	0		0	375		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor												
Frt		0.977				0.850			0.850		0.908	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1754	3395	0	1814	3438	1677	1841	1938	1647	3450	1717	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1754	3395	0	1814	3438	1677	1841	1938	1647	3450	1717	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17				463			147		52	
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		472			644			295			539	
Travel Time (s)		8.0			11.0			8.0			14.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	6%	0%	2%	0%	0%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	104	554	100	108	580	463	80	40	147	428	53	85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	654	0	108	580	463	80	40	147	428	138	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Detector Phase	5	2		1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	21.0		11.0	21.0	21.0	11.0	11.0	11.0	11.0	11.0	
Total Split (s)	25.0	60.0		25.0	60.0	60.0	20.0	35.0	35.0	20.0	35.0	
Total Split (%)	17.9%	42.9%		17.9%	42.9%	42.9%	14.3%	25.0%	25.0%	14.3%	25.0%	
Maximum Green (s)	19.0	54.0		19.0	54.0	54.0	14.0	29.0	29.0	14.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.1		2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	6.0		3.0	6.0	6.0	3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	15.0		0.0	15.0	15.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	10.0		0.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	10.2	27.1		10.2	30.3	30.3	8.7	7.8	7.8	14.8	16.9	
Actuated g/C Ratio	0.12	0.32		0.12	0.36	0.36	0.10	0.09	0.09	0.17	0.20	
v/c Ratio	0.50	0.60		0.50	0.48	0.52	0.43	0.23	0.52	0.71	0.36	
Control Delay	48.4	25.5		48.0	23.4	4.3	48.5	44.6	14.9	44.6	28.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	48.4	25.5		48.0	23.4	4.3	48.5	44.6	14.9	44.6	28.6	
LOS	D	C		D	C	A	D	D	B	D	C	
Approach Delay		28.7			18.0			29.4			40.7	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)	47	137		48	122	0	36	18	0	98	37	
Queue Length 95th (ft)	136	239		140	213	62	112	63	61	#301	131	
Internal Link Dist (ft)		392			564			215			459	
Turn Bay Length (ft)	225			200		350				375		
Base Capacity (vph)	413	2280		427	2304	1276	320	697	686	599	651	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.25	0.29		0.25	0.25	0.36	0.25	0.06	0.21	0.71	0.21	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 85.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 26.8 Intersection LOS: C
Intersection Capacity Utilization 57.9% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road



APPENDIX O

HCM Printouts – *Opening Year 2024 With Development Condition*

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	617	90	121	381	217	57	28	113	211	40	22
Future Volume (veh/h)	47	617	90	121	381	217	57	28	113	211	40	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1834	1864	1939	1909	1834	1954	2057	1847	1952	1864	1820	1790
Adj Flow Rate, veh/h	52	678	99	133	419	0	63	31	0	232	44	9
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	7	5	0	2	7	4	0	14	7	2	5	7
Cap, veh/h	89	925	135	174	1196		113	64		362	121	25
Arrive On Green	0.05	0.30	0.30	0.10	0.34	0.00	0.06	0.03	0.00	0.11	0.08	0.08
Sat Flow, veh/h	1747	3101	452	1818	3485	1656	1959	1847	1654	3445	1466	300
Grp Volume(v), veh/h	52	387	390	133	419	0	63	31	0	232	0	53
Grp Sat Flow(s),veh/h/ln	1747	1771	1783	1818	1743	1656	1959	1847	1654	1722	0	1766
Q Serve(g_s), s	1.5	10.1	10.1	3.7	4.6	0.0	1.6	0.8	0.0	3.3	0.0	1.5
Cycle Q Clear(g_c), s	1.5	10.1	10.1	3.7	4.6	0.0	1.6	0.8	0.0	3.3	0.0	1.5
Prop In Lane	1.00		0.25	1.00		1.00	1.00		1.00	1.00		0.17
Lane Grp Cap(c), veh/h	89	528	532	174	1196		113	64		362	0	145
V/C Ratio(X)	0.58	0.73	0.73	0.76	0.35		0.56	0.48		0.64	0.00	0.36
Avail Cap(c_a), veh/h	644	1857	1869	671	3654		533	1040		936	0	994
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.9	16.2	16.2	22.7	12.6	0.0	23.6	24.4	0.0	22.1	0.0	22.4
Incr Delay (d2), s/veh	2.3	0.9	0.9	2.6	0.1	0.0	1.6	2.1	0.0	0.7	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.4	3.5	1.5	1.5	0.0	0.8	0.4	0.0	1.3	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.2	17.1	17.1	25.3	12.7	0.0	25.2	26.5	0.0	22.8	0.0	22.9
LnGrp LOS	C	B	B	C	B		C	C		C	A	C
Approach Vol, veh/h		829			552			94			285	
Approach Delay, s/veh		17.7			15.7			25.6			22.8	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	21.4	9.0	10.2	8.6	23.7	11.4	7.8
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	19.0	54.0	14.0	29.0	19.0	54.0	14.0	29.0
Max Q Clear Time (g_c+I1), s	5.7	12.1	3.6	3.5	3.5	6.6	5.3	2.8
Green Ext Time (p_c), s	0.1	3.2	0.0	0.1	0.0	1.9	0.3	0.1

Intersection Summary	
HCM 6th Ctrl Delay	18.3
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	502	66	98	706	367	58	37	140	351	53	70
Future Volume (veh/h)	81	502	66	98	706	367	58	37	140	351	53	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1939	1909	1939	1909	1894	1986	2057	2057	2012	1864	1850	1850
Adj Flow Rate, veh/h	84	518	65	101	728	0	60	38	0	362	55	39
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	2	0	2	3	2	0	0	3	2	3	3
Cap, veh/h	124	924	116	133	1047		109	83		503	132	94
Arrive On Green	0.07	0.28	0.28	0.07	0.29	0.00	0.06	0.04	0.00	0.15	0.13	0.13
Sat Flow, veh/h	1847	3244	406	1818	3599	1683	1959	2057	1705	3445	1007	714
Grp Volume(v), veh/h	84	289	294	101	728	0	60	38	0	362	0	94
Grp Sat Flow(s),veh/h/ln	1847	1814	1836	1818	1800	1683	1959	2057	1705	1722	0	1721
Q Serve(g_s), s	2.3	7.1	7.2	2.9	9.5	0.0	1.6	1.0	0.0	5.3	0.0	2.6
Cycle Q Clear(g_c), s	2.3	7.1	7.2	2.9	9.5	0.0	1.6	1.0	0.0	5.3	0.0	2.6
Prop In Lane	1.00		0.22	1.00		1.00	1.00		1.00	1.00		0.41
Lane Grp Cap(c), veh/h	124	516	523	133	1047		109	83		503	0	226
V/C Ratio(X)	0.68	0.56	0.56	0.76	0.70		0.55	0.46		0.72	0.00	0.42
Avail Cap(c_a), veh/h	666	1859	1882	656	3689		521	1132		915	0	947
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.0	16.0	16.0	24.0	16.6	0.0	24.2	24.7	0.0	21.5	0.0	21.0
Incr Delay (d2), s/veh	2.4	0.4	0.4	3.3	0.4	0.0	1.6	1.4	0.0	0.7	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	2.5	2.6	1.2	3.3	0.0	0.7	0.5	0.0	2.0	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.4	16.5	16.5	27.3	17.0	0.0	25.9	26.2	0.0	22.2	0.0	21.5
LnGrp LOS	C	B	B	C	B		C	C		C	A	C
Approach Vol, veh/h		667			829			98			456	
Approach Delay, s/veh		17.7			18.2			26.0			22.1	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	21.0	8.9	12.9	9.5	21.3	13.7	8.1
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	19.0	54.0	14.0	29.0	19.0	54.0	14.0	29.0
Max Q Clear Time (g_c+I1), s	4.9	9.2	3.6	4.6	4.3	11.5	7.3	3.0
Green Ext Time (p_c), s	0.1	2.3	0.0	0.3	0.1	3.5	0.4	0.1

Intersection Summary	
HCM 6th Ctrl Delay	19.3
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	510	92	99	534	426	74	37	135	394	49	78
Future Volume (veh/h)	96	510	92	99	534	426	74	37	135	394	49	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1939	1939	1849	1939	1909	2017	2057	2057	2057	1879	1894	1894
Adj Flow Rate, veh/h	104	554	96	108	580	0	80	40	0	428	53	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	6	0	2	0	0	0	0	1	0	0
Cap, veh/h	137	867	150	142	1012		126	86		567	130	115
Arrive On Green	0.07	0.28	0.28	0.08	0.28	0.00	0.06	0.04	0.00	0.16	0.14	0.14
Sat Flow, veh/h	1847	3141	543	1847	3628	1709	1959	2057	1743	3472	926	821
Grp Volume(v), veh/h	104	324	326	108	580	0	80	40	0	428	0	100
Grp Sat Flow(s),veh/h/ln	1847	1842	1842	1847	1814	1709	1959	2057	1743	1736	0	1746
Q Serve(g_s), s	3.0	8.4	8.5	3.1	7.5	0.0	2.2	1.0	0.0	6.4	0.0	2.8
Cycle Q Clear(g_c), s	3.0	8.4	8.5	3.1	7.5	0.0	2.2	1.0	0.0	6.4	0.0	2.8
Prop In Lane	1.00		0.29	1.00		1.00	1.00		1.00	1.00		0.47
Lane Grp Cap(c), veh/h	137	509	508	142	1012		126	86		567	0	245
V/C Ratio(X)	0.76	0.64	0.64	0.76	0.57		0.63	0.47		0.75	0.00	0.41
Avail Cap(c_a), veh/h	646	1831	1831	646	3606		505	1098		895	0	932
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.7	17.3	17.3	24.6	16.8	0.0	24.8	25.4	0.0	21.7	0.0	21.3
Incr Delay (d2), s/veh	3.2	0.6	0.6	3.1	0.2	0.0	1.9	1.5	0.0	0.8	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	3.1	3.1	1.3	2.6	0.0	1.0	0.5	0.0	2.5	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.9	17.9	17.9	27.7	17.0	0.0	26.7	26.9	0.0	22.5	0.0	21.7
LnGrp LOS	C	B	B	C	B		C	C		C	A	C
Approach Vol, veh/h		754			688			120			528	
Approach Delay, s/veh		19.3			18.7			26.8			22.3	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	21.0	9.5	13.6	10.0	21.2	14.9	8.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	19.0	54.0	14.0	29.0	19.0	54.0	14.0	29.0
Max Q Clear Time (g_c+I1), s	5.1	10.5	4.2	4.8	5.0	9.5	8.4	3.0
Green Ext Time (p_c), s	0.1	2.6	0.1	0.3	0.1	2.7	0.5	0.1

Intersection Summary	
HCM 6th Ctrl Delay	20.3
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↱			↱
Traffic Vol, veh/h	0	754	446	5	0	4
Future Vol, veh/h	0	754	446	5	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-1	1	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	5	7	2	0	2
Mvmt Flow	0	820	485	5	0	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	245
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	755
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	755
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	755
HCM Lane V/C Ratio	-	-	-	0.006
HCM Control Delay (s)	-	-	-	9.8
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↱			↱
Traffic Vol, veh/h	0	649	807	16	0	17
Future Vol, veh/h	0	649	807	16	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-1	1	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	3	2	2	2
Mvmt Flow	0	705	877	17	0	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	447
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	559
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	559
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	559
HCM Lane V/C Ratio	-	-	-	0.033
HCM Control Delay (s)	-	-	-	11.7
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↱			↱
Traffic Vol, veh/h	0	698	652	18	0	15
Future Vol, veh/h	0	698	652	18	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-1	1	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	1	2	2	0	2
Mvmt Flow	0	759	709	20	0	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	365
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	632
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	632
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	632
HCM Lane V/C Ratio	-	-	-	0.026
HCM Control Delay (s)	-	-	-	10.8
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↱			↱
Traffic Vol, veh/h	0	754	448	12	0	3
Future Vol, veh/h	0	754	448	12	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-1	1	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	5	7	2	0	2
Mvmt Flow	0	820	487	13	0	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	250
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	750
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	750
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	750
HCM Lane V/C Ratio	-	-	-	0.004
HCM Control Delay (s)	-	-	-	9.8
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

Intersection						
Int Delay, s/veh	0.2					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↱			↱
Traffic Vol, veh/h	0	649	801	33	0	22
Future Vol, veh/h	0	649	801	33	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-1	1	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	3	2	0	2
Mvmt Flow	0	705	871	36	0	24

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	454
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	553
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	553
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.8
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	553
HCM Lane V/C Ratio	-	-	-	0.043
HCM Control Delay (s)	-	-	-	11.8
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	698	652	34	0	18
Future Vol, veh/h	0	698	652	34	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-1	1	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	1	2	2	0	2
Mvmt Flow	0	759	709	37	0	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	373
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	624
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	624
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	624
HCM Lane V/C Ratio	-	-	-	0.031
HCM Control Delay (s)	-	-	-	11
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↑↑			↑↑	
Traffic Vol, veh/h	5	0	18	35	0	11	24	209	59	17	213	7
Future Vol, veh/h	5	0	18	35	0	11	24	209	59	17	213	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-1	-	-	1	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	3	2	0	2	5	0	0	2	2
Mvmt Flow	6	0	21	41	0	13	28	246	69	20	251	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	474	666	130	503	636	158	259	0	0	315	0	0
Stage 1	295	295	-	337	337	-	-	-	-	-	-	-
Stage 2	179	371	-	166	299	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.56	6.54	6.9	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.56	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.56	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.53	4.02	3.3	2.22	-	-	2.2	-	-
Pot Cap-1 Maneuver	474	379	896	449	394	866	1303	-	-	1257	-	-
Stage 1	689	668	-	648	640	-	-	-	-	-	-	-
Stage 2	805	618	-	817	665	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	451	362	896	423	376	866	1303	-	-	1257	-	-
Mov Cap-2 Maneuver	451	362	-	423	376	-	-	-	-	-	-	-
Stage 1	671	655	-	631	623	-	-	-	-	-	-	-
Stage 2	772	602	-	783	652	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	13.4	0.7	0.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1303	-	-	738	482	1257	-	-
HCM Lane V/C Ratio	0.022	-	-	0.037	0.112	0.016	-	-
HCM Control Delay (s)	7.8	0.1	-	10.1	13.4	7.9	0.1	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.4	0	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↑↑↔			↑↑↔	
Traffic Vol, veh/h	23	0	57	55	2	28	45	358	62	13	365	19
Future Vol, veh/h	23	0	57	55	2	28	45	358	62	13	365	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-1	-	-	1	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	0	2	0	2	2	0	0	2	2
Mvmt Flow	25	0	62	60	2	30	49	389	67	14	397	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	730	990	209	748	967	228	418	0	0	456	0	0
Stage 1	436	436	-	521	521	-	-	-	-	-	-	-
Stage 2	294	554	-	227	446	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.5	6.54	6.9	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.5	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.5	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.5	4.02	3.3	2.22	-	-	2.2	-	-
Pot Cap-1 Maneuver	310	245	797	305	253	781	1138	-	-	1115	-	-
Stage 1	569	578	-	512	530	-	-	-	-	-	-	-
Stage 2	690	512	-	761	572	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	279	227	797	266	235	781	1138	-	-	1115	-	-
Mov Cap-2 Maneuver	279	227	-	266	235	-	-	-	-	-	-	-
Stage 1	536	569	-	482	499	-	-	-	-	-	-	-
Stage 2	622	482	-	691	563	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.3	19.6	1	0.4
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1138	-	-	520	338	1115	-	-
HCM Lane V/C Ratio	0.043	-	-	0.167	0.273	0.013	-	-
HCM Control Delay (s)	8.3	0.2	-	13.3	19.6	8.3	0.1	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	1.1	0	-	-

Intersection												
Int Delay, s/veh	8.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕↑			↕↑	
Traffic Vol, veh/h	26	0	61	105	2	25	54	414	106	20	364	23
Future Vol, veh/h	26	0	61	105	2	25	54	414	106	20	364	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-1	-	-	1	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	1	2	4	2	0	2	0	1	2
Mvmt Flow	31	0	72	124	2	29	64	487	125	24	428	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	863	1230	228	940	1181	306	455	0	0	612	0	0
Stage 1	490	490	-	678	678	-	-	-	-	-	-	-
Stage 2	373	740	-	262	503	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.52	6.54	6.98	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.52	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.52	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.51	4.02	3.34	2.22	-	-	2.2	-	-
Pot Cap-1 Maneuver	248	176	775	220	189	684	1102	-	-	977	-	-
Stage 1	529	547	-	411	450	-	-	-	-	-	-	-
Stage 2	620	421	-	723	540	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	213	155	775	181	166	684	1102	-	-	977	-	-
Mov Cap-2 Maneuver	213	155	-	181	166	-	-	-	-	-	-	-
Stage 1	481	529	-	374	410	-	-	-	-	-	-	-
Stage 2	537	383	-	634	522	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.9	59.1	1	0.5
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1102	-	-	433	210	977	-	-
HCM Lane V/C Ratio	0.058	-	-	0.236	0.739	0.024	-	-
HCM Control Delay (s)	8.5	0.3	-	15.9	59.1	8.8	0.1	-
HCM Lane LOS	A	A	-	C	F	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.9	4.9	0.1	-	-

APPENDIX P

Synchro Printouts – *Design Year 2029 With Development Condition*

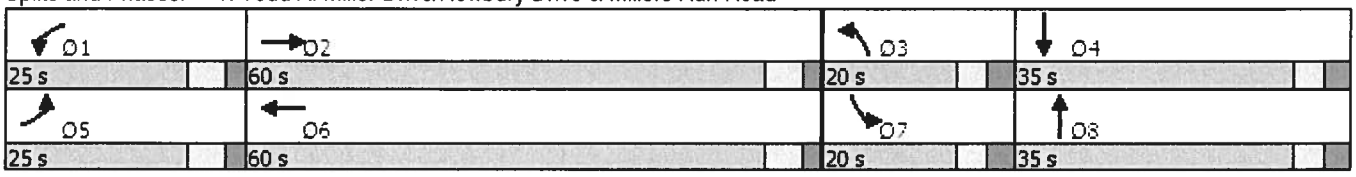
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	649	90	121	400	228	57	28	113	221	40	23
Future Volume (vph)	49	649	90	121	400	228	57	28	113	221	40	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	11	13	12	12	12	12	12	12
Grade (%)		-1%			-1%			-4%			1%	
Storage Length (ft)	225		0	200		350	0		0	375		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor												
Frt		0.982				0.850			0.850		0.946	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1639	3299	0	1778	3278	1613	1841	1700	1540	3416	1692	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1639	3299	0	1778	3278	1613	1841	1700	1540	3416	1692	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				251			124		18	
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		472			644			295			539	
Travel Time (s)		8.0			11.0			8.0			14.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	5%	0%	2%	7%	4%	0%	14%	7%	2%	5%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	54	713	99	133	440	251	63	31	124	243	44	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	812	0	133	440	251	63	31	124	243	69	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Detector Phase	5	2		1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	21.0		11.0	21.0	21.0	11.0	11.0	11.0	11.0	11.0	
Total Split (s)	25.0	60.0		25.0	60.0	60.0	20.0	35.0	35.0	20.0	35.0	
Total Split (%)	17.9%	42.9%		17.9%	42.9%	42.9%	14.3%	25.0%	25.0%	14.3%	25.0%	
Maximum Green (s)	19.0	54.0		19.0	54.0	54.0	14.0	29.0	29.0	14.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.1		2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	6.0		3.0	6.0	6.0	3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	15.0		0.0	15.0	15.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	10.0		0.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	7.8	30.8		11.7	37.8	37.8	7.9	6.8	6.8	11.0	9.3	
Actuated g/C Ratio	0.09	0.36		0.14	0.44	0.44	0.09	0.08	0.08	0.13	0.11	
v/c Ratio	0.36	0.68		0.55	0.30	0.29	0.37	0.23	0.53	0.55	0.35	
Control Delay	48.8	26.1		47.0	17.1	3.2	48.1	47.3	17.5	43.2	37.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	48.8	26.1		47.0	17.1	3.2	48.1	47.3	17.5	43.2	37.0	
LOS	D	C		D	B	A	D	D	B	D	D	
Approach Delay		27.5			17.7			30.6			41.8	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)	27	181		67	80	0	32	16	0	62	25	
Queue Length 95th (ft)	78	300		152	137	43	88	53	57	129	80	
Internal Link Dist (ft)		392			564			215			459	
Turn Bay Length (ft)	225			200		350				375		
Base Capacity (vph)	382	2193		415	2175	1154	316	605	628	587	614	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.14	0.37		0.32	0.20	0.22	0.20	0.05	0.20	0.41	0.11	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 85.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 26.2 Intersection LOS: C
Intersection Capacity Utilization 55.5% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road



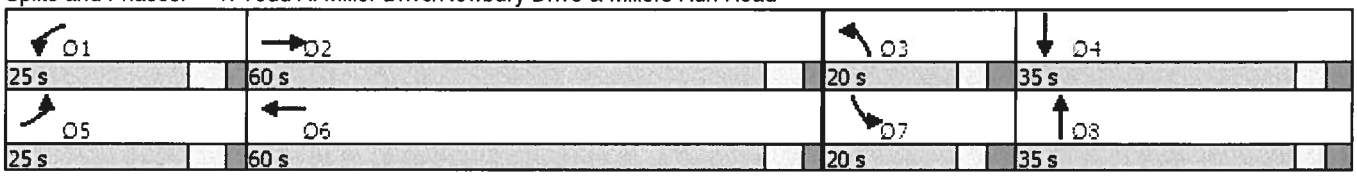
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	528	66	98	740	384	58	37	140	366	53	73
Future Volume (vph)	84	528	66	98	740	384	58	37	140	366	53	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	11	13	12	12	12	12	12	12
Grade (%)		-1%			-1%			-4%			1%	
Storage Length (ft)	225		0	200		350	0		0	375		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor												
Frt		0.983				0.850			0.850		0.913	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1754	3387	0	1778	3405	1644	1841	1938	1599	3416	1676	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1754	3387	0	1778	3405	1644	1841	1938	1599	3416	1676	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				396			144		44	
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		472			644			295			539	
Travel Time (s)		8.0			11.0			8.0			14.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	2%	3%	2%	0%	0%	3%	2%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	87	544	68	101	763	396	60	38	144	377	55	75
Shared Lane Traffic (%)												
Lane Group Flow (vph)	87	612	0	101	763	396	60	38	144	377	130	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Detector Phase	5	2		1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	21.0		11.0	21.0	21.0	11.0	11.0	11.0	11.0	11.0	
Total Split (s)	25.0	60.0		25.0	60.0	60.0	20.0	35.0	35.0	20.0	35.0	
Total Split (%)	17.9%	42.9%		17.9%	42.9%	42.9%	14.3%	25.0%	25.0%	14.3%	25.0%	
Maximum Green (s)	19.0	54.0		19.0	54.0	54.0	14.0	29.0	29.0	14.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.1		2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	6.0		3.0	6.0	6.0	3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	15.0		0.0	15.0	15.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	10.0		0.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	9.5	35.6		10.2	39.6	39.6	7.9	7.5	7.5	14.7	17.5	
Actuated g/C Ratio	0.10	0.38		0.11	0.43	0.43	0.08	0.08	0.08	0.16	0.19	
v/c Ratio	0.49	0.47		0.52	0.53	0.43	0.39	0.24	0.55	0.70	0.37	
Control Delay	53.9	21.9		53.6	21.9	3.5	53.3	49.4	16.9	49.0	32.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.9	21.9		53.6	21.9	3.5	53.3	49.4	16.9	49.0	32.7	
LOS	D	C		D	C	A	D	D	B	D	C	
Approach Delay		25.9			18.6			31.0			44.8	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)	49	130		56	172	0	34	22	0	109	46	
Queue Length 95th (ft)	117	213		131	274	56	89	61	61	#248	127	
Internal Link Dist (ft)		392			564			215			459	
Turn Bay Length (ft)	225			200		350				375		
Base Capacity (vph)	374	2062		380	2069	1154	289	632	619	538	576	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.23	0.30		0.27	0.37	0.34	0.21	0.06	0.23	0.70	0.23	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 93.1
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 26.5 Intersection LOS: C
Intersection Capacity Utilization 59.7% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road



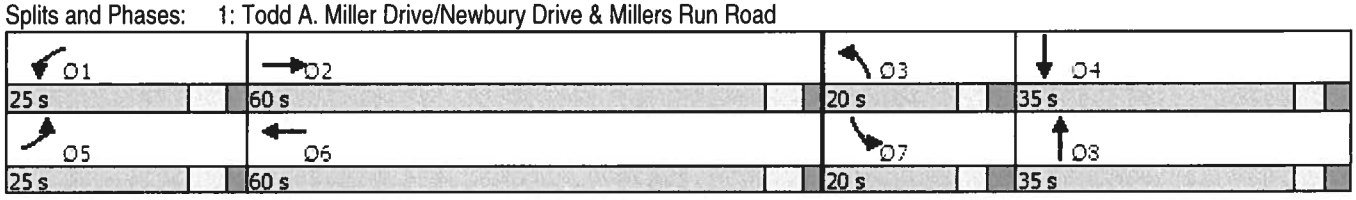
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	537	92	99	559	446	74	37	135	411	49	81
Future Volume (vph)	99	537	92	99	559	446	74	37	135	411	49	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	11	13	12	12	12	12	12	12
Grade (%)		-1%			-1%			-4%			1%	
Storage Length (ft)	225		0	200		350	0		0	375		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	75			75			75			75		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor												
Frt		0.978				0.850			0.850		0.906	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1754	3400	0	1814	3438	1677	1841	1938	1647	3450	1713	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1754	3400	0	1814	3438	1677	1841	1938	1647	3450	1713	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16				485			147		54	
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		472			644			295			539	
Travel Time (s)		8.0			11.0			8.0			14.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	6%	0%	2%	0%	0%	0%	0%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	108	584	100	108	608	485	80	40	147	447	53	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	108	684	0	108	608	485	80	40	147	447	141	0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Detector Phase	5	2		1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0	15.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	21.0		11.0	21.0	21.0	11.0	11.0	11.0	11.0	11.0	
Total Split (s)	25.0	60.0		25.0	60.0	60.0	20.0	35.0	35.0	20.0	35.0	
Total Split (%)	17.9%	42.9%		17.9%	42.9%	42.9%	14.3%	25.0%	25.0%	14.3%	25.0%	
Maximum Green (s)	19.0	54.0		19.0	54.0	54.0	14.0	29.0	29.0	14.0	29.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.1		2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Gap (s)	3.0	6.0		3.0	6.0	6.0	3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	15.0		0.0	15.0	15.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	10.0		0.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	10.5	30.4		10.3	30.2	30.2	8.9	8.0	8.0	14.9	17.1	
Actuated g/C Ratio	0.12	0.34		0.12	0.34	0.34	0.10	0.09	0.09	0.17	0.19	
v/c Ratio	0.52	0.58		0.51	0.52	0.55	0.44	0.23	0.52	0.78	0.38	
Control Delay	51.1	24.8		50.9	24.5	4.5	51.3	46.7	15.1	49.8	30.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	51.1	24.8		50.9	24.5	4.5	51.3	46.7	15.1	49.8	30.0	
LOS	D	C		D	C	A	D	D	B	D	C	
Approach Delay		28.4			18.8			30.7			45.1	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)	57	147		57	131	0	42	21	0	123	44	
Queue Length 95th (ft)	143	252		143	227	62	114	64	62	#328	134	
Internal Link Dist (ft)		392			564			215			459	
Turn Bay Length (ft)	225			200		350				375		
Base Capacity (vph)	397	2195		410	2212	1252	307	669	665	575	627	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.27	0.31		0.26	0.27	0.39	0.26	0.06	0.22	0.78	0.22	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 89.1
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 28.0 Intersection LOS: C
Intersection Capacity Utilization 59.2% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road



APPENDIX Q

HCM Printouts – *Design Year 2029 With Development Condition*

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	649	90	121	400	228	57	28	113	221	40	23
Future Volume (veh/h)	49	649	90	121	400	228	57	28	113	221	40	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1834	1864	1939	1909	1834	1954	2057	1847	1952	1864	1820	1790
Adj Flow Rate, veh/h	54	713	99	133	440	0	63	31	0	243	44	10
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	7	5	0	2	7	4	0	14	7	2	5	7
Cap, veh/h	90	960	133	174	1225		112	64		373	123	28
Arrive On Green	0.05	0.31	0.31	0.10	0.35	0.00	0.06	0.03	0.00	0.11	0.09	0.09
Sat Flow, veh/h	1747	3124	433	1818	3485	1656	1959	1847	1654	3445	1435	326
Grp Volume(v), veh/h	54	404	408	133	440	0	63	31	0	243	0	54
Grp Sat Flow(s),veh/h/ln	1747	1771	1786	1818	1743	1656	1959	1847	1654	1722	0	1761
Q Serve(g_s), s	1.6	10.8	10.8	3.8	5.0	0.0	1.7	0.9	0.0	3.6	0.0	1.5
Cycle Q Clear(g_c), s	1.6	10.8	10.8	3.8	5.0	0.0	1.7	0.9	0.0	3.6	0.0	1.5
Prop In Lane	1.00		0.24	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	90	545	549	174	1225		112	64		373	0	151
V/C Ratio(X)	0.60	0.74	0.74	0.76	0.36		0.56	0.49		0.65	0.00	0.36
Avail Cap(c_a), veh/h	628	1809	1825	654	3561		519	1014		912	0	966
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.5	16.4	16.4	23.3	12.7	0.0	24.3	25.1	0.0	22.6	0.0	22.8
Incr Delay (d2), s/veh	2.3	0.9	0.9	2.6	0.1	0.0	1.7	2.1	0.0	0.7	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.7	3.8	1.5	1.6	0.0	0.8	0.4	0.0	1.4	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.9	17.4	17.4	25.9	12.8	0.0	25.9	27.2	0.0	23.3	0.0	23.3
LnGrp LOS	C	B	B	C	B		C	C		C	A	C
Approach Vol, veh/h		866			573			94			297	
Approach Delay, s/veh		17.9			15.9			26.3			23.3	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	22.3	9.0	10.5	8.7	24.6	11.7	7.8
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	19.0	54.0	14.0	29.0	19.0	54.0	14.0	29.0
Max Q Clear Time (g_c+I1), s	5.8	12.8	3.7	3.5	3.6	7.0	5.6	2.9
Green Ext Time (p_c), s	0.1	3.4	0.0	0.2	0.0	2.0	0.3	0.1

Intersection Summary	
HCM 6th Ctrl Delay	18.6
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	528	66	98	740	384	58	37	140	366	53	73
Future Volume (veh/h)	84	528	66	98	740	384	58	37	140	366	53	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1939	1909	1939	1909	1894	1986	2057	2057	2012	1864	1850	1850
Adj Flow Rate, veh/h	87	544	65	101	763	0	60	38	0	377	55	42
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	2	0	2	3	2	0	0	3	2	3	3
Cap, veh/h	125	949	113	132	1065		108	83		516	131	100
Arrive On Green	0.07	0.29	0.29	0.07	0.30	0.00	0.06	0.04	0.00	0.15	0.13	0.13
Sat Flow, veh/h	1847	3264	389	1818	3599	1683	1959	2057	1705	3445	973	743
Grp Volume(v), veh/h	87	302	307	101	763	0	60	38	0	377	0	97
Grp Sat Flow(s),veh/h/ln	1847	1814	1839	1818	1800	1683	1959	2057	1705	1722	0	1716
Q Serve(g_s), s	2.5	7.6	7.6	2.9	10.2	0.0	1.6	1.0	0.0	5.6	0.0	2.8
Cycle Q Clear(g_c), s	2.5	7.6	7.6	2.9	10.2	0.0	1.6	1.0	0.0	5.6	0.0	2.8
Prop In Lane	1.00		0.21	1.00		1.00	1.00		1.00	1.00		0.43
Lane Grp Cap(c), veh/h	125	527	535	132	1065		108	83		516	0	232
V/C Ratio(X)	0.70	0.57	0.57	0.76	0.72		0.56	0.46		0.73	0.00	0.42
Avail Cap(c_a), veh/h	653	1823	1848	643	3616		510	1110		897	0	926
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.5	16.2	16.2	24.5	16.9	0.0	24.8	25.2	0.0	21.8	0.0	21.3
Incr Delay (d2), s/veh	2.6	0.4	0.4	3.4	0.4	0.0	1.7	1.5	0.0	0.8	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.7	2.7	1.2	3.5	0.0	0.8	0.5	0.0	2.2	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.1	16.7	16.7	27.9	17.3	0.0	26.4	26.7	0.0	22.6	0.0	21.8
LnGrp LOS	C	B	B	C	B		C	C		C	A	C
Approach Vol, veh/h		696			864			98			474	
Approach Delay, s/veh		18.0			18.6			26.5			22.4	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	21.6	9.0	13.3	9.6	21.9	14.0	8.2
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	19.0	54.0	14.0	29.0	19.0	54.0	14.0	29.0
Max Q Clear Time (g_c+I1), s	4.9	9.6	3.6	4.8	4.5	12.2	7.6	3.0
Green Ext Time (p_c), s	0.1	2.4	0.0	0.3	0.1	3.7	0.5	0.1

Intersection Summary	
HCM 6th Ctrl Delay	19.6
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	537	92	99	559	446	74	37	135	411	49	81
Future Volume (veh/h)	99	537	92	99	559	446	74	37	135	411	49	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1939	1939	1849	1939	1909	2017	2057	2057	2057	1879	1894	1894
Adj Flow Rate, veh/h	108	584	96	108	608	0	80	40	0	447	53	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	6	0	2	0	0	0	0	1	0	0
Cap, veh/h	142	869	142	142	995		126	86		585	131	123
Arrive On Green	0.08	0.27	0.27	0.08	0.27	0.00	0.06	0.04	0.00	0.17	0.15	0.15
Sat Flow, veh/h	1847	3169	520	1847	3628	1709	1959	2057	1743	3472	896	846
Grp Volume(v), veh/h	108	339	341	108	608	0	80	40	0	447	0	103
Grp Sat Flow(s),veh/h/ln	1847	1842	1846	1847	1814	1709	1959	2057	1743	1736	0	1742
Q Serve(g_s), s	3.1	9.0	9.0	3.1	8.0	0.0	2.2	1.0	0.0	6.7	0.0	2.9
Cycle Q Clear(g_c), s	3.1	9.0	9.0	3.1	8.0	0.0	2.2	1.0	0.0	6.7	0.0	2.9
Prop In Lane	1.00		0.28	1.00		1.00	1.00		1.00	1.00		0.49
Lane Grp Cap(c), veh/h	142	505	506	142	995		126	86		585	0	254
V/C Ratio(X)	0.76	0.67	0.67	0.76	0.61		0.64	0.47		0.76	0.00	0.41
Avail Cap(c_a), veh/h	641	1818	1822	641	3580		501	1090		888	0	923
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.7	17.7	17.7	24.7	17.3	0.0	25.0	25.6	0.0	21.7	0.0	21.2
Incr Delay (d2), s/veh	3.1	0.7	0.7	3.1	0.3	0.0	2.0	1.5	0.0	0.9	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	3.3	3.3	1.3	2.8	0.0	1.0	0.5	0.0	2.6	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.8	18.4	18.4	27.8	17.6	0.0	26.9	27.1	0.0	22.6	0.0	21.6
LnGrp LOS	C	B	B	C	B		C	C		C	A	C
Approach Vol, veh/h		788			716			120			550	
Approach Delay, s/veh		19.7			19.1			27.0			22.4	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	21.0	9.5	14.0	10.2	21.0	15.2	8.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	19.0	54.0	14.0	29.0	19.0	54.0	14.0	29.0
Max Q Clear Time (g_c+I1), s	5.1	11.0	4.2	4.9	5.1	10.0	8.7	3.0
Green Ext Time (p_c), s	0.1	2.7	0.1	0.4	0.1	2.8	0.5	0.1

Intersection Summary	
HCM 6th Ctrl Delay	20.6
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↱			↱
Traffic Vol, veh/h	0	788	466	5	0	4
Future Vol, veh/h	0	788	466	5	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-1	1	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	5	7	2	0	2
Mvmt Flow	0	857	507	5	0	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	256
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	743
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	743
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	743
HCM Lane V/C Ratio	-	-	-	0.006
HCM Control Delay (s)	-	-	-	9.9
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↱			↱
Traffic Vol, veh/h	0	678	844	16	0	17
Future Vol, veh/h	0	678	844	16	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-1	1	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	3	2	2	2
Mvmt Flow	0	737	917	17	0	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	467
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	542
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	542
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	542
HCM Lane V/C Ratio	-	-	-	0.034
HCM Control Delay (s)	-	-	-	11.9
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	728	680	18	0	15
Future Vol, veh/h	0	728	680	18	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-1	1	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	1	2	2	0	2
Mvmt Flow	0	791	739	20	0	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	380
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	618
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	618
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	618
HCM Lane V/C Ratio	-	-	-	0.026
HCM Control Delay (s)	-	-	-	11
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection						
Int Delay, s/veh	0					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↱			↱
Traffic Vol, veh/h	0	788	468	12	0	3
Future Vol, veh/h	0	788	468	12	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-1	1	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	5	7	2	0	2
Mvmt Flow	0	857	509	13	0	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	261
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	738
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	738
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	738
HCM Lane V/C Ratio	-	-	-	0.004
HCM Control Delay (s)	-	-	-	9.9
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

Intersection						
Int Delay, s/veh	0.2					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↱			↱
Traffic Vol, veh/h	0	678	838	33	0	22
Future Vol, veh/h	0	678	838	33	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-1	1	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	3	2	0	2
Mvmt Flow	0	737	911	36	0	24

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	474
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	537
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	537
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	537
HCM Lane V/C Ratio	-	-	-	0.045
HCM Control Delay (s)	-	-	-	12
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection						
Int Delay, s/veh	0.1					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↱			↱
Traffic Vol, veh/h	0	728	680	34	0	18
Future Vol, veh/h	0	728	680	34	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-1	1	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	1	2	2	0	2
Mvmt Flow	0	791	739	37	0	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	388
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	611
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	611
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	611
HCM Lane V/C Ratio	-	-	-	0.032
HCM Control Delay (s)	-	-	-	11.1
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	0	18	35	0	11	24	219	59	17	223	7
Future Vol, veh/h	5	0	18	35	0	11	24	219	59	17	223	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-1	-	-	1	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	3	2	0	2	5	0	0	2	2
Mvmt Flow	6	0	21	41	0	13	28	258	69	20	262	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	491	689	135	520	659	164	270	0	0	327	0	0
Stage 1	306	306	-	349	349	-	-	-	-	-	-	-
Stage 2	185	383	-	171	310	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.56	6.54	6.9	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.56	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.56	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.53	4.02	3.3	2.22	-	-	2.2	-	-
Pot Cap-1 Maneuver	461	367	889	437	382	858	1290	-	-	1244	-	-
Stage 1	679	660	-	638	632	-	-	-	-	-	-	-
Stage 2	799	610	-	811	658	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	438	350	889	412	365	858	1290	-	-	1244	-	-
Mov Cap-2 Maneuver	438	350	-	412	365	-	-	-	-	-	-	-
Stage 1	661	647	-	621	615	-	-	-	-	-	-	-
Stage 2	766	594	-	777	645	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.2	13.7	0.7	0.6
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1290	-	-	726	470	1244	-	-
HCM Lane V/C Ratio	0.022	-	-	0.037	0.115	0.016	-	-
HCM Control Delay (s)	7.9	0.1	-	10.2	13.7	7.9	0.1	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.4	0	-	-

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	23	0	57	55	2	28	45	375	62	13	382	19
Future Vol, veh/h	23	0	57	55	2	28	45	375	62	13	382	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-1	-	-	1	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	0	2	0	2	2	0	0	2	2
Mvmt Flow	25	0	62	60	2	30	49	408	67	14	415	21

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	757	1027	218	776	1004	238	436	0	0	475	0	0
Stage 1	454	454	-	540	540	-	-	-	-	-	-	-
Stage 2	303	573	-	236	464	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.5	6.54	6.9	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.5	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.5	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.5	4.02	3.3	2.22	-	-	2.2	-	-
Pot Cap-1 Maneuver	297	233	786	291	240	769	1120	-	-	1098	-	-
Stage 1	555	568	-	499	519	-	-	-	-	-	-	-
Stage 2	681	502	-	752	562	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	267	215	786	253	222	769	1120	-	-	1098	-	-
Mov Cap-2 Maneuver	267	215	-	253	222	-	-	-	-	-	-	-
Stage 1	522	558	-	469	488	-	-	-	-	-	-	-
Stage 2	612	472	-	681	552	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.6	20.6	0.9	0.4
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1120	-	-	504	323	1098	-	-
HCM Lane V/C Ratio	0.044	-	-	0.173	0.286	0.013	-	-
HCM Control Delay (s)	8.4	0.2	-	13.6	20.6	8.3	0.1	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	1.2	0	-	-

Intersection	
Int Delay, s/veh	9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕↕			↕↕	
Traffic Vol, veh/h	26	0	61	105	2	25	54	432	106	20	380	23
Future Vol, veh/h	26	0	61	105	2	25	54	432	106	20	380	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-1	-	-	1	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	1	2	4	2	0	2	0	1	2
Mvmt Flow	31	0	72	124	2	29	64	508	125	24	447	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	892	1270	237	971	1221	317	474	0	0	633	0	0
Stage 1	509	509	-	699	699	-	-	-	-	-	-	-
Stage 2	383	761	-	272	522	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.52	6.54	6.98	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.52	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.52	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.51	4.02	3.34	2.22	-	-	2.2	-	-
Pot Cap-1 Maneuver	237	167	764	209	179	673	1084	-	-	960	-	-
Stage 1	515	536	-	399	440	-	-	-	-	-	-	-
Stage 2	611	412	-	713	529	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	203	146	764	171	157	673	1084	-	-	960	-	-
Mov Cap-2 Maneuver	203	146	-	171	157	-	-	-	-	-	-	-
Stage 1	467	518	-	362	399	-	-	-	-	-	-	-
Stage 2	527	374	-	624	511	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.4	67.5	1	0.5
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1084	-	-	418	199	960	-	-
HCM Lane V/C Ratio	0.059	-	-	0.245	0.78	0.025	-	-
HCM Control Delay (s)	8.5	0.3	-	16.4	67.5	8.8	0.1	-
HCM Lane LOS	A	A	-	C	F	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.9	5.4	0.1	-	-

APPENDIX R

Radar Speed Study

Weather: Clouds & Sun/ 70's
Study By: J.K. (Spot Radar Speed)
Road: Newbury Dr. NB/SB approaches
Day: Wednesday, May 20, 2023 (3:30 pm)

#	SB app	NB app
1	27	22
2	23	22
3	27	17
4	30	20
5	23	23
6	24	22
7	34	22
8	26	17
9	27	26
10	25	22
11	28	24
12	26	21
13	23	25
14	27	24
15	28	17
16	30	20
17	21	24
18	20	19
19	25	22
20	23	21
21	30	27
22	23	18
23	24	27
24	28	21
25	23	23
26		

Class	Vehicle Count	Average Speed	85 Percentile
SB app	25	26	28
NB app	25	22	24
Summary	50	24	27

APPENDIX S

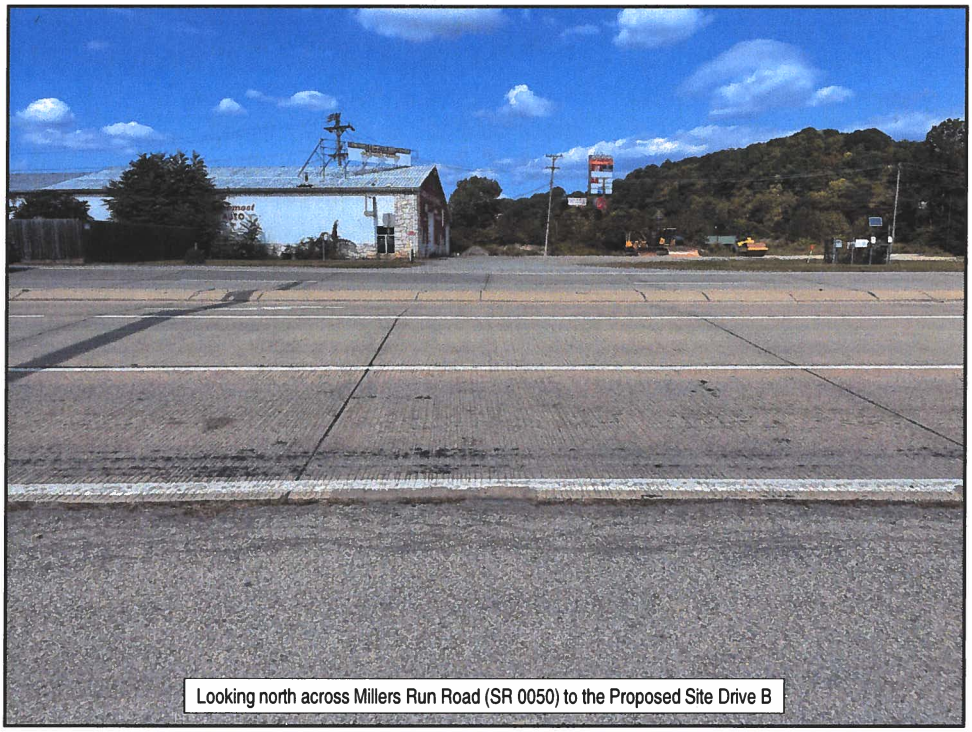
Sight Distance Photo Log



Looking north across Millers Run Road (SR 0050) to the Proposed Site Drive A



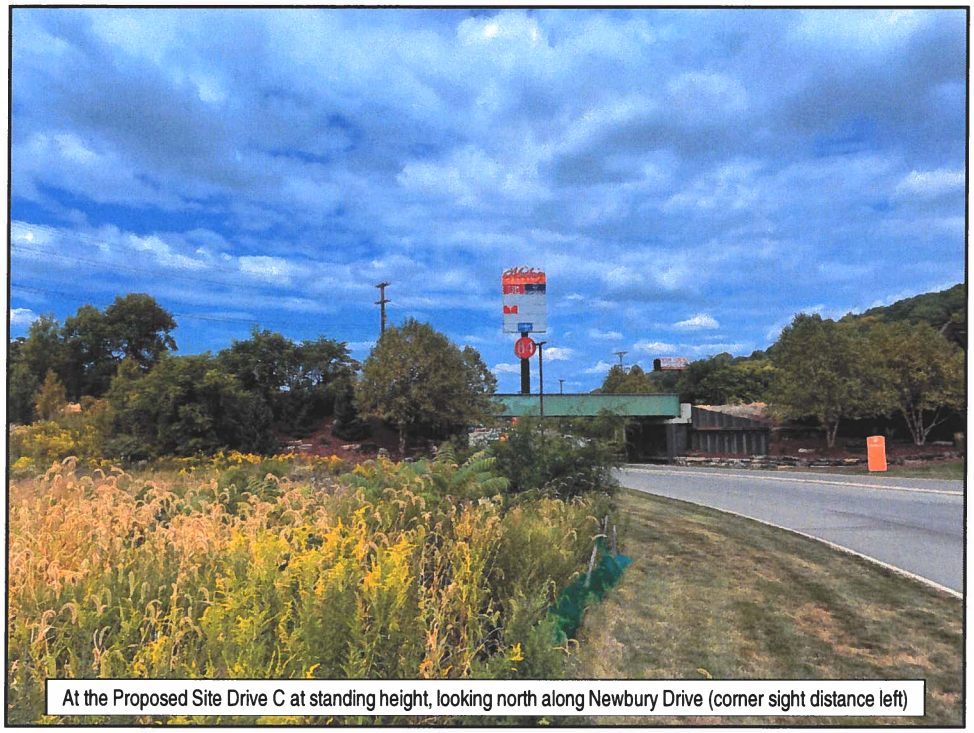
At the Proposed Site Drive A, looking east along Millers Run Road (SR 0050)
(corner sight distance left)



Looking north across Millers Run Road (SR 0050) to the Proposed Site Drive B



At the Proposed Site Drive B, looking east along Millers Run Road (SR 0050)
(corner sight distance left)



At the Proposed Site Drive C at standing height, looking north along Newbury Drive (corner sight distance left)



At the Proposed Site Drive C, looking south along Newbury Drive (corner sight distance right)



Forward view of a northbound, left turning vehicle from Newbury Drive into the Proposed Site Drive C
(stopping sight distance ahead)



Rear view of a northbound, left turning vehicle from Newbury Drive into the Proposed Site Drive C
(stopping sight distance behind)

APPENDIX T

SimTraffic Printouts – *Design Year 2029 Without Development Condition*

Intersection: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	R	L	L
Maximum Queue (ft)	61	207	195	132	141	86	16	97	82	59	146	167
Average Queue (ft)	21	127	96	66	68	33	1	39	26	7	51	86
95th Queue (ft)	50	194	171	113	125	74	11	74	64	37	115	142
Link Distance (ft)		1063	1063		591	591		249	249	249		451
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225			200			350				375	
Storage Blk Time (%)		0										
Queuing Penalty (veh)		0										

Intersection: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	118
Average Queue (ft)	47
95th Queue (ft)	91
Link Distance (ft)	451
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Newbury Drive & Plaza Access

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	56	4	48
Average Queue (ft)	18	0	6
95th Queue (ft)	39	3	30
Link Distance (ft)	284	451	396
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	R	L	L
Maximum Queue (ft)	86	187	157	138	234	182	51	106	88	80	171	201
Average Queue (ft)	36	111	67	66	129	80	5	44	31	10	85	119
95th Queue (ft)	73	170	135	121	202	159	32	87	69	48	154	181
Link Distance (ft)		1063	1063		591	591		249	249	249		451
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225			200			350				375	
Storage Blk Time (%)		0			1							
Queuing Penalty (veh)		0			1							

Intersection: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	151
Average Queue (ft)	61
95th Queue (ft)	116
Link Distance (ft)	451
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Newbury Drive & Plaza Access

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	89	66
Average Queue (ft)	28	8
95th Queue (ft)	60	37
Link Distance (ft)	284	396
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 1

Intersection: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	R	L	L
Maximum Queue (ft)	90	189	173	125	201	156	73	110	104	65	177	208
Average Queue (ft)	41	109	83	57	110	57	11	50	31	5	87	120
95th Queue (ft)	79	169	147	104	178	124	49	91	72	34	155	180
Link Distance (ft)		1063	1063		591	591		249	249	249		451
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225			200			350				375	
Storage Blk Time (%)					0							
Queuing Penalty (veh)					0							

Intersection: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	141
Average Queue (ft)	65
95th Queue (ft)	116
Link Distance (ft)	451
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Newbury Drive & Plaza Access

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	115	22	78
Average Queue (ft)	48	1	13
95th Queue (ft)	92	9	51
Link Distance (ft)	284	451	396
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

APPENDIX U

SimTraffic Printouts – *Design Year 2029 With Development Condition*

Intersection: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	R	L	L
Maximum Queue (ft)	108	214	209	151	163	140	49	84	85	38	120	144
Average Queue (ft)	37	127	103	69	72	39	2	37	28	4	50	84
95th Queue (ft)	81	195	172	126	133	95	25	72	69	29	110	134
Link Distance (ft)		399	399		593	593		249	249	249		454
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225			200			350				375	
Storage Blk Time (%)		0		0	0							
Queuing Penalty (veh)		0		0	0							

Intersection: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	100
Average Queue (ft)	43
95th Queue (ft)	81
Link Distance (ft)	454
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Millers Run Road & Site Drive B

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 7: Millers Run Road & Site Drive A

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 10: Newbury Drive & Site Drive C/Plaza Access

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LT	LT
Maximum Queue (ft)	13	54	31	38
Average Queue (ft)	7	23	5	4
95th Queue (ft)	17	49	24	20
Link Distance (ft)	210	298	454	363
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	R	L	L
Maximum Queue (ft)	110	185	171	137	229	195	82	116	77	56	189	206
Average Queue (ft)	53	107	85	62	141	95	11	44	33	9	102	135
95th Queue (ft)	99	163	148	112	217	178	52	86	67	43	171	198
Link Distance (ft)		399	399		593	593		249	249	249		454
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225			200			350				375	
Storage Blk Time (%)					1							
Queuing Penalty (veh)					1							

Intersection: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	171
Average Queue (ft)	66
95th Queue (ft)	124
Link Distance (ft)	454
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Millers Run Road & Site Drive B

Movement	SB
Directions Served	R
Maximum Queue (ft)	16
Average Queue (ft)	1
95th Queue (ft)	8
Link Distance (ft)	223
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: Millers Run Road & Site Drive A

Movement	SB
Directions Served	R
Maximum Queue (ft)	13
Average Queue (ft)	0
95th Queue (ft)	7
Link Distance (ft)	232
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: Newbury Drive & Site Drive C/Plaza Access

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	TR	LT	TR
Maximum Queue (ft)	51	89	52	4	47	7
Average Queue (ft)	18	35	16	0	4	0
95th Queue (ft)	39	68	44	3	23	3
Link Distance (ft)	210	298	454	454	363	363
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 1

Intersection: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	R	L	L
Maximum Queue (ft)	137	206	182	129	206	159	89	103	82	64	197	230
Average Queue (ft)	62	104	80	55	115	76	14	49	32	9	107	134
95th Queue (ft)	109	163	142	103	188	146	58	91	70	44	176	202
Link Distance (ft)		399	399		593	593		249	249	249		454
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225			200			350				375	
Storage Blk Time (%)		0			0							
Queuing Penalty (veh)		0			0							

Intersection: 1: Todd A. Miller Drive/Newbury Drive & Millers Run Road

Movement	SB
Directions Served	TR
Maximum Queue (ft)	143
Average Queue (ft)	62
95th Queue (ft)	118
Link Distance (ft)	454
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: Millers Run Road & Site Drive B

Movement	SB
Directions Served	R
Maximum Queue (ft)	17
Average Queue (ft)	1
95th Queue (ft)	9
Link Distance (ft)	223
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 7: Millers Run Road & Site Drive A

Movement	SB
Directions Served	R
Maximum Queue (ft)	7
Average Queue (ft)	0
95th Queue (ft)	5
Link Distance (ft)	232
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: Newbury Drive & Site Drive C/Plaza Access

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	TR	LT	TR
Maximum Queue (ft)	68	204	56	9	65	17
Average Queue (ft)	21	66	20	0	9	1
95th Queue (ft)	47	143	51	5	37	6
Link Distance (ft)	210	298	454	454	363	363
Upstream Blk Time (%)		0				
Queuing Penalty (veh)		0				
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 0

CRASH DATA APPENDIX

for the proposed

RETAIL DEVELOPMENT

South Fayette Township, Allegheny County, Pennsylvania

October 17, 2023

CRASH DATA APPENDIX

for the proposed

RETAIL DEVELOPMENT

South Fayette Township, Allegheny County, PA

October 17, 2023

Prepared for: **Cozza Enterprises, LLC**
PO Box 453
Carnegie, PA 15106

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Supervising Engineer: Joshua A. Haydo, P.E., PTOE

Confidential – Traffic Engineering and Safety Study

This document is the property of the Commonwealth of Pennsylvania, Department of Transportation. The data and information contained herein are part of a traffic engineering and safety study. This safety study is only provided to those official agencies or persons who have responsibility in the highway transportation system and may only be used by such agencies or persons for traffic safety-related planning or research. The document and information are confidential pursuant to 75 Pa. C.S. §3754 and 23 U.S.C. §409 and may not be published, reproduced, released or discussed without the written permission of the Pennsylvania Department of Transportation.

Crash Data Appendix
Proposed Retail Development
South Fayette Township, Allegheny County, Pennsylvania

1.0 PROJECT DESCRIPTION

The proposed project is located on the northwestern corner of the intersection of Millers Run Road (SR 0050) with Newbury Drive / Todd A. Miller Drive in South Fayette Township, Allegheny County, Pennsylvania. The development is proposed to consist of ~45,126-square foot of retail space.

The study area for this project includes two (2) existing intersections:

- Millers Run Road (SR 0050) with Newbury Drive / Todd A. Miller Drive
- Newbury Drive with Plaza Access

2.0 OBTAINING CRASH DATA

Copies of crash data summaries for the five (5) most recent calendar years were obtained from the Pennsylvania Department of Transportation (PennDOT) Pennsylvania Crash Information Tool (PCIT) for the existing study intersections.

As the crash data is property of PennDOT, a summary of the identified crashes and the corresponding crash reports have been provided in this separately-bound appendix.

3.0 CRASH DATA SUMMARY

3.1 Millers Run Road (SR 0050) with Newbury Drive / Todd A. Miller Drive

At the intersection of Millers Run Road (SR 0050) with Newbury Drive / Todd A. Miller Drive, eight (8) reportable crashes occurred between January 1, 2018 and December 31, 2022. Of the crashes, three (3) occurred in 2020, two (2) occurred in 2021, and three (3) occurred in 2022. Of the crashes four (4) were rear-end collisions, two (2) were opposite direction side-swipe collisions, one (1) involved a motorist striking a curb, and one (1) involved a motorist striking a traffic island/pole. None of the crashes involved fatalities.

3.2 Newbury Drive with Plaza Access

PCIT does not contain crash information for the intersection of Newbury Drive with Plaza Access.

4.0 SUMMARY / CONCLUSIONS

Based on a review of the crash data, five or more crashes of types susceptible to correction by traffic control or geometric improvements were not reported within a twelve-month period at any of the study intersections.

Copies of the crash data provided by PennDOT have been included in the Enclosures section of this appendix.

PENNDOT CRASH DATA

Millers Run Road (SR 0050) with Newbury Drive

Date Range: 01/01/2018 to 12/31/2022

USER ID / QUERY ID:
b-sswai / *0320231006133*

MONTH OF YEAR

	JAN	FEB	APR	MAY	JUN	AUG	NOV	TOTAL
CRASHES	1	1	1	1	1	1	2	8
PCT	13%	13%	13%	13%	13%	13%	25%	100%

DAY OF WEEK

	SUN	MON	TUE	FRI	TOTAL
CRASHES	1	4	2	1	8
PCT	13%	50%	25%	13%	100%

HOUR OF DAY

	05	07	08	13	16	17	18	19	TOTAL
CRASHES	1	1	1	1	1	1	1	1	8
PCT	13%	13%	13%	13%	13%	13%	13%	13%	100%

YEAR

	CRASHES	PCT
2020	3	38%
2021	2	25%
2022	3	38%
TOTAL	8	100%

COLLISION TYPE

	CRASHES	PCT
REAR END	4	50%
HIT FIX OBJ	2	25%
OPP DIR SS	2	25%
TOTAL	8	100%

CRASH SEVERITY LEVEL

	CRASHES	PCT
POSSIBLE INJURY	1	13%
UNK IF INJURED	1	13%
PDO	6	75%
TOTAL	8	100%

SEVERITY COUNT

	PERSONS
FATALITIES	0
SUSPECTED SERIOUS	0
SUSPECTED MINOR	0
POSSIBLE INJURY	1
UNK SEVERITY	0
UNK IF INJURED	2

DRIVER ACTIONS

	ACTIONS	PCT
NO CONTRIBUTING ACTION	7	39%
DRIVER WAS DISTRACTED	5	28%
FAILURE TO RESPOND TCD	1	6%
IMPROPER/CARELESS TURN	1	6%
OTHER IMPROPER DRIVING	1	6%
RUNNING RED LIGHT	1	6%
SUDDEN SLOWING/STOP	1	6%
TAILGATING	1	6%
TOTAL	18	100%

VEHICLE TYPE

	VEHICLES	PCT
AUTOMOBILE	6	38%
SUV	4	25%
SMALL TRUCK	3	19%
VAN	2	13%
BUS	1	6%
TOTAL	16	100%

ROAD CONDITION

	CRASHES	PCT
DRY	7	88%
WET	1	13%
TOTAL	8	100%

ILLUMINATION

	CRASHES	PCT
DAYLIGHT	6	75%
STREET LIGHTS	2	25%
TOTAL	8	100%

WEATHER

	CRASHES	PCT
CLEAR	7	88%
RAIN	1	13%
TOTAL	8	100%

ENVIR/ROADWAY FACTORS

	FACTORS	PCT
NONE	7	88%
OTHER WEATHER COND	1	13%
TOTAL	8	100%

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NOTES:

1 Injury Severity Disclaimer

Please note that beginning January 1, 2016, PennDOT adopted the Federal standard for collecting injury severity data. The field descriptions and definitions changed from the state standard that had been in use for decades. This resulted in a substantial shift in severity levels. Therefore, comparison of the "Suspected Serious Injury", "Suspected Minor Injury" and "Possible Injury" categories will not be consistent for crashes taking place before versus after the adoption of the new standard.

REPORT PARAMETERS:

Query ID: *0320231006133*

User ID: b-sswai

Title: Millers Run Road (SR 0050)

Date Range: 01/01/2018 to 12/31/2022

Filter Characteristics:

Selected Shapes : NO NAME RD x MILLERS RUN RD,NO NAME RD x MILLERS RUN RD - Buffer (250 feet)

This report counts the number of crashes.

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Pennsylvania Crash Information Tool

Date Range: 01/01/2018 to 12/31/2022*

CRASH SEVERITY LEVEL BY YEAR

	2020 CRASHES	2021 CRASHES	2022 CRASHES	ALL YEARS CRASHES
POSSIBLE INJURY	1	0	0	1
UNKNOWN IF INJURED	0	0	1	1
PROPERTY DMG ONLY	2	2	2	6
TOTAL	3	2	3	8

CRASH DESCRIPTION TYPES BY YEAR

	2020 CRASHES	2021 CRASHES	2022 CRASHES	ALL YEARS CRASHES
HIT FIXED OBJECT	0	1	1	2
OPP DIRECTION SIDESWIPE	2	0	0	2
REAR END	1	1	2	4
TOTAL	3	2	3	8

PERSON INJURY SUMMARY BY YEAR

	2020 PERSONS	2021 PERSONS	2022 PERSONS	ALL YEARS PERSONS
FATALITIES	0	0	0	0
SUSPECTED SERIOUS INJURIES	0	0	0	0
SUSPECTED MINOR INJURIES	0	0	0	0
POSSIBLE INJURIES	1	0	0	1
UNKNOWN SEVERITY	0	0	0	0
UNKNOWN IF INJURED	0	0	2	2

* **PLEASE NOTE: Years which do not appear in the report contain zero crashes for this request.**
* Complete records of reportable crashes are available in PCIT for the following years: 2003 - 2022
* Crash information for 2023 is incomplete at the time of this printing. As such, data for 2023 is not included in this report.

IMPORTANT: The information contained in this document is drawn from raw data and should not be interpreted as representing an engineering judgement or determination made by the Department of Transportation as to the type and severity of accidents noted herein.

Print Date: 10/06/2023

Print Date: 10/06/2023

PCIT - PUBLIC REQUEST / PRESS INQUIRY REPORT (01-07)

NOTES:

1 Injury Severity Disclaimer

Please note that beginning January 1, 2016, PennDOT adopted the Federal standard for collecting injury severity data. The field descriptions and definitions changed from the state standard that had been in use for decades. This resulted in a substantial shift in severity levels. Therefore, comparison of the "Suspected Serious Injury", "Suspected Minor Injury" and "Possible Injury" categories will not be consistent for crashes taking place before versus after the adoption of the new standard.

REPORT PARAMETERS:

Query ID:	0320231006134
User ID:	b-sswai
Title:	Millers Run Road (SR 0050)
Date Range :	01/01/2018 to 12/31/2022
Selected Shapes :	NO NAME RD x MILLERS RUN RD,NO NAME RD x MILLERS RUN RD - Buffer (250 feet)
Filter Characteristics:	

This report counts the number of crashes.

Millers Run Road (SR 0050) with Newbury Drive

Sorted by Crash Date
Date Range: 01/01/2018 to 12/31/2022

USER ID / QUERY ID:
b-sswai / *0320231006135*

	CRN	CO	DATE	DAY	TIME	LIGHTING	ROAD SURF	WEATHER	FAT	INJ	PED	VEH	MAX SEVERITY
1	2020004800	02	01/13/2020	MON	08:08	DAYLIGHT	DRY	CLEAR	0	0	0	2	PROP DMG ONLY
	ENV RDWY FACTORS: NONE												OPP DIR SIDESW
	4WAY 0050/0090/1242 0050/0091/1312 NEWBURY DR TODD A MILLER DR												
	VEH: 1 BUS TRAVELING EAST IN RIGHT OF TRAFFICWAY TURNING RIGHT												
	VEH EVENTS: **HIT UNIT 02**												
	DVR ACTIONS: OTHER IMPROPER DRIV ACTIONS												
	VEH: 2 VAN TRAVELING EAST IN RIGHT LANE GOING STRAIGHT												
	VEH EVENTS: **STRUCK BY UNIT 01**												
	DVR ACTIONS: NO CONTRIBUTING ACTION												
2	2020097116	02	11/13/2020	FRI	18:02	STREET LT	DRY	CLEAR	0	0	0	2	PROP DMG ONLY
	ENV RDWY FACTORS: NONE												REAR-END
	4WAY 0050/0090/1242 0050/0091/1312 NEWBURY DR TODD A MILLER DR												
	VEH: 1 SMALL TRUCK TRAVELING WEST IN LEFT LANE GOING STRAIGHT												
	VEH EVENTS: **HIT UNIT 02**												
	DVR ACTIONS: TAILGATING DRIVER WAS DISTRACTED												
	VEH: 2 SMALL TRUCK TRAVELING WEST IN LEFT LANE GOING STRAIGHT												
	VEH EVENTS: **STRUCK BY UNIT 01**												
	DVR ACTIONS: NO CONTRIBUTING ACTION												
3	2020098335	02	11/17/2020	TUE	07:40	DAYLIGHT	WET	RAIN	0	1	0	2	POSSIBLE INJURY
	ENV RDWY FACTORS: OTHER WEATHER CONDITIONS												OPP DIR SIDESW
	4WAY 0050/0090/1242 0050/0091/1312 NEWBURY DR TODD A MILLER DR												
	VEH: 1 SUV TRAVELING WEST IN ONCOMING TRAFFIC LANE TURNING LEFT												
	VEH EVENTS: **HIT UNIT 02**												
	DVR ACTIONS: NO CONTRIBUTING ACTION												
	VEH: 2 SUV TRAVELING EAST IN LEFT LANE GOING STRAIGHT												
	VEH EVENTS: **STRUCK BY UNIT 01**												
	DVR ACTIONS: RUNNING RED LIGHT												
4	2021041821	02	05/09/2021	SUN	05:01	STREET LT	DRY	CLEAR	0	0	0	1	PROP DMG ONLY
	ENV RDWY FACTORS: NONE												HIT FIXED OBJ
	4WAY 0050/0090/1242 0050/0091/1312 NEWBURY DR TODD A MILLER DR												
	VEH: 1 AUTOMOBILE TRAVELING EAST IN RIGHT LANE TURNING RIGHT												
	VEH EVENTS: **HIT CURB**												
	DVR ACTIONS: IMPROPER/CARELESS TURN												
5	2021059685	02	06/28/2021	MON	13:06	DAYLIGHT	DRY	CLEAR	0	0	0	2	PROP DMG ONLY
	ENV RDWY FACTORS: NONE												REAR-END
	T-INT 0050/0090/1242 0050/0091/1312 NEWBURY DR TODD A MILLER DR												
	VEH: 1 AUTOMOBILE TRAVELING WEST IN RIGHT TURN LANE TURNING RIGHT												
	VEH EVENTS: **HIT UNIT 02**												
	DVR ACTIONS: DRIVER WAS DISTRACTED												
	VEH: 2 AUTOMOBILE TRAVELING WEST IN RIGHT TURN LANE TURNING RIGHT												
	VEH EVENTS: **STRUCK BY UNIT 01**												
	DVR ACTIONS: NO CONTRIBUTING ACTION												

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Millers Run Road (SR 0050) with Newbury Drive

Sorted by Crash Date
Date Range: 01/01/2018 to 12/31/2022

USER ID / QUERY ID:
b-sswai / *0320231006135*

	CRN	CO	DATE	DAY	TIME	LIGHTING	ROAD SURF	WEATHER	FAT	INJ	PED	VEH	MAX SEVERITY
6	2022015432	02	02/07/2022	MON	16:15	DAYLIGHT	DRY	CLEAR	0	0	0	1	PROP DMG ONLY
	ENV RDWY FACTORS: NONE												HIT FIXED OBJ
	4WAY 0050/0090/1242 0050/0091/1312 NEWBURY DR TODD A MILLER DR												
	VEH: 1 SMALL TRUCK TRAVELING WEST IN RIGHT LANE GOING STRAIGHT												
	VEH EVENTS: HIT TRAFFIC ISLAND / CHANNELIZATOTHER POST, POLE, OR SUPPORT												
	DVR ACTIONS: DRIVER WAS DISTRACTED												
7	2022032948	02	04/04/2022	MON	19:20	DAYLIGHT	DRY	CLEAR	0	0	0	2	UNK IF INJURED
	ENV RDWY FACTORS: NONE												REAR-END
	4WAY 0050/0090/1242 0050/0091/1312 NEWBURY DR TODD A MILLER DR												
	VEH: 1 SUV TRAVELING EAST IN RIGHT LANE GOING STRAIGHT												
	VEH EVENTS: HIT UNIT 02												
	DVR ACTIONS: DRIVER WAS DISTRACTED FAILURE TO RESPOND TO TCD												
	VEH: 2 VAN TRAVELING EAST IN RIGHT LANE SLOWING OR STOPPING IN LANE												
	VEH EVENTS: **STRUCK BY UNIT 01**												
	DVR ACTIONS: SUDDEN SLOWING / STOPPING												
8	2022079619	02	08/30/2022	TUE	17:40	DAYLIGHT	DRY	CLEAR	0	0	0	4	PROP DMG ONLY
	ENV RDWY FACTORS: NONE												REAR-END
	4WAY 0050/0090/1242 0050/0091/1312 NEWBURY DR TODD A MILLER DR												
	VEH: 1 AUTOMOBILE TRAVELING EAST IN OTHER FWD MOVING LANE GOING STRAIGHT												
	VEH EVENTS: HIT UNIT 02												
	DVR ACTIONS: DRIVER WAS DISTRACTED												
	VEH: 2 AUTOMOBILE TRAVELING EAST IN OTHER FWD MOVING LANE STOPPED IN TRAFFIC LANE												
	VEH EVENTS: **HIT UNIT 03**												
	DVR ACTIONS: NO CONTRIBUTING ACTION												
	VEH: 3 AUTOMOBILE TRAVELING EAST IN OTHER FWD MOVING LANE STOPPED IN TRAFFIC LANE												
	VEH EVENTS: **HIT UNIT 04**												
	DVR ACTIONS: NO CONTRIBUTING ACTION												
	VEH: 4 SUV TRAVELING EAST IN OTHER FWD MOVING LANE STOPPED IN TRAFFIC LANE												
	VEH EVENTS: STRUCK BY UNIT 03												
	DVR ACTIONS: NO CONTRIBUTING ACTION												

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Millers Run Road (SR 0050) with Newbury Drive

Sorted by Crash Date

NOTES:

1 Injury Severity Disclaimer
Please note that beginning January 1, 2016, PennDOT adopted the Federal standard for collecting injury severity data. The field descriptions and definitions changed from the state standard that had been in use for decades. This resulted in a substantial shift in severity levels. Therefore, comparison of the "Suspected Serious Injury", "Suspected Minor Injury" and "Possible Injury" categories will not be consistent for crashes taking place before versus after the adoption of the new standard.

REPORT PARAMETERS:

Query ID: 0320231006135
User ID: b-sswai
Title: Millers Run Road (SR 0050)

Date Range: 01/01/2018 to 12/31/2022
Selected Shapes: NO NAME RD x MILLERS RUN RD,NO NAME RD x MILLERS RUN RD - Buffer (250 feet)

Filter Characteristics:

This report counts the number of crashes.

GATEWAY

On Call. On Time. On Target.

ENVIRONMENTAL

WETLAND DELINEATION AND STREAM IDENTIFICATION REPORT

C-12199-0025

October 2023

Cozza Commercial Building

South Fayette Township
Allegheny County, Pennsylvania

PREPARED FOR

Cozza Enterprises, LLC
P.O. Box 453
Carnegie, PA 15106

SUBMITTED BY

Adam Greathouse
Permitting Specialist

The Gateway Engineers, Inc.
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agreathouse@gatewayengineers.com



A FULL-SERVICE CIVIL ENGINEERING FIRM

Memo

October 2023

Project Name:	**Cozza Commercial Building**
Client:	**Cozza Enterprises, LLC**
Project Number:	**C-12199-0025**
Prepared By:	**Adam Greathouse**

The Gateway Engineers, Inc. (Gateway), on behalf of Cozza Enterprises, LLC (Cozza), conducted an environmental investigation to identify wetlands and streams for a proposed commercial development in South Fayette Township, Allegheny County, Pennsylvania; hereafter, referred to as the 'study area' (Attachment 1 – Site Location Maps). The investigation was conducted as part of the planning stage of the project to identify any wetlands or streams that occur within the study area of the proposed re-route.

The wetland delineation was conducted by Gateway on October 4, 2023, in accordance with the procedures provided in the U.S. Army Corps of Engineers (USACE) *Corps of Engineers Wetland Delineation Manual* (1987)[1] and the USACE's *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0)*[2]. The study area included an approximate five (5)-acre area that encompassed the proposed development. The existing land use of the study area is comprised of existing residential area, a graded commercial pad with some presence of herbaceous vegetation and a narrow and forested strip that included a dense scrub/shrub undergrowth consisting of invasive shrubs. The investigation of the study area identified no (0) wetlands and no (0) streams. For verification of a completed delineation, three (3) test pit data forms (TP-1 – TP-3) can be found in Attachment 4 – Data Forms.

The study area is located within the Upper Ohio watershed (HUC 05030101), which drains 1,950 square miles and the PA Water Plan identified watershed 20F – Ohio River. Drainage from the study area flows into Chartiers Creek – Warm Water Fishes (WWF)[3]. Chartiers Creek flows north-northeast before flowing into the Ohio River (WWF) in McKees Rocks, Pennsylvania.

Zero (0) National Wetland Inventory (NWI)[4] wetlands were indicated within close proximity to the study area boundaries (Attachment 2 – NWI Map). As a result, no impacts to NWI wetlands are anticipated for the proposed project.

The Soil Survey(s) of Allegheny County[5], in conjunction with PA DEP's "Limitations of Pennsylvania Soils Pertaining to Earthmoving Projects," indicate that no (0) soil series with hydric inclusions occur within the study area (Attachment 3 - USDA/NRCS Soil Map).

The following items are attached to provide further information: Attachment 1 – Site Location Maps; Attachment 2 – NWI Map; Attachment 3 – USDA/NRCS Soil Map; Attachment 4 – Data Forms; Attachment 5 – Personnel Résumés.

[1]U.S. Army Corps of Engineers. 1987. *Corps of Engineers Wetland Delineation Manual.* Technical Report Y-87-1.
[2]U.S. Army Corps of Engineers. April 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0).* EDRC/EL TR-12-9.
[3] WWF – Warm Water Fishes, as classified by PA Code Title 25, Chapter 93.
[4]United States fish and Wildlife Service. 2008. *National Wetlands Inventory for Pennsylvania.* Pennsylvania Spatial Data Access. www.pasda.psu.edu
[5]United Stated Department of Agriculture, Natural Resources Conservation Service. 2008. *Soil Survey Geographic Database for Allegheny County, Pennsylvania.* http://SoilDataMart.nrcs.usda.gov. Accessed October 2023.

ATTACHMENT 1

SITE LOCATION MAPS

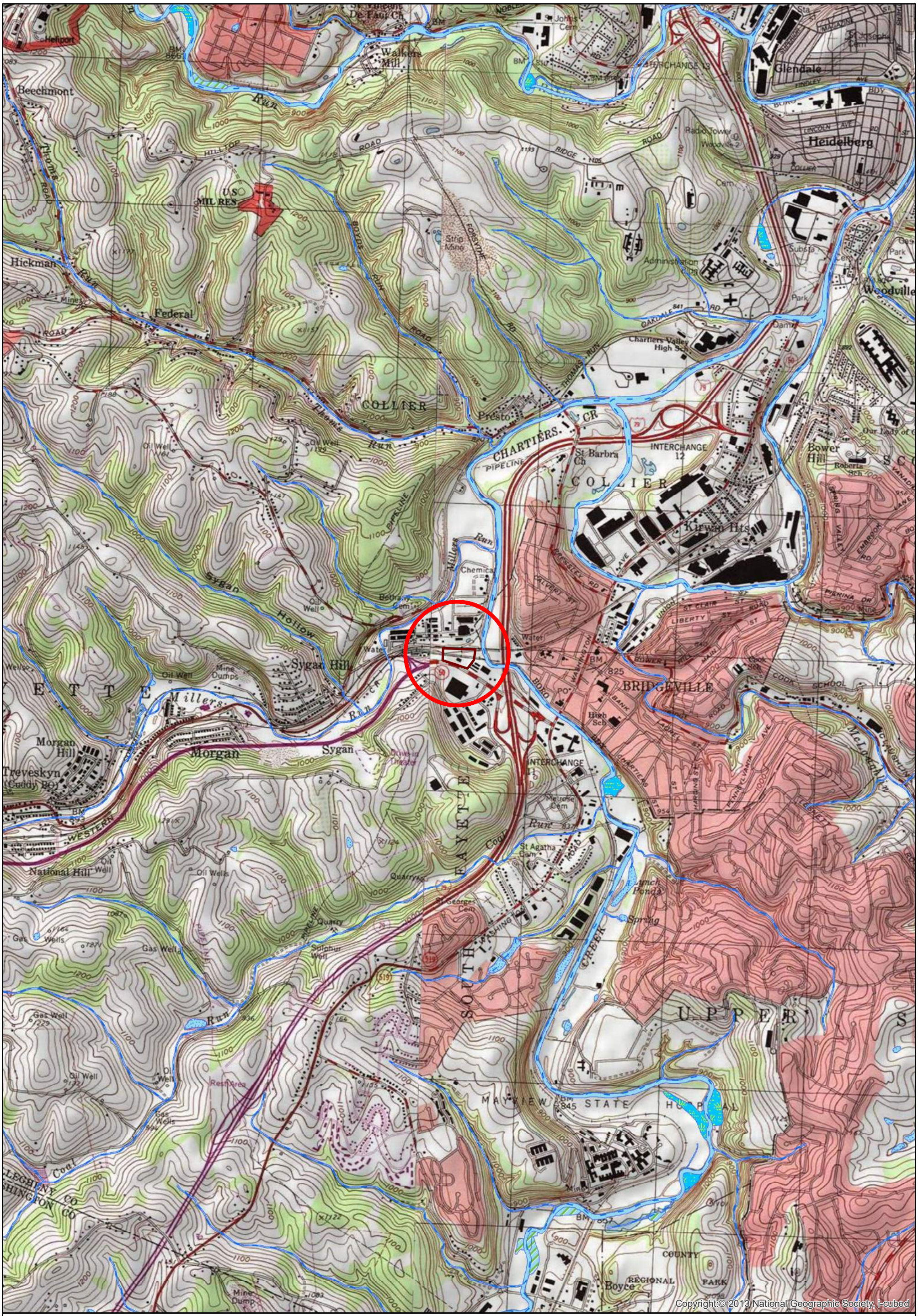


Figure 1 - USGS Site Location Map

National Wetland Inventory

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetlands
- Freshwater Pond
- River/Lake
- Other
- Study Area
- Chapter93 Streams

1 inch = 2,000 feet

Date: October 12, 2023

GATEWAY
On Call. On Time. On Target.
100 McMorris Road Pittsburgh, PA 15205
Phone: 855-634-9284 - Fax 412-921-9960
http://www.gatewayengineers.com

Path: G:\Projects\12000\12199-KOSKY\-0025 Cozza Retail Development\GIS\Output_Mapping\C-12199-0025 Figure 1 USGS Site Location.mxd

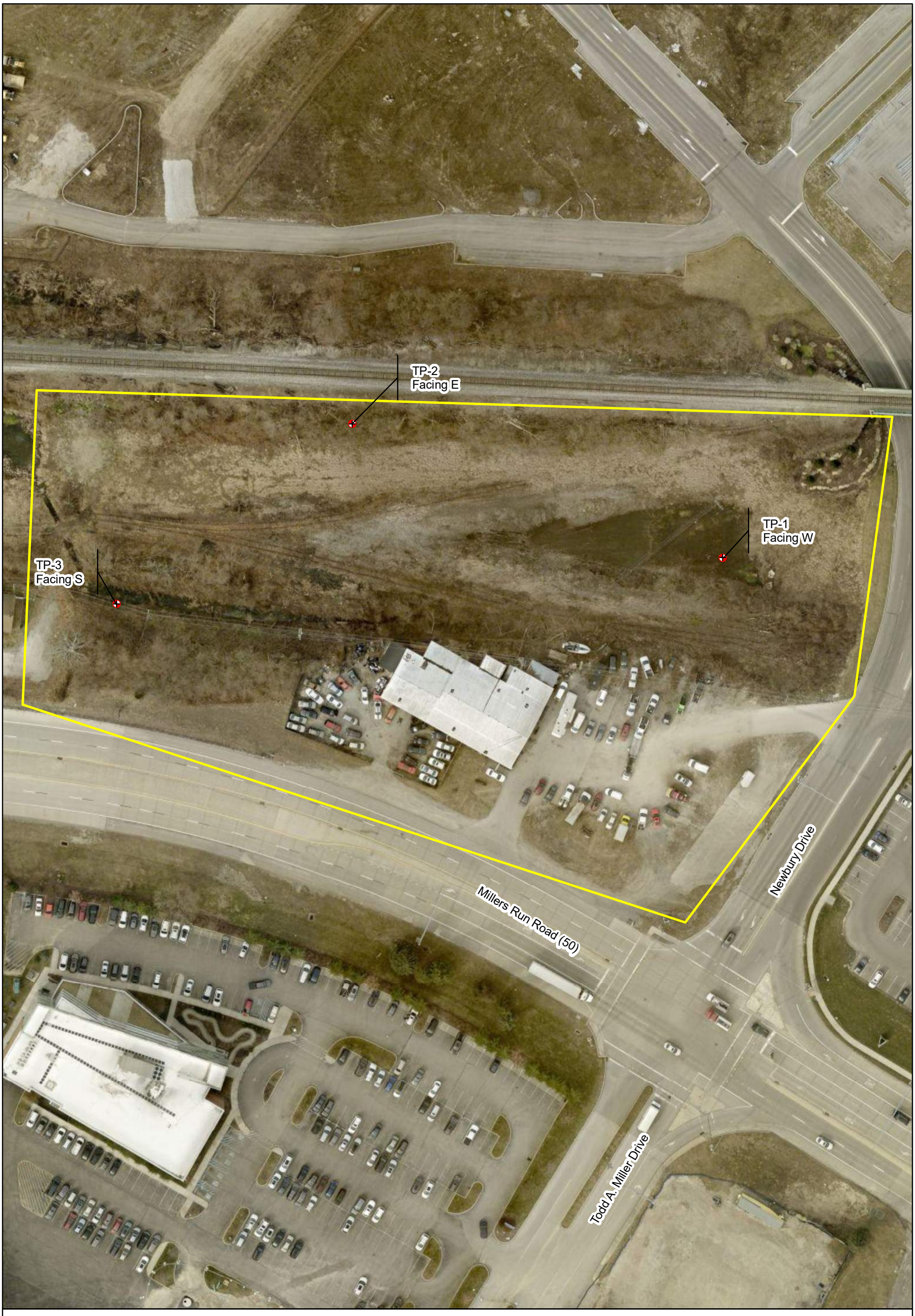


Figure 2 - Aerial Site Location Map

GPS Streams
- Ephemeral Stream
- Intermittent Stream
- Perennial Stream

GPS Data
- GPS Wetlands
- Upland Data Point
- Wetland Data Point
- Test Pit

National Wetland Inventory
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetlands
- Freshwater Pond
- River/Lake
- Other

- Study Area
- Chapter93 Streams
- Culvert

1 inch = 75 feet

Date: October 12, 2023

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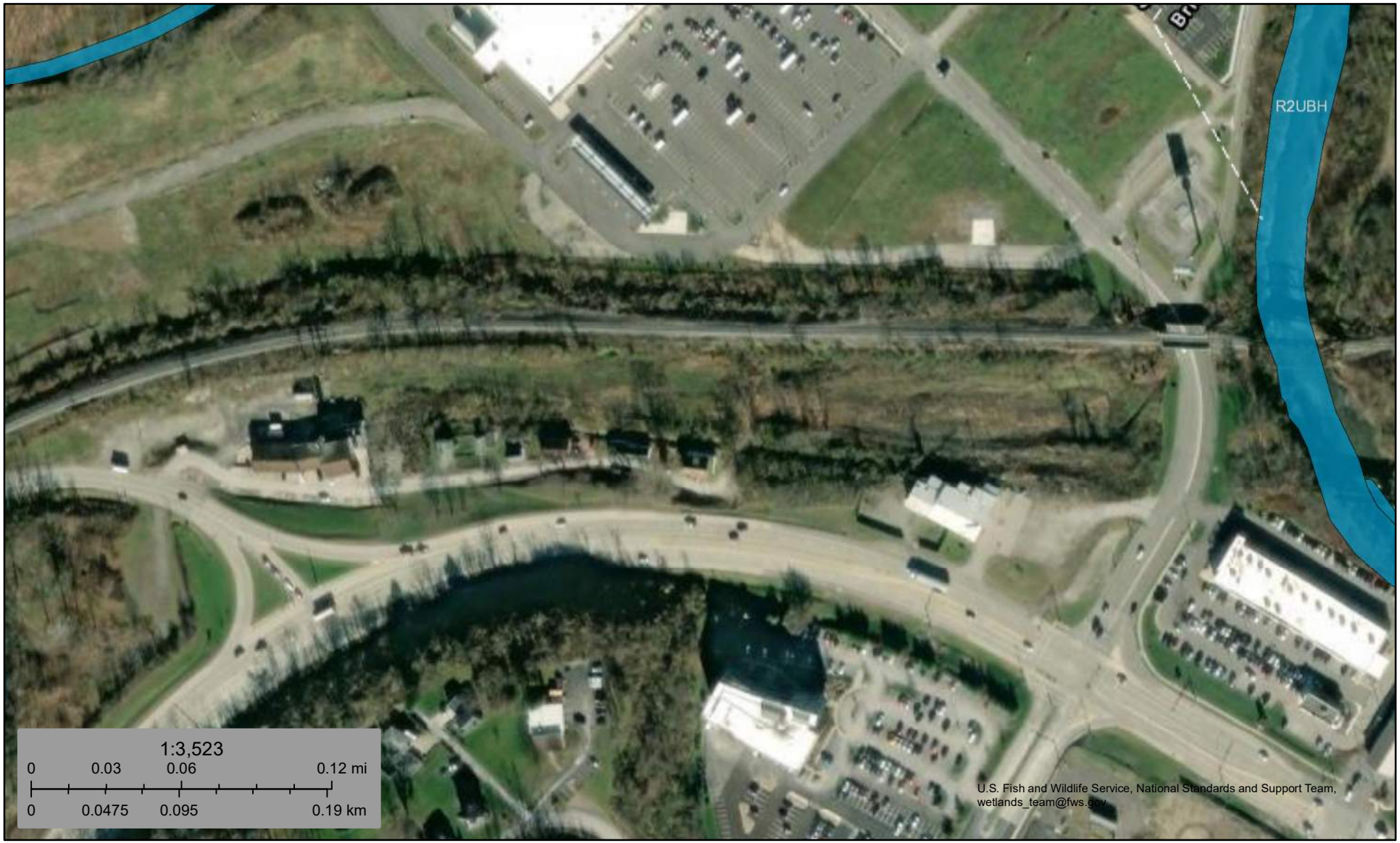
Path: G:\Projects\12000\12199-KOSKY\-0025 Cozza Retail Development\GIS\Output_Mapping\C-12199-0025 Figure 2 Aerial Site Location.mxd

ATTACHMENT 2

NWI MAP

U.S. Fish and Wildlife Service
National Wetlands Inventory

Cozza Commercial Building



October 4, 2023

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

ATTACHMENT 3

USDA/NRCS SOIL MAP

Soil Map—Allegheny County, Pennsylvania
(Cozza Commercial Building)



Map Scale: 1:1,180 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 15 30 60 90

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Allegheny County, Pennsylvania
Survey Area Data: Version 19, Sep 4, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 19, 2021—Sep 19, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
UB	Urban land	5.1	100.0%
Totals for Area of Interest		**5.1**	**100.0%**

ATTACHMENT 4

DATA FORMS

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cozza Commercial Building City/County: Bridgeville, Allegheny Sampling Date: 10/4/2023
Applicant/Owner: Cozza Enerprises, LLC State: PA Sampling Point: TP-1
Investigator(s): ALG Section, Township, Range: South Fayette Twp
Landform (hillside, terrace, etc.): Toe Slope Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR or MLRA): LRR N Lat: 40.358815 Long: -80.121804 Datum: NAD83
Soil Map Unit Name: UB - Urban Land NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation Y , Soil Y , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ___ No X
Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ___	**Is the Sampled Area within a Wetland?** Yes ___ No X
Hydric Soil Present?	Yes ___	No X	
Wetland Hydrology Present?	Yes ___	No X	

Remarks:
TP-1 located amongst a graded site; some vegetation has grown in; however, the soil consists of fill dirt

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- X Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
surface soil cracks observed; no other signs of hydrology present. Site is graded to towards a small depression where soil cracks were observed.

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: TP-1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5)			
1. *Setaria faberi*	20	Yes	UPL
2. *Echinochloa crus-galli*	15	Yes	FAC
3. *Panicum capillare*	10	Yes	FAC
4. *Phleum pratense*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	50 =Total Cover		
50% of total cover: 25	20% of total cover: 10		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	25	x 3 =	75
FACU species	5	x 4 =	20
UPL species	20	x 5 =	100
Column Totals:	50 (A)		195 (B)
Prevalence Index = B/A =			3.90

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Lots of open space between vegetation; the ground is not 100% covered.

SOIL

Sampling Point: TP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 2/2	100					Loamy/Clayey	Fill dirt

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 9

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Area has been previously graded; much of the soil is disturbed and there's not a lot of vegetation present.



TP-1 Facing West

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cozza Commercial Building City/County: Bridgeville, Allegheny Sampling Date: 10/4/2023
Applicant/Owner: Cozza Enerprises, LLC State: PA Sampling Point: TP-2
Investigator(s): ALG Section, Township, Range: South Fayette Twp
Landform (hillside, terrace, etc.): Toe Slope Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR or MLRA): LRR N Lat: 40.359107 Long: -80.122952 Datum: NAD83
Soil Map Unit Name: UB - Urban Land NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation Y , Soil Y , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X
Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
TP-2 located amongst a graded site; some vegetation has grown in; however, the soil consists of fill dirt

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- X Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
surface soil cracks observed; no other signs of hydrology present. Site is graded to towards a small depression where soil cracks were observed.

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: TP-2

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Prunus serotina*	15	Yes	FACU
2.			
3.			
4.			
5.			
6.			
	15	=Total Cover	
50% of total cover: 8		20% of total cover: 3	
Sapling Stratum (Plot size: 15)			
1. *Robinia pseudoacacia*	10	Yes	FACU
2.			
3.			
4.			
5.			
6.			
	10	=Total Cover	
50% of total cover: 5		20% of total cover: 2	
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 5)			
1. *Cyperus odoratus*	45	Yes	FACW
2. *Setaria faberi*	5	No	UPL
3. *Panicum capillare*	10	No	FAC
4. *Erechtites hieraciifolius*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	65	=Total Cover	
50% of total cover: 33		20% of total cover: 13	
Woody Vine Stratum (Plot size: 30)			
1. *Lonicera japonica*	10	Yes	FACU
2.			
3.			
4.			
5.			
	10	=Total Cover	
50% of total cover: 5		20% of total cover: 2	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	45	x 2 =	90
FAC species	10	x 3 =	30
FACU species	40	x 4 =	160
UPL species	5	x 5 =	25
Column Totals:	100 (A)		305 (B)

Prevalence Index = B/A = 3.05

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: TP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/6	100					Loamy/Clayey	Fill dirt

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 6

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Area has been filled and graded. The commercial pad drains towards depression at the base of the slope below the railroad.



TP-2 Facing East

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Cozza Commercial Building City/County: Bridgeville, Allegheny Sampling Date: 10/4/2023
Applicant/Owner: Cozza Enerprises, LLC State: PA Sampling Point: TP-3
Investigator(s): ALG Section, Township, Range: South Fayette Twp
Landform (hillside, terrace, etc.): Hill Slope Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR or MLRA): LRR N Lat: 40.358667 Long: -80.123662 Datum: NAD83
Soil Map Unit Name: UB - Urban Land NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation Y , Soil Y , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X
Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
TP-3

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
surface soil cracks observed; no other signs of hydrology present. Site is graded to towards a small depression where soil cracks were observed.

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: TP-3

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size: 15)			
1. *Ailanthus altissima*	15	Yes	FACU
2. *Robinia pseudoacacia*	15	Yes	FACU
3. *Acer negundo*	15	Yes	FAC
4.			
5.			
6.			
	45 =Total Cover		
50% of total cover: 23	20% of total cover: 9		
Shrub Stratum (Plot size: 15)			
1. *Lonicera maackii*	20	Yes	UPL
2.			
3.			
4.			
5.			
6.			
	20 =Total Cover		
50% of total cover: 10	20% of total cover: 4		
Herb Stratum (Plot size: 5)			
1. *Cyperus odoratus*	10	Yes	FACW
2. *Setaria faberi*	10	Yes	UPL
3. *Panicum capillare*	10	Yes	FAC
4. *Hackelia virginiana*	5	No	FACU
5. *Verbesina alternifolia*	5	No	FAC
6. *Toxicodendron radicans*	5	No	FAC
7.			
8.			
9.			
10.			
11.			
	45 =Total Cover		
50% of total cover: 23	20% of total cover: 9		
Woody Vine Stratum (Plot size: 30)			
1. *Lonicera japonica*	15	Yes	FACU
2.			
3.			
4.			
5.			
	15 =Total Cover		
50% of total cover: 8	20% of total cover: 3		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 37.5% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	35	x 3 =	105
FACU species	50	x 4 =	200
UPL species	30	x 5 =	150
Column Totals:	125 (A)		475 (B)

Prevalence Index = B/A = 3.80

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: TP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/4	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 6

Hydric Soil Present? **Yes** ___ **No** X

Remarks:



TP-3 Facing South

ATTACHMENT 5

PERSONNEL RESUME/S

Project Team Resume

Adam L. Greathouse **Permitting Specialist**

Years of Experience

15 Years conducting stream delineations, 6 years conducting wetland delineations

Education

Pennsylvania State University – University Park, Pennsylvania
B.S. in Wildlife and Fisheries Science, 2007

Pennsylvania State University – DuBois, Pennsylvania
Associate in Wildlife Technology, 2005

Registrations / Certifications

N/A

Affiliations

NA

Training

36-Hour Wetland Delineation Training, Gailey Environmental LLC, 2020

Primary Headwater Stream Assessment Training, EnviroScience, Inc., 2022

Endangered Species Act Consultation, Swamp School, LLC, 2023

Memberships

N/A

General Qualifications

Mr. Greathouse joined the Gateway Engineers, Inc as a full time employee in August, 2023, after working as an environmental scientist for two other multi-disciplined environmental engineering firms since 2008. He has experience performing the following tasks: freshwater wetland identification, delineation and functional assessment analysis; preparation of PA and OH state and federal permits; stream classification and delineation, aquatic macroinvertebrate identification to family; backpack electrofishing with fish identification; and client relations.

REPRESENTATIVE PROJECTS

Erosion and Sedimentation Projects

Erosion and Sedimentation Control Inspections – Client: Multiple

- Responsibilities included: Walking the project area assessing the E&S controls, coordinating with the project manager/contractor; compiled inspection reports and worked with clients to address concerns.

Wetland Delineation and Stream Identification Projects

Stream Restoration PRP Design – Client: Various Municipalities

- Responsibilities included: Conduct detailed wetland delineation and stream identification studies within a stream corridor; compile the associated environmental reports and compile the associated permits for submission to the PADEP and/or the county conservation district.

Residential Land Development – Client: Maronda Homes LLC, PA/OH/KY

- Responsibilities included: Conduct detailed wetland delineation and stream identification studies at multiple locations; compile the associated environmental reports and compile the associated permits for submission to the PADEP and/or the county conservation district.

Commercial Development for GetGo/WetGo – Client: Giant Eagle, Inc., PA/OH

- Responsibilities included: Conduct detailed wetland delineation and stream identification studies at multiple locations; compile the associated environmental reports and compile the associated permits for submission to the PADEP and/or the county conservation district.

Waterline Expansion Project – New Sewickley Township Municipal Authority, PA

- Responsibilities included: Conduct detailed wetland delineation and stream identification studies along a 3-mile line; compile the associated environmental reports and compile the associated permits for submission to the PADEP and/or the county conservation district.

Underground Mining Areas – Client: Multiple Mining Clients, Greene County, PA

- Responsibilities included: Conduct pre- and post-mining stream and wetland assessments; complete macroinvertebrate sampling; compile the associated reports and data forms for submission to PADEP; and compile applicable permitting for submission to PADEP.

Endangered Species Surveys

Indiana Bat Tree Evaluation – Client: Alpha Natural Resources

- Responsibilities included: complete tree surveys within plot areas identified in GIS; measure and identify all trees greater than 3” DBH; and compile data forms per plot area.



3D View 1

SCALE:



3D View 2

SCALE:



FRONT 3D VIEW 3

SCALE:



3D View 4

SCALE:



3D View 5

SCALE:



3D View 6

SCALE:

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REGISTERED ARCHITECT
COMMONWEALTH OF PENNSYLVANIA
MICHAEL D. MOYTA RA 17
12-23-2025

D3A Design 3 Architecture
300 Oxford Drive, Suite 120
Monroeville, PA 15146-2361
412-373-2220
www.D3A.com

Project: New Retail Plaza - Shell Construction
LAFAYETTE 180
180 Miller's Run Road
(Bridgeville 15017)
South Fayette Township, PA

Title: 3D Perspective

No. 2025-15
Date: 12/19/2025
Revised:

A900

DATE: 12/19/2025 2:17:52 PM

DWG NAME: H:\2025 Projects\2025-15 Lafayette 180 Plaza\2025-15 Revit\2025-15 FRNT.NEW.rvt

Peoples Natural Gas Company LLC
375 North Shore Drive
Pittsburgh, PA 15212

August 10, 2023

Joseph Chirumbolo
Utilities Specialist, Safety Tier 2
The Gateway Engineers, Inc.
100 McMorris Road
Pittsburgh, PA 15205

Subject: Letter of Gas Availability for **"Lafayette 180" – located at 180 Millers Run Road in Bridgeville, PA.**

Dear Joseph:

Thank you for your interest in the Peoples Natural Gas Company. We have reviewed your request and have determined that natural gas service is available to serve the "proposed" project known as **"Lafayette 180" – located at 180 Millers Run Road in Bridgeville, PA.**

Please be aware that any time we extend our mainline or increase our capacity, a possibility exists that there may be a cost to you, the requesting party. The determination of cost will be made once a gas application and formal site plans have been submitted.

At a high level we would be able to provide these units service, but we cannot guarantee this until we have processed a formal application.

To submit a gas application, you will need to:

- Please provide the following items to complete your application for gas service:
  - Service Address
  - Approval Letter Name/Address
  - Billing Name/Address
  - Gas equipment and load information (BTUs)
  - Pressure Requirements
  - AutoCAD file of Site Plans (.dwg file)

If you have any questions about submitting your gas application, please call us at (866) 654-4660.

Sincerely,

Peoples Natural Gas Company

August 10, 2023

Mr. Joseph Chirumbolo
Gateway Engineers, Inc.
100 McMorris Rd
Pittsburgh, PA 15205

RE: LaFayette 180 – Cozza Development

Dear Mr. Chirumbolo

This letter is to inform you of the availability of natural gas service from Columbia Gas of Pennsylvania, Inc. (CPA) for the above-referenced project. CPA has existing natural gas facilities along Route 50 in Bridgeville, PA. Please be advised that while gas service is located close to the site, this letter should not be interpreted as a commitment to serve until a more thorough engineering review has been completed. Once CAD development drawings and connected load information are received, our engineering group will begin the design of a gas system to serve this development.

Please keep me updated on the timing and construction progress for this project so we may coordinate the installation of the natural gas facilities to meet your development timeline. I look forward to working with you to assist in securing natural gas service to this new building.

Best regards,

Jc Danhires

Jc Danhires.
Sr. Lead Development Manager
724-610-8378
JDanhires@NiSource.com

DocuSign Envelope ID: 1EC8AC85-E2E4-4ED1-B318-324A63F04CA6

Joseph E. Chirumbolo
Utilities Specialist, Safety Tier 2
100 McMorris Road,
Pittsburgh, PA 15205

Attn: Joseph E. Chirumbolo

RE: Will Serve request for availability of Comcast communication services.

Property Address: Development located at 150 Millers Run Road, Bridgeville, PA 15017
Date of Issue: August 09, 2023.

Dear Joseph,

In response to your request for service, we have determined that based on our initial investigation, Comcast Cable Communications Management LLC has the ability to construct and install certain wires, cables, and other equipment over, under, across and along the property located at 150 Millers Run Road, Bridgeville, PA 15017.

A preliminary plan if available, may be provided with this "Will Serve" letter. Notwithstanding the determination that Comcast may provide services at the Property, this letter does not represent any binding agreement for service. Additionally, this letter is non-transferrable and expires one hundred and eighty days from the issue date

If you have any questions or need more information, feel free to contact us.

Jodi Alberta D.X.P.
Market Development & Expansion
Business Development Organization
Keystone Regional Office
15 Summit Park Drive
Pittsburgh, PA 15275
724.554.4270 Cell

Authorized by: DocuSigned by: Jodi Alberta

Name: Jodi Alberta
Market Development & Expansion

Gateway Engineers

Joseph Chirumbolo

Mr. Chirumbolo:

Please be advised that Verizon has existing facilities near Lafayette 180, Cuddy, PA Commercial Development and will provide service to this location.

If you have any questions, I can be reached at 724 229-0695.

Sincerely

Keith Fowler

Verizon Outside Plant Engineer

MUNICIPAL AUTHORITY
TOWNSHIP OF SOUTH FAYETTE

C. Kenneth Chambon, Chairman
Charles L. Rothermel, Vice-Chairman
Robert Zedreck, Secretary
Glenn Davis, Treasurer
John Alan Kosky, Assistant Secretary/Treasurer

900 Presto Sygan Road
Bridgeville PA 15017
412-257-5100 phone
412-257-5125 fax
sewerbilling@sftwp.com
www.matsf.net

September 5, 2023

Shannon L. McCullough
100 McMorris Road
Pittsburgh PA, 15205

Subject: LaFayette 180

Dear Shannon:

I am in receipt of your request dated September 5, 2023, requesting service availability for the old Foremost Auto property. Please accept this correspondence confirming the availability of sanitary sewer service. The plans do not show how the building will connect but sanitary sewer is available in the front and rear of the proposed building.

Don't hesitate to contact me should you have any questions in this regard.

Sincerely,

THE MUNICIPAL AUTHORITY OF
THE TOWNSHIP OF SOUTH FAYETTE

Nick Goettman
Operations Manger

Joseph Chirumbolo of Gateway Engineers
Mailing Address: 100 McMorris Road Pittsburgh, PA 15205
Date: October 17, 2023

Point of Service Description: Lafayette 180 Newbury Drive Cuddy, PA 15031

Dear Requestor:

In response to your recent request for service on the subject property, the following information is provided regarding the process for obtaining electric service from West Penn Power ("WPP").

It has been determined that the subject property is within WPP's service territory. Electric service will be provided in accordance with WPP's Tariff for Service which is on file with and approved by the Pennsylvania Board of Public Utilities. Completion of your request for service is contingent upon your obtaining all required approvals from appropriate authorities and agencies, including, but not limited to, permits for construction. It will be your responsibility to provide WPP with complete electric load information and site plans for review, approvals, and engineering, etc. well in advance of construction of the proposed facility.

The Applicant/Customer is responsible for compliance with all Federal, State and Local Codes. This includes but is not limited to the National Electric Code and the National Electric Safety Code. WPP reserves the right to refuse connection to customer premises that are not in compliance with applicable Codes.

The exact method of service to the point of delivery will be determined subject to the above-requested information and approval by our Regional Engineering Process. This may require the Applicant/Customer to pay for a prorated portion of the cost to upgrade system facilities or add other necessary equipment to the electrical infrastructure to meet your requirements.

Thank you for your inquiry. If you wish to proceed with this project, you'll need to apply for service by calling 1-800-686-0021. We look forward to working with you.

Reference Number: PA-WPP-2023 05 17-202305170587

THIS DEED

MADE the 14th day of January, 2022

BETWEEN

C. Hackett Holdings, LLC, a Pennsylvania limited liability company

(hereinafter called "Grantor")

AND

CE-S.F. One, LP, a Pennsylvania limited partnership

(hereinafter called "Grantee")

WITNESSETH, that the said Grantor in consideration of One Million Five Hundred Sixty-Nine Thousand Two Hundred Fifty and no/100 Dollars ($1,569,250.00), paid to the Grantor by the Grantee, receipt of which is hereby acknowledged, does grant, bargain, sell, and convey to the said Grantee, its successors and assigns, all of the Grantor's right, title, and interest in and to the following property:

ALL THAT CERTAIN lot or tract of land situate in the Township of South Fayette, County of Allegheny and Commonwealth of Pennsylvania, being known as Lot No. 2, as shown on a certain plan entitled Schneider Plan, recorded in the Department of Real Estate Office of Allegheny County, Pennsylvania in Plan Book Volume 130, Page 133.

AND

ALL THAT CERTAIN lot or piece of ground situate in the Township of South Fayette, County of Allegheny and Commonwealth of Pennsylvania, bounded and described as follows:

BEGINNING at a point on the Northeasterly side of State Highway L.R. 545 (also known as Traffic Route 28) at the corner of land now or late of Humble Oil and Refining Co.; thence along the Northeasterly side of said State Highway, Northwestwardly by the arc of a circle curving to the left, having a radius of 3367.10 feet, an arc distance of 297.75 feet to a point on line of land now or late of Anelita Ferri and Angelina Mals; thence by said land North 19 degrees, 05 minutes, 35 seconds East, 102.41 feet to a point on line of land now or late of Humble Oil and Refining Company; thence by said land the following two courses and distances; South 58 degrees, 59 minutes, 55 seconds East 310.50 feet to a point; thence South 25 degrees, 57 minutes, 05 seconds West 55.77 feet to the Northeasterly side of said State Highway at the place of beginning.

SUBJECT TO the condemnation of a portion of the subject property by the Commonwealth of Pennsylvania, Department of Transportation of right of way for Legislative Route 1138 of the Court of Common Pleas of Allegheny County, Pennsylvania, at No. 1717 October Term, 1971.

ALSO DESCRIBED AS all that certain lot or parcel of land situate in the Township of South Fayette, County of Allegheny, Commonwealth of Pennsylvania, being a portion of Block and Lot No. 256-L-2, more particularly bounded and described as follows:

Beginning at a point on the northerly right of way line of Miller Run Road, S.R. 0050, variable width, said point being at the southeast corner of property now or formerly Anthoni Mals Peterson (Tax Parcel 256-L-1); thence along the dividing line of property now or formerly Anthoni Mals Peterson and property herein described, North 20°43'08" East, 29.76' to a point on the former southerly line of Lot 2 of the Schneider Plan, recorded in Plan Book Volume 130, Page 133; thence along the former southerly line of Lot 2 of the Schneider Plan and through property now or formerly C. Hackett Holdings, LLC, (Tax Parcel 256-L-2), South 57°22'22" East, 225.98' to a point on the northerly right of way line of Miller Run Road, S.R. 0050, variable width; thence along the northerly right of way line of Miller Run Road, S.R. 0050, by an arc of a circle deflecting to the left in a northwestwardly direction, having a radius of 1245.92', an arc distance of 222.05' (chord bearing and distance, North 64°55'04" West, 221.76') to a point at the place of beginning.

Bearings based on First Revision to the Kosky Plan of Lots, recorded in Plan Book Volume 274, Page 44.

Contains 2,559 Sq. Ft. or 0.0587 Acres

THE ABOVE DESCRIBED PROPERTY TOGETHER BEING BLOCK AND LOT 256-L-2.

TOGETHER with and subject to all rights, duties and obligations set forth in the certain Easement Agreement, dated December 14, 2015, and recorded January 13, 2016, in Plan Book Volume 16256, page 110, being an Access Drive Easement.

BEING the same property which Richard Schneider and Jane Schneider, husband and wife, by Corrective Deed dated January 10, 2022 and recorded on January ___, 2022 in the Department of Real Estate of Allegheny County, Pennsylvania, in Deed Book Volume _____, Page _____ granted and conveyed C. Hackett Holdings, LLC.

UNDER AND SUBJECT TO coal and mining rights and all rights and privileges incident to the mining of coal heretofore conveyed, excepted, or reserved by instruments of record; the right of surface, lateral, or subjacent support; or any surface subsidence; oil and gas and minerals and all rights incident to the extraction or development of oil and gas or minerals heretofore conveyed, leased, excepted, or reserved by instruments of record; and all easements, rights of way, and restrictions as contained in prior instruments of record and/or as installed or located on the premises and all other matters of record appearing prior hereto.

With the appurtenances thereto: **TO HAVE AND TO HOLD** the same to and for the use of the said Grantee, its successors and assigns forever, and the Grantor for its successors and assigns hereby covenants and agrees that it will SPECIALLY warrant title to the property hereby conveyed.

NOTICE: THIS DOCUMENT MAY NOT/DOES NOT SELL, CONVEY, TRANSFER, INCLUDE, OR INSURE THE TITLE TO THE COAL AND RIGHT OF SUPPORT UNDERNEATH THE SURFACE LAND DESCRIBED OR REFERRED TO HEREIN, AND THE OWNER OR OWNERS OF SUCH COAL MAY HAVE/HAVE THE COMPLETE LEGAL RIGHT TO REMOVE ALL OF SUCH COAL AND, IN THAT CONNECTION, DAMAGE MAY RESULT TO THE SURFACE OF THE LAND AND ANY HOUSE, BUILDING, OR OTHER STRUCTURE ON OR IN SUCH LAND. THE INCLUSION OF THIS NOTICE DOES NOT ENLARGE, RESTRICT, OR MODIFY ANY LEGAL RIGHTS OR ESTATES OTHERWISE CREATED, TRANSFERRED, EXCEPTED, OR RESERVED BY THIS INSTRUMENT. [This notice is set forth in the manner provided in Section 1 of the Act of July 17, 1957, P.L. 984, as amended, and is not intended as notice of unrecorded instruments, if any.]

WITNESS the hand and seal of the said Grantor.

WITNESS:

C. Hackett Holdings, LLC

By _____
Charles Hackett, Member

Commonwealth of Pennsylvania)
) ss:
County of Allegheny)

On this, the 14th day of January, 2022 before me, a Notary Public, the undersigned officer, personally appeared Charles Hackett, who acknowledged himself to be the Member of C. Hackett Holdings, LLC, a Pennsylvania limited liability company, and that he as such Member, being authorized to do so, executed the foregoing deed for the purposes therein contained by signing the name of the corporation by himself as such Member.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal.

_____
Notary Public

My commission expires:

Commonwealth of Pennsylvania - Notary Seal
Thomas H. Ayoob III, Notary Public
Allegheny County
My commission expires February 21, 2025
Commission number 1004840
Member, Pennsylvania Association of Notaries

NOTICE: THE UNDERSIGNED, AS EVIDENCED BY THE SIGNATURE[S] TO THIS NOTICE AND THE ACCEPTANCE AND RECORDING OF THIS DEED, IS/ARE FULLY COGNIZANT OF THE FACT THAT THE UNDERSIGNED MAY NOT BE OBTAINING THE RIGHT OF PROTECTION AGAINST SUBSIDENCE, AS TO THE PROPERTY HEREIN CONVEYED, RESULTING FROM COAL MINING OPERATIONS AND THAT THE PURCHASED PROPERTY, HEREIN CONVEYED, MAY BE PROTECTED FROM DAMAGE DUE TO MINE SUBSIDENCE BY A PRIVATE CONTRACT WITH THE OWNERS OF THE ECONOMIC INTEREST IN THE COAL. THIS NOTICE IS INSERTED HEREIN TO COMPLY WITH THE BITUMINOUS MINE SUBSIDENCE AND LAND CONSERVATION ACT OF 1966, AS AMENDED 1980, OCT. 10, P.L. 874, NO. 156, § 1.

WITNESS:

CE-S.F. One, LP
By: Cozza Enterprises, LLC,
its General Partner

By:_____
Craig J. Cozza, Managing Member

CERTIFICATE OF RESIDENCE

I hereby certify that (1) FOR THE PURPOSE OF DELIVERY OF TAX STATEMENTS ONLY, the precise residence of the Grantee is P.O. Box 453, Carnegie, PA 15106,

and (2) FOR ALL OTHER PURPOSES (including delivery of assessment change notices) the precise residence of Grantee is P.O. Box 453, Carnegie, PA 15106.

Witness the due execution hereof this 14th day of January, 2022

Grantee/Agent for Grantee

AFTER RECORDING, PLEASE RETURN TO:

Pioneer Land Settlement, Inc.

710 Fifth Ave. – Suite 2000

Pittsburgh, PA 15219

PURCHASE AND SALE AGREEMENT

THIS PURCHASE AND SALE AGREEMENT ("Agreement") by and between PETERSON ANTHONI MALS ("Seller") and CE-South Fayette, LP or related assigns, a limited liability company ("Purchaser") is made and entered into as of the last date this Agreement is executed by Seller or Purchaser (the "Effective Date").

Recitals:

WHEREAS, Seller is the owner of a certain property identified as Millers Run Rd in the City of Bridgeville, County of 946 South Fayette, Commonwealth of Pennsylvania identified as Block and Lot Parcel ID 0256-L-00001-0000-00, as such property is more fully described at Deed Book Volume 10562, page 390 (the "Property"); and

WHEREAS, Seller desires to sell and Purchaser desires to purchase the Property, pursuant to the terms, provisions, and conditions herein.

NOW, THEREFORE, intending to be legally bound the parties hereto agree as follows:

1. PURCHASE AND SALE OF PROPERTY.

Seller agrees to sell to Purchaser, and Purchaser agrees to purchase from Seller, subject to the terms and conditions of this Agreement, the Property. The Property shall be conveyed together with all privileges, rights, easements and appurtenances belonging to such land, and all right, title and interest (if any) of Seller in and to any streets, alleys, passages, and other rights-of-way or appurtenances included in, adjacent to or used in connection with such land, and all right, title and interest (if any) of Seller in all mineral and development rights appurtenant to such land and with all of the rights and privileges attributable to ownership of the Property.

2. PURCHASE PRICE AND DEPOSIT.

2.1 The purchase price for the Property shall be [redacted] (the "Purchase Price").

2.2 Within three (5) days of the Effective Date, Purchaser shall deposit with Pioneer Land Settlement, Inc., (hereinafter "Title Company") as escrow agent, a deposit in the amount of [redacted] (the "Deposit") to be held in a non-interest bearing account.

2.3 At Closing, the Deposit shall be applied to the Purchase Price.

3. TITLE.

3.1 Title to the Property shall be conveyed to Purchaser at Closing in fee simple by general Warranty Deed, in a form and substance satisfactory to Purchaser's counsel.

3.2 Purchaser shall obtain a Commitment for Title Insurance from the Title Company, committing to insure upon the payment of a requisite premium at standard rates that Purchaser shall own good and indefeasible fee simple title to the Property, subject only to the

Permitted Exceptions, as defined herein.

3.3 The term "Permitted Exceptions", as used herein, shall mean (i) the lien of real estate taxes not yet due and payable, (ii) all matters revealed in the Title Commitment obtained by Purchaser and approved by Purchaser, (iii) all existing building, zoning and other city, state, county or federal laws, codes and regulations affecting the Property, (iv) any existing general utility easements serving the Property, provided such existing utility easements would not materially interfere with Purchaser's intended use of the Property as determined by Purchaser in its sole discretion, and (v) any title exception created directly by any act or omission of Purchaser or its representatives, agents, employees or invitees.

3.4 Notwithstanding anything to the contrary in this agreement, Seller shall pay all costs of clearing title.

4. DUE DILIGENCE PERIOD.

4.1 Purchaser, at Purchasers sole expense, shall have the right for a period of [redacted] days from the Effective Date (the "Due Diligence Period"), at any time, to perform any due diligence at its sole cost and expense that it deems proper, including but not limited to, survey and title review, environmental review, structural review, roof evaluation, electrical and plumbing review, and zoning review. Purchaser may elect, at its sole discretion, during the Due Diligence Period, to terminate this Agreement for any reason (or for no reason whatsoever) and receive the prompt refund of the Deposit. Purchaser shall elect to terminate this Agreement by providing written notice delivered to Seller prior to the expiration of the Due Diligence Period notifying Seller that Purchaser is terminating this Agreement. In the absence of such notice, this Agreement shall remain in full force and effect.

4.2 Seller shall provide to Purchaser, within five (5) days after the Effective date of this Agreement, to the extent such are available to Seller, a copy of all plans, drawings, and blueprints pertaining to the Property, any existing title insurance policies covering the Property, a copy of any site plans and/or surveys for the Property, and a copy of any environmental reports.

4.3 The Purchaser shall have one (1) successive option to extend the term of the Due Diligence Period for periods of thirty (30) days each. To exercise an option to extend the term of the Due Diligence Period, Purchaser must notify Seller in writing to be received by Seller on or before the end of the Due Diligence Period, as extended, pursuant to the notice provisions set forth below in this Agreement.

5. REPRESENTATIONS AND WARRANTIES OF SELLER.

Seller hereby represents and warrants the following to the Purchaser as of the date Seller signs this Agreement and as of the Closing:

5.1 Seller is the record owner in fee simple of the Property, and the Property will be on the Closing date free and clear of all liens and encumbrances except for Permitted Exceptions, as defined herein.

5.2 Seller possesses all requisite power and authority to enter into and perform this Agreement and to carry out the transactions contemplated herein. The execution and delivery by Seller of this Agreement and the performance and consummation by Seller of the transaction

contemplated by this Agreement have been duly and validly authorized by all requisite and necessary company and other internal action on the part of Seller.

5.3 No suit, action, arbitration, or legal, administrative, or other proceedings, including but not limited to condemnation proceeding, is pending or has been threatened against the Property or against the Seller with respect to the Property.

5.4 No bankruptcy, insolvency, rearrangement, or similar action or proceedings, whether voluntary or involuntary, is pending or threatened against Seller, or any partner of Seller and Seller has no intention of filing or commencing any such action or proceeding.

5.5 There are no existing or pending contracts of sale, leases, options to purchase, or rights of first refusal (or the like) with respect to the Property.

5.6 Seller is not a "foreign person" as defined in the Foreign Investment in Real Property Tax Act of 1980, as amended.

5.7 The Property is not subject to any protest or appeal proceedings related to real property taxes.

5.8 Seller has not received any written notice indicating that the Property is in violation, or that with the giving of notice or the passage of time would be in violation, of any applicable law, enactment, statute, code, ordinance, rule, regulation, judgment, writ, injunction, authorization, covenant, condition, restriction or agreement, or other direction or requirement of any governmental authority.

5.9 Neither Seller nor any affiliate or agent or contractor of Seller has disposed of or otherwise released any Hazardous Substances on the Property. To the best of Seller's knowledge, there are no Hazardous Substances present on the Property. Seller further warrants that until termination of this Agreement or delivery of possession of the Property to Purchaser, neither Seller nor any agent of Seller will cause or permit any Hazardous Substance to be disposed of or released or present on, over, beneath, in or upon the Property or to exist on or within any portion of the Property. "Hazardous Substances" shall mean asbestos (including asbestos in friable form), polychlorinated biphenyls, petroleum products, any flammable explosives, radioactive materials, hazardous materials, hazardous wastes, hazardous or toxic substances or related materials as defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 U.S.C. §9601, et seq.), the Hazardous Materials Transportation Act, as amended, (49 U.S.C. §1801, et seq.), the Resource Conservation and Recovery Act, as amended (42 U.S.C. §6901, et seq.), the Toxic Substances Control Act, as amended (15 U.S.C. §2601, et seq.), any Environmental Laws. "Environmental Laws" means any federal, state or local statutes, laws, regulations, rules, decrees, orders, judgments, stipulations, ordinances, policies or common law related to the protection of human health and the environment or the use, handling, treatment, storage, disposal, release, remediation or transportation, or exposure of persons to, Hazardous Substances.

5.10 The representations and warranties of this Section 5 shall survive Closing.

6. CLOSING.

6.1 The consummation of the contemplated transaction (the "Closing") shall be held at the offices of Pioneer Land Settlement, Inc., in Pittsburgh, Pennsylvania, not later than thirty (30) days after expiration of the Due Diligence Period, including any extensions, time being of the essence. The exact date and time of the Closing shall be designated by mutual agreement of the Seller and Purchaser upon notice to Seller of not less than five (5) days. The Title Company shall be responsible at the Closing for preparing the settlement statement, causing all documents to be recorded, disbursing all closing proceeds, and otherwise conducting settlement.

6.2 The following apportionments shall be made between the parties at the Closing:

(a) Real estate taxes, personal property taxes, special assessments, if any, on the basis of the fiscal or calendar period for which assessed.

(b) Water and sewer service charges and charges for gas, electricity, telephone and all other public utilities. If there are meters measuring the consumption of water, gas or electric current, Seller shall, not more than one day prior to the Closing date, if possible, cause such meters to be read, and shall pay all utility bills for which Seller is liable upon receipt of statements therefor. Purchaser shall be responsible for causing such utilities and services to be changed to its name and shall be liable for and shall pay all utility bills for services rendered after the Closing.

(c) All other charges and fees customarily prorated and adjusted in similar transactions in Pennsylvania.

6.3 At the Closing, Seller shall deliver to Purchaser, the following:

(a) A recordable Warranty Deed as required by Section 3.1 of this Agreement, conveying the Property in fee simple to Purchaser.

(b) A certificate, dated as of the Closing date, to establish that Seller is not a foreign person for the purposes of the Foreign Investment in Real Property Tax Act.

(c) Exclusive physical possession of the Property in its "AS IS" condition with all personal property removed, together with all books and records in Seller's possession or control and all keys.

(d) Such customary owner's title affidavits and gap indemnities as may be required by the Title Company in order to issue the title policy subject only to the Permitted Exceptions and without exception for parties in possession, mechanics' or materialmen's liens, unrecorded easements or matters first appearing of record after the effective date of the most recent Title Commitment but prior to the conveyance of the Property to Purchaser.

(e) If Seller is a business entity other than an individual, a Pennsylvania Good Standing Certificate, copies of the organizational documents for the Seller, and resolutions of Seller approving this Agreement and the transaction contemplated hereby and authorizing the execution and delivery of this Agreement, the completion of the transaction contemplated hereby and the execution and delivery of all documents required to be executed and delivered by Seller.

(f) Such other documents, instruments and affidavits as may be reasonably requested by Purchaser or the Title Company to effectuate the transaction contemplated by this Agreement and to induce the Title Company to insure title to the Property as described herein.

6.4 At the Closing, Purchaser shall deliver to Seller, the following:

(a) The balance of the Purchase Price, less the Deposit and subject to the prorations and credits set forth herein, payable in certified funds or by Federal Reserve Bank wire transfer to the Title Company on or prior to Closing.

(b) Such other documents, instruments and affidavits as may be reasonably requested by Seller or the Title Company to effectuate the transaction contemplated by this Agreement and to induce the Title Company to insure title to the Property as described herein.

6.5 Purchaser shall pay the costs and expenses associated with the following: (i) all costs of Purchaser's due diligence, including fees due its consultants and attorneys, (ii) all lenders' fees related to any financing to be obtained by Purchaser, (iii) all recording and filing charges in connection with the instruments by which Seller conveys the Property, (iv) all premiums and charges of the Title Company for the Title Commitment and the Owner's (and any mortgagee's) Title Policy (including endorsements), (v) the cost of the Survey, (vi) one-half of the transfer taxes, documentary stamp taxes and similar charges, if any, applicable to the transfer of the Property to Purchaser. The obligations of the Purchaser under this Section 6.5 shall survive the Closing (and not be merged therein) or any earlier termination of this Agreement.

6.6 Seller shall pay the costs and expenses associated with the following: (i) all fees due its attorneys and consultants, (ii) all reasonable costs incurred in connection with causing the Title Company to remove any title objections required to be removed or otherwise cured by Seller, (iii) all costs incurred in connection with the satisfaction of monetary liens on the Property, including any costs related to recording of any satisfaction or termination documents, and (iv) one-half of the transfer taxes, documentary stamp taxes and similar charges, if any, applicable to the transfer of the Property to Purchaser, and (v) a customary and reasonable settlement fee. The obligations of the Seller under this Section 6.6 shall survive the Closing (and not be merged therein) or any earlier termination of this Agreement.

7. RISKS OF LOSS; MAINTENANCE OF PROPERTY.

Risk of loss of the Property shall remain upon the Seller until Closing and delivery of possession to Purchaser. Seller shall maintain the Property in as good condition as it is now, except for ordinary wear and tear, until delivery of the same to Purchaser. Seller shall maintain such fire and casualty insurance as it has in force at this time. Purchaser understands that Purchaser may have an insurable interest in the Property upon the signing of this Agreement and, in order to protect Purchaser's own interest in the Property, Purchaser may retain or place in force adequate fire and casualty insurance with extended coverage on the Property as of the Effective Date of this Agreement.

8. EMINENT DOMAIN; CASUALTY.

After the Effective Date, in the event Seller receives any notice of any condemnation proceedings, or other proceedings in the nature of eminent domain, or if any part

of the Property is damaged or destroyed by casualty, Seller will forthwith notify Purchaser of same, and Purchaser shall have the option to: (i) proceed under this Agreement and obtain by assignment or otherwise all damages to which the owner of the Property may be entitled pursuant to the Pennsylvania Eminent Domain Code, or under any insurance policy of Seller, as applicable; or (ii) void this Agreement whereupon no party shall have any further duty or liability to the other. Notwithstanding the foregoing, if the Property is damaged by fire or casualty, and such damage can be repaired or reconstructed prior to the Closing in a good and workmanlike manner to the reasonable satisfaction of Purchaser, the Purchaser shall not have the right to terminate the Agreement.

9. REMEDIES.

9.1 In the event Seller materially fails to perform or breaches any of its representations, warranties or covenants to be performed by Seller under this Agreement, or Seller materially misrepresent any fact or circumstance, Purchaser shall be entitled (a) to enforce specific performance of this Agreement; (b) to bring suit for all damages suffered by reason of such failure and all of Purchaser's costs and expenses, including reasonable attorneys' fees; or (c) to terminate this agreement and have the Deposit and any Additional Deposit returned to Purchaser. Each remedy under this Section 9.1 may be cumulative and not exclusive.

9.2 If Purchaser defaults in its performance of any term, covenant, condition, or obligation under this Agreement, including the obligation of Purchaser to purchase the Property if all conditions precedent to such obligations have been satisfied, Seller shall be entitled to receive as complete liquidated damages the Deposit and any Additional Deposit as liquidated damages. The parties acknowledge that the Deposit and any Additional Deposit represents a reasonable effort to ascertain the damages to Seller in the event of a Purchaser default, which damages are difficult or impossible to quantify. Seller waives all other remedies.

9.3 A failure by either party to perform any act required by it under this Agreement, other than the requirement to close if all conditions have been met, shall not be deemed a default under this Agreement until such party has received written notice from the other party setting forth the alleged failure, and such failure has not been cured within five (5) days of receipt of such notice.

10. BROKERAGE COMMISSION.

Purchaser and Seller acknowledge that no brokerage commission is payable in connection with this transaction. Each of the parties hereto agrees to indemnify and hold the other harmless from claims made by any other broker, attorney or finder claiming through such party for a commission, fee or compensation in connection with this Agreement or the sale of the Property hereunder. The provisions of this Section 10 shall survive Closing.

11. ASSIGNMENT.

11.1 Neither party shall assign or transfer or permit the assignment or transfer of its rights or obligations under this Agreement without the prior written consent of the other, any such assignment or transfer without such prior consent being hereby declared to be null and void; provided, however, that Purchaser shall have the right to assign this Agreement to an Affiliate, whose direct or indirect ownership is at least 51% of the ownership of the Purchaser,

upon written notice to Seller no later than two (2) days prior to the Closing date, and such assignee(s) shall assume Purchaser's rights and obligations under this Agreement.

11.2 In the event either party consents to an assignment of this Agreement by the other for which consent is required, no further assignment shall be made without another written consent from the consenting party, unless the assignment may otherwise be made without consent under this Agreement. An assignment by either Seller or Purchaser of its interest in this Agreement shall not relieve Seller or Purchaser, as the case may be, from its obligations, but this Agreement shall then inure to the benefit of, and be binding on, the assignee's successors, heirs, legal representatives and assigns.

11.3 If Seller or Purchaser reasonably determine that an assignment of this Agreement may be subject to the imposition of realty transfer tax or other applicable taxes, then the parties shall terminate this Agreement effective prior to Closing. In the event of such termination, the parties hereby agree that Seller and Purchaser (or Purchaser's assignee) shall enter into a new purchase agreement immediately following the termination of this Agreement, which shall contain the same terms and conditions as this Agreement, except as otherwise agreed by the parties in advance. In addition to the foregoing, the parties hereby acknowledge and agree that any termination of this Agreement as contemplated by this Section 11.3 shall not constitute a default under this Agreement or result in the disbursement of any portion of the Deposit and any Additional Deposit, and, upon such termination, the Deposit and Any Additional Deposit shall be treated as if they were delivered to Purchaser and repaid to the Title Company. The parties shall execute and deliver such additional documents, instruments and certificates as may be reasonably requested by either party to evidence the transactions described in this Section 11.3.

12. GENERAL PROVISIONS.

12.1 The terms and conditions of this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, successors, assigns, and legal representatives.

12.2 Notices and other communications required by this Agreement shall be in writing and (i) delivered by hand with receipt; (ii) sent by recognized overnight delivery service; (iii) sent by certified or registered mail, postage prepaid, with return receipt requested; or (iv) by electronic mail with a confirmation copy sent by another method permitted under this Section. All notices shall be addressed as follows:

If to the Seller: PETERSON ANTHONI MALS
754 Windows Road,
Smicksburg, PA 16256

If to the Purchaser: Cozza Enterprises LLC
295 Myoma Rd
Mars, PA 16046

With Copy To: Thomas H. Ayoob III, Esquire
Thomas H. Ayoob III & Associates, LLC
710 Fifth Avenue, Suite 2000

Pittsburgh, PA 15219
e-mail: tom@pioneerls.com

Notices shall be deemed to be effective upon receipt or refusal of the addressee to accept delivery.

12.3. Whenever used herein, unless expressly provided otherwise, the term "days" shall mean consecutive calendar days, except that if the expiration of any time period measured in days occurs on a Saturday, Sunday, legal holiday, such expiration shall automatically be extended to the next business day.

12.4 This Agreement constitutes the entire agreement between the parties concerning the Property and supersedes all prior agreements or undertakings.

12.5 This Agreement may not be modified except by the written agreement of the parties.

12.6 In the event any one or more of the provisions contained in this Agreement are held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability will not affect any other provisions hereof, and this Agreement shall be construed as if such invalid, illegal, or unenforceable provision had not been contained herein.

12.7 The parties acknowledge that each party and its counsel of choice if so desired has had an opportunity to review and revise this Agreement and that the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of this Agreement or any amendment or modification hereof or any of the closing documents delivered by Seller or Purchaser hereunder.

12.8 Any paragraph headings or captions contained in this Agreement shall be for convenience of reference only and shall not affect the construction or interpretation of any provisions of this Agreement.

12.9 This Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania.

12.10 The parties hereby agree to indemnify and defend the Title Company in its role as escrow agent from any and all suits, actions or claims if the Title Company in its role as escrow agent acts in good faith on the written notice and direction of the parties delivered in accordance with the terms hereof.

12.11 The individuals executing this Agreement represent and warrant that they have full authority and/or have been duly authorized by their respective parties to do so on behalf of such parties.

12.12 This Agreement may be executed in separate counterparts, none of which need contain the signatures of all parties, each of which shall be deemed to be an original, and all of which taken together constitute one and the same instrument. It shall not be necessary in making proof of this Agreement to produce or account for more than the number of counterparts containing the respective signatures of, or on behalf of, all of the parties hereto. The exchange of executed copies of this Agreement by electronic mail, portable document format (.pdf) or other

electronic transmission method will constitute effective execution and delivery of this Agreement as to the parties for all purposes, and electronic signatures of the parties shall be deemed to be their original signatures for all purposes.

12.13 NOTICE--THIS DOCUMENT MAY NOT SELL, CONVEY, TRANSFER, INCLUDE OR INSURE THE TITLE TO THE COAL AND RIGHT OF SUPPORT UNDERNEATH THE SURFACE LAND DESCRIBED OR REFERRED TO HEREIN, AND THE OWNER OR OWNERS OF SUCH COAL MAY HAVE THE COMPLETE LEGAL RIGHT TO REMOVE ALL OF SUCH COAL, AND, IN THAT CONNECTION, DAMAGE MAY RESULT TO THE SURFACE OF THE LAND AND ANY HOUSE, BUILDING OR OTHER STRUCTURE ON OR IN SUCH LAND, THE INCLUSION OF THIS NOTICE DOES NOT ENLARGE OR RESTRICT OR MODIFY ANY LEGAL RIGHTS OR ESTATES OTHERWISE CREATED, TRANSFERRED, EXCEPTED OR RESERVED BY THIS INSTRUMENT. (This notice is set forth in the manner provided in Section 1 of the Act of July 17, 1957, P.L. 984, as amended, and is not intended as notice of unrecorded instruments, if any.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the dates written below.

SELLER:

Date: 6/23/23 Anthony Mels Peterson

PURCHASER:

Date: 6/20/23 LJC

SOUTH FAYETTE TOWNSHIP
A Community Growing Together

Subdivision-Land Development Application

www.southfayettepa.com

Plan Name:	Smith Henney Lot Line Adjustment Plan	File No.	S-02-2026
Plan Location:	244 Nesbit Rd	Tax I.D. #	328-G-13 & 328-G-30
Project Description	A lot line adjustment between 244 Nesbit Rd & 234 Nesbit Rd.		

Check Appropriate Box(es)

Land Development Plan		Subdivision Plan	✓	Conditional Use Plan	
Minor Subdivision	✓	Major Subdivision		Open Space Plan	
Preliminary Plan Submission	✓	Final Plan Submission	✓		

Zoning District(s)	R-2	Property Acreage	9.718	No. Lots/Units	2

Applicant's Name:	J. Todd Hendwood, PLS	Phone No.	
Applicant's Address:	1712 Mount Nebo Road Sewickley, PA 15143	Fax No.	
Applicant's E-Mail:			
Engineer Firm/Name	Sheffler & Company Inc.	Phone No.	
Engineer's Address:	1712 Mount Nebo Road Sewickley, PA 15143	Fax No.	
Contact Person:	Mike Cancilla	E-Mail Address	

The following items are reviewed as part of the South Fayette Township application process. Applications submitted WITHOUT these elements will NOT be reviewed by the township.

REQUIRED SUBMISSION ITEMS	Copies	✓ Yes	✓ No	✓ N/A
1) Completed Application Form	1	✓		
2) ACED Subdivision/Land Development Application	1	✓		
3) Maps and Plans • Plus PDF of drawings	1	✓		
• Sets Full-Size Plans (24" x 36")	5	✓		
• Sets Half-Size Plans (11" x 17")	5	✓		
4) Agent Authorization Form	1	✓		
5) Application Fee	1	✓		
6) Escrow – Engineer, Solicitor, Inspection	1	✓		
7) Stormwater Management Plan & Calculations (plus PDF)	2			✓
8) Erosion & Sedimentation Control Plan (plus PDF)	2			✓
9) Deed, Sales Agreement or Other Ownership	1	✓		

I have familiarized myself with and hereby agree to comply with the subdivision and zoning ordinance of the township as well as to all township rules, regulations and resolutions. I agree to pay the applicable fee(s).

Signature of Applicant: J. Todd Hendwood **Date:** 01.30.2026

If applicant is not the property owner, an Agent Authorization Form must be attached.

SOUTH FAYETTE TOWNSHIP
A Community Growing Together

Agent Authorization Form

www.southfayettepa.com

Name of Property Owners: ALEXANDER ANTHONY SMITH & KALEY MARIE MOYER, MATTHEW BERNARD & CHRISTINE ANNE HENNEY

Property Tax Map Number: 328-G-13 and 328-G-30

Property/Project(s): Lot Line Adjustment

☐ **This application/phase only** ☑ **All related applications and phases**

The above named property owner hereby appoints: Sheffler & Company Inc.

_____

as its agent and authorizes said agent to apply for and process the above mentioned development plan/variance on his/her behalf. Agent is further authorized to sign all necessary documentations for such purposes, including acceptance of conditions imposed by the Board of Commissioners upon arrival of the plan. This authorization shall remain in full force and effect until written notice of revocation is delivered to the South Fayette Township Manager.

SIGNED AND SEALED, intending to be legally bound on this date of:

_____

Owner(s) Signature: _____ 1/27/2026 (SEAL)

OWNER'S ADOPTION AND DEDICATION

We, owners or beneficial owners of the land shown on the Smith Henney Lot Line Adjustment Plan, hereby adopt this plan as our plan of lots and irrevocably dedicate all streets and other property identified for dedication on the plan to the Township of Collier and the Township of South Fayette. This adoption and dedication shall be binding upon our heirs, executors, and assigns.

IN WITNESS OF WHICH, to this WE set Our hand and seal this _____day of _____20_____.

ATTEST:

_____	_____	_____
Notary Public	Alexander Anthony Smith	Kaley Marie Moyer
(Signature)	(Signature)	(Signature)

ACKNOWLEDGMENT OF NOTARY PUBLIC

Before me, the undersigned Notary Public in and for the Commonwealth of Pennsylvania and County of _____, personally appeared the above named Alexander Anthony Smith and Kaley Marie Moyer, and acknowledged the foregoing adoption and dedication to be their act.

Witness my hand and notarial seal this _____day of _____, 20_____. My commission expires the _____day of _____, 20_____.

(Seal) _____ Notary Public

CERTIFICATION OF TITLE WITH MORTGAGE AND CONSENT OF MORTGAGEE

We hereby certify that the title to the property contained in the Smith Henney Lot Line Adjustment Plan is in the name of Alexander Anthony Smith and Kaley Marie Moyer and is recorded in deed book volume 19791, page 243.

_____	_____	_____
Witness	Alexander Anthony Smith (Owner)	Kaley Marie Moyer (Owner)

CFS Bank, mortgagee of the property contained in the Smith Henney Lot Line Adjustment Plan consents to the recording of said plan and to the dedications and all other matters appearing on the plan.

_____ _____
Witness Name, title, and mortgagee

SURVEYOR'S CERTIFICATION

I Gary A. Sheffler, (Registration No. 11786–E), hereby certify to the best of my knowledge, information and belief that this plat represents a survey made by me, and that all monuments shown actually exists and their location, size and material are correctly shown upon the plans, and the plans comply with all surveying requirements of the Township of Collier and Township of South Fayette Subdivision of Land Ordinances and the laws of the Commonwealth as the pertain to the practice of land surveying.

01/26/2026	Gary A. Sheffler	
Date	Name	Signature
	11786–E	
(Seal)	Registration number	

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — GARY A. SHEFFLER — SURVEYOR No.11786–E

SURVEYOR

MUNICIPAL ENGINEER'S CERTIFICATION

I certify that this plan meets all engineering and design requirements of the applicable ordinances of the Township of Collier, except as departures have been authorized by the appropriate officials of the municipality.

_____ _____
Date Name

_____
(Seal) Registration number

COLLIER TOWNSHIP ENGINEER

MUNICIPAL DECLARATIONS

No Acceptance of Dedication

The Board of Commissioners, of the Township of Collier gives notice that, in approving this plan for recording, the Township of Collier assumes no obligation to accept the dedication of any streets, land or public facilities and has no obligation to improve or maintain such streets, land or facilities.

_____ _____
Secretary President of the Board of Commissioners

No Building Permits Without Approved Sewage Facilities

The Township of Colliers agrees not to issue building permits until the "Planning Module for Land Development" has been approved in accordance with the regulations of the Pennsylvania Department of Environmental Protection.

_____ _____
Date Authorized municipal official

SOUTH FAYETTE TOWNSHIP ENGINEER

As of the date of this plan's approval by the approving authority, no development of any land contained in this subdivision or land development for any purpose requiring sanitary sewage facilities is planned. No portion of this property has been approved by the municipality or the Department of Environmental Protection for the installation of sewage disposal facilities. No sewage permit will be issued for the installation, construction, connection to or use of any sewage collection, conveyance, treatment or disposal system unless the municipality and the DEP have both approved sewage facilities planning for the property included in this plan in accordance with the Pennsylvania Sewage Facilities Act (35 P.S. § 750.1 et seq.) and regulations promulgated thereunder. Prior to the transfer of any lot or property included in this plan, any purchaser should contact appropriate officials of the municipality, which is charged with administering the Sewage Facilities Act, to determine what sewage facilities planning is required and the procedure and requirements for obtaining appropriate permits or approvals.

SOUTH FAYETTE PLANNING COMMISSION

COLLIER TOWNSHIP ZONING OFFICER CERTIFICATION

Approved by the Collier Township Zoning Officer on this _____day of _____, 20_____

_____
Zoning Officer

SOUTH FAYETTE TONWSHIP BOARD OF COMMISSIONERS

ACED REVIEW

Reviewed by the Allegheny County Department of Economic Development on this _____day of _____, 20_____.

ACED File #: _____

(Seal) _____ Director

ALLEGHENY COUNTY DEPT OF ECONOMIC DEVELOPMENT

PROOF OF RECORDING

Recorded in the office of the Department of Real Estate of the County of Allegheny, Commonwealth of Pennsylvania, in Plan Book Volume _____, Page(s) _____.

Given under my hand and seal this day of _____day of _____, 20_____

(Seal) _____ Department of Real Estate

ALLEGHENY COUNTY DEPT OF REAL ESTATE

OWNER'S ADOPTION AND DEDICATION

We, owners or beneficial owners of the land shown on the Smith Henney Lot Line Adjustment Plan, hereby adopt this plan as our plan of lots and irrevocably dedicate all streets and other property identified for dedication on the plan to the Township of Collier and the Township of South Fayette. This adoption and dedication shall be binding upon our heirs, executors, and assigns.

IN WITNESS OF WHICH, to this WE set Our hand and seal this _____day of _____20_____.

ATTEST:

_____	_____	_____
Notary Public	Matthew Bernard	Christine Anne Henney
(Signature)	(Signature)	(Signature)

ACKNOWLEDGMENT OF NOTARY PUBLIC

Before me, the undersigned Notary Public in and for the Commonwealth of Pennsylvania and County of _____, personally appeared the above named Matthew Bernard and Christine Anne Henney, and acknowledged the foregoing adoption and dedication to be their act.

Witness my hand and notarial seal this _____day of _____, 20_____. My commission expires the _____day of _____, 20_____.

(Seal) _____ Notary Public

CERTIFICATION OF TITLE AND NO MORTGAGE

We hereby certify that the title to the property contained in the Smith Henney Lot Line Adjustment Plan is in the name of Matthew Bernard and Christine Anne Henney and is recorded in deed book volume 18331, page 331. We further certify that there is no mortgage, lien, or other encumbrance against this property.

_____	_____	_____
Witness (Signature)	Matthew Bernard (Owner)	Christine Anne Henney (Owner)

DEED REQUIRED NOTIFICATION CLAUSE

We, the undersigned, hereby certify that we understand the following:

1. That recording a plan does not transfer title of property between landowners.

2. That a deed must be recorded in order to transfer the title of property from one landowner to another landowner.

3. That the plan and deed must be recorded in the same year in order for the revaluation of the property to be completed and tax bills to be adjusted accordingly by the following year.

_____	_____	_____
Witness	Alexander Anthony Smith	Kaley Marie Moyer
_____	_____	_____
Witness	Matthew Bernard	Christine Anne Henney

MUNICIPAL ENGINEER'S CERTIFICATION

I certify that this plan meets all engineering and design requirements of the applicable ordinances of the Township of South Fayette, except as departures have been authorized by the appropriate officials of the municipality.

_____ _____
Date Name

_____
(Seal) Registration number

MUNICIPAL DECLARATIONS

No Acceptance of Dedication

The Board of Commissioners, of the Township of South Fayette gives notice that, in approving this plan for recording, the Township of South Fayette assumes no obligation to accept the dedication of any streets, land or public facilities and has no obligation to improve or maintain such streets, land or facilities.

_____ _____
Secretary President of the Board of Commissioners

No Building Permits Without Approved Sewage Facilities

The Township of South Fayette agrees not to issue building permits until the "Planning Module for Land Development" has been approved in accordance with the regulations of the Pennsylvania Department of Environmental Protection.

_____ _____
Date President of the Board of Commissioners

As of the date of this plan's approval by the approving authority, no development of any land contained in this subdivision or land development for any purpose requiring sanitary sewage facilities is planned. No portion of this property has been approved by the municipality or the Department of Environmental Protection for the installation of sewage disposal facilities. No sewage permit will be issued for the installation, construction, connection to or use of any sewage collection, conveyance, treatment or disposal system unless the municipality and the DEP have both approved sewage facilities planning for the property included in this plan in accordance with the Pennsylvania Sewage Facilities Act (35 P.S. § 750.1 et seq.) and regulations promulgated thereunder. Prior to the transfer of any lot or property included in this plan, any purchaser should contact appropriate officials of the municipality, which is charged with administering the Sewage Facilities Act, to determine what sewage facilities planning is required and the procedure and requirements for obtaining appropriate permits or approvals.

Reviewed by the Planning Commission of the Township of South Fayette, this _____day of _____, 20_____

_____ _____
Secretary Chairperson

Approved by the Board of Commissioners of the Township of South Fayette, by resolution, this _____day of _____, 20_____

_____ _____
Secretary Chairperson/President

(Seal)

TOWNSHIP OF COLLIER DELIVERY

This plat was delivered to Alexander Anthony Smith and Kaley Marie Moyer by the Township of Collier this _____ day of _____, 20_____.

_____
Planning Director

This plat was delivered to Matthew Bernard and Christine Anne Henney by the Township of Collier this _____ day of _____, 20_____.

_____
Planning Director

TOWNSHIP OF SOUTH FAYETTE DELIVERY

This plat was delivered to Alexander Anthony Smith and Kaley Marie Moyer by the Township of South Fayette this _____ day of _____, 20_____.

_____
Planning Director

This plat was delivered to Matthew Bernard and Christine Anne Henney by the Township of South Fayette this _____ day of _____, 20_____.

_____
Planning Director

LEGEND:

- IRON PIN–PIPE
- MAIL BOX
- SANITARY CLEAN OUT
- SANITARY MANHOLE
- CONIFEROUS TREE
- DECIDUOUS TREES
- WATER METER
- WATER VALVE
- STREAM
- TRAIL
- PROPERTY ADJOINER
- SUBJECT PROPERTY
- PROPERTY EASEMENT
- ROAD LEGAL R/W
- MUNICIPAL BOUNDARY
- OVERHEAD LINES (OH)

Line Table

Line #	Direction	Length
L1	N76° 01' 11"E	33.03
L2	S11° 25' 57"E	242.77
L3	S37° 33' 29"W	835.45
L4	N70° 33' 49"W	468.57
L5	N00° 17' 49"W	392.52
L6	S85° 35' 49"E	537.90
L7	N33° 35' 49"W	409.95
L8	N76° 01' 11"E	25.17
L9	N76° 01' 11"E	167.16
L10	S11° 25' 57"E	227.48
L11	S75° 11' 03"W	170.00
L12	N11° 25' 57"W	225.00
L13	S75° 11' 03"W	105.18
L14	N11° 25' 57"W	186.26
L15	N78° 34' 03"E	62.00
L16	S11° 25' 57"E	60.00

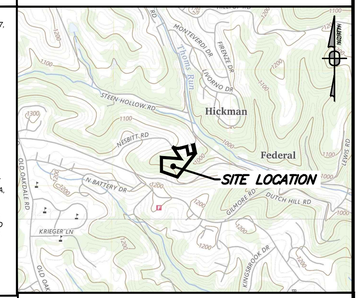
Curve Table

Curve #	Length	Radius	Chord Bearing	Chord Distance
C1	223.95	250.00	S78° 19' 03"E	216.54

GENERAL NOTES:

1. *THE PURPOSE OF THIS PLAN IS TO ADJUST LOT LINES BETWEEN LOT 1 (PARCEL 328-G-13 AND LOT 2 (PARCEL 328-G-30) IN THE D & D SMITH PLAN OF LOTS P.B.V. 307, PG. 18 AS RECORDED IN PLAN BOOK 307, PAGE 18 .*
2. *THIS PLAN WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT.*
3. *MUNICIPAL BOUNDARY LINE SHOWN HEREON PER PennDOT - PENNSYLVANIA COUNTY BOUNDARIES GIS DATA AND WAS NOT SURVEYED AND SHOULD BE CONSIDERED APPROXIMATE.*
4. *BEARINGS (OR MERIDIAN) SHOWN HEREON ARE BASED ON THE PENNSYLVANIA STATE PLANE COORDINATE SYSTEM, (SOUTH) ZONE, NAD83.*
5. *REFERENCE:*
   -THE D & D SMITH PLAN OF LOTS AS RECORDED IN P.B.V. 307, PG. 18.
   -MONDINE PLAN OF LOTS AS RECORDED IN P.B.V. 258, PG. 94.
   -ETHEL HORMEL PROPERTY AS RECORDED IN P.B.V. 88, PGS. 34 & 35.
6. *THE UNDERGROUND UTILITIES SHOWN ON THIS SURVEY HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM AVAILABLE INFORMATION. ALL UTILITIES SHOULD BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY/ALL CONSTRUCTION PROJECTS.*
7. *BY GRAPHIC PLOTTING ONLY, THE SUBJECT PREMISES LIES WITHIN FLOOD ZONE X-OTHER AREAS, AS SHOWN ON FEMA FIRM MAP COMMUNITY PANEL NO. 42003C0319H, BEARING AN EFFECTIVE DATE OF 09/26/2014. ZONE X-OTHER DENOTES AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.*

Site Location Map: USGS Oakdale, PA — Scale: 1"=2000'



AREA TABULATION:

EXISTING TAX PARCELS:

LOT 1 (328-G-13)	9.168 ACRES - (399,375 SQ. FT.)
LOT 2 (328-G-30)	0.550 ACRES - (23,966 SQ. FT.)
TOTAL	9.718 ACRES - (423,341 SQ. FT.)

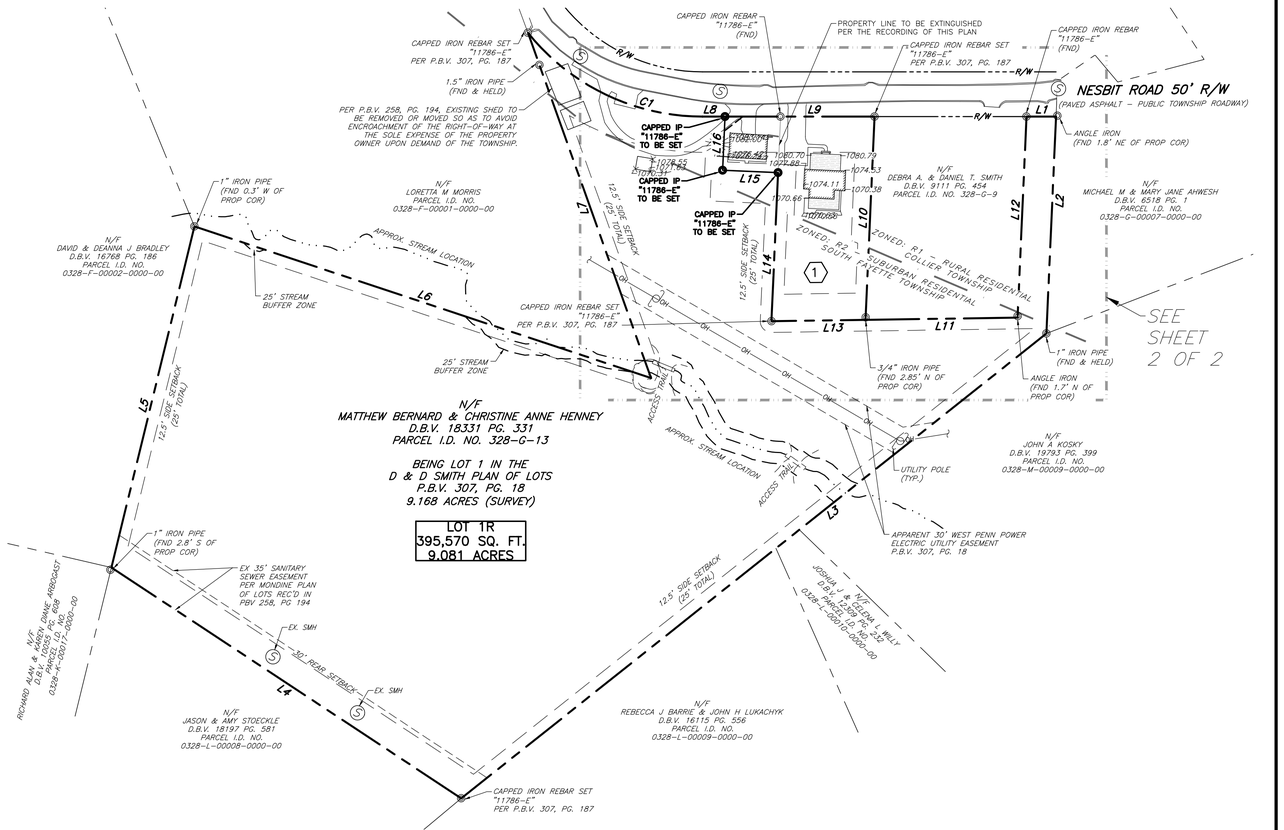
PROPOSED PARCELS:

LOT 1R (328-G-13)	9.081 ACRES - (395,570 SQ.FT.)
LOT 2R (328-G-30)	0.637 ACRES - (27,771 SQ. FT.)
TOTAL	9.718 ACRES - (423,341 SQ. FT.)

(1) LANDS OF ALEXANDER ANTHONY SMITH & KALEY MARIE MOYER D.B.V. 19791 PG. 243 PARCEL I.D. NO. 328–G–30

BEING LOT 2 IN THE D & D SMITH PLAN OF LOTS P.B.V. 307, PG. 18 0.550 ACRES (SURVEY)

LOT 2R 27,771 SQ. FT. 0.637 ACRES



811 Know what's below. Call before you dig.

POCS SER. #:

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NORTH

Horizontal Scale
0 80' 160'
(Feet)
1 inch = 80 ft.

Date:	Revision Description:	By:
--	--	--

Professional Seal

Prepared By:

Sheffler & Company, Inc.
ENGINEERING • SURVEYING
1712 Mount Nebo Road
Sewickley, PA 15143
Office Phone: 412-219-4509
Email: Info@ShefflerCo.com

Smith Henney Lot Line Adjustment Plan
244 Nesbit Road

Prepared For:
Alex Smith

Situate In:
Collier Township & South Fayette Township, Allegheny County, Commonwealth of Pennsylvania

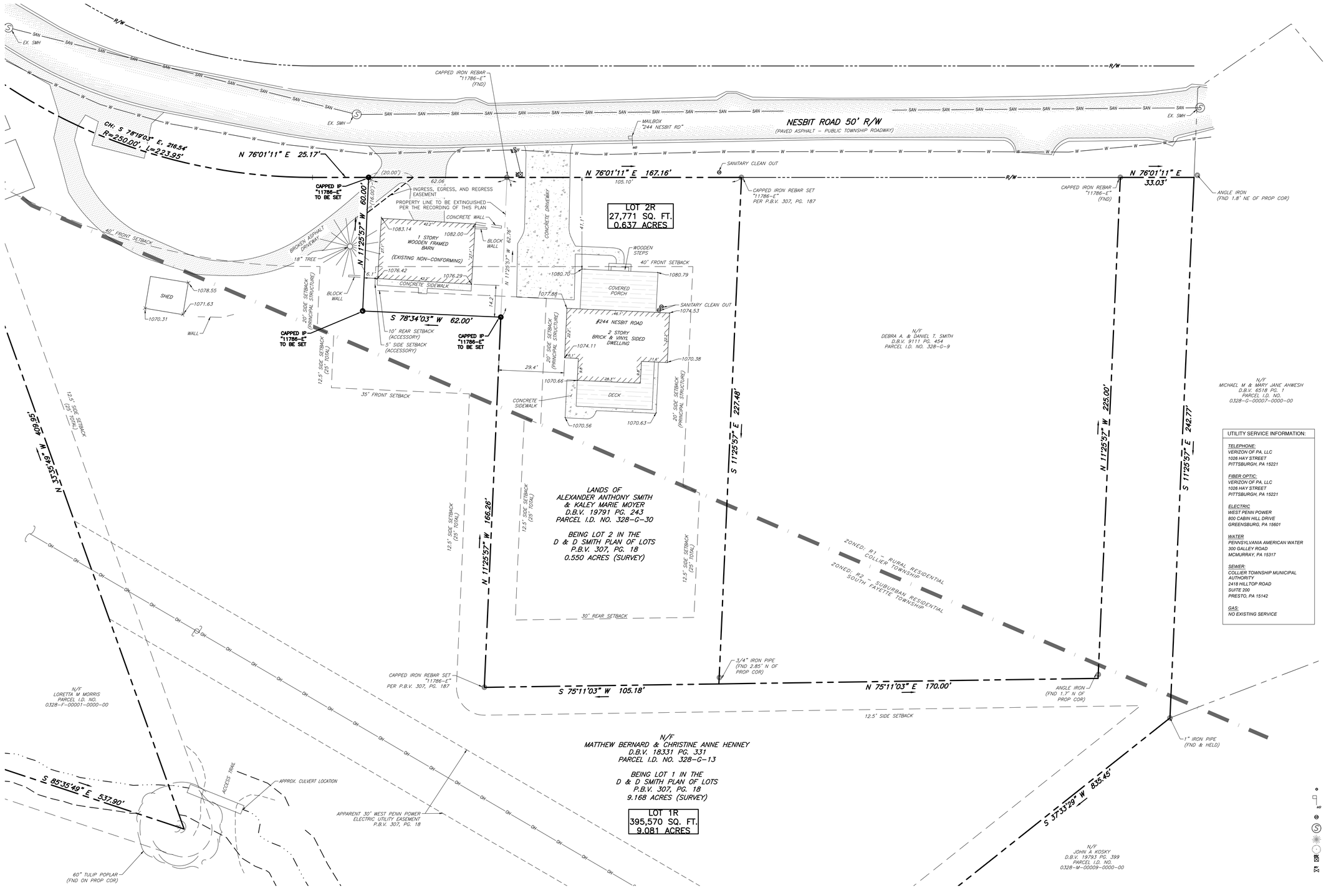
Being a Lot line Adjustment Plan of Lots 1 and 2 In The D & D Smith Plan of Lots P.B.V. 307, PG. 18

DRAWING SCALE:	1" = 80'	DRAWN BY:	JDS
DATE ISSUED:	January 26, 2026	REVIEWED BY:	GAS
PROJECT JOB#:	5642	FIELD BOOK #:	5642
CADD#:	5642 - 244 NESBIT RD - LOT LINE ADJUSTMENT PLAN.DWG		

Alex Smith
244 Nesbit Road
Oakdale, PA 15071
Phone: (412) 992-6274
Email: aasmith5645@gmail.com

Sheet No. 1 of 2

J:\SHEFFLER PROJECT FILES\JOBS 5600-5699\5642 - 244 NESBIT ROAD\DRAWINGS\SURVEY\5642 - 244 NESBIT RD - LOT LINE ADJUSTMENT PLAN.DWG
PLOT DATE: 1/26/2026 11:37:34 AM



ZONING INFORMATION SUMMARY:

THE SUBJECT PREMISES LIES WITHIN THE R-1 ZONING DISTRICT

ZONING DISTRICT:	R-1: RURAL RESIDENTIAL DISTRICT
MIN. LOT AREA:	(1) WITHOUT PUBLIC SEWERS: ONE ACRE. (2) WITH PUBLIC SEWERS: 20,000 SQUARE FEET.
MIN. LOT WIDTH:	(1) WITH PUBLIC SEWERS: 20,000 SQUARE FEET. (2) WITH PUBLIC SEWERS: 125 FEET.
MIN. FRONT YARD:	A. PRINCIPAL AND ACCESSORY STRUCTURES: (1) SINGLE-FAMILY DWELLING: 40 FEET.
MIN. SIDE YARD:	A. PRINCIPAL STRUCTURES: (1) SINGLE-FAMILY DWELLING: 20 FEET
MIN. REAR YARD:	A. PRINCIPAL AND ACCESSORY STRUCTURES: (1) SINGLE-FAMILY DWELLING: 35 FEET. B. ACCESSORY STRUCTURES: SEE § 27-2104.3 FOR SETBACKS APPLICABLE TO THE PARTICULAR USES SPECIFIED THEREIN.
§ 27-2104.3	F. RESIDENTIAL ACCESSORY STORAGE STRUCTURES AND DETACHED GARAGES. (1) NO DETACHED GARAGE OR STORAGE STRUCTURE ACCESSORY TO A DWELLING SHALL BE LOCATED IN THE MINIMUM REQUIRED FRONT YARD.
MAX. BUILDING HEIGHT:	A. ALL PRINCIPAL STRUCTURES: 2 1/2 STORIES BUT NO MORE THAN 35 FEET. B. ALL ACCESSORY STRUCTURES: ONE STORY BUT NO MORE THAN 20 FEET.
MIN. LOT FRONTAGE:	50 FEET.
IMPERVIOUS SURFACE COVERAGE:	SINGLE-FAMILY DWELLING: 35%.

(SINGLE-FAMILY DWELLING DIMENSIONS SHOWN)

ZONING INFORMATION WAS OBTAINED FROM:

COLLIER TOWNSHIP
ZONING ORDINANCE INFO (05-27-2025): https://ecode360.com/31130862#31130862
ZONING MAP: AUGUST 12, 2015

THE SUBJECT PREMISES ALSO LIES WITHIN THE R-2 ZONING DISTRICT

ZONING DISTRICT:	R-2: SUBURBAN RESIDENTIAL DISTRICT
MIN. LOT AREA:	SINGLE-FAMILY DWELLING (a) WITHOUT PUBLIC SEWERS: 43,560 SQ. FT. (b) WITH PUBLIC SEWERS: 20,000 SQ. FT.
MIN. LOT WIDTH:	SINGLE-FAMILY DWELLING (a) WITHOUT PUBLIC SEWERS: 150 FEET (b) WITH PUBLIC SEWERS: 95 FEET
MAX. LOT COVERAGE:	25%
MIN. FRONT YARD:	35 FEET
MIN. SIDE YARD:	(1) SINGLE-FAMILY DWELLINGS. (a) WITHOUT PUBLIC SEWERS: 35 FEET TOTAL; MINIMUM 15 FEET ONE SIDE. (b) WITH PUBLIC SEWERS: 25 FEET TOTAL; MINIMUM 10 FEET ONE SIDE. (2) ALL OTHER PRINCIPAL STRUCTURES: 30 FEET. (3) ACCESSORY STRUCTURES: SEE § 240-99C.
MIN. REAR YARD:	(1) PRINCIPAL STRUCTURES: 30 FEET (2) ACCESSORY STRUCTURES: SEE § 240-99C.
MAX. BUILDING HEIGHT:	(1) ALL PRINCIPAL STRUCTURES: 2 1/2 STORIES BUT NO MORE THAN 35 FEET. (2) ALL ACCESSORY STRUCTURES: ONE STORY BUT NO MORE THAN 20 FEET.
MAX. LOT COVERAGE:	25%

(SINGLE-FAMILY DWELLING DIMENSIONS SHOWN)

ZONING INFORMATION WAS OBTAINED FROM:

SOUTH FAYETTE TOWNSHIP
ZONING ORDINANCE INFO (02-12-2025): https://ecode360.com/11615744#11615744
ZONING MAP: AUGUST 14, 2024

NOTE: ZONING INFORMATION SHOWN SHOULD BE VERIFIED WITH MUNICIPALITIES PRIOR TO CONSTRUCTION.

UTILITY SERVICE INFORMATION:

TELEPHONE:
VERIZON OF PA, LLC
1026 HAY STREET
PITTSBURGH, PA 15221

FIBER OPTIC:
VERIZON OF PA, LLC
1026 HAY STREET
PITTSBURGH, PA 15221

ELECTRIC
WEST PENN POWER
800 CABIN HILL DRIVE
GREENSBURG, PA 15601

WATER
PENNSYLVANIA AMERICAN WATER
300 GALLEY ROAD
MCMURRAY, PA 15317

SEWER:
COLLIER TOWNSHIP MUNICIPAL AUTHORITY
2418 HILLTOP ROAD
SUITE 200
PRESTO, PA 15142

GAS:
NO EXISTING SERVICE

AREA TABULATION:

EXISTING TAX PARCELS:

LOT 1 (328-G-13)	9.168 ACRES - (399,375 SQ. FT.)
LOT 2 (328-G-30)	0.550 ACRES - (23,966 SQ. FT.)
TOTAL	9.718 ACRES - (423,341 SQ. FT.)

PROPOSED PARCELS:

LOT 1R (328-G-13)	9.081 ACRES - (395,570 SQ. FT.)
LOT 2R (328-G-30)	0.637 ACRES - (27,771 SQ. FT.)
TOTAL	9.718 ACRES - (423,341 SQ. FT.)

LEGEND:

IRON PIN-PIPE
MAIL BOX
SANITARY CLEAN OUT
SANITARY MANHOLE
CONIFEROUS TREE
DECIDUOUS TREES
WATER METER
WATER VALVE
STREAM
TRAIL
PROPERTY ADJOINER
SUBJECT PROPERTY
PROPERTY EASEMENT
ROAD LEGAL R/W
MUNICIPAL BOUNDARY
OVERHEAD LINES

811 Know what's below. Call before you dig.

POCS SER. #:

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NORTH

Horizontal Scale
0 20' 40'
(Feet)
1 inch = 20 ft.

Date:	Revision Description:	By:
--	--	--

Professional Seal: COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — GARY A. SHEFFLER — SURVEYOR No.11786-E

Prepared By:

Sheffler & Company, Inc.
ENGINEERING • SURVEYING

1712 Mount Nebo Road
Sewickley, PA 15143

Office Phone: 412-219-4509
Email: Info@ShefflerCo.com

Smith Henney Lot Line Adjustment Plan
244 Nesbit Road

Prepared For:
Alex Smith

Situate In:
Collier Township & South Fayette Township, Allegheny County, Commonwealth of Pennsylvania

Being a Lot line Adjustment Plan of Lots 1 and 2
In The D & D Smith Plan of Lots
P.B.V. 307, PG. 18

DRAWING SCALE:	1" = 20'	DRAWN BY:	JDS
DATE ISSUED:	January 26, 2026	REVIEWED BY:	MWS
PROJECT JOB#:	5642	FIELD BOOK #:	5642
CADD#:	5642 - 244 NESBIT RD - LOT LINE ADJUSTMENT PLAN.DWG		

Alex Smith
244 Nesbit Road
Oakdale, PA 15071
Phone: (412) 992-6274
Email: aasmith5645@gmail.com

Sheet No.
2 of 2

J:\SHEFFLER PROJECT FILES\JOBS 5600-5699\5642 - 244 NESBIT ROAD\DRAWINGS\SURVEY\5642 - 244 NESBIT RD - LOT LINE ADJUSTMENT PLAN.DWG
PLOT DATE: 1/26/2026 12:46:24 PM

COUNTY OF ALLEGHENY
SARA INNAMORATO
COUNTY EXECUTIVE

February 19, 2026

Robert Caun, Planning Director
Collier Township
2418 Hilltop Road, Suite 100
Presto, PA 15142

Gary Hartz, Planning Director
South Fayette Township
515 Millers Run Road
South Fayette, PA 15064

Project: **Smith Henney Lot Line**
Location: 244 Nesbit Road
Description: Plat Adjustment (R-1 & R-2 District)
Area: 9.718 acres
ACED File#: 26-029 SU

Dear Mr. Caun and Mr. Hartz,

We received the above-referenced application on February 5, 2026 for the lot line adjustment of parcels 328-G-13 and 328-G-30 in Collier Township and South Fayette Township. We have reviewed the application and offer the following comments:

- The seal stamp spaces for Collier Township are missing, only a space for their engineer is provided. This must be corrected, we recommend separating the spaces for Collier from the ones for South Fayette to prevent any confusion and missing stamps when recording.
- Matthew Bernard's last name is missing from his signature line; this should be corrected.
- All stamps and signatures need to be live when recording the plan, currently the surveyor's stamp and signature are printed. This should be corrected.

LAUREN CONNELLY, DIRECTOR
ALLEGHENY COUNTY ECONOMIC DEVELOPMENT
KOPPERS BUILDING • 436 SEVENTH AVE, SUITE 500• PITTSBURGH, PA 15219
PHONE (412) 350-1000 • WWW.ALLEGHENYCOUNTY.US/ECONOMIC/

Should you have any questions, please contact Natalia Cains Febles at 412-350-4356 or by e-mail at Natalia.CainsFebles@AlleghenyCounty.US.

Sincerely,



Matthew T. Trepal, AICP
Manager, Planning Division

MTT:NCF

SOUTH FAYETTE TOWNSHIP
A Community Growing Together

Review Referral

www.southfayettepa.com

Plan Name: **Smith Henney Lot Line Adjustment Plan**	Plan File Number: **S-02-2026**
Location: **328-G-13 & 328-G-30**	Application Type: **Minor Subdivision**
Zoning**: R-2**	Applicant: **J. Todd Hendwood, PLS**

The Township of South Fayette requests your review and comment on the above referenced minor subdivision.

	Code Enf.	Public Works	Works Police	Fire Dept.	EAC	SFSD	MATSF	ACED		Engr Cons.	Trfc Engr.
Reports: Environmental											
Geotechnical											
Traffic											
Plans:											
Other:											

Please forward your comments to South Fayette Township, 515 Millers Run Road, Morgan PA, 15064 or by calling (412) 221-8700.

_____ 02/3/2026__
Gary Hartz, Planning Director — Date

Agency Comments: MATSF

No Comments.

Nick Goettman — 2-5-2026
Agency Signature — Date

ALLEGHENY COUNTY
ALWAYS INSPIRING

SUBDIVISION AND LAND DEVELOPMENT PLAN APPLICATION

Applications may be submitted M-F, 8:30 AM - 4:00 PM to:

ACED Planning Division, Koppers Building, 436 Seventh Avenue, Suite 500, Pittsburgh, PA 15219

For questions, help, or additional information please email ACEDPlanning@alleghenycounty.us

Part 1: General Information

Property Owner: ALEXANDER ANTHONY SMITH & KALEY MARIE MOYER and MATHEW BERNARD & CHRISTINE ANNE HENNEY

Contact Name: ALEXANDER ANTHONY SMITH **Phone:** 412 992-6274
Email Address: aasmith5645@gmail.com
Mailing Address: 244 Nesbit Road
Oakdale, PA 15071

Name of Applicant: Sheffler & Company Inc.

Contact Name: J. Todd Hendwood, PLS **Phone:** 412-219-4509
Email Address: thenwood@shefflerco.com
Mailing Address: 1712 Mount Nebo Road
Sewickley, PA 15143

Plan Preparer: Sheffler & Company Inc.

Contact Name: J. Todd Hendwood, PLS Phone: 412-219-4509
Email Address: thenwood@shefflerco.com
Mailing Address: 1712 Mount Nebo Road
Sewickley, PA 15143

Review Type: ☑ **Advisory Review** ☐ **County Approval**
NOTE: Advisory reviews must be submitted by the municipality and County approvals must be submitted by the applicant

Application Status: ☑ **Preliminary Plan** ☑ **Final Plan**

Application Type:
- ☑ Plat Adjustment/Lot Consolidation (no new lots created)
- ☐ Minor Subdivision (1-3 new lots created)
- ☐ Major Subdivision (4 or more new lots created, or new street created)
- ☐ Minor Land Development
- ☐ Major Land Development

Fee enclosed: $ 0 (make checks payable to: *Allegheny County Economic Development*)

There is no fee required for County advisory reviews

Part 2: Location Information

Project Name: Smith Henney Lot Line Adjustment Plan

Municipality: Collier Township and South Fayette Township

Project Address/Location: 244 Nesbit Road
Oakdale, PA 15071

Tax Map Parcel(s) #:

328-G-13 | 328-G-30 | _____

_____ | _____ | _____

Attach additional sheet if necessary

Part 3: Zoning Information

Existing Zoning: R-1 (Collier) & R-2 (South Fayette)

Variances Requested: ☐ Yes ☑ No (if Yes, attach description of all variances requested or copy of approved variance)

Conditional Use: ☐ Yes ☑ No (if Yes, attach description of all conditions requested or copy of approved conditions)

Special Exception: ☐ Yes ☑ No (if Yes, attach description of all special exceptions requested or copy of approved special exception)

Part 4: Project Information

Total Plan Area: 9.718 (acres) 423,341 (square feet)

Total Acreage to be Developed: 0 **Total Impervious Area (Sq. Ft.):** 8,984

Lots: Initial - 2 Proposed - 2

Phasing:

Is the development proposed to be constructed in phases? ☐ Yes ☑ No

If Yes, attach a phasing plan and a schedule of the projected dates for the final application of each phase.

Proposed Utilities:

	Public	Onsite	
Potable Water:	☑	☐	If public, provider: PENNSYLVANIA AMERICAN WATER
Sanitary Sewer:	☑	☐	If public, provider: COLLIER TOWNSHIP MUNICIPAL AUTHORITY

If potable water and/or sanitary sewer services will be publicly provided, attach a statement from the provider indicating it has capacity to serve the proposed development. Existing utilities, no new utility connections.

Street Information:

Ownership (check all that apply)**:**

- ☐ State
- ☐ County
- ☑ Local
- ☐ Private

Lineal feet of new streets: 0

Part 5: Notification to Others

As applicable, the following agencies have been notified about the proposed subdivision or site development:

- ☐ County Health Department
  Date: _____
- ☐ County Public Works
  Date: _____
- ☐ County Conservation District
  Date: _____
- ☐ PennDOT
  Date: _____
- ☐ PA DEP
  Date: _____
- ☐ Other: _____
  Date: _____

Part 6: Allegheny County SALDO Compliance

For subdivisions and land developments in municipalities subject to the Allegheny County Subdivision and Land Development Ordinance:

- ❖ All applications must include the applicable information required by **Article IV Application Information** (§780-402 Preliminary Plan Submittal Requirements; §780-403 Final Plan Submittal Requirements)
- ❖ All proposed subdivisions land developments must comply with the applicable standards and requirements of **Article V Design Standards.**

Waiver requested:	☐ Yes	☑ No	If yes, completed application attached:	☐ Yes	☐ No
Modification requested:	☐ Yes	☑ No	If yes, completed application attached:	☐ Yes	☐ No

Part 7: Applicant Declaration

The applicant declares the following (check only one):

- ☐ I am the owner of the property in question.
- ☑ I am the authorized agent for the owner of record to the property for which the application is made.
- ☐ I am a beneficial land owner as defined by the Pennsylvania Municipalities Planning Code. If this box is checked, a copy of the agreement recorded with the Allegheny County Department of Real Estate authorizing the applicant to subdivide or develop the property must be provided.

I/We hereby submit the enclosed land development application to the Allegheny County Department of Economic Development for review and consideration in accordance with the PA Municipalities Planning Code (Act 247 of 1968, as amended) and Art. III §780-303 of the Allegheny County Subdivision and Land Development Ordinance:

J. Todd Hummel

Signature of Applicant

02/02/2026

Date

APPLICATION SUBMISSION CHECKLIST

All plans shall be prepared according to the requirements of the municipal subdivision and land development ordinance or the Allegheny County Subdivision and Land Development Ordinance, as applicable.

Subdivision and land development plan applications shall be accompanied by the following documents, as applicable:

SUBDIVISION APPLICATIONS	LAND DEVELOPMENT PLAN APPLICATIONS
Plat, prepared according to municipal ordinance or §780-402 and §780-403, as applicable	Site Plan, prepared according to municipal ordinance or §780-402 and §780-403, as applicable
Project Narrative	Project Narrative
Traffic Impact Study[1,5]	Traffic Impact Study[1]
Traffic and Circulation Plan[1,5]	Traffic and Circulation Plan
Geotechnical Report[1,5]	Geotechnical Report[1]
Subsidence Risk Assessment[1,5]	Subsidence Risk Assessment[1]
Soil Contamination Assessment[1,5]	Soil Contamination Assessment[1]
Utilities Plan[1,5]	Utilities Plan
Sewage Facilities Planning Module[1,5]	Sewage Facilities Planning Module[1]
Existing Covenants, Easements, or Other Restrictions[1,5]	Existing Covenants, Easements, or Other Restrictions[1]
Phasing Schedule[5]	Phasing Schedule
Grading Plan[1,2,5]	Landscape Plan
Stormwater Management Plan[1,3,5]	Grading Plan[1,2]
Evidence of Notification of Public Service Providers[5]	Stormwater Management Plan[1,3]
Construction Plans for Public and Private Improvements[1,4,5]	Evidence of Notification of Public Service Providers
Other Required Permits[1,4,5]	Construction Plans for Public and Private Improvements[1,4]
	Other Required Permits[1,4]
[1] Required for County approval plans only	
[2] Required only if municipality does not have an adopted grading ordinance	
[3] Required only if municipality does not have an adopted stormwater management ordinance	
[4]Required for Final Plans only	
[5]Required for Major Subdivisions only	

Doc-23917

Allegheny County
Jessica Garofolo
Division of Real Estate
Pittsburgh, PA 15219

*** Electronically Filed Document ***

****DO NOT REMOVE-THIS PAGE IS PART OF THE RECORDED DOCUMENT****

Department of Real Estate Stamp

NOTE-

0328G00030000000

Document Number: 2024-23917
Recorded As: ERX-DEED
Recorded On: September 05, 2024
Recorded At: 11:31:40 am
Number of Pages: 4
Book-Vl/Pg: Bk-DE Vl-19791 Pg-243
Recording Fee: $181.75
Parties:
SMITH DANIEL T
SMITH ALEXANDER ANTHONY
Receipt Number: 4393960
Processed By: Linda Sulecki

Realty Transfer Stamp

Consideration Amt: $0.00
Tax Code : COLLIER TP
Tax Amount: $0.00
Ward :
99-NO WARD
Stamp Num: T20075
Blk/Lot: 0328G00030000000
Affidavit: No
Exempt: Yes

Commonwealth of Pennsylvania	$0
Munic-Collier Twp	$0
School District-Chartiers Valley	$0
Munic-Penalty	$0
Munic-Interest	$0
School-Penalty	$0
School-Interest	$0

I hereby certify that the within and foregoing was recorded in the Division of Real Estate's Office in Allegheny County, PA

****DO NOT REMOVE-THIS PAGE IS PART OF THE RECORDED DOCUMENT****

Jessica Garofolo

Jessica Garofolo, Director
Sara Innamorato, County Executive

Doc-23917

598057

DRE Certified
05-Sep-2024 10:09A\Int By: T G

Prepared by/Mail to:
Experienced Closing Services, LLC
564 Washington Avenue
Carnegie, PA 15106
412-722-1460

CPN: **328-G-30**

[Space above this line for recording]

General Warranty Deed

This Indenture, *made the* 23 *day of* August **2024, Between**

Daniel T Smith and Debra A Smith, Husband and Wife
grantor(s),

and

Alexander Anthony Smith and Kaley Marie Moyer, Husband and Wife
grantee(s)

Witnesseth, that said GRANTOR(S) for and in consideration of the sum of **$1.00** (One and 00/100 Dollars) paid to the GRANTOR(S) by the GRANTEE(S) do grant, bargain, sell and convey unto the said GRANTEE(S), his/her/their heirs and assigns,

ALL THAT CERTAIN lot or tract of land situate in the Township of Collier and partly in the Township of South Fayette, County of Allegheny and Commonwealth of Pennsylvania, being known as Lot No. 2, as shown on a certain plan entitled D and D Smith Plan of Lots, as recorded in the Department of Real Estate Office of Allegheny County, Pennsylvania in Plan Book Volume 307, Page 187.

BEING designated as BLOCK AND LOT 328-G-30

BEING the same premises which Joseph M. Bishop and Lisa A. Bishop, husband and wife, by Deed dated 08/23/2023 and recorded 08/30/2023 in the Department of Real Estate Office of Allegheny County in Deed Book Volume 19413, Page 335, granted and conveyed unto Daniel T. Smith and Debra A. Smith, husband and wife.

THIS property is being transferred from parents to child, therefore is exempt from transfer taxes.

SUBJECT to building lines, rights of way, easements, mining and mineral rights, restrictions, reservations and exceptions as set forth on the recorded plan and as may appear in prior instruments of record.

with the appurtenances: **To Have and To Hold** *the same to and for the use of the said GRANTEE(S) his/her/their heirs and assigns forever. And the GRANTOR(S) for his/her/their heirs*

and assigns hereby covenant and agree that he/she/they will **WARRANTS GENERALLY** *the property hereby conveyed.*

NOTICE—THIS DOCUMENT MAY NOT/DOES NOT SELL, CONVEY, TRANSFER, INCLUDE OR INSURE THE TITLE TO THE COAL AND RIGHT OF SUPPORT UNDERNEATH THE SURFACE LAND DESCRIBED OR REFERRED TO HEREIN, AND THE OWNER OR OWNERS OF SUCH COAL MAY HAVE/HAVE THE COMPLETE LEGAL RIGHT TO REMOVE ALL OF SUCH COAL AND, IN THAT CONNECTION, DAMAGE MAY RESULT TO THE SURFACE OF THE LAND AND ANY HOUSE, BUILDING OR OTHER STRUCTURE ON OR IN SUCH LAND. THE INCLUSION OF THIS NOTICE DOES NOT ENLARGE, RESTRICT OR MODIFY ANY LEGAL RIGHTS OR ESTATES OTHERWISE CREATED, TRANSFERRED, EXCEPTED OR RESERVED BY THIS INSTRUMENT.

This notice is set forth in the manner provided in Section 1 of the Act of July 17, 1957, P.L. 984, as amended, and is not intended as notice of unrecorded instruments, if any]

In Witness Whereof, *the said GRANTOR(S) have hereunto set hands and seals the day and year first above written.*

_____ (Seal)
Daniel T Smith

_____ (Seal)
Debra A Smith

COMMONWEALTH OF PENNSYLVANIA }
}
COUNTY OF Allegheny }

On this 23 day of April **2024** before me, a Notary Public, the undersigned officer, personally appeared, **Daniel T Smith and Debra A Smith,** known to me (or satisfactorily proven) to be the person(s) whose name(s) is/are subscribed to the within, instrument, and acknowledged that they, executed the same for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal,

Commonwealth of Pennsylvania - Notary Seal
SHANNON MARIE YANKO - Notary Public
Allegheny County
My Commission Expires October 23, 2024
Commission Number 1383605

_____
Printed Name: Shannon Marie Yanko
Notary Public
My Commission Expires: October 23 2024

NOTICE—THE UNDERSIGNED, AS EVIDENCED BY THE SIGNATURE(S) TO THIS NOTICE AND THE ACCEPTANCE AND RECORDING OF THIS DEED, (IS, ARE) FULLY COGNIZANT OF THE FACT THAT THE UNDERSIGNED MAY NOT BE OBTAINING THE RIGHT OF PROTECTION AGAINST SUBSIDENCE, AS TO THE PROPERTY HEREIN CONVEYED, RESULTING FROM COAL MINING OPERATIONS AND THAT THE PURCHASED PROPERTY, HEREIN CONVEYED, MAY BE PROTECTED FROM DAMAGE DUE TO MINE SUBSIDENCE BY A PRIVATE CONTRACT WITH THE OWNERS OF THE ECONOMIC INTEREST IN THE COAL. THIS NOTICE IS INSERTED HEREIN TO COMPLY WITH THE BITUMINOUS MINE SUBSIDENCE AND LAND CONSERVATION ACT OF 1966

_____ (Seal)
Alexander Anthony Smith

_____ (Seal)
Kaley Marie Moyer

Certificate of Residence

I, hereby certify that the precise residence of the GRANTEE(S) herein is as follows:

Alexander Anthony Smith and Kaley Marie Moyer
244 Nesbit Road
Oakdale, PA 15071

Witness my hand this 23 day August 2024.

Mail Tax Bills to:

Alexander Anthony Smith and Kaley Marie Moyer
do 244 Nesbit Road
Oakdale PA 15071

60 2021 00004618

Allegheny County
Jerry Tyskiewicz
Department of Real Estate
Pittsburgh, PA 15219

Instrument Number: 2021-4618 **BK-DE VL-18331 PG-331**

Recorded On: February 10, 2021 **As-Deed**

Parties: SMITH DANIEL T

To HENNEY MATTHEW BERNARD **# of Pages:** 5

Comment:

********** **THIS IS NOT A BILL** **********

Deed	181.75
	0
	0
Total:	181.75

Realty Transfer Stamp

Affidavit Attached-No Stamp Num-T138139
COLLIER TP
Ward-99-NO WARD

Value 100,000.00

Commonwealth of Pennsylvania	1,000.00
Munic-Collier Twp	500.00
School District-Chartiers Valley	500.00
Munic-Penalty	0.00
Munic-Interest	0.00
School-Penalty	0.00
School-Interest	0.00
	2,000.00

Department of Real Estate Stamp

Certified By-Virginia Zirpoli
On 04 21, 2021 02:19p
0328G00013000000

I hereby certify that the within and foregoing was recorded in the Department of Real Estate in Allegheny County, PA

****DO NOT REMOVE-THIS PAGE IS PART OF THE RECORDED DOCUMENT****

File Information:

Document Number: 2021-4618
Receipt Number: 3883920
Recorded Date/Time: February 10, 2021 01:17:11P
Book-Vol/Pg: BK-DE VL-18331 PG-331
User / Station: M Ward-Davis - CASH 04

Record and Return To:

AVID SETTLEMENT
410 ROUSER RD STE 402
MOON TWP PA 15108

Jerry Tyskiewicz, Director
Rich Fitzgerald, County Executive

MAIL TO AVID SETTLEMENT
410 ROUSER RD. STE 402
MOON TWP. PA 15108

444183 DRE Certified
08-Feb-2021 02:12P\Int By: Al Matthews

4
Jeek

FROM:
Daniel T. Smith and Debra A. Smith, Husband and Wife

TO:
Matthew Bernard Henney and Christine Anne Henney, Husband and Wife
125 Brook Street, Carnegie, PA 15106

----------[Space Above This Line For Recording]----------

Special Warranty Deed

This Indenture, *Made this* 4th *day of* February, 2021, **Between**

Daniel T. Smith and Debra A. Smith, Husband and Wife, **grantors, and**

Matthew Bernard Henney and Christine Anne Henney, Husband and Wife, **grantees.**

Witnesseth *that the said GRANTORS, for and in consideration of* ***the sum of*** **One Hundred Thousand and No/100 ($100,000.00)** *paid to the GRANTORS by the GRANTEES do grant, bargain, sell and convey to the said GRANTEES their heirs and assigns:*

ALL that certain tract or parcel of land lying and being situate in the Township of Collier, County of Allegheny, Commonwealth of Pennsylvania, being Lot No.1 in the D & D Smith Plan of Lots, as recorded in the Recorder of Deeds office of Allegheny County, Pennsylvania in Plan Book Volume 307, page 187.

BEING designated as PART OF Block and Lot No. 0328-G-00013-0000-00.

Being part of the same premises which Ernest Mondine and Dorothy Mondine, husband and wife by Deed dated April 1, 2008 and recorded April 4, 2008 in Allegheny County in Deed Book Volume 13569 Page 212 conveyed unto Debra A. Smith and Daniel T. Smith, wife and husband.

UNDER AND SUBJECT TO COAL AND OIL AND GAS, AND MINING RIGHTS AND ALL RIGHTS AND PRIVILEGES INCIDENT TO THE MINING OF COAL AND OIL AND GAS HERETOFORE CONVEYED, EXCEPTED OR RESERVED BY INSTRUMENTS OF RECORD; THE RIGHT OF SURFACE, LATERAL OR SUBJACENT SUPPORT; ANY SURFACE SUBSIDENCE; AND ALL EASEMENTS, RIGHTS OF WAY AND RESTRICTIONS AS CONTAINED IN PRIOR INSTRUMENTS OF RECORD AND/OR AS INSTALLED OR LOCATED ON THE PREMISES AND ALL OTHER MATTERS OF

RECORD APPEARING PRIOR HERETO.

SUBJECT TO ALL PRIOR GRANTS AND RESERVATIONS OF COAL, OIL, GAS AND MINING RIGHTS, AS MAY APPEAR IN PRIOR INSTRUMENTS OF RECORD.

with the appurtenances: **To Have and To Hold** *the same to and for the use of the said GRANTEES their heirs and assigns forever. And the GRANTORS for their heirs and assigns, hereby covenants and agrees that they will* **WARRANT SPECIALLY** *the property hereby conveyed.*

NOTICE--THIS DOCUMENT MAY NOT/DOES NOT SELL, CONVEY, TRANSFER, INCLUDE OR INSURE THE TITLE TO THE COAL AND RIGHT OF SUPPORT UNDERNEATH THE SURFACE LAND DESCRIBED OR REFERRED TO HEREIN, AND THE OWNER OR OWNERS OF SUCH COAL MAY HAVE/HAVE THE COMPLETE LEGAL RIGHT TO REMOVE ALL OF SUCH COAL AND, IN THAT CONNECTION, DAMAGE MAY RESULT TO THE SURFACE OF THE LAND AND ANY HOUSE, BUILDING OR OTHER STRUCTURE ON OR IN SUCH LAND. THE INCLUSION OF THIS NOTICE DOES NOT ENLARGE, RESTRICT OR MODIFY ANY LEGAL RIGHTS OR ESTATES OTHERWISE CREATED, TRANSFERRED, EXCEPTED OR RESERVED BY THIS INSTRUMENT.

[This notice is set forth in the manner provided in Section 1 of the Act of July 17, 1957, P. L. 984, as amended, and is not intended as notice of unrecorded instruments, if any.]

In Witness Whereof, *the said Grantors have hereunto set hands and seals the day and year first above written.*

Attest:

_____
Witness

Daniel A. Smith
__(Seal)
Daniel T. Smith

_____
Witness

Debra A. Smith
__(Seal)
Debra A. Smith

NOTICE THE UNDERSIGNED, AS EVIDENCED BY THE SIGNATURE(S) TO THIS NOTICE AND THE ACCEPTANCE AND RECORDING OF THIS DEED, (IS, ARE) FULLY COGNIZANT OF THE FACT THAT THE UNDERSIGNED MAY NOT BE OBTAINING THE RIGHT OF PROTECTION AGAINST SUBSIDENCE, AS TO THE PROPERTY HEREIN CONVEYED, RESULTING FROM COAL MINING OPERATIONS AND THAT THE PURCHASED PROPERTY, HEREIN CONVEYED, MAY BE PROTECTED FROM DAMAGE DUE TO MINE SUBSIDENCE BY A PRIVATE CONTRACT WITH THE OWNERS OF THE ECONOMIC INTEREST IN THE COAL. THIS NOTICE IS INSERTED HEREIN TO COMPLY WITH THE *BITUMINOUS MINE SUBSIDENCE AND LAND CONSERVATION ACT OF 1966.*

WITNESS:

_____
Witness

X _____ (Seal)
Matthew Bernard Henney

_____
Witness

X _____ (Seal)
Christine Anne Henney

Commonwealth of Pennsylvania
County of Allegheny

On this, the 4th day of February, 2021, before me, a Notary Public, the undersigned officer, personally appeared **Daniel T. Smith and Debra A. Smith, Husband and Wife** known to me (or satisfactorily proven) to be the person whose names are subscribed to the within instrument, and acknowledged that they executed the same for the purposes therein contained.

IN WITNESS WHEREOF, I have hereunto set my hand and seal.

_____
Printed Name:
Notary Public
My Commission Expires:

Commonwealth of Pennsylvania - Notary Seal
Nicole M. Zabela, Notary Public
Allegheny County
My commission expires December 30, 2022
Commission number 1091940
Member, Pennsylvania Association of Notaries

Certificate of Residence

I do hereby certify that the Tax Bill Address of the within named grantee(s) is

Mr. & Mrs. Matthew Bernard Henney
125 Brook Street
Carnegie, PA 15106

I, hereby certify that the Owner Mailing Address of the within grantee(s) is

Matthew Bernard Henney and Christine Anne Henney
125 Brook Street, Carnegie, PA 15106

Witness my hand this 4th day of February, 2021.

Sharon M Anderson

SOUTH FAYETTE TOWNSHIP
A Community Growing Together

Subdivision-Land Development Application

www.southfayettepa.com

Plan Name:	Hastings Phase 5 Masterplan	File No.	PP-01-2026
Plan Location:	Mayview Road	Tax I.D. #	0480-P-00001-0000-00
Project Description	The Hastings Neighborhood contains 292 constructed townhome units, 166 constructed single-family units, and 130 constructed multi-family units. 14 single family units and 10 townhome units are proposed in the previously submitted phase 5 application.		

Check Appropriate Box(es)

Land Development Plan	X	Subdivision Plan		Conditional Use Plan	

Minor Subdivision		Major Subdivision		Open Space Plan	
Preliminary Plan Submission	X	Final Plan Submission			

Zoning District(s)	ND	Property Acreage	81.33	No. Lots/Units	588

Applicant's Name:	CHARTER HOMES AT HASTINGS, INC.	Phone No.	
Applicant's Address:	322 N. ARCH STREET, LANCASTER, PA 17603	Fax No.	
Applicant's E-Mail:			
Engineer Firm/Name	THE GATEWAY ENGINEERS. INC	Phone No.	
Engineer's Address:	100 MCMORRIS ROAD PITTSBURGH, PA 15205	Fax No.	
Contact Person:		E-Mail Address	

The following items are reviewed as part of the South Fayette Township application process. Applications submitted WITHOUT these elements will NOT be reviewed by the township.

REQUIRED SUBMISSION ITEMS	Copies	✓ Yes	✓ No	✓ N/A
1) Completed Application Form	1			
2) ACED Subdivision/Land Development Application	1			
3) Maps and Plans • Plus PDF of drawings	1			
• Sets Full-Size Plans (24" x 36")	5			
• Sets Half-Size Plans (11" x 17")	5			
4) Agent Authorization Form	1			
5) Application Fee	1			
6) Escrow – Engineer, Solicitor, Inspection	1			
7) Stormwater Management Plan & Calculations (plus PDF)	2			
8) Erosion & Sedimentation Control Plan (plus PDF)	2			
9) Deed, Sales Agreement or Other Ownership	1			

I have familiarized myself with and hereby agree to comply with the subdivision and zoning ordinance of the township as well as to all township rules, regulations and resolutions. I agree to pay the applicable fee(s).

Signature of Applicant: _____ **Date:** 2-23-26

If applicant is not the property owner, an Agent Authorization Form must be attached.

SOUTH FAYETTE TOWNSHIP
A Community Growing Together

Agent Authorization Form

www.southfayettepa.com

Name of Property Owners: Charter Homes at Hastings, Inc.

Property Tax Map Number: 0480-P-00001-0000-00

Property/Project(s): Hastings Phase 5 Masterplan

☒ **This application/phase only** ☐ **All related applications and phases**

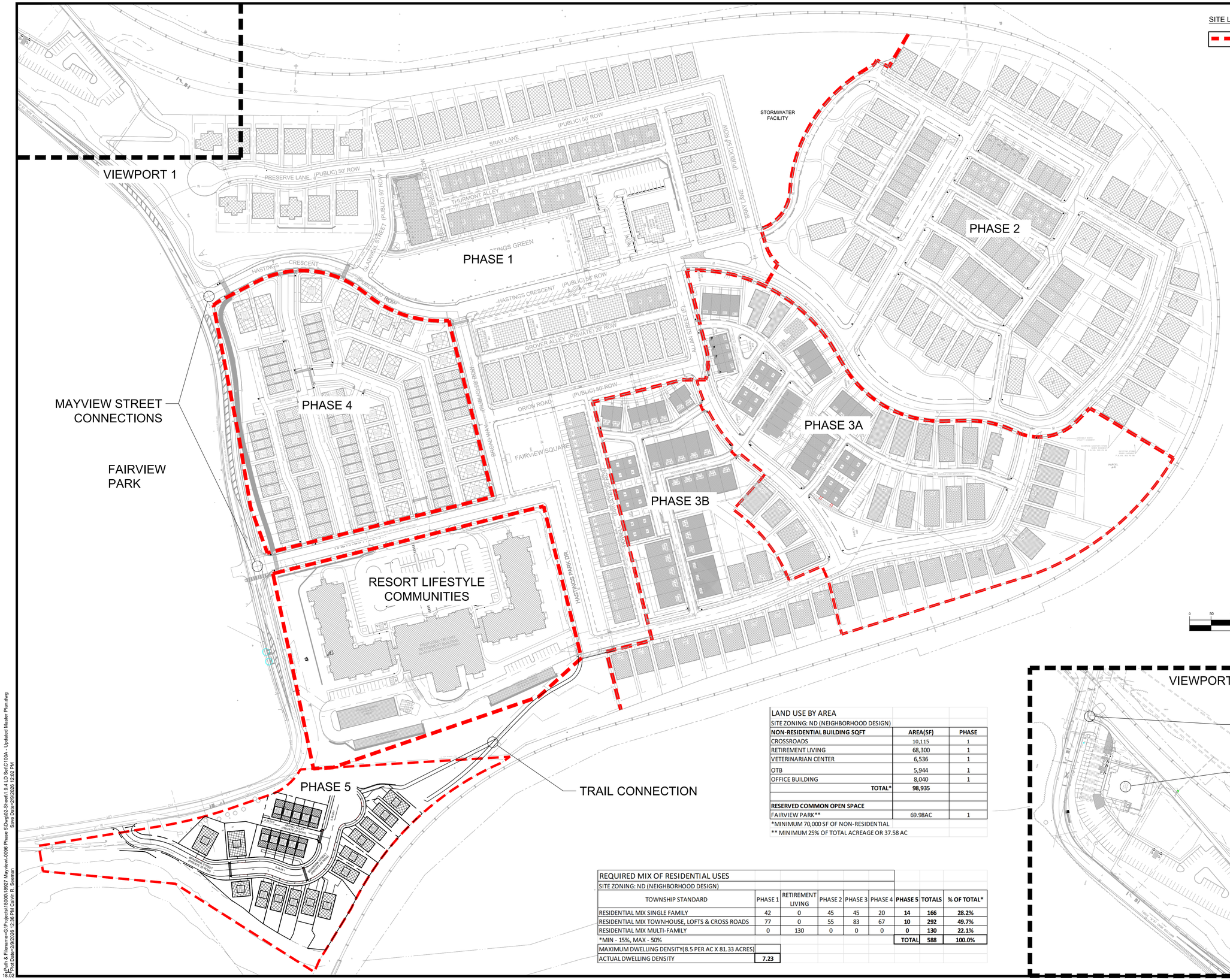
The above named property owner hereby appoints: The Gateway Engineers, Inc.

as its agent and authorizes said agent to apply for and process the above mentioned development plan/variance on his/her behalf. Agent is further authorized to sign all necessary documentations for such purposes, including acceptance of conditions imposed by the Board of Commissioners upon arrival of the plan. This authorization shall remain in full force and effect until written notice of revocation is delivered to the South Fayette Township Manager.

SIGNED AND SEALED, intending to be legally bound on this date of:

2-23-26

Owner(s) Signature: _____ (SEAL)



SITE LEGEND

- - - -	DEVELOPMENT PHASE LIMITS

811 Know what's below. Call before you dig.
Serial No. 20260352495

NORTH

GRAPHIC SCALE

0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

LAND USE BY AREA

SITE ZONING: ND (NEIGHBORHOOD DESIGN)

NON-RESIDENTIAL BUILDING SQFT	AREA(SF)	PHASE
CROSSROADS	10,115	1
RETIREMENT LIVING	68,300	1
VETERINARIAN CENTER	6,536	1
OTB	5,944	1
OFFICE BUILDING	8,040	1
TOTAL*	**98,935**	
RESERVED COMMON OPEN SPACE		
FAIRVIEW PARK**	69.98AC	1

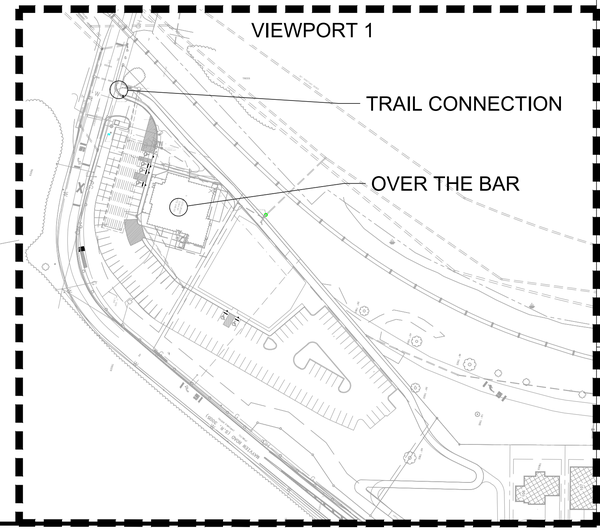
*MINIMUM 70,000 SF OF NON-RESIDENTIAL
** MINIMUM 25% OF TOTAL ACREAGE OR 37.58 AC

REQUIRED MIX OF RESIDENTIAL USES

SITE ZONING: ND (NEIGHBORHOOD DESIGN)

TOWNSHIP STANDARD	PHASE 1	RETIREMENT LIVING	PHASE 2	PHASE 3	PHASE 4	PHASE 5	TOTALS	% OF TOTAL*
RESIDENTIAL MIX SINGLE FAMILY	42	0	45	45	20	**14**	**166**	**28.2%**
RESIDENTIAL MIX TOWNHOUSE, LOFTS & CROSS ROADS	77	0	55	83	67	**10**	**292**	**49.7%**
RESIDENTIAL MIX MULTI-FAMILY	0	130	0	0	0	**0**	**130**	**22.1%**
*MIN - 15%, MAX - 50%						**TOTAL**	**588**	**100.0%**

MAXIMUM DWELLING DENSITY(8.5 PER AC X 81.33 ACRES)	
ACTUAL DWELLING DENSITY	**7.23**



GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM
WWW.GATEWAYENGINEERS.COM | PITTSBURGH & BUTLER PA | 412-536-5084
© Gateway Engineers Inc. All Rights Reserved

REVISION RECORD

	Date	
01	03/14/2024	RESPONSE TO TWP COMMENTS
02	03/29/2024	REVISED PLAN SET
03	04/09/2024	REVISED PLAN SET
04	05/14/2024	REVISED PLAN SET
05	05/21/2024	REVISED PLAN SET
06	-	-
07	-	-
08	-	-

HASTINGS
South Payette Township/Pittsburgh, PA
CHARTER Homes & Neighborhoods

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, 15102

PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

REVISED PRELIMINARY MASTER PLAN

Project Number: 18927-0096
Drawing Scale: 1" = 100'
Date Issued: FEB 2026
Index Number: --
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

C100A

Path & Filename:G:\Projects\18500\18927 Mayview\--\006 Phase 5\Dwg\02-Sheet\1 8 4 LD-SHEET\100A - Updated Master Plan.dwg
Save Date:2/6/2026 12:45 PM Cohen S. Seaman
18.02

60 2014 00034872

Allegheny County
Jerry Tyskiewicz
Department of Real Estate
Pittsburgh, PA 15219

Instrument Number: 2014-34872 **BK-DE VL-15821 PG-542**

Recorded On: December 09, 2014 **As-Deed Agreement**

Parties: ALOE BROTHERS L L C

To CHARTER HOMES DEVELOP PROPERTIES XI INC **# of Pages: 4**

Comment: MEMO PURCHASE AGRMT

********** **THIS IS NOT A BILL** **********

Deed Agreement	162.00
	0
	0
Total:	162.00

Realty Transfer Stamp

Affidavit Attached-No
NOT A DEED OF TRANSFER EXEMPT

Value

Department of Real Estate Stamp

Certified On/By-> 12-09-2014 / Amy Racko

NOT A DEED OF TRANSFER

I hereby certify that the within and foregoing was recorded in the Department of Real Estate in Allegheny County, PA

****DO NOT REMOVE-THIS PAGE IS PART OF THE RECORDED DOCUMENT****

File Information:

Document Number: 2014-34872
Receipt Number: 2777383
Recorded Date/Time: December 09, 2014 12:26:30P
Book-Vol/Pg: BK-DE VL-15821 PG-542
User / Station: M Ward - Cash Station 22

Record and Return To:

BASSI VREELAND & ASSOCIATES PC
111 FALLOWFIELD AV
PO BOX 144
CHARLEROI PA 15022

Jerry Tyskiewicz, Acting Manager
Rich Fitzgerald, County Executive

172800 DRE Certified
09-Dec-2014 12:22P\Int By: Amy Racko

MEMORANDUM OF PURCHASE AGREEMENT

This Memorandum of Purchase Agreement is made this 19th day of November 2014, by and between **ALOE BROTHERS, LLC,** a Pennsylvania Limited Liability Company, with a registered office address of 5540 Dunmoyle Avenue, Pittsburgh, Pennsylvania 15217 ("Seller"), and **CHARTER HOMES DEVELOPMENT PROPERTIES XI, INC,** a Pennsylvania Corporation with a registered office address of 1190 Dillerville Road, Lancaster, Pennsylvania 17601 ("Buyer").

Witnesseth:

1. Aloe Brothers, LLC, and Charter Homes Development Properties XI, Inc., have entered into a written Purchase Agreement dated April 30, 2014, for the sale and purchase of:

i. a. 68.98 (+/-) acres, being Parcel ID No. 0571-B-00002-0000-00;

b. 81.33 (+/-) acres, being Parcel ID No. 0480-P-00001-0000-00;

c. 8.46 (+/-) acres, being Parcel ID No. 571-A-00001-000-00; and

d. 1.69 (+/-) acres, being Parcel ID No. 480-E-00003-000-00 and

ii. which parcels are situate in the Township of South Fayette, Allegheny County, Pennsylvania, and

iii. Aloe Brothers, LLC, has excepted and reserved Seller's subterranean mineral rights (including without limitation, coal rights) and any subterranean oil and gas rights appurtenant thereto, provided that the exercise by Aloe Brothers, LLC, of the subsurface rights shall not unreasonably or materially interfere with Charter Homes Development Properties XI, Inc.'s use of the subject properties for its intended purposes, and further provided that Aloe Brothers, LLC, shall not be permitted to use the surface of the subject property in conjunction with the exercise of the subsurface rights reserved to Aloe Brothers, LLC.

2. The purpose of this Memorandum of Purchase Agreement is to provide notice of the existence of the parties' Purchase Agreement, aforementioned.

IN WITNESS WHEREOF, the parties have set forth their hands and seals on the 19th day of November 2014.

ATTEST:

, Esq.

ALOE BROTHERS, LLC

By _____
Mark Aloe, Managing Member

ATTEST:

CHARTER HOMES DEVELOPMENT PROPERTIES XI, INC.

By _____
Robert P. Bowman, President

Commonwealth of Pennsylvania
:SS
County of WASHINGTON

On this 21ST day of November, A.D. 2014, before me a Notary Public, the undersigned officer, personally appeared Mark Aloe, Managing Member, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

In Witness Whereof, I hereunto set my hand and official seal.

_____
NOTARY PUBLIC

My commission expires:

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
Rosemary Bello, Notary Public
Charleroi Boro, Washington County
My Commission Expires June 29, 2018
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

Commonwealth of Pennsylvania

:SS

County of Lancaster

On this 19th day of November, A.D. 2014, before me a Notary Public, the undersigned officer, personally appeared Robert P. Bowman, President, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

In Witness Whereof, I hereunto set my hand and official seal.

Cynthia K. Lucci

NOTARY PUBLIC

My commission expires: April 18, 2016

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Cynthia K. Lucci, Notary Public
City of Lancaster, Lancaster County
My Commission Expires April 18, 2016
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

After Recording Return To:
Bassi, Vreeland & Associates, P.C.
111 Fallowfield Avenue
P.O. Box 144
Charleroi, Pennsylvania 15022

BASSI, VREELAND & ASSOCIATES, P.C. ATTORNEYS AT LAW • COST ACCOUNT

30005

VENDOR: ALLEGHENY COUNTY DEPT OF REAL ESTATE

OUR REF. NO.	YOUR INVOICE NUMBER	INVOICE DATE	INVOICE AMOUNT	AMOUNT PAID	DISCOUNT TAKEN

CHECK NO:30005

Official Receipt for Recording in:

Department of Real Estate
101 County Office Bldg - 542 Forbes Avenue
542 Forbes Avenue
Pittsburgh, PA 15219

Issued To:
CUSTOMER

PITTSBURGH PA 15219

Recording Fees

Filing Type / Number Volm Page Time	Recording Amount
Deed Agreement	
34872 15821 00542 12:26:30p	162.00
MEMO PURCHASE AGRMT	
DR-ALOE BROTHERS L L C	
IN-CHARTER HOMES DEVELOP PROPERTIES XI INC	
Not a Deed of Transfer	
34872 15821 00542 12:26:30p	.00
DR-ALOE BROTHERS L L C	
IN-CHARTER HOMES DEVELOP PROPERTIES XI INC	
	162.00

Collected Amounts

Payment Type		Amount
2-Check	CFS 005	162.00
		162.00

Total Received :	162.00
Less Total Recordings:	162.00
Change Due :	.00

Thank You
JERRY TYSKIEWICZ - Department of Real Estate

By - Maureen Ward

Receipt#	Date	Time
2777383	12/09/2014	12:26p

26633 DRE Certified
01-Mar-2011 02:19P\Int By: S B

DEED

THIS DEED MADE AND ENTERED into this 5th day of January, 20 11, between the **COMMONWEALTH OF PENNSYLVANIA**, acting by and through the Department of General Services, an administrative department of the Commonwealth of Pennsylvania, with the approval of the Governor of the Commonwealth of Pennsylvania, herein referred to as **GRANTOR**,

A

N

D

ALOE BROTHERS L.L.C., 5540 Dunmoyle Avenue, Pittsburgh, Pennsylvania, 15217, hereinafter referred to as **GRANTEE**,

WHEREAS, under authority of ***Act 117 of 2010***, the General Assembly of the Commonwealth of Pennsylvania authorized the Department of General Services, with the approval of the Governor, to grant and convey to **GRANTEE**, three (3) tracts of land containing 152 acres +/- together with improvements thereon, situate in the Township of South Fayette, County of Allegheny, Commonwealth of Pennsylvania, hereinafter described.

WITNESSETH, that the said **GRANTOR** for and in consideration of **FIVE HUNDRED FIVE THOUSAND FIVE HUNDRED FIVE DOLLARS AND 00/100 ($505,505.00)** has granted and conveyed and by these presents does grant and convey to **GRANTEE**, its successors and assigns three (3) tracts of land, together with all buildings and improvements thereon, situate in the Township of South Fayette, Allegheny County, Pennsylvania, bounded and described as follows:

LOT NO. 1

BEING all of that certain piece or parcel of land being situate in the Township of South Fayette, Allegheny County, more particularly bound and described as follows:

BEGINNING at an iron pin set at the southern right of way line of Mayview Road, a fifty foot right of way and lands now or formerly of BEE Properties LLC, thence continuing

(7)

along the southern right of way line of Mayview Road, a fifty foot right of way, the following seven (7) courses and distances:

1. North 82°34'35" East 392.34 feet to a point, thence;
2. North 80°48'25" East 335.96 feet to a point, thence;
3. By a curve to the left with a radius of 1025.00 feet for an arc length of 174.64 feet with a chord bearing North 75°55'33" East 174.43 feet to a point, thence;
4. North 71°02'41" East 97.44 feet to a point, thence;
5. By a curve to the left with a radius of 130.00 feet and an arc length of 194.34 feet with a chord bearing North 28°13'07" East 176.74 feet to a point, thence;
6. North 14°36'27" West 317.99 feet to a point, thence;
7. South 75°23'33" West 8.50 feet to a point where the right of way of Mayview Road changes from 50 to 33 feet, thence, continuing along Mayview Road;
8. North 14°36'27" West 215.17 feet to a point, thence;
9. By a curve to the right with a radius of 898.50 feet and an arc length of 168.21feet with a chord bearing North 09°14'39" West 167.96 feet to a point, thence;
10. North 03°52'52" West 106.37 feet to a point, thence;
11. By a curve to the left with a radius of 542.50 feet with an arc length of 231.86 feet and a chord bearing North 16°07'29" West 230.10 feet to a point, thence;
12. North 28°22'07" West 153.00 feet to a point, thence;
13. By a curve to the left with a radius of 551.50 feet and an arc length of 215.61 feet with a chord bearing North 39°34'07" West 214.24 feet to a point, thence;
14. North 50°46'08" West 457.91 feet to a point, thence;
15. By a curve to the right with a radius of 166.58 feet with an arc length of 163.24 with a chord bearing North 22°31'44" West 156.71 feet to a point of compound curvature, thence;
16. By a curve to the right with a radius of 277.76 feet and an arc length of 48.96 feet with a chord bearing North 10°45'52" East 48.90 feet to a point, thence;
17. North 15°48'52" East 104.43 feet to a point, thence;
18. North 16°47'48" East 76.15 feet to a point on the southern and western right of way lines of lands now or formerly of the Ohio Central Railroad System, thence

(8)

by lands now or formerly of the Ohio Central Railroad System, the following eighteen (18) courses and distances;

19. South 42°54'10" East 289.56 feet to a point, thence;

20. South 40°33'49" East 419.59 feet to a point, thence;

21. South 89°36'43" East 432.07 feet to a point, thence;

22. North 68°47'14" East 101.98 feet to a point, thence;

23. North 80°05'50" East 400.00 feet to a point, thence;

24. North 09°54'10" West 10.00 feet to a point, thence;

25. North 80°05'50" East 270.00 feet to a point, thence;

26. By a curve to the right with a radius of 2303.66 with an arc length of 723.72 feet with a chord bearing North 89°05'50" East 720.74 feet to a point of compound curvature, thence;

27. By a curve to the right with a radius of 654.14 with an arc length of 727.75 with a chord bearing South 50°01'52" East 690.80 feet to a point, thence;

28. South 71°50'27" West 20.00 feet to a point, thence;

29. By a non-tangent curve to the right with a radius 634.14 feet with an arc length of 978.29 feet and a chord bearing South 26°02'09" West 884.12 feet to a point, thence;

30. South 72°39'30" West 475.41 feet to a point, thence;

31. South 71°55'20" West 331.44 feet to a point, thence;

32. South 69°40'12" West 438.03 feet to a point, thence;

33. South 53°58'31" West 70.04 feet to a point, thence;

34. By a curve to the left with a radius of 697.63 feet with an arc length of 501.35 feet and a chord bearing South 45°50'12" West 490.63 feet to a point, thence;

35. South 31°34'51" West 141.13 feet to a point, thence;

36. South 23°37'50" West 58.04 feet to a point in Chartiers Creek along lands now or formerly of the Township of Upper St. Clair, thence continuing along lands now or formerly of the Township of Upper St. Clair, the following four (4) courses and distances;

37. North 89°18'43" West 140.90 feet to a point in Chartiers Creek, thence;

38. North 36°36'46" West 287.54 feet to a point in Chartiers Creek, thence;

39. North 84°36'46" West 310.00 feet to a point in Chartiers Creek, thence;

40. South 57°53'14" West 250.00 feet to a point in Chartiers Creek at lands now or formerly of BEE Properties, LLC, thence continuing along lands of BEE Properties, LLC the following two (2) courses and distances:

41. North 42°37'35" West 78.00 feet to a point, thence;

42. North 68°07'35" West 202.52 feet to the **POINT and PLACE of BEGINNING.**

SUBJECT to a fifty foot (50') wide access easement, as depicted on the "Minor Subdivision of Mayview State Hospital" prepared by L. Robert Kimball & Associates, Inc., Project 09-1300-0243, for use by the PA Department of Transportation for ingress and egress to their wetland mitigation sites which are situated on Lot No. 4 Residual Tract of the aforementioned "Minor Subdivision of Mayview State Hospital".

BEING Tax Parcel No. 480-P-1.

The above described tract of land consists of a portion of Parcel Nos. formerly known as 9946-X-50590, 9946-X-50595, 9946-X-50605, and 9946-X-50616, and being shown as Lot No. 1 on a plan entitled "Minor Subdivision of Mayview State Hospital" as prepared by L. Robert Kimball & Associates, Inc., Project 09-1300-0243 and recorded August 30, 2010, in the office of the Department of Real Estate of the County of Allegheny, Commonwealth of Pennsylvania, in Plan Book Volume 269, Page 95.

SAID PARCEL CONTAINS 3,542,770.36 square feet or 81.331 acres of land.

LOT NO. 2

BEING all of that certain piece or parcel of land being situate in the Township of South Fayette, Allegheny County, more particularly bound and described as follows:

BEGINNING at an existing concrete monument found at lands now or formerly of South Fayette Township and lands now or formerly of Ernest Webb, thence continuing along lands now or formerly of South Fayette Township, the following eight (8) courses and distances:

1. North 31°50'30" East 816.23 to a point, thence;
2. North 19°57'43" West 400.20 to a point, thence;
3. North 55°14'15" East 335.74 to a point, thence;
4. North 47°24'45" West 201.18 to a point, thence;
5. North 29°38'37" West 719.15 to a point, thence;

6. South 70°56'43" West 116.25 to a point, thence;

7. North 17°09'04" West 279.72 to a point, thence;

8. North 64°53'30" East 763.66 to a point on the western right of way line of lands now or formerly of the Ohio Central Railroad System, thence by lands now or formerly of the Ohio Central Railroad System, the following two (2) courses and distances;

9. By a non-tangent curve to the left with a radius 984.93 feet with an arc length of 326.32 feet and a chord bearing South 33°24'41" East 324.83 feet to a point, thence;

10. South 42°54'10" East 393.37 to a point on the western right of way line of Mayview Road, of varying width. Thence, continuing along Mayview Road, the following two (2) courses and distances:

11. South 15°48'52" West 126.50 feet to a point, thence;

12. South 74°11'08" East 5.50 feet to a point where the right of way of Mayview Road is 33 feet in width, thence continuing along the right of way of Mayview Road, the following seventeen (17) courses and distances:

13. South 15°48'52" West 78.25 feet to a point, thence;

14. By a curve to the left with a radius of 310.76 feet with an arc length of 54.78 feet and a chord bearing South 10°45'52" West 54.71 feet to a point of compound curvature, thence,

15. By a curve to the left with a radius of 198.58 feet and an arc length of 195.77 feet with a chord bearing South 22°31'43" East 187.94 feet to a point, thence;

16. South 50°46'08" East 457.91 feet to a point, thence;

17. By a curve to the right with a radius of 518.50 feet with an arc length of 202.71 feet and a chord bearing South 39°34'07" East 201.42 feet to a point, thence;

18. South 28°22'07" East 153.00 feet to a point, thence;

19. By a curve to the right with a radius of 509.50 feet and an arc length of 217.75 feet with a chord bearing South 16°07'29" East 216.10 feet to a point, thence;

20. South 03°52'52" East 106.37 feet to a point, thence;

21. By a curve to the left with a radius of 931.50 feet and an arc length of 174.39 feet with a chord bearing South 09°14'39" East 174.13 feet to a point, thence;

22. South 14°36'27" East 215.17 feet to a point, thence;

(11)

23. South 75°23'33" West 8.50 feet to a point where the right of way is fifty feet in width, thence;

24. South 14°36'27" East 317.99 feet to a point, thence;

25. By a curve to the right with a radius of 80.00 feet and an arc length of 119.59 feet with a chord bearing South 28°13'07" West 108.76 feet to a point, thence;

26. South 71°02'41" West 97.44 feet to a point, thence;

27. By a curve to the right with a radius of 975.00 feet and an arc length of 166.12 feet with a chord bearing South 75°55'33" West 165.92 feet to a point, thence;

28. South 80°48'25" West 335.19 feet to a point, thence;

29. South 82°34'35" West 480.68 feet to a point at lands now or formerly of BEE Properties, LLC, thence along lands now or formerly of BEE Properties, LLC at first, then Ernest Webb;

30. North 68°07'35" West 741.53 feet to the **POINT and PLACE of BEGINNING.**

BEING Tax Parcel No. 571-B-2.

The above described tract of land consists of a portion of Parcel Nos. formerly known as 9946-X-50590, and 9946-X-678, and being shown as Lot No. 2 on a plan entitled "Minor Subdivision of Mayview State Hospital" as prepared by L. Robert Kimball & Associates, Inc., Project 09-1300-0243 and recorded August 30, 2010, in the office of the Department of Real Estate of the County of Allegheny, Commonwealth of Pennsylvania, in Plan Book Volume 269, Page 95.

SAID PARCEL CONTAINS 3,004,864.98 square feet or 68.982 acres of land.

LOT NO. 3

BEING all of that certain piece or parcel of land being situate in the Township of South Fayette, Allegheny County, more particularly bound and described as follows:

BEGINNING at a point on the western right of way line of Mayview Road, a variable width right of way and lands now or formerly of the Township of Upper St. Clair, said point being located within Chartiers Creek, thence continuing along the western right of way line of Mayview Road the following three (3) courses and distances:

1. South 15°48'52" West 76.32 feet to a point, thence;

2. South 22°50'43" East 32.02 feet to a point, thence;

3. South 09°17'41" West 54.55 feet to a point on the northern right of way line of lands now or formerly of the Ohio Central Railroad, thence continuing along lands now or formerly of the Ohio Central Railroad, the following two (2) courses and distances;

4. North 42°54'10" West 354.80 feet to a point, thence;

5. By a curve to the right with a radius of 924.93 feet and an arc length of 613.17 feet with a chord bearing North 23°54'40" West 602.00 feet to a point, thence;

6. North 72°39'04" East 70.32 feet to a point in Chartiers Creek, thence along Chartiers Creek;

7. South 19°18'18" East 494.16 feet to a point, thence;

8. South 41°30'18" East 200.00 feet to a point; thence;

9. South 67°21'18" East 151.36 feet to the **POINT and PLACE of BEGINNING.**

BEING Tax Parcel No. 480-E-3.

The above described tract of land consists of a portion of Parcel No. formerly known as 9946-X-50590, and being shown as Lot No. 3 on a plan entitled "Minor Subdivision of Mayview State Hospital" as prepared by L. Robert Kimball & Associates, Inc., Project 09-1300-0243 and recorded August 30, 2010, in the office of the Department of Real Estate of the County of Allegheny, Commonwealth of Pennsylvania, in Plan Book Volume 269, Page 95.

SAID PARCEL CONTAINS 73,671.25 square feet or 1.691 acres of land.

LOT NO. 1, LOT NO. 2 and LOT NO. 3, AS ABOVE DESCRIBED, BEING a part of the premises conveyed from the Allegheny County Institution District, to the Commonwealth of Pennsylvania, by deed dated October 31, 1949 and recorded November 3, 1949 in Deed Book Volume 3074, Page 129 and also the land taken by the Commonwealth of Pennsylvania pursuant to the Act of September 29, 1938, Special Session, P.L. 53, as amended by the Act of May 19, 1943, P.L. 262, and the Act of May 25, 1945, P.L. 1074, 50 P.S. Section 1051, no deed having been given.

ALSO BEING A PORTION of the same premises conveyed from the General State Authority, to the Commonwealth of Pennsylvania, acting by and through the Department of General Services, by deed dated June 16, 1989 and recorded April 6, 1990 in Allegheny County Deed Book Volume 8221, Page 531.

TO HAVE AND TO HOLD the said tract or piece of ground unto the said **GRANTEE**, its successors and assigns, to and for the only proper use and behoof of the said **GRANTEE**, its successors and assigns forever.

UNDER AND SUBJECT to all lawful and enforceable easements, servitudes and rights of others, including but not confined to streets, roadways, and rights of any telephone, telegraph, water, electric, gas or pipeline companies, as well as under and subject to any lawful and enforceable estates or tenancies vested in third persons appearing of record, for any portion of the land or improvements erected thereon.

UNDER AND SUBJECT to the condition, that no portion of the property conveyed shall be used as a licensed facility, as defined in 4 Pa.C.S. § 1103 (relating to definitions), or any other similar type of facility authorized under state law. The condition shall be a covenant running with the land and shall be binding upon the **GRANTEE**, its successors and assigns. Should the **GRANTEE**, its successors or assigns, permit any portion of the property to be used in violation of this restriction, the title shall immediately revert to and revest in the **GRANTOR**.

NOTICE THE UNDERSIGNED, AS EVIDENCED BY THE SIGNATURE(S) TO THIS NOTICE AND THE ACCEPTANCE AND RECORDING OF THIS DEED, IS FULLY COGNIZANT OF THE FACT THAT THE UNDERSIGNED MAY NOT BE OBTAINING THE RIGHT OF PROTECTION AGAINST SUBSIDENCE, AS TO THE PROPERTY HEREIN CONVEYED, RESULTING FROM COAL MINING OPERATIONS AND THAT THE PURCHASED PROPERTY, HEREIN CONVEYED, MAY BE PROTECTED FROM DAMAGE DUE TO MINE SUBSIDENCE BY A PRIVATE CONTRACT WITH THE OWNERS OF THE ECONOMIC INTEREST IN THE COAL. THIS NOTICE IS INSERTED HEREIN TO COMPLY WITH THE BITUMINOUS MINE SUBSIDENCE AND LAND CONSERVATION ACT OF 1966, AS AMENDED 1980, OCT. 10, P.L. 874, NO. 156 § 1.

WITNESS: Attorney

Aloe Brothers, L.L.C.

Name:

Title: Manager

NOTICE-- THIS DOCUMENT MAY NOT SELL, CONVEY, TRANSFER, INCLUDE OR INSURE THE TITLE TO THE COAL AND RIGHT OF SUPPORT UNDERNEATH THE SURFACE LAND DESCRIBED OR REFERRED TO HEREIN, AND THE OWNER OR OWNERS OF SUCH COAL MAY HAVE THE COMPLETE LEGAL RIGHT TO REMOVE ALL OF SUCH COAL AND, IN THAT CONNECTION, DAMAGE MAY RESULT TO THE SURFACE OF THE LAND AND ANY HOUSE, BUILDING OR OTHER STRUCTURE ON OR IN SUCH LAND. THE INCLUSION OF THIS NOTICE DOES NOT ENLARGE, RESTRICT OR MODIFY ANY LEGAL RIGHTS OR ESTATES OTHERWISE CREATED, TRANSFERRED, EXCEPTED OR RESERVED BY THIS INSTRUMENT. [This notice is set forth pursuant to Act No. 255, approved September 10, 1965.]

AND THE GRANTOR shall warrant specially the premises herein conveyed.

(12)

IN WITNESS WHEREOF, GRANTOR, by Elizabeth A. O'Reilly, Secretary of General Services, has caused this Instrument to be signed the day and year first above written.

APPROVED AS TO LEGALITY AND FORM
Office of Chief Counsel, DGS

COMMONWEALTH OF PENNSYLVANIA
Department of General Services

Secretary Date 1/5/11

APPROVED AS TO LEGALITY AND FORM
Office of General Counsel

APPROVED AS TO LEGALITY AND FORM
Office of Attorney General

By Deputy Attorney General

APPROVED:

GOVERNOR

(13)

ACKNOWLEDGMENT

COMMONWEALTH OF PENNSYLVANIA:

:

COUNTY OF DAUPHIN :

On this, the 5th day of January, 2011, before me, the undersigned officer, personally appeared Elizabeth O'Reilly, Acting Secretary of the Department of General Services of the Commonwealth of Pennsylvania, known to me (or satisfactorily proven) to be the person described in the foregoing instrument, and acknowledged that she/he executed the same in the capacity therein stated and for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Melisa S. Warner

NOTARY PUBLIC

NOTARIAL SEAL
MELISA S WARNER
Notary Public
CITY OF HARRISBURG, DAUPHIN COUNTY
My Commission Expires Aug 2, 2014

CERTIFICATE OF RESIDENCE

I certify that the true and precise address of the within named **GRANTEE** is Aloe Brothers L.L.C., 5540 Dunmoyle Avenue, Pittsburgh, Pennsylvania, 15217.

Mail Tax Statement to: 5540 Dunmoyle Avenue
Pittsburgh, PA 15217

MARCH 1, , 20 11

ATTORNEY FOR GRANTEE

Mail to:
Jeffrey T. Olup, esq.
P.O. Box 144
111 Fallowfield Avenue
Charleroi, PA 15022

(17)

.12

COMMONWEALTH OF PENNSYLVANIA
OFFICE OF THE GOVERNOR
HARRISBURG

THE GOVERNOR

August 17, 2010

I, Edward G. Rendell, hereby authorize Elizabeth A. O'Reilly, Acting Secretary of General Services, to execute on my behalf, documents of the Department of General Services listed below:

Deeds
Demolition of Buildings
Easements
Indentures
Leases
Legislatively Mandated Conveyances
Licenses
Rights-of-Way
Sales Agreements

Edward G. Rendell

Edward G. Rendell
Governor

(18)



Allegheny County
Valerie McDonald Roberts
Department of Real Estate
Pittsburgh, PA 15219

Instrument Number: 2011-4690 BK-DE VL-14515 PG-343

Recorded On: March 01, 2011 As-Deed

Parties: PENNSYLVANIA COMWTH DEP GENL SERVICES

To ALOE BROTHERS L L C # of Pages: 13

Comment:

********** THIS IS NOT A BILL **********

Deed		94.50
	Pages > 4	8
	Names > 4	0
Total:		94.50

Realty Transfer Stamp

Affidavit Attached-No Stamp Num-T415840
SOUTH FAYETTE TP
Ward-99-NO WARD
Value 505,505.00

Commonwealth of Pennsylvania	5,055.05
Munic-South Fayette Twp	2,527.53
School District-South Fayette	2,527.52
Munic-Penalty	0.00
Munic-Interest	0.00
School-Penalty	0.00
School-Interest	0.00
	10,110.10

Department of Real Estate Stamp

Certified By-> S B
ON 03-01-2011 AT 02:19p
0480P00001000000 0571B00002000000
0480E00003000000

I hereby certify that the within and foregoing was recorded in the Department of Real Estate in Allegheny County, PA

****DO NOT REMOVE-THIS PAGE IS PART OF THE RECORDED DOCUMENT****

File Information:

Document Number: 2011-4690
Receipt Number: 1775784
Recorded Date/Time: March 01, 2011 02:26:53P
Book-Vol/Pg: BK-DE VL-14515 PG-343
User / Station: K Greenwade - Cash Super 06

Record and Return To:

JEFFREY T OLUP ESQUIRE
PO BOX 144
111 FALLOWFIELD AVE
CHARLEROI PA 15022

Valerie McDonald Roberts, Manager
Dan Onorato, County Executive

(6)

SOUTH FAYETTE TOWNSHIP
A Community Growing Together

Subdivision-Land Development Application

www.southfayettepa.com

Plan Name:	Hastings Phase 5	File No.	F-01-2026
Plan Location:	Mayview Road	Tax I.D. #	0571-A-00010-0000-00
Project Description	The project includes 14 single family and 10 townhomes on one of the remaining develop-able parcels within the Hastings Neighborhood.		

Check Appropriate Box(es)

Land Development Plan	X	Subdivision Plan		Conditional Use Plan	

Minor Subdivision		Major Subdivision		Open Space Plan	
Preliminary Plan Submission	X	Final Plan Submission	X		

Zoning District(s)	ND	Property Acreage	6.182 ac	No. Lots/Units	24

Applicant's Name:	HASTINGS PROPERTIES II LP	Phone No.	
Applicant's Address:	322 N. ARCH STREET, LANCASTER, PA 17603	Fax No.	
Applicant's E-Mail:			
Engineer Firm/Name	THE GATEWAY ENGINEERS. INC	Phone No.	
Engineer's Address:	100 MCMORRIS ROAD PITTSBURGH, PA 15205	Fax No.	
Contact Person:		E-Mail Address	

The following items are reviewed as part of the South Fayette Township application process. Applications submitted WITHOUT these elements will NOT be reviewed by the township.

REQUIRED SUBMISSION ITEMS	Copies	✓ Yes	✓ No	✓ N/A
1) Completed Application Form	1			
2) ACED Subdivision/Land Development Application	1			
3) Maps and Plans • Plus PDF of drawings	1			
• Sets Full-Size Plans (24" x 36")	5			
• Sets Half-Size Plans (11" x 17")	5			
4) Agent Authorization Form	1			
5) Application Fee	1			
6) Escrow – Engineer, Solicitor, Inspection	1			
7) Stormwater Management Plan & Calculations (plus PDF)	2			
8) Erosion & Sedimentation Control Plan (plus PDF)	2			
9) Deed, Sales Agreement or Other Ownership	1			

I have familiarized myself with and hereby agree to comply with the subdivision and zoning ordinance of the township as well as to all township rules, regulations and resolutions. I agree to pay the applicable fee(s).

Signature of Applicant: _____ **Date:** 2/9/2026

If applicant is not the property owner, an Agent Authorization Form must be attached.

SOUTH FAYETTE TOWNSHIP
A Community Growing Together

Agent Authorization Form

www.southfayettepa.com

Name of Property Owners: HASTINGS PROPERTIES II LP

Property Tax Map Number: 0571-A-00010-0000-00

Property/Project(s): Hastings Phase 5

☒ **This application/phase only** ☐ **All related applications and phases**

The above named property owner hereby appoints: The Gateway Engineers, Inc.

as its agent and authorizes said agent to apply for and process the above mentioned development plan/variance on his/her behalf. Agent is further authorized to sign all necessary documentations for such purposes, including acceptance of conditions imposed by the Board of Commissioners upon arrival of the plan. This authorization shall remain in full force and effect until written notice of revocation is delivered to the South Fayette Township Manager.

SIGNED AND SEALED, intending to be legally bound on this date of:

2/9/2026

Owner(s) Signature: _____ (SEAL)

GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

100 McMorris Road
Pittsburgh, PA 15205
412-921-4030
GatewayEngineers.com

2/9/2026

SOUTH FAYETTE TOWNSHIP PLANNING AND ZONING
SOUTH FAYETTE TOWNSHIP MUNICIPAL BUILDING
100 TOWNSHIP ROAD
SOUTH FAYETTE, PA 15017

CHARTER HOMES AT HASTINGS PHASE 5 PROJECT NARRATIVE

PURPOSE

The purpose of this assessment is to provide information required by Section 215-23.N of the South Fayette Township Subdivision and Land Development Ordinance. Charter Homes at Hastings, Inc., is proposing the construction of Hastings Phase 5 which is located along Mayview Road just south of the Chartiers Bend Retirement Resort and north of Chartiers Creek. The tax ID for the site is 571-A-10. This section of the neighborhood was previously unplanned. Charter is proposing 14 single family and 10 townhomes. The proposed development meets the requirements of the previously approved Master Plan and PA DEP Sewage Planning Module. A NPDES Permit modification as well as a PennDOT highway occupancy permit will be required.

PROJECT SCHEDULE *(anticipated)*

Summer, 2026 – Start Construction (pending approvals)

Fall, 2028 – Finish Construction

TOPOGRAPHY

The site as it currently exists reaches a high point elevation at Mayview Road, steeply drops off to a bench before again steeply dropping off to Chartiers Creek. All grading will be accomplished with slopes allowed by the Township grading ordinance. The existing foundation will be removed from the site.

SOILS

Based upon a review of the Allegheny County Soil Survey, the Phase 4 site consists of two soil types: Urban Land-Rainsboro complex (URB) as it was a previously developed property, and Rainsboro silt loam (RaB). Common engineering practices will be utilized during construction as necessary to control the groundwater. All necessary actions will be taken to assure the development's stability on the soils present.

HYDROLOGY

There are no streams on the property, however the development is adjacent to Chartiers Creek.

FLOODWAY/FLOODPLAIN

The project site is located outside of the FEMA delineated flood zone, as shown on FEMA Map Panel Number 42003C0453H dated September 26, 2014.

UTILITY

Utility service in the form of gas, water, electric, telephone, gas, sanitary sewer and cable are all available at the site with capacity to service the development; therefore, there will be no impacts created.

WELLS / MINES

There are no known wells or mines within the subject property.

VEGETATION

The parcel was mass graded as part of Phase 1 development and was seeded for stabilization.

STEEP SLOPES

There are no steep slopes within the project limits.

WETLANDS

There are no wetlands found on the subject property.

WILDLIFE / HABITATS

The parcel is currently stabilized with native grass.

HISTORIC ASSETS

No historic assets have been identified on the proposed parcel.

NOTE:

1. THESE PLANS AS SUBMITTED ARE INTENDED TO COMPLY WITH ALL REGULATIONS, STANDARDS, AND ORDINANCES OF THE SOUTH FAYETTE TOWNSHIP. ANY DEVIATION FROM THOSE REGULATIONS, STANDARDS AND ORDINANCES IS UNINTENTIONAL AND AS SUCH, IN THE EVENT THAT A CONFLICT IS DISCOVERED, IT IS UNDERSTOOD AND AGREED THAT THE SOUTH FAYETTE TOWNSHIP'S REGULATIONS, STANDARDS AND ORDINANCES WILL APPLY.

ADD WAIVERS AND MODIFICATIONS FROM CHARTER

APPROVED MODIFICATIONS:

1. MODIFICATION TO ZONING ORDINANCE SECTION § 240-78.20.B.1. MODIFICATION GRANTED FROM SECTION § 240- 78.20 B.1 TO PERMIT LOT AREAS OF LESS THAN 4,000 SQUARE FEET FOR SINGLE FAMILY HOMES WHEN THE HOME IS SERVED BY AN ALLEY. THIS MODIFICATION PERTAINS TO 12 OF THE 20 PROPOSED SINGLE FAMILY LOTS.
2. MODIFICATION TO ZONING ORDINANCE SECTION § 240-78.20 B.2. MODIFICATION GRANTED FROM SECTION 240-78.20 B.2 TO PERMIT LOT AREA MINIMUMS OF LESS THAN 1,400 SQUARE FEET FOR TOWNHOUSE UNITS 513, 514, 517, 518, 519, 522, 523, 528, 529, 534, 535, 536, 538, 540, 543, 544, 545, 570, 571, 572, 585, 586, AND 587 AS SHOWN ON THE PLANS. THIS MODIFICATION PERTAINS TO 23 OF THE 67 PROPOSED TOWNHOUSE LOTS.

REQUESTED MODIFICATIONS:

1. A MODIFICATION IS REQUESTED TO SECTION § 215-74 TO ALLOW A CUL-DE-SAC STREET THAT EXCEEDS 500 FEET IN LENGTH, AS SHOWN ON THE PLAN. THIS SECTION PROVIDES IN PART: "A CUL-DE-SAC SHALL NOT BE APPROVED WHEN A THROUGH STREET IS PRACTICAL AND SHALL NOT BE MORE THAN 500 FEET IN LENGTH, UNLESS AN INTERMEDIATE TURN AROUND IS PROVIDED AT A DISTANCE OF EVERY 500 FEET AND A MODIFICATION OR EXCEPTION TO THE MAXIMUM FIVE-HUNDRED-FOOT LENGTH OF THE CUL-DE-SAC IS GRANTED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE IX OF THIS CHAPTER.
2. A MODIFICATION IS REQUESTED TO SECTION 215-78.C(5), SUBSECTION C, TO ALLOW A PORTION OF THE NEW STREET AND RETAINING WALL AT THE ENTRANCE TO PHASE 1.9.4 TO ENCROACH INTO THE RIPARIAN BUFFER BY APPROXIMATELY 15+/-FT, AS SHOWN ON THE PLAN. THIS SECTION PROVIDES: (C) MINIMUM MANAGEMENT REQUIREMENTS FOR RIPARIAN BUFFERS. (1) NO USE OR CONSTRUCTION WITHIN THE RIPARIAN BUFFER SHALL BE PERMITTED THAT IS INCONSISTENT WITH THE INTENT OF THE RIPARIAN BUFFER AS DESCRIBED IN SUBSECTION C(5)(a).

SURVEYOR	TOWNSHIP OF SOUTH FAYETTE TOWNSHIP ENGINEER	TOWNSHIP OF SOUTH FAYETTE PLANNING COMMISSION	TOWNSHIP OF SOUTH FAYETTE BOARD OF COMMISSIONERS

PRELIMINARY/FINAL PLAN LAND DEVELOPMENT APPLICATION

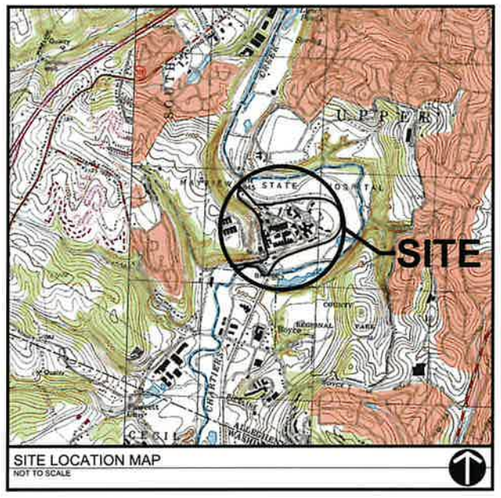
FOR

HASTINGS PHASE 5

MAYVIEW ROAD
PITTSBURGH, PA 15102

PREPARED FOR:

CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603



I CERTIFY THAT, TO THE BEST OF MY INFORMATION, KNOWLEDGE AND BELIEF THE SURVEY AND PLAN SHOWN HEREON ARE CORRECT AND ACCURATE TO THE STANDARDS REQUIRED.

_____ DATE _____ NAME _____ REGISTRATION NO.

I, _____, A REGISTERED PROFESSIONAL ENGINEER FOR THE TOWNSHIP OF SOUTH FAYETTE DO HEREBY CERTIFY THAT THIS SUBDIVISION PLAN MEETS ALL THE ENGINEERING REQUIREMENTS OF THE TOWNSHIP SUBDIVISION AND ZONING ORDINANCE, EXCEPT AS DEPARTURES HAVE BEEN AUTHORIZED BY THE APPROVAL AUTHORITY.

_____ DATE _____ NAME _____ REGISTRATION NO.

REVIEWED BY THE TOWNSHIP OF SOUTH FAYETTE PLANNING COMMISSION, THIS _____ DAY OF _____, 2026.

_____ SECRETARY _____ (SEAL) _____ CHAIRPERSON

THE BOARD OF COMMISSIONERS OF THE TOWNSHIP OF SOUTH FAYETTE HEREBY GIVES PUBLIC NOTICE IN APPROVING THIS PLAN FOR RECORDING PURPOSES ONLY, THE TOWNSHIP OF SOUTH FAYETTE ASSUMES NO OBLIGATIONS, LEGAL OR OTHERWISE, EXPRESSED OR IMPLIED EITHER TO ACCEPT SAID STREETS AS TOWNSHIP STREETS OR ROADS OR GRADES, PAVE AND CURB THE STREETS IN SAID PLAN OR TO CONSTRUCT SEWERS THEREIN OR TO INSTALL ANY OTHER SUCH SERVICE ORDINARILY INSTALLED IN TOWNSHIP STREETS OR ROADS.

THE TOWNSHIP OF SOUTH FAYETTE AGREES NOT TO ISSUE BUILDING PERMITS UNTIL THE "PLANNING MODULE FOR LAND DEVELOPMENT" HAS BEEN APPROVED IN ACCORDANCE WITH THE REGULATIONS OF THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.

APPROVED BY THE BOARD OF COMMISSIONERS OF THE TOWNSHIP OF SOUTH FAYETTE THIS _____ DAY OF _____, 2026.

ATTEST:

_____ SECRETARY _____ (SEAL) _____ PRESIDENT OF THE BOARD OF COMMISSIONERS

LIST OF UTILITIES

ELECTRIC SERVICE
WEST PENN POWER
1879 JEFFERSON ROAD
RICES LANDING, PA 15357
CONTACT: WILLIAM FISHER
PHONE: (724) 743-2026

GAS SERVICE
PEOPLES NATURAL GAS COMPANY, LLC
375 NORTH SHORE DRIVE, SUITE 600
PITTSBURGH, PA 15212
CONTACT: BETH REICHERTER
PHONE: (866) 654-4660

COMMUNICATION SERVICE
COMCAST
1530 CHARTIERS AVE.
PITTSBURGH, PA 15204
CONTACT: CRAIG TACY
PHONE: (412) 503-4362

COMMUNICATION SERVICE
VERIZON
41 EAST BEAU STREET
WASHINGTON, PA 15301
CONTACT: KEITH FOWLER
PHONE: (724) 229-0695

WATER SERVICE
PENNSYLVANIA AMERICAN WATER
300 GALLEY ROAD
McMURRAY, PA, 15317
CONTACT: LUCIAN CAPPETTA
PHONE: (412) 401-1871

SEWER SERVICE
MUNICIPAL AUTHORITY OF THE TOWNSHIP OF SOUTH FAYETTE
900 PRESTO SYGAN ROAD
BRIDGEVILLE, PA 15017
CONTACT: NICK GOETTMAN
PHONE: (412) 257-5100

SHEET INDEX

NO.	TITLE
C000	COVER SHEET
C050	DEMO PLAN
C100	SITE PLAN
C100A	REVISED PRELIMINARY MASTER PLAN
C110	TRUCK TURNING TEMPLATE
C200	GRADING PLAN
C300	UTILITY PLAN
C310	PA AMERICAN WATERLINE PLAN
C311	PA AMERICAN WATERLINE PLAN
C312	PAWC DETAILS
C330	STORM PROFILES
C340	SANITARY PROFILES
C341	SANITARY PROFILES
C342	MATSF DETAILS
C343	MATSF DETAILS
C344	MATSF DETAILS
C400	EROSION & SEDIMENT CONTROL PLANS
C401	EROSION & SEDIMENT CONTROL NOTES
C402	EROSION & SEDIMENT CONTROL DETAILS
C500	ROAD PROFILES
C501	ROAD PROFILES
C600	CONSTRUCTION DETAILS
C601	CONSTRUCTION DETAILS
C602	CONSTRUCTION DETAILS
L100	LANDSCAPE PLAN
L101	LANDSCAPE DETAILS
L110	LIGHTING PLAN
PCSM1	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN
PCSM2	PCSM DETAILS
PCSM3	PCSM DETAILS

LAND USE BY AREA
SITE ZONING: ND (NEIGHBORHOOD DESIGN)

NON-RESIDENTIAL BUILDING SQFT	AREA(SF)	PHASE
CROSSROADS	10,115	1
RETIREMENT LIVING	68,300	1
VETERINARIAN CENTER	6,536	1
OTB	5,944	1
OFFICE BUILDING	8,040	1
TOTAL*	**98,935**	
RESERVED COMMON OPEN SPACE		
FAIRVIEW PARK**	69.98AC	1

REQUIRED MIX OF RESIDENTIAL USES
SITE ZONING: ND (NEIGHBORHOOD DESIGN)

TOWNSHIP STANDARD	PHASE 1	RETIREMENT LIVING	PHASE 2	PHASE 3	PHASE 4	PHASE 5	TOTALS	% OF TOTAL*
RESIDENTIAL MIX SINGLE FAMILY	42	0	45	45	20	14	166	28.2%
RESIDENTIAL MIX TOWNHOUSE, LOFTS & CROSS ROADS	77	0	55	83	67	10	292	49.7%
RESIDENTIAL MIX MULTI-FAMILY	0	130	0	0	0	0	130	22.1%
*MIN - 15%, MAX - 50%						TOTAL	588	100.0%

MAXIMUM DWELLING DENSITY(8.5 PER AC X 81.33 ACRES)	
ACTUAL DWELLING DENSITY	7.23

PARKING TABLE			UNIT COUNT	CRITERIA	REQUIRED	PROVIDED
PHASE 5	RESIDENTIAL	*SINGLE FAMILY	14	2 SPACES / UNIT	28	28
		*TOWNHOMES/LOFT	10	2 SPACES / UNIT	20	20
		COMMUNITY PARKING	N/A	N/A	0	0
		TOTAL	24		48	48

*EACH SINGLE FAMILY, TOWNHOME BUILDING, AND CROSSROADS UNITS INCLUDE 2 INTERNAL PARKING SPACES

ZONING REQUIREMENTS

		AREA	FRONTAGE	SETBACKS FRONT	SIDE	REAR
PHASE 1		MIN.	MIN.			
	NON-RESIDENTIAL	70,000 SF TOTAL	40'	VARIES*	5' MIN.	5' MIN.
	RESIDENTIAL	4,000 SF	20'	5' MIN.	5' MIN.	20' MIN. OR 5' MIN.**
		1,400 SF	20'	5' MIN.	5' MIN. (UNATTACHED) 0' MIN. (ATTACHED)	20' MIN. OR 5' MIN.**
	RESERVED COMMON OPEN SPACE	25% OF TOTAL (37.58AC)	NA	NA	NA	NA

*MINIMUM FRONT YARD VARIES BY USE.
** IF THE BUILDING IS SERVED BY REAR ALLEY ACCESS

G:\Projects\18000\18927 Mayview\-0096 Phase 5\Docs\Cover Sheet Tables\[Hastings Phase 5 Cover Sheet Table.xlsx]BULK AREAS FOR COVER

STREET TABLE			
ROAD NAMES	PERMITTED STREET SECTIONS	PUBLIC/PRIVATE	
BRAEBANK ROAD	F	PUBLIC	
ARGYLL ALLEY	A	PRIVATE	
CANOPY WAY		PRIVATE	NOT USED
OAK STREET		PRIVATE	NOT USED
STATION STREET		PRIVATE	NOT USED
CREEKSTONE ALLEY		PRIVATE	NOT USED
GLENBURN WAY		PRIVATE	NOT USED

NON-RESIDENTIAL BUILDING SQFT	70,000 SF TOTAL

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GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM
PROFESSIONAL ENGINEERS | PROFESSIONAL SURVEYORS | LANDSCAPE ARCHITECTS

REVISION RECORD

No	Date
01	—
02	—
03	"
04	"
05	"
06	"
07	"
08	"

HASTINGS
South Fayette Township/Pittsburgh, PA

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102

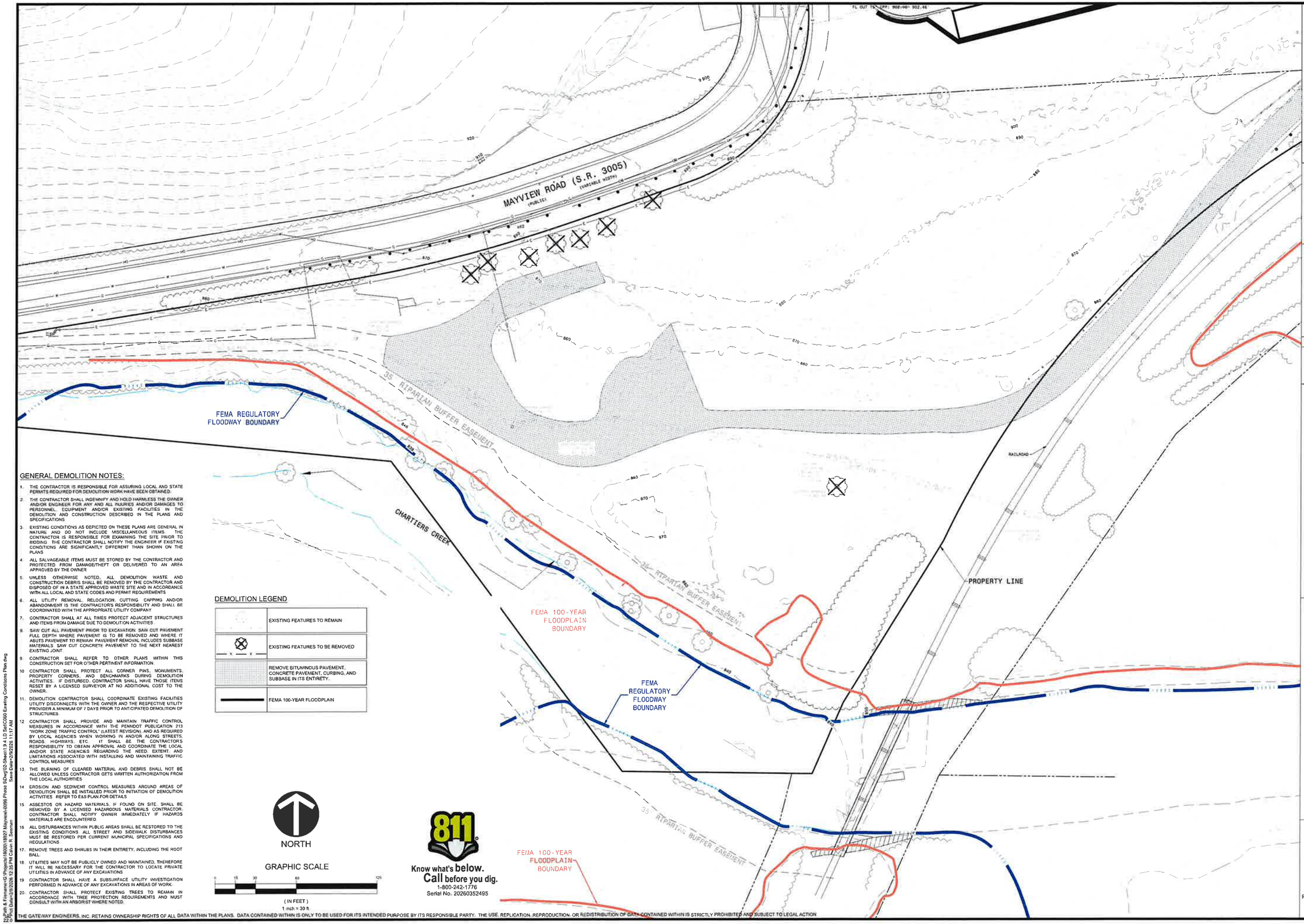
PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

COVER SHEET

Project Number: 18927-0096
Drawing Scale: NTS
Date Issued: FEB. 2026
Index Number: —
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

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GENERAL DEMOLITION NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR ASSURING LOCAL AND STATE PERMITS REQUIRED FOR DEMOLITION WORK HAVE BEEN OBTAINED.
2. THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE OWNER AND/OR ENGINEER FOR ANY AND ALL INJURIES AND/OR DAMAGES TO PERSONNEL, EQUIPMENT AND/OR EXISTING FACILITIES IN THE DEMOLITION AND CONSTRUCTION DESCRIBED IN THE PLANS AND SPECIFICATIONS
3. EXISTING CONDITIONS AS DEPICTED ON THESE PLANS ARE GENERAL IN NATURE AND DO NOT INCLUDE MISCELLANEOUS ITEMS. THE CONTRACTOR IS RESPONSIBLE FOR EXAMINING THE SITE PRIOR TO BIDDING. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF EXISTING CONDITIONS ARE SIGNIFICANTLY DIFFERENT THAN SHOWN ON THE PLANS
4. ALL SALVAGEABLE ITEMS MUST BE STORED BY THE CONTRACTOR AND PROTECTED FROM DAMAGE/THEFT OR DELIVERED TO AN AREA APPROVED BY THE OWNER
5. UNLESS OTHERWISE NOTED, ALL DEMOLITION WASTE AND CONSTRUCTION DEBRIS SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF IN A STATE APPROVED WASTE SITE AND IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS
6. ALL UTILITY REMOVAL, RELOCATION, CUTTING CAPPING AND/OR ABANDONMENT IS THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANY
7. CONTRACTOR SHALL AT ALL TIMES PROTECT ADJACENT STRUCTURES AND ITEMS FROM DAMAGE DUE TO DEMOLITION ACTIVITIES.
8. SAW CUT ALL PAVEMENT PRIOR TO EXCAVATION. SAW CUT PAVEMENT FULL DEPTH WHERE PAVEMENT IS TO BE REMOVED AND WHERE IT ABUTS PAVEMENT TO REMAIN. PAVEMENT REMOVAL INCLUDES SUBBASE MATERIALS. SAW CUT CONCRETE PAVEMENT TO THE NEXT NEAREST EXISTING JOINT.
9. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION.
10. CONTRACTOR SHALL PROTECT ALL CORNER PINS, MONUMENTS, PROPERTY CORNERS, AND BENCHMARKS DURING DEMOLITION ACTIVITIES. IF DISTURBED, CONTRACTOR SHALL HAVE THOSE ITEMS RESET BY A LICENSED SURVEYOR AT NO ADDITIONAL COST TO THE OWNER.
11. DEMOLITION CONTRACTOR SHALL COORDINATE EXISTING FACILITIES UTILITY DISCONNECTS WITH THE OWNER AND THE RESPECTIVE UTILITY PROVIDER A MINIMUM OF 7 DAYS PRIOR TO ANTICIPATED DEMOLITION OF STRUCTURES.
12. CONTRACTOR SHALL PROVIDE AND MAINTAIN TRAFFIC CONTROL MEASURES IN ACCORDANCE WITH THE PENNDOT PUBLICATION 213 "WORK ZONE TRAFFIC CONTROL" (LATEST REVISION), AND AS REQUIRED BY LOCAL AGENCIES WHEN WORKING IN AND/OR ALONG STREETS, ROADS, HIGHWAYS, ETC. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN APPROVAL AND COORDINATE THE LOCAL AND/OR STATE AGENCIES REGARDING THE NEED, EXTENT, AND LIMITATIONS ASSOCIATED WITH INSTALLING AND MAINTAINING TRAFFIC CONTROL MEASURES
13. THE BURNING OF CLEARED MATERIAL AND DEBRIS SHALL NOT BE ALLOWED UNLESS CONTRACTOR GETS WRITTEN AUTHORIZATION FROM THE LOCAL AUTHORITIES.
14. EROSION AND SEDIMENT CONTROL MEASURES AROUND AREAS OF DEMOLITION SHALL BE INSTALLED PRIOR TO INITIATION OF DEMOLITION ACTIVITIES. REFER TO E&S PLAN FOR DETAILS
15. ASBESTOS OR HAZARD MATERIALS, IF FOUND ON SITE, SHALL BE REMOVED BY A LICENSED HAZARDOUS MATERIALS CONTRACTOR. CONTRACTOR SHALL NOTIFY OWNER IMMEDIATELY IF HAZARDS MATERIALS ARE ENCOUNTERED.
16. ALL DISTURBANCES WITHIN PUBLIC AREAS SHALL BE RESTORED TO THE EXISTING CONDITIONS. ALL STREET AND SIDEWALK DISTURBANCES MUST BE RESTORED PER CURRENT MUNICIPAL SPECIFICATIONS AND REGULATIONS
17. REMOVE TREES AND SHRUBS IN THEIR ENTIRETY, INCLUDING THE ROOT BALL.
18. UTILITIES MAY NOT BE PUBLICLY OWNED AND MAINTAINED, THEREFORE IT WILL BE NECESSARY FOR THE CONTRACTOR TO LOCATE PRIVATE UTILITIES IN ADVANCE OF ANY EXCAVATIONS
19. CONTRACTOR SHALL HAVE A SUBSURFACE UTILITY INVESTIGATION PERFORMED IN ADVANCE OF ANY EXCAVATIONS IN AREAS OF WORK.
20. CONTRACTOR SHALL PROTECT EXISTING TREES TO REMAIN IN ACCORDANCE WITH TREE PROTECTION REQUIREMENTS AND MUST CONSULT WITH AN ARBORIST WHERE NOTED.

DEMOLITION LEGEND

	EXISTING FEATURES TO REMAIN
— X — X —	EXISTING FEATURES TO BE REMOVED
	REMOVE BITUMINOUS PAVEMENT, CONCRETE PAVEMENT, CURBING, AND SUBBASE IN ITS ENTIRETY.
	FEMA 100-YEAR FLOODPLAIN

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GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

Date	No	REVISION RECORD

HASTINGS
South Fayette Township/Pittsburgh, PA

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102

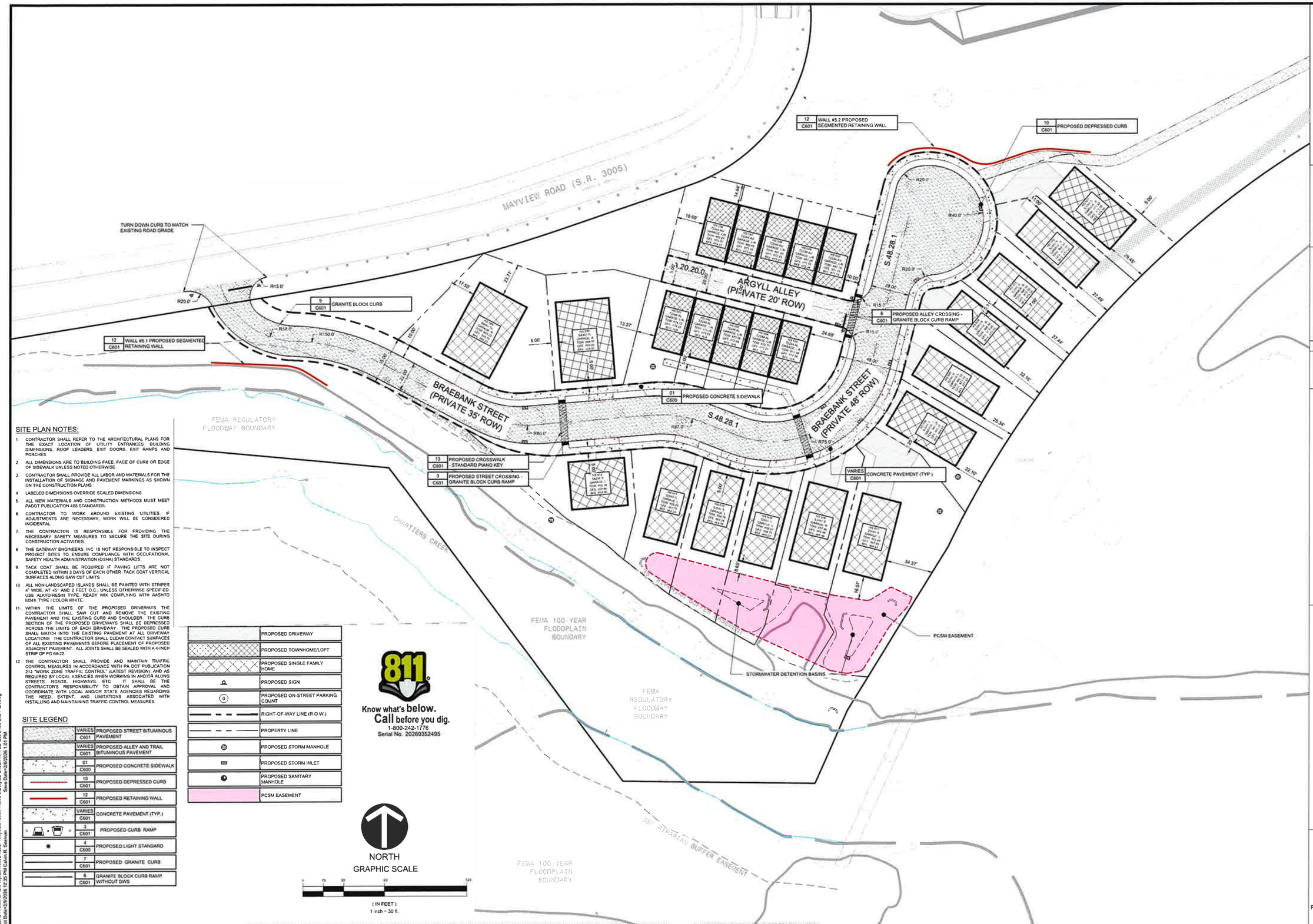
PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

DEMO PLAN

Project Number: 18927-0096
Drawing Scale: 1" = 30'
Date Issued: FEB 2026
Index Number: –
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

C060

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SITE PLAN NOTES:

1. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR THE EXACT LOCATION OF UTILITY ENTRANCES, BUILDING DIMENSIONS, ROOF LEADERS, EXIT DOORS, EXIT RAMPS AND PORCHES
2. ALL DIMENSIONS ARE TO BUILDING FACE, FACE OF CURB OR EDGE OF SIDEWALK UNLESS NOTED OTHERWISE
3. CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIALS FOR THE INSTALLATION OF SIGNAGE AND PAVEMENT MARKINGS AS SHOWN ON THE CONSTRUCTION PLANS
4. LABELED DIMENSIONS OVERRIDE SCALED DIMENSIONS
5. ALL NEW MATERIALS AND CONSTRUCTION METHODS MUST MEET PADOT PUBLICATION 408 STANDARDS
6. CONTRACTOR TO WORK AROUND EXISTING UTILITIES. IF ADJUSTMENTS ARE NECESSARY, WORK WILL BE CONSIDERED INCIDENTAL.
7. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE NECESSARY SAFETY MEASURES TO SECURE THE SITE DURING CONSTRUCTION ACTIVITIES.
8. THE GATEWAY ENGINEERS, INC. IS NOT RESPONSIBLE TO INSPECT PROJECT SITES TO ENSURE COMPLIANCE WITH OCCUPATIONAL SAFETY HEALTH ADMINISTRATION (OSHA) STANDARDS.
9. TACK COAT SHALL BE REQUIRED IF PAVING LIFTS ARE NOT COMPLETED WITHIN 3 DAYS OF EACH OTHER. TACK COAT VERTICAL SURFACES ALONG SAW CUT LIMITS.
10. ALL NON-LANDSCAPED ISLANDS SHALL BE PAINTED WITH STRIPES 4" WIDE, AT 45° AND 2 FEET O.C., UNLESS OTHERWISE SPECIFIED. USE ALKYD-RESIN TYPE, READY MIX COMPLYING WITH AASHTO M248, TYPE I COLOR WHITE.
11. WITHIN THE LIMITS OF THE PROPOSED DRIVEWAYS THE CONTRACTOR SHALL SAW CUT AND REMOVE THE EXISTING PAVEMENT AND THE EXISTING CURB AND SHOULDER. THE CURB SECTION OF THE PROPOSED DRIVEWAYS SHALL BE DEPRESSED ACROSS THE LIMITS OF EACH DRIVEWAY. THE PROPOSED CURB SHALL MATCH INTO THE EXISTING PAVEMENT AT ALL DRIVEWAY LOCATIONS. THE CONTRACTOR SHALL CLEAN CONTACT SURFACES OF ALL EXISTING PAVEMENTS BEFORE PLACEMENT OF PROPOSED ADJACENT PAVEMENT. ALL JOINTS SHALL BE SEALED WITH A 4-INCH STRIP OF PG 64-22.
12. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TRAFFIC CONTROL MEASURES IN ACCORDANCE WITH PA DOT PUBLICATION 213 "WORK ZONE TRAFFIC CONTROL" (LATEST REVISION), AND AS REQUIRED BY LOCAL AGENCIES WHEN WORKING IN AND/OR ALONG STREETS, ROADS, HIGHWAYS, ETC. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN APPROVAL AND COORDINATE WITH LOCAL AND/OR STATE AGENCIES REGARDING THE NEED, EXTENT, AND LIMITATIONS ASSOCIATED WITH INSTALLING AND MAINTAINING TRAFFIC CONTROL MEASURES.

SITE LEGEND

	VARIES C601	PROPOSED STREET BITUMINOUS PAVEMENT
	VARIES C601	PROPOSED ALLEY AND TRAIL BITUMINOUS PAVEMENT
	01 C600	PROPOSED CONCRETE SIDEWALK
	10 C601	PROPOSED DEPRESSED CURB
	12 C601	PROPOSED RETAINING WALL
	VARIES C601	CONCRETE PAVEMENT (TYP.)
	3 C601	PROPOSED CURB RAMP
	4 C600	PROPOSED LIGHT STANDARD
	7 C601	PROPOSED GRANITE CURB
	6 C601	GRANITE BLOCK CURB RAMP WITHOUT DWS
		PROPOSED DRIVEWAY
		PROPOSED TOWNHOME/LOFT
		PROPOSED SINGLE FAMILY HOME
		PROPOSED SIGN
(0)		PROPOSED ON-STREET PARKING COUNT
		RIGHT-OF-WAY LINE (R.O.W.)
		PROPERTY LINE
		PROPOSED STORM MANHOLE
		PROPOSED STORM INLET
		PROPOSED SANITARY MANHOLE
		PCSM EASEMENT

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NORTH

GRAPHIC SCALE

0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

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Save Date=2/9/2026 1:01 PM

GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

REVISION RECORD

No	Date
01	-----
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04	"
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SITE PLAN

Project Number: 18927-0096
Drawing Scale: 1" = 30'
Date Issued: FEB 2026
Index Number: -
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

C100

VIEWPORT 1

MAYVIEW STREET CONNECTIONS

FAIRVIEW PARK

PHASE 1

PHASE 2

PHASE 3A

PHASE 3B

PHASE 4

PHASE 5

STORMWATER FACILITY

RESORT LIFESTYLE COMMUNITIES

TRAIL CONNECTION

SITE LEGEND

DEVELOPMENT PHASE LIMITS

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NORTH

GRAPHIC SCALE

0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

LAND USE BY AREA

SITE ZONING: ND (NEIGHBORHOOD DESIGN)		
NON-RESIDENTIAL BUILDING SQFT	**AREA(SF)**	**PHASE**
CROSSROADS	10,115	1
RETIREMENT LIVING	68,300	1
VETERINARIAN CENTER	6,536	1
OTB	5,944	1
OFFICE BUILDING	8,040	1
TOTAL*	**98,935**	
RESERVED COMMON OPEN SPACE		
FAIRVIEW PARK**	69.98AC	1

*MINIMUM 70,000 SF OF NON-RESIDENTIAL
** MINIMUM 25% OF TOTAL ACREAGE OR 37.58 AC

REQUIRED MIX OF RESIDENTIAL USES

SITE ZONING: ND (NEIGHBORHOOD DESIGN)								
TOWNSHIP STANDARD	PHASE 1	RETIREMENT LIVING	PHASE 2	PHASE 3	PHASE 4	PHASE 5	TOTALS	% OF TOTAL*
RESIDENTIAL MIX SINGLE FAMILY	42	0	45	45	20	14	166	28.2%
RESIDENTIAL MIX TOWNHOUSE, LOFTS & CROSS ROADS	77	0	55	83	67	10	292	49.7%
RESIDENTIAL MIX MULTI-FAMILY	0	130	0	0	0	0	130	22.1%
*MIN - 15%, MAX - 50%						TOTAL	588	100.0%

MAXIMUM DWELLUNG DENSITY(8.5 PER AC X 81.33 ACRES)	
ACTUAL DWELLING DENSITY	7.23

VIEWPORT 1

TRAIL CONNECTION

OVER THE BAR

GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

REVISION RECORD

	Date		
01	03/14/2024	RESPONSE TO TWP COMMENTS	
02	03/29/2024	REVISED PLAN SET	
03	04/09/2024	REVISED PLAN SET	
04	05/14/2024	REVISED PLAN SET	
05	05/21/2024	REVISED PLAN SET	
06	-	-	
07	-	-	
08	-	-	

HASTINGS

South Fayette Township/Pittsburgh, PA

HASTINGS PHASE 5

MAYVIEW ROAD
PITTSBURGH, 15102

PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

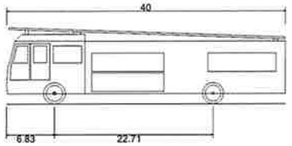
REVISED
PRELIMINARY
MASTER PLAN

Project Number: 18927-0096
Drawing Scale: 1" = 100'
Date Issued: FEB 2026
Index Number: –
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

C100A

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18 02



South Fayette Township Fire Truck

Overall Length	40.000ft
Overall Width	8.750ft
Overall Body Height	11.000ft
Min Body Ground Clearance	1.466ft
Track Width	8.750ft
Lock-to-lock time	6.00s
Max Wheel Angle	45.00°

	WHEEL BEARING
	EXTENTS OF TRUCK
	1' PARKING OFFSET

MAYVIEW ROAD (S.R. 3005)

ARGYLL ALLEY
(PRIVATE 20' ROW)

A 20.20.0

S 48.28.1

BRAEBANK STREET
(PRIVATE 35' ROW)

BRAEBANK STREET
(PRIVATE 48' ROW)

S 48.28.1

FEMA REGULATORY
FLOODWAY BOUNDARY

25' RIPARIAN BUFFER EASEMENT

CHARTIERS CREEK

FEMA 100-YEAR
FLOODPLAIN
BOUNDARY

FEMA
REGULATORY
FLOODWAY
BOUNDARY

811
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Serial No. 20260352495

NORTH
GRAPHIC SCALE

0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

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GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

REVISION RECORD

No	Date
01	---
02	---
03	"
04	"
05	"
06	"
07	"
08	"

HASTINGS
South Fayette Township/Pittsburgh, PA

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102

PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

TRUCK TURNING TEMPLATE

Project Number: 18927-0095
Drawing Scale: 1" = 30'
Date Issued: FEB 2026
Index Number: --
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

C110

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Layout: Layout1 4/2/2026 12:27 PM Calvin R. Sevenoski

GRADING LEGEND

0000.00	PROPOSED SPOT GRADE
0000.00	EXISTING SPOT GRADE
12 / C601	PROPOSED RETAINING WALL

SPOT GRADE ABBREVIATONS

TC	TOP CURB
BC	BOTTOM CURB
TC-BC	TOP CURB- BOTTOM CURB
TW	TOP WALL
BW	BOTTOM WALL
HP	HIGH POINT
LP	LOW POINT

GRADING PLAN NOTES:

1. ALL SITE WORK SHALL BE DONE IN ACCORDANCE WITH THE PLANS PREPARED BY THE GATEWAY ENGINEERS, INC., THE CURRENT REQUIREMENTS OF THE MUNICIPALITY AND ALL OTHER PERTINENT FEDERAL AND STATE LAWS.
2. CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT PREPARED BY _____ DATED _____ PRIOR TO INITIATION OF ANY EARTHWORK ACTIVITY.
3. THE CONTRACTOR SHALL COMPLY AT ALL TIMES WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, PROVISIONS, AND POLICIES GOVERNING SAFETY AND HEALTH, INCLUDING THE FEDERAL CONSTRUCTION SAFETY ACT (PUBLIC LAW 91-54), FEDERAL REGISTER, CHAPTER XVII, PART 1926 OF TITLE 29 REGULATIONS, OCCUPATIONAL SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION, AND SUBSEQUENT PUBLICATIONS UPDATING THESE REGULATIONS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING THE AREAS AND CONDITIONS UNDER WHICH THE PROJECT IS TO BE CONSTRUCTED PRIOR TO THE SUBMISSION OF A BID. SUBMISSION OF A BID SHALL BE CONSTRUED TO MEAN THE CONTRACTOR HAS REVIEWED THE SITE AND IS FAMILIAR WITH CONDITIONS AND CONSTRAINTS OF THE SITE.
5. BEFORE EXCAVATIONS, ALL UNDERGROUND UTILITIES SHALL BE LOCATED IN THE FIELD BY THE PROPER AUTHORITIES. THE CONTRACTOR SHALL NOTIFY PENNSYLVANIA ONE CALL SYSTEMS, INC. AT 8-1-1. THE LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES ARE APPROXIMATE AND MAY NOT ALL BE SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND EXACT LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES.
6. ALL SLOPES SHALL BE 2:1 (HORIZONTAL: VERTICAL) MAXIMUM UNLESS NOTED OTHERWISE.
7. ALL AREAS NOT PAVED SHALL BE TOP SOILED, SEEDED, MULCHED OR LANDSCAPED UNLESS OTHERWISE NOTED IN THE CONSTRUCTION DRAWINGS, SITE SPECIFICATIONS OR INSTRUCTED BY THE OWNER.
8. SPOT ELEVATIONS ARE LOCATED AT THE TOP OF PAVEMENT.
9. THE CONTRACTOR SHALL REMOVE ANY EXCESS TOPSOIL OFFSITE TO A PA DEP APPROVED WASTE SITE, OR SPREAD UNIFORMLY ON SITE. THE ACQUISITION OF AN APPROVED WASTE SITE IS THE CONTRACTOR'S RESPONSIBILITY.
10. THE CONTRACTOR SHALL PROTECT ALL CORNER PINS, MONUMENTS, PROPERTY CORNERS, AND BENCHMARKS DURING DEMOLITION ACTIVITIES. IF DISTURBED CONTRACTOR SHALL HAVE DISTURBED ITEMS RESET BY A LICENSED SURVEYOR AT NO ADDITIONAL COST TO THE OWNER.
11. AN AS-BUILT DRAWING OF THE STORMWATER DETENTION FACILITY PREPARED AND SEALED BY A PROFESSIONAL LAND SURVEYOR IS REQUIRED TO BE SUBMITTED TO THE PROJECT ENGINEER.

NORTH

GRAPHIC SCALE

0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

811 Know what's below. Call before you dig.
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GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

REVISION RECORD

No	Date
01	---
02	---
03	-
04	-
05	-
06	-
07	-
08	-

HASTINGS
South Fayette Township/Pittsburgh, PA

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102

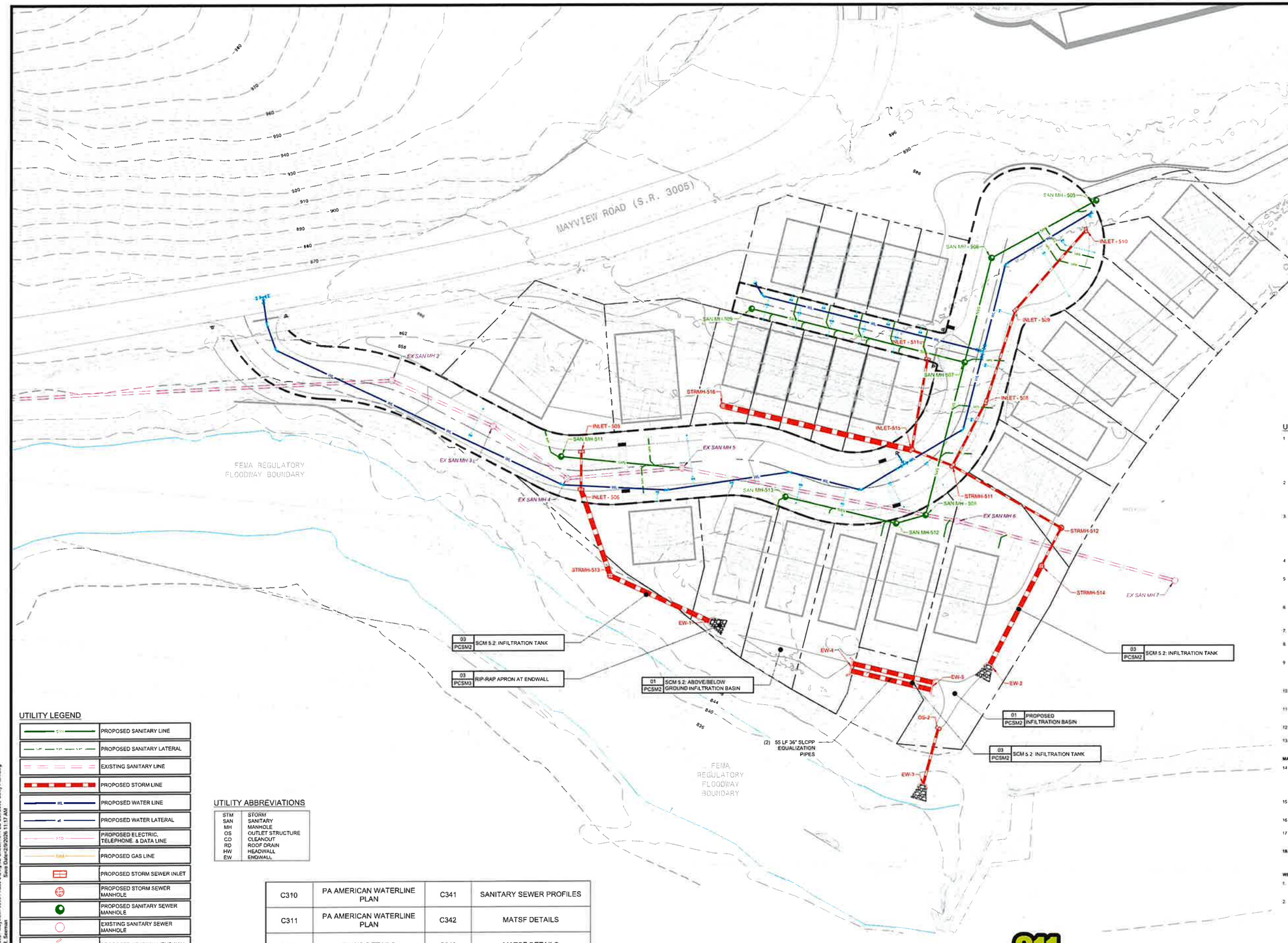
PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

GRADING PLAN

Project Number: 16927-0096
Drawing Scale: 1" = 30'
Date Issued: FEB 2026
Index Number: --
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

C200

Path & Filename:G:\Projects\16900\16927 Mayview\4-09\6 Phase 5\Dwg\03 Sheets\1 04 LD SwC\C200 Grading Plan.dwg
Save Date=2/6/2026 2:56 PM
Plot Date=2/9/2026 2:02 PM Calvin R. Sawmiller
22.0



UTILITY LEGEND

SAN	PROPOSED SANITARY LINE
SL	PROPOSED SANITARY LATERAL
	EXISTING SANITARY LINE
STM	PROPOSED STORM LINE
WL	PROPOSED WATER LINE
WL	PROPOSED WATER LATERAL
FTO	PROPOSED ELECTRIC, TELEPHONE, & DATA LINE
GAS	PROPOSED GAS LINE
	PROPOSED STORM SEWER INLET
	PROPOSED STORM SEWER MANHOLE
	PROPOSED SANITARY SEWER MANHOLE
	EXISTING SANITARY SEWER MANHOLE
	PROPOSED HEADWALL/ENDWALL
	PROPOSED FIRE HYDRANT
	PROPOSED WATER VALVE
	PROPOSED TEE

UTILITY ABBREVIATIONS

STM	STORM
SAN	SANITARY
MH	MANHOLE
OS	OUTLET STRUCTURE
CO	CLEANOUT
RD	ROOF DRAIN
HW	HEADWALL
EW	ENDWALL

C310	PA AMERICAN WATERLINE PLAN	C341	SANITARY SEWER PROFILES
C311	PA AMERICAN WATERLINE PLAN	C342	MATSF DETAILS
C312	PAWC DETAILS	C343	MATSF DETAILS
C330	STORM SEWER PROFILES	C344	MATSF DETAILS
C340	SANITARY SEWER PROFILES		

UTILITY PLAN NOTES:

1. THE CONTRACTOR SHALL COMPLY AT ALL TIMES WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, PROVISIONS, AND POLICIES GOVERNING SAFETY AND HEALTH, INCLUDING THE FEDERAL CONSTRUCTION SAFETY ACT (PUBLIC LAW 91-54); FEDERAL REGISTER, CHAPTER XVII, PART 1926 OF TITLE 29 REGULATIONS, OCCUPATIONAL SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION, AND SUBSEQUENT PUBLICATIONS UPDATING THESE REGULATIONS
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING THE AREAS AND CONDITIONS UNDER WHICH THE PROJECT IS TO BE CONSTRUCTED PRIOR TO THE SUBMISSION OF A BID. SUBMISSION OF A BID SHALL BE CONSTRUED TO MEAN THE CONTRACTOR HAS REVIEWED THE SITE AND IS FAMILIAR WITH CONDITIONS AND CONSTRAINTS OF THE SITE.
3. BEFORE EXCAVATION, ALL UNDERGROUND UTILITIES SHALL BE LOCATED IN THE FIELD BY THE PROPER AUTHORITIES. THE CONTRACTOR SHALL CONTACT PENNSYLVANIA ONE CALL SYSTEMS, INC. AT 8-1-1. THE LOCATION OF UTILITIES AND UNDERGROUND STRUCTURES ARE APPROXIMATE AND MAY NOT ALL BE SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND EXACT LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES
4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BID AND PERFORM ALL UTILITY WORK IN COMPLIANCE TO APPLICABLE LOCAL AND STATE CODES AND REGULATIONS
5. UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE RESPECTIVE UTILITY COMPANY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE UTILITIES ARE INSTALLED CORRECTLY TO MEET PROJECT REQUIREMENTS WHETHER PERFORMED BY THE CONTRACTOR OR NOT
6. THERE SHALL BE NO CONSTRUCTION OF ELECTRIC TRANSFORMERS, TELEPHONE OR CABLE JUNCTION BOXES, GAS METERS OR SIMILAR DEVICES PLACED OVER ANY OTHER UNDERGROUND UTILITY. CONTRACTOR TO VERIFY LOCATIONS PRIOR TO INSTALLATION
7. CONTRACTOR TO PROVIDE SHOP DRAWINGS ON ALL STORM SEWER MANHOLES AND INLETS
8. AN AS-BUILT DRAWING OF NEW UTILITY SERVICES SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE OWNER UPON COMPLETION OF THE PROJECT
9. ALL STORM PIPE SHALL BE HDPE, SMOOTH INTERIOR, CORRUGATED POLYETHYLENE PIPE UNLESS OTHERWISE NOTED. ALL STORM SEWER CONSTRUCTION MATERIALS AND METHODS SHALL BE IN ACCORDANCE WITH PENNDOT SPECIFICATIONS. ALL JOINTS SHALL BE WATERTIGHT
10. THE CONTRACTOR SHALL ASSURE THAT THERE IS POSITIVE DRAINAGE TO THE EXISTING INLETS UPON PLACEMENT OF NEW PAVEMENT
11. CONTRACTOR TO COORDINATE WITH THE BUILDING PLUMBING AND SITE ELECTRICAL PLANS TO ASSURE ACCURACY OF THE UTILITY CONNECTIONS TO THE BUILDING
12. ALL ROOF DRAINS ARE TO BE 6" SDR 35 PVC AT A MINIMUM 2% SLOPE, UNLESS OTHERWISE NOTED
13. ALL SANITARY LATERALS ARE TO BE INSTALLED TO THE RIGHT-OF-WAY AND BE CAPPED AND MARKED FOR FUTURE CONNECTION

MATSF NOTES

14. ALL SEWERS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH MATSF STANDARDS AND REGULATIONS (INCLUDING APPENDIX A, BASIC DESIGN AND CONSTRUCTION PARAMETER CHECKLIST, WHICH CAN BE FOUND AT THE MATSF WEBSITE WWW.MATSF.NET. GO TO "DEVELOPERS" TAB, AND THEN GO TO RULES AND REGULATIONS)
15. SANITARY SEWER PIPES LOCATED IN FILL AREAS REQUIRE AT LEAST 95% COMPACTION DENSITY AND EVIDENCE OF TEST RESULTS PER MATSF SPECIFICATIONS
16. ALL SANITARY SEWER PIPES SHALL BE SDR-35 UNLESS OTHERWISE NOTED
17. ALL MANHOLE JOINTS, WITH EXCEPTION OF THE FRAME TO THE CONE, MUST BE WRAPPED WITH "WRAPIDSEAL" OR APPROVED EQUAL.
18. **ALL DISTANCES AND SLOPES SHOWN ON THE PLANS ARE CENTERLINE TO CENTERLINE MEASUREMENTS. CONTRACTOR TO SUPPLY AS-BUILT DRAWINGS THAT SHOULD REFLECT ACTUAL PIPE LENGTHS AND SLOPES FROM THE INVERTS OF THE MANHOLES.**

WEST PENN POWER NOTES

1. ANY MODIFICATIONS OR REVISIONS TO THE APPROVED DESIGN SHALL BE REVIEWED AND APPROVED BY THE COMPANY'S ENGINEERING SECTION PRIOR TO IMPLEMENTATION
2. THE DEVELOPER SHALL NOTIFY THE COMPANY OF THE SCHEDULE FOR TRENCHING AT LEAST ONE WEEK PRIOR TO OPENING THE TRENCH TO ALLOW FOR THE SCHEDULING OF THE TRENCH, CONDUIT AND EQUIPMENT FOUNDATION INSPECTIONS. THIS NOTICE WILL ALSO PROVIDE THE COMPANY WITH THE OPPORTUNITY TO SCHEDULE THE CABLE AND ASSOCIATED EQUIPMENT INSTALLATIONS. THE COMPANY, AT ITS SOLE DISCRETION, MAY WAIVE THE INSPECTION REQUIREMENT. THE COMPANY WILL NOT INSTALL CABLE OR OTHER EQUIPMENT IN OR ON FACILITIES THAT FAIL TO MEET THE COMPANY'S REQUIREMENTS.

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0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

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GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

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#####	##	#####
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#	##	#

HASTINGS PHASE 5
South Fayette Township/Pittsburgh, PA
##########
##########
PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

UTILITY PLAN

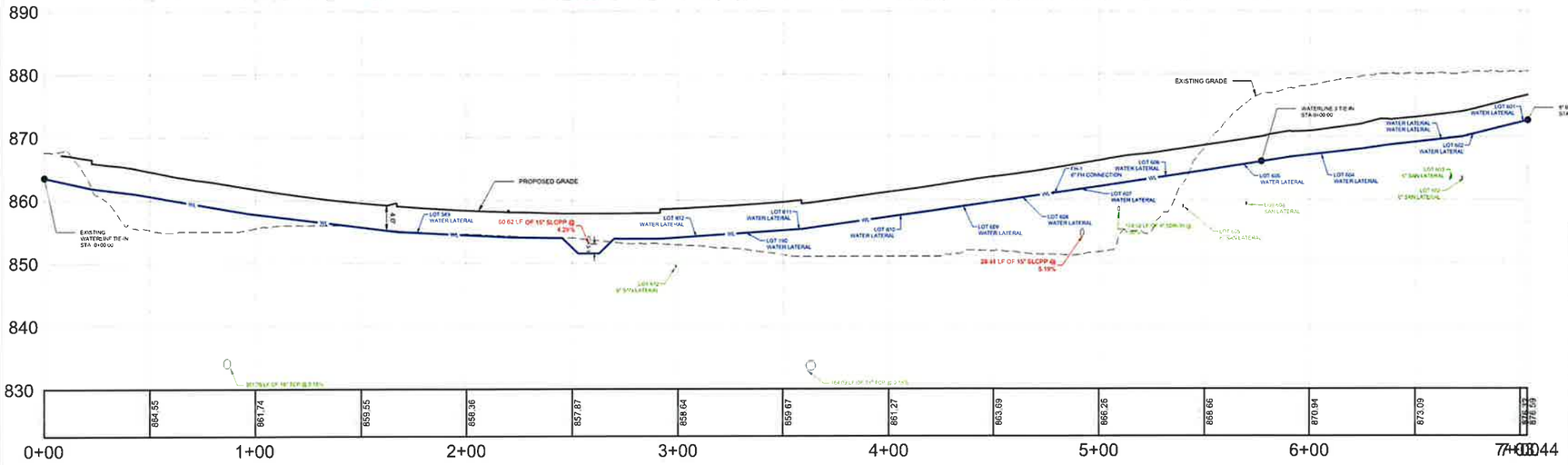
Project Number: 18927-0096
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Index Number: –
Drawn By: CRS
Checked By: DMH
Project Manager: ###

C300

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Plotted: Date=2/9/2026 11:17 AM





WATERLINE 2 PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'

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NORTH

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0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

PLAN VIEW
WATERLINE 2

PROFILE NOTES:
1. THE LENGTHS (LF) SHOWN ON THIS PLAN ARE CENTERLINE STRUCTURE TO CENTERLINE STRUCTURE, AND DO NOT ACCOUNT FOR SLOPES OR DEFINE ACTUAL LENGTHS OF PIPE
2. DEPTH OF WATERLINE TO BE FIELD DETERMINED BASED ON ACTUAL DEPTHS OF STORM AND SANITARY SEWERS
3. WATERLINE SHALL HAVE A MINIMUM DEPTH OF 4' AND A MAXIMUM DEPTH OF 5', UNLESS OTHERWISE NOTED

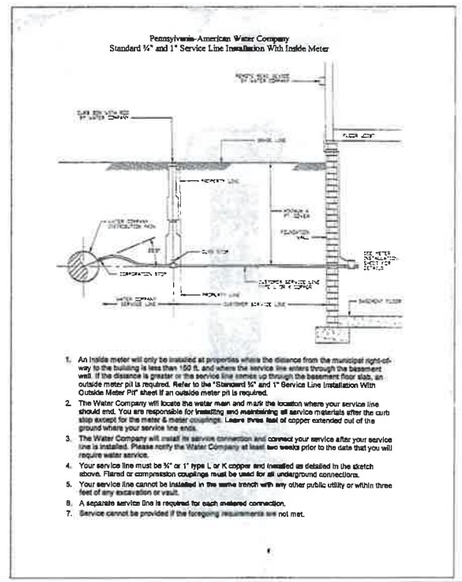
PROFILE STRUCTURE ABBREVIATONS

STM	STORM
SAN	SANITARY
MH	MANHOLE
OS	OUTLET STRUCTURE
CO	CLEANOUT
HW	HEADWALL
EW	ENDWALL

UTILITY LEGEND

	PROPOSED SANITARY LINE
	PROPOSED SANITARY LATERAL
	PROPOSED STORM LINE
	ROOF-FOUNDATION DRAIN
WL	PROPOSED WATER LINE
	PROPOSED WATER LATERAL
	PROPOSED WEST PENN ELECTRIC LINES (SIZE VARIES*)
	PROPOSED GAS LINE
	PROPOSED EASEMENT
	PROPOSED FIRE HYDRANT
	PROPOSED GAS VALVE
WV	PROPOSED WATER VALVE
	PROPOSED TEE
	WATER EASEMENT

PA AMERICAN NOTES:
1. MINIMUM 18" VERTICAL CLEARANCE WITH ALL UTILITIES.
2. MINIMUM 3' HORIZONTAL CLEARANCE WITH ALL UTILITIES; SHARING OF TRENCHES WITH GAS, ELECTRIC, ETC. WILL NOT BE ACCEPTED.
3. MINIMUM 18" HORIZONTAL CLEARANCE WITH UTILITY SERVICE LINES.
4. CURB BOXES TO BE LOCATED AT THE PROPERTY OR EASEMENT LINE. METER PITS TO BE INSTALLED APPROXIMATELY 5 FEET FROM CURB BOX. FINAL LOCATION OF CURB BOXES SHALL BE DETERMINED BY THE PA AMERICAN WATER INSPECTOR AND FIELD ADJUSTED AS NECESSARY DEPENDING ON ACTUAL LOCATION OF OTHER UTILITIES. CURB BOXES AND METER PITS CANNOT BE LOCATED IN DRIVEWAYS
5. SERVICE LINES TO BE TYPE K COPPER. SINGLE FAMILY HOME SERVICE LINES SHALL BE 2" COPPER LINES AND TOWNHOME AND LOFT SERVICE LINES SHALL BE 1" COPPER LINES BOTH PER PAWC SPECIFICATIONS
6. CONTRACTOR TO INSTALL TEMPORARY WATERLINE MARKER POSTS PERIODICALLY ALONG MAIN LINE TO ASSIST OTHER UTILITIES TO MEET MINIMUM CLEARANCE REQUIREMENTS
7. COORDINATE CONNECTIONS TO EXISTING LINES WITH PAWC
8. LONG SERVICE LINES SHALL BE INSTALLED IN CONDUIT SEALED WITH FERNCO'S
9. IT IS THE RESPONSIBILITY OF THE DEVELOPER TO MAINTAIN ALL STREET VALVE BOXES UNTIL THE FINAL WEARING SURFACE IS IN PLACE. IN ADDITION, THE DEVELOPER MUST RAISE OR LOWER ALL CURB BOXES, VALVE BOXES, HYDRANTS, AND ANY OTHER WATERLINE FACILITIES AFFECTED BY THE DEVELOPMENT AS REQUIRED UPON COMPLETION OF FINAL GRADING AND RESTORATION OF THE PROJECT.
10. THE WATER MAINLINE MAY HAVE LESS THAN 4' OF COVER IN AREAS WHERE IT WOULD OTHERWISE BE EXCESSIVELY DEEP. THE CONTRACTORS MUST CONSULT WITH PAWC IN THESE LOCATIONS PRIOR TO INSTALLATION OF THE WATERLINE
11. CONTRACTOR TO NOTIFY PA AMERICAN WATER COMPANY FOR TIE-IN TO EXISTING WATERLINE. CONTRACTOR WILL COMPLETE PHYSICAL CONNECTION. VALVE OPERATION AND WATER SERVICE SHUT OFF/ON SHALL BE PERFORMED BY PA AMERICAN WATER. TYPICAL OF ALL CONNECTIONS.
12. FIELD LOCK GASKETS REQUIRED FOR ALL WATER CONNECTIONS.
13. ADD TRACER WIRE TO ALL NEW MAINLINE WATERLINES.



1. An inside meter will only be installed at properties where the distance from the municipal right-of-way to the building is less than 150 ft. and where the service line enters through the basement wall. If the distance is greater or the service line comes up through the basement floor slab, an outside meter pit is required. Refer to the "Standard ¾" and 1" Service Line Installation With Outside Meter Pit" sheet if an outside meter pit is required.
2. The Water Company will locate the water main and mark the location where your service line should end. You are responsible for inserting and maintaining all service materials after the curb stop except for the meter & meter couplings. Leave three feet of copper extended out of the ground where your service line ends.
3. The Water Company will install its service connection and connect your service after your service line is installed. Please notify the Water Company at least two weeks prior to the date that you will require water service.
4. Your service line must be ¾" or 1" type L or K copper and installed as detailed in the sketch above. Flared or compression couplings must be used for all underground connections.
5. Your service line cannot be installed in the same trench with any other public utility or within three feet of any excavation or vault.
6. A separate service line is required for each metered connection.
7. Service cannot be provided if the foregoing requirements are not met.

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Plot Date=2/9/2026 2:02 PM Calvin R. Seaman

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REVISION RECORD

No	Date
01	---
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05	*
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07	*
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HASTINGS
South Fayette Township/Pittsburgh, PA
CHARTIERS & NORTH FAYETTE

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102

PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

PA AMERICAN WATERLINE PLAN

Project Number: 18927-0096
Drawing Scale: AS NOTED
Date Issued: FEB 2026
Index Number: --
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

C310



PLAN VIEW
WATERLINE 3

UTILITY LEGEND

	PROPOSED SANITARY LINE
	PROPOSED SANITARY LATERAL
	PROPOSED STORM LINE
	ROOF-FOUNDATION DRAIN
W	PROPOSED WATER LINE
W	PROPOSED WATER LATERAL
	PROPOSED WEST PENN ELECTRIC LINES (SIZE VARIES*)
	PROPOSED GAS LINE
	PROPOSED EASEMENT
	PROPOSED FIRE HYDRANT
	PROPOSED GAS VALVE
WV	PROPOSED WATER VALVE
	PROPOSED TEE
	WATER EASEMENT

PA AMERICAN NOTES:

1. MINIMUM 18" VERTICAL CLEARANCE WITH ALL UTILITIES
2. MINIMUM 3' HORIZONTAL CLEARANCE WITH ALL UTILITIES SHARING OF TRENCHES WITH GAS, ELECTRIC, ETC. WILL NOT BE ACCEPTED
3. MINIMUM 18" HORIZONTAL CLEARANCE WITH UTILITY SERVICE LINES
4. CURB BOXES TO BE LOCATED AT THE PROPERTY OR EASEMENT LINE. METER PITS TO BE INSTALLED APPROXIMATELY 5 FEET FROM CURB BOX. FINAL LOCATION OF CURB BOXES SHALL BE DETERMINED BY THE PA AMERICAN WATER INSPECTOR AND FIELD ADJUSTED AS NECESSARY DEPENDING ON ACTUAL LOCATION OF OTHER UTILITIES. CURB BOXES AND METER PITS CANNOT BE LOCATED IN DRIVEWAYS.
5. SERVICE LINES TO BE TYPE K COPPER. SINGLE FAMILY HOME SERVICE LINES SHALL BE 2" COPPER LINES AND TOWNHOME AND LOFT SERVICE LINES SHALL BE 1" COPPER LINES BOTH PER PAWC SPECIFICATIONS.
6. CONTRACTOR TO INSTALL TEMPORARY WATERLINE MARKER POSTS PERIODICALLY ALONG MAIN LINE TO ASSIST OTHER UTILITIES TO MEET MINIMUM CLEARANCE REQUIREMENTS.
7. COORDINATE CONNECTIONS TO EXISTING LINES WITH PAWC
8. LONG SERVICE LINES SHALL BE INSTALLED IN CONDUIT SEALED WITH FERNCOS.
9. IT IS THE RESPONSIBILITY OF THE DEVELOPER TO MAINTAIN ALL STREET VALVE BOXES UNTIL THE FINAL WEARING SURFACE IS IN PLACE. IN ADDITION, THE DEVELOPER MUST RAISE OR LOWER ALL CURB BOXES, VALVE BOXES, HYDRANTS, AND ANY OTHER WATERLINE FACILITIES AFFECTED BY THE DEVELOPMENT AS REQUIRED UPON COMPLETION OF FINAL GRADING AND RESTORATION OF THE PROJECT.
10. THE WATER MAINLINE MAY HAVE LESS THAN 4' OF COVER IN AREAS WHERE IT WOULD OTHERWISE BE EXCESSIVELY DEEP. THE CONTRACTORS MUST CONSULT WITH PAWC IN THESE LOCATIONS PRIOR TO INSTALLATION OF THE WATERLINE.
11. CONTRACTOR TO NOTIFY PA AMERICAN WATER COMPANY FOR TIE-IN TO EXISTING WATERLINE. CONTRACTOR WILL COMPLETE PHYSICAL CONNECTION. VALVE OPERATION AND WATER SERVICE SHUT OFF ON SHALL BE PERFORMED BY PA AMERICAN WATER. TYPICAL OF ALL CONNECTIONS
12. FIELD LOCK GASKETS REQUIRED FOR ALL WATER CONNECTIONS
13. ADD TRACER WIRE TO ALL NEW MAINLINE WATERLINES

PROFILE STRUCTURE ABBREVIATONS

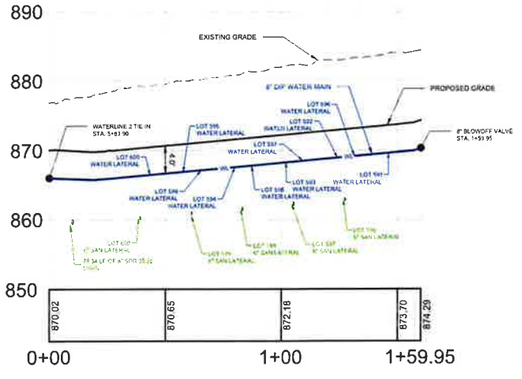
STM	STORM
SAN	SANITARY
MH	MANHOLE
OS	OUTLET STRUCTURE
CO	CLEANOUT
HW	HEADWALL
EW	ENDWALL

PROFILE NOTES:

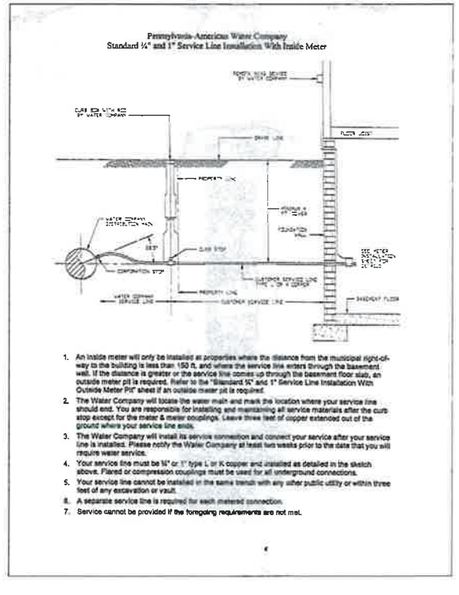
1. THE LENGTHS (LF) SHOWN ON THIS PLAN ARE CENTERLINE STRUCTURE TO CENTERLINE STRUCTURE, AND DO NOT ACCOUNT FOR SLOPES OR DEFINE ACTUAL LENGTHS OF PIPE.
2. DEPTH OF WATERLINE TO BE FIELD DETERMINED BASED ON ACTUAL DEPTHS OF STORM AND SANITARY SEWERS
3. WATERLINE SHALL HAVE A MINIMUM DEPTH OF 4' AND A MAXIMUM DEPTH OF 5', UNLESS OTHERWISE NOTED.

811 Know what's below. Call before you dig. 1-800-242-1776
Serial No. 20260352495

HOMESITE	SIZE (IN)	LENGTH (FT)	WATERLINE	STA	ALIGNMENT DIRECTION
589	1	23.3	WATERLINE 2	1+76.47	L
590	1	34.0	WATERLINE 2	3+32.67	L
591	1	15.0	WATERLINE 3	1+46.02	L
592	1	15.0	WATERLINE 3	1+24.02	L
593	1	15.0	WATERLINE 3	1+02.02	L
594	1	15.0	WATERLINE 3	0+80.02	L
595	1	15.0	WATERLINE 3	0+57.69	L
596	1	5.0	WATERLINE 3	1+31.33	R
597	1	5.0	WATERLINE 3	1+09.33	R
598	1	5.0	WATERLINE 3	0+87.33	R
599	1	5.0	WATERLINE 3	0+65.33	R
600	1	5.0	WATERLINE 3	0+43.33	R
601	1	1.9	WATERLINE 2	7+07.60	R
602	1	24.9	WATERLINE 2	6+98.05	R
603	1	36.7	WATERLINE 2	6+68.96	R
604	1	15.2	WATERLINE 2	6+12.16	R
605	1	15.0	WATERLINE 2	5+75.24	R
606	1	14.5	WATERLINE 2	5+37.97	R
607	1	25.0	WATERLINE 2	4+93.71	R
608	1	24.2	WATERLINE 2	4+63.94	R
609	1	19.2	WATERLINE 2	4+37.14	R
610	1	19.0	WATERLINE 2	4+05.70	R
611	1	3.9	WATERLINE 2	3+57.47	R
612	1	7.8	WATERLINE 2	3+08.51	R
FH-1	6	8.4	WATERLINE 2	4+78.29	L



WATERLINE 3 PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'



1. An inside meter will only be installed at properties where the distance from the municipal right-of-way to the building is less than 150 ft, and where the service line enters through the basement wall. If the distance is greater or the service line comes up through the basement floor slab, an outside meter pit is required. Refer to the "Standard ¾" and 1" Service Line Installation With Outside Meter Pit" sheet if an outside meter pit is required.
2. The Water Company will locate the water main and mark the location where your service line should end. You are responsible for installing and maintaining all service materials after the curb stop except for the meter & meter couplings. Leave three feet of copper extended out of the ground where your service line ends.
3. The Water Company will install its service connection and connect your service after your service line is installed. Please notify the Water Company at least two weeks prior to the date that you will require water service.
4. Your service line must be ¾" or 1" type L or K copper and installed as detailed in the sketch above. Flared or compression couplings must be used for all underground connections.
5. Your service line cannot be installed in the same trench with any other public utility or within three feet of any excavation or vault.
6. A separate service line is required for each metered connection.
7. Service cannot be provided if the foregoing requirements are not met.

NORTH

GRAPHIC SCALE

0 15 30 60 120
(IN FEET)
1 inch = 30 ft

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GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

REVISION RECORD

No	Date	
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HASTINGS
South Fayette Township/Pittsburgh, PA

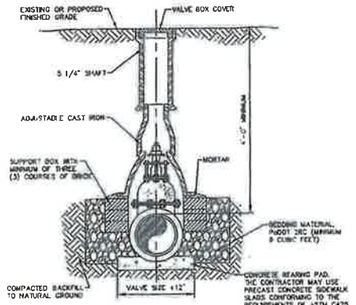
HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102
PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

PA AMERICAN WATERLINE PLAN

Project Number: 18927-0096
Drawing Scale: AS NOTED
Date Issued: FEB 2026
Index Number: --
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

C311

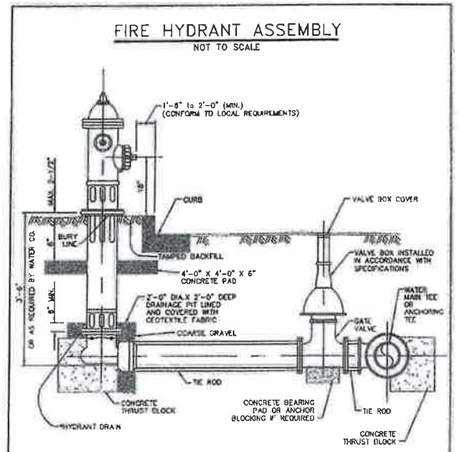
TYPICAL VALVE BOX INSTALLATION
NOT TO SCALE



IP
TYPICAL VALVE BOX INSTALLATION
JOB TITLE
TOWNSHIP, COUNTY
PENNSYLVANIA-AMERICAN WATER COMPANY SYSTEM
PENNSYLVANIA-AMERICAN WATER COMPANY CORPORATE ENGINEERING
DETAIL 61-300-6 SH.

1 C606	TYPICAL VALVE BOX INSTALLATION

FIRE HYDRANT ASSEMBLY
NOT TO SCALE

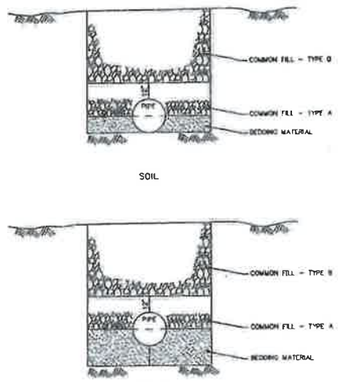


*NOTE:
FOR INSTALLATION IN HIGH GROUND WATER TABLES, ENGINEER MAY DELETE DRAINAGE PIT AND REQUIRE THE HYDRANT DRAIN TO BE PLUGGED.

IP
FIRE HYDRANT ASSEMBLY
JOB TITLE
TOWNSHIP, COUNTY
PENNSYLVANIA-AMERICAN WATER COMPANY SYSTEM
PENNSYLVANIA-AMERICAN WATER COMPANY CORPORATE ENGINEERING
DETAIL 61-300-3 SH.

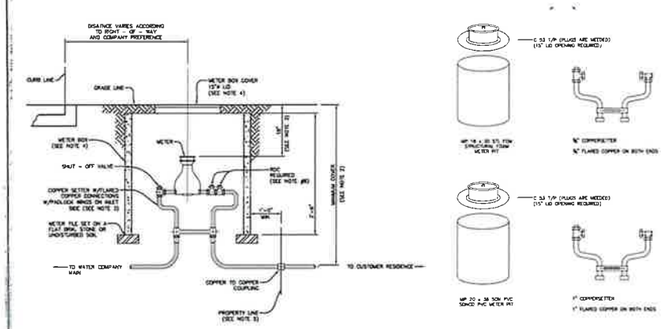
2 C606	FIRE HYDRANT ASSEMBLY

TRENCH BACKFILL MATERIALS
NOT TO SCALE



IP
TRENCH BACKFILL MATERIALS
JOB TITLE
TOWNSHIP, COUNTY
PENNSYLVANIA-AMERICAN WATER COMPANY SYSTEM
PENNSYLVANIA-AMERICAN WATER COMPANY CORPORATE ENGINEERING
DETAIL 61-300-2 SH.

3 C606	TRENCH BACKFILL MATERIALS

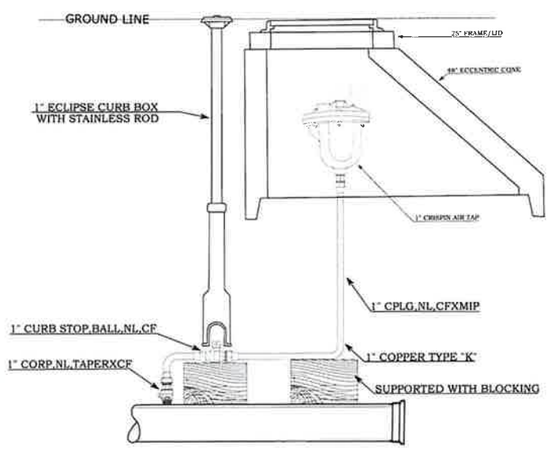


NOTES :

1. THIS SHEET DETAILS A SERVICE LINE INSTALLATION THAT INCLUDES AN OUTSIDE METER PIT.
2. THE WATER COMPANY WILL LOCATE THE WATER MAIN AND MARK THE LOCATION WHERE YOUR SERVICE LINE SHOULD END. THE CUSTOMER IS RESPONSIBLE FOR INSTALLING AND MAINTAINING ALL SERVICE MATERIALS AFTER THE CURB STOP, EXCEPT FOR THE METER. LEAVE THREE FEET OF COPPER EXTENDED OUT OF THE GROUND WHERE YOUR SERVICE LINE ENDS.
3. YOUR SERVICE LINE MUST BE ¾" OR 1" TYPE L OR K COPPER OR MATERIAL APPROVED BY THE WATER COMPANY AND INSTALLED AS DETAILED IN THE SKETCH ABOVE. FLARED OR COMPRESSION COUPLINGS MUST BE USED FOR ALL UNDERGROUND CONNECTIONS.
4. A 18" DIAMETER METER PIT IS REQUIRED FOR A ¾" METER. A 20" DIAMETER METER PIT IS REQUIRED FOR USE WITH A 1" METER. LID OPENING SHALL BE 15".
5. METER SETTER SHALL BE EQUIPPED WITH A FLANGED ANGLE INVERTED KEY SHUTOFF VALVE AND A CARTRIDGE ANGLE STYLE DUAL CHECK BACKFLOW DEVICE. METER SETTER SHALL BE INSTALLED 18" FROM BOTTOM OF LID TO TOP OF METER.
6. PLEASE NOTIFY THE WATER COMPANY AT LEAST FOUR WEEKS PRIOR TO THE DATE THAT YOU REQUIRE SERVICE.
7. A PRESSURE REDUCING VALVE (PRV) IS REQUIRED WHEN PRESSURE EXCEEDS 100 PSI. A TANDEM SETTER SHALL BE USED WITH A BRASS PRV WITH EXPOSED STAINLESS STEEL HARDWARE.
8. RESIDENTIAL APPLICATIONS REQUIRE THE USE OF A RESIDENTIAL DUAL CHECK VALVE. COMMERCIAL AND INDUSTRIAL APPLICATIONS REQUIRE A TESTABLE DOUBLE CHECK VALVE OR REDUCED PRESSURE ZONE (PRZ) BACKFLOW PREVENTER, DEPENDING ON SERVICE PROCESS.
9. ALL OTHER SOURCES OF WATER SUCH AS WELLS, CISTERNS, ETC., MUST BE PHYSICALLY DISCONNECTED FROM THE PIPING THAT IS TO BE SERVICED BY THE WATER COMPANY.
10. THE SERVICE LINE SHALL NOT BE INSTALLED IN THE SAME TRENCH WITH ANY OTHER PUBLIC UTILITY OR WITHIN FIVE FEET OF ANY EXCAVATION OR VAULT.
11. A SEPARATE SERVICE LINE IS REQUIRED FOR EACH METERED CONNECTION.
12. SERVICE CANNOT BE PROVIDED IF THE FOREGOING REQUIREMENTS ARE NOT MET.
13. THE WATER COMPANY WILL INSTALL THE METER AFTER THE CUSTOMER HAS COMPLETED THE ABOVE REQUIREMENTS AND AFTER THE CUSTOMER AND WATER COMPANY COMPLETE THEIR SERVICE LINES.
14. A PRESSURE EXPANSION TANK ON THE HOT WATER SYSTEM IS HIGHLY RECOMMENDED. THE WATER COMPANY WILL NOT BE RESPONSIBLE FOR ANY LEAKAGE FROM THE HOT WATER TANK POP-OFF VALVE.

4 C606	METER BOX INSTALLATION

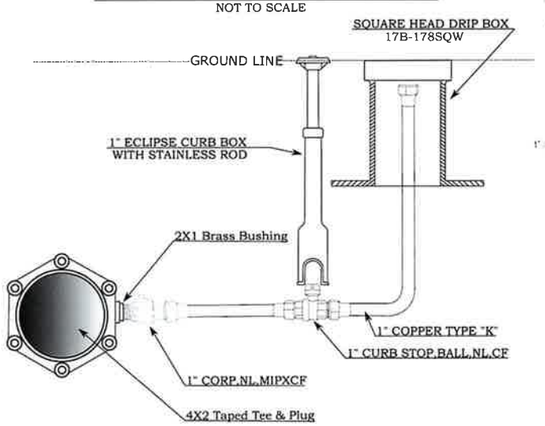
TYPICAL 1"AIR RELEASE DETAIL
NOT TO SCALE



DETAIL 61-300-8A
DETAIL 61-300-8

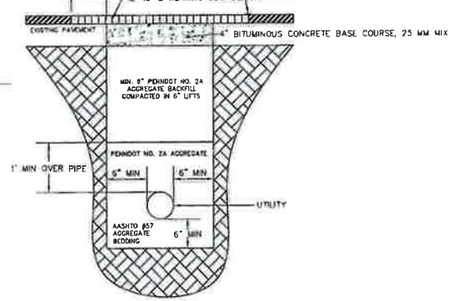
5 C606	TYPICAL AIR RELEASE DETAIL

TYPICAL 1" BLOW-OFF DETAIL
NOT TO SCALE



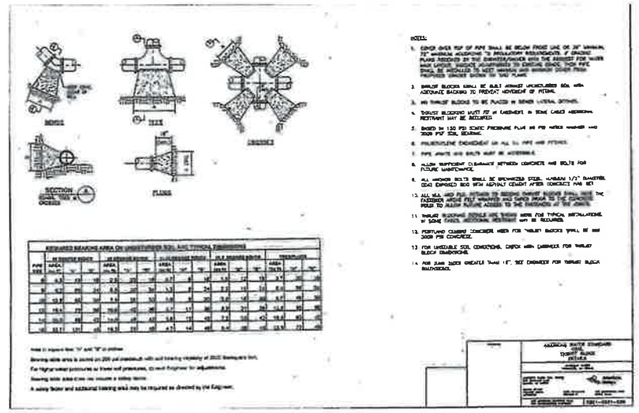
DETAIL 61-300-9

6 C606	TYPICAL BLOW OFF DETAIL



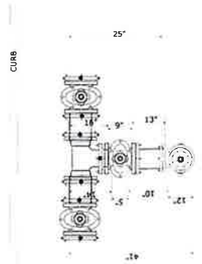
UTILITY LATERAL TRENCH RESTORATION
(PERPENDICULAR TO ROADWAY)
N.T.S.

7 C606	LATERAL TRENCH RESTORATION



8 C606	THRUST BLOCKING DETAIL

MINIMUM DISTANCE HYDRANT



9 C606	MINIMUM DISTANCE HYDRANT

GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

REVISION RECORD

Date		
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HASTINGS
South Fayette Township/Pittsburgh, PA

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102

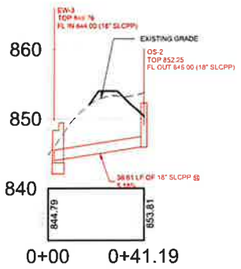
PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

PAWC DETAILS

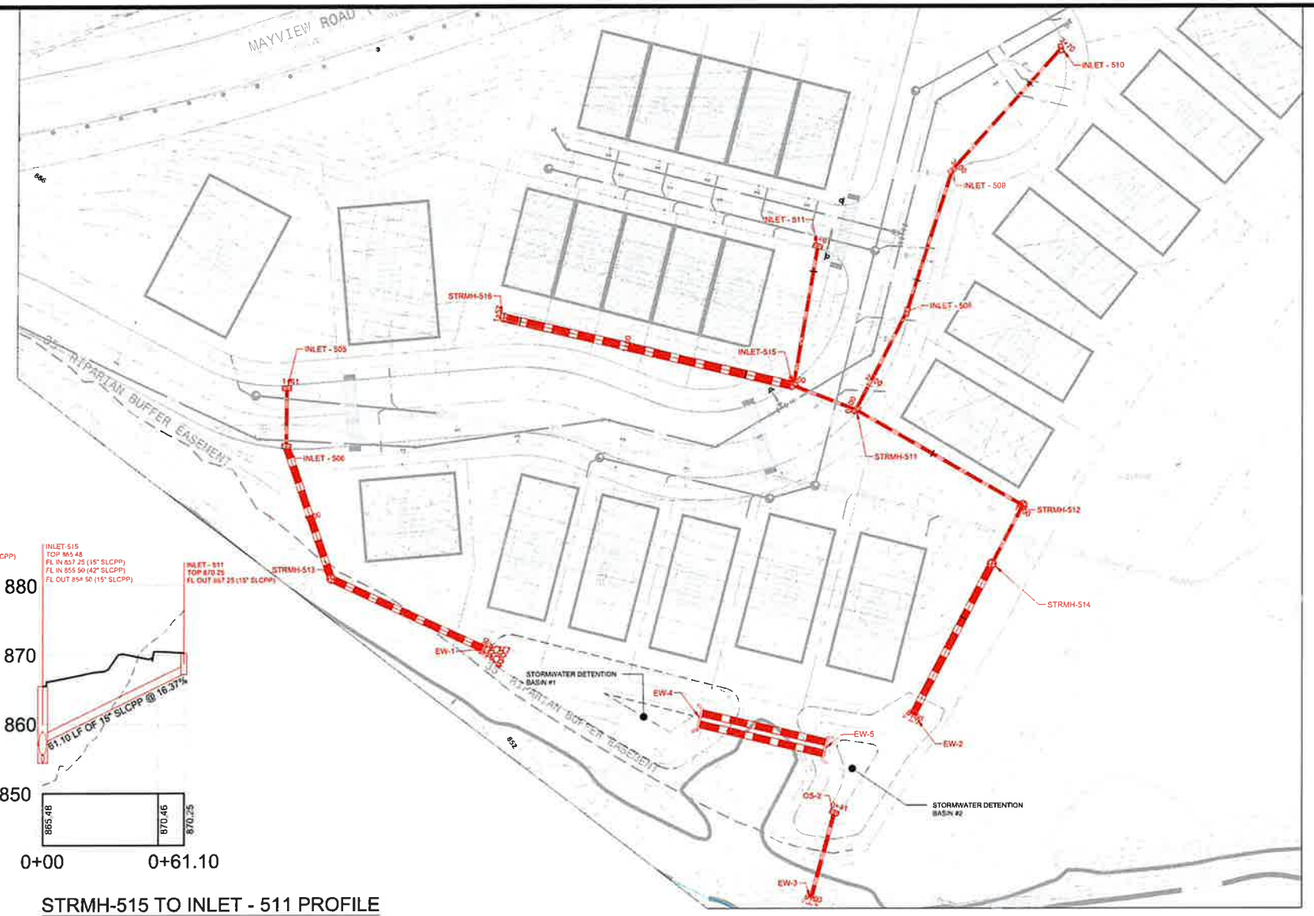
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Date Issued: FEB 2026
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Project Manager: DMH

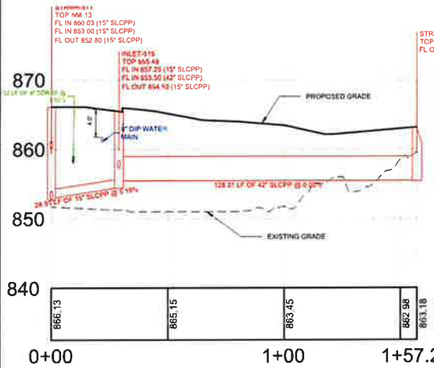
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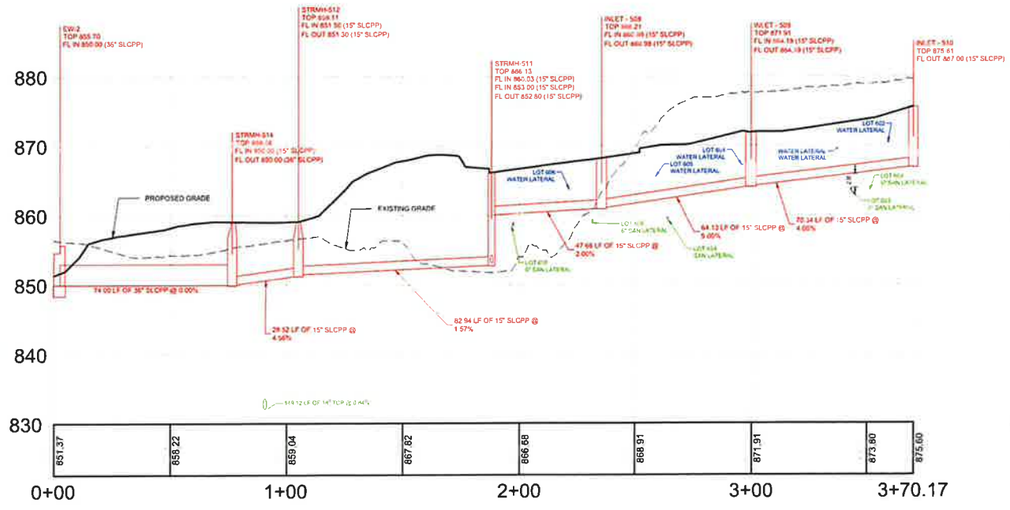
OS-2 TO EW-3 PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'



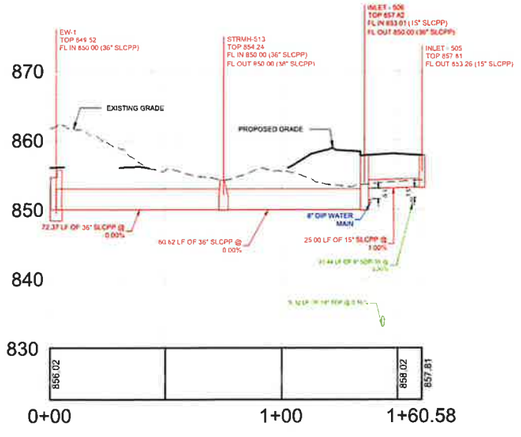


STRMH-516 TO STRMH-511 PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'

STRMH-515 TO INLET - 511 PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'



INLET-510 TO EW-2 PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'



INLET-505 TO EW-1 PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'

UTILITY LEGEND

	PROPOSED SANITARY LINE
	PROPOSED SANITARY LATERAL
	PROPOSED STORM LINE
	PROPOSED WATER LINE
	PROPOSED WATER LATERAL
	PROPOSED ELECTRIC, TELEPHONE, & DATA LINE
	PROPOSED GAS LINE
	PROPOSED STORM SEWER INLET
	PROPOSED STORM SEWER MANHOLE
	PROPOSED SANITARY SEWER MANHOLE
	PROPOSED HEADWALL/ENDWALL
	PROPOSED FIRE HYDRANT
	PROPOSED WATER VALVE
	PROPOSED TEE

UTILITY PLAN NOTES:

1. THE CONTRACTOR SHALL COMPLY AT ALL TIMES WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, PROVISIONS, AND POLICIES GOVERNING SAFETY AND HEALTH, INCLUDING THE FEDERAL CONSTRUCTION SAFETY ACT (PUBLIC LAW 91-54) FEDERAL REGISTER, CHAPTER XVII, PART 1926 OF TITLE 29 REGULATIONS, OCCUPATIONAL SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION AND SUBSEQUENT PUBLICATIONS UPDATING THESE REGULATIONS
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING THE AREAS AND CONDITIONS UNDER WHICH THE PROJECT IS TO BE CONSTRUCTED PRIOR TO THE SUBMISSION OF A BID. SUBMISSION OF A BID SHALL BE CONSTRUED TO MEAN THE CONTRACTOR HAS REVIEWED THE SITE AND IS FAMILIAR WITH CONDITIONS AND CONSTRAINTS OF THE SITE.
3. BEFORE EXCAVATION, ALL UNDERGROUND UTILITIES SHALL BE LOCATED IN THE FIELD BY THE PROPER AUTHORITIES. THE CONTRACTOR SHALL CONTACT PENNSYLVANIA ONE CALL SYSTEM, INC. AT 8-1-1. THE LOCATION OF UTILITIES AND UNDERGROUND STRUCTURES ARE APPROXIMATE AND MAY NOT ALL BE SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND EXACT LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES.
4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BID AND PERFORM ALL UTILITY WORK IN COMPLIANCE TO APPLICABLE LOCAL AND STATE CODES AND REGULATIONS.
5. UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE RESPECTIVE UTILITY COMPANY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE UTILITIES ARE INSTALLED CORRECTLY TO MEET PROJECT REQUIREMENTS WHETHER PERFORMED BY THE CONTRACTOR OR NOT.
6. THERE SHALL BE NO CONSTRUCTION OF ELECTRIC TRANSFORMERS, TELEPHONE OR CABLE JUNCTION BOXES, GAS METERS OR SIMILAR DEVICES PLACED OVER ANY OTHER UNDERGROUND UTILITY. CONTRACTOR TO VERIFY LOCATIONS PRIOR TO INSTALLATION.
7. CONTRACTOR TO PROVIDE SHOP DRAWINGS ON ALL STORM SEWER MANHOLES AND INLETS
8. AN AS-BUILT DRAWING OF NEW UTILITY SERVICES SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE OWNER UPON COMPLETION OF THE PROJECT.
9. ALL STORM PIPE SHALL BE HDPE, SMOOTH INTERIOR, CORRUGATED POLYETHYLENE PIPE UNLESS OTHERWISE NOTED. ALL STORM SEWER CONSTRUCTION MATERIALS AND METHODS SHALL BE IN ACCORDANCE WITH PENNDOT SPECIFICATIONS. ALL JOINTS SHALL BE WATERTIGHT.
10. THE CONTRACTOR SHALL ASSURE THAT THERE IS POSITIVE DRAINAGE TO THE EXISTING INLETS UPON PLACEMENT OF NEW PAVEMENT.
11. CONTRACTOR TO COORDINATE WITH THE BUILDING PLUMBING AND SITE ELECTRICAL PLANS TO ASSURE ACCURACY OF THE UTILITY CONNECTIONS TO THE BUILDING.
12. ALL ROOF DRAINS ARE TO BE 6" SDR 35 PVC AT A MINIMUM 2% SLOPE UNLESS OTHERWISE NOTED
13. ALL SANITARY LATERALS ARE TO BE INSTALLED TO THE RIGHT-OF-WAY AND BE CAPPED AND MARKED FOR FUTURE CONNECTION.

MATSF NOTES

14. ALL SEWERS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH MATSF STANDARDS AND REGULATIONS, INCLUDING APPENDIX A, BASIC DESIGN AND CONSTRUCTION PARAMETER CHECKLIST, WHICH CAN BE FOUND AT THE MATSF WEBSITE WWW.MATSF.NET. GO TO "DEVELOPERS" TAB, AND THEN GO TO RULES AND REGULATIONS.
15. SANITARY SEWER PIPES LOCATED IN FILL AREAS REQUIRE AT LEAST 95% COMPACTION DENSITY AND EVIDENCE OF TEST RESULTS PER MATSF SPECIFICATIONS.
16. ALL SANITARY SEWER PIPES SHALL BE SDR-35 UNLESS OTHERWISE NOTED
17. ALL MANHOLE JOINTS, WITH EXCEPTION OF THE FRAME TO THE CONE, MUST BE WRAPPED WITH "KRAPIDSEAL" OR APPROVED EQUAL.
18. **ALL DISTANCES AND SLOPES SHOWN ON THE PLANS ARE CENTERLINE TO CENTERLINE MEASUREMENTS. CONTRACTOR TO SUPPLY AS-BUILT DRAWINGS THAT SHOULD REFLECT ACTUAL PIPE LENGTHS AND SLOPES FROM THE INVERTS OF THE MANHOLES.**

PLAN VIEW
OS-1 TO EW-3
OS-2 TO EW-4
INLET-510 TO EW-2
INLET-505 TO EW-1
INLET-507 TO INLET-508

NORTH

GRAPHIC SCALE
0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

811
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GATEWAY ENGINEERS
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REVISION RECORD

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HASTINGS
South Fayette Township/Pittsburgh, PA

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102

PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

STORM PROFILES

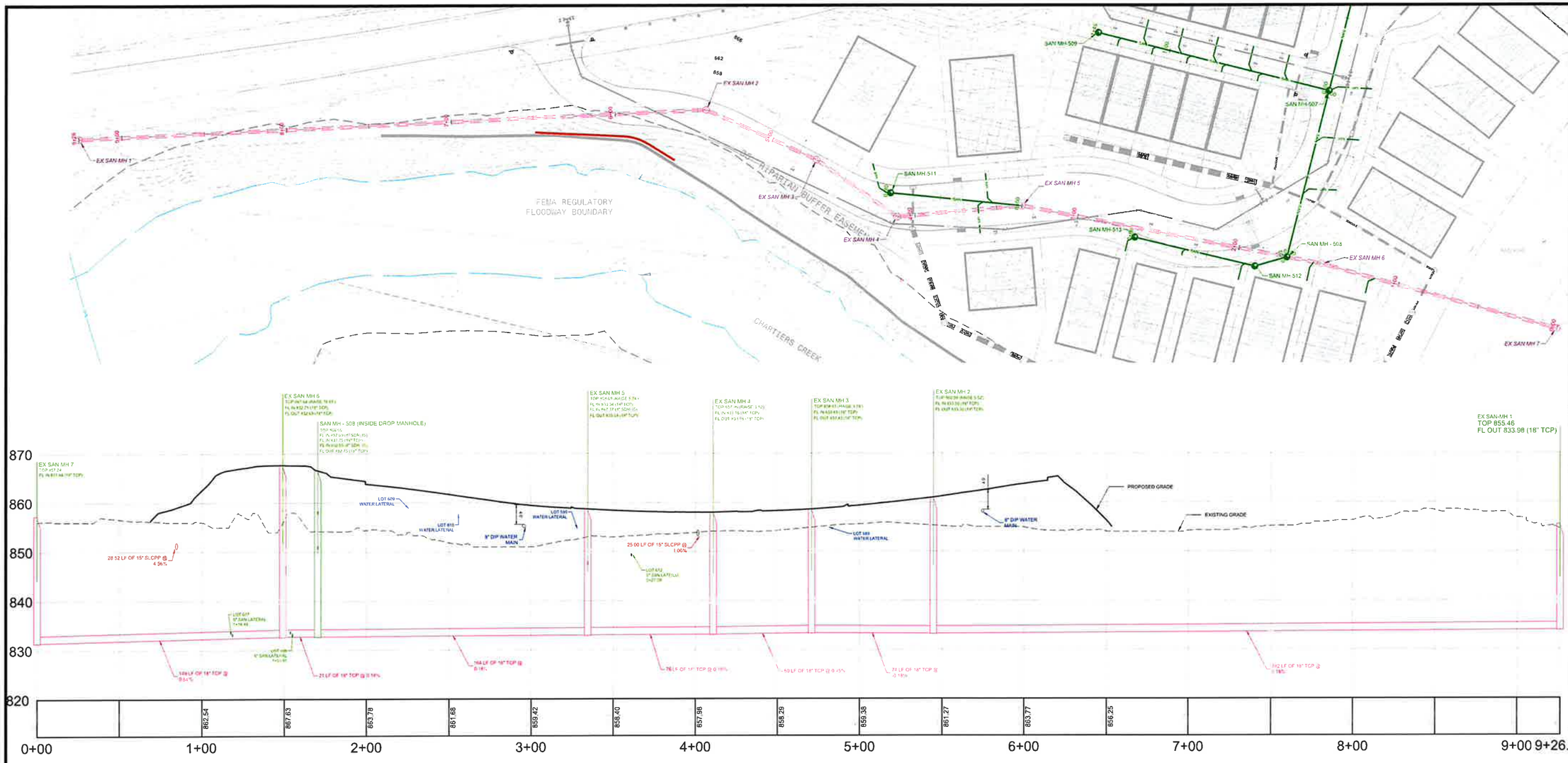
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Index Number: --
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Checked By: DMH
Project Manager: DMH

C330

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Last Plot=2/9/2026 2:12 PM Calvin E. Sammon
22 by



EXISTING SAN RUN PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'

UTILITY LEGEND

SAN	PROPOSED SANITARY LINE		PROPOSED STORM SEWER INLET
SAT SAN SAT SAT	PROPOSED SANITARY LATERAL		PROPOSED STORM SEWER MANHOLE
STM STM STM STM STM	PROPOSED STORM LINE		PROPOSED SANITARY SEWER MANHOLE
	PROPOSED WATER LINE		PROPOSED HEADWALL/ENDWALL
	PROPOSED WATER LATERAL		PROPOSED FIRE HYDRANT
	PROPOSED ELECTRIC, TELEPHONE, & DATA LINE		PROPOSED WATER VALVE
	PROPOSED GAS LINE		PROPOSED TEE
	EXISTING SANITARY LINE		EXISTING SANITARY SEWER MANHOLE

UTILITY PLAN NOTES:

1. THE CONTRACTOR SHALL COMPLY AT ALL TIMES WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, PROVISIONS, AND POLICIES GOVERNING SAFETY AND HEALTH, INCLUDING THE FEDERAL CONSTRUCTION SAFETY ACT (PUBLIC LAW 91-54), FEDERAL REGISTER, CHAPTER XVII, PART 1926 OF TITLE 29 REGULATIONS, OCCUPATIONAL SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION, AND SUBSEQUENT PUBLICATIONS UPDATING THESE REGULATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING THE AREAS AND CONDITIONS UNDER WHICH THE PROJECT IS TO BE CONSTRUCTED PRIOR TO THE SUBMISSION OF A BID. SUBMISSION OF A BID SHALL BE CONSTRUED TO MEAN THE CONTRACTOR HAS REVIEWED THE SITE AND IS FAMILIAR WITH CONDITIONS AND CONSTRAINTS OF THE SITE.
3. BEFORE EXCAVATION, ALL UNDERGROUND UTILITIES SHALL BE LOCATED IN THE FIELD BY THE PROPER AUTHORITIES. THE CONTRACTOR SHALL CONTACT PENNSYLVANIA ONE CALL SYSTEMS, INC AT 8-1-1. THE LOCATION OF UTILITIES AND UNDERGROUND STRUCTURES ARE APPROXIMATE AND MAY NOT ALL BE SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND EXACT LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES.
4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BID AND PERFORM ALL UTILITY WORK IN COMPLIANCE TO APPLICABLE LOCAL AND STATE CODES AND REGULATIONS.
5. UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE RESPECTIVE UTILITY COMPANY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE UTILITIES ARE INSTALLED CORRECTLY TO MEET PROJECT REQUIREMENTS WHETHER PERFORMED BY THE CONTRACTOR OR NOT.
6. THERE SHALL BE NO CONSTRUCTION OF ELECTRIC TRANSFORMERS, TELEPHONE OR CABLE JUNCTION BOXES, GAS METERS OR SIMILAR DEVICES PLACED OVER ANY OTHER UNDERGROUND UTILITY. CONTRACTOR TO VERIFY LOCATIONS PRIOR TO INSTALLATION.
7. CONTRACTOR TO PROVIDE SHOP DRAWINGS ON ALL STORM SEWER MANHOLES AND INLETS.
8. AN AS BUILT DRAWING OF NEW UTILITY SERVICES SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE OWNER UPON COMPLETION OF THE PROJECT.
9. ALL STORM PIPE SHALL BE HDPE, SMOOTH INTERIOR, CORRUGATED POLYETHYLENE PIPE UNLESS OTHERWISE NOTED. ALL STORM SEWER CONSTRUCTION MATERIALS AND METHODS SHALL BE IN ACCORDANCE WITH PENNDOT SPECIFICATIONS. ALL JOINTS SHALL BE WATERTIGHT.
10. THE CONTRACTOR SHALL ASSURE THAT THERE IS POSITIVE DRAINAGE TO THE EXISTING INLETS UPON PLACEMENT OF NEW PAVEMENT.
11. CONTRACTOR TO COORDINATE WITH THE BUILDING PLUMBING AND SITE ELECTRICAL PLANS TO ASSURE ACCURACY OF THE UTILITY CONNECTIONS TO THE BUILDING.
12. ALL ROOF DRAINS ARE TO BE 6" SDR 35 PVC AT A MINIMUM 2% SLOPE UNLESS OTHERWISE NOTED.
13. ALL SANITARY LATERALS ARE TO BE INSTALLED TO THE RIGHT-OF-WAY AND BE CAPPED AND MARKED FOR FUTURE CONNECTION.

MATSF NOTES

1. ALL SEWERS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH MATSF STANDARDS AND REGULATIONS, INCLUDING APPENDIX A, BASIC DESIGN AND CONSTRUCTION PARAMETER CHECKLIST, WHICH CAN BE FOUND AT THE MATSF WEBSITE WWW.MATSF.NET. GO TO 'DEVELOPERS' TAB AND THEN GO TO RULES AND REGULATIONS.
2. SANITARY SEWER PIPES LOCATED IN FILL AREAS REQUIRE AT LEAST 95% COMPACTION DENSITY AND EVIDENCE OF TEST RESULTS PER MATSF SPECIFICATIONS.
3. ALL SANITARY SEWER PIPES SHALL BE SDR 35 UNLESS OTHERWISE NOTED.
4. ALL MANHOLE JOINTS WITH EXCEPTION OF THE FRAME TO THE CONE, MUST BE WRAPPED WITH "WRAPIDSEAL" OR APPROVED EQUAL.
5. **ALL DISTANCES AND SLOPES SHOWN ON THE PLANS ARE CENTERLINE TO CENTERLINE MEASUREMENTS. CONTRACTOR TO SUPPLY AS-BUILT DRAWINGS THAT SHOULD REFLECT ACTUAL PIPE LENGTHS AND SLOPES FROM THE INVERTS OF THE MANHOLES.**

HOMESITE	STA FROM DS MH	DS MH
607	1+14	EX SAN MH 7
608	0+03	EX SAN MH 6

PROFILE NOTES:

1. THE LENGTHS (LF) SHOWN ON THIS PLAN ARE CENTERLINE STRUCTURE TO CENTERLINE STRUCTURE AND DO NOT ACCOUNT FOR SLOPES OR DEFINE ACTUAL LENGTHS OF PIPE.

PROFILE STRUCTURE ABBREVIATONS

STM	STORM
SAN	SANITARY
MH	MANHOLE
OS	OUTLET STRUCTURE
CO	CLEANOUT
HW	HEADWALL
EW	ENDWALL

PLAN VIEW
EXISTING SAN RUN PROFILE

NORTH

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

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Serial No. 20260352495

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GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

REVISION RECORD

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02	---
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08	"

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102

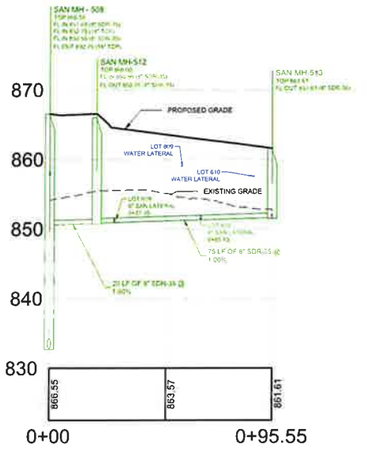
PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

SANITARY PROFILES

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Drawing Scale: AS NOTED
Date Issued: FEB 2026
Index Number: --
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

C340

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SAN MH-512 TO SAN MH-508 PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'

UTILITY LEGEND

SAN	PROPOSED SANITARY LINE
SAN LAT SAN LAT SAN LAT	PROPOSED SANITARY LATERAL
STM STM STM STM STM	PROPOSED STORM LINE
W W W	PROPOSED WATER LINE
W W W	PROPOSED WATER LATERAL
	PROPOSED ELECTRIC, TELEPHONE, & DATA LINE
	PROPOSED GAS LINE
	PROPOSED STORM SEWER INLET
	PROPOSED STORM SEWER MANHOLE
	PROPOSED SANITARY SEWER MANHOLE
	PROPOSED HEADWALL/ENDWALL
	PROPOSED FIRE HYDRANT
	PROPOSED WATER VALVE
	PROPOSED TEE
SAN SAN SAN SAN	EXISTING SANITARY LINE
	EXISTING SANITARY SEWER MANHOLE

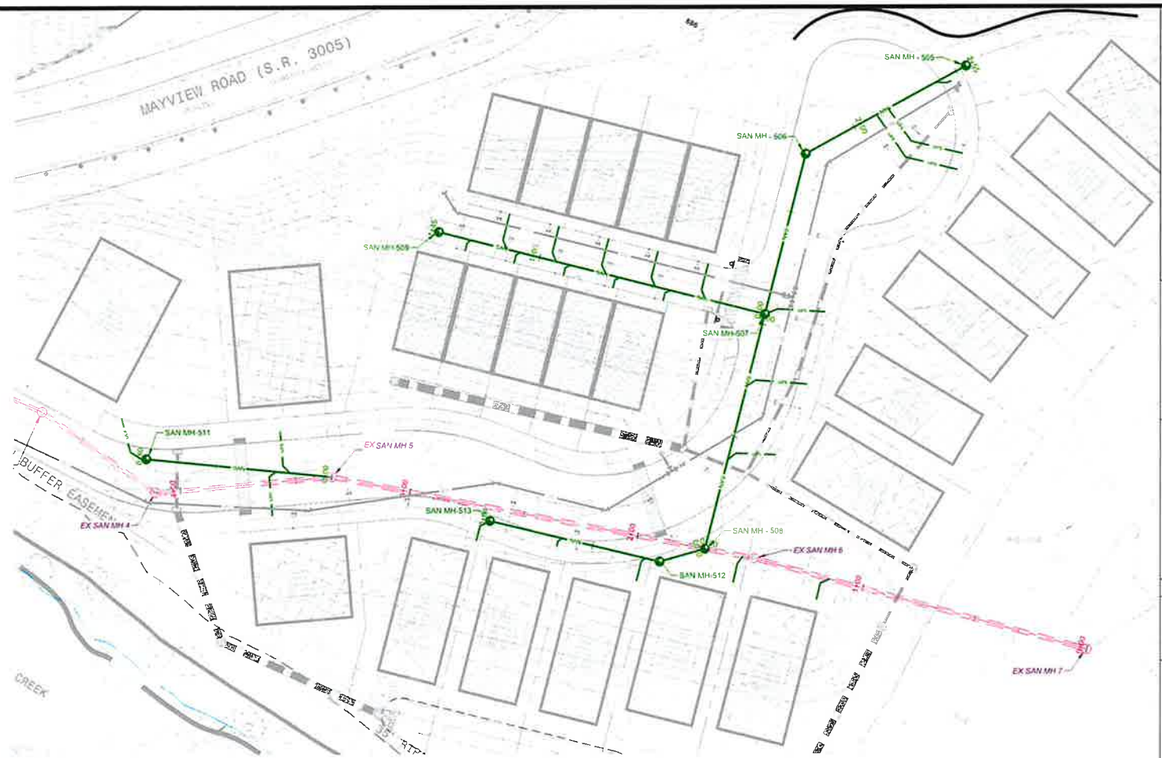
HOMESITE	STA FROM DS MH	DS MH
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590	0+97	EX SAN MH 5
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592	1+22	SAN MH-507
593	1+00	SAN MH-507
594	0+78	SAN MH-507
595	0+50	SAN MH-507
596	1+13	SAN MH-507
597	0+91	SAN MH-507
598	0+69	SAN MH-507
599	0+47	SAN MH-507
600	0+24	SAN MH-507
601	0+00	SAN MH-505
602	0+40	SAN MH-506
603	0+35	SAN MH-506
604	0+00	SAN MH-507
605	0+71	SAN MH-508
606	0+38	SAN MH-508
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612	0+22	EX SAN MH 5

PROFILE NOTES:

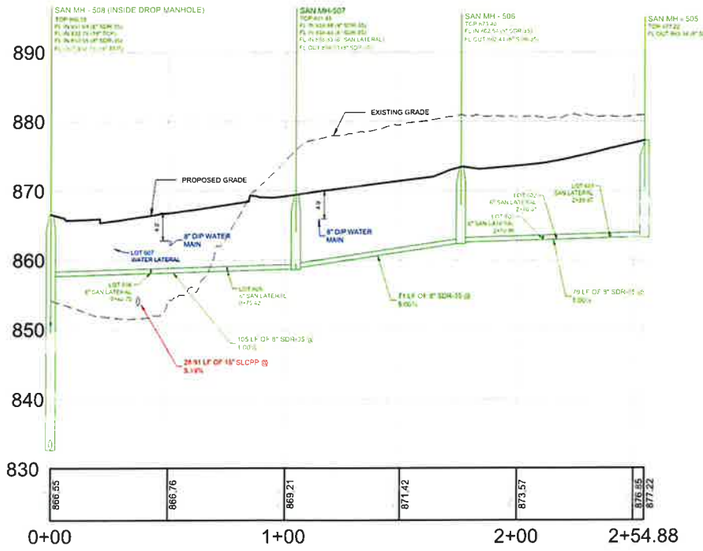
1. THE LENGTHS (LF) SHOWN ON THIS PLAN ARE CENTERLINE STRUCTURE TO CENTERLINE STRUCTURE, AND DO NOT ACCOUNT FOR SLOPES OR DEFINE ACTUAL LENGTHS OF PIPE

PROFILE STRUCTURE ABBREVIATONS

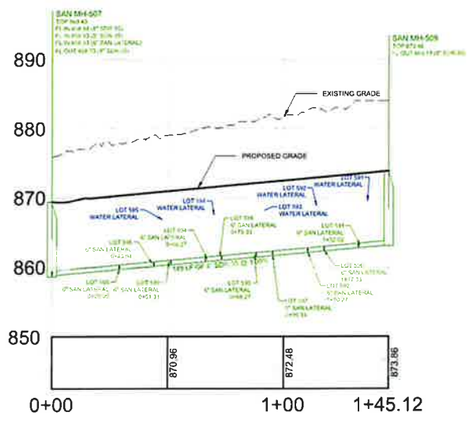
STM	STORM
SAN	SANITARY
MH	MANHOLE
OS	OUTLET STRUCTURE
CO	CLEANOUT
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EW	ENDWALL



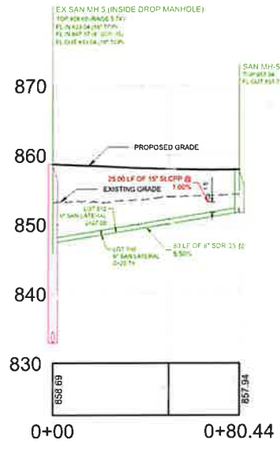
PLAN VIEW
SAN MH-512 TO SAN MH-508
SAN MH-508 TO SAN MH-505
SAN MH-509 TO SAN MH-507
SAN MH-511 TO EX SAN MH



SAN MH-508 TO SAN MH-505 PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'



SAN MH-509 TO SAN MH-507 PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'



SAN MH-511 TO EX SAN MH PROFILE
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VERTICAL SCALE: 1" = 10'

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NORTH

GRAPHIC SCALE
0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

811 Know what's below. Call before you dig.
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Serial No. 20260352495

GATEWAY ENGINEERS
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REVISION RECORD

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03	"
04	"
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HASTINGS
South Fayette Township/Pittsburgh, PA

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102

PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

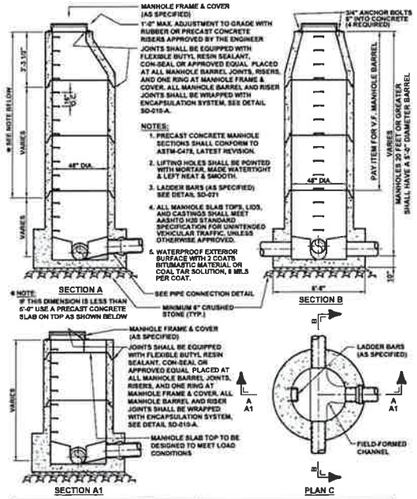
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Drawing Scale: AS NOTED
Date Issued: FEB 2026
Index Number: --
Drawn By: CRS
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Project Manager: DMH

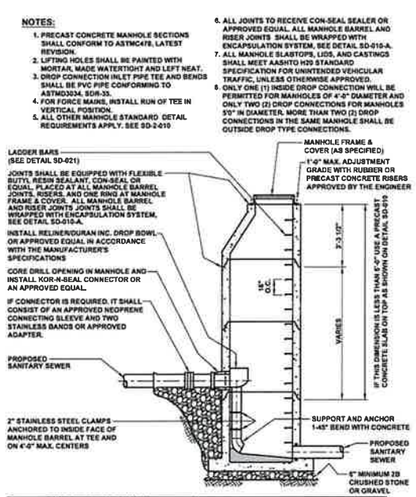
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THE GATEWAY ENGINEERS, INC. RETAINS OWNERSHIP RIGHTS OF ALL DATA WITHIN THE PLANS. DATA CONTAINED WITHIN IS ONLY TO BE USED FOR ITS INTENDED PURPOSE BY ITS RESPONSIBLE PARTY. THE USE, REPLICATION, REPRODUCTION, OR REDISTRIBUTION OF DATA CONTAINED WITHIN IS STRICTLY PROHIBITED AND SUBJECT TO LEGAL ACTION

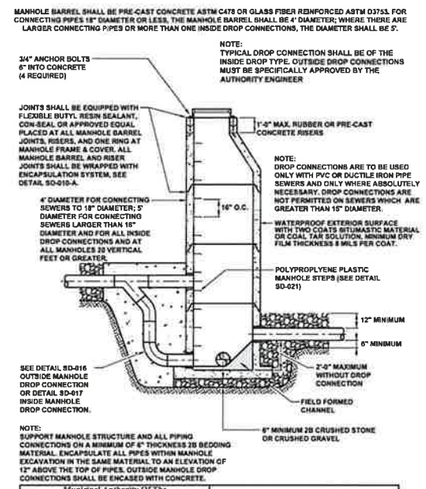
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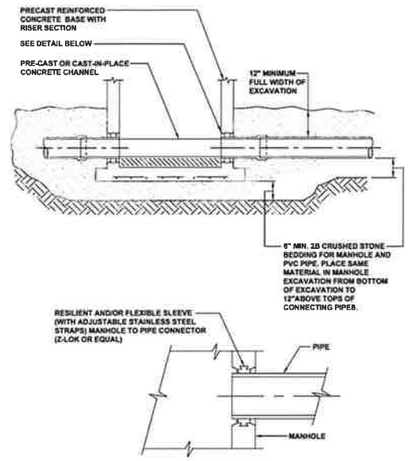
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Not to scale	January 2022	Standard Detail SD-010



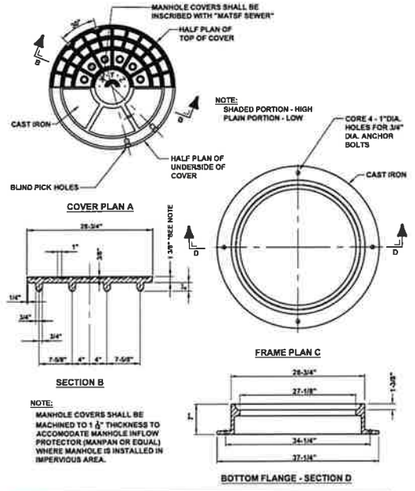
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Not to scale	January 2022	Standard Detail SD-017



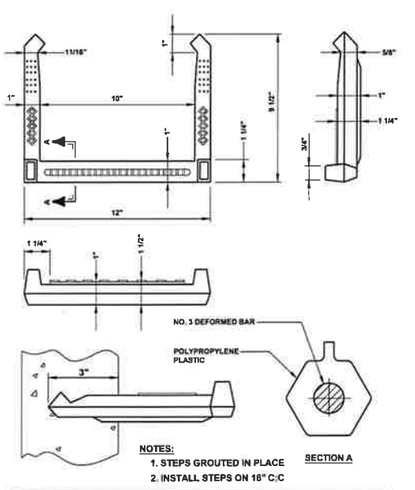
Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		MANHOLE FOR SEWERS FOR DEPTHS GREATER THAN 5 FEET
Not to scale	May 2022	Standard Detail SD-013



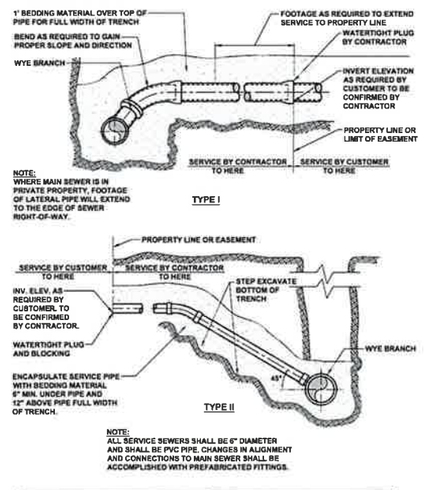
Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		PRECAST MANHOLE BASE DETAIL
Not to scale	January 2022	Standard Detail SD-012



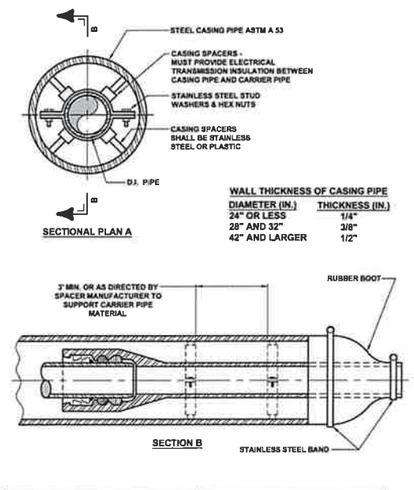
Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		STANDARD CAST IRON MANHOLE FRAME AND COVER
Not to scale	January 2022	Standard Detail SD-018



Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		POLYPROPYLENE PLASTIC MANHOLE STEP
Not to scale	January 2022	Standard Detail SD-021



Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		TYPICAL SERVICE LATERAL CONNECTIONS
Not to scale	January 2022	Standard Detail SD-023



Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		STEEL CASING AND D.I. OR PVC CARRIER PIPES INSTALLED BY BORING
Not to scale	January 2022	Standard Detail SD-008

GATEWAY ENGINEERS
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REVISION RECORD

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HASTINGS
South Fayette Township/Pittsburgh, PA

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102

PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

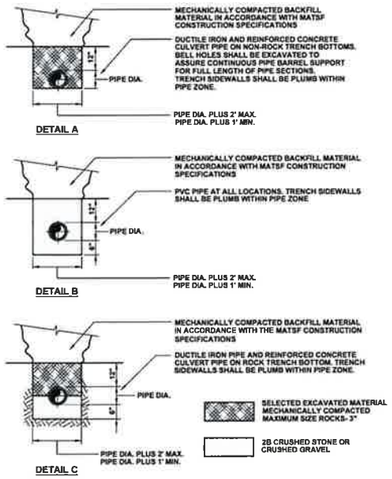
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Date Issued: FEB 2026
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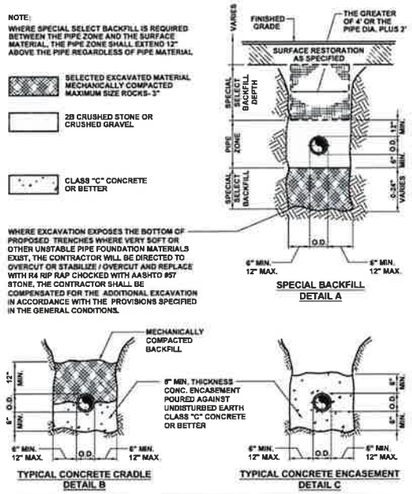
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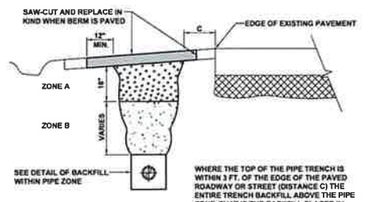
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Save Date=2/9/2026 4:04 PM



Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		TRENCH PIPE ZONE DETAILS
Not to scale	January 2022	Standard Detail SD-001



Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		PIPE BEDDING DETAILS
Not to scale	January 2022	Standard Detail SD-002

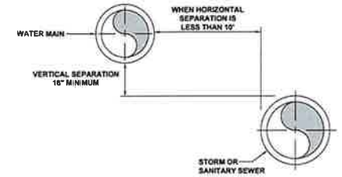


WHERE THE TOP OF THE PIPE TRENCH IS WITHIN 3 FT. OF THE EDGE OF THE PAVED ROADWAY OR STREET (DISTANCE C) THE ENTIRE TRENCH BACKFILL ABOVE THE PIPE ZONE, THAT IS THE BACKFILL PLACED IN ZONES A AND B SHALL CONSIST OF 2-A LIMESTONE MATERIAL MECHANICALLY COMPACTED IN 6" LAYERS.

WHERE THE TOP OF THE PIPE TRENCH IS GREATER THAN 3 FT. FROM THE EDGE OF THE PAVED ROADWAY (DISTANCE C) BACKFILL PLACED IN ZONE B SHALL BE EXCAVATED MATERIAL FROM THE TRENCH, FREE OF ROCKS LARGER THAN 3" AND MECHANICALLY COMPACTED IN 6" LAYERS. BACKFILL MATERIAL PLACED IN ZONE A (THE TOP 18" OF THE TRENCH) SHALL BE 2-A LIMESTONE MATERIAL MECHANICALLY COMPACTED IN 6" LAYERS.

WHERE THE BERM IS NOT PLANTED OR PAVED IT SHALL BE RESTORED FOR ITS ENTIRE WIDTH BY APPLICATION OF RT-2W BITUMINOUS MATERIAL AT A RATE OF 0.2 TO 0.5 GALLONS PER SQUARE YARD DEPENDING UPON LOCATION AND PREVAILING TEMPERATURES AT TIME OF APPLICATION.

Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		TRENCH BACKFILL WITHIN ROADWAY OR STREET BERMS
Not to scale	January 2022	Standard Detail SD-004

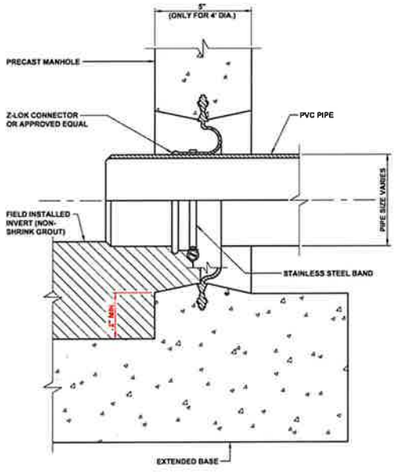


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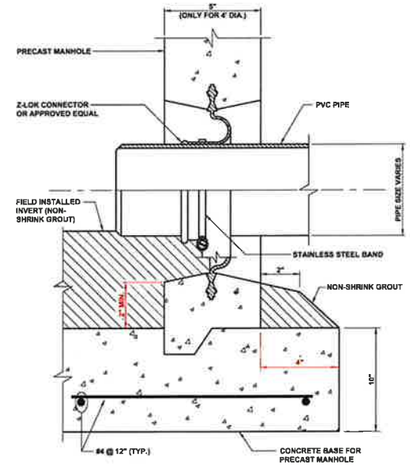
1. WHEN THE HORIZONTAL SEPARATION OF THE WATER MAIN AND SEWER LINE IS LESS THAN 10', THE VERTICAL SEPARATION BETWEEN THE TOP (CROWN) OF THE SEWER LINE AND THE BOTTOM (INVERT) OF THE WATER MAIN SHALL BE AT LEAST 18". SEWER LINE SHALL BE ENCASED IN CONCRETE FOR 10' ON EITHER SIDE OF THE WATER MAIN WHERE SEWER / WATER LINE CROSSINGS OCCUR AND WHERE CONDITIONS PREVENT AN 18" VERTICAL SEPARATION.

2. THERE SHALL BE AT LEAST A 10' HORIZONTAL SEPARATION BETWEEN WATER MAINS AND SANITARY SEWER FORCE MAINS. FORCE MAINS CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18" BETWEEN THE OUTSIDE OF THE FORCE MAIN AND THE OUTSIDE OF THE WATER MAIN.

Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		DESIRED DISTANCES BETWEEN WATER AND SEWER PIPES
Not to scale	January 2022	Standard Detail SD-006



Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		MANHOLE CONNECTION FOR PVC PIPE (PRE-CAST BASE)
Not to scale	January 2022	Standard Detail SD-014



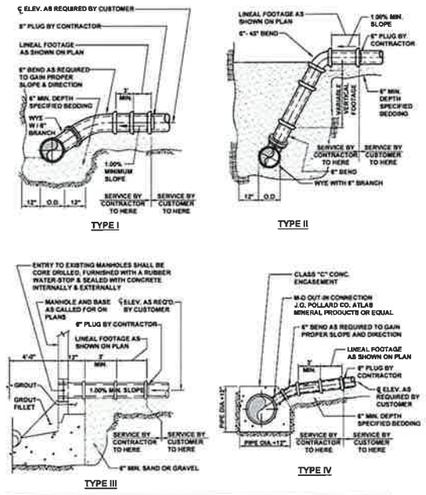
Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		MANHOLE CONNECTION FOR PVC PIPE (CAST-IN-PLACE BASE)
Not to scale	January 2022	Standard Detail SD-015



NOTES:

1. INFLOW PROTECTOR SHALL BE MAN-PAN OR APPROVED EQUAL AND SHALL BE INSTALLED WITH ALL NON-WATER TIGHT MANHOLE COVERS IN IMPERVIOUS AREAS ONLY.
2. INFLOW PROTECTORS SHALL BE FABRICATED AND SIZED TO FIT PROPOSED MANHOLE FRAMES.
3. MANHOLE COVERS SHALL BE MACHINED TO ACCOMODATE MANHOLE INFLOW PROTECTORS.

Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		MANHOLE INFLOW PROTECTOR
Not to scale	January 2022	Standard Detail SD-020



Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		SERVICE CONNECTIONS
Not to scale	January 2022	Standard Detail SD-024

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HASTINGS
South Fayette Township/Pittsburgh, PA

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102

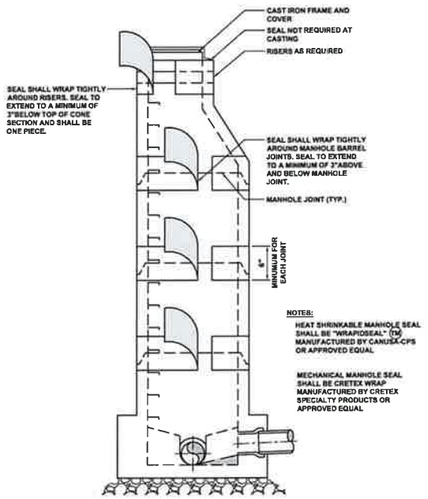
PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

MATSF DETAILS

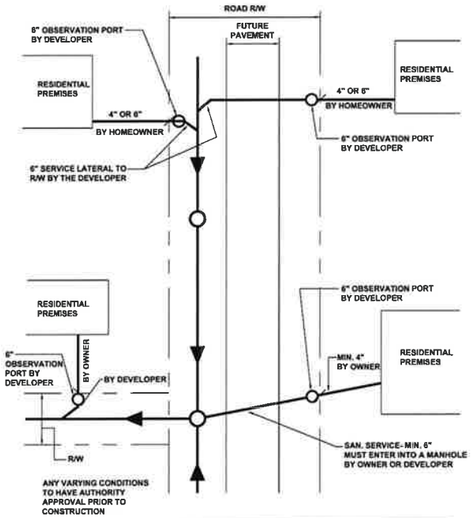
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Date Issued: FEB 2026
Index Number: –
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

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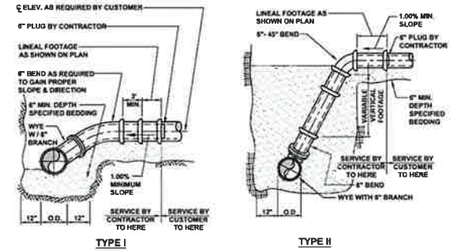
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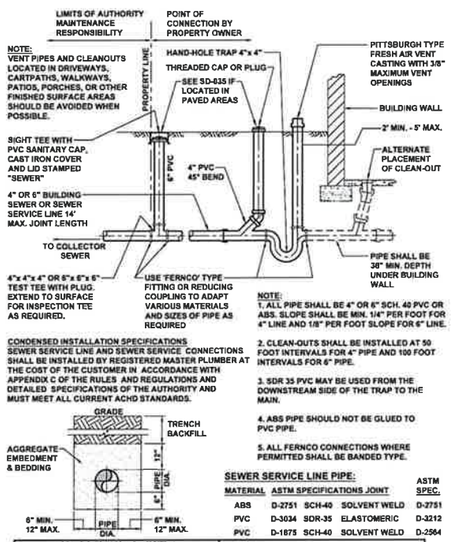
Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		MANHOLE JOINT ENCAPSULATION SYSTEM
Not to scale	January 2022	Standard Detail SD-010-A



Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		SERVICE LINE CONNECTIONS
Not to scale	January 2022	Standard Detail SD-022

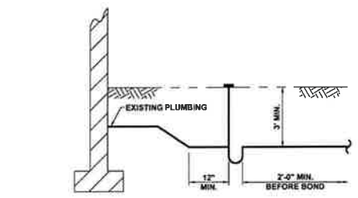


Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		SERVICE CONNECTIONS
Not to scale	January 2022	Standard Detail SD-024

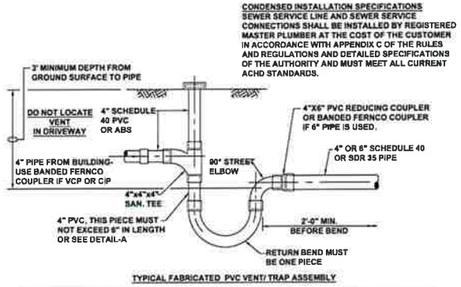


SEWER SERVICE LINE PIPE:				ASTM SPEC.
MATERIAL	ASTM SPECIFICATIONS	JOINT		
ABS	D-2751	SCH-40	SOLVENT WELD	D-2751
PVC	D-3034	SDR-35	ELASTOMERIC	D-3212
PVC	D-1875	SCH-40	SOLVENT WELD	D-2564

Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		SERVICE CONNECTION TO SANITARY SEWER FROM A NEW INSTALLATION
Not to scale	January 2022	Standard Detail SD-025

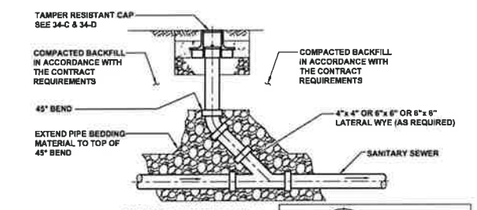


SHALLOW BUILDING SEWER TRAP DETAIL



TYPICAL FABRICATED PVC VENT/ TRAP ASSEMBLY

Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		BUILDING SEWER TRAP DETAILS
Not to scale	January 2022	Standard Detail SD-026

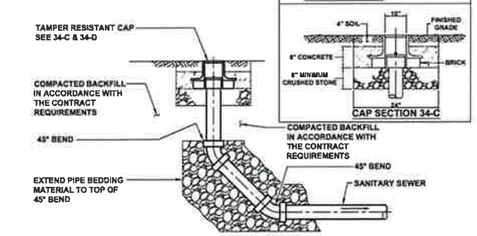


IN-LINE CLEANOUT DETAIL A



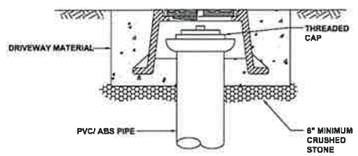
CAP COVER 34-D

CAP SECTION 34-C



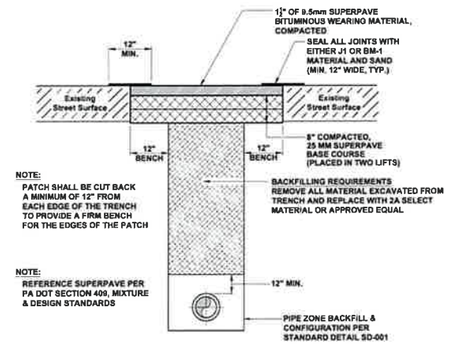
END-LINE CLEANOUT DETAIL B

Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		MAIN LINE, IN-LINE, AND END LINE CLEANOUT FOR 6" AND 8" PVC SEWER
Not to scale	January 2022	Standard Detail SD-034



NOTE:
FRAME & COVER SHALL BE VALVCO INC. #668 OR APPROVED EQUAL.

Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		LATERAL SITE TEE/ CLEANOUT IN PAVED AREAS
Not to scale	January 2022	Standard Detail SD-035



NOTE:
PATCH SHALL BE CUT BACK A MINIMUM OF 12" FROM EACH EDGE OF THE TRENCH TO PROVIDE A FIRM BENCH FOR THE EDGES OF THE PATCH

NOTE:
REFERENCE SUPERPAVE PER PA DOT SECTION 409, MIXTURE & DESIGN STANDARDS

NOTE:
DURING COLD WEATHER WHEN SUPERPAVE MATERIAL IS NOT AVAILABLE FROM THE ASPHALT PLANTS THE TRENCH SHALL BE BACKFILLED WITH BEDDING MATERIAL TO AN ELEVATION WITHIN 3" OF THE ROAD SURFACE. THE TRENCH SHALL THEN BE SURFACED WITH A TEMPORARY PATCH OF COLD PATCH MATERIAL. AS SOON AS THE ASPHALT PLANTS OPEN IN THE SPRING, THE CONTRACTOR SHALL REMOVE THE COLD PATCH MATERIAL AND SAW-CUT THE REQUIRED BENCHES AND THE SUPERPAVE MATERIAL SHALL THEN BE PLACED AND SEALED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE ON THE TEMPORARY PATCH AND SHALL KEEP A SMOOTH RIDING SURFACE ON THE STREET.

Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		TRENCH BACKFILL AND PAVEMENT REQUIREMENTS FOR TOWNSHIP ROADS
Not to scale	January 2022	Standard Detail SD-005

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HASTINGS
South Fayette Township/Pittsburgh, PA

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102

PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

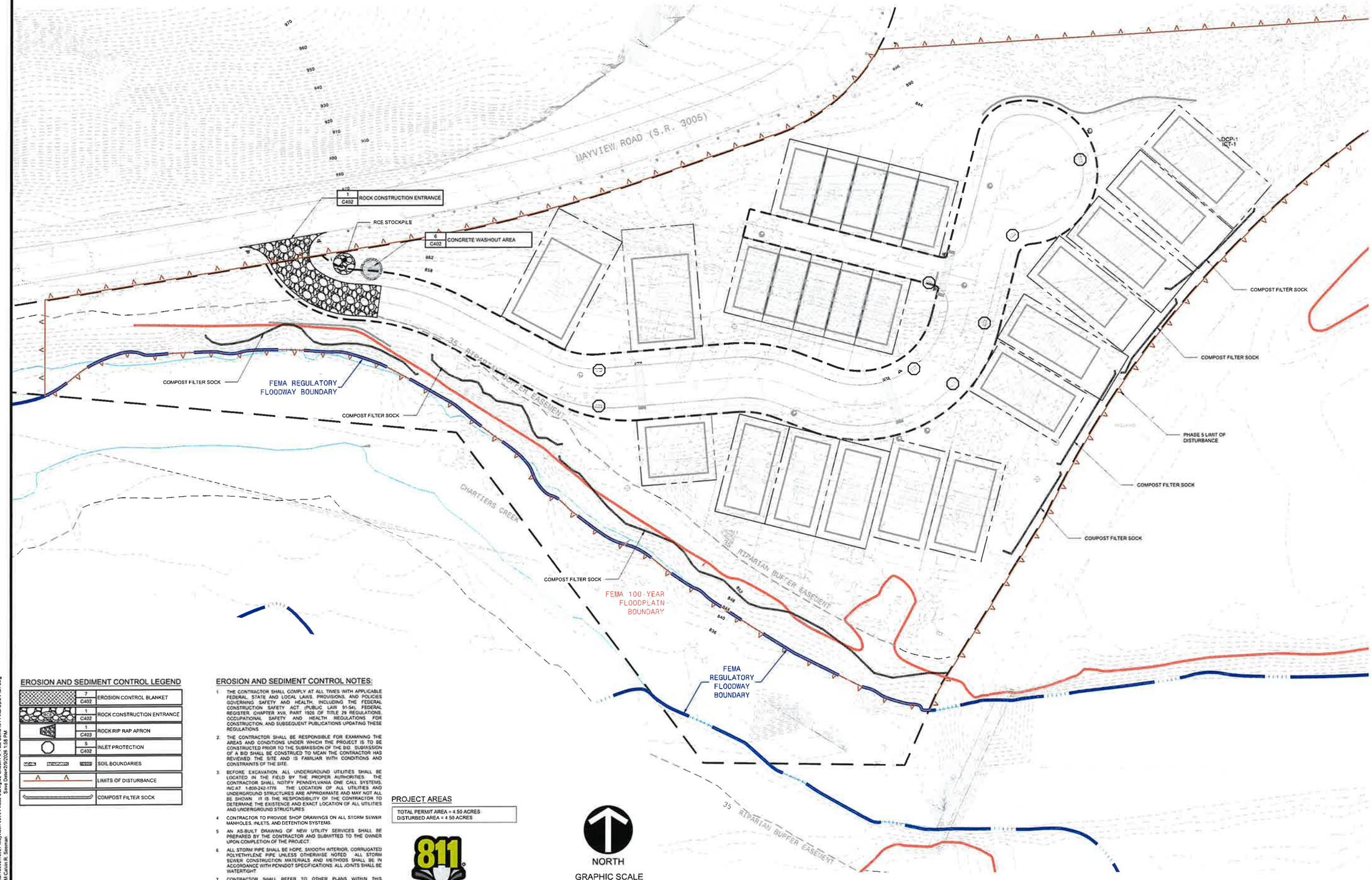
MATSF DETAILS

Project Number: 18927-0096
Drawing Scale: N.T.S.
Date Issued: FEB 2026
Index Number: --
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

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THIS PLAN IS FOR EROSION AND SEDIMENT CONTROL PURPOSES ONLY



EROSION AND SEDIMENT CONTROL LEGEND

	7 C402	EROSION CONTROL BLANKET
	1 C402	ROCK CONSTRUCTION ENTRANCE
	1 C403	ROCK RIP RAP APRON
	5 C402	INLET PROTECTION
LOD-A	LOD-B	LOD-C	SOIL BOUNDARIES
		LIMITS OF DISTURBANCE
		COMPOST FILTER SOCK

EROSION AND SEDIMENT CONTROL NOTES:

1. THE CONTRACTOR SHALL COMPLY AT ALL TIMES WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, PROVISIONS, AND POLICIES GOVERNING SAFETY AND HEALTH, INCLUDING THE FEDERAL CONSTRUCTION SAFETY ACT (PUBLIC LAW 91-54), FEDERAL REGISTER, CHAPTER XVII, PART 1926 OF TITLE 29 REGULATIONS, OCCUPATIONAL SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION, AND SUBSEQUENT PUBLICATIONS UPDATING THESE REGULATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING THE AREAS AND CONDITIONS UNDER WHICH THE PROJECT IS TO BE CONSTRUCTED PRIOR TO THE SUBMISSION OF THE BID. SUBMISSION OF A BID SHALL BE CONSTRUED TO MEAN THE CONTRACTOR HAS REVIEWED THE SITE AND IS FAMILIAR WITH CONDITIONS AND CONSTRAINTS OF THE SITE.
3. BEFORE EXCAVATION, ALL UNDERGROUND UTILITIES SHALL BE LOCATED IN THE FIELD BY THE PROPER AUTHORITIES. THE CONTRACTOR SHALL NOTIFY PENNSYLVANIA ONE CALL SYSTEMS, INC AT 1-800-242-1776. THE LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES ARE APPROXIMATE AND MAY NOT ALL BE SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND EXACT LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES.
4. CONTRACTOR TO PROVIDE SHOP DRAWINGS ON ALL STORM SEWER MANHOLES, INLETS, AND DETENTION SYSTEMS.
5. AN AS-BUILT DRAWING OF NEW UTILITY SERVICES SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE OWNER UPON COMPLETION OF THE PROJECT.
6. ALL STORM PIPE SHALL BE HDPE, SMOOTH INTERIOR, CORRUGATED POLYETHYLENE PIPE UNLESS OTHERWISE NOTED. ALL STORM SEWER CONSTRUCTION MATERIALS AND METHODS SHALL BE IN ACCORDANCE WITH PENNDOT SPECIFICATIONS. ALL JOINTS SHALL BE WATERTIGHT.
7. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION.
8. THE CONTRACTOR SHALL ASSURE THAT THERE IS POSITIVE DRAINAGE TO THE INLETS UPON PLACEMENT OF NEW PAVEMENT.

PROJECT AREAS

TOTAL PERMIT AREA = 4.50 ACRES
DISTURBED AREA = 4.50 ACRES

811 Know what's below. Call before you dig.
1-800-242-1776
Serial No. 20260352495

NORTH

GRAPHIC SCALE
0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

THE GATEWAY ENGINEERS, INC. RETAINS OWNERSHIP RIGHTS OF ALL DATA WITHIN THE PLANS. DATA CONTAINED WITHIN IS ONLY TO BE USED FOR ITS INTENDED PURPOSE BY ITS RESPONSIBLE PARTY. THE USE, REPLICATION, REPRODUCTION, OR REDISTRIBUTION OF DATA CONTAINED WITHIN IS STRICTLY PROHIBITED AND SUBJECT TO LEGAL ACTION.

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HASTINGS
South Fayette Township/Pittsburgh, PA

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102

PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

EROSION & SEDIMENT CONTROL PLANS

Project Number: 18927-0096
Drawing Scale: 1" = 30'
Date Issued: FEB 2026
Index Number: –
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

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STANDARD EROSION AND SEDIMENT CONTROL PLAN NOTES

1. ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN. A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
2. AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, THE PCSM PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE FROM THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE PRECONSTRUCTION MEETING.
3. AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
4. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY THE DEPARTMENT PRIOR TO IMPLEMENTATION.
5. AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL.
6. CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE E&S BMPS SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS E&S PLAN.
7. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN.
8. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN MAP(S) IN THE AMOUNT NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED BY VEGETATION. EACH STOCKPILE SHALL BE PROTECTED IN THE MANNER SHOWN ON THE PLAN DRAWINGS. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER.
9. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE LOCAL CONSERVATION DISTRICT AND/OR THE REGIONAL OFFICE OF THE DEPARTMENT.
10. ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1, AND 287.1 ET. SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.
11. ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.
12. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FORM *FP-001* MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.
13. ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS
14. VEHICLES AND EQUIPMENT MAY NEITHER ENTER DIRECTLY NOR EXIT DIRECTLY FROM THE PROJECT SITE ONTO PUBLIC ROADS
15. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPS SHALL BE MAINTAINED PROPERLY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT BMPS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF THE E&S BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPS, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
16. A LOG SHOWING DATES THAT E&S BMPS WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE PROVIDED UPON REQUEST OF THE REGULATORY AGENCY.
17. SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEPT INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.
18. ALL SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS
19. AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES – 6 TO 12 INCHES ON COMPACTED SOILS – PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUTSLOPES SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL.
20. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES. REFER TO GEOTECHNICAL REPORT AND CROSS SECTIONS.
21. ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS
22. FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
23. FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.
24. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
25. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD
26. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED. SEEDED AREAS WITHIN 50 FEET OF A SURFACE WATER, OR AS OTHERWISE SHOWN ON THE PLAN DRAWINGS, SHALL BE BLANKETED ACCORDING TO THE STANDARDS OF THIS PLAN.
27. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUBAREA OF THE PROJECT, THE OPERATOR SHALL STABILIZE ALL DISTURBED AREAS, DURING NON-GERMINATING MONTHS, MULCH OR PROTECTIVE BLANKETING SHALL BE APPLIED AS DESCRIBED IN THE PLAN. AREAS NOT AT FINISHED GRADE, WHICH WILL BE REACTIVATED WITHIN 1 YEAR, MAY BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY STABILIZATION SPECIFICATIONS. THOSE AREAS WHICH WILL NOT BE REACTIVATED WITHIN 1 YEAR SHALL BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION SPECIFICATIONS
28. PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.
29. E&S BMPS SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT.
30. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE INSPECTING AUTHORITY FOR AN INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE E&S BMPS.
31. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMPS MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMPS. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE BMPS SHALL BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING SEASON
32. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE INSPECTING AUTHORITY T TO SCHEDULE A FINAL INSPECTION
33. FAILURE TO CORRECTLY INSTALL E&S BMPS, FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE, OR FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTION TO RESOLVE FAILURE OF E&S BMPS MAY RESULT IN ADMINISTRATIVE, CIVIL, AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY THE DEPARTMENT AS DEFINED IN SECTION 602 OF THE PENNSYLVANIA CLEAN STREAMS LAW. THE CLEAN STREAMS LAW PROVIDES FOR UP TO $10,000 PER DAY IN CIVIL PENALTIES, UP TO $10,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO $25,000 IN MISDEMEANOR CRIMINAL PENALTIES FOR EACH VIOLATION
34. CONCRETE WASH WATER SHALL BE HANDLED IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS. IN NO CASE SHALL IT BE ALLOWED TO ENTER ANY SURFACE WATERS OR GROUNDWATER SYSTEMS.
35. UNDERGROUND UTILITIES CUTTING THROUGH ANY ACTIVE CHANNEL SHALL BE IMMEDIATELY BACKFILLED AND THE CHANNEL RESTORED TO ITS ORIGINAL CROSS-SECTION AND PROTECTIVE LINING. ANY BASE FLOW WITHIN THE CHANNEL SHALL BE CONVEYED PAST THE WORK AREA IN THE MANNER DESCRIBED IN THIS PLAN UNTIL SUCH RESTORATION IS COMPLETE.
36. FILL MATERIAL FOR EMBANKMENTS SHALL BE FREE OF ROOTS, OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE COMPACTED IN MAXIMUM 10" LAYERED LIFTS AT 90% DENSITY.

PERMANENT SEEDING SPECIFICATIONS:

MATERIALS:

TOP SOIL: **6" (MINIMUM) TOPSOIL SHALL BE REQUIRED ON ALL LAWN AREAS.**

LIMESTONE: RAW, GROUND AGRICULTURAL LIMESTONE CONTAINING MORE THAN 80 PERCENT CALCIUM CARBONATES (ADJUST pH LEVELS TO 6.5 TO 7.0)
APPLY AT A RATE OF 6 TON/AC (275 LB/ 1,000 SF), UNLESS OTHERWISE INDICATED BY SOIL TESTS.

COMMERCIAL FERTILIZER: IN THE ABSENCE OF A SOIL TEST, USE 1000 LB/AC OF 10-20-20 (23 LB/1000 SF) MIXED INTO SEEDBED PRIOR TO SEEDING OR IN A TANK WITH SEED WHEN HYDROSEEDING.

INOCULANT: INOCULANT FOR TREATING LEGUMINOUS SEEDS SHALL BE A STANDARD COMMERCIAL PRODUCT CONSISTING OF A SUITABLE CARRIER CONTAINING A CULTER OF NITROGEN FIXING BACTERIA SPECIFIC FOR SEEDS TO BE INOCULATED. INOCULANT SHALL NOT BE USED LATER THAN DATE INDICATED ON THE CONTAINER.

MULCH: CLEAN OAT OR WHEAT STRAW SHALL BE FREE FROM MATURE SEED-BEARING STALKS OR ROOTS OF PROHIBITED OR NOXIOUS WEEDS AS DEFINED BY THE PENNSYLVANIA SEED ACT 1947. APPLY AT A RATE OF 128 POUNDS PER 1,000 SQUARE FEET (3 TONS PER ACRE)
PRECAUTIONS SHALL BE TAKEN TO STABILIZE MULCH UNTIL THE VEGETATIVE COVER IS ESTABLISHED.

SEED MIXTURE: SEED MIXTURE SHALL BEAR A GUARANTEED STATEMENT OF ANALYSIS AND SHALL BE COMPOSED OF THE FOLLOWING VARIETIES AND MIXED IN PROPORTIONS SPECIFIED

PERMANENT SEEDING MIXTURE

(PADOT FORMULA "B")	**PROPORTION BY WEIGHT**	**MINIMUM PURITY**	**MINIMUM GERMINATION**
PERENNIAL RYEGRASS MIXTURE (LOLIUM PERENNE) – A COMBINATION OF IMPROVED CERTIFIED VARIETIES WITH NO ONE VARIETY EXCEEDING 50% OF THE TOTAL RYEGRASS COMPONENT.	20%	98%	90%
CREEPING RED FESCUE OR CHEWINGS FESCUE	30%	98%	85%
KENTUCKY BLUEGRASS MIXTURE (POA PRATENSIS) – A COMBINATION OF IMPROVED CERTIFIED VARIETIES WITH NO ONE VARIETY EXCEEDING 25% OF THE TOTAL BLUEGRASS COMPONENT	50%	98%	80%

PERMANENT SEEDING: PERMANENT SEEDING SHALL BE APPLIED AT A RATE OF 21 POUNDS PER 1,000 SQUARE YARDS.

PREPARATION OF SEEDING: GRADE AS NECESSARY TO BRING SUBGRADE TO A TRUE, SMOOTH SLOPE PARALLEL TO AND SIX INCHES BELOW FINISHED GRADE. PLACE 5-6 TOPSOIL MIXTURE OVER SPECIFIED AREAS TO A DEPTH SUFFICIENTLY GREATER THAN SIX (6) OR EIGHT (8) INCHES SO THAT AFTER SETTLEMENT AND LIGHT ROLLING, THE COMPLETE WORK WILL CONFORM TO LINES, GRADES AND ELEVATIONS SHOWN

FERTILIZER AND AGRICULTURAL LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE SOIL BY ROTOTILLING OR OTHER METHOD TO A MINIMUM DEPTH OF FOUR (4) INCHES. THE ENTIRE SURFACE SHALL THEN BE REGRADED AND ROLLED. AREAS TO BE SEEDED SHALL THEN BE LOOSENED TO A DEPTH OF TWO (2) INCHES. SEEDING SHALL BE DONE IN TWO SEPARATE OPERATIONS. THE SECOND SEEDING SHALL BE DONE IMMEDIATELY AFTER THE FIRST AND AT RIGHT ANGLES TO THE FIRST SEEDING AND LIGHTLY RAKED INTO THE SOIL. MULCH SEEDED AREAS IMMEDIATELY AFTER SEEDING.

01 C401	PERMANENT SEEDING

TEMPORARY SEEDING SPECIFICATIONS:

LIMESTONE: RAW, GROUND AGRICULTURAL LIMESTONE CONTAINING MORE THAN 90 PERCENT CALCIUM CARBONATES (ADJUST pH LEVELS TO 6.5 TO 7.0). APPLY AT A RATE OF 1 TON/AC, UNLESS OTHERWISE INDICATED BY SOIL TESTS.

COMMERCIAL FERTILIZER: IN ABSENCE OF A SOIL TEST, USE 1000 LB/AC OF 10-20-20 (23 LB/1000 SF) MIXED INTO SEEDBED PRIOR TO SEEDING OR IN A TANK WITH SEED WHEN HYDROSEEDING.

MULCH: CLEAN OAT OR WHEAT STRAW SHALL BE FREE FROM MATURE SEED-BEARING STALKS OR ROOTS OF PROHIBITED OR NOXIOUS WEEDS AS DEFINED BY THE PENNSYLVANIA SEED ACT 1947. APPLY AT A RATE OF 3 TONS/AC (139 LBS/1000 SF). PRECAUTION SHALL BE TAKEN TO STABILIZE THE MULCH UNTIL THE VEGETATIVE COVER IS ESTABLISHED.

SEED MIXTURE: SEED MIXTURE SHALL BEAR A GUARANTEED STATEMENT OF ANALYSIS AND SHALL BE COMPOSED OF THE FOLLOWING VARIETIES AND MIXED IN THE PROPORTIONS SPECIFIED.

TEMPORARY SEED MIXTURE	PROPORTION BY WEIGHT	MINIMUM PURITY	MINIMUM GERMINATION
RYEGRASS VAR. KENTUCKY	100%	98%	90%

THREE PERCENT REDTOP MAY BE ADDED TO THE LAWN MIXTURE ON SLOPE AREAS OR FOR LATE SPRING OR LATE FALL SEEDING.

SEEDING RATE: TEMPORARY SEEDING SHALL BE APPLIED AT THE RATE OF TEN (10) POUNDS PER ONE THOUSAND (1,000) SQUARE YARDS

NOTES: ALL AREAS TO BE SEEDED SHALL BE LOOSENED TO A DEPTH OF AT LEAST TWO INCHES BY MECHANICAL MEANS, OR AS APPROVED BY THE LANDSCAPE ARCHITECT.
MULCH SEEDED AREAS IMMEDIATELY AFTER SEEDING.
SEED ALL DISTURBED AREAS WITH THE TEMPORARY SEED MIXTURE EXCEPT THOSE AREAS SHOWN TO BE SEEDED WITH STEEP SLOPE MIXTURE, UNLESS OTHERWISE NOTED ON THE DRAWINGS.

02 C401	TEMPORARY SEEDING

CLEAN FILL AND ENVIRONMENTAL DUE DILIGENCE:

IF THE SITE WILL NEED TO HAVE FILL IMPORTED FROM AN OFF SITE LOCATION, THE RESPONSIBILITY FOR PERFORMING ENVIRONMENTAL DUE DILIGENCE AND THE DETERMINATION OF CLEAN FILL WILL RESIDE WITH THE CONTRACTOR RESPONSIBLE FOR EARTHMOVING OPERATIONS.

ENVIRONMENTAL DUE DILIGENCE MEANS PERFORMING INVESTIGATIVE TECHNIQUES FOR THE IMPORTED MATERIAL. THIS INCLUDES, BUT IS NOT LIMITED TO: VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, AND ENVIRONMENTAL ASSESSMENTS OR AUDITS. ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECTED TO A SPILL OR RELEASE OF REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPENDIX A OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) POLICY "MANAGEMENT OF FILL".

FILL MATERIAL THAT DOES NOT QUALIFY AS CLEAN FILL IS REGULATED FILL. REGULATED FILL IS WASTE AND MUST BE MANAGED IN ACCORDANCE WITH THE DEP MUNICIPAL OR RESIDUAL WASTE REGULATIONS BASED ON 25 PA CODE, CHAPTERS 287 RESIDUAL WASTE MANAGEMENT OR 271 MUNICIPAL WASTE MANAGEMENT, WHICHEVER IS APPLICABLE.

CLEAN FILL IS DEFINED AS
UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND IS RECOGNIZABLE AS SUCH. THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH UNLESS OTHERWISE AUTHORIZED. (THE TERM USED ASPHALT DOES NOT INCLUDE MILLED ASPHALT OR ASPHALT THAT HAS BEEN PROCESSED FOR RE-USE.)

03 C401	CLEAN FILL & ENVIRONMENTAL DUE DILIGENCE

RECYCLING OR DISPOSAL OF MATERIALS

- ALL DEVICES SHOULD BE INSPECTED WEEKLY AND AFTER EVERY RUNOFF EVENT. IF DURING THESE INSPECTIONS, ANY DEVICE IS FOUND TO BE CLOGGED, DAMAGED, HALF-FULL OF SILT OR NOT FULLY OPERATIONAL, THE DEVICE(S) SHALL BE CLEANED OF ALL DEBRIS
- ALL MAINTENANCE INSPECTIONS AND REPAIRS SHALL BE LOGGED ONTO DEP FORM # 3150-FM-BWEW0083, DATED FEB 2012 AND KEPT ON THE SITE AT ALL TIME.
- ALL REPAIRS TO BE COMPLETED WITHIN 72 HOURS OF DISCOVERY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL TEMPORARY CONTROL MEASURES DURING CONSTRUCTION
- IF ANY AREA IS DISTURBED WHILE REPAIRING BMP'S OR ANY OTHER MAINTENANCE ACTIVITY, THE AREA MUST BE IMMEDIATELY STABILIZED AND RETURNED TO THE PRIOR CONDITION
- UPON COMPLETION OF THE PROJECT, RECYCLING OR DISPOSAL OF ALL TEMPORARY EROSION CONTROL MATERIALS SHALL BE THE RESPONSIBILITY OF THE EARTHMOVING CONTRACTOR
- CONSTRUCTION WASTE INCLUDES, BUT IS NOT LIMITED TO, EXCESS SOIL MATERIALS, SILT REMOVED FROM EROSION CONTROL FACILITIES, EXCESS BUILDING MATERIALS, CONCRETE WASH WATER, SANITARY WASTES, AND OBSOLETE EROSION CONTROL MATERIALS (SILT FENCE, SILT SACKS, ETC.)
- SILT REMOVED FROM SEDIMENT CONTROL FACILITIES SHALL BE SPREAD ON THE TOPSOIL STOCKPILE, OR IN LAWN OR LANDSCAPE AREAS
- OBSOLETE EROSION CONTROL MATERIALS AND EXCESS BUILDING MATERIALS MUST BE DISPOSED OF AT A DEP APPROVED SITE.

04 C401	RECYCLING OR DISPOSAL OF MATERIALS

MAINTENANCE SCHEDULE

CONTROL MEASURE	INSPECT	PROBLEMS TO LOOK FOR	POSSIBLE REMEDIES
VEGETATION	WEEKLY AND AFTER EVERY RUNOFF EVENT	SEDIMENT AT TOE OF SLOPE RILLS AND GULLIES FORMING BARE SOIL PATCHES	CHECK FOR TOP-OF-SLOPE DIVERSION AND INSTALL IF NEEDED FILL RILLS AND REGRADE GULLIED SLOPES. RESEED, FERTILIZE, AND MULCH BARE AREAS
ROCK CONSTRUCTION ENTRANCES	WEEKLY AND AFTER EVERY RUNOFF EVENT	SINK HOLES OR RUTS SEDIMENT ON PUBLIC ROADWAY	ADD ROCK TO BRING TO SPECIFIED DIMENSIONS SWEEP MATERIAL BACK TO PROJECT SITE. DO NOT WASH ROADWAY WITH WATER
COMPOST FILTER SOCK	WEEKLY AND AFTER EVERY RUNOFF EVENT	SEDIMENT ACCUMULATION ON UPSTREAM SIDE PONDING WATER TEARING OR RIPPING OF FABRIC	REMOVE SEDIMENT WHEN LEVEL REACHES HALF OF THE EFFECTIVE HEIGHT REMOVE SEDIMENT OR ADD ADDITIONAL COMPOST FILTER SOCK TO REDUCE SLOPE LENGTH REPLACE RIPPED SECTIUON WITH NEW COMPOST FILTER SOCK
INLET PROTECTION	WEEKLY AND AFTER EVERY RUNOFF EVENT	SEDIMENT ACCUMULATION SEDIMENT ACCUMULATED IN INLET FILTER BAG TO 1/2 FULL RUNOFF ESCAPING AROUND BARRIER FILTER BAG TORN OR DAMAGED	REMOVE SEDIMENT AND DISPOSE ON SITE. CLEAN AND/OR REPLACE BAG REBUILD BARRIER. REPLACE BAG

- ALL MAINTENANCE INSPECTIONS SHALL BE LOGGED ONTO DEP FORM #150-FM-BWE W0083, DATED 2/2012 OR MOST CURRENT FORM, AND KEPT ON THE SITE AT ALL TIMES.
- ALL REPAIRS TO BE COMPLETED WITHIN 24 HOURS OF DISCOVERY. REMOVED SEDIMENTS TO BE SPREAD OVER TOPSOIL STOCKPILE(S).
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSPECTIONS AND MAINTENANCE OF ALL TEMPORARY CONTROL MEASURES DURING CONSTRUCTION.
- ALL DEVICES SHOULD BE INSPECTED WEEKLY AND AFTER EVERY RUNOFF EVENT. IF DURING THESE INSPECTIONS, ANY DEVICE IS FOUND TO BE CLOGGED, DAMAGED, HALF-FULL OF SILT OR NOT FULLY OPERATIONAL, THE DEVICE(S) SHALL BE CLEANED OF ALL DEBRIS.
- UPON COMPLETION OF THE PROJECT, RECYCLING OR DISPOSAL OF ALL TEMPORARY EROSION CONTROL MATERIALS SHALL BE THE RESPONSIBILITY OF THE EARTHMOVING CONTRACTOR.
- CONSTRUCTION WASTE INCLUDES, BUT IS NOT LIMITED TO, EXCESS SOIL MATERIALS, SILT REMOVED FROM EROSION CONTROL FACILITIES, EXCESS BUILDING MATERIALS, CONCRETE WASH WATER, SANITARY WASTES, AND OBSOLETE EROSION CONTROL MATERIALS (SILT FENCE, SILT SACKS, ETC.)
- SILT REMOVED FROM SEDIMENT CONTROL FACILITIES SHALL BE SPREAD ON THE TOPSOIL STOCKPILE, OR IN LAWN OR LANDSCAPE AREAS
- OBSOLETE EROSION CONTROL MATERIALS AND EXCESS BUILDING MATERIALS MUST BE DISPOSED OF AT A DEP APPROVED SITE.
- SITE EARTHWORK WILL BE BALANCED PER THE GRADING PLAN.

05 C401	MAINTENANCE SCHEDULE

CONSTRUCTION SEQUENCE

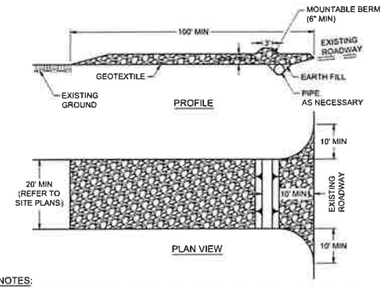
THE PROPOSED PROJECT WILL CONSIST OF THE EXCAVATION AND CRUSHING OF EXISTING BUILDING FOUNDATIONS AND PAVEMENT AREAS, AND THE NECESSARY GRADING OPERATIONS TO CONSTRUCT LOTS FOR SINGLE FAMILY UNITS, TOWNHOMES, ACCESS ROADS OF VARIED WIDTHS, UTILITY INSTALLATION, AND ASSOCIATED SITE WORK. ADDITIONALLY, THE PROJECT WILL INCLUDE EROSION AND SEDIMENT CONTROL PRACTICES. ALL E&S FACILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROVED E&S/PCSM PLAN AND THE DEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL DATED MARCH 2012 OR LATEST VERSION.

A GENERALIZED CONSTRUCTION SEQUENCE IS PROVIDED BELOW. THE CONSTRUCTION SEQUENCE IS INTENDED TO PROVIDE A GENERAL COURSE OF ACTION IN ORDER TO CONFORM TO THE APPLICABLE REGULATORY AGENCY REQUIREMENTS FOR TEMPORARY AND PERMANENT SOIL EROSION AND SEDIMENT POLLUTION CONTROL. ALL NECESSARY PARTS FOR PROPER AND COMPLETE EXECUTION OF WORK PERTAINING TO THIS PLAN, WHETHER SPECIFICALLY MENTIONED OR NOT, ARE TO BE PERFORMED BY THE CONTRACTOR. IT IS NOT INTENDED THAT THE DRAWINGS AND THIS REPORT SHOW EVERY DETAILED PIECE OF MATERIAL OR EQUIPMENT. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS LISTED IN THIS SECTION. THE CONTRACTOR MAY BE REQUIRED TO ALTER CONTROLS BASED ON EFFECTIVENESS OF CONTROLS OR DIFFERING CONDITIONS ENCOUNTERED

- UPON COMPLETION OF AN EARTH DISTURBANCE ACTIVITY OR ANY STAGE OR PHASE OF AN ACTIVITY, THE SITE SHALL BE IMMEDIATELY STABILIZED OR OTHERWISE PROTECTED FROM ACCELERATED EROSION AND DISCHARGE OF SEDIMENT
- ALL DISTURBED AREAS WHICH ARE AT FINAL GRADE AND WILL NOT BE FURTHER DISTURBED SHALL BE SEEDED PER THE PERMANENT SEEDING SPECIFICATIONS
- DISTURBED AREAS LEFT IDLE FOR MORE THAN 4 DAYS SHOULD BE TEMPORARILY SEEDED AND MULCHED
- CONTACT ALLEGHENY COUNTY CONSERVATION DISTRICT FOR A PRE-CONSTRUCTION MEETING PRIOR TO BEGINNING SITE WORK

HASTINGS PHASE 5 CONSTRUCTION SEQUENCE:

1. STAKE OUT LIMIT OF DISTURBANCE, NOX GRADING OPERATIONS.
2. INSTALL MAINTAIN ROCK CONSTRUCTION ENTRANCE AND MAINTENANCE, STOCKPILE OFF HASTINGS PARK DRIVE AS SHOWN ON THE INITIAL EROSION AND SEDIMENT CONTROL PLAN DRAWINGS AND IN ACCORDANCE WITH THE CONSTRUCTION DETAILS.
3. INSTALL MAINTAIN INLET PROTECTION (HEXISTAG) INLETS AS INDICATED ON THE INITIAL EROSION AND SEDIMENT CONTROL PLAN.
4. INSTALL MAINTAIN COMPOST FILTER SOCKS IN THE LOCATIONS SHOWN ON THE INITIAL EROSION AND SEDIMENT CONTROL PLAN AND IN ACCORDANCE WITH THE CONSTRUCTION DETAIL.
5. BEGIN DEMOLITION OF FOUNDATION AREA, EXISTING PAVEMENT, AND CURB CUTS. ONCE FOUNDATIONS ARE LOCALIZED, ADD COMPOST FILTER SOCK. INITIATE BULK GRADING ACTIVITIES AS INDICATED ON THE INITIAL EROSION AND SEDIMENT CONTROL PLAN. ONLY COMPLETE WITH DEMOLITION ACTIVITIES CONTRACTOR TO BEGIN TO PREPARE SITE FOR THE FINAL EROSION AND SEDIMENT CONTROL PHASE.
6. 42 BULK GRADING ACTIVITIES APPROACH SUMMARE AVENUE ALONG SIGOND WAY, A SECTION OF WINDFIELD WAY, FULANE STREET, AND COTTAGE WAY. RESET INSTALL COMPOST FILTER SOCKS AS NEEDED AS INDICATED ON THE FINAL EROSION AND SEDIMENT CONTROL PLAN DRAWINGS AND IN ACCORDANCE WITH THE CONSTRUCTION DETAILS.
7. BEGIN CONSTRUCTION OF SITE UTILITIES WORKING FROM SIGOND STREET NORTH TOWARDS MAYVIEW ROA



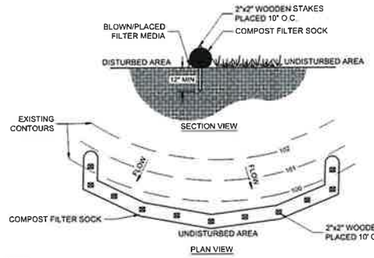
NOTES:

1. TOPSOIL SHALL BE REMOVED PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE.
2. EXTEND ROCK OVER WIDTH OF ENTRANCE.
3. RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.
4. MOUNTABLE BERM SHOULD BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED. PIPE TO BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.
5. REFER TO SITE PLANS FOR SIZE AND LOCATION. WHERE APPLICABLE, REFER TO HOP PLANS FOR SIZE AND LOCATION ON STATE ROADWAYS.

MAINTENANCE

1. ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE.
2. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50' INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO THE ROADWAY DITCHES, CULVERTS, OR OTHER DRAINAGE WAYS IS NOT ACCEPTABLE.

1	ROCK CONSTRUCTION ENTRANCE
C402	



NOTES:

1 COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8' UP SLOPE AT 45° TO THE MAIN SOCK ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY SOCK SHALL NOT EXCEED THAT SHOWN ON FIGURE 4.2, SEE TABLE BELOW.

2 TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.

3 ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.

4 SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.

5 BIODEGRADABLE FILTER SOCK SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

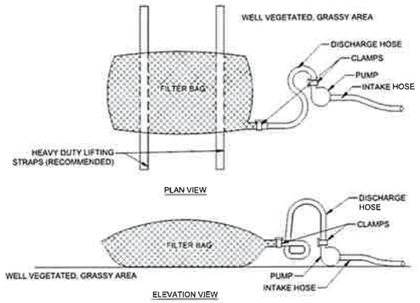
6 UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

7.SILT SOCK FABRIC MATERIAL SHALL BE MULTI-FILAMENT POLYPROPYLENE (MFPP). MINIMUM FUNCTIONAL LONGEVITY 1 YEAR.

9.SLOPE LENGTH TABLE FROM FIGURE 4.2, PADEP BMP MANUAL:

SILT SOCK DIAMETER	3:1 SLOPE	2:1 SLOPE
12"	40'	25'
18"	70'	35'
24"	90'	50'
32"	110'	65'

2	COMPOST FILTER SOCK
C402	



NOTES.

LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	90 LB/IN
GRAB TENSILE	ASTM D-4632	205 LB
PUNCTURE	ASTM D-4833	110 LB
MULLEN BURST	ASTM D-3786	350 PSI
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-4751	#7 SIEVE

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.

BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%. FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.

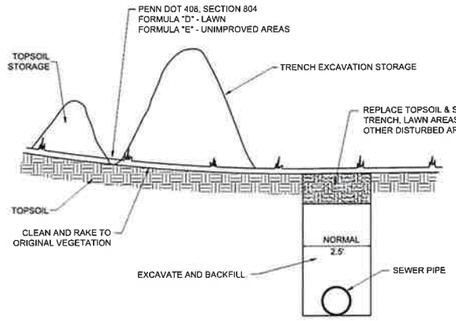
NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.

FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

3	PUMPED WATER FILTER BAG
C402	

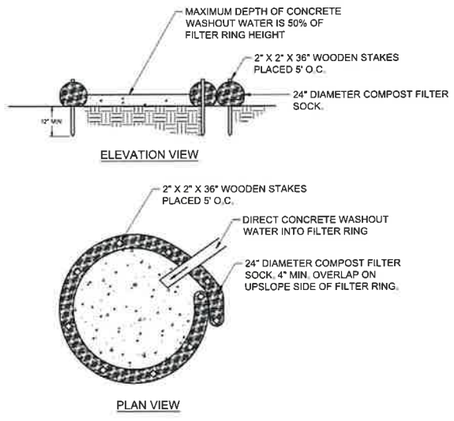


MULCHING OR PROTECTIVE NETTING REQUIRED WHERE SURFACE IS SUBJECT TO IMMEDIATE EROSION.

4	EROSION CONTROL FOR SEWER TRENCHES
C402	



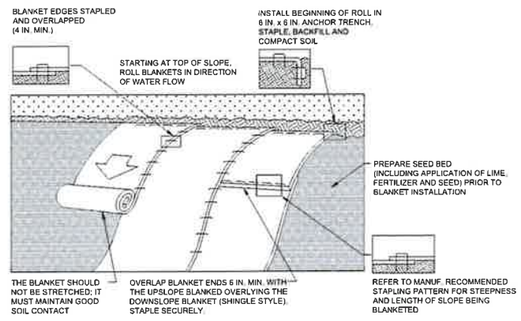
5	INLET PROTECTION
C402	



NOTES:

1. INSTALL ON FLAT GRADE FOR OPTIMAL PERFORMANCE.
2. 18" DIAMETER FILTER SOCK MAY BE STACKED ONTO DOUBLE 24" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.
3. A SUITABLE IMPERVIOUS GEOMEMBRANE LINER SHALL BE PLACED AT THE LOCATION PRIOR TO THE INSTALLING THE SOCKS.

6	CONCRETE WASHOUT AREA
C402	



NOTES:

SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.

PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.

SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.

BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.

THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

7	EROSION CONTROL BLANKET
C402	

GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

REVISION RECORD

No.	Date
01	"
02	"
03	"
04	"
05	"
06	"
07	"
08	"

HASTINGS
South Fayette Township/Pittsburgh, PA
CHARTER HOMES & Sotheby's INTERNATIONAL REALTY

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102

PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

EROSION & SEDIMENT CONTROL DETAILS

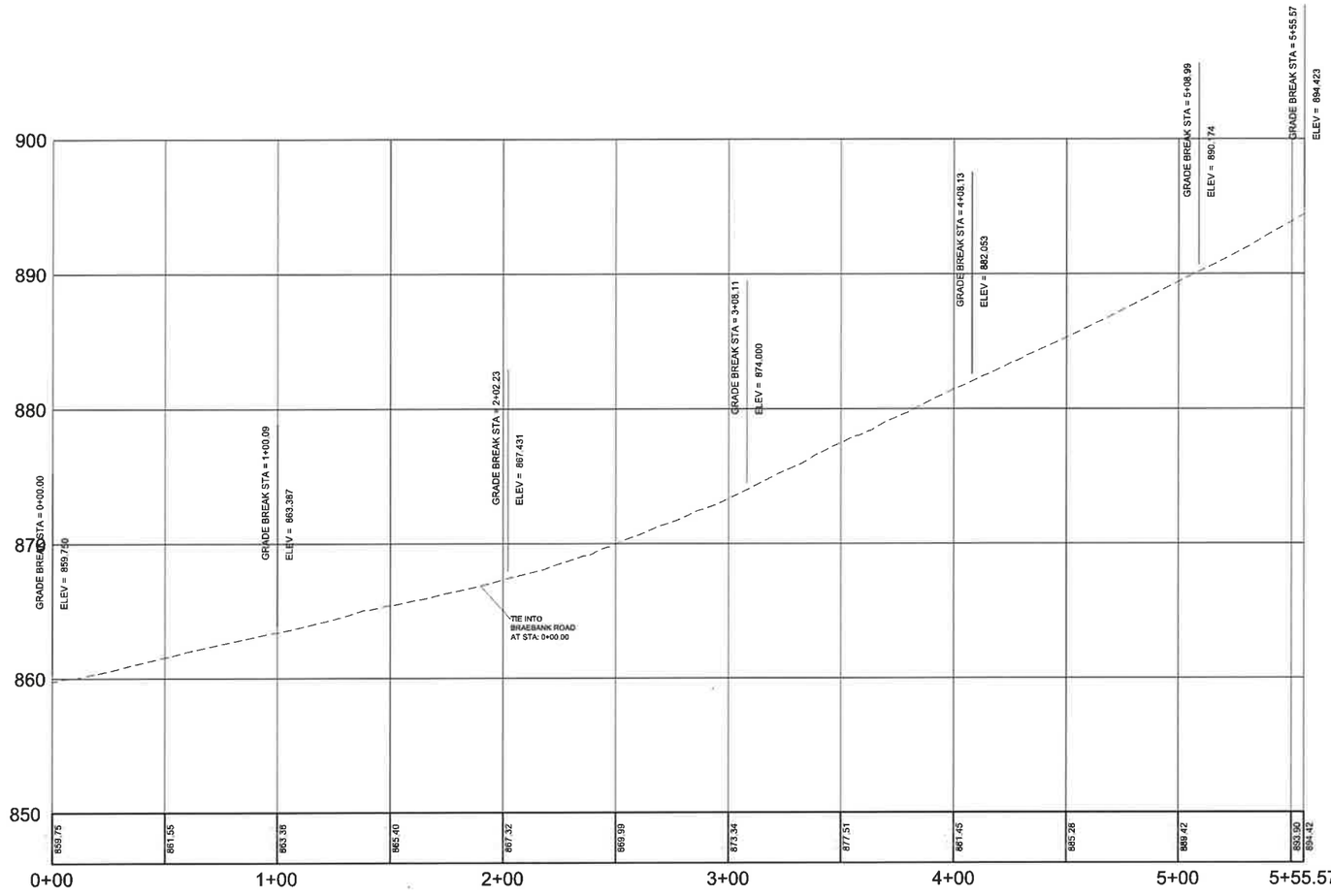
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Drawing Scale: 1" = 30'
Date Issued: FEB 2026
Index Number: --
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

C402

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Save Date=2/9/2026 12:23 PM



MAYVIEW ROAD PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 5'

PROFILE STRUCTURE ABBREVIATONS

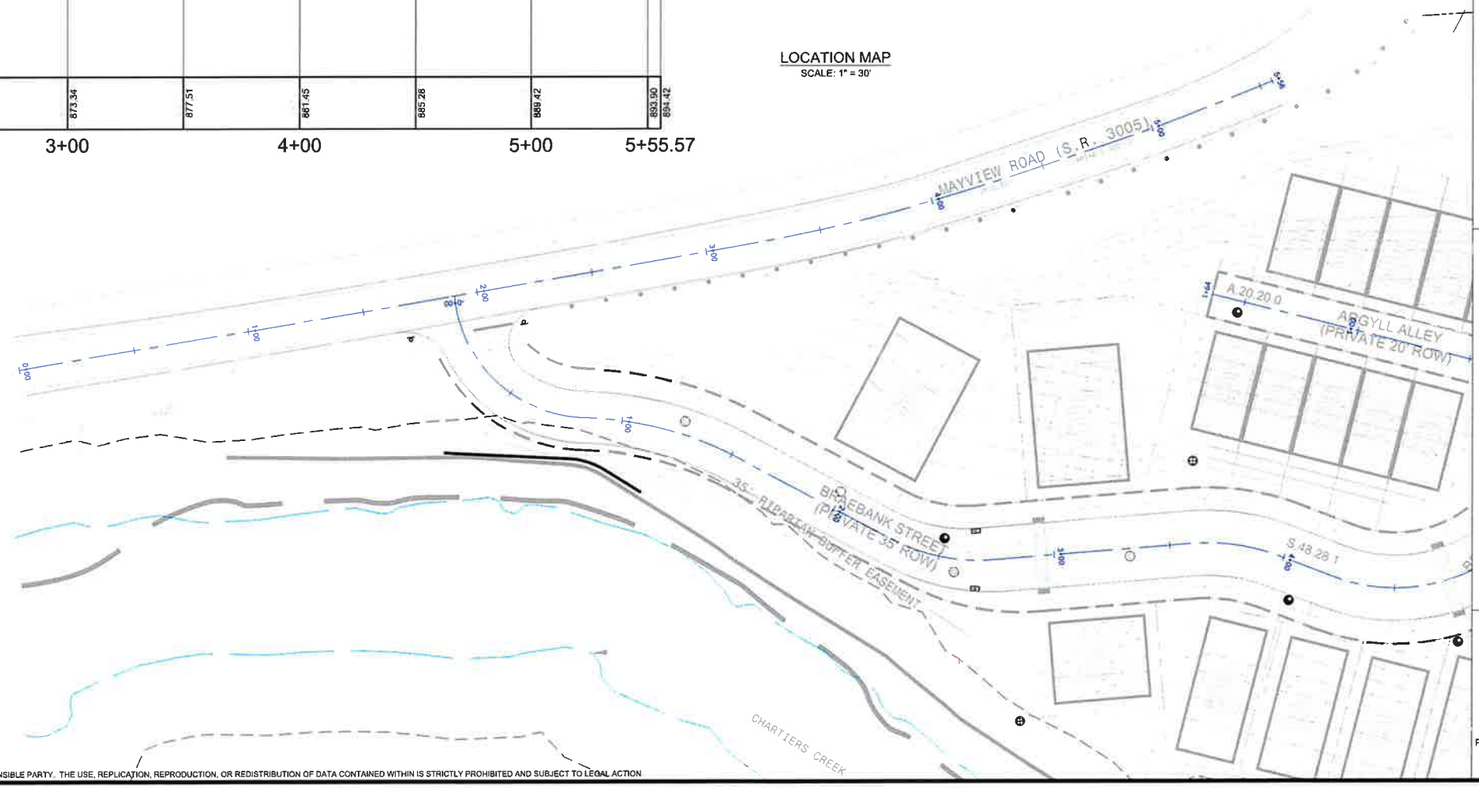
STM	STORM
SAN	SANITARY
MH	MANHOLE
OS	OUTLET STRUCTURE
CO	CLEANOUT
HW	HEADWALL
EW	ENDWALL

PROFILE NOTES:

1 THE LENGTHS (LF) SHOWN ON THIS PLAN ARE CENTERLINE STRUCTURE TO CENTERLINE STRUCTURE, AND DO NOT ACCOUNT FOR SLOPES OR DEFINE ACTUAL LENGTHS OF PIPE.

811
Know what's **below.**
Call before you dig.
1-800-242-1776
Serial No. 20260352495

LOCATION MAP
SCALE: 1" = 30'



GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

REVISION RECORD

Date	No	
2025-10-02	01	REVISED SKETCH PLANS
2025-10-10	02	REVISED SKETCH PLANS
"	03	"
"	04	"
"	05	"
"	06	"
"	07	"
"	08	"

HASTINGS
South Fayette Township/Pittsburgh, PA
CHARTER HOMES & NEIGHBORHOODS

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102

PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

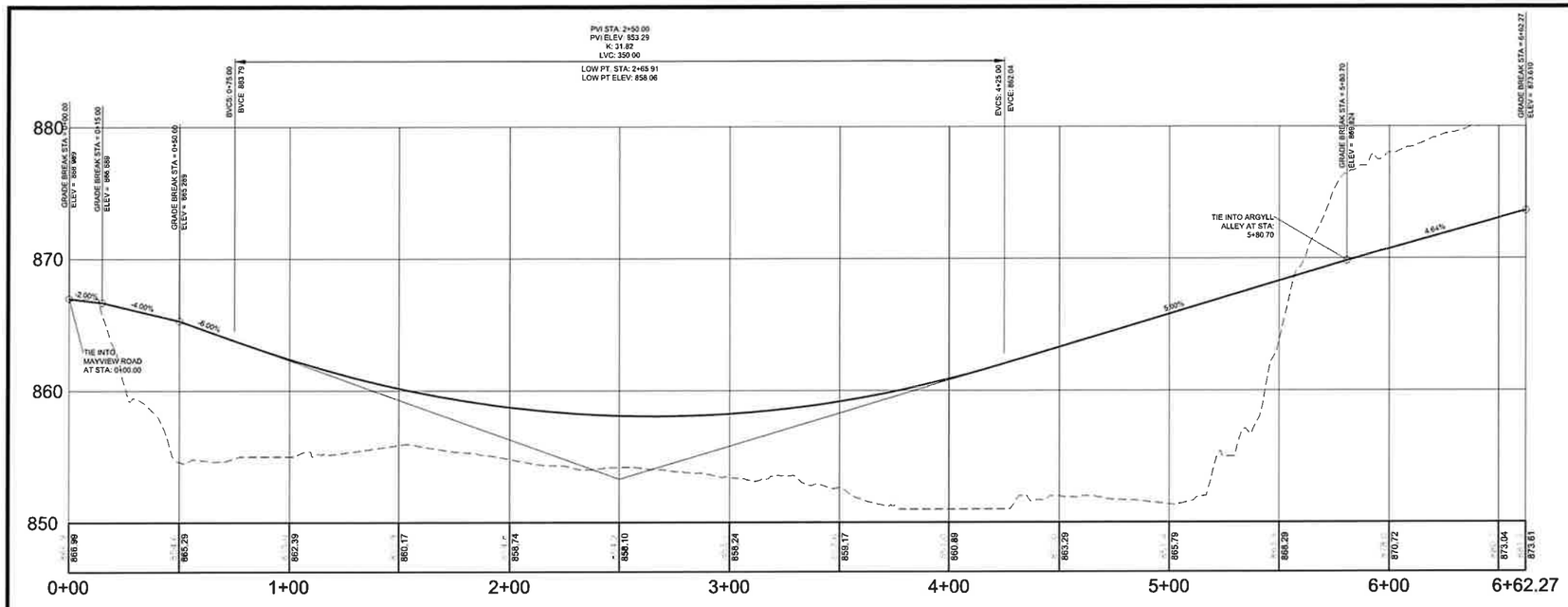
ROAD PROFILES

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Drawing Scale: AS NOTED
Date Issued: FEB 2026
Index Number: --
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

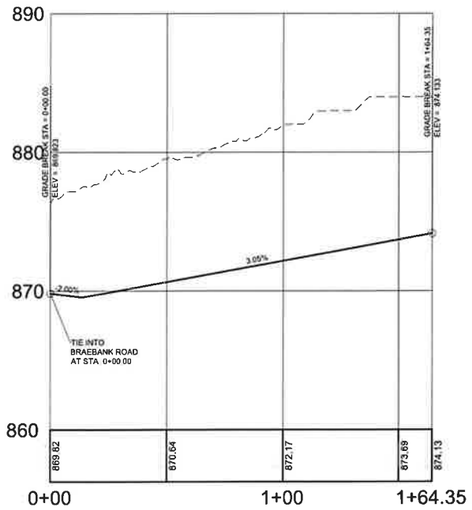
C500

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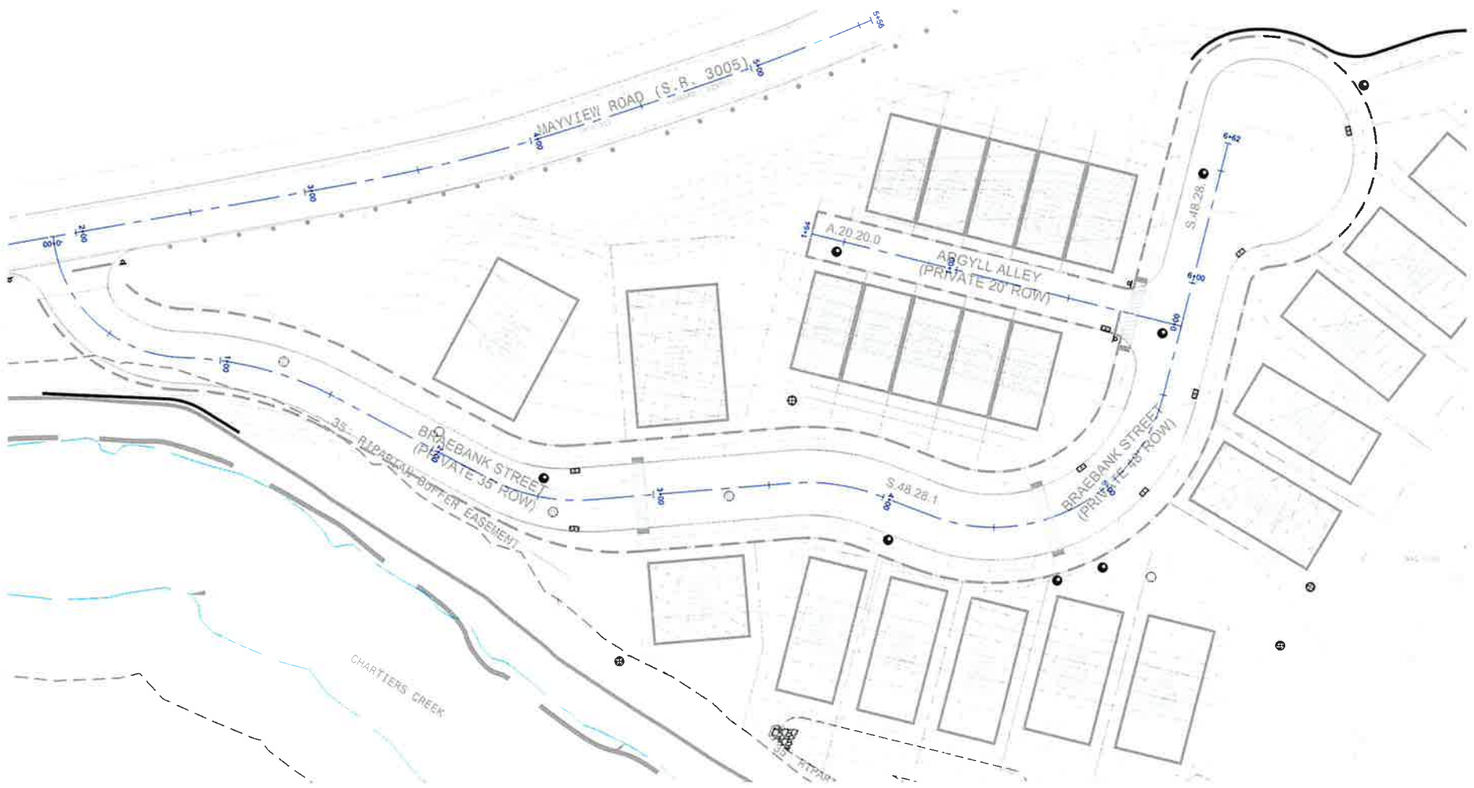
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Save Date=2/5/2026 4:33 PM



BRAEBANK ROAD PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 5'



ARGYLL ALLEY PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 5'



LOCATION MAP
SCALE: 1" = 30'

PROFILE STRUCTURE ABBREVIATONS

STM	STORM
SAN	SANITARY
MH	MANHOLE
OS	OUTLET STRUCTURE
CO	CLEANOUT
HW	HEADWALL
EW	ENDWALL

PROFILE NOTES:

1. THE LENGTHS (LF) SHOWN ON THIS PLAN ARE CENTERLINE STRUCTURE TO CENTERLINE STRUCTURE, AND DO NOT ACCOUNT FOR SLOPES OR DEFINE ACTUAL LENGTHS OF PIPE.

Know what's below. Call before you dig. 1-800-242-1776 Serial No. 20260352495

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GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

REVISION RECORD

No	Date
01	2025-10-02 REVISED SKETCH PLANS
02	2025-10-10 REVISED SKETCH PLANS
03	-
04	-
05	-
06	-
07	-
08	-

HASTINGS
South Fayette Township/Pittsburgh, PA
CHARTER Homes & Neighborhoods

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102

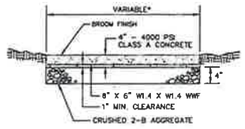
PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

ROAD PROFILES

Project Number: 18927-0096
Drawing Scale: AS NOTED
Date Issued: FEB 2026
Index Number: --
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

C501

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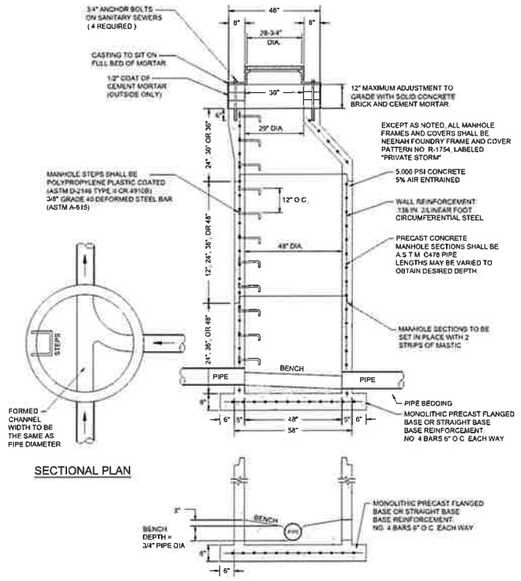
NOTES:
1. CONSTRUCT SIDEWALK IN ACCORDANCE WITH PA D.O.T. SPECIFICATIONS
2. PROVIDE TRANSVERSE DUMMY JOINTS AT 5' INTERVALS
3. PROVIDE 1/2" PREMOLDED EXPANSION JOINT MATERIAL AT 20' SPACING
4. SLOPE SIDEWALK AT 1/4" PER FOOT
5. CURING AND PROTECTING COVERS SHALL BE PROVIDED IN ACCORDANCE WITH FORM 408 SECTION 711.

NOT TO SCALE

NOTE: MIN. STANDARDS FOR A TYPICAL TRAFFIC SIGNAL CONTROLLER CABINET PAD INSTALLATION

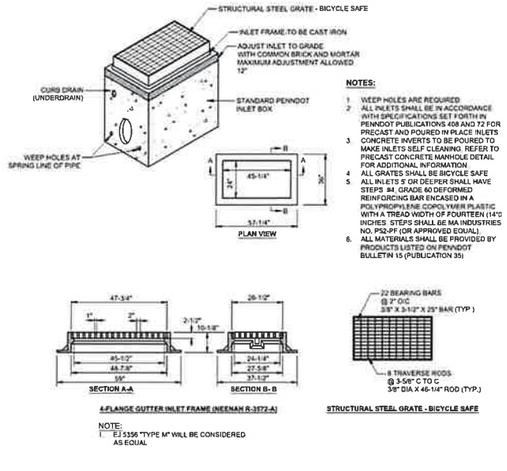
*SIDEWALK DIMENSIONS PER TYPICAL SECTION.
CONTROLLER PAD DIMENSIONS AS REQUIRED IN SECTION 17–414.

1	PROPOSED CONCRETE SIDEWALK
C600	

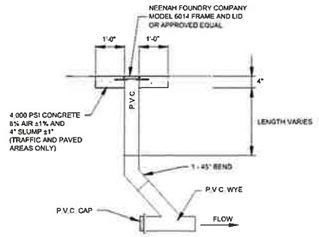


SECTIONAL PLAN

1	48" DIAMETER CONCRETE
C600	PRIVATE STORM MANHOLE

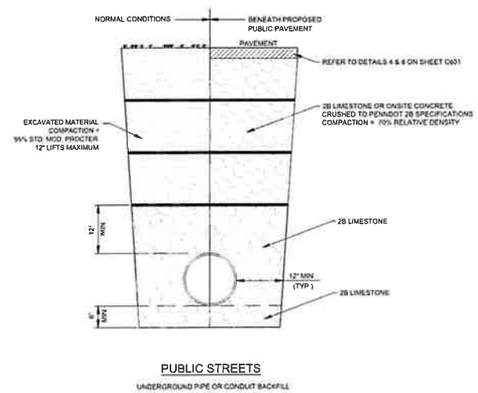


2	PENNDOT STANDARD INLET BOX WITH TYPE M FRAME AND BIKE SAFE GRATE
C600	



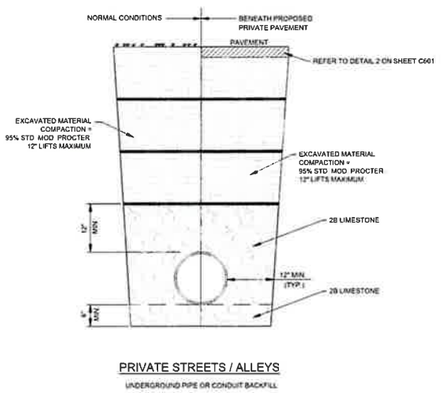
1. ALL ROOF/ BUILDING DRAINS MUST BE TRAPPED PRIOR TO TAPPING CONVEYANCE SYSTEM.
2. COORDINATE WITH PLUMBING DRAWINGS AND SPECIFICATIONS.

3	STORM CLEANOUT
C600	



PUBLIC STREETS

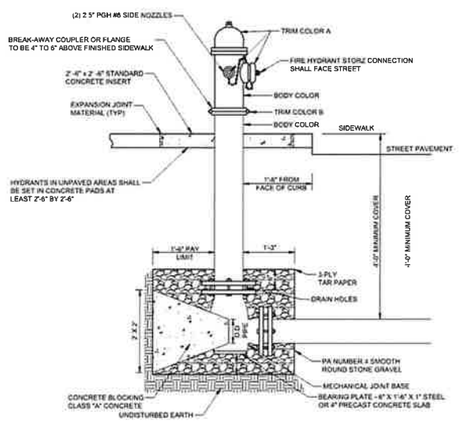
UNDERGROUND PIPE OR CONDUIT BACKFILL



PRIVATE STREETS / ALLEYS

UNDERGROUND PIPE OR CONDUIT BACKFILL

4	UNDERGROUND PIPE OR CONDUIT BACKFILL (STORM SEWERS/UTILITIES)
C600	



HYDRANT PAINTING SCHEDULE		
SIZE OF MAIN	BODY COLOR	TRIM COLOR A
6" OR SMALLER	RED	WHITE
10" TO 20"	YELLOW	WHITE or BLACK
LARGER THAN 24"	GREEN	WHITE
HYDRANTS CONNECTED TO NON POTABLE WATER		PURPLE

THE AREA INDICATED AS "TRIM COLOR B" SHALL BE PAINTED THE BODY COLOR ON SINGLY CONNECTED HYDRANTS AND WHITE ON DOUBLE CONNECTED HYDRANTS

THE PENTAGONAL NUTS MAY BE EITHER TRIM COLOR A OR THE BODY COLOR

5	FIRE HYDRANT INSTALLATION
C600	

SOUTH FAYETTE TOWNSHIP
A Community Growing Together

Fire Hydrant Specification

1. **MANUFACTURER.** Mueller 350 WP 4½.
2. **QUALITY AND STYLE.** Must be a dry barrel type hydrant and meet or exceed the requirements of the American Water Works Association Specification AWWA C502, Fire Hydrant for Ordinary Water Service.
3. **CONSTRUCTION.** Shall be a traffic model with a safety flange.
4. **NUMBER AND SIZE OF NOZZLES.** One 4 ½ inch pumper nozzle and two 2 ½ inch hose nozzles. Hose nozzles shall be 180 degrees apart and each hose nozzle 90 degrees from the pumper nozzle.
5. **SIZE OF MAIN VALVE OPENING.** Must be a minimum of a 4 ½ inch valve and barrel size.
6. **TYPE OF INLET CONSTRUCTION.** Flanged or Mechanical Joint.
7. **SIZE OF INLET CONNECTION.** Minimum of 4 inch.
8. **DEPTH OF TRENCH OR BURY.** Minimum of 3 foot 6 inches from safety flange.
9. **DIRECTION OF OPERATION.** Open right.
10. **SIZE AND SHAPE OF OPERATING NUT.** National Standard which is 1 ½ inch pentagon measured from point to opposite point flat at base of nut.
11. **PUMPER AND HOSE NOZZLE THREADS.**
    a. Pumper thread shall be a 5 inch Storz type fitting with a red locking lever.
    b. Hose threading shall be **PGH6** "Pittsburgh 6" (3.062 x 6)
12. **COLOR.** Fire hydrant shall be yellow in color.

6	FIRE HYDRANT SPECIFICATION
C600	

GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

REVISION RECORD

Date		
----	01	----
----	02	----
"	03	"
"	04	"
"	05	"
"	06	"
"	07	"
"	08	"

HASTINGS
South Fayette Township/Pittsburgh, PA

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102

PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

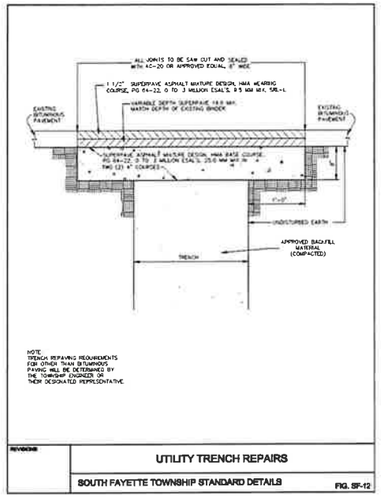
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Drawing Scale: N.T.S.
Date Issued: FEB 2026
Index Number: --
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

C600

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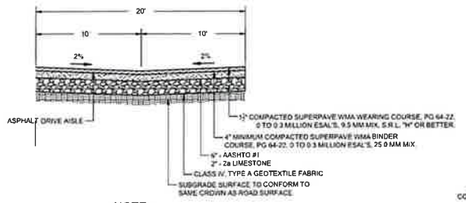
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Xrefs Used: 2/2/2026 12:28 PM Colored & Section



REVISIONS	UTILITY TRENCH REPAIRS
	SOUTH FAYETTE TOWNSHIP STANDARD DETAILS — FIG. SF-12

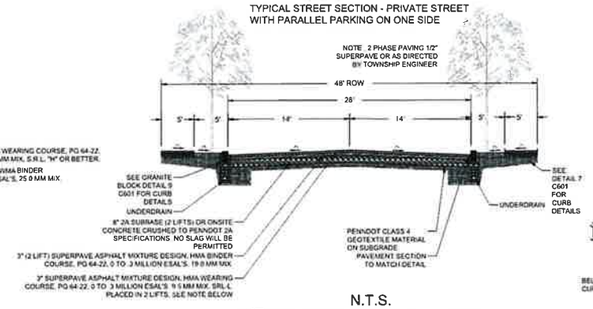
1	UTILITY TRENCH REPAIRS
C601	

A.20.20.0 ALLEY - PRIVATE
TYPICAL ALLEY SECTION - PRIVATE ALLEY WITH NO PARKING



NOTE:
1. NO UNDERDRAINS

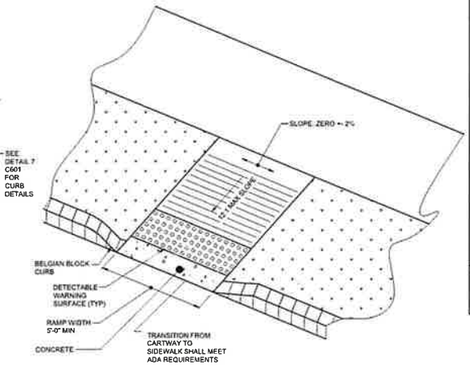
S.48.28.1 - PRIVATE
TYPICAL STREET SECTION - PRIVATE STREET WITH PARALLEL PARKING ON ONE SIDE



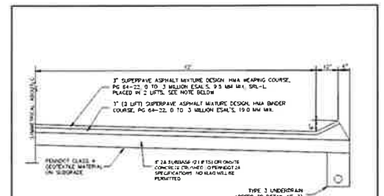
N.T.S.

NOTE:
1. UNDERDRAIN NOT REQUIRED ALONG PRIVATE STREETS OR ALLEYS
2. PUBLIC STREETS WILL NOT REQUIRE UNDERDRAIN WHERE PROPOSED STORM SEWER IS IN THE SAME LOCATION.

2	STREET SECTIONS
C601	



3	PROPOSED STREET CROSSING GRANITE BLOCK CURB RAMP
C601	



NOTE:
1 TYPICAL SHOWN IS FOR ROAD DEFINED AS DI-1. FOR ROADWAY DESIGNS OTHER THAN DI-1, SEE BELOW.
2.FINAL WEARING COURSE LIFT TO BE PLACED AT THE TIME OF FINAL ROADWAY ACCEPTANCE.

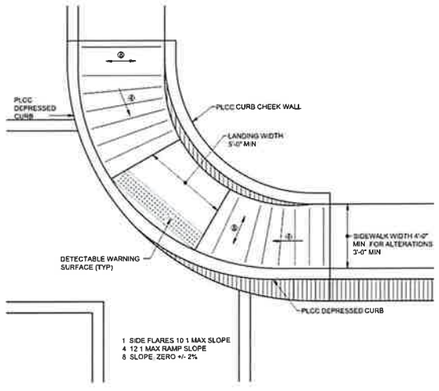
INTENSITY CATEGORY	OVERALL ASPHALT THICKNESS (INCHES)	WRG COURSE THICKNESS	BASE/BINDER THICKNESS
DI-1	6"	3"	3"

Note
1) ALL STREETS AT HASTINGS ARE CATEGORY DI - 1. ALL ALLEYS ARE NOT INCLUDED IN THIS INTENSITY CATEGORY. FOR ALLEY PAVING SECTION REER TO ALLEY PAVEMENT DETAIL 9/C602

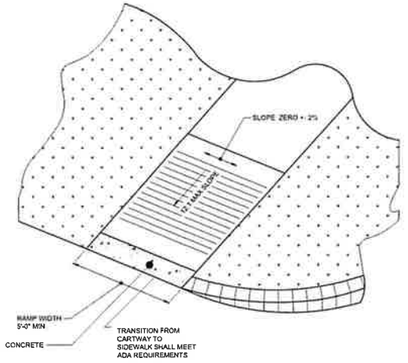
REVISIONS	TYPICAL ROADWAY PAVING SECTIONS
	SOUTH FAYETTE TOWNSHIP STANDARD DETAILS — FIG. SF-2

NOTE:
1. ALL STREETS AT HASTINGS ARE CATEGORY DI - 1. ALL ALLEYS ARE NOT INCLUDED IN THIS INTENSITY CATEGORY. FOR ALLEY PAVING SECTION REFER TO ALLEY PAVEMENT DETAIL 9/C602
2. UNDERDRAIN NOT REQUIRED ALONG PRIVATE STREETS OR ALLEYS
3. PUBLIC STREETS WILL NOT REQUIRE UNDERDRAIN WHERE PROPOSED STORM SEWER IS IN THE SAME LOCATION

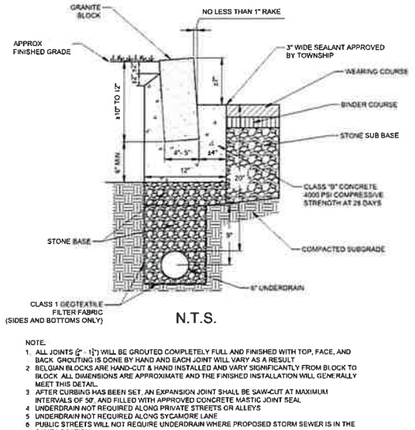
4	TYPICAL PAVING SECTION
C601	



5	TYPE 2 CURB RAMP (DIAGONAL) (RC-67M)
C601	



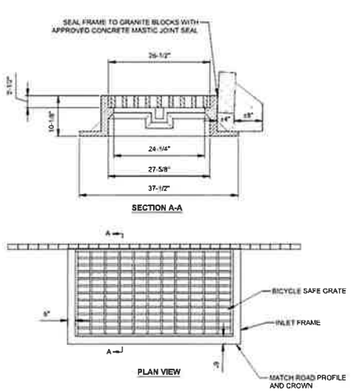
6	PROPOSED ALLEY CROSSING GRANITE BLOCK CURB RAMP
C601	



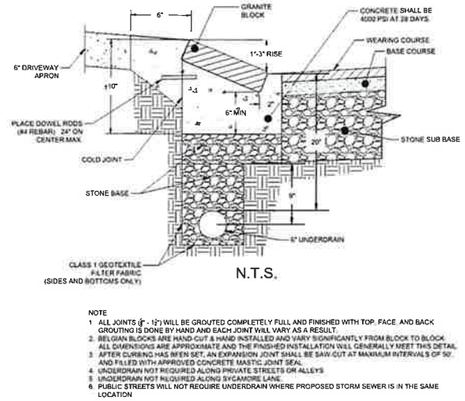
N.T.S.

NOTE
1. ALL JOINTS (¼" - 1") WILL BE GROUTED COMPLETELY FULL AND FINISHED WITH TOP, FACE, AND BACK GROUTING IS DONE BY HAND AND EACH JOINT WILL VARY AS A RESULT
2. BELGIAN BLOCKS ARE HAND-CUT & HAND INSTALLED AND VARY SIGNIFICANTLY FROM BLOCK TO BLOCK. ALL DIMENSIONS ARE APPROXIMATE AND THE FINISHED INSTALLATION WILL GENERALLY MEET THIS DETAIL.
3. AFTER CURBING HAS BEEN SET, AN EXPANSION JOINT SHALL BE SAW-CUT AT MAXIMUM INTERVALS OF 50' AND FILLED WITH APPROVED CONCRETE MASTIC JOINT SEAL
4. UNDERDRAIN NOT REQUIRED ALONG PRIVATE STREETS OR ALLEYS
5. UNDERDRAIN NOT REQUIRED ALONG SYCAMORE LANE
6. PUBLIC STREETS WILL NOT REQUIRE UNDERDRAIN WHERE PROPOSED STORM SEWER IS IN THE SAME LOCATION

7	GRANITE BLOCK CURB
C601	



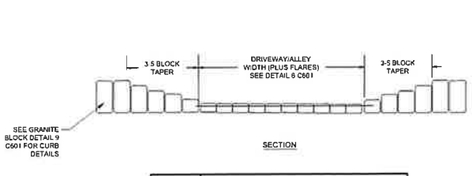
8	GRANITE BLOCK CURB AT INLET
C601	



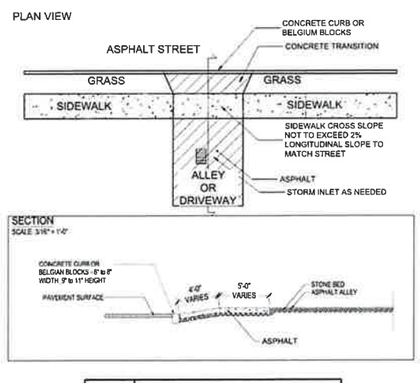
N.T.S.

NOTE
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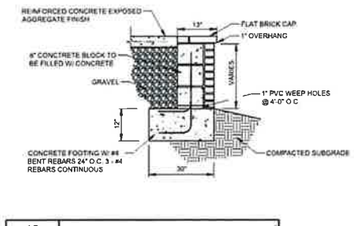
9	GRANITE BLOCK CURB - MOUNTABLE
C601	



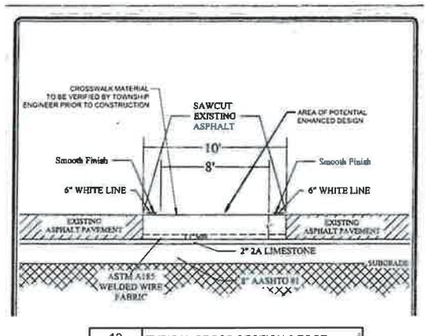
10	GRANITE BLOCK CURB - ALLEY/DRIVEWAY CONNECTIONS
C601	



11	DRIVEWAY DETAIL AND DEPRESSED CURB
C601	



12	BLOCK/BRICK RETAINING WALL
C601	



13	TYPICAL CROSS SECTION 8 FOOT CROSSWALK (RD-27)
C601	

GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

REVISION RECORD

Date	01	02	03	04	05	06	07	08
	----	----	"	"	"	"	"	"

HASTINGS
South Fayette Township/Pittsburgh, PA
CHARTER Homes & Neighborhoods

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102

PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

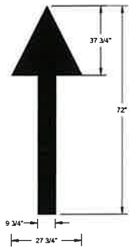
CONSTRUCTION DETAILS

Project Number: 18927-0096
Drawing Scale: N.T.S
Date Issued: FEB 2026
Index Number: --
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

C601

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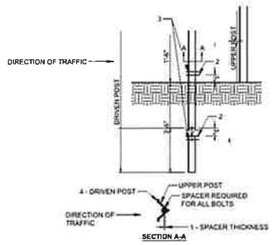
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Plot Date=2/5/2026 12:58 PM Cabral, R. Stamish



NOTES:

1. USE 6" WIDE LANE MARKING PAINT WITH MECHANICAL EQUIPMENT TO PRODUCE UNIFORM STRAIGHT EDGES.
2. USE LATEX TYPE, READY MIXED COMPLYING WITH FEDERAL SPECIFICATION TT-P-1952E TYPES 1 AND 2, COLOR: WHITE.
3. NEW ARROWS TO BE 15 MILS THICK.
4. APPLY PER MANUFACTURERS RECOMMENDATIONS.

1 C602	PAINTED DIRECTIONAL ARROW

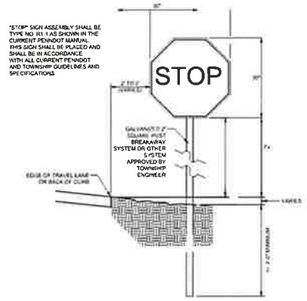


SECTION A-A

GENERAL NOTES:

1. THE SPACER THICKNESS SHALL BE NO LESS THAN THE GAP BETWEEN THE POSTS WHEN POSITIONED IN THE UNBOLTED CONFIGURATION
2. THE EXTERIOR BOLT, SPACER, WASHER AND NUT SHALL BE INSTALLED IN A PRE-PUNCHED HOLE WITHIN THE FIRST 2" OF THE END OF THE LAPPED POST SECTION
3. THE INTERIOR BOLT, SPACER, WASHER AND NUT SHALL BE INSTALLED IN A PRE-PUNCHED HOLE WITHIN THE FIRST 2" OF THE EXTERIOR BOLTS. THE MAXIMUM SPACING BETWEEN THE INTERIOR BOLTS SHALL BE 1'-6". IF THE LENGTH OF THE POST LAP IS INCREASED SUCH THAT THIS 1'-6" MAXIMUM IS EXCEEDED. THE ADDITIONAL INTERIOR BOLTS SHALL BE INSTALLED SUCH THAT THE MAXIMUM SPACE BETWEEN A PAIR OF INTERIOR BOLTS DOES NOT EXCEED THE 1'-6" LIMIT
4. THE DRIVEN POST SHALL ALWAYS BE MOUNTED IN FRONT OF THE UPPER POST WITH RESPECT TO ADJACENT ONCOMING TRAFFIC, REGARDLESS OF THE DIRECTION THE SIGN IS FACING
5. THE BOLTS SHOWN SHALL BE 1" X 2" GALVANIZED BOLTS IN ACCORDANCE WITH ASTMM A 449, OR SAE J429, GT 9 OR GALVANIZED BOLTS IN ACCORDANCE WITH ASTM A 325

2 C602	U CHANNEL POST



3 C602	'STOP' SIGN



4 C602	SPEED LIMIT SIGN



5 C602	PEDESTRIAN CROSSING SIGN



Post Top Acorn

Type	Wattage	Voltage	IES Distribution	SAP #	CREW's CU	Mounting Ht.
LED	50 W	Multi-V	TYPE III	100128541	DS-745790-LED	12' or 16'
LED	50 W	Multi-V	TYPE V	100128528	DS-745792-LED	12' or 16'
LED	90 W	Multi-V	TYPE III	100128529	DS-745793-LED	12' or 16'
LED	90 W	Multi-V	TYPE V	100128530	DS-745791-LED	12' or 16'

6 C602	LIGHT POST

GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

REVISION RECORD

Date	01	02	03	04	05	06	07	08
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HASTINGS
South Fayette Township/Pittsburgh, PA

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102

PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

CONSTRUCTION DETAILS

Project Number: 18927-0096
Drawing Scale: N.T.S.
Date Issued: FEB 2026
Index Number: –
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

C602

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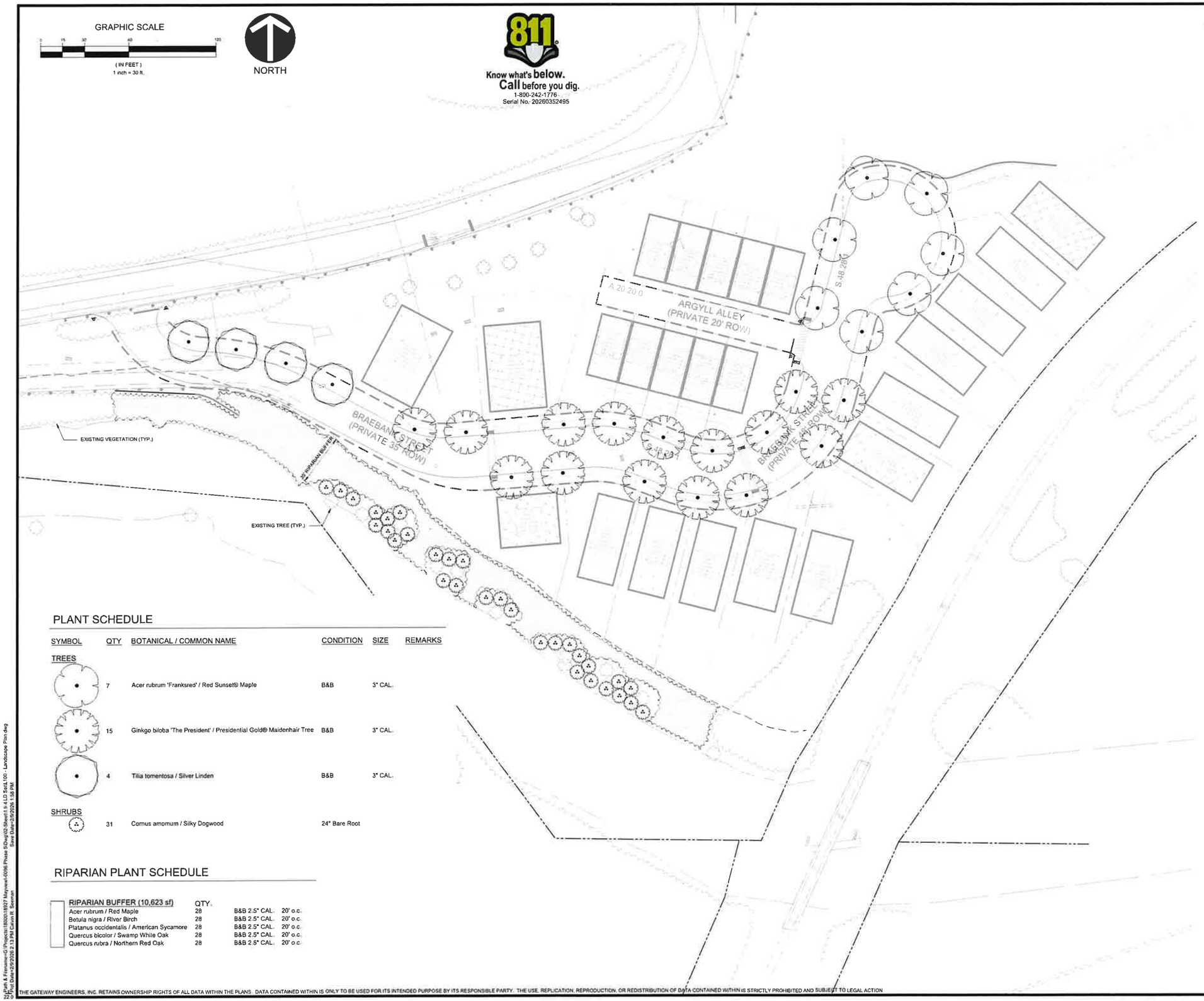
GRAPHIC SCALE

0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

NORTH

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PLANT SCHEDULE

SYMBOL	QTY	BOTANICAL / COMMON NAME	CONDITION	SIZE	REMARKS
TREES					
	7	Acer rubrum 'Franksred' / Red Sunset® Maple	B&B	3" CAL.	
	15	Ginkgo biloba 'The President' / Presidential Gold® Maidenhair Tree	B&B	3" CAL.	
	4	Tilia tomentosa / Silver Linden	B&B	3" CAL.	
SHRUBS					
	31	Cornus amomum / Silky Dogwood	24" Bare Root		

RIPARIAN PLANT SCHEDULE

RIPARIAN BUFFER (10,623 sf)	QTY.		
Acer rubrum / Red Maple	28	B&B 2.5" CAL.	20' o.c.
Betula nigra / River Birch	28	B&B 2.5" CAL.	20' o.c.
Platanus occidentalis / American Sycamore	28	B&B 2.5" CAL.	20' o.c.
Quercus bicolor / Swamp White Oak	28	B&B 2.5" CAL.	20' o.c.
Quercus rubra / Northern Red Oak	28	B&B 2.5" CAL.	20' o.c.

LANDSCAPE REQUIREMENTS:

1. GENERAL PROVISIONS
   - A. ALL DECIDUOUS TREES REQUIRED BY THIS CHAPTER SHALL BE A MINIMUM OF 2 ½" CALIPER IN SIZE, MEASURED SIX INCHES ABOVE GROUND LEVEL. STREET TREES SHALL BE 3" CALIPER.
   - B. ALL EVERGREEN TREES REQUIRED BY THIS CHAPTER SHALL BE A MINIMUM OF SIX FEET IN PLANTED HEIGHT, MEASURED FROM FINISHED GRADE.
   - C. ALL SHRUBS SHALL BE A MINIMUM OF 24 INCHES IN HEIGHT AT INSTALLATION.
2. BUILDING FOUNDATION PLANTINGS
   - A. FIFTY PERCENT OF THE LENGTH OF NONRESIDENTIAL AND MULTIFAMILY RESIDENTIAL BUILDINGS FACADES THAT FACE A STREET, INTERNAL STREET, PARKING LOT, OR PARKING LOT DRIVE AISLE SHALL INCLUDE A FOUNDATION PLANTING AREA IMMEDIATELY ADJACENT TO THE BUILDING. IF THERE ARE TWO OR MORE FACADES, PLANTING AREAS SHALL BE PROVIDED ALONG A MINIMUM OF TWO FACADES.
     - (1) THE FOUNDATION PLANTINGS MAY BE REDUCED TO A MINIMUM OF 25% OF THE LENGTH ALONG A FRONT BUILDING FACADE WITH TWO OR MORE BUILDING ENTRANCES.
     - (2) ALONG A FRONT BUILDING FACADE, RAISED PLANTED BOXES MAY BE USED IN LIEU OF THE MINIMUM REQUIRED FOUNDATION PLANTINGS ALONG THAT FACADE, SUCH THAT THE PLANTERS PROVIDE THE SAME SQUARE FOOTAGE OF PLANTING AREA AS THE REQUIRED FOUNDATION PLANTINGS WOULD PROVIDE. THE PLANTERS MUST BE PLACED WITHIN THE WIDTH OF THE FACADES.
   - B. THE FOUNDATION PLANTING AREA SHALL BE A MINIMUM OF SIX FEET WIDE.
   - C. THE FOUNDATION PLANTING AREA SHALL INCLUDE, AT A MINIMUM, ORNAMENTAL TREES, EVERGREEN TREES, AND SHRUBS, IN ADDITION TO ANY ANNUAL OR PERENNIAL VEGETATION.
   - D. IN ADDITION TO ANY OTHER REQUIRED PLANTINGS, ALL BUILDING FOUNDATION PLANTING AREAS SHALL BE PLANTED WITH TURF GRASS, ORNAMENTAL GRASSES, OR OTHER GROUND COVER PLANT MATERIAL. MULCH, STONE, OR SIMILAR GROUND COVER MATERIALS ARE TO BE USED SPARINGLY.
3. STREET TREES
   - A. STREET TREES SHALL BE INSTALLED AS PART OF THE CONSTRUCTION OF ANY NEW PUBLIC OR PRIVATE STREET.
     - (1) STREET TREES SHALL BE PROVIDED ON BOTH SIDES OF THE NEW STREET.
   - B. STREET TREES SHALL BE PLANTED AT A RATE OF ONE PER 35 FEET ON CENTER.
   - C. ALL STREET TREES SHALL BE A MINIMUM OF THREE-INCH CALIPER IN SIZE AT THE TIME OF PLANTING, MEASURING SIX INCHES ABOVE GROUND LEVEL.
   - D. STREET TREE REQUIREMENTS RELATED TO MARS ROAD MAY BE MET BY PRESERVING EXISTING TREES ADJACENT TO THE ROAD RIGHT-OF-WAY.

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GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

REVISION RECORD

No	Date	
01	03/14/2024	RESPONSE TO TWP COMMENTS
02	03/29/2024	REVISED PLAN SET
03	04/08/2024	REVISED PLAN SET
04	05/14/2024	REVISED PLAN SET
05	"	"
06	"	"
07	"	"
08	"	"

HASTINGS
South Fayette Township/Pittsburgh, PA
CHARTER HOMES & Neighborhoods

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, 15102

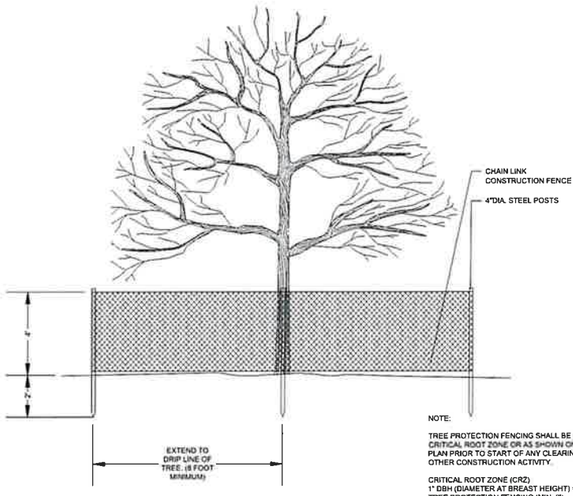
PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

LANDSCAPE PLAN

Project Number: 18927-0096
Drawing Scale: 1" = 30'
Date Issued: FEB 2026
Index Number: –
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

L100

Ruth & Pietrandrea-01 (Projects)18000-18999\18927-Mayview\-0096 Phase 5\Dwg\00-Sheet\1.5 # LD Set\L100 - Landscape Plan.dwg
Sep 05, 2025 - 9:29:20pm Edward R. Sweitzer



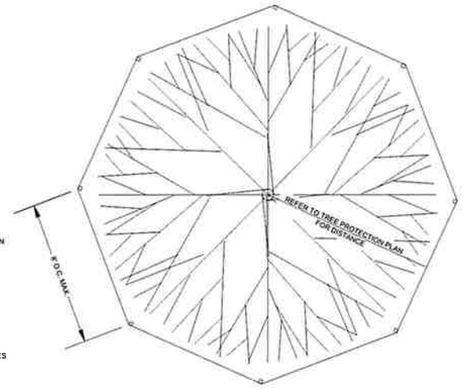
NOTE:

TREE PROTECTION FENCING SHALL BE ERECTED AT THE CRITICAL ROOT ZONE OR AS SHOWN ON THE DEMOLITION PLAN PRIOR TO START OF ANY CLEARING, GRADING OR OTHER CONSTRUCTION ACTIVITY.

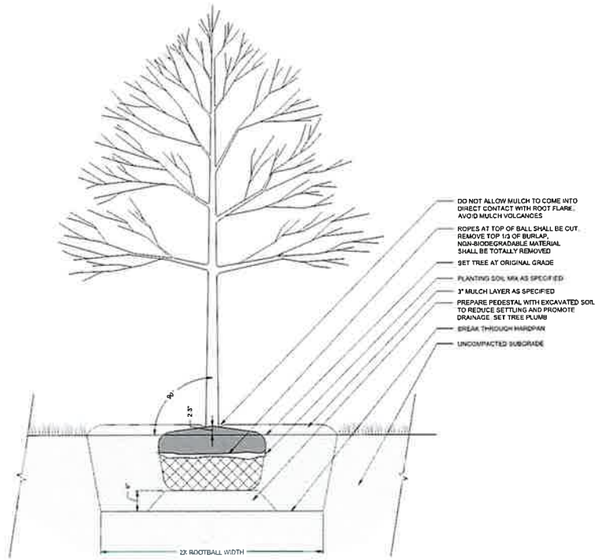
CRITICAL ROOT ZONE (CRZ)
1" DBH (DIAMETER AT BREAST HEIGHT) = 1' RADIUS OF TREE PROTECTION FENCING (MIN. 6')
(FOR EXAMPLE, A 10" DBH TREE WOULD HAVE TREE PROTECTION FENCE AROUND IT WITH A 10' RADIUS)

TREE PROTECTION SHALL NOT BE REMOVED UNTIL COMPLETION OF ALL CONSTRUCTION ACTIVITY.

TEMPORARY BASE CAN BE USED WHERE FENCE CROSSES EXISTING PAVEMENT.



1	TREE PROTECTION FENCING
L102	



2	DECIDUOUS TREE PLANTING, TYP.
L102	

NORTH

GRAPHIC SCALE

0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

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04	05/14/2024	REVISED PLAN SET
05	-	-
06	-	-
07	-	-
08	-	-

HASTINGS
South Fayette Township/Pittsburgh, PA

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, 15102

PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

LANDSCAPE DETAILS

Project Number: 18927-0096
Drawing Scale: 1" = 30'
Date Issued: FEB 2026
Index Number: --
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

L101

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by: Erin A. Finamore-O:\Projects\18500\18927 Mayview\0096 Phase 5\Dwg\05 Sheets 11 x 17\L101 Sht1.100 - Landscape Plan.dwg
Save Date: 2/9/2026 12:52 PM
Plot Date: 2/9/2026 12:59 PM Calvin R. Sizemore

LIGHTING LEGEND

*	PROPOSED LIGHT STANDARD

NORTH

GRAPHIC SCALE

0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

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A FULL-SERVICE CIVIL ENGINEERING FIRM

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07	-
08	-

RESPONSE TO TWP COMMENTS
REVISED PLAN SET
REVISED PLAN SET
REVISED PLAN SET

HASTINGS
South Fayette Township/Pittsburgh, PA

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, 15102

PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

LIGHTING PLAN

Project Number: 18927-0096
Drawing Scale: 1" = 30'
Date Issued: FEB 2026
Index Number: –
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Checked By: DMH
Project Manager: DMH

L110

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Plot Date=2/9/2026 2:14 PM| Calvin R. Seaman
Save Date=2/9/2026 1:58 PM

THIS PLAN IS FOR EROSION AND SEDIMENT CONTROL PURPOSES ONLY

MAYVIEW ROAD (S.R. 3005)

01 PCSM3 SCM 5.1: DETENTION TANK

02 PCSM3 SCM 5.1: OUTLET STRUCTURE

124 +/- LF OF 42" SLCPP @ 5.00%

91 LF OF 15" SLCPP @ 5.19%

35' RIPARIAN BUFFER EASEMENT

FEMA REGULATORY FLOODWAY BOUNDARY

±4140 SF RIPARIAN BUFFER PLANTINGS

CHARTIERS CREEK

04 PCSM2 BASIN ACCESS ROAD

03 PCSM2 SCM 5.2: INFILTRATION BASIN (TANK COMPONENT)

03 PCSM3 RIP-RAP APRON AT ENDWALL

FEMA 100-YEAR FLOODPLAIN BOUNDARY

EMERGENCY SPILLWAY (40' WIDTH)

TP-1

TP-2

(2) 55 LF 36" SLCPP EQUALIZATION PIPES

03 PCSM2 SCM 5.2: INFILTRATION BASIN (BASIN COMPONENT)

04 PCSM2 BASIN ACCESS ROAD

03 PCSM2 SCM 5.2: INFILTRATION BASIN (TANK COMPONENT)

03 PCSM3 RIP-RAP APRON AT ENDWALL

03 PCSM2 SCM 5.2: INFILTRATION BASIN (TANK COMPONENT)

100-YR FLOODPLAIN

SCM 5.2: ABOVE/BELOW GROUND INFILTRATION BASIN

02 PCSM2 SCM 5.2: OUTLET STRUCTURE

03 PCSM3 RIP-RAP APRON AT ENDWALL

POA #5 DISCHARGES TO CHARTIERS CREEK (WWF)

PCSM LEGEND

⊕ 02 PCSM3	SCM 5.1 OUTLET CONTROL STRUCTURE #1
B 02 PCSM2	SCM 5.2 OUTLET CONTROL STRUCTURE #2
SOIL BOUNDARIES	SOIL BOUNDARIES
LIMITS OF DISTURBANCE	LIMITS OF DISTURBANCE
PERMIT BOUNDARY	PERMIT BOUNDARY

NOTES:

1. APPROVED PCSM PLANS CANNOT BE ALTERED OR ANY FACILITIES REMOVED WITHOUT APPROVAL FROM THE ALLEGHENY COUNTY CONSERVATION DISTRICT OR THE TOWNSHIP.

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TOWNSHIP APPROVAL

TOWNSHIP OFFICIAL OR DESIGNATED PLAN REVIEWER HAS REVIEWED AND HEREBY CERTIFIES THAT THE SWM SITE PLAN MEETS ALL DESIGN STANDARDS AND CRITERIA OF THE TOWNSHIP OF SOUTH FAYETTE STORMWATER MANAGEMENT ORDINANCE NO. 215-78, EXCEPT WHERE WAIVERS HAVE BEEN GRANTED AS NOTED ON THE PLAN. THE REVIEW IS BASED ON A SURVEY AND PLAN PREPARED BY OTHERS AND ASSUMES THAT ALL INFORMATION IS CORRECT AND VALID AS SUBMITTED.

DESIGNATED REVIEWER _____ DATE _____

PROJECT AREAS

TOTAL LOD = 81.99 ACRES
NEW LOD = 0 ACRES
PCSM AREA = 5.68 ACRES

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NORTH

GRAPHIC SCALE

0 15 30 60 120

(IN FEET)

1 inch = 30 ft.

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GATEWAY ENGINEERS
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REVISION RECORD

Date	No	
-	01	-
-	02	-
-	03	-
-	04	-
-	05	-
-	06	-
-	07	-
-	08	-

HASTINGS
South Fayette Township/Pittsburgh, PA

HASTINGS PHASE 5
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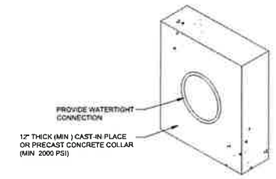
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322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

POST CONSTRUCTION STORMWATER MANAGEMENT PLAN

Project Number: 18927-0096
Drawing Scale: 1" = 30'
Date Issued: FEB 2026
Index Number: --
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

PCSM1

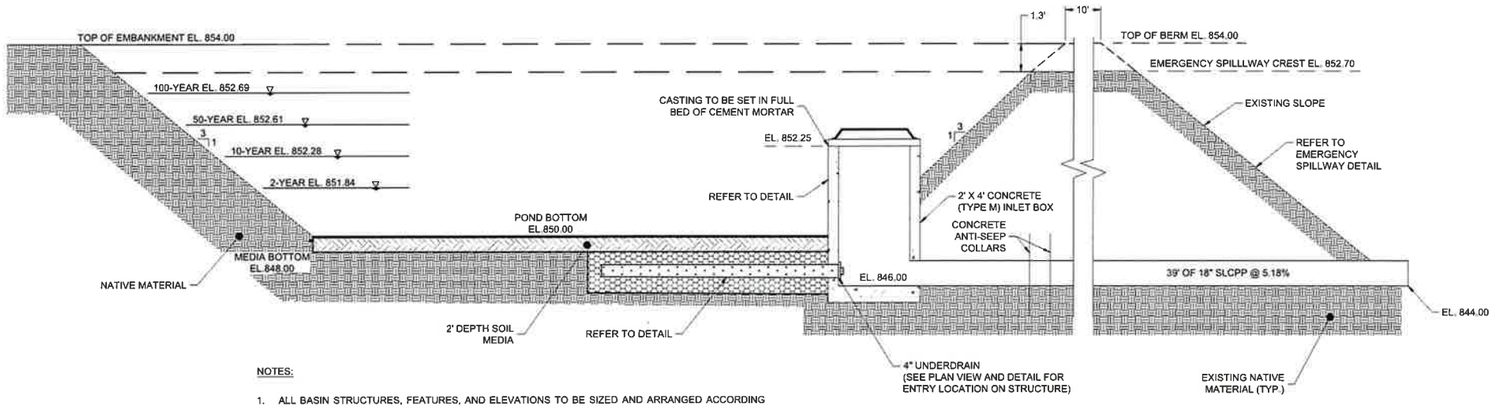
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Save Date=2/9/2026 12:39 PM
22.0



NOTES:

1. MINIMUM DISTANCE TO PIPE JOINT SHALL BE 2 FEET.
2. COLLARS SHALL BE INSTALLED SO AS TO BE WATERTIGHT.
3. SPLIT COUPLER COLLARS TO BE SIZED IN ACCORDANCE WITH OUTLET PIPE.

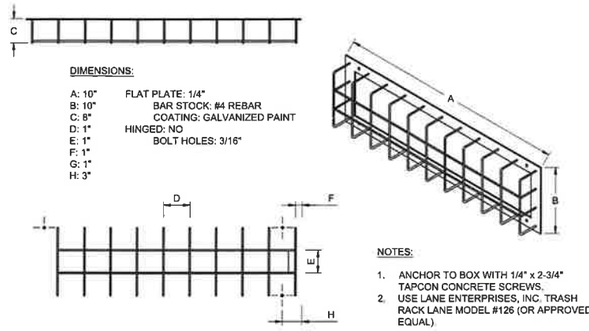
CONCRETE ANTI-SEEP COLLAR



NOTES:

1. ALL BASIN STRUCTURES, FEATURES, AND ELEVATIONS TO BE SIZED AND ARRANGED ACCORDING TO THE POST CONSTRUCTION STORMWATER MANAGEMENT REPORT.
2. CONSTRUCT INLET IN ACCORDANCE WITH THESE SPECIFICATIONS AND PENNDOT PUBLICATION 408, SECTION 605, FOR "CAST IN PLACE UNITS" AND SECTION 713.2 FOR "PRECAST CONCRETE UNITS".
3. INLET GRATES TO BE GRAY IRON.
4. MANHOLE STEPS REQUIRED IN ALL STRUCTURES OVER 5' DEEP.
5. THE PERMANENT RISER STRUCTURE IS TO BE A PENNDOT TYPE M INLET BOX.

01	SCM 5.2: ABOVE/BELOW GROUND INFILTRATION BASIN
PCSM2	(BASIN COMPONENT)



DIMENSIONS:

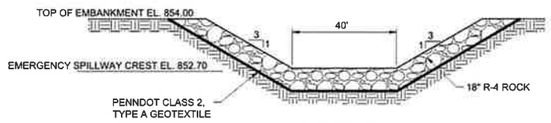
A: 10"
B: 10"
C: 8"
D: 1"
E: 1"
F: 1"
G: 1"
H: 3"

FLAT PLATE: 1/4"
BAR STOCK: #4 REBAR
COATING: GALVANIZED PAINT
HINGED: NO
BOLT HOLES: 3/16"

NOTES:

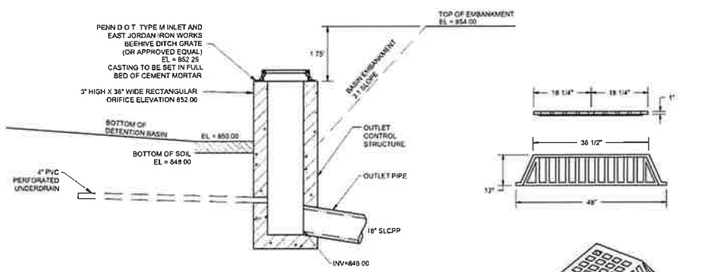
1. ANCHOR TO BOX WITH 1/4" x 2-3/4" TAPCON CONCRETE SCREWS.
2. USE LANE ENTERPRISES, INC. TRASH RACK LANE MODEL #126 (OR APPROVED EQUAL)

ORIFICE TRASH RACK

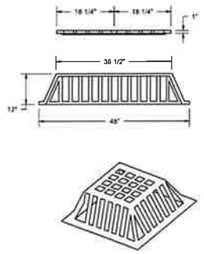


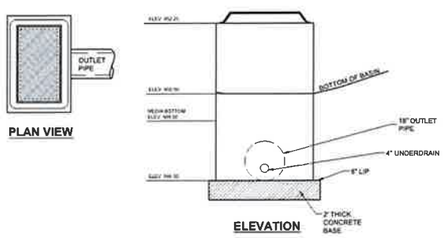
SECTION A-A

SWM	TOP ELEV	POND BOT ELEV	OUTLET STRUCTURE	RISER ELEV	SPILLWAY ELEV	SPILLWAY WIDTH	OUTLET PIPE INV	OUTLET SIZE	OUTLET SLOPE
INFILTRATN BASIN	854.0	850.0	OS #2	852.25	852.70	40'	848.00	18"	5.18%



SECTION





PLAN VIEW

ELEVATION

NOTES:

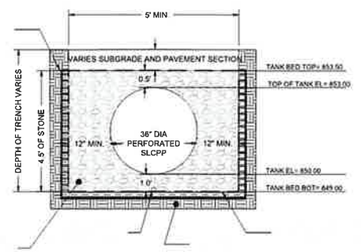
1. BEEHIVE DITCH GRATE SHALL BE EAST JORDAN IRON WORKS NUMBER 8496 (OR APPROVED EQUAL)

OUTLET STRUCTURE GRATE

NOTES:

1. OUTLET PIPE AND ORIFICE TO BE SIZED AND ARRANGED ACCORDING TO THE STORM WATER MANAGEMENT REPORT
2. CONSTRUCT INLET IN ACCORDANCE WITH THESE SPECIFICATIONS AND PENN D.O.T. PUBLICATION 408 SECTION 605, FOR "CAST IN PLACE UNITS" AND SECTION 713.2 FOR "PRECAST CONCRETE UNITS".
3. INLET FRAMES AND GRATES TO BE GRAY IRON
4. MANHOLE STEPS REQUIRED IN ALL STRUCTURES OVER 5' DEEP

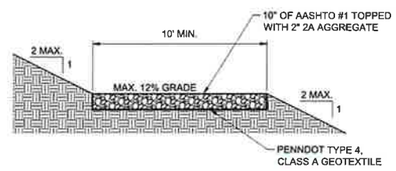
02	SCM 5.2: ABOVE/BELOW GROUND INFILTRATION BASIN OUTLET
PCSM2	CONTROL STRUCTURE OS-2



CROSS SECTION VIEW

NOTE:
1. PROVIDE 6 PERFORATIONS PER LINEAR FOOT OF PIPE
2. REFER TO PLANS FOR PIPE SIZE, TYPE, AND SLOPE.

03	SCM 5.2 INFILTRATION BASIN
PCSM2	(TANK COMPONENT)



04	BASIN ACCESS ROAD TYPICAL
PCSM2	SECTION

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Xrefs used=2/5/2026 12:39 PM
22.0

GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

REVISION RECORD

No	Date
01	-
02	-
03	-
04	-
05	-
06	-
07	-
08	-

HASTINGS
South Fayette Township/Pittsburgh, PA

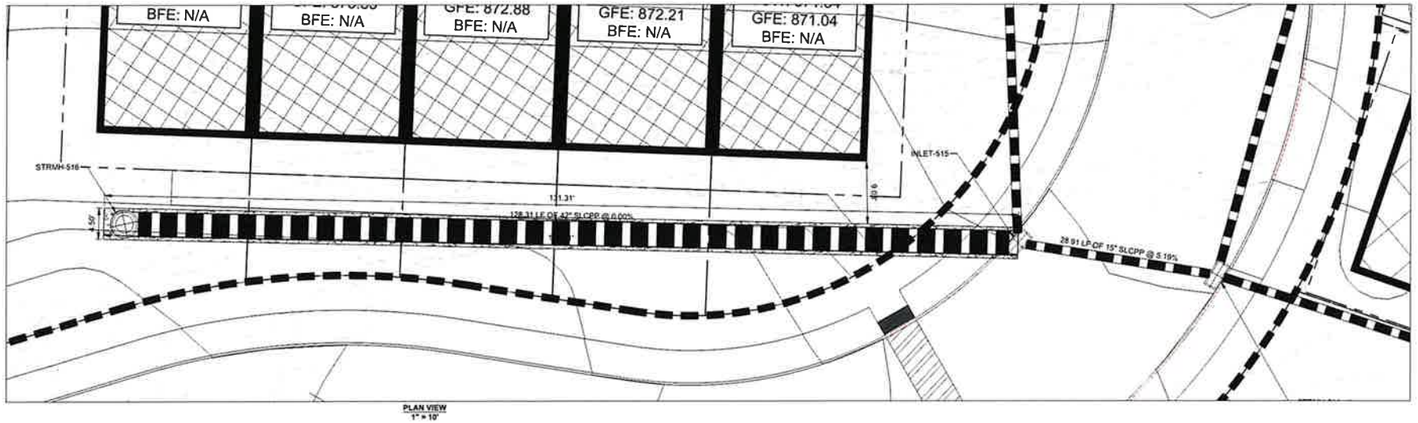
HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102

PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

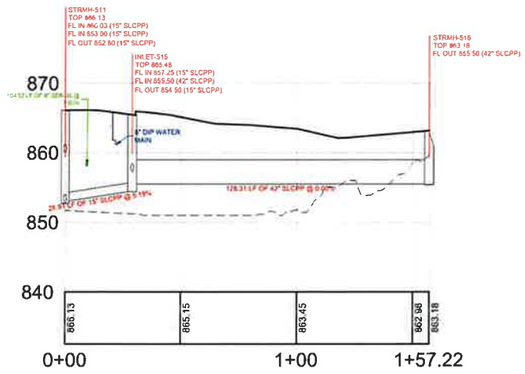
PCSM DETAILS

Project Number: 18927-0096
Drawing Scale: N.T.S.
Date Issued: FEB 2026
Index Number: –
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

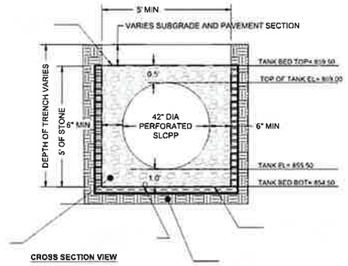
PCSM2



PLAN VIEW
1" = 10'



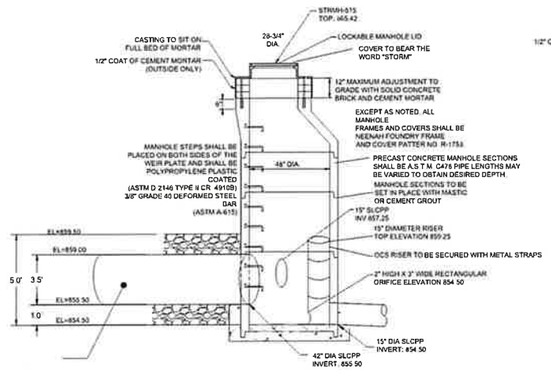
STRMH-516 TO STRMH-511 PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'

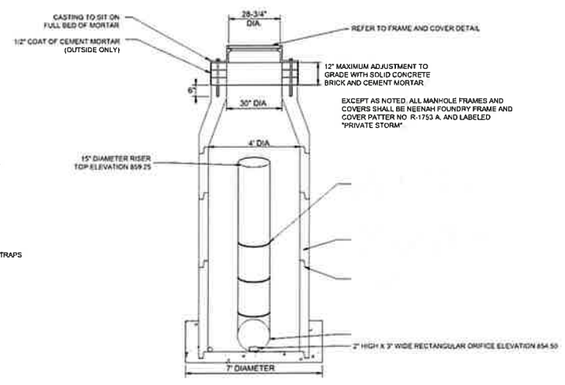


CROSS SECTION VIEW

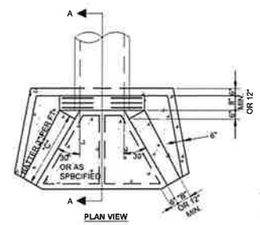
NOTE:
1. PROVIDE 6 PERFORATIONS PER LINEAR FOOT OF PIPE.
2. REFER TO PLANS FOR PIPE SIZE, TYPE, AND SLOPE.

01 PCSM3	SCM5.1: STORMWATER DETENTION TANK





02 PCSM3	SCM5.1: OUTLET STRUCTURE

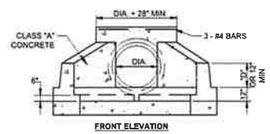


PLAN VIEW

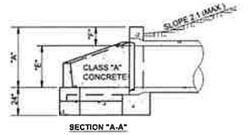
PIPE DIAMETER	A	B	C	D	E	F
15"	2'-6"	9"	2'-0"	12"	1'-9"	9"
18"	2'-6"	9"	2'-0"	12"	2'-0"	9"
24"	3'-3"	9"	2'-0"	12"	2'-6"	9"
30"	4'-0"	12"	2'-6"	15"	3'-0"	12"
36"	4'-6"	12"	2'-6"	15"	3'-6"	12"
42"	5'-3"	15"	4'-3"	18"	4'-0"	15"
48"	5'-9"	15"	4'-9"	21"	4'-6"	15"
54"	6'-3"	15"	5'-3"	24"	5'-0"	15"
60"	7'-0"	15"	5'-9"	2'-3"	5'-6"	18"
66"	7'-6"	15"	7'-0"	2'-6"	6'-0"	18"
72"	8'-0"	18"	7'-0"	2'-6"	6'-6"	18"
84"	9'-0"	18"	8'-3"	2'-9"	7'-6"	18"

NOTE:

1. SHOP DRAWINGS FOR ALL PRECAST HEADWALLS/ENDWALLS OR CONCRETE END SECTIONS MUST BE SUBMITTED FOR APPROVAL



FRONT ELEVATION



SECTION "A-A"

NO.	PIPE DIA. Do (in)	TAIL WATER COND. (Max or Min)	MIN. "n" FOR PIPE	PIPE SLOPE (FT/FT)	Q (CFS)	V* (FPS)	Flow Depth (ft)	Tailwater Conditio n	RIPRAP SIZE	Rt (in)	Al (ft)	Alw (ft)	Atw (ft)
EW-1	36	Min	0.011	0	6.36	4.27	0.79	Min	R-4	18	8.00	9.00	17.00
EW-2	36	Min	0.011	0	6.65	4.32	0.81	Min	R-4	18	8.00	9.00	17.00
EW-3	18	Min	0.011	0.0778	15.59	9.02	1.42	Max	R-5	27	25.00	4.50	15.00

NOTES:

ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.

ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.

03 PCSM3	RIP-RAP APRON AT ENDWALL

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GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

REVISION RECORD

No	Date
01	*
02	*
03	*
04	*
05	*
06	*
07	*
08	*

HASTINGS
South Fayette Township/Pittsburgh, PA

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102

PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

PCSM DETAILS

Project Number: 18927-0096
Drawing Scale: N.T.S.
Date Issued: FEB 2026
Index Number: –
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

PCSM3

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Last Date:2/6/2026 1:31 PM Benjamin R. Landis, E.I.T.
Xref Date:2/6/2026 12:38 PM

CHARTER Homes & Neighborhoods

322 N. Arch Street
Lancaster, PA 17603
T 717.560.1400
F 717.560.1138
charterhomes.com

February 9, 2026

Board of Commissioners
South Fayette Township
100 Township Drive
South Fayette, PA 15107

Re: Hastings Phase 1.9.4 – Modification Requests

Dear Board of Commissioners,

On behalf of Hastings Properties II, LP, the applicant for subdivision and land development approval for Phase 1.9.4 of Hastings, we are requesting the following two (2) modifications related to the plan prepared by Gateway Engineers:

MODIFICATION #1

A modification is requested to Section 215-74, subsection E, to allow a cul-de-sac street that exceeds 500-ft in length, as shown on the plan. This section provides in part:

§215-74

E. Cul-de-sac. A cul-de-sac shall not be approved when a through street is practical and shall not be more than 500 feet in length, unless an intermediate turnaround is provided at a distance of every 500 feet and a modification or exception to the maximum five-hundred-foot length of the cul-de-sac is granted in accordance with the requirements of Article IX of this chapter.

Justification: A through street connection from Phase 1.9.4 to the other phases of Hastings is not practical because of limited space to make the connection and change in grade through this area. In lieu of a street connection, a cul-de-sac is proposed and a trail connection is shown from Phase 1.9.4 into the broader Hastings neighborhood. The length of the cul-de-sac street shown on the plan is approximately 680-ft. The horizontal and vertical geometry of Mayview Road restricts site distance along the property frontage. The safest access to the site is to push the entrance further south along Mayview Road, which results in a slightly longer cul-de-sac design.

MODIFICATION #2

A modification is requested to Section 215-78.C(5), subsection c, to allow a portion of the new street and retaining wall at the entrance to Phase 1.9.4 to encroach into the riparian buffer by approximately 15-ft, as shown on the plan. This section provides:

§215-78.C(5)

(c) Minimum management requirements for riparian buffers.

(1) No use or construction within the riparian buffer shall be permitted that is inconsistent with the intent of the riparian buffer as described in subsection C(5)(a).

Justification: As discussed in the first modification request, because of limited points of connection that meet site distance requirements along Mayview Road, the street into Phase 1.9.4 must occur further south along the frontage. Due to the grade transition through this area, a retaining wall is needed to hold up the new street. Approximately 15-fet of the new street and retaining wall are within the 35-foot riparian buffer, as measured from the adjacent Chartiers Creek. The site was previously developed when the prior hospital use existed and, from a practical standpoint, installation of the portion of the street and retaining wall shown on the plan will not result in the removal of any mature vegetation within the riparian buffer.

Thank you for your consideration of these modification requests.

Sincerely,

HASTINGS PROPERTIES II, LP



Antony Faranda-Diedrich

PCSM REPORT

POST CONSTRUCTION STORMWATER MANAGEMENT REPORT

GATEWAY ENGINEERS

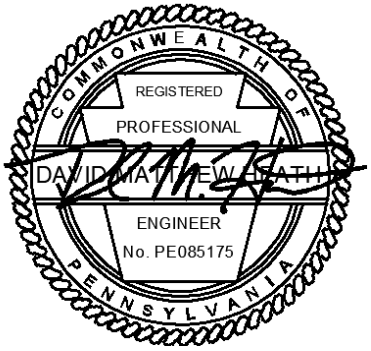
C-18927-0096 February 2026

Hastings Phase 5

South Fayette Township
Allegheny County, PA

PREPARED FOR

Charter Homes at Hastings, Inc.
322 North Arch Street, First Floor
Lancaster, PA 17603



SUBMITTED BY

Benjamin R. Landin, E.I.T.
The Gateway Engineers, Inc.
100 McMorris Road
Pittsburgh, PA 15205
412.921.4030 PHONE
412.921.9960 FAX

blandin@gatewayengineers.com
www.gatewayengineers.com

REVIEWED BY

Ryan R. Richard, E.I.T.



A FULL-SERVICE CIVIL ENGINEERING FIRM

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Stormwater Management Facilities	4-6
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Allegheny County Soil Survey, Limitations & Resolutions	Appendix B
Pre & Post Development Runoff Calculations & Maps	Appendix C
Flood Routing	Appendix D
PADEP Worksheets	Appendix E
Soil Infiltration Testing Report	Appendix F
Storm Sewer & Riprap Calculations	Appendix G
Long Term Operation and Maintenance Schedule	Appendix H
Plan Preparer Information	Appendix I

PROJECT NARRATIVE

PLAN NAME: **Hastings Phase 5**

LOCATION: **South Fayette Township, Allegheny County, PA**

Introduction & Description

Charter Homes at Hastings, Inc. is proposing Phase 5 of the Hastings development located off of Mayview Road in South Fayette Township, Allegheny County, PA. Phase 5 consists of single family and townhouse style homes, cartways, trails, utilities, stormwater management facilities, and green space. Construction is anticipated to begin in the summer of 2026 and be completed in the spring of 2027. The property is located within the Chartiers Creek watershed, and drains to Chartiers Creek, which is designated as a Warm Water Fishery (WWF) per PaCODE Chapter 93, Water Quality Standards.

The site is located within Point of Analysis (POA) 5 of the Charter Homes at Hastings PCSM Report, latest revision February 2021. For the purposes of this report, revised peak rate, volume and water quality calculations are provided for POA 5 only. The increase in the stormwater rate and volume from the proposed development will be controlled through the installation of an underground detention tank for peak rate control and an above/below ground infiltration basin.

Site Conditions and Calculations

The proposed site was formerly the Mayview Hospital, which consisted of several buildings, access roads, parking areas, athletic fields, and green space. The site has since been razed (in 2009) and the lot is now largely comprised of rubble and impervious areas where buildings and parking areas once existed. Post Construction Stormwater Management SCMs are required to mitigate stormwater runoff in the area of the proposed development which includes an impervious buildings, sidewalks, and access drives.

Methodology

Stormwater runoff from the project site will use structural and non-structural Stormwater Control Measures (SCMs) to adequately protect against adverse impacts at both the site and downstream by addressing peak discharge, stormwater volume storage, and water quality.

Hydraflow Hydrographs Extension for AutoCAD Civil 3D ® 2024, by Autodesk, Inc., was used to develop and analyze the watershed models and hydrographs. The software uses methodologies defined in Technical Release No. 55 (TR-55) to perform routing and develop outflow hydrographs.

Rainfall amounts for the indicated storms can be found in Appendix C. South Fayette Township Stormwater Ordinance § 215-78.E were used to obtain the 24-hr rainfall depth for the project site.

Design Storm	1-Year	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year
Precipitation (in)	1.97	2.35	2.88	3.30	3.90	4.40	4.92

Time of concentration (Tc) was based on the Soil Cover Complex Method in accordance with Urban Hydrology for Small Watersheds, Technical Release No. 55 (TR-55) by the USDA, Natural Resources Conservation Service. See Appendix B for the soil series and hydrologic soil group for each soil. Refer to Appendix C for the Tc path and calculations used to determine the value used in the pre-development calculations. The following surface conditions were used for the hydrologic modeling for the pre-developed condition:

Soil Cover	HSG C
Meadow (Good Condition)	71
Woodland	70
Compacted Dirt Drive	87
Impervious	98

The following surface conditions were used in the hydrologic modeling for the post-developed condition:

Soil Cover	HSG C
Open Space	74
Wooded	70
Impervious	98

As stated above, the proposed Phase 5 development will result in an increase in runoff. The existing point of analysis 5 (POA 5) is revised to include the entirety of the Phase 5 development and was determined as the study point for stormwater calculations in the existing and proposed conditions. In the existing conditions, PRE POA-5 is 6.98 acres

(3.26 acres from the most recently approved PCSM Narrative + 3.72 additional acres due to the Phase 5 development). In the proposed conditions, POST DA-5A Detained is 0.36 acres, POST POA-5B Detained is 3.09 acres, and POST POA-5C Undetained is 2.69 acres which gives a total of 6.14 acres in post condition (2.42 acres from the most recently approved PCSM Narrative + 3.72 additional acres due to the Phase 5 development). Please refer to the pre and post drainage area maps in Appendix C. The proposed site is not covered by a release rate map from an approved Act 167 plan. The allowable release rate for the watershed is 100% following the requirements of the South Fayette Township Stormwater Ordinance.

Stormwater Management Facilities

The project will include the construction of permanent residential structures, roads, sidewalks, and impervious driveways. The addition of these impervious surfaces will require stormwater management. The design considered the use of an underground detention tank for peak rate mitigation and an above/below ground infiltration basin to address the increase in stormwater and after soil evaluation and infiltration testing performed at the basin location showed that the infiltration basin was suitable at the preferred location.

Soil evaluation and infiltration testing performed at the infiltration basin location showed the area was suitable for infiltration. TP-1, TP-2, and TP-3 showed a stabilized rate of infiltration of 2.5 inches per hour, 2.6 inches per hour, and 2.4 inches per hour respectively, yielding an average rate of 1.75 inches per hour. Design rates utilize a 2.0 safety factor, a temperature adjustment factor of 1.7, and the resulting geometric mean of 2.13 inches per hour was used. No evidence of seasonal high groundwater table or bedrock was encountered within 24 inches of the testing elevation. **See Appendix F for the summary of the infiltration testing and calculations for the rate used in the design calculations.**

The facilities have been designed and routing calculations performed to ensure the reduction (100% release rate) of post-development flows to levels below those of the pre-development conditions. The above/below ground infiltration basin for POA-5 was designed so that the required 2-year storage volume and structural volume requirement of 7,303 c.f. (PCSM Spreadsheet for POA-5) and at least 1-inch of runoff from the net increase in impervious surfaces (4,881 CF) is achieved using infiltration and storage volume below the lowest orifice from the infiltration basin. See Appendix F for stage storage tables (available SCM volumes) for the proposed facilities.

Each detention facility has an associated outlet structure in order to control the release of stormwater. The table below summarizes the controls of the outlet structures:

SCM #	STORMWATER MANAGEMENT FACILITY	ORIFICE ELEV.	TOP OF OUTLET STRUCTURE ELEV.	OUTLET ELEV.	EMERGENCY SPILLWAY ELEV.
SCM 5.1	UNDERGROUND DETENTION TANK	854.50	859.25 (15-INCH RISER)	854.50 (15" Ø SLCPP)	N/A
SCM 5.2	ABOVE/BELOW GROUND INFILTRATION BASIN	852.00	852.25	846.00 (18" Ø SLCPP)	852.70 (40-FT WIDE EMBANKMENT)

The following tables summarize the results of the watershed modeling.

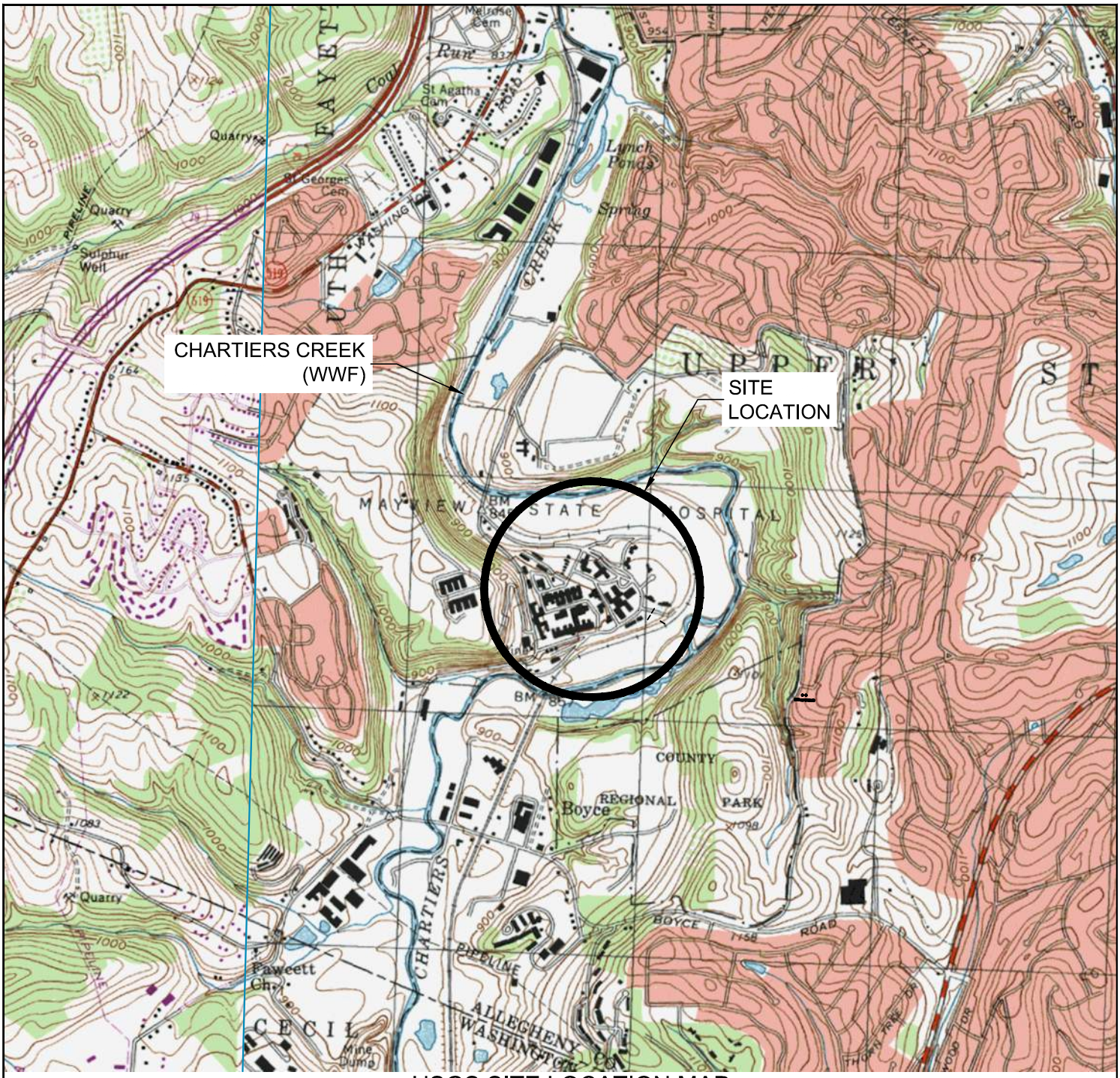
Design Storms (POA-5)							
	1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR
Pre-Development Flow Rates (POA-5)							
PRE POA-5 (CFS) (Hyd 1)	3.17	5.50	9.19	12.40	17.30	21.58	26.19
Post Development Flow Rates (POA-5)							
SCM 5.1 Tank Outflow (CFS) (Hyd 3)	0.28	0.30	0.33	0.36	0.39	0.82	1.72
SCM 5.1 Tank Stage Elevation	856.63	857.00	857.52	857.95	858.64	859.35	859.46
SCM 5.2 Inf Basin Outflow (CFS) (Hyd 7)	0.00	0.00	0.59	1.72	7.26	11.47	14.69
SCM 5.2 Inf Basin Stage Elevation	851.27	851.84	852.14	852.28	852.50	852.61	852.69
POST DA-5C Undetained (CFS) (Hyd 6)	1.38	2.31	3.78	5.04	6.97	8.65	10.44
POST POA-5 Total (CFS) (Hyd 8)	1.38	2.31	3.78	5.05	12.62	18.90	24.97
Peak Rate Net Chage (CFS)	-1.79	-3.19	-5.41	-7.35	-4.68	-2.68	-1.22
Runoff Volumes (2-Year Design Storm - See PCSM Worksheet)							
POA-5	Pre-Development (cuft)	14,000	Post-Development (cuft)				21,303

*Increase in runoff volume from pre-development to post-development is handled by the above/below ground infiltration basin #1, which has the capacity to permanently remove a total of 7,743 cuft. Refer to Appendix C & E for volume calculations and models.

Conclusion

The stormwater analysis contained herein demonstrates that the strategies described in this report will address water quality and quantity, will not increase stormwater peak flow rates or runoff volumes, and will meet the requirements of the PA Department of Environmental Protection Stormwater Best Management Practices as well as the South Fayette Township Stormwater Ordinance.

APPENDIX A
USGS SITE LOCATION MAP



USGS SITE LOCATION MAP
BRIDGEVILLE QUAD
SCALE 1"=2,000'

NORTH

GRAPHIC SCALE

0 1000 2000 4000

(IN FEET)

1 inch = 2,000 ft.

SITE LOCATION MAP

Project Number: 18927-0016
Drawing Scale: 1" = 2000'
Date Issued: MAY 2016
Index Number: –
Drawn By: –
Checked By: DMH
Project Manager: DMH

USGS

HASTINGS MASTER PLAN
MAYVIEW RD.
PITTSBURGH, PA 15241

PREPARED FOR:
CHARTER HOMES & NEIGHBORHOODS
114 FOXSHIRE DRIVE
LANCASTER, PA 17601

Date	No	REVISION RECORD
-	01	-
-	02	-
-	03	-
-	04	-
-	05	-
-	06	-
-	07	-
-	08	-

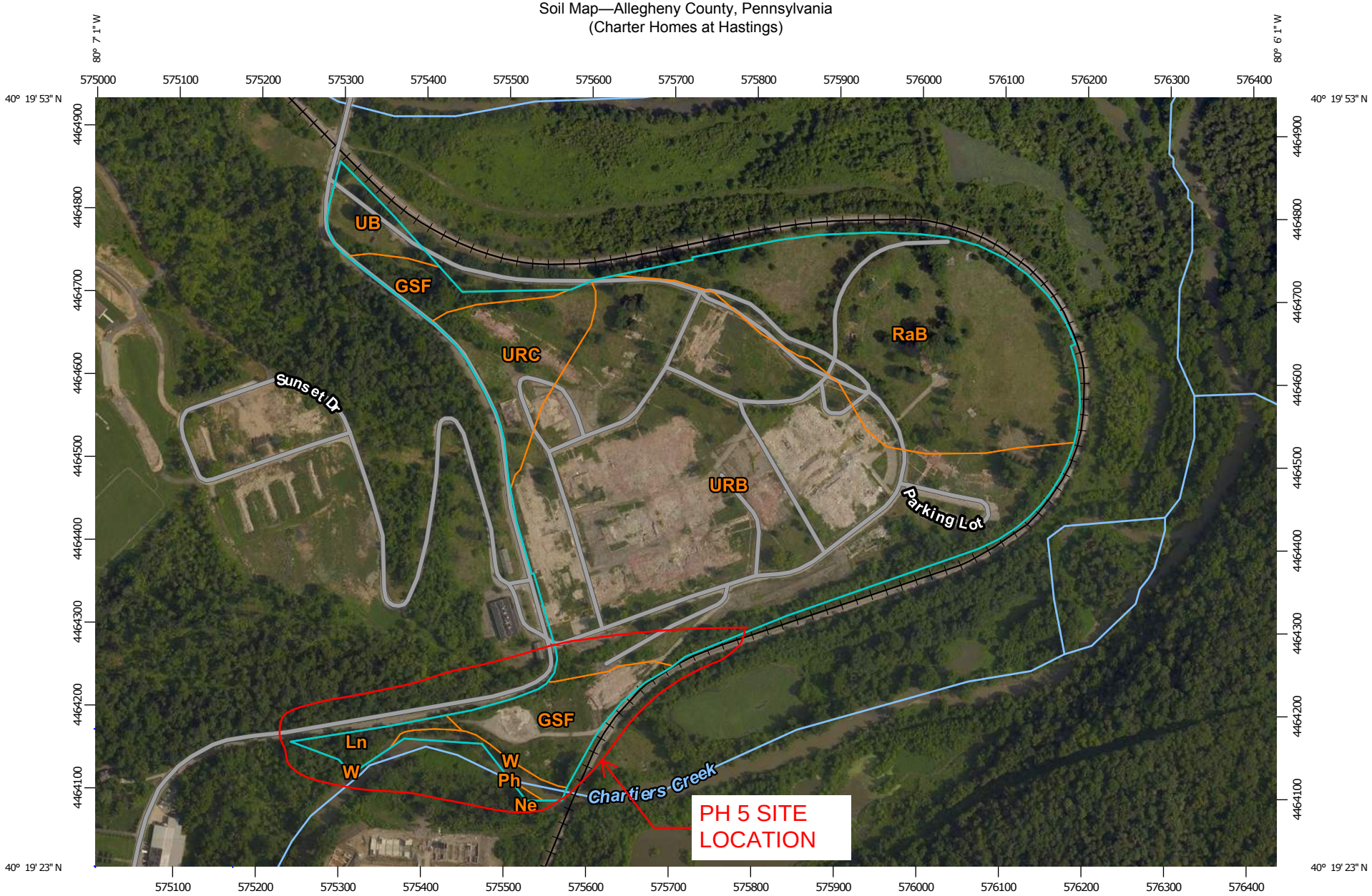
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Path & Filename=G:\Projects\18000\18927 Mayview\-0016 Master Plan Revisions\Dwg\02-Sheet\Exhibits\USGS Site Location Map.dwg
Plot Date=5/17/2016 10:58 AM Lindsay E. Appel, E.I.T.
Save Date=5/17/2016 10:55 AM

APPENDIX B
WEB SOIL SURVEY

Soil Map—Allegheny County, Pennsylvania
(Charter Homes at Hastings)



Map Scale: 1:6,540 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Allegheny County, Pennsylvania
Survey Area Data: Version 9, Nov 16, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

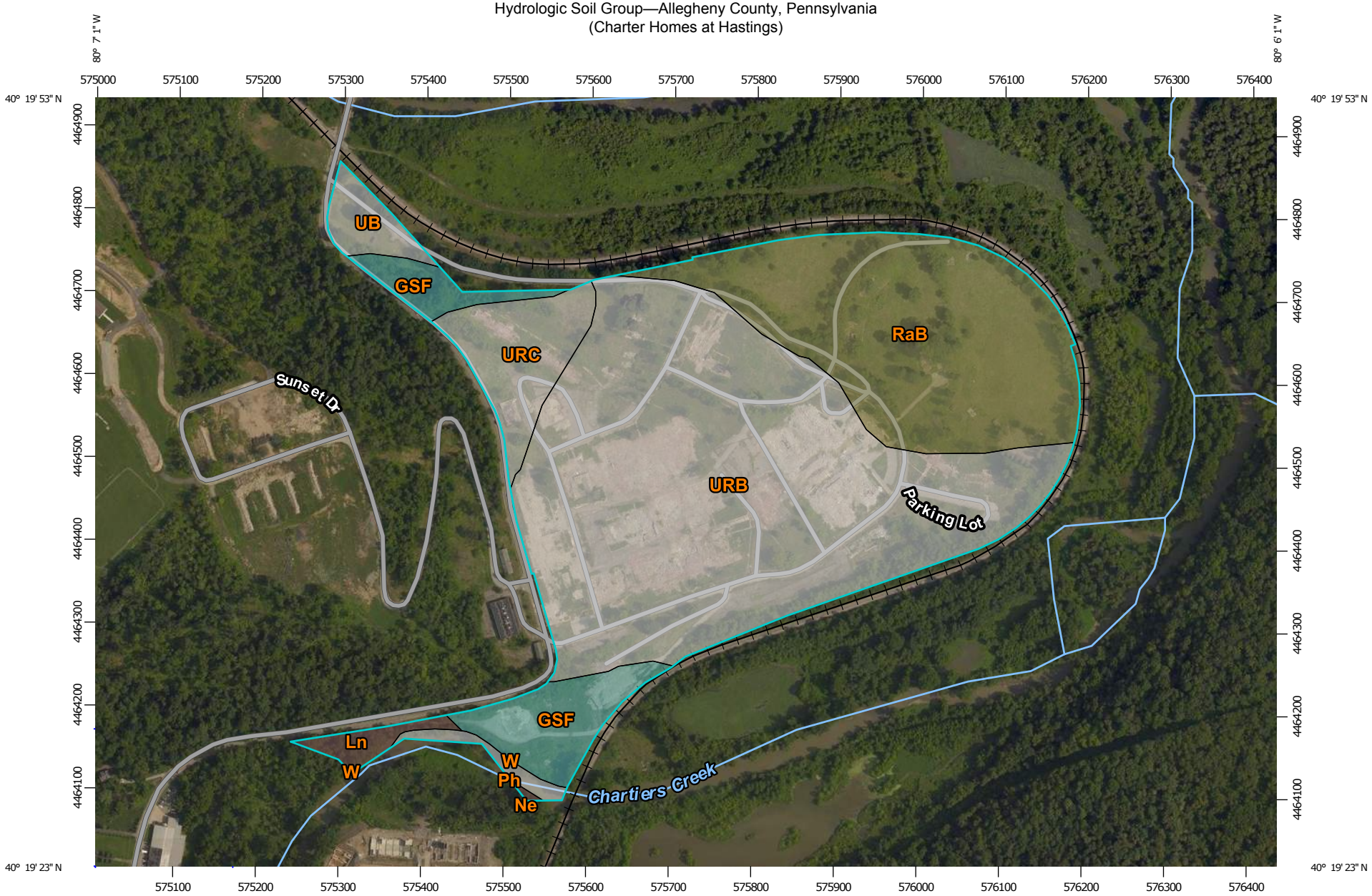
Date(s) aerial images were photographed: Jul 5, 2014—Aug 28, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Allegheny County, Pennsylvania (PA003)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
GSF	Gilpin, Weikert, and Culleoka shaly silt loams, very steep	6.0	7.3%
Ln	Lindside silt loam, 0 to 3 percent slopes, occasionally flooded	1.1	1.4%
Ne	Newark silt loam	0.1	0.1%
Ph	Philo silt loam, 0 to 3 percent slopes, occasionally flooded	0.0	0.0%
RaB	Rainsboro silt loam, 3 to 8 percent slopes	21.4	26.3%
UB	Urban land	1.9	2.3%
URB	Urban land-Rainsboro complex, gently sloping	45.1	55.4%
URC	Urban land-Rainsboro complex, sloping	5.0	6.2%
W	Water	0.8	1.0%
Totals for Area of Interest		**81.3**	**100.0%**

Hydrologic Soil Group—Allegheny County, Pennsylvania
(Charter Homes at Hastings)



Map Scale: 1:6,540 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Allegheny County, Pennsylvania
Survey Area Data: Version 9, Nov 16, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 5, 2014—Aug 28, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Allegheny County, Pennsylvania (PA003)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
GSF	Gilpin, Weikert, and Culleoka shaly silt loams, very steep	C	6.0	7.3%
Ln	Lindside silt loam, 0 to 3 percent slopes, occasionally flooded	B/D	1.1	1.4%
Ne	Newark silt loam	B/D	0.1	0.1%
Ph	Philo silt loam, 0 to 3 percent slopes, occasionally flooded	B/D	0.0	0.0%
RaB	Rainsboro silt loam, 3 to 8 percent slopes	C/D	21.4	26.3%
UB	Urban land		1.9	2.3%
URB	Urban land-Rainsboro complex, gently sloping		45.1	55.4%
URC	Urban land-Rainsboro complex, sloping		5.0	6.2%
W	Water		0.8	1.0%
Totals for Area of Interest			**81.3**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Map Unit Description (Brief, Generated)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description (Brief, Generated)

Allegheny County, Pennsylvania

Map Unit: GSF—Gilpin, Weikert, and Culleoka shaly silt loams, very steep

Component: Gilpin (35%)

The Gilpin component makes up 35 percent of the map unit. Slopes are 25 to 60 percent. This component is on hillslopes. The parent material consists of residuum weathered from acid fine-grained sandstone, siltstone, and shale. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Component: Weikert (30%)

The Weikert component makes up 30 percent of the map unit. Slopes are 25 to 80 percent. This component is on hillslopes. The parent material consists of gravelly residuum weathered from shale and siltstone. Depth to a root restrictive layer, bedrock, lithic, is 10 to 20 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Component: Culleoka (25%)

The Culleoka component makes up 25 percent of the map unit. Slopes are 25 to 35 percent. This component is on hillslopes. The parent material consists of residuum weathered from nonacid siltstone, fine-grained sandstone, and shale. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Component: Hazleton (5%)

Generated brief soil descriptions are created for major soil components. The Hazleton soil is a minor component.

Component: Wharton (3%)

Generated brief soil descriptions are created for major soil components. The Wharton soil is a minor component.

Component: Dormont (2%)

Generated brief soil descriptions are created for major soil components. The Dormont soil is a minor component.

Map Unit: Ln—Lindside silt loam, 0 to 3 percent slopes, occasionally flooded

Component: Lindside, occasionally flooded (90%)

The Lindside, occasionally flooded component makes up 90 percent of the map unit. Slopes are 0 to 3 percent. This component is on flood plains on hills or valleys. The parent material consists of fine-silty alluvium derived from sedimentary rock. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very high. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 17 inches during January, February, March, April. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Component: Newark, occasionally flooded (5%)

Generated brief soil descriptions are created for major soil components. The Newark soil is a minor component.

Component: Melvin, occasionally flooded (5%)

Generated brief soil descriptions are created for major soil components. The Melvin soil is a minor component.

Map Unit: Ne—Newark silt loam

Component: Newark (85%)

The Newark component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of mixed alluvium derived from limestone, sandstone, and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Component: Clarksburg (5%)

Generated brief soil descriptions are created for major soil components. The Clarksburg soil is a minor component.

Component: Melvin (5%)

Generated brief soil descriptions are created for major soil components. The Melvin soil is a minor component.

Component: Brinkerton (5%)

Generated brief soil descriptions are created for major soil components. The Brinkerton soil is a minor component.

Map Unit: Ph—Philo silt loam, 0 to 3 percent slopes, occasionally flooded

Component: Philo (90%)

The Philo component makes up 90 percent of the map unit. Slopes are 0 to 3 percent. This component is on flood plains on valleys. The parent material consists of recent coarse-loamy alluvium derived from sandstone and shale over old sandy and gravelly alluvium derived from sandstone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 16 inches during January, February, March, April. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Component: Pope (5%)

Generated brief soil descriptions are created for major soil components. The Pope soil is a minor component.

Component: Atkins (5%)

Generated brief soil descriptions are created for major soil components. The Atkins soil is a minor component.

Map Unit: RaB—Rainsboro silt loam, 3 to 8 percent slopes

Component: Rainsboro (90%)

The Rainsboro component makes up 90 percent of the map unit. Slopes are 3 to 8 percent. This component is on terraces. The parent material consists of old alluvium. Depth to a root restrictive layer, fragipan, is 22 to 34 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 21 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: Ginat (5%)

Generated brief soil descriptions are created for major soil components. The Ginat soil is a minor component.

Component: Allegheny (5%)

Generated brief soil descriptions are created for major soil components. The Allegheny soil is a minor component.

Map Unit: UB—Urban land

Component: Urban land (90%)

Generated brief soil descriptions are created for major soil components. The Urban land is a miscellaneous area.

Component: Udorthents, steep (10%)

The Udorthents component makes up 90 percent of the map unit. Slopes are 0 to 50 percent. This component is on mountains. The parent material consists of coal extraction mine spoil. Depth to a root restrictive layer, bedrock, lithic, is 20 to 99 inches. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Nonirrigated land capability classification is 8s. This soil does not meet hydric criteria.

Map Unit: URB—Urban land-Rainsboro complex, gently sloping

Component: Urban land (75%)

Generated brief soil descriptions are created for major soil components. The Urban land is a miscellaneous area.

Component: Rainsboro (20%)

The Rainsboro component makes up 20 percent of the map unit. Slopes are 0 to 8 percent. This component is on terraces. The parent material consists of old alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 26 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: Ginat (5%)

Generated brief soil descriptions are created for major soil components. The Ginat soil is a minor component.

Map Unit: URC—Urban land-Rainsboro complex, sloping

Component: Urban land (75%)

Generated brief soil descriptions are created for major soil components. The Urban land is a miscellaneous area.

Component: Rainsboro (15%)

The Rainsboro component makes up 15 percent of the map unit. Slopes are 8 to 25 percent. This component is on terraces. The parent material consists of old alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 26 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. This soil does not meet hydric criteria.

Component: Allegheny (5%)

Generated brief soil descriptions are created for major soil components. The Allegheny soil is a minor component.

Component: Ernest (5%)

Generated brief soil descriptions are created for major soil components. The Ernest soil is a minor component.

Map Unit: W—Water

Component: Water (100%)

Generated brief soil descriptions are created for major soil components. The Water is a miscellaneous area.

Data Source Information

Soil Survey Area: Allegheny County, Pennsylvania
Survey Area Data: Version 9, Nov 16, 2015

WORKSHEET 1

List the soils that will be encountered by earthmoving required to construct the drill pad(s), access road(s), pits, impoundments, collector & feeder lines, or other activities associated with the proposed well site(s).

Limiting Soil Characteristics									
Map Symbol	Soil Name	Erodible	Cut Banks Cave	Corrosive to Concrete or Steel	High Water Table	Low Strength	Piping	Poor Topsoil	Potentially Hydric
GSF	Gilpin, Weikert, and Culleoka shaly silt loams, very steep	X	X	C		X	X	X	
Ln	Lindside silt loam, 0 to 3 percent slopes, occasionally flooded		X	S	X	X	X		X
Ne	Newark silt loam	X	X	S	X	X	X	X	X
Ph	Philo silt loam, 0 to 3 percent slopes, occasionally flooded	X	X	C/S	X	X	X	X	X
RaB	Rainsboro silt loam, 3 to 8 percent slopes	X	X	X	X	X			X
UB	Urban land	X	X	C/S	X	X		X	X
URB	Urban land-Rainsboro complex, gently sloping	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
URC	Urban land-Rainsboro complex, sloping	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
W	Water	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

REMEDIAL ACTIONS

Soils susceptible to high water tables and/or piping and seeping:

- Provide pumped water sediment removal facilities
- Use clay embankment cores
- Utilize anti-seep collars or gravel packs

Soils susceptible to moderate or high erosion potential:

- Limit time of exposure
- Utilize erosion control blankets
- Select seed mixtures with rapidly germinating species
- Sodding
- Use of special stabilization products (cellular grids, interlocking concrete blocks, etc.)

Soils susceptible to slips and landslides:

- Prevent saturation of slopes
- Provide anchoring or retaining systems
- Provide benching to catch falling debris

Soils susceptible to cutbanks cave:

- Prevent saturation of slopes
- Provide anchoring or retaining systems
- Provide benching to catch falling debris
- Provide trench boxes for utility installation

Soils corrosive to concrete/steel:

- Minimize the amount of soil disturbance
- Provide protective coating to concrete and steel
- Provide extra concrete and steel thickness

Soils that are poor sources of topsoil:

- Perform soil tests to determine proper application of soil amendments and to determine the proper moisture content for proposed vegetative cover
- Import topsoil as needed

APPENDIX C
PRE & POST DEVELOPMENT RUNOFF CALCULATIONS & MAPS

PRE 5 DA
(TOTAL)
6.98 AC
(Tc =5.5 MIN CALCULATED,
USE 6 MIN)

MAYVIEW RD

NOW OR FORMERLY
ALOE BROTHERS, LLC
D.B.VOL. 14515, PG. 343

LOT NO. 1
MINOR SUBDIVISION OF MAYVIEW STATE HOSPITAL
P.B.VOL. 269, PG. 95

NOW OR FORMERLY
ALOE BROTHERS, LLC
D.B.VOL. 15100, PG. 585

FINAL DEVELOPMENT PLAN FOR
TORRENTE AT UPPER ST. CLAIR PRD PLAN
P.B.VOL. 279, PG. 160

50' ACCESS EASEMENT TO LOT 4
P.B.VOL. 269, PG. 95

THE COMMONWEALTH OF PENNSYLVANIA
D.B.-VOL.-PG. 8221-531

PRE 5 DA
3.26 AC
(PRIOR APPROVED AREA)

TIME OF
CONCENTRATION
CALCULATION
LINE

PRE 5 DA
3.72 AC
(NEW ADDITIONAL AREA)

POI 5

CHARTIERS CREEK

TREES

BRUSH

NORTH
GRAPHIC SCALE

0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

THE GATEWAY ENGINEERS, INC. RETAINS OWNERSHIP RIGHTS OF ALL DATA WITHIN THE PLANS. DATA CONTAINED WITHIN IS ONLY TO BE USED FOR ITS INTENDED PURPOSE BY ITS RESPONSIBLE PARTY. THE USE, REPLICATION, REPRODUCTION, OR REDISTRIBUTION OF DATA CONTAINED WITHIN IS STRICTLY PROHIBITED AND SUBJECT TO LEGAL ACTION.

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REVISION RECORD

No	Date
01	----
02	----
03	- -
04	- -
05	- -
06	- -
07	- -
08	- -

HASTINGS
South Payette Township/Pittsburgh, PA
CHARTER Homes & Neighborhoods

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102

PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

PRE DEVELOPMENT
DRAINAGE AREA MAP

Project Number: 18927-0096
Drawing Scale: 1" = 50'
Date Issued: FEB 2026
Index Number: --
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

PRE DA

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22.0

POST 5B DA
3.09 AC
(Tc ASSUMED 6 MIN)

POST 5A DA
0.36 AC
(Tc ASSUMED 6 MIN)

POST 5 DA
2.42 AC
(PRIOR APPROVED AREA)

POST 5 DA
3.72 AC
(NEW ADDITIONAL AREA)

POST 5C DA
2.69 AC
(Tc ASSUMED 6 MIN)

POI 5

NORTH
GRAPHIC SCALE
0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

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POST DA

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Save Date=2/5/2026 8:33 PM
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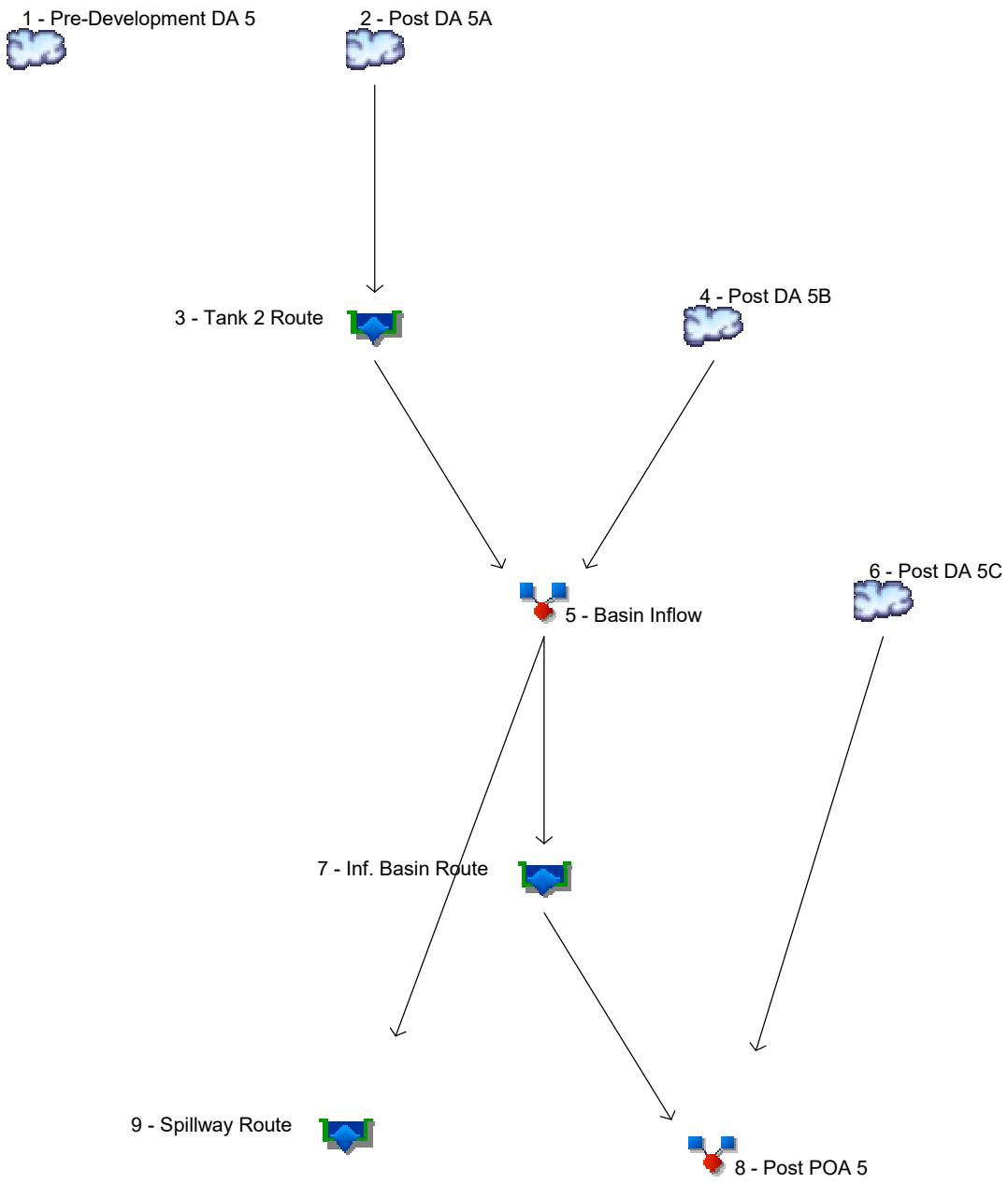
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Watershed Model Schematic



Legend

Hyd.	Origin	Description
1	SCS Runoff	Pre-Development DA 5
2	SCS Runoff	Post DA 5A
3	Reservoir	Tank 2 Route
4	SCS Runoff	Post DA 5B
5	Combine	Basin Inflow
6	SCS Runoff	Post DA 5C
7	Reservoir	Inf. Basin Route
8	Combine	Post POA 5
9	Reservoir	Spillway Route

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	3.165	5.495	-------	9.192	12.40	17.30	21.58	26.19	Pre-Development DA 5
2	SCS Runoff	------	0.941	1.131	-------	1.396	1.604	1.902	2.150	2.407	Post DA 5A
3	Reservoir	2	0.276	0.301	-------	0.333	0.357	0.394	0.815	1.719	Tank 2 Route
4	SCS Runoff	------	3.545	4.958	-------	7.041	8.802	11.39	13.59	15.89	Post DA 5B
5	Combine	3, 4	3.802	5.237	-------	7.347	9.107	11.72	13.94	16.26	Basin Inflow
6	SCS Runoff	------	1.380	2.313	-------	3.781	5.047	6.970	8.647	10.44	Post DA 5C
7	Reservoir	5	0.000	0.000	-------	0.587	1.719	7.259	11.47	14.69	Inf. Basin Route
8	Combine	6, 7	1.380	2.313	-------	3.781	5.047	12.62	18.90	24.97	Post POA 5
9	Reservoir	5	3.585	5.063	-------	7.231	9.014	11.62	13.82	16.12	Spillway Route

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	3.165	2	718	7,294	------	------	------	Pre-Development DA 5
2	SCS Runoff	0.941	2	716	2,137	------	------	------	Post DA 5A
3	Reservoir	0.276	2	724	2,136	2	856.63	599	Tank 2 Route
4	SCS Runoff	3.545	2	718	7,095	------	------	------	Post DA 5B
5	Combine	3.802	2	718	9,231	3, 4	------	------	Basin Inflow
6	SCS Runoff	1.380	2	718	3,075	------	------	------	Post DA 5C
7	Reservoir	0.000	2	1472	0	5	851.27	4,932	Inf. Basin Route
8	Combine	1.380	2	718	3,075	6, 7	------	------	Post POA 5
9	Reservoir	3.585	2	718	9,111	5	852.81	11,403	Spillway Route

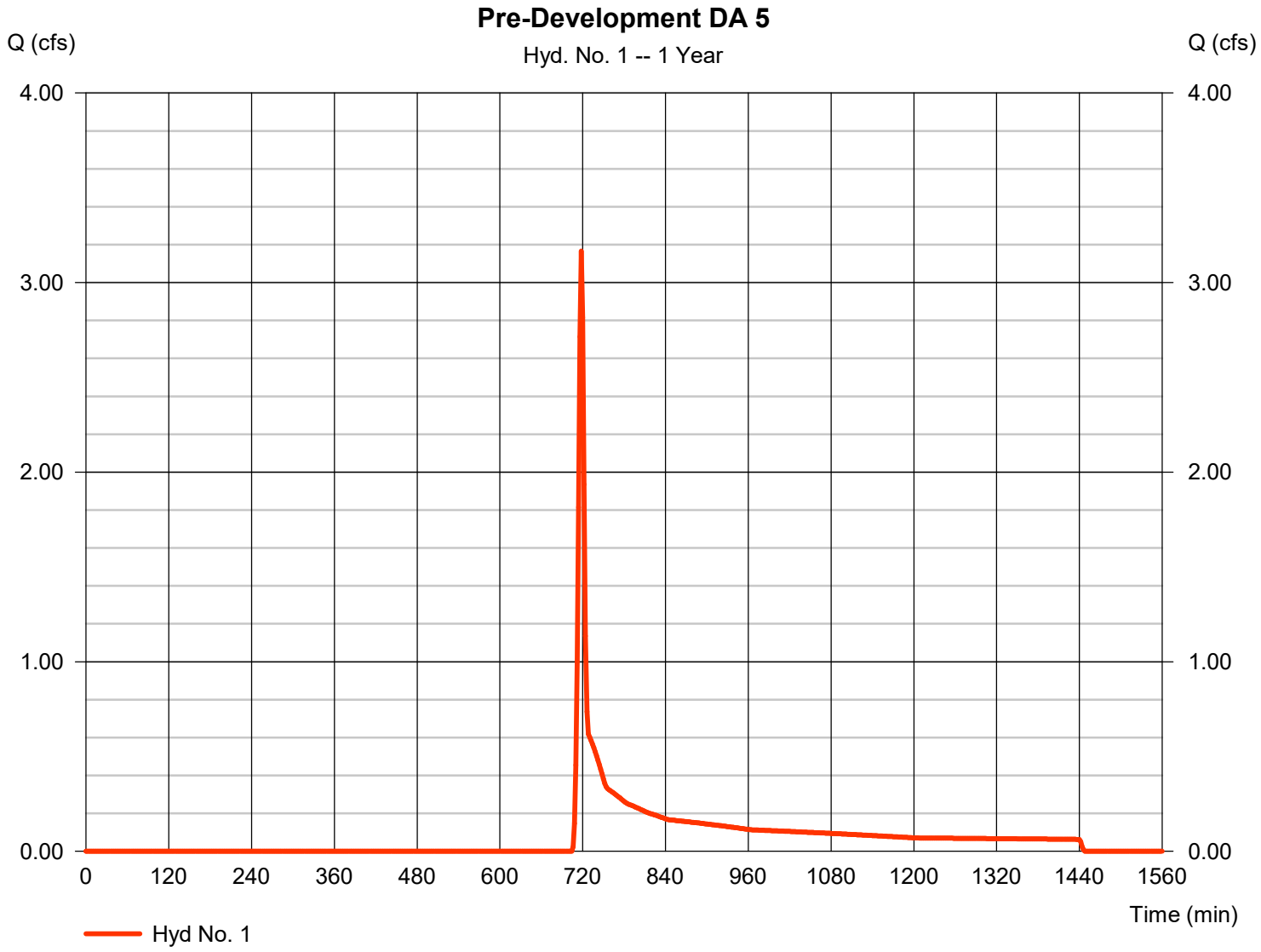
Hydrograph Report

Hyd. No. 1

Pre-Development DA 5

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.165 cfs
Storm frequency	=	1 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	7,294 cuft
Drainage area	=	6.980 ac	Curve number	=	73*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	1.97 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.270 x 98) + (0.070 x 71) + (5.290 x 71) + (0.700 x 70) + (0.650 x 87)] / 6.980



TR55 Tc Worksheet

Hyd. No. 1

Pre-Development DA 5

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.150		0.011		0.011		
Flow length (ft)	= 50.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 2.37		0.00		0.00		
Land slope (%)	= 8.00		0.00		0.00		
Travel Time (min)	**= 3.76**	**+**	**0.00**	**+**	**0.00**	**=**	**3.76**
Shallow Concentrated Flow							
Flow length (ft)	= 55.00		465.00		0.00		
Watercourse slope (%)	= 36.00		8.00		0.00		
Surface description	= Unpaved		Unpaved		Paved		
Average velocity (ft/s)	=9.68		4.56		0.00		
Travel Time (min)	**= 0.09**	**+**	**1.70**	**+**	**0.00**	**=**	**1.79**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 5.55 min

Use 6.0 Min

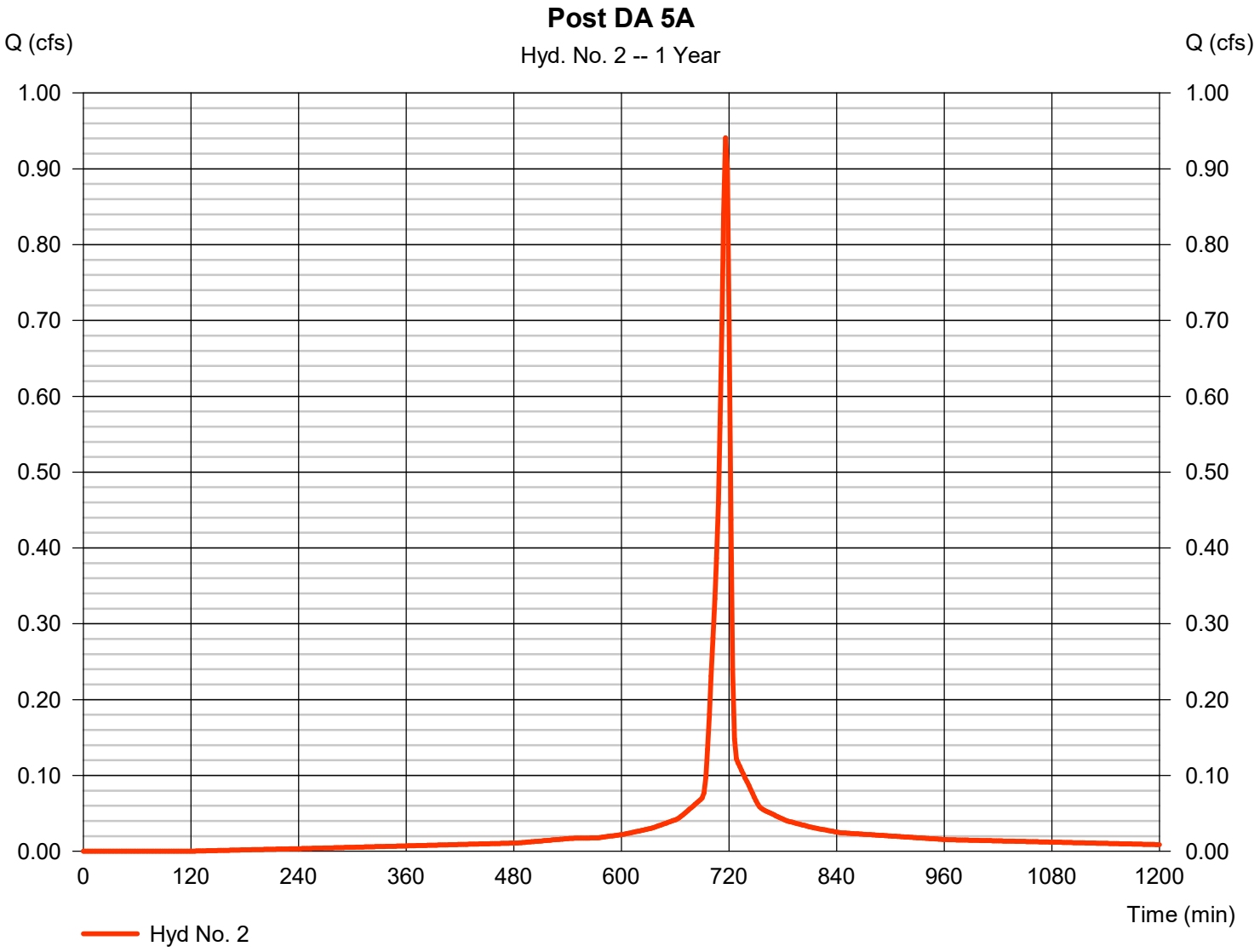
Hydrograph Report

Hyd. No. 2

Post DA 5A

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.941 cfs
Storm frequency	=	1 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	2,137 cuft
Drainage area	=	0.360 ac	Curve number	=	98*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	1.97 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.360 x 98)] / 0.360



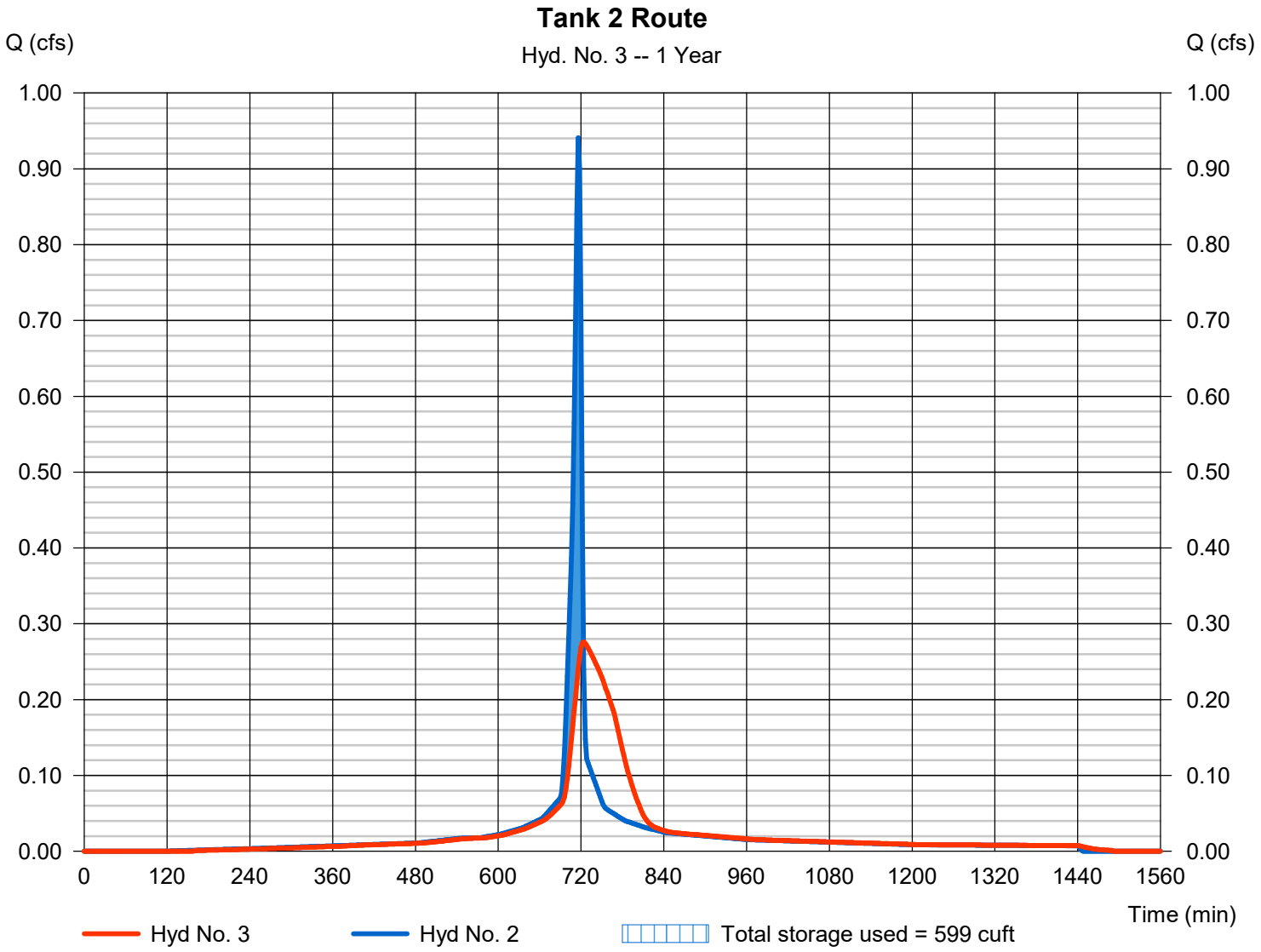
Hydrograph Report

Hyd. No. 3

Tank 2 Route

Hydrograph type	=	Reservoir	Peak discharge	=	0.276 cfs
Storm frequency	=	1 yrs	Time to peak	=	724 min
Time interval	=	2 min	Hyd. volume	=	2,136 cuft
Inflow hyd. No.	=	2 - Post DA 5A	Max. Elevation	=	856.63 ft
Reservoir name	=	SCM 5.1 Det Tank	Max. Storage	=	599 cuft

Storage Indication method used.



Pond No. 3 - SCM 5.1 Det Tank

Pond Data

UG Chambers -Invert elev. = 855.50 ft, Rise x Span = 3.50 x 3.50 ft, Barrel Len = 110.00 ft, No. Barrels = 1, Slope = 0.00%, Headers = No
Encasement -Invert elev. = 854.50 ft, Width = 4.50 ft, Height = 5.00 ft, Voids = 40.00%

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	854.50	n/a	0	0
0.50	855.00	n/a	99	99
1.00	855.50	n/a	99	198
1.50	856.00	n/a	155	353
2.00	856.50	n/a	193	546
2.50	857.00	n/a	209	755
3.00	857.50	n/a	214	969
3.50	858.00	n/a	209	1,179
4.00	858.50	n/a	193	1,372
4.50	859.00	n/a	155	1,526
5.00	859.50	n/a	99	1,625

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 15.00	2.00	0.00	0.00
Span (in)	= 15.00	3.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 854.50	854.50	0.00	0.00
Length (ft)	= 69.00	0.00	0.00	0.00
Slope (%)	= 1.45	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 3.93	0.00	0.00	0.00
Crest El. (ft)	= 859.25	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	---	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)
TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	854.50	0.00	0.00	---	---	0.00	---	---	---	---	---	0.000
0.05	10	854.55	0.01 ic	0.01 ic	---	---	0.00	---	---	---	---	---	0.007
0.10	20	854.60	0.02 ic	0.02 ic	---	---	0.00	---	---	---	---	---	0.023
0.15	30	854.65	0.05 ic	0.04 ic	---	---	0.00	---	---	---	---	---	0.043
0.20	40	854.70	0.06 ic	0.06 ic	---	---	0.00	---	---	---	---	---	0.061
0.25	50	854.75	0.08 ic	0.07 ic	---	---	0.00	---	---	---	---	---	0.072
0.30	59	854.80	0.08 ic	0.08 ic	---	---	0.00	---	---	---	---	---	0.083
0.35	69	854.85	0.10 ic	0.09 ic	---	---	0.00	---	---	---	---	---	0.093
0.40	79	854.90	0.11 ic	0.10 ic	---	---	0.00	---	---	---	---	---	0.102
0.45	89	854.95	0.12 ic	0.11 ic	---	---	0.00	---	---	---	---	---	0.110
0.50	99	855.00	0.12 ic	0.12 ic	---	---	0.00	---	---	---	---	---	0.118
0.55	109	855.05	0.13 ic	0.13 ic	---	---	0.00	---	---	---	---	---	0.126
0.60	119	855.10	0.14 ic	0.13 ic	---	---	0.00	---	---	---	---	---	0.133
0.65	129	855.15	0.14 ic	0.14 ic	---	---	0.00	---	---	---	---	---	0.139
0.70	139	855.20	0.15 ic	0.15 ic	---	---	0.00	---	---	---	---	---	0.146
0.75	149	855.25	0.16 ic	0.15 ic	---	---	0.00	---	---	---	---	---	0.152
0.80	158	855.30	0.16 ic	0.16 ic	---	---	0.00	---	---	---	---	---	0.158
0.85	168	855.35	0.17 ic	0.16 ic	---	---	0.00	---	---	---	---	---	0.164
0.90	178	855.40	0.17 ic	0.17 ic	---	---	0.00	---	---	---	---	---	0.170
0.95	188	855.45	0.18 ic	0.17 ic	---	---	0.00	---	---	---	---	---	0.175
1.00	198	855.50	0.18 ic	0.18 ic	---	---	0.00	---	---	---	---	---	0.181
1.05	214	855.55	0.19 ic	0.19 ic	---	---	0.00	---	---	---	---	---	0.186
1.10	229	855.60	0.20 ic	0.19 ic	---	---	0.00	---	---	---	---	---	0.191
1.15	244	855.65	0.20 ic	0.20 ic	---	---	0.00	---	---	---	---	---	0.196
1.20	260	855.70	0.20 ic	0.20 ic	---	---	0.00	---	---	---	---	---	0.200
1.25	275	855.75	0.21 ic	0.21 ic	---	---	0.00	---	---	---	---	---	0.205
1.30	291	855.80	0.21 ic	0.21 ic	---	---	0.00	---	---	---	---	---	0.210
1.35	306	855.85	0.21 ic	0.21 ic	---	---	0.00	---	---	---	---	---	0.214
1.40	322	855.90	0.23 ic	0.22 ic	---	---	0.00	---	---	---	---	---	0.219
1.45	337	855.95	0.23 ic	0.22 ic	---	---	0.00	---	---	---	---	---	0.223
1.50	353	856.00	0.23 ic	0.23 ic	---	---	0.00	---	---	---	---	---	0.228
1.55	372	856.05	0.24 ic	0.23 ic	---	---	0.00	---	---	---	---	---	0.231

Continues on next page...

SCM 5.1 Det Tank

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
1.60	391	856.10	0.24 ic	0.24 ic	---	---	0.00	---	---	---	---	---	0.236
1.65	411	856.15	0.24 ic	0.24 ic	---	---	0.00	---	---	---	---	---	0.240
1.70	430	856.20	0.24 ic	0.24 ic	---	---	0.00	---	---	---	---	---	0.244
1.75	449	856.25	0.26 ic	0.25 ic	---	---	0.00	---	---	---	---	---	0.248
1.80	469	856.30	0.26 ic	0.25 ic	---	---	0.00	---	---	---	---	---	0.252
1.85	488	856.35	0.26 ic	0.26 ic	---	---	0.00	---	---	---	---	---	0.256
1.90	507	856.40	0.26 ic	0.26 ic	---	---	0.00	---	---	---	---	---	0.259
1.95	527	856.45	0.27 ic	0.26 ic	---	---	0.00	---	---	---	---	---	0.263
2.00	546	856.50	0.27 ic	0.27 ic	---	---	0.00	---	---	---	---	---	0.267
2.05	567	856.55	0.27 ic	0.27 ic	---	---	0.00	---	---	---	---	---	0.270
2.10	588	856.60	0.27 ic	0.27 ic	---	---	0.00	---	---	---	---	---	0.274
2.15	609	856.65	0.28 ic	0.28 ic	---	---	0.00	---	---	---	---	---	0.277
2.20	630	856.70	0.29 ic	0.28 ic	---	---	0.00	---	---	---	---	---	0.281
2.25	650	856.75	0.29 ic	0.28 ic	---	---	0.00	---	---	---	---	---	0.284
2.30	671	856.80	0.29 ic	0.29 ic	---	---	0.00	---	---	---	---	---	0.288
2.35	692	856.85	0.29 ic	0.29 ic	---	---	0.00	---	---	---	---	---	0.291
2.40	713	856.90	0.29 ic	0.29 ic	---	---	0.00	---	---	---	---	---	0.294
2.45	734	856.95	0.31 ic	0.30 ic	---	---	0.00	---	---	---	---	---	0.298
2.50	755	857.00	0.31 ic	0.30 ic	---	---	0.00	---	---	---	---	---	0.301
2.55	777	857.05	0.31 ic	0.30 ic	---	---	0.00	---	---	---	---	---	0.304
2.60	798	857.10	0.31 ic	0.31 ic	---	---	0.00	---	---	---	---	---	0.308
2.65	819	857.15	0.31 ic	0.31 ic	---	---	0.00	---	---	---	---	---	0.311
2.70	841	857.20	0.31 ic	0.31 ic	---	---	0.00	---	---	---	---	---	0.314
2.75	862	857.25	0.33 ic	0.32 ic	---	---	0.00	---	---	---	---	---	0.317
2.80	884	857.30	0.33 ic	0.32 ic	---	---	0.00	---	---	---	---	---	0.320
2.85	905	857.35	0.33 ic	0.32 ic	---	---	0.00	---	---	---	---	---	0.323
2.90	927	857.40	0.33 ic	0.33 ic	---	---	0.00	---	---	---	---	---	0.326
2.95	948	857.45	0.33 ic	0.33 ic	---	---	0.00	---	---	---	---	---	0.329
3.00	969	857.50	0.33 ic	0.33 ic	---	---	0.00	---	---	---	---	---	0.332
3.05	990	857.55	0.35 ic	0.33 ic	---	---	0.00	---	---	---	---	---	0.335
3.10	1,011	857.60	0.35 ic	0.34 ic	---	---	0.00	---	---	---	---	---	0.338
3.15	1,032	857.65	0.35 ic	0.34 ic	---	---	0.00	---	---	---	---	---	0.341
3.20	1,053	857.70	0.35 ic	0.34 ic	---	---	0.00	---	---	---	---	---	0.344
3.25	1,074	857.75	0.35 ic	0.35 ic	---	---	0.00	---	---	---	---	---	0.347
3.30	1,095	857.80	0.35 ic	0.35 ic	---	---	0.00	---	---	---	---	---	0.349
3.35	1,116	857.85	0.35 ic	0.35 ic	---	---	0.00	---	---	---	---	---	0.352
3.40	1,137	857.90	0.37 ic	0.35 ic	---	---	0.00	---	---	---	---	---	0.355
3.45	1,158	857.95	0.37 ic	0.36 ic	---	---	0.00	---	---	---	---	---	0.358
3.50	1,179	858.00	0.37 ic	0.36 ic	---	---	0.00	---	---	---	---	---	0.360
3.55	1,198	858.05	0.37 ic	0.36 ic	---	---	0.00	---	---	---	---	---	0.363
3.60	1,217	858.10	0.37 ic	0.37 ic	---	---	0.00	---	---	---	---	---	0.366
3.65	1,237	858.15	0.37 ic	0.37 ic	---	---	0.00	---	---	---	---	---	0.369
3.70	1,256	858.20	0.37 ic	0.37 ic	---	---	0.00	---	---	---	---	---	0.371
3.75	1,275	858.25	0.37 ic	0.37 ic	---	---	0.00	---	---	---	---	---	0.374
3.80	1,294	858.30	0.39 ic	0.38 ic	---	---	0.00	---	---	---	---	---	0.376
3.85	1,314	858.35	0.39 ic	0.38 ic	---	---	0.00	---	---	---	---	---	0.379
3.90	1,333	858.40	0.39 ic	0.38 ic	---	---	0.00	---	---	---	---	---	0.382
3.95	1,352	858.45	0.39 ic	0.38 ic	---	---	0.00	---	---	---	---	---	0.384
4.00	1,372	858.50	0.39 ic	0.39 ic	---	---	0.00	---	---	---	---	---	0.387
4.05	1,387	858.55	0.39 ic	0.39 ic	---	---	0.00	---	---	---	---	---	0.389
4.10	1,403	858.60	0.39 ic	0.39 ic	---	---	0.00	---	---	---	---	---	0.392
4.15	1,418	858.65	0.39 ic	0.39 ic	---	---	0.00	---	---	---	---	---	0.394
4.20	1,433	858.70	0.41 ic	0.40 ic	---	---	0.00	---	---	---	---	---	0.397
4.25	1,449	858.75	0.41 ic	0.40 ic	---	---	0.00	---	---	---	---	---	0.399
4.30	1,464	858.80	0.41 ic	0.40 ic	---	---	0.00	---	---	---	---	---	0.402
4.35	1,480	858.85	0.41 ic	0.40 ic	---	---	0.00	---	---	---	---	---	0.404
4.40	1,495	858.90	0.41 ic	0.41 ic	---	---	0.00	---	---	---	---	---	0.407
4.45	1,511	858.95	0.41 ic	0.41 ic	---	---	0.00	---	---	---	---	---	0.409
4.50	1,526	859.00	0.41 ic	0.41 ic	---	---	0.00	---	---	---	---	---	0.412
4.55	1,536	859.05	0.41 ic	0.41 ic	---	---	0.00	---	---	---	---	---	0.414
4.60	1,546	859.10	0.42 ic	0.42 ic	---	---	0.00	---	---	---	---	---	0.416
4.65	1,556	859.15	0.43 ic	0.42 ic	---	---	0.00	---	---	---	---	---	0.419
4.70	1,566	859.20	0.43 ic	0.42 ic	---	---	0.00	---	---	---	---	---	0.421
4.75	1,576	859.25	0.43 ic	0.42 ic	---	---	0.00	---	---	---	---	---	0.423
4.80	1,586	859.30	0.59 ic	0.42 ic	---	---	0.15	---	---	---	---	---	0.569
4.85	1,596	859.35	0.84 ic	0.42 ic	---	---	0.41	---	---	---	---	---	0.835
4.90	1,606	859.40	1.20 ic	0.42 ic	---	---	0.76	---	---	---	---	---	1.180
4.95	1,615	859.45	1.59 ic	0.42 ic	---	---	1.17	---	---	---	---	---	1.588
5.00	1,625	859.50	2.07 ic	0.42 ic	---	---	1.64	---	---	---	---	---	2.052

...End

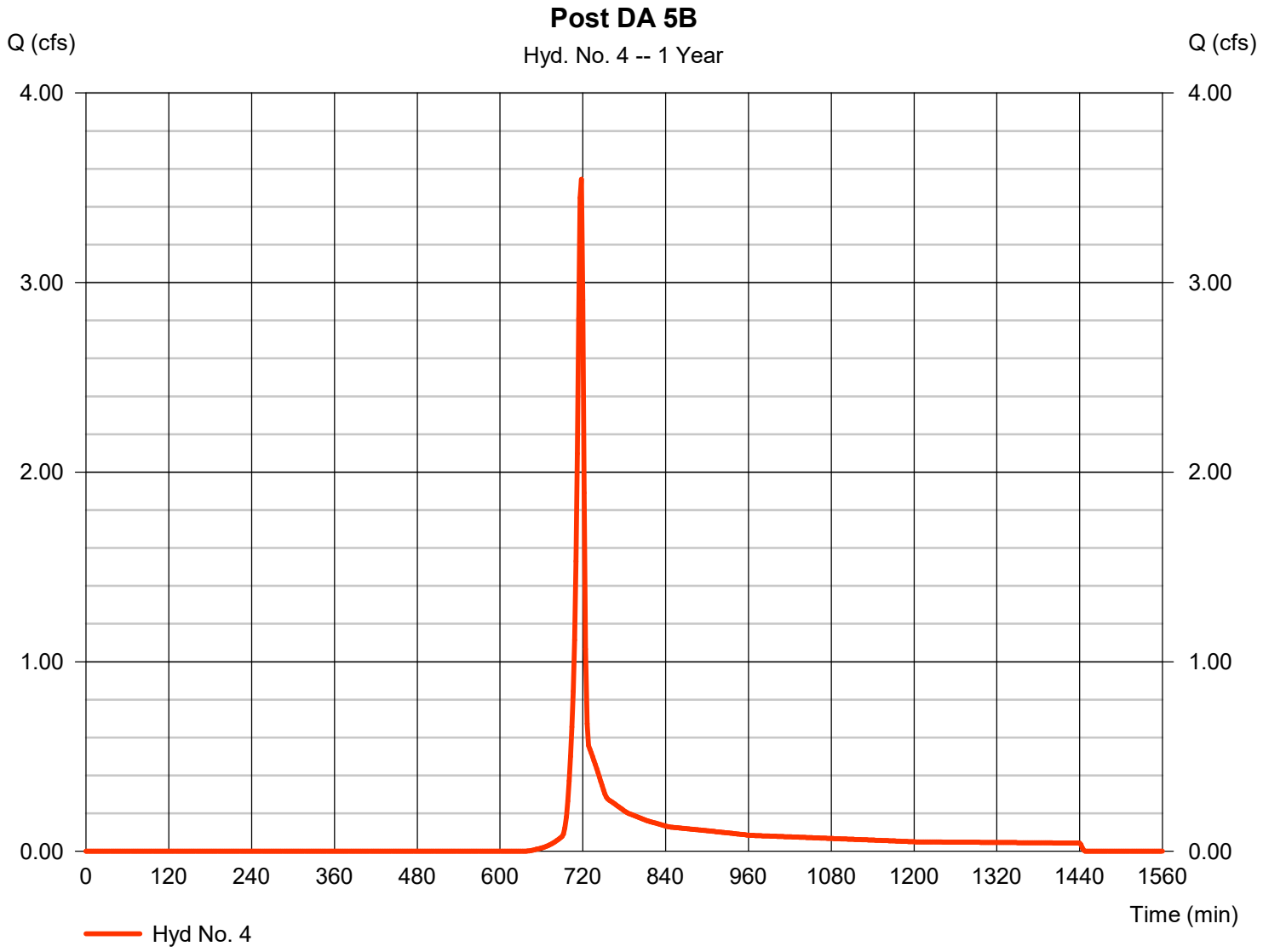
Hydrograph Report

Hyd. No. 4

Post DA 5B

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.545 cfs
Storm frequency	=	1 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	7,095 cuft
Drainage area	=	3.090 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	1.97 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(1.210 x 98) + (1.880 x 74)] / 3.090

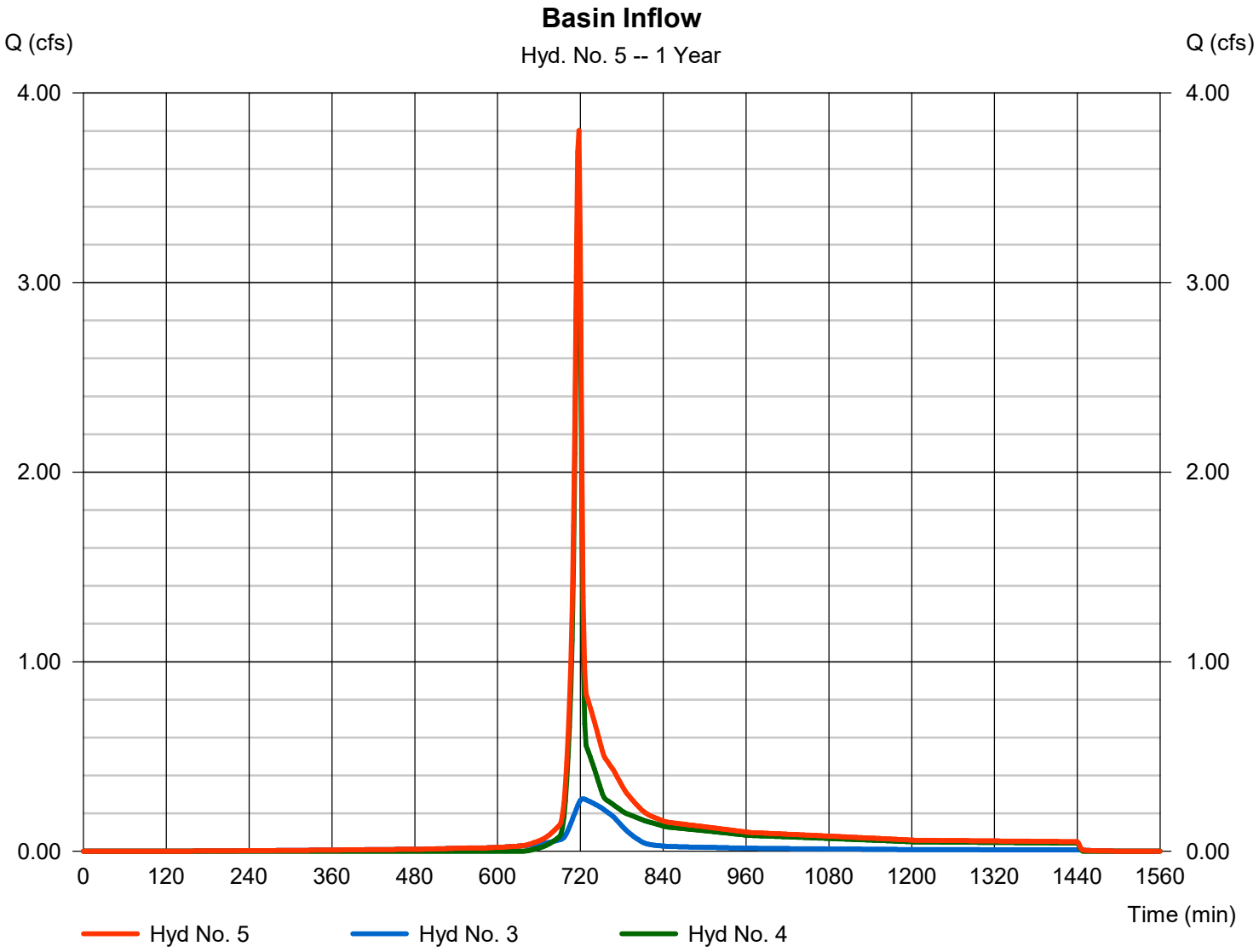


Hydrograph Report

Hyd. No. 5

Basin Inflow

Hydrograph type	=	Combine	Peak discharge	=	3.802 cfs
Storm frequency	=	1 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	9,231 cuft
Inflow hyds.	=	3, 4	Contrib. drain. area	=	3.090 ac



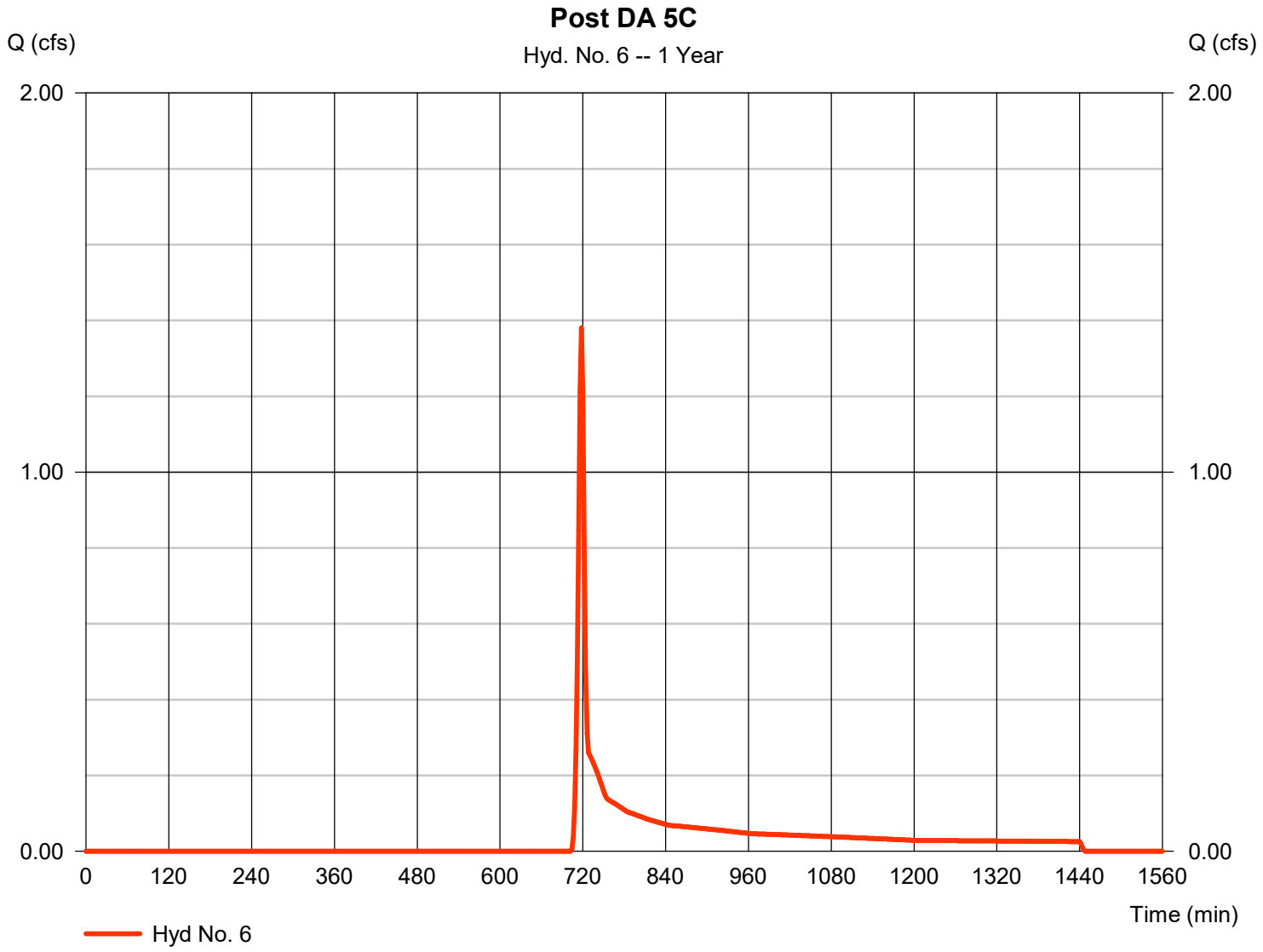
Hydrograph Report

Hyd. No. 6

Post DA 5C

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.380 cfs
Storm frequency	=	1 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	3,075 cuft
Drainage area	=	2.690 ac	Curve number	=	74*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	1.97 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.130 x 98) + (2.040 x 74) + (0.520 x 70)] / 2.690



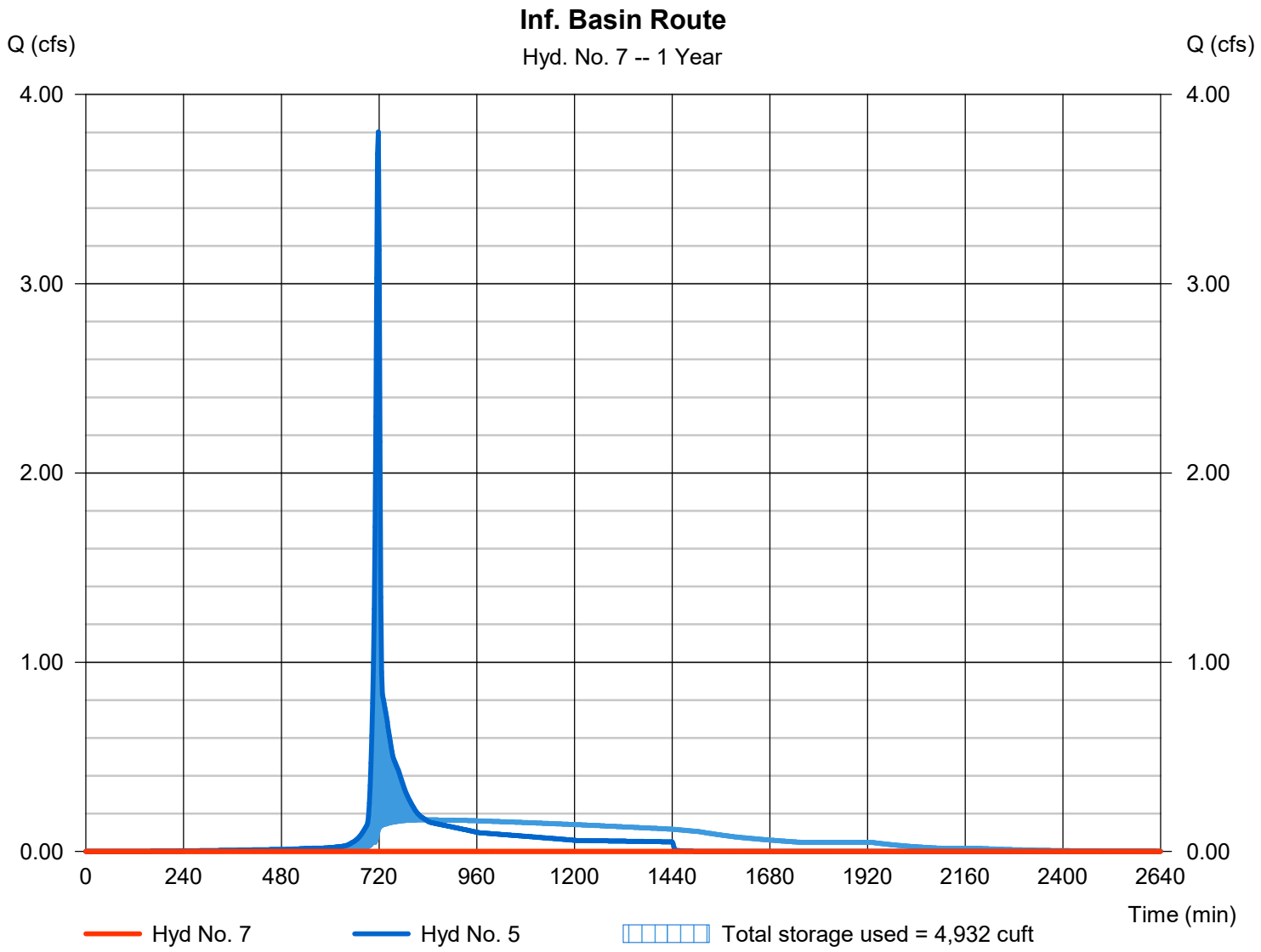
Hydrograph Report

Hyd. No. 7

Inf. Basin Route

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	1 yrs	Time to peak	=	1472 min
Time interval	=	2 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	5 - Basin Inflow	Max. Elevation	=	851.27 ft
Reservoir name	=	SCM 5.2 Inf Basin	Max. Storage	=	4,932 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Pond No. 2 - SCM 5.2 Inf Basin

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 848.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	848.00	941	0	0
0.25	848.25	329	152	152
0.50	848.50	329	82	234
1.00	849.00	963	309	544
1.50	849.50	963	481	1,025
2.00	850.00	1,575	628	1,653
2.25	850.25	2,123	461	2,114
2.50	850.50	2,466	573	2,687
2.75	850.75	2,768	654	3,341
3.00	851.00	3,046	726	4,067
3.25	851.25	3,359	800	4,867
3.50	851.50	3,655	876	5,744
3.75	851.75	3,935	948	6,692
4.00	852.00	4,200	1,017	7,709
4.25	852.25	4,459	1,082	8,791
4.50	852.50	4,693	1,144	9,934
4.75	852.75	4,886	1,197	11,132
5.00	853.00	4,875	1,220	12,352
5.50	853.50	5,564	2,608	14,959
6.00	854.00	5,620	2,796	17,755

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	3.00	0.00	0.00
Span (in)	= 18.00	38.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 846.00	852.00	0.00	0.00
Length (ft)	= 39.00	0.00	0.00	0.00
Slope (%)	= 5.10	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 12.00	40.00	0.00	0.00
Crest El. (ft)	= 852.25	852.70	0.00	0.00
Weir Coeff.	= 3.33	2.60	3.33	3.33
Weir Type	= 1	Broad	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 2.130 (by Contour)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	848.00	0.00	0.00	---	---	0.00	0.00	---	---	0.000	---	0.000
0.03	15	848.03	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.002	---	0.002
0.05	30	848.05	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.003	---	0.003
0.08	46	848.08	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.005	---	0.005
0.10	61	848.10	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.006	---	0.006
0.13	76	848.13	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.008	---	0.008
0.15	91	848.15	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.010	---	0.010
0.17	107	848.18	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.011	---	0.011
0.20	122	848.20	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.013	---	0.013
0.22	137	848.23	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.015	---	0.015
0.25	152	848.25	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.016	---	0.016
0.28	160	848.28	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.016	---	0.016
0.30	169	848.30	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.016	---	0.016
0.32	177	848.33	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.016	---	0.016
0.35	185	848.35	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.016	---	0.016
0.38	193	848.38	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.016	---	0.016
0.40	202	848.40	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.016	---	0.016
0.43	210	848.43	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.016	---	0.016
0.45	218	848.45	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.016	---	0.016
0.48	226	848.48	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.016	---	0.016
0.50	234	848.50	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.016	---	0.016
0.55	265	848.55	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.019	---	0.019
0.60	296	848.60	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.022	---	0.022

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SCM 5.2 Inf Basin

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.65	327	848.65	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.026	---	0.026
0.70	358	848.70	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.029	---	0.029
0.75	389	848.75	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.032	---	0.032
0.80	420	848.80	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.035	---	0.035
0.85	451	848.85	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.038	---	0.038
0.90	482	848.90	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.041	---	0.041
0.95	513	848.95	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.044	---	0.044
1.00	544	849.00	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.047	---	0.047
1.05	592	849.05	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.047	---	0.047
1.10	640	849.10	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.047	---	0.047
1.15	688	849.15	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.047	---	0.047
1.20	736	849.20	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.047	---	0.047
1.25	784	849.25	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.047	---	0.047
1.30	832	849.30	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.047	---	0.047
1.35	881	849.35	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.047	---	0.047
1.40	929	849.40	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.047	---	0.047
1.45	977	849.45	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.047	---	0.047
1.50	1,025	849.50	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.047	---	0.047
1.55	1,088	849.55	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.050	---	0.050
1.60	1,151	849.60	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.054	---	0.054
1.65	1,213	849.65	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.057	---	0.057
1.70	1,276	849.70	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.060	---	0.060
1.75	1,339	849.75	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.063	---	0.063
1.80	1,402	849.80	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.066	---	0.066
1.85	1,465	849.85	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.069	---	0.069
1.90	1,528	849.90	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.072	---	0.072
1.95	1,590	849.95	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.075	---	0.075
2.00	1,653	850.00	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.078	---	0.078
2.03	1,699	850.03	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.080	---	0.080
2.05	1,745	850.05	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.083	---	0.083
2.08	1,791	850.08	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.086	---	0.086
2.10	1,837	850.10	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.088	---	0.088
2.13	1,883	850.13	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.091	---	0.091
2.15	1,929	850.15	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.094	---	0.094
2.18	1,976	850.18	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.097	---	0.097
2.20	2,022	850.20	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.099	---	0.099
2.23	2,068	850.23	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.102	---	0.102
2.25	2,114	850.25	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.105	---	0.105
2.28	2,171	850.28	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.106	---	0.106
2.30	2,228	850.30	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.108	---	0.108
2.33	2,286	850.33	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.110	---	0.110
2.35	2,343	850.35	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.111	---	0.111
2.38	2,400	850.38	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.113	---	0.113
2.40	2,458	850.40	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.115	---	0.115
2.43	2,515	850.43	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.117	---	0.117
2.45	2,572	850.45	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.118	---	0.118
2.48	2,629	850.48	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.120	---	0.120
2.50	2,687	850.50	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.122	---	0.122
2.53	2,752	850.53	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.123	---	0.123
2.55	2,817	850.55	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.125	---	0.125
2.58	2,883	850.58	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.126	---	0.126
2.60	2,948	850.60	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.128	---	0.128
2.63	3,014	850.63	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.129	---	0.129
2.65	3,079	850.65	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.131	---	0.131
2.68	3,144	850.68	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.132	---	0.132
2.70	3,210	850.70	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.133	---	0.133
2.73	3,275	850.73	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.135	---	0.135
2.75	3,341	850.75	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.136	---	0.136
2.78	3,413	850.78	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.138	---	0.138
2.80	3,486	850.80	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.139	---	0.139
2.83	3,558	850.83	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.141	---	0.141
2.85	3,631	850.85	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.142	---	0.142
2.88	3,704	850.88	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.143	---	0.143
2.90	3,776	850.90	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.145	---	0.145
2.93	3,849	850.93	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.146	---	0.146
2.95	3,922	850.95	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.147	---	0.147
2.98	3,994	850.98	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.149	---	0.149
3.00	4,067	851.00	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.150	---	0.150
3.03	4,147	851.03	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.152	---	0.152
3.05	4,227	851.05	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.153	---	0.153
3.08	4,307	851.08	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.155	---	0.155
3.10	4,387	851.10	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.156	---	0.156

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SCM 5.2 Inf Basin

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
3.13	4,467	851.13	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.158	---	0.158
3.15	4,547	851.15	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.159	---	0.159
3.18	4,627	851.18	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.161	---	0.161
3.20	4,707	851.20	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.163	---	0.163
3.23	4,787	851.23	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.164	---	0.164
3.25	4,867	851.25	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.166	---	0.166
3.28	4,955	851.28	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.167	---	0.167
3.30	5,042	851.30	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.169	---	0.169
3.33	5,130	851.33	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.170	---	0.170
3.35	5,218	851.35	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.171	---	0.171
3.38	5,305	851.38	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.173	---	0.173
3.40	5,393	851.40	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.174	---	0.174
3.43	5,481	851.43	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.176	---	0.176
3.45	5,568	851.45	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.177	---	0.177
3.48	5,656	851.48	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.179	---	0.179
3.50	5,744	851.50	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.180	---	0.180
3.53	5,838	851.53	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.182	---	0.182
3.55	5,933	851.55	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.183	---	0.183
3.58	6,028	851.58	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.184	---	0.184
3.60	6,123	851.60	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.186	---	0.186
3.63	6,218	851.63	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.187	---	0.187
3.65	6,313	851.65	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.188	---	0.188
3.68	6,407	851.68	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.190	---	0.190
3.70	6,502	851.70	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.191	---	0.191
3.73	6,597	851.73	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.193	---	0.193
3.75	6,692	851.75	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.194	---	0.194
3.78	6,794	851.78	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.195	---	0.195
3.80	6,895	851.80	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.197	---	0.197
3.83	6,997	851.83	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.198	---	0.198
3.85	7,099	851.85	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.199	---	0.199
3.88	7,200	851.88	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.201	---	0.201
3.90	7,302	851.90	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.202	---	0.202
3.93	7,404	851.93	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.203	---	0.203
3.95	7,505	851.95	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.204	---	0.204
3.98	7,607	851.98	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.206	---	0.206
4.00	7,709	852.00	9.51 ic	0.00	---	---	0.00	0.00	---	---	0.207	---	0.207
4.03	7,817	852.03	9.51 ic	0.04 ic	---	---	0.00	0.00	---	---	0.208	---	0.251
4.05	7,925	852.05	9.51 ic	0.12 ic	---	---	0.00	0.00	---	---	0.210	---	0.330
4.07	8,033	852.08	9.51 ic	0.22 ic	---	---	0.00	0.00	---	---	0.211	---	0.433
4.10	8,141	852.10	9.51 ic	0.34 ic	---	---	0.00	0.00	---	---	0.212	---	0.554
4.13	8,250	852.13	9.51 ic	0.48 ic	---	---	0.00	0.00	---	---	0.213	---	0.691
4.15	8,358	852.15	9.51 ic	0.63 ic	---	---	0.00	0.00	---	---	0.215	---	0.842
4.18	8,466	852.18	9.51 ic	0.79 ic	---	---	0.00	0.00	---	---	0.216	---	1.006
4.20	8,574	852.20	9.51 ic	0.97 ic	---	---	0.00	0.00	---	---	0.217	---	1.183
4.23	8,683	852.23	9.51 ic	1.15 ic	---	---	0.00	0.00	---	---	0.219	---	1.371
4.25	8,791	852.25	9.51 ic	1.35 ic	---	---	0.00	0.00	---	---	0.220	---	1.568
4.28	8,905	852.28	9.51 ic	1.48 ic	---	---	0.16	0.00	---	---	0.221	---	1.856
4.30	9,019	852.30	9.51 ic	1.59 ic	---	---	0.45	0.00	---	---	0.222	---	2.264
4.32	9,134	852.33	9.51 ic	1.71 ic	---	---	0.82	0.00	---	---	0.223	---	2.750
4.35	9,248	852.35	9.51 ic	1.81 ic	---	---	1.27	0.00	---	---	0.224	---	3.298
4.38	9,363	852.38	9.51 ic	1.91 ic	---	---	1.77	0.00	---	---	0.226	---	3.901
4.40	9,477	852.40	9.51 ic	2.00 ic	---	---	2.32	0.00	---	---	0.227	---	4.551
4.43	9,591	852.43	9.51 ic	2.09 ic	---	---	2.93	0.00	---	---	0.228	---	5.246
4.45	9,706	852.45	9.51 ic	2.17 ic	---	---	3.58	0.00	---	---	0.229	---	5.982
4.48	9,820	852.48	9.51 ic	2.26 ic	---	---	4.27	0.00	---	---	0.230	---	6.757
4.50	9,934	852.50	9.51 ic	2.33 ic	---	---	4.99	0.00	---	---	0.231	---	7.561
4.53	10,054	852.53	9.51 ic	2.41 ic	---	---	5.76	0.00	---	---	0.232	---	8.407
4.55	10,174	852.55	9.51 ic	2.49 ic	---	---	6.57	0.00	---	---	0.233	---	9.286
4.57	10,294	852.58	9.96 ic	2.56 ic	---	---	7.41	0.00	---	---	0.234	---	10.20
4.60	10,413	852.60	10.91 ic	2.63 ic	---	---	8.28	0.00	---	---	0.235	---	11.14
4.63	10,533	852.63	11.88 ic	2.70 ic	---	---	9.18	0.00	---	---	0.236	---	12.11
4.65	10,653	852.65	12.88 ic	2.76 ic	---	---	10.11	0.00	---	---	0.237	---	13.11
4.68	10,773	852.68	13.91 ic	2.83 ic	---	---	11.08	0.00	---	---	0.238	---	14.14
4.70	10,892	852.70	14.96 ic	2.89 ic	---	---	12.07	0.00	---	---	0.239	---	15.20
4.73	11,012	852.73	16.04 ic	2.95 ic	---	---	13.09	0.42	---	---	0.240	---	16.70
4.75	11,132	852.75	17.14 ic	3.01 ic	---	---	14.13	1.16	---	---	0.241	---	18.54
4.78	11,254	852.78	18.28 ic	3.07 ic	---	---	15.20	2.14	---	---	0.241	---	20.65
4.80	11,376	852.80	19.43 ic	3.13 ic	---	---	16.30	3.29	---	---	0.241	---	22.96
4.82	11,498	852.83	20.04 ic	2.77 ic	---	---	17.27 s	4.60	---	---	0.241	---	24.88
4.85	11,620	852.85	20.22 ic	2.56 ic	---	---	17.66 s	6.05	---	---	0.241	---	26.51
4.88	11,742	852.88	20.36 ic	2.40 ic	---	---	17.96 s	7.62	---	---	0.241	---	28.22
4.90	11,864	852.90	20.48 ic	2.27 ic	---	---	18.21 s	9.31	---	---	0.241	---	30.03

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SCM 5.2 Inf Basin

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
4.93	11,986	852.93	20.59 ic	2.16 ic	---	---	18.43 s	11.11	---	---	0.241	---	31.94
4.95	12,108	852.95	20.68 ic	2.05 ic	---	---	18.63 s	13.01	---	---	0.240	---	33.94
4.98	12,230	852.98	20.77 ic	1.96 ic	---	---	18.81 s	15.01	---	---	0.240	---	36.02
5.00	12,352	853.00	20.85 ic	1.88 ic	---	---	18.97 s	17.09	---	---	0.240	---	38.18
5.05	12,612	853.05	21.00 ic	1.73 ic	---	---	19.28 s	21.53	---	---	0.244	---	42.78
5.10	12,873	853.10	21.14 ic	1.60 ic	---	---	19.54 s	26.31	---	---	0.247	---	47.69
5.15	13,134	853.15	21.27 ic	1.49 ic	---	---	19.78 s	31.39	---	---	0.251	---	52.90
5.20	13,395	853.20	21.38 ic	1.39 ic	---	---	19.99 s	36.76	---	---	0.254	---	58.40
5.25	13,655	853.25	21.49 ic	1.30 ic	---	---	20.19 s	42.41	---	---	0.257	---	64.16
5.30	13,916	853.30	21.60 ic	1.22 ic	---	---	20.37 s	48.32	---	---	0.261	---	70.18
5.35	14,177	853.35	21.70 ic	1.16 ic	---	---	20.55 s	54.49	---	---	0.264	---	76.45
5.40	14,438	853.40	21.80 ic	1.09 ic	---	---	20.71 s	60.89	---	---	0.268	---	82.96
5.45	14,698	853.45	21.90 ic	1.04 ic	---	---	20.86 s	67.53	---	---	0.271	---	89.70
5.50	14,959	853.50	21.99 ic	0.98 ic	---	---	21.00 s	74.41	---	---	0.274	---	96.67
5.55	15,239	853.55	22.09 ic	0.94 ic	---	---	21.15 s	81.50	---	---	0.275	---	103.86
5.60	15,518	853.60	22.18 ic	0.89 ic	---	---	21.27 s	88.79	---	---	0.275	---	111.23
5.65	15,798	853.65	22.27 ic	0.85 ic	---	---	21.40 s	96.29	---	---	0.275	---	118.82
5.70	16,078	853.70	22.35 ic	0.82 ic	---	---	21.54 s	103.99	---	---	0.275	---	126.62
5.75	16,357	853.75	22.44 ic	0.78 ic	---	---	21.64 s	111.89	---	---	0.276	---	134.59
5.80	16,637	853.80	22.53 ic	0.75 ic	---	---	21.76 s	119.97	---	---	0.276	---	142.76
5.85	16,916	853.85	22.61 ic	0.72 ic	---	---	21.89 s	128.24	---	---	0.276	---	151.13
5.90	17,196	853.90	22.70 ic	0.70 ic	---	---	21.98 s	136.69	---	---	0.277	---	159.65
5.95	17,475	853.95	22.78 ic	0.67 ic	---	---	22.09 s	145.32	---	---	0.277	---	168.36
6.00	17,755	854.00	22.86 ic	0.65 ic	---	---	22.21 s	154.15	---	---	0.277	---	177.28

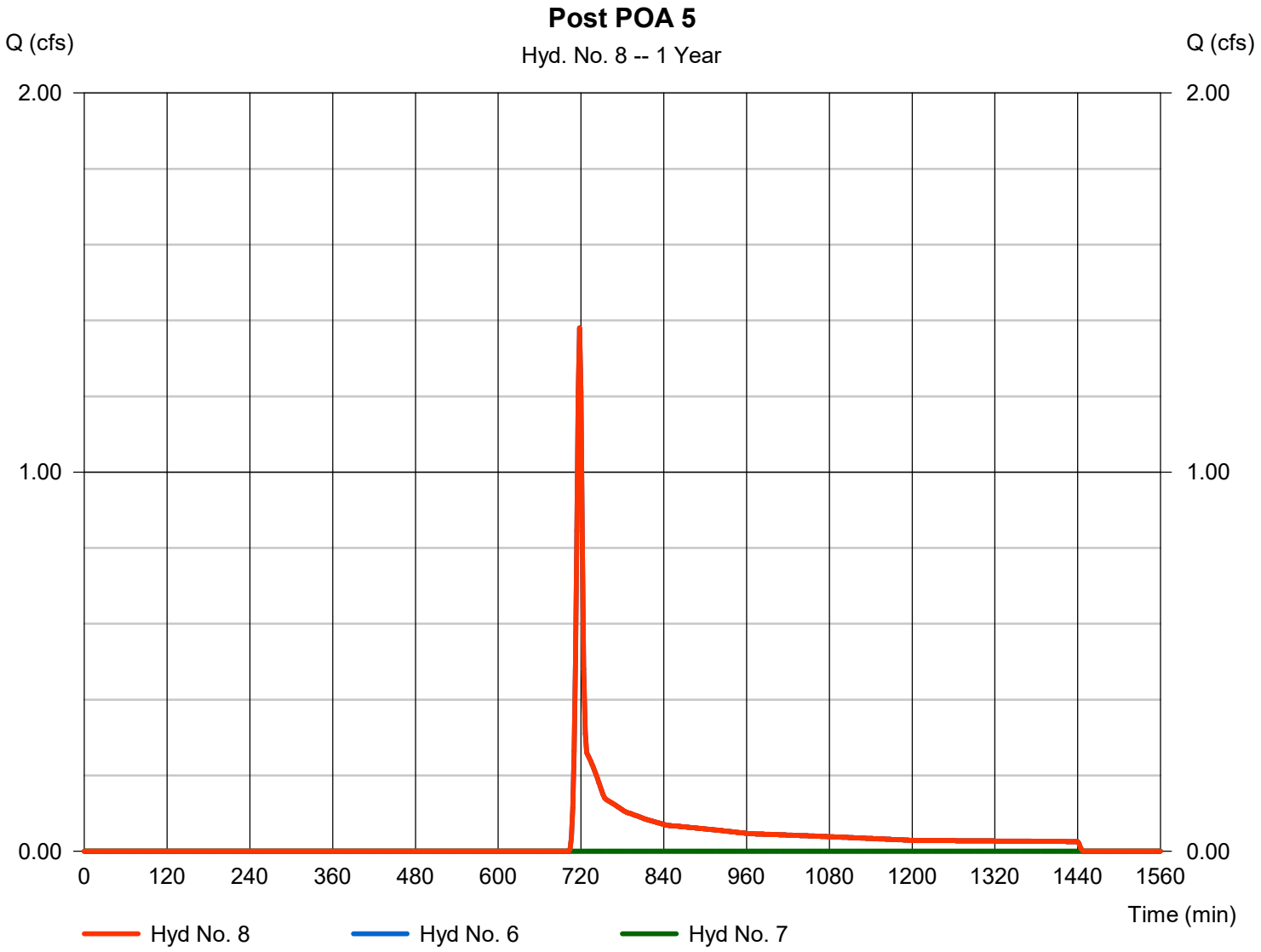
...End

Hydrograph Report

Hyd. No. 8

Post POA 5

Hydrograph type	=	Combine	Peak discharge	=	1.380 cfs
Storm frequency	=	1 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	3,075 cuft
Inflow hyds.	=	6, 7	Contrib. drain. area	=	2.690 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	5.495	2	718	11,601	------	------	------	Pre-Development DA 5
2	SCS Runoff	1.131	2	716	2,599	------	------	------	Post DA 5A
3	Reservoir	0.301	2	724	2,598	2	857.00	755	Tank 2 Route
4	SCS Runoff	4.958	2	718	9,926	------	------	------	Post DA 5B
5	Combine	5.237	2	718	12,524	3, 4	------	------	Basin Inflow
6	SCS Runoff	2.313	2	718	4,813	------	------	------	Post DA 5C
7	Reservoir	0.000	2	1578	0	5	851.84	7,058	Inf. Basin Route
8	Combine	2.313	2	718	4,813	6, 7	------	------	Post POA 5
9	Reservoir	5.063	2	718	12,404	5	852.83	11,537	Spillway Route

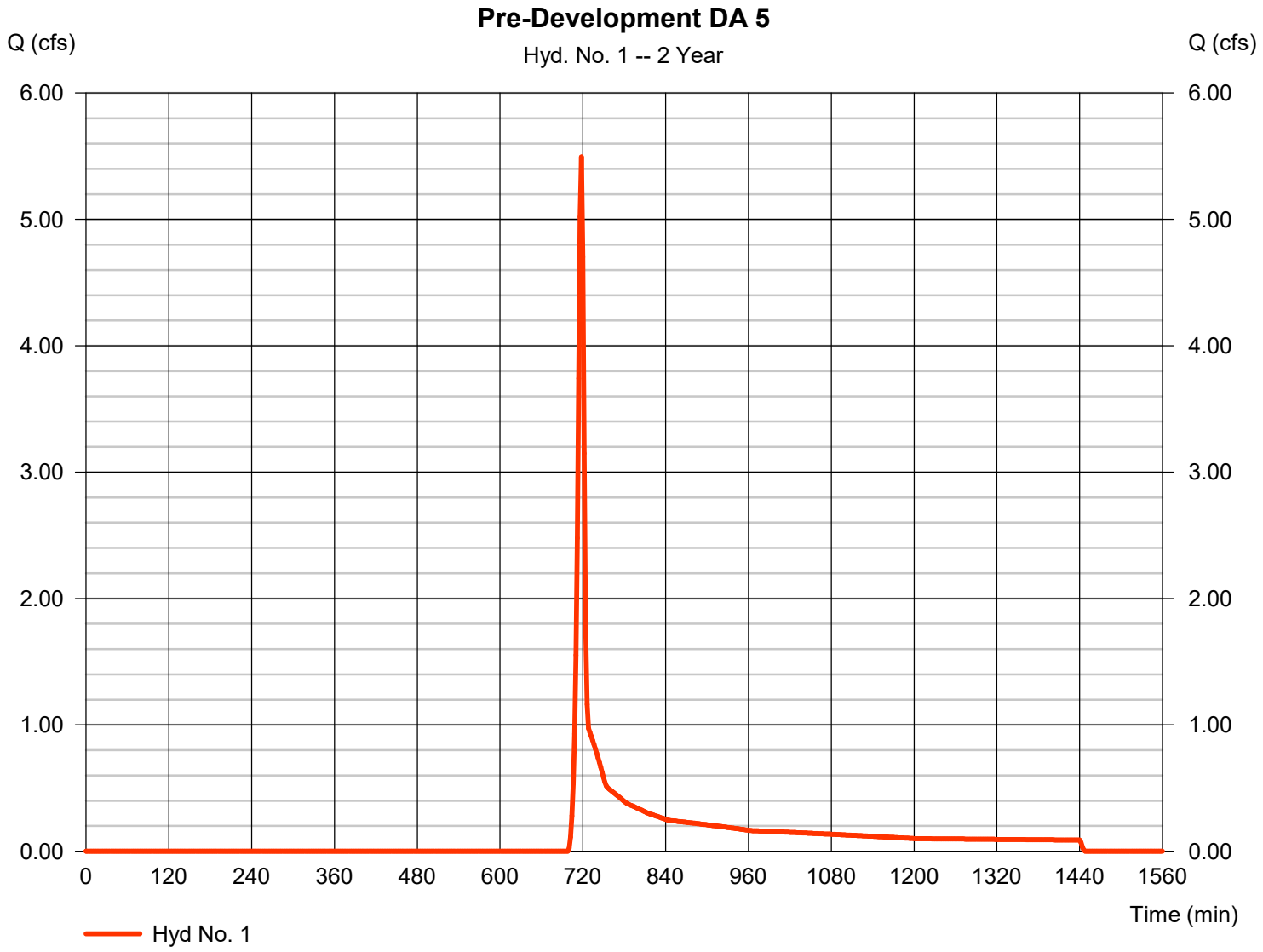
Hydrograph Report

Hyd. No. 1

Pre-Development DA 5

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.495 cfs
Storm frequency	=	2 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	11,601 cuft
Drainage area	=	6.980 ac	Curve number	=	73*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	2.35 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.270 x 98) + (0.070 x 71) + (5.290 x 71) + (0.700 x 70) + (0.650 x 87)] / 6.980



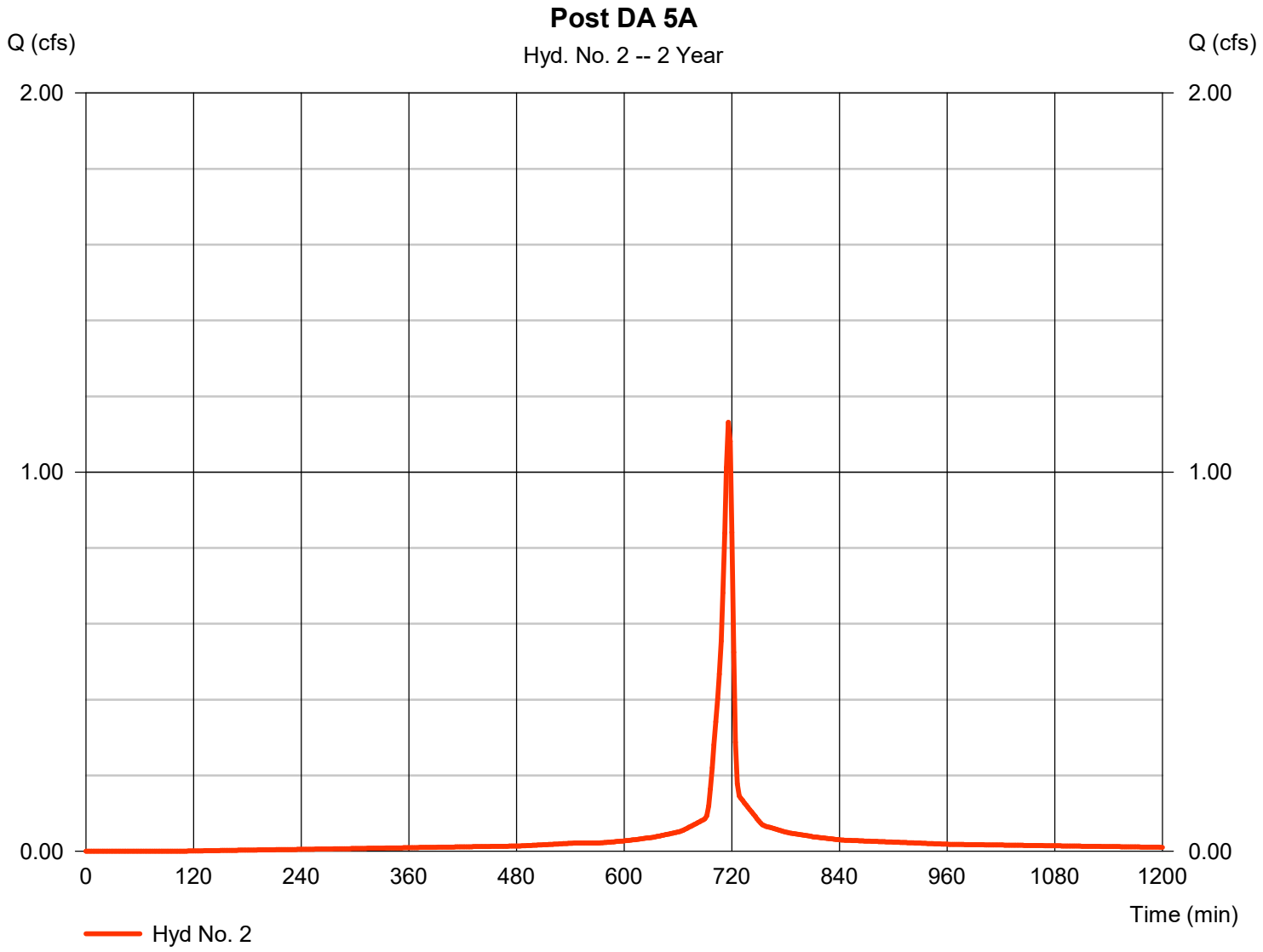
Hydrograph Report

Hyd. No. 2

Post DA 5A

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.131 cfs
Storm frequency	=	2 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	2,599 cuft
Drainage area	=	0.360 ac	Curve number	=	98*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	2.35 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.360 x 98)] / 0.360



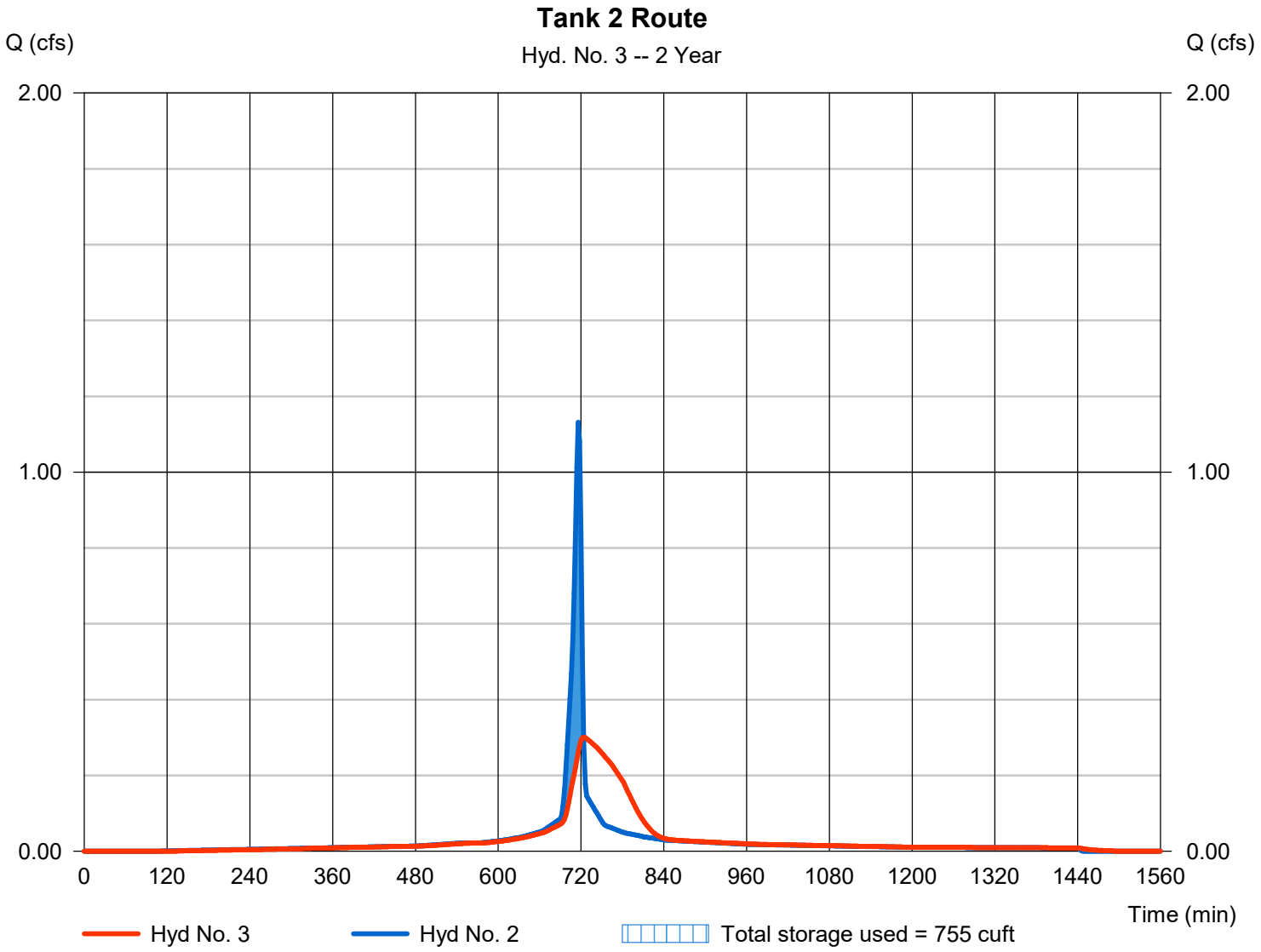
Hydrograph Report

Hyd. No. 3

Tank 2 Route

Hydrograph type	=	Reservoir	Peak discharge	=	0.301 cfs
Storm frequency	=	2 yrs	Time to peak	=	724 min
Time interval	=	2 min	Hyd. volume	=	2,598 cuft
Inflow hyd. No.	=	2 - Post DA 5A	Max. Elevation	=	857.00 ft
Reservoir name	=	SCM 5.1 Det Tank	Max. Storage	=	755 cuft

Storage Indication method used.



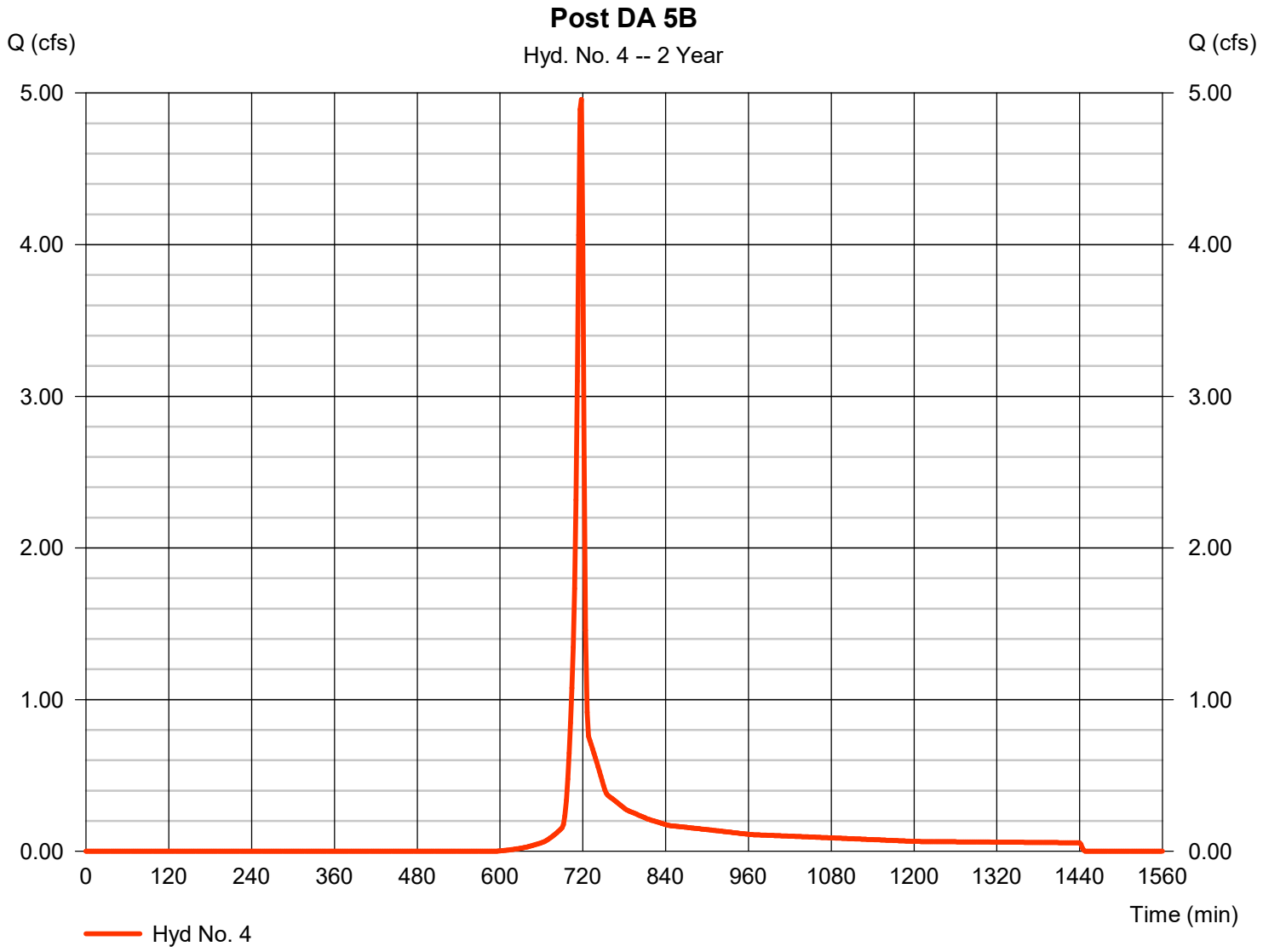
Hydrograph Report

Hyd. No. 4

Post DA 5B

Hydrograph type	=	SCS Runoff	Peak discharge	=	4.958 cfs
Storm frequency	=	2 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	9,926 cuft
Drainage area	=	3.090 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	2.35 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(1.210 x 98) + (1.880 x 74)] / 3.090

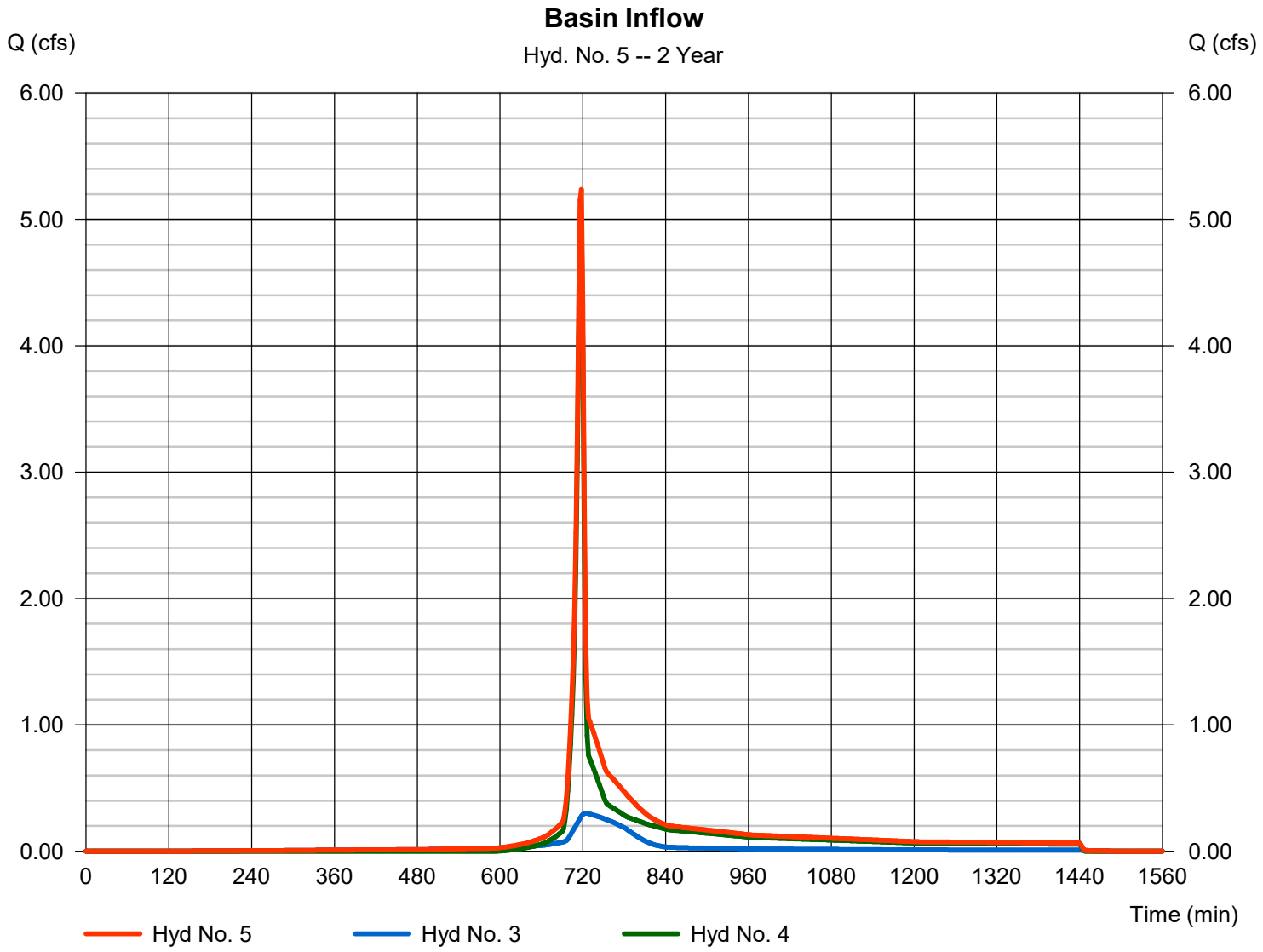


Hydrograph Report

Hyd. No. 5

Basin Inflow

Hydrograph type	=	Combine	Peak discharge	=	5.237 cfs
Storm frequency	=	2 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	12,524 cuft
Inflow hyds.	=	3, 4	Contrib. drain. area	=	3.090 ac



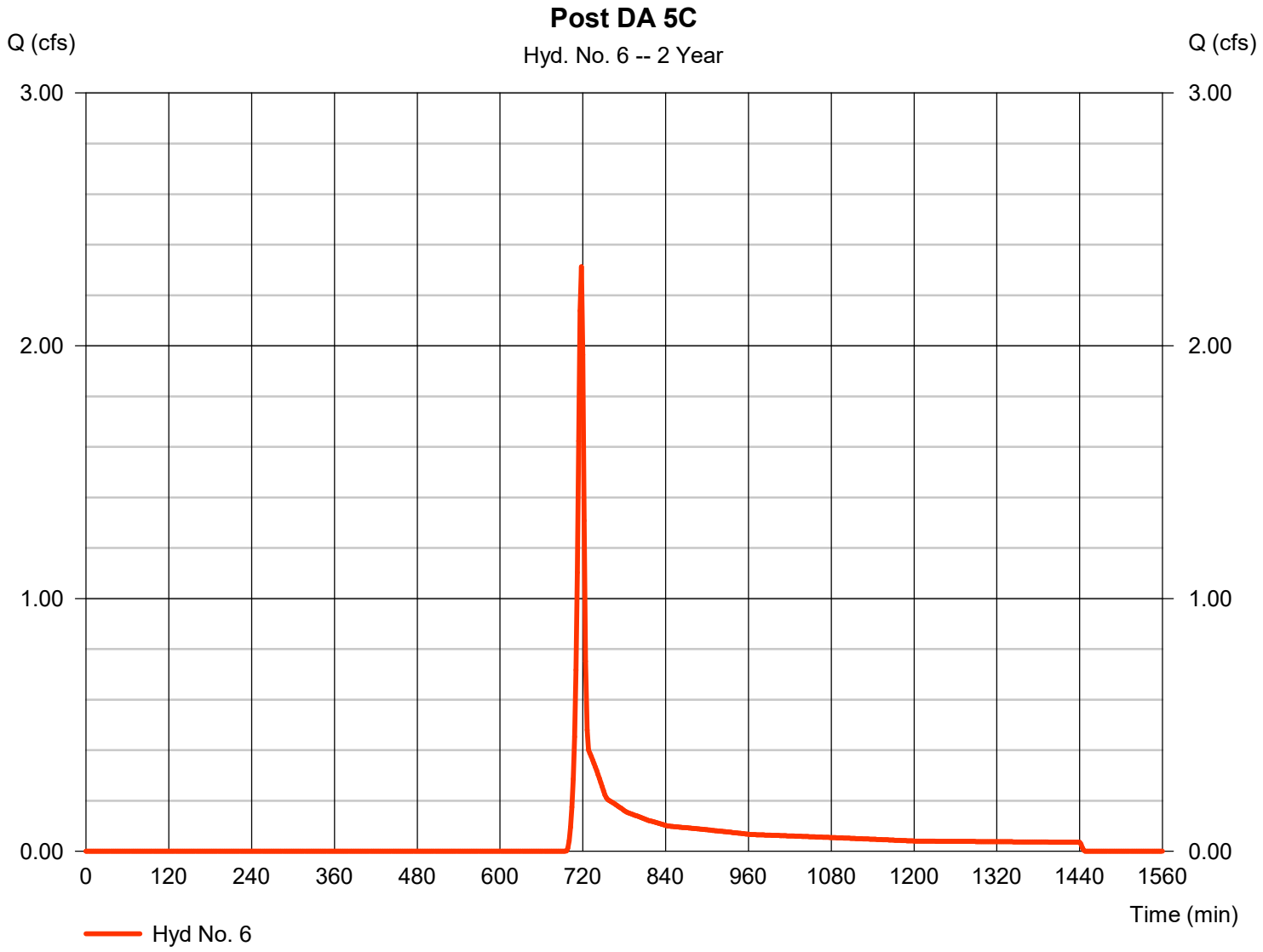
Hydrograph Report

Hyd. No. 6

Post DA 5C

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.313 cfs
Storm frequency	=	2 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	4,813 cuft
Drainage area	=	2.690 ac	Curve number	=	74*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	2.35 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.130 x 98) + (2.040 x 74) + (0.520 x 70)] / 2.690



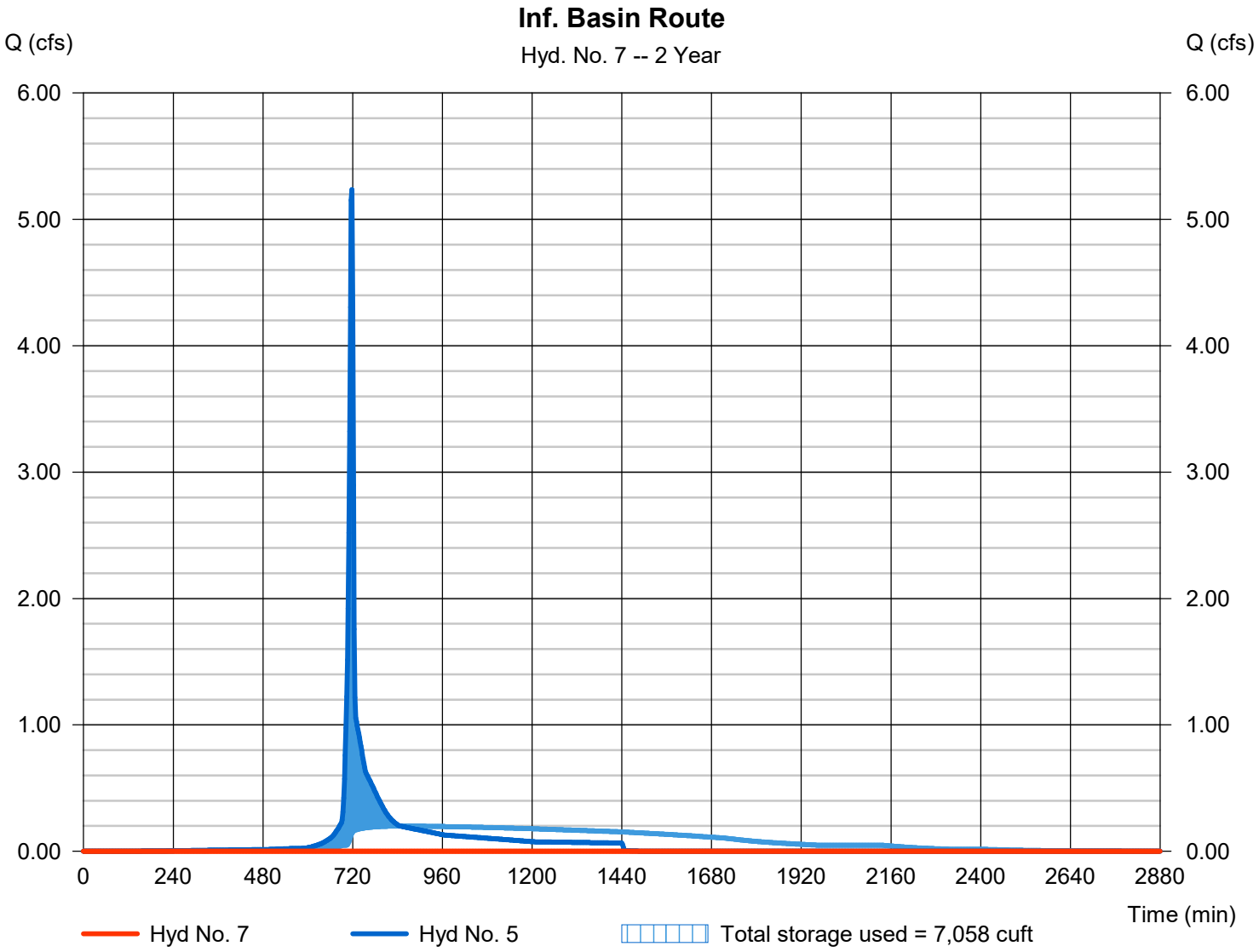
Hydrograph Report

Hyd. No. 7

Inf. Basin Route

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	2 yrs	Time to peak	=	1578 min
Time interval	=	2 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	5 - Basin Inflow	Max. Elevation	=	851.84 ft
Reservoir name	=	SCM 5.2 Inf Basin	Max. Storage	=	7,058 cuft

Storage Indication method used. Exfiltration extracted from Outflow.

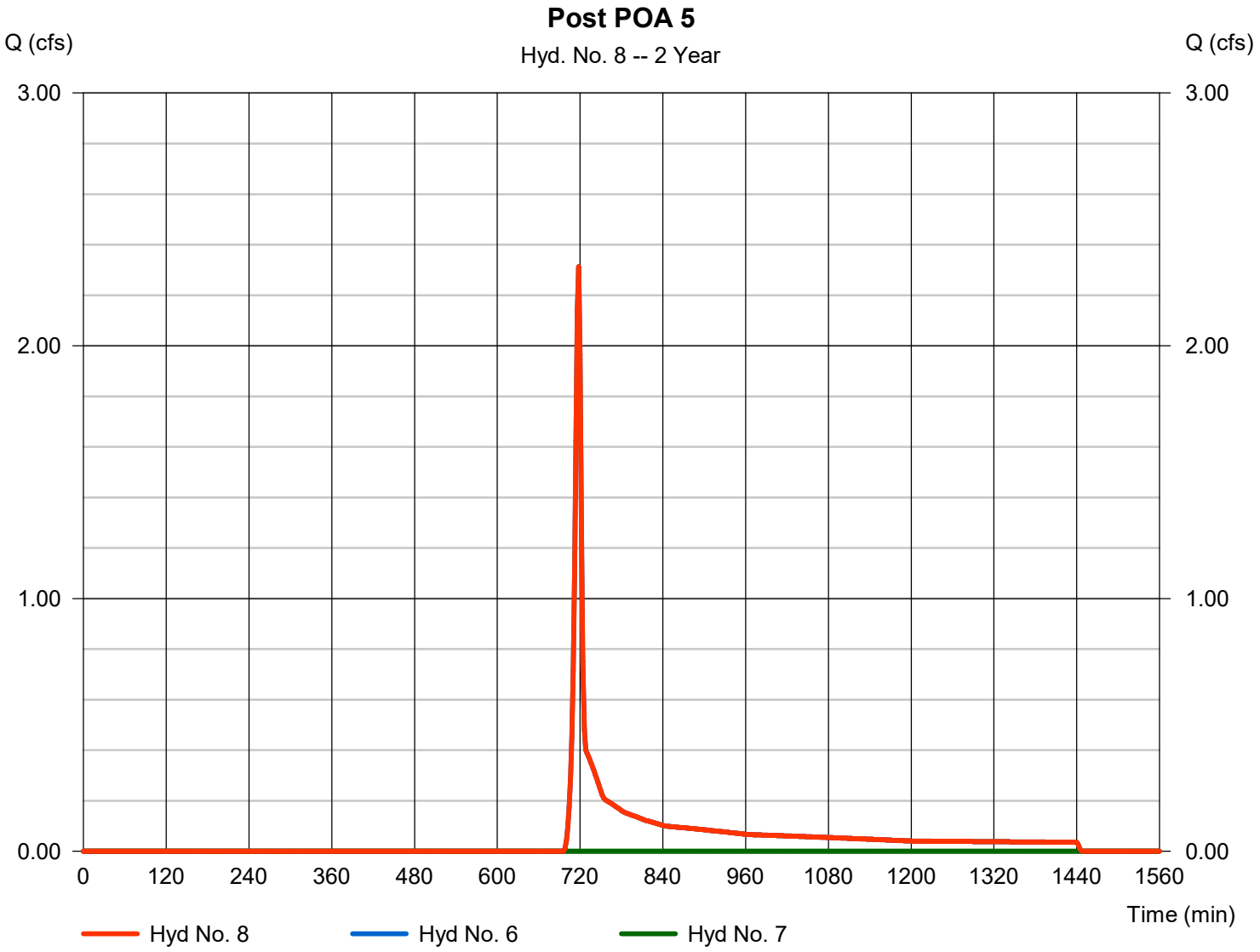


Hydrograph Report

Hyd. No. 8

Post POA 5

Hydrograph type	=	Combine	Peak discharge	=	2.313 cfs
Storm frequency	=	2 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	4,813 cuft
Inflow hyds.	=	6, 7	Contrib. drain. area	=	2.690 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	9.192	2	718	18,635	------	------	------	Pre-Development DA 5
2	SCS Runoff	1.396	2	716	3,245	------	------	------	Post DA 5A
3	Reservoir	0.333	2	724	3,244	2	857.52	977	Tank 2 Route
4	SCS Runoff	7.041	2	718	14,202	------	------	------	Post DA 5B
5	Combine	7.347	2	718	17,446	3, 4	------	------	Basin Inflow
6	SCS Runoff	3.781	2	718	7,626	------	------	------	Post DA 5C
7	Reservoir	0.587	2	754	2,855	5	852.14	8,329	Inf. Basin Route
8	Combine	3.781	2	718	10,481	6, 7	------	------	Post POA 5
9	Reservoir	7.231	2	718	17,326	5	852.87	11,711	Spillway Route

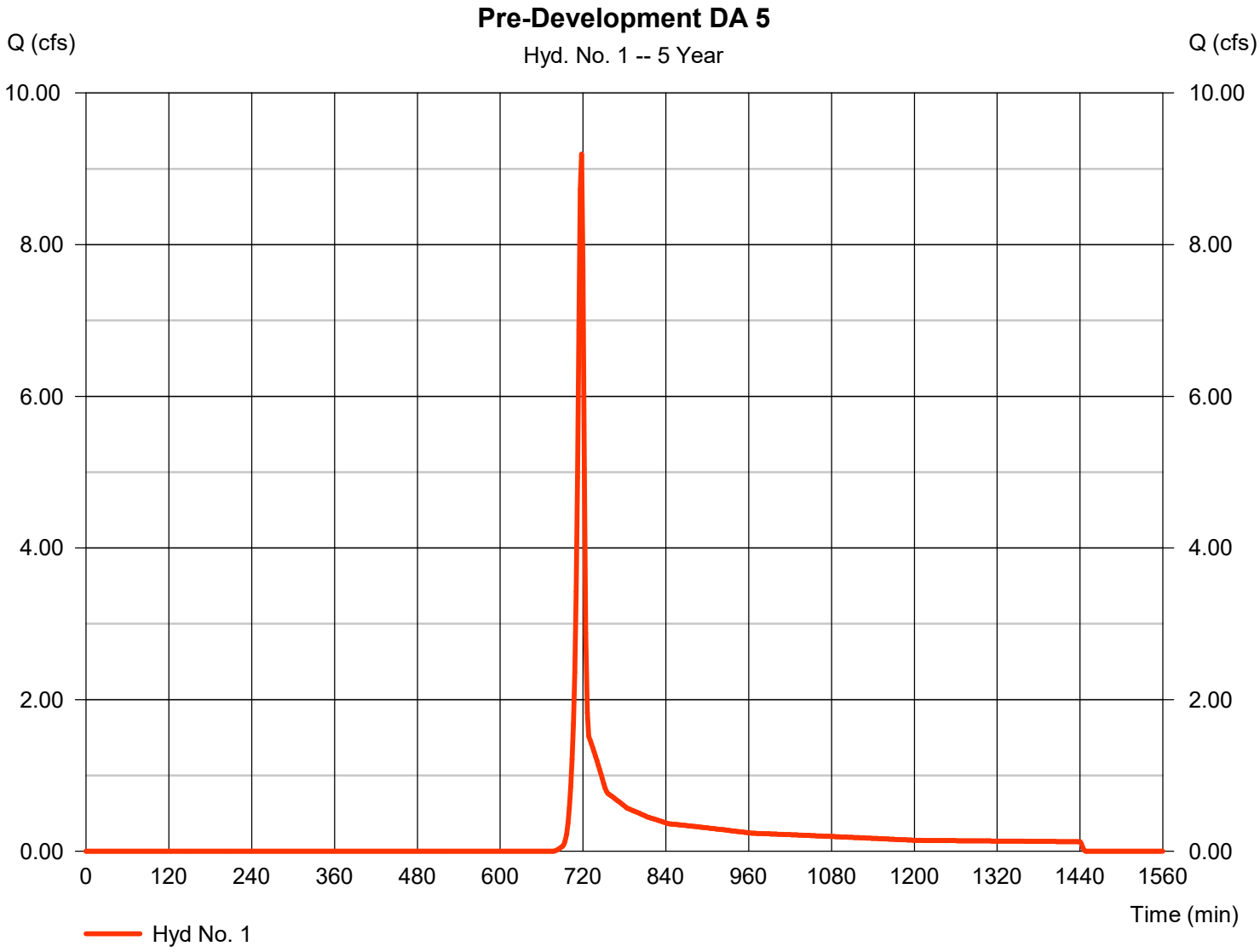
Hydrograph Report

Hyd. No. 1

Pre-Development DA 5

Hydrograph type	=	SCS Runoff	Peak discharge	=	9.192 cfs
Storm frequency	=	5 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	18,635 cuft
Drainage area	=	6.980 ac	Curve number	=	73*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	2.88 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.270 x 98) + (0.070 x 71) + (5.290 x 71) + (0.700 x 70) + (0.650 x 87)] / 6.980



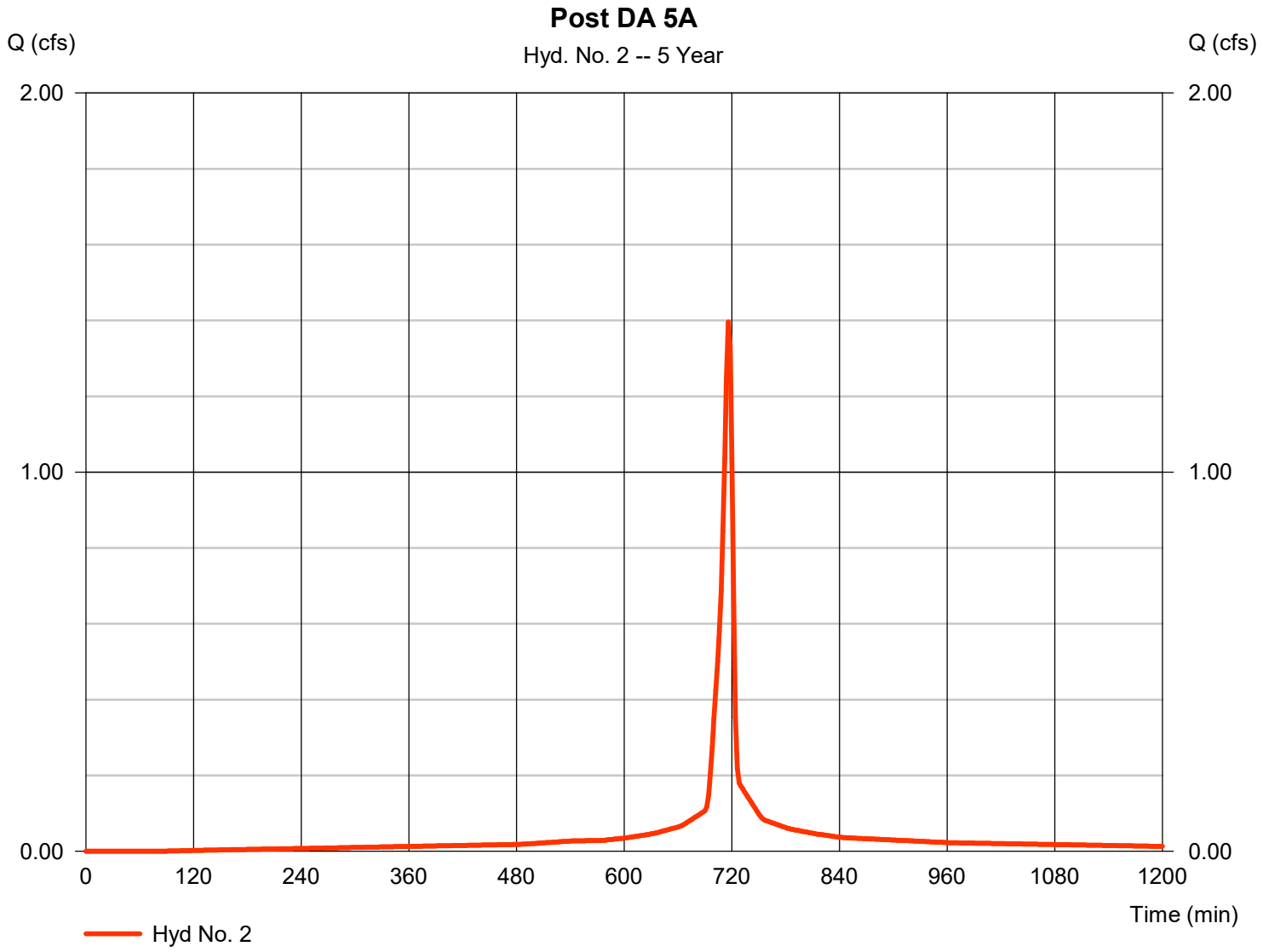
Hydrograph Report

Hyd. No. 2

Post DA 5A

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.396 cfs
Storm frequency	=	5 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	3,245 cuft
Drainage area	=	0.360 ac	Curve number	=	98*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	2.88 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.360 x 98)] / 0.360



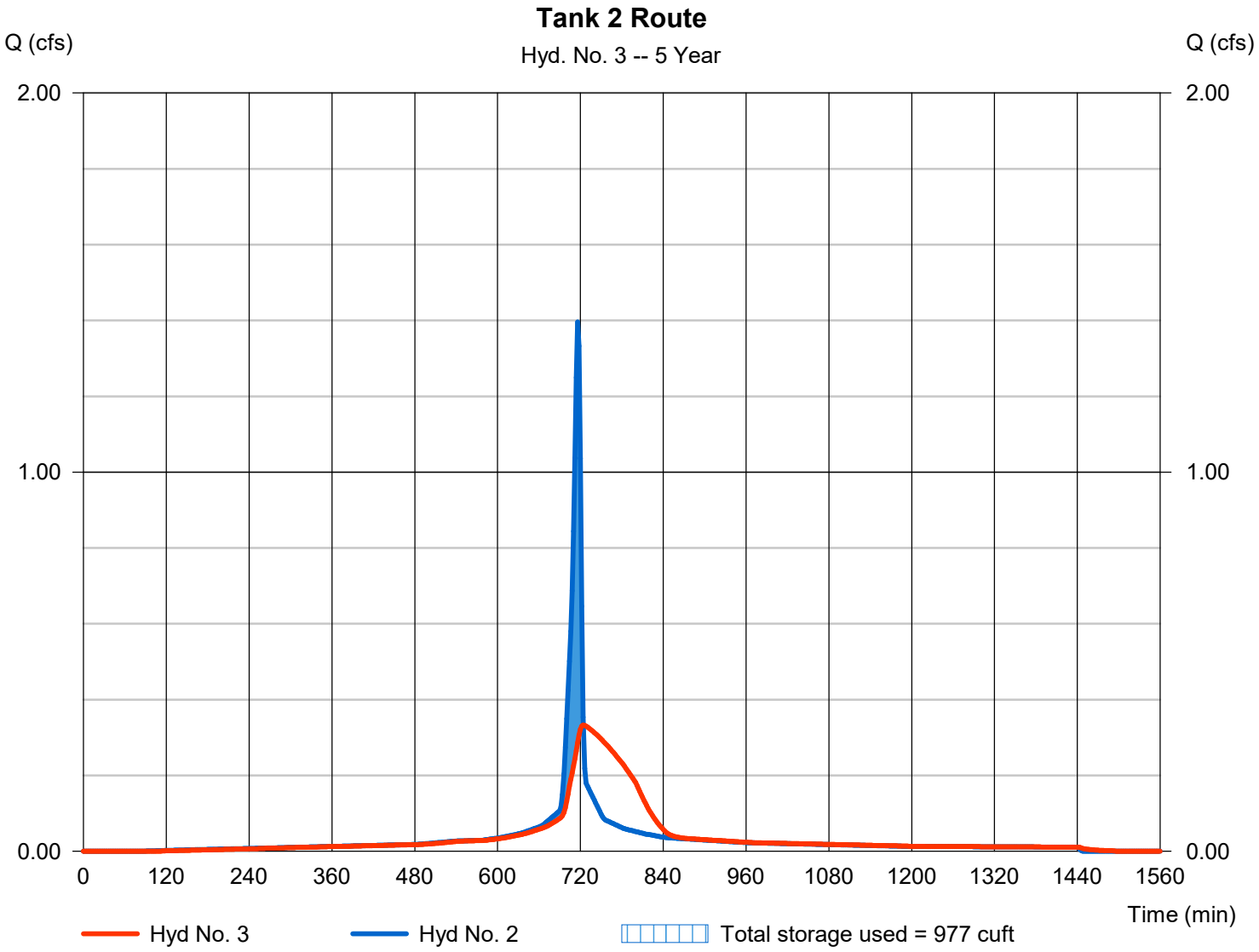
Hydrograph Report

Hyd. No. 3

Tank 2 Route

Hydrograph type	=	Reservoir	Peak discharge	=	0.333 cfs
Storm frequency	=	5 yrs	Time to peak	=	724 min
Time interval	=	2 min	Hyd. volume	=	3,244 cuft
Inflow hyd. No.	=	2 - Post DA 5A	Max. Elevation	=	857.52 ft
Reservoir name	=	SCM 5.1 Det Tank	Max. Storage	=	977 cuft

Storage Indication method used.



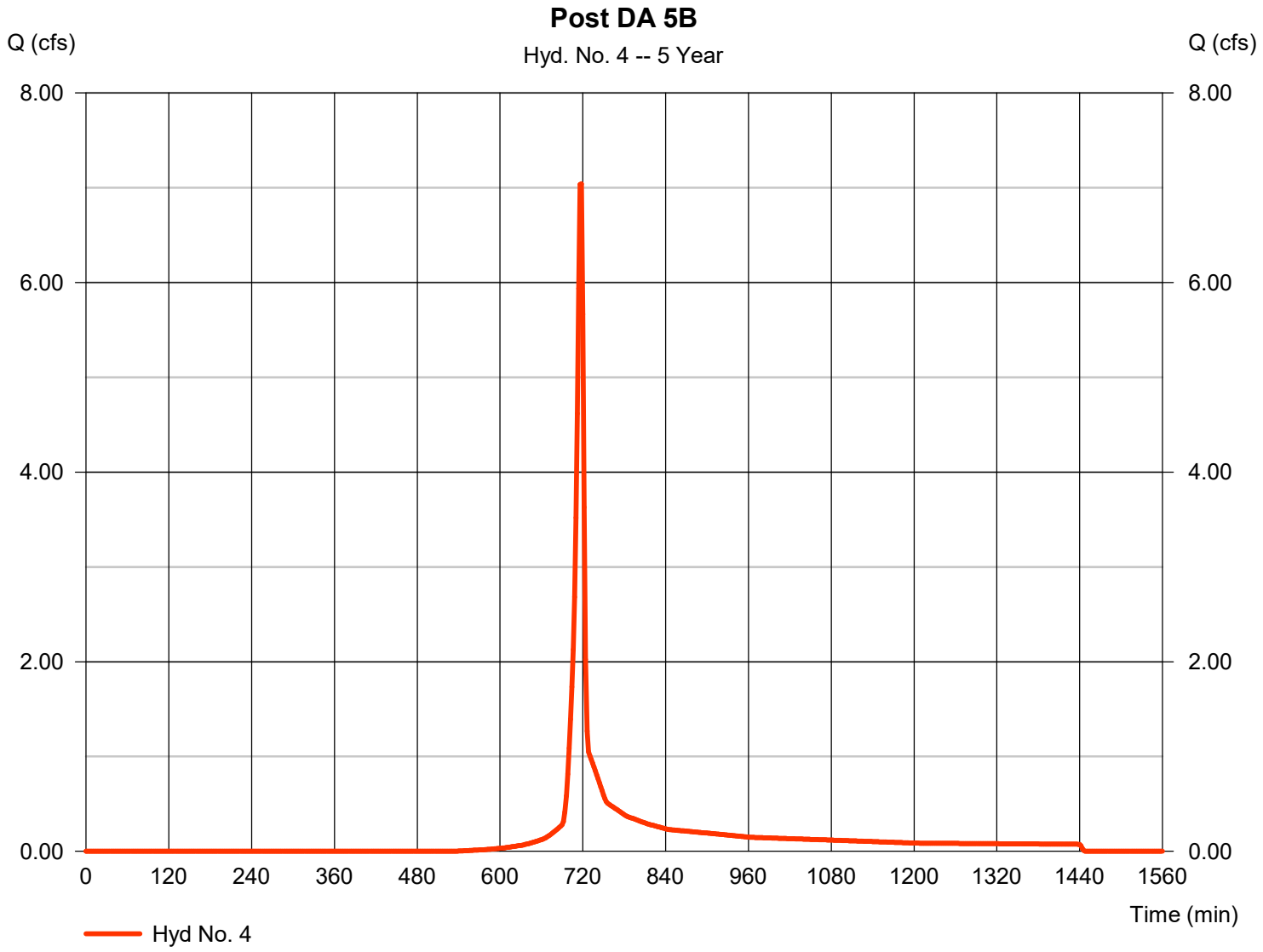
Hydrograph Report

Hyd. No. 4

Post DA 5B

Hydrograph type	=	SCS Runoff	Peak discharge	=	7.041 cfs
Storm frequency	=	5 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	14,202 cuft
Drainage area	=	3.090 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	2.88 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(1.210 x 98) + (1.880 x 74)] / 3.090

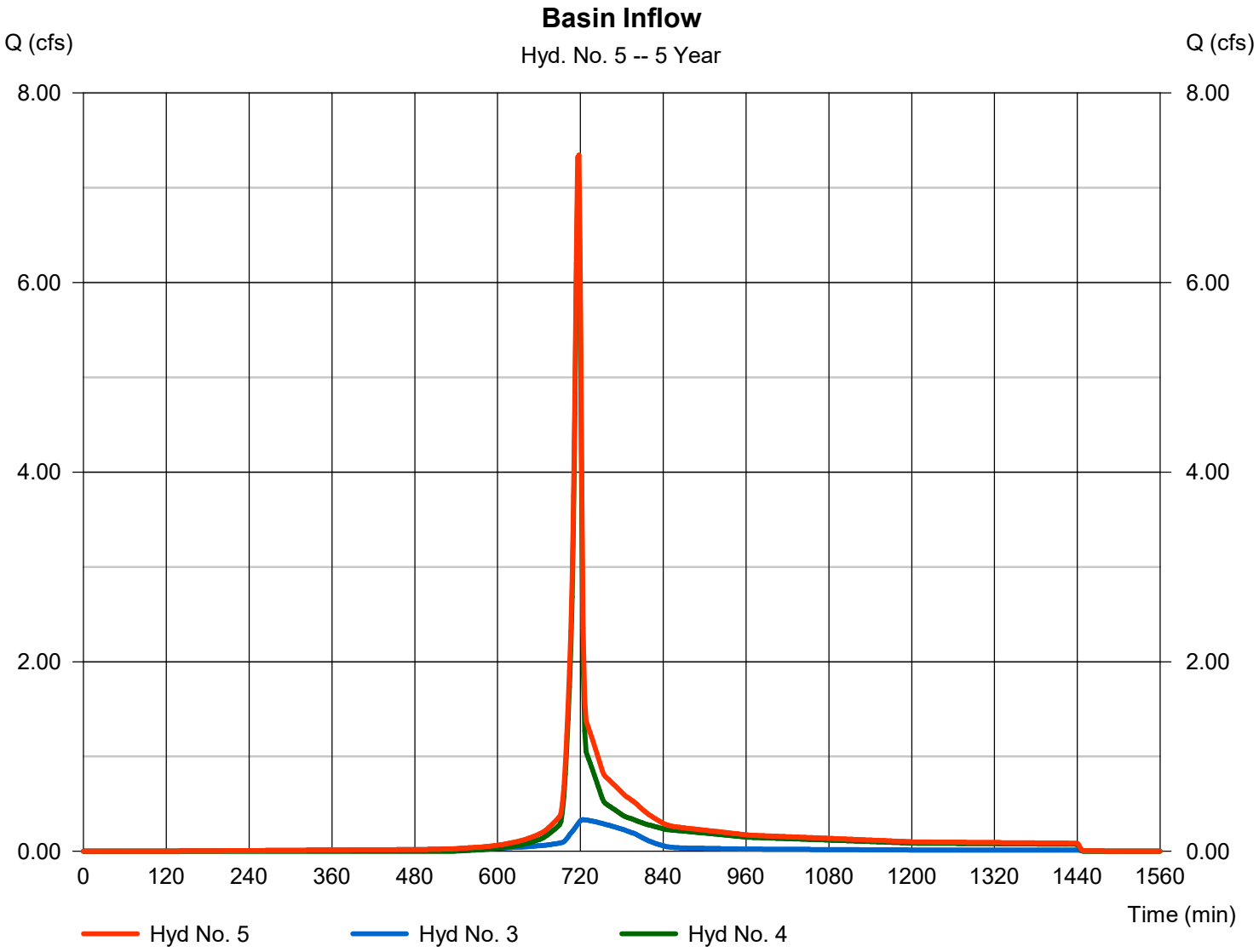


Hydrograph Report

Hyd. No. 5

Basin Inflow

Hydrograph type	= Combine	Peak discharge	= 7.347 cfs
Storm frequency	= 5 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 17,446 cuft
Inflow hyds.	= 3, 4	Contrib. drain. area	= 3.090 ac



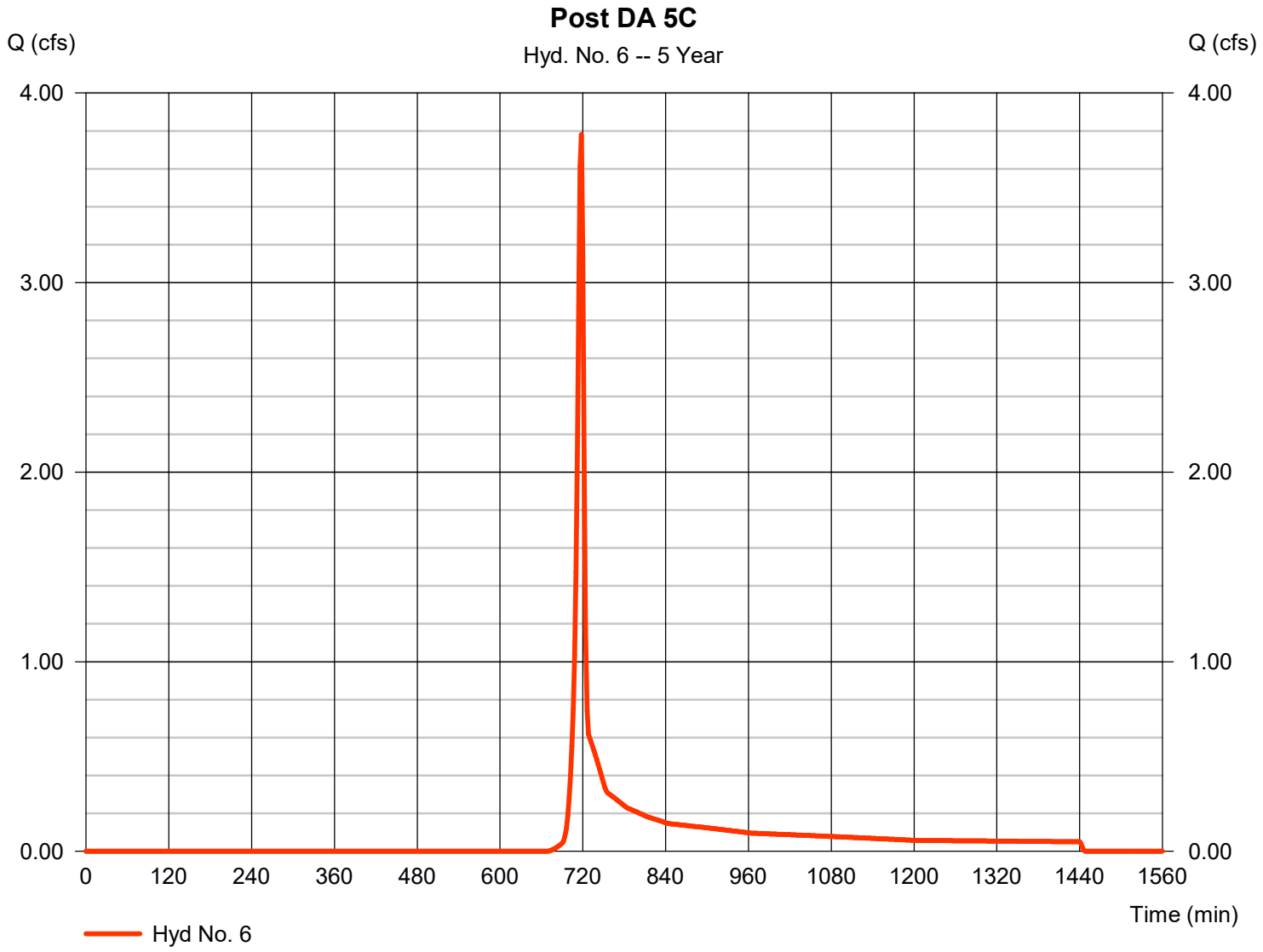
Hydrograph Report

Hyd. No. 6

Post DA 5C

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.781 cfs
Storm frequency	=	5 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	7,626 cuft
Drainage area	=	2.690 ac	Curve number	=	74*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	2.88 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.130 x 98) + (2.040 x 74) + (0.520 x 70)] / 2.690



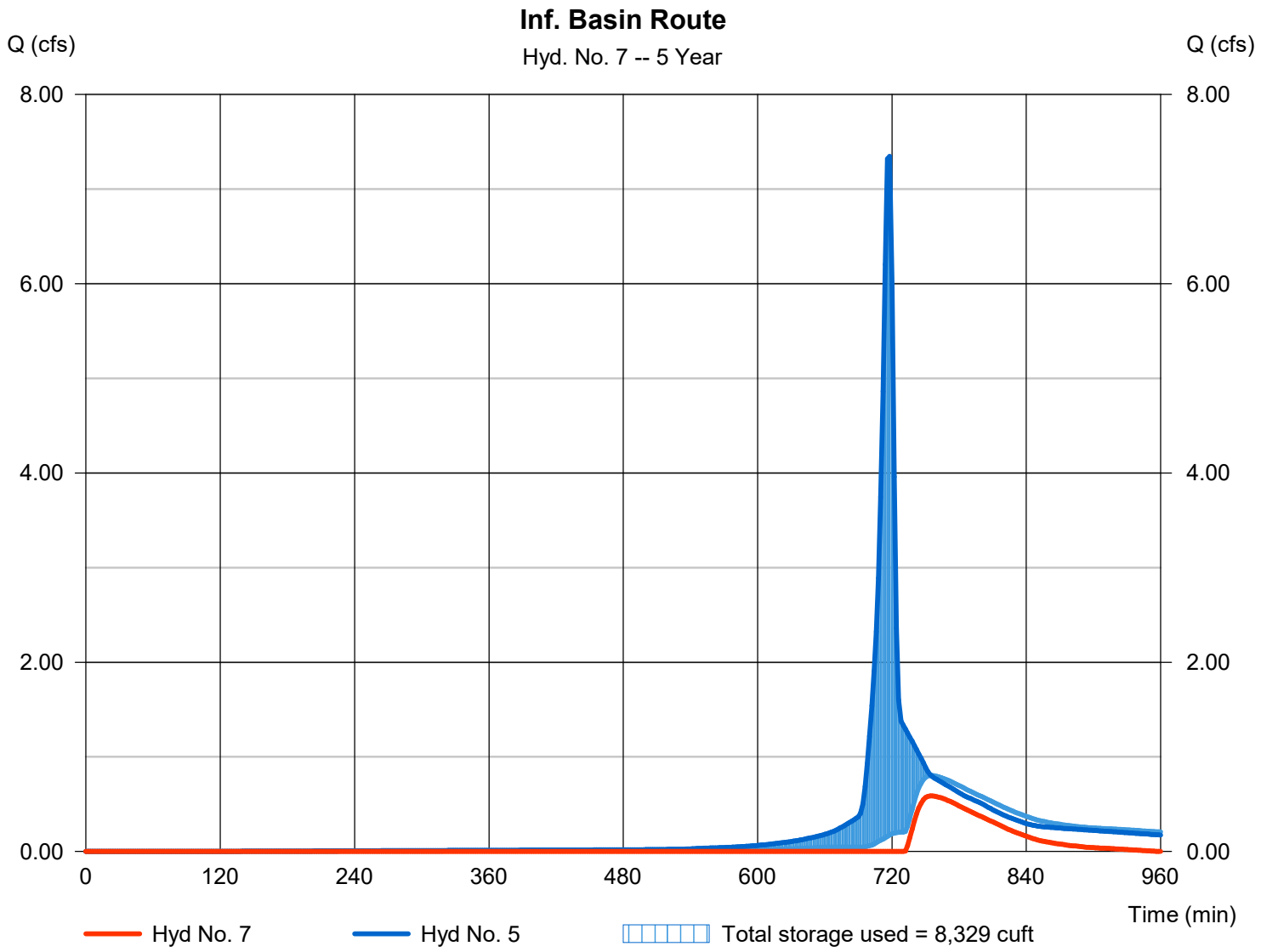
Hydrograph Report

Hyd. No. 7

Inf. Basin Route

Hydrograph type	=	Reservoir	Peak discharge	=	0.587 cfs
Storm frequency	=	5 yrs	Time to peak	=	754 min
Time interval	=	2 min	Hyd. volume	=	2,855 cuft
Inflow hyd. No.	=	5 - Basin Inflow	Max. Elevation	=	852.14 ft
Reservoir name	=	SCM 5.2 Inf Basin	Max. Storage	=	8,329 cuft

Storage Indication method used. Exfiltration extracted from Outflow.

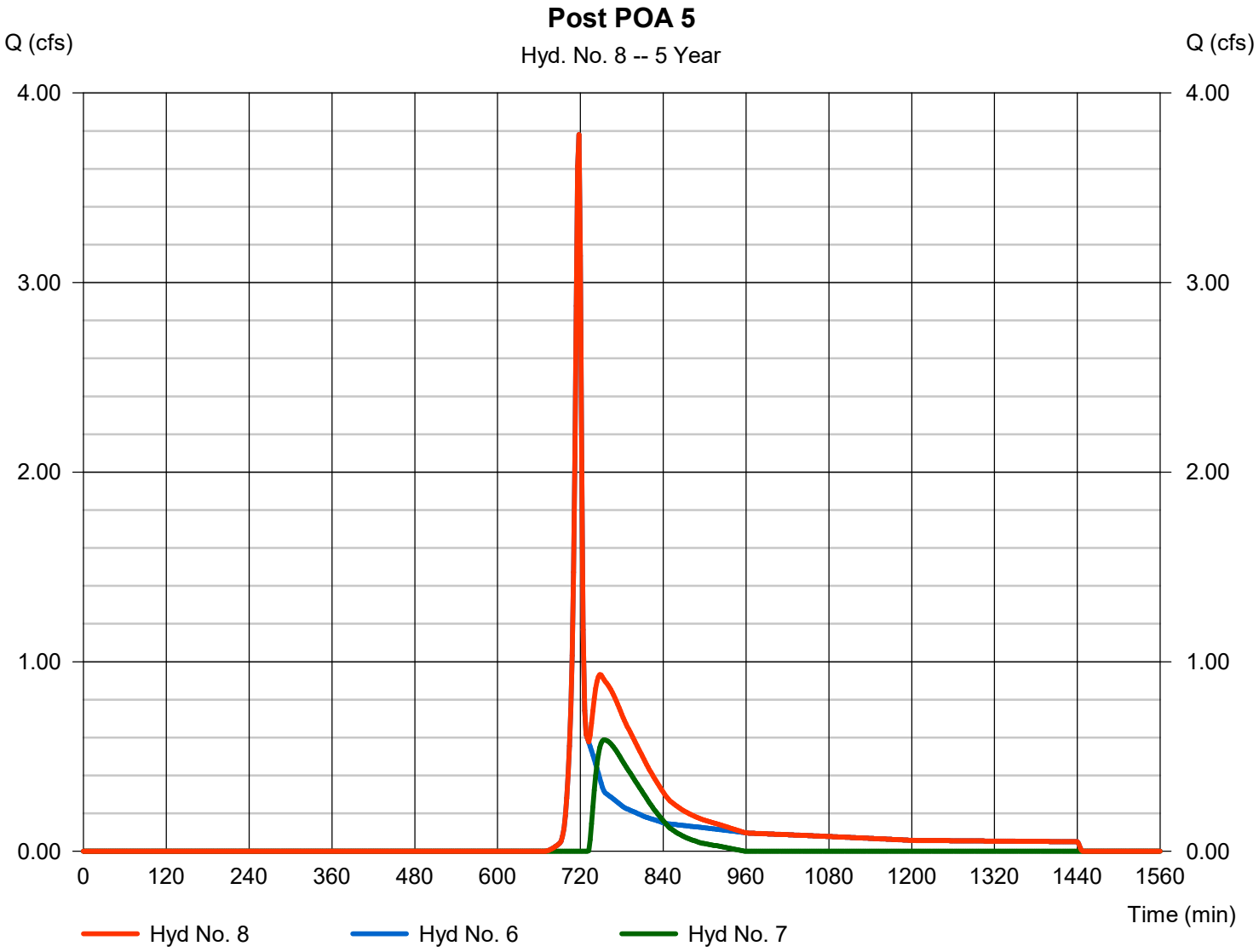


Hydrograph Report

Hyd. No. 8

Post POA 5

Hydrograph type	=	Combine	Peak discharge	=	3.781 cfs
Storm frequency	=	5 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	10,481 cuft
Inflow hyds.	=	6, 7	Contrib. drain. area	=	2.690 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	12.40	2	718	24,878	------	------	------	Pre-Development DA 5
2	SCS Runoff	1.604	2	716	3,758	------	------	------	Post DA 5A
3	Reservoir	0.357	2	724	3,756	2	857.95	1,156	Tank 2 Route
4	SCS Runoff	8.802	2	716	17,789	------	------	------	Post DA 5B
5	Combine	9.107	2	716	21,545	3, 4	------	------	Basin Inflow
6	SCS Runoff	5.047	2	718	10,106	------	------	------	Post DA 5C
7	Reservoir	1.719	2	726	6,100	5	852.28	8,929	Inf. Basin Route
8	Combine	5.047	2	718	16,206	6, 7	------	------	Post POA 5
9	Reservoir	9.014	2	718	21,425	5	852.90	11,842	Spillway Route

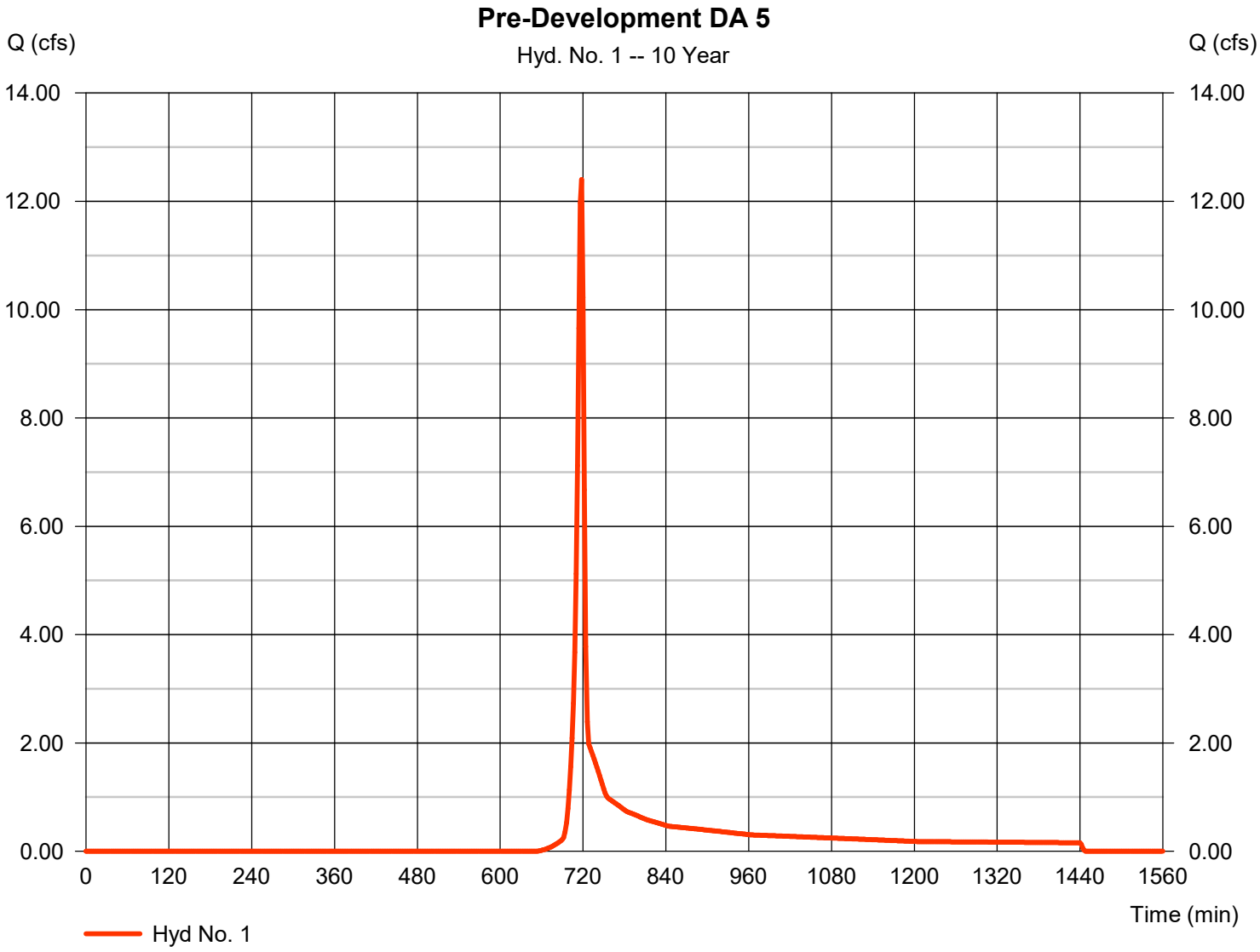
Hydrograph Report

Hyd. No. 1

Pre-Development DA 5

Hydrograph type	=	SCS Runoff	Peak discharge	=	12.40 cfs
Storm frequency	=	10 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	24,878 cuft
Drainage area	=	6.980 ac	Curve number	=	73*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	3.30 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.270 x 98) + (0.070 x 71) + (5.290 x 71) + (0.700 x 70) + (0.650 x 87)] / 6.980



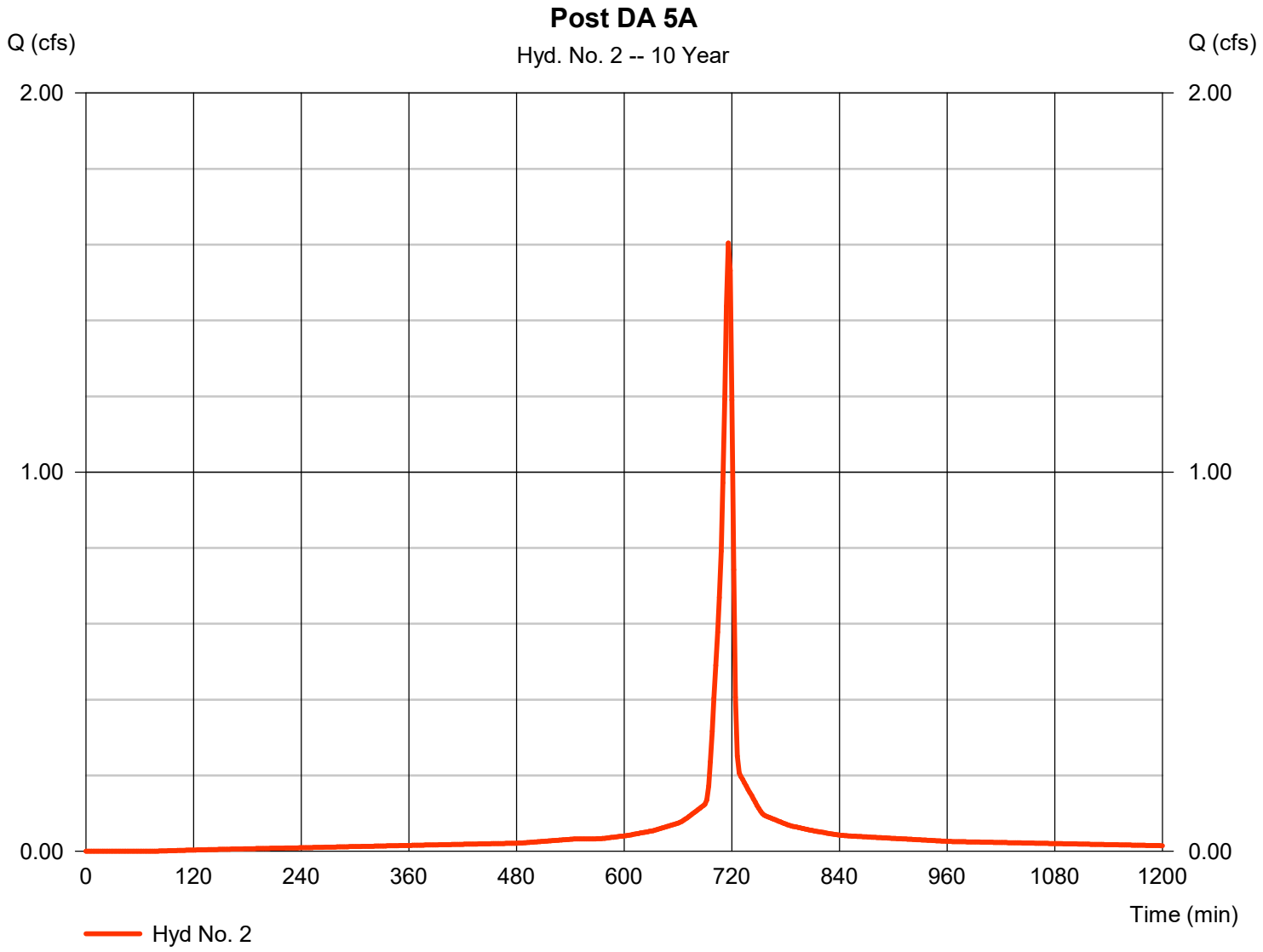
Hydrograph Report

Hyd. No. 2

Post DA 5A

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.604 cfs
Storm frequency	=	10 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	3,758 cuft
Drainage area	=	0.360 ac	Curve number	=	98*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	3.30 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.360 x 98)] / 0.360



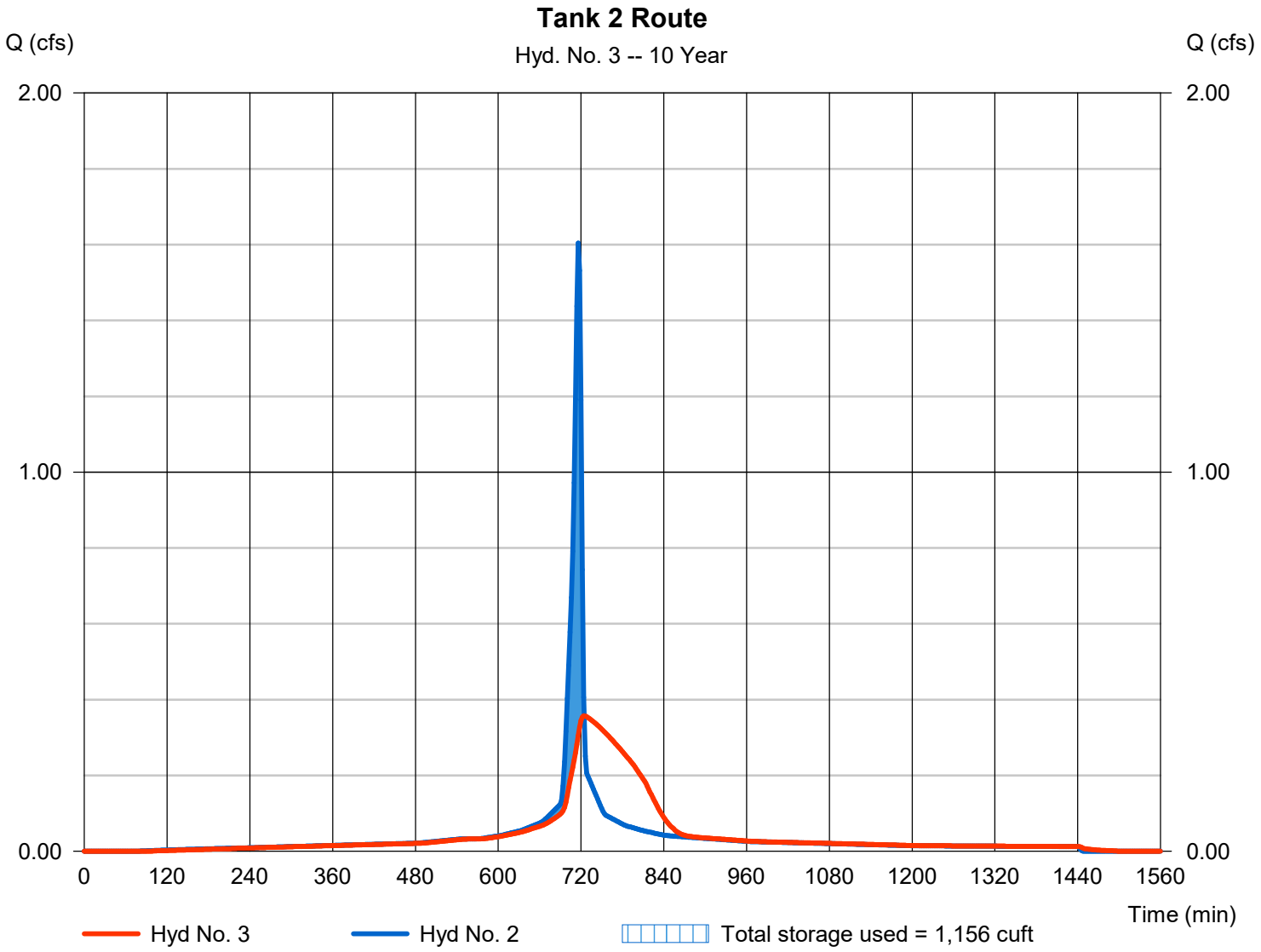
Hydrograph Report

Hyd. No. 3

Tank 2 Route

Hydrograph type	=	Reservoir	Peak discharge	=	0.357 cfs
Storm frequency	=	10 yrs	Time to peak	=	724 min
Time interval	=	2 min	Hyd. volume	=	3,756 cuft
Inflow hyd. No.	=	2 - Post DA 5A	Max. Elevation	=	857.95 ft
Reservoir name	=	SCM 5.1 Det Tank	Max. Storage	=	1,156 cuft

Storage Indication method used.



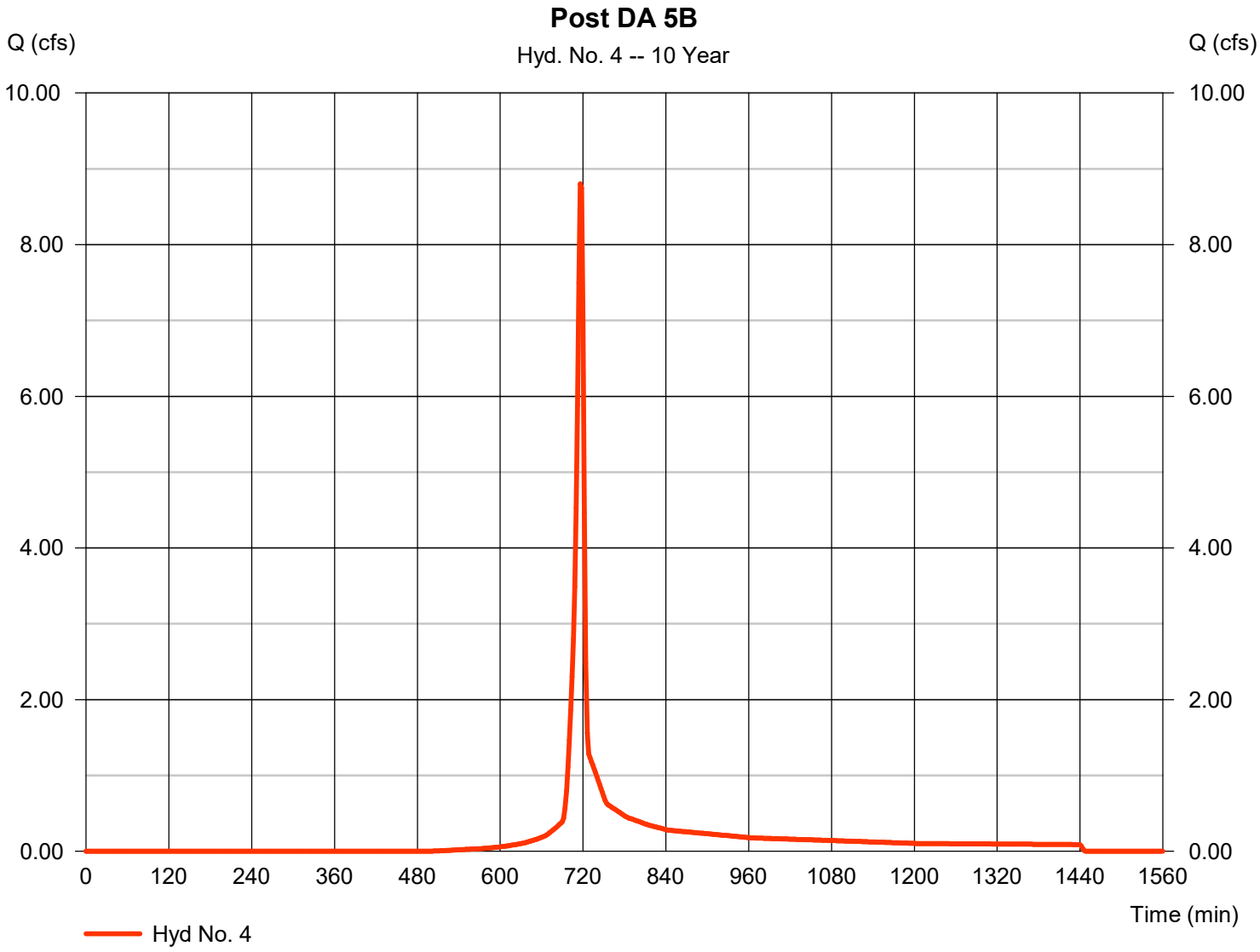
Hydrograph Report

Hyd. No. 4

Post DA 5B

Hydrograph type	=	SCS Runoff	Peak discharge	=	8.802 cfs
Storm frequency	=	10 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	17,789 cuft
Drainage area	=	3.090 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	3.30 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(1.210 x 98) + (1.880 x 74)] / 3.090

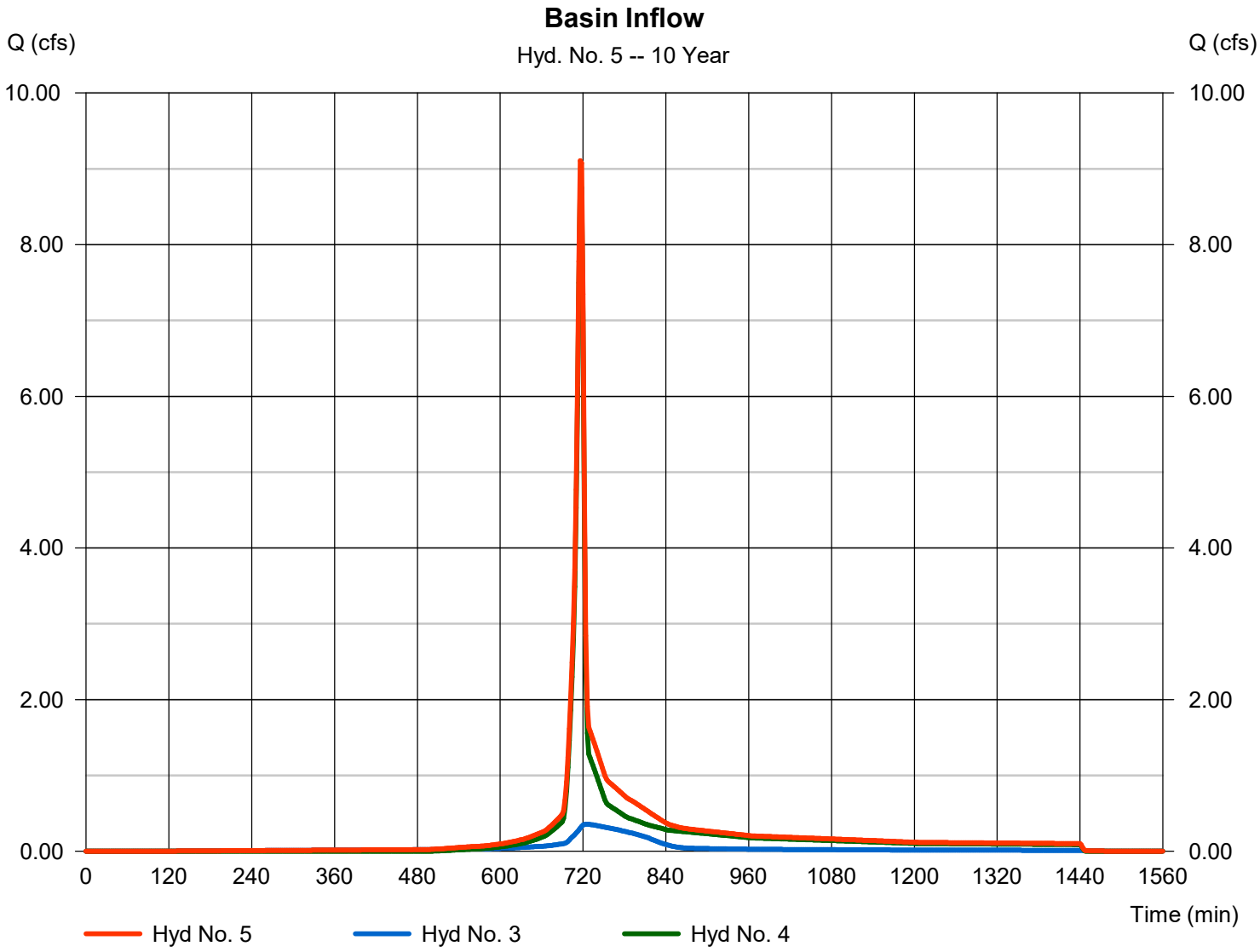


Hydrograph Report

Hyd. No. 5

Basin Inflow

Hydrograph type	= Combine	Peak discharge	= 9.107 cfs
Storm frequency	= 10 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 21,545 cuft
Inflow hyds.	= 3, 4	Contrib. drain. area	= 3.090 ac



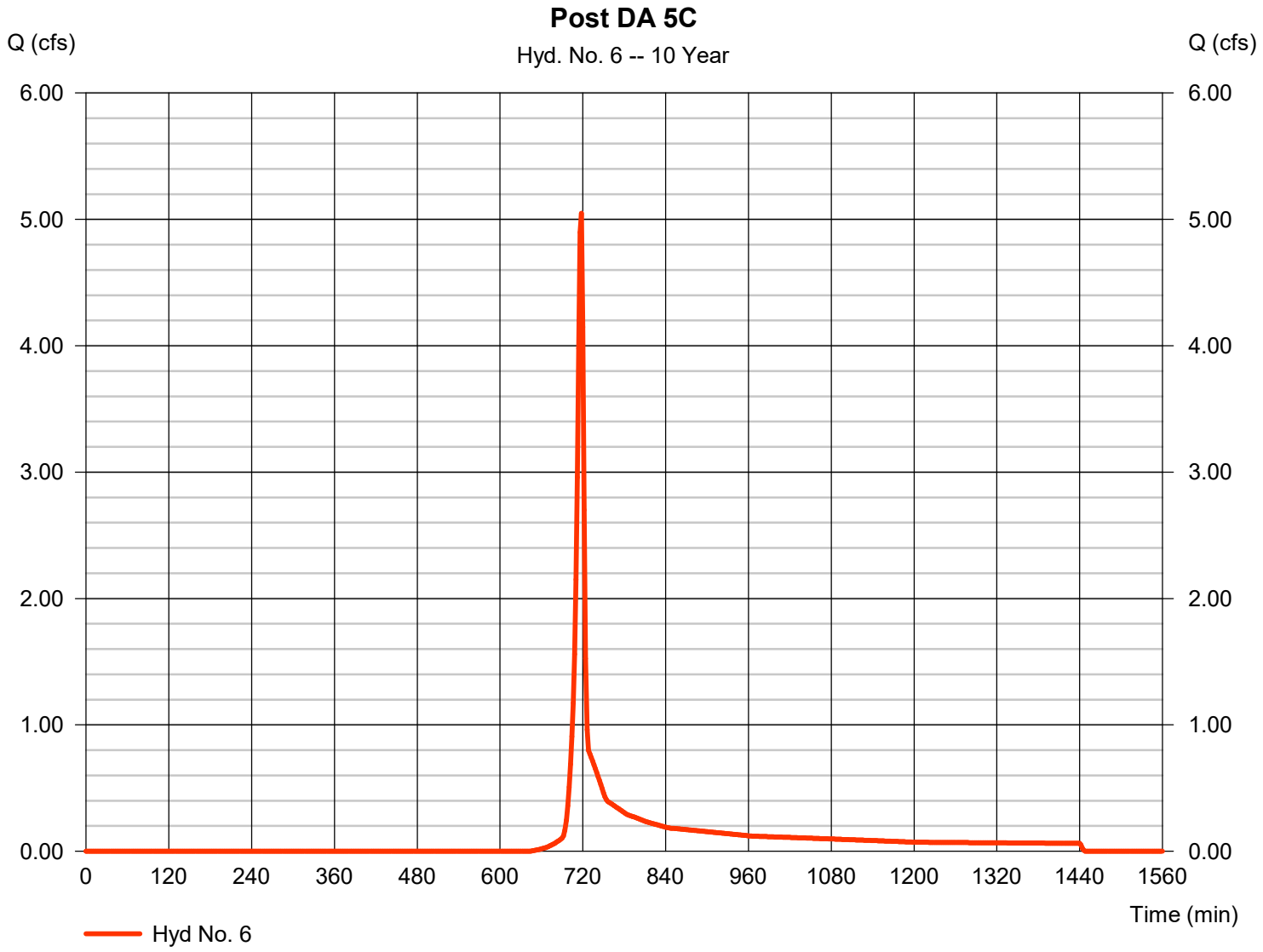
Hydrograph Report

Hyd. No. 6

Post DA 5C

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.047 cfs
Storm frequency	=	10 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	10,106 cuft
Drainage area	=	2.690 ac	Curve number	=	74*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	3.30 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.130 x 98) + (2.040 x 74) + (0.520 x 70)] / 2.690



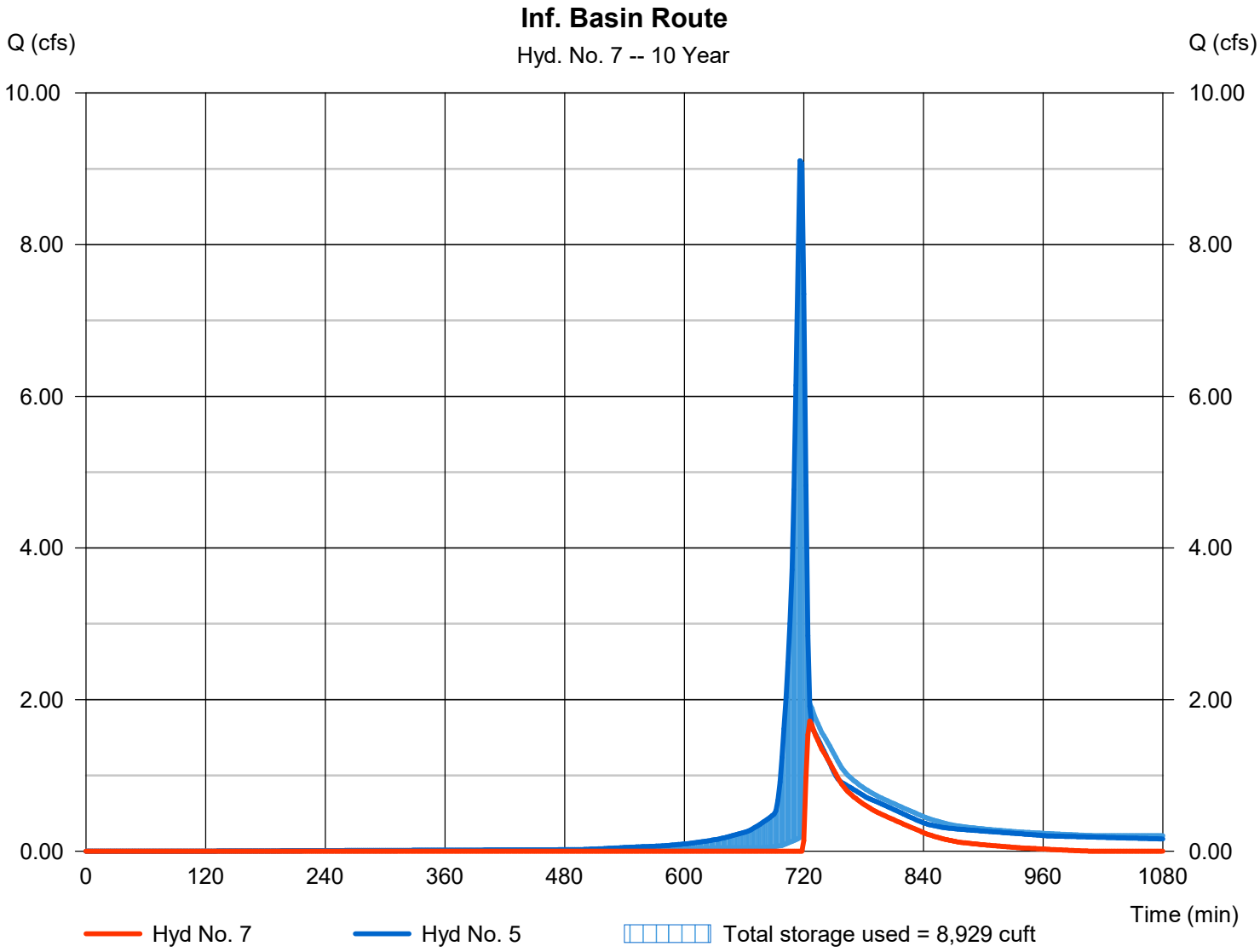
Hydrograph Report

Hyd. No. 7

Inf. Basin Route

Hydrograph type	=	Reservoir	Peak discharge	=	1.719 cfs
Storm frequency	=	10 yrs	Time to peak	=	726 min
Time interval	=	2 min	Hyd. volume	=	6,100 cuft
Inflow hyd. No.	=	5 - Basin Inflow	Max. Elevation	=	852.28 ft
Reservoir name	=	SCM 5.2 Inf Basin	Max. Storage	=	8,929 cuft

Storage Indication method used. Exfiltration extracted from Outflow.

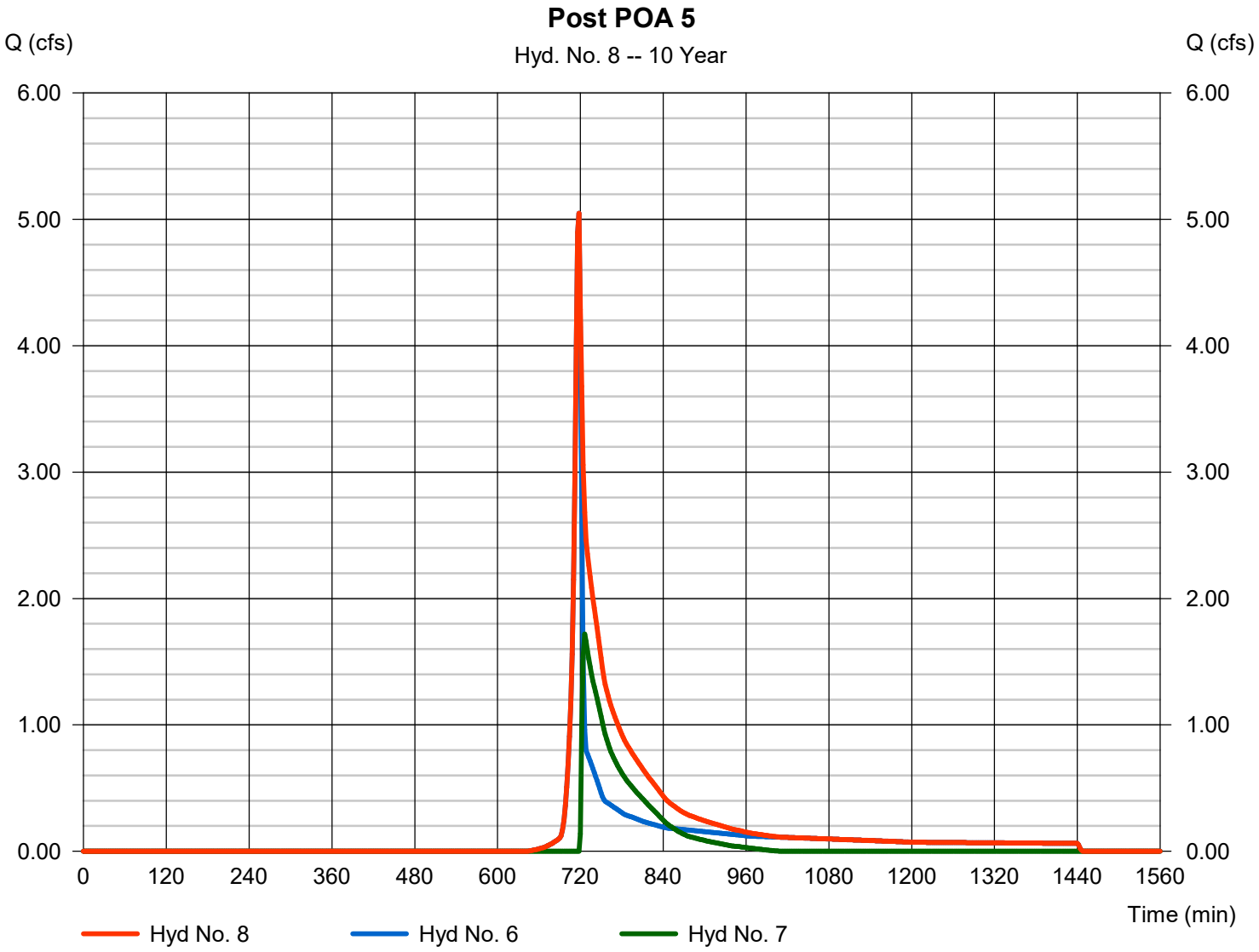


Hydrograph Report

Hyd. No. 8

Post POA 5

Hydrograph type	=	Combine	Peak discharge	=	5.047 cfs
Storm frequency	=	10 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	16,206 cuft
Inflow hyds.	=	6, 7	Contrib. drain. area	=	2.690 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	17.30	2	718	34,588	------	------	------	Pre-Development DA 5
2	SCS Runoff	1.902	2	716	4,491	------	------	------	Post DA 5A
3	Reservoir	0.394	2	724	4,489	2	858.64	1,416	Tank 2 Route
4	SCS Runoff	11.39	2	716	23,130	------	------	------	Post DA 5B
5	Combine	11.72	2	716	27,619	3, 4	------	------	Basin Inflow
6	SCS Runoff	6.970	2	718	13,945	------	------	------	Post DA 5C
7	Reservoir	7.259	2	722	11,158	5	852.50	9,924	Inf. Basin Route
8	Combine	12.62	2	720	25,103	6, 7	------	------	Post POA 5
9	Reservoir	11.62	2	718	27,499	5	852.93	12,018	Spillway Route

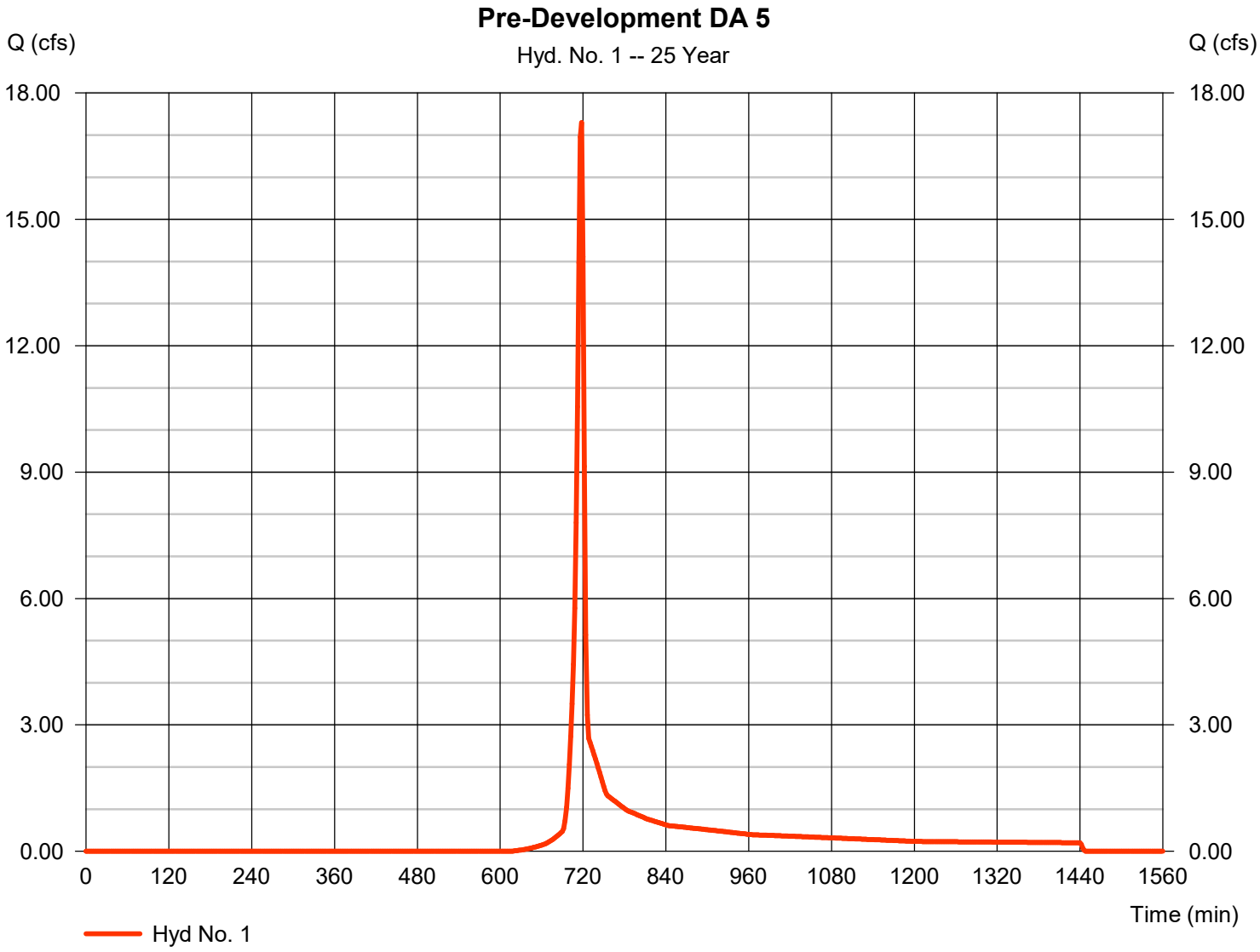
Hydrograph Report

Hyd. No. 1

Pre-Development DA 5

Hydrograph type	=	SCS Runoff	Peak discharge	=	17.30 cfs
Storm frequency	=	25 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	34,588 cuft
Drainage area	=	6.980 ac	Curve number	=	73*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	3.90 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.270 x 98) + (0.070 x 71) + (5.290 x 71) + (0.700 x 70) + (0.650 x 87)] / 6.980



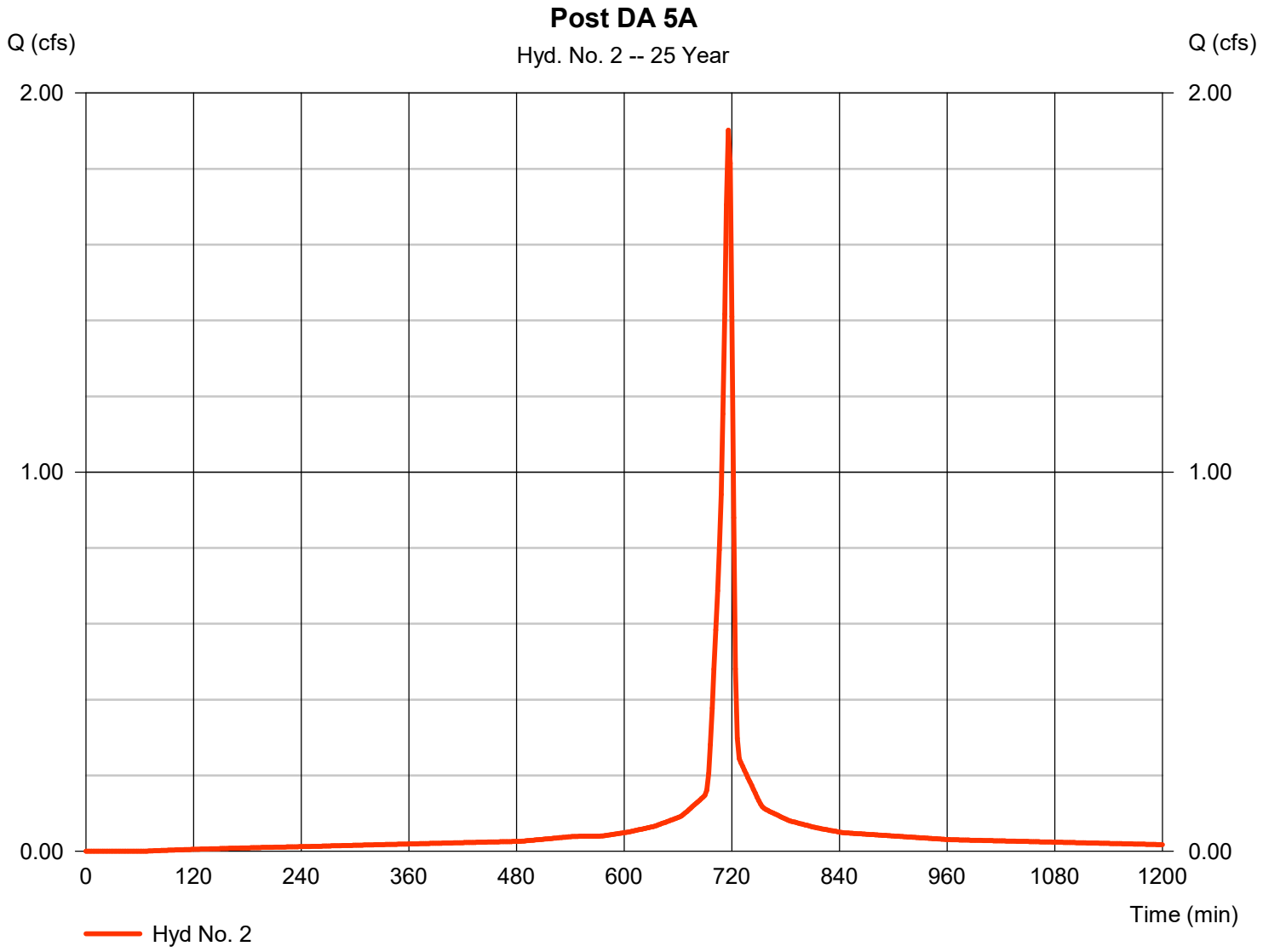
Hydrograph Report

Hyd. No. 2

Post DA 5A

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.902 cfs
Storm frequency	=	25 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	4,491 cuft
Drainage area	=	0.360 ac	Curve number	=	98*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	3.90 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.360 x 98)] / 0.360



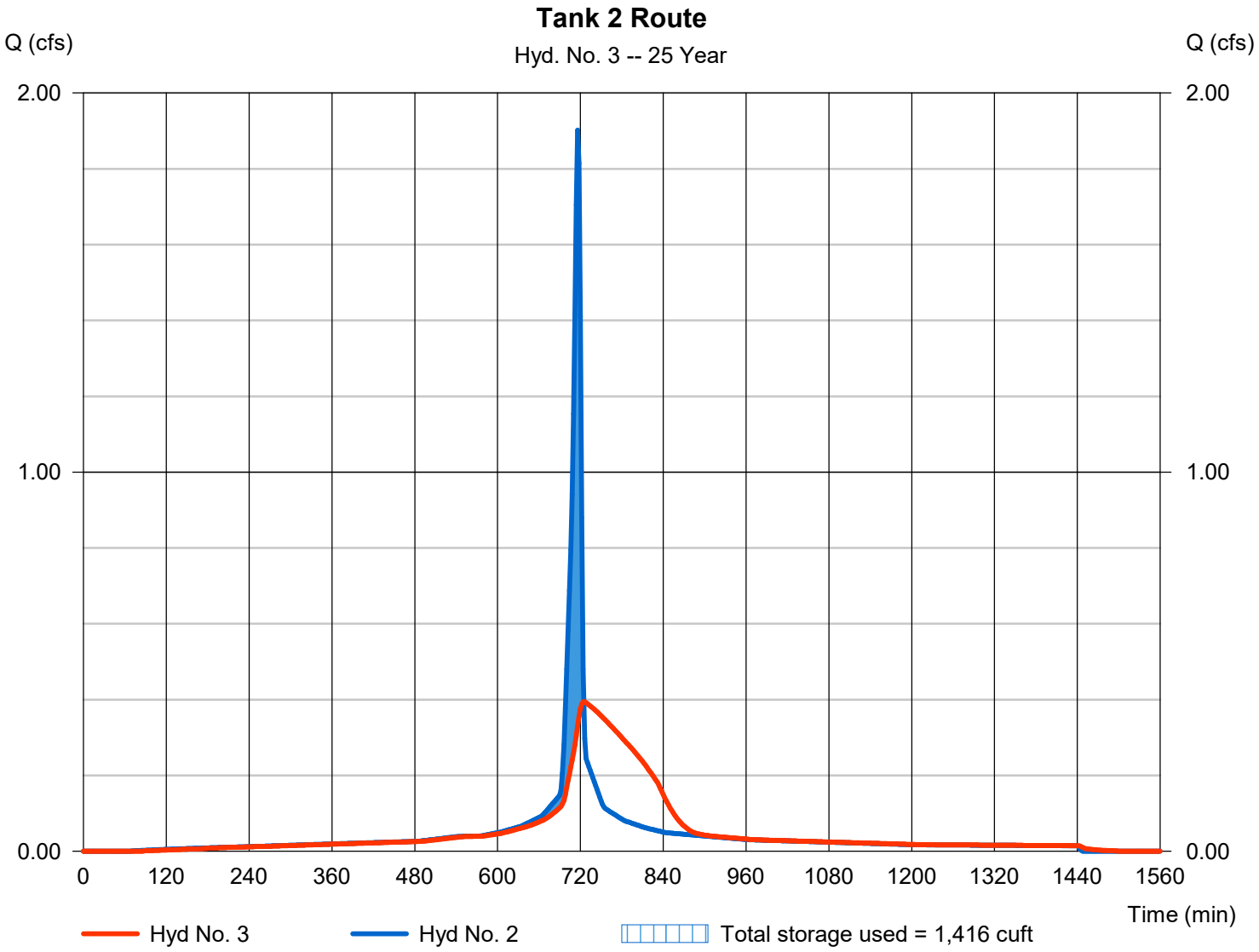
Hydrograph Report

Hyd. No. 3

Tank 2 Route

Hydrograph type	=	Reservoir	Peak discharge	=	0.394 cfs
Storm frequency	=	25 yrs	Time to peak	=	724 min
Time interval	=	2 min	Hyd. volume	=	4,489 cuft
Inflow hyd. No.	=	2 - Post DA 5A	Max. Elevation	=	858.64 ft
Reservoir name	=	SCM 5.1 Det Tank	Max. Storage	=	1,416 cuft

Storage Indication method used.



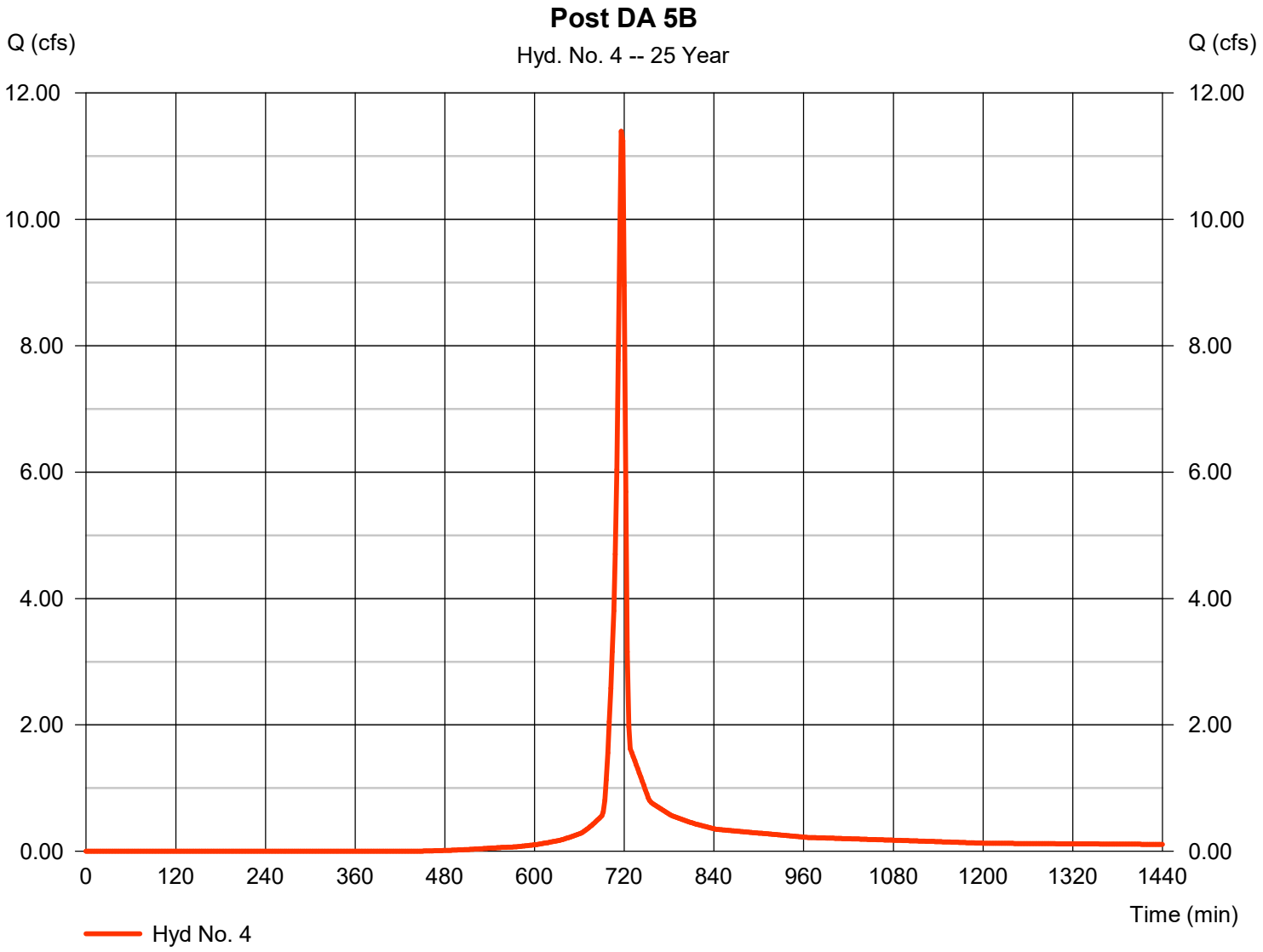
Hydrograph Report

Hyd. No. 4

Post DA 5B

Hydrograph type	=	SCS Runoff	Peak discharge	=	11.39 cfs
Storm frequency	=	25 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	23,130 cuft
Drainage area	=	3.090 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	3.90 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(1.210 x 98) + (1.880 x 74)] / 3.090

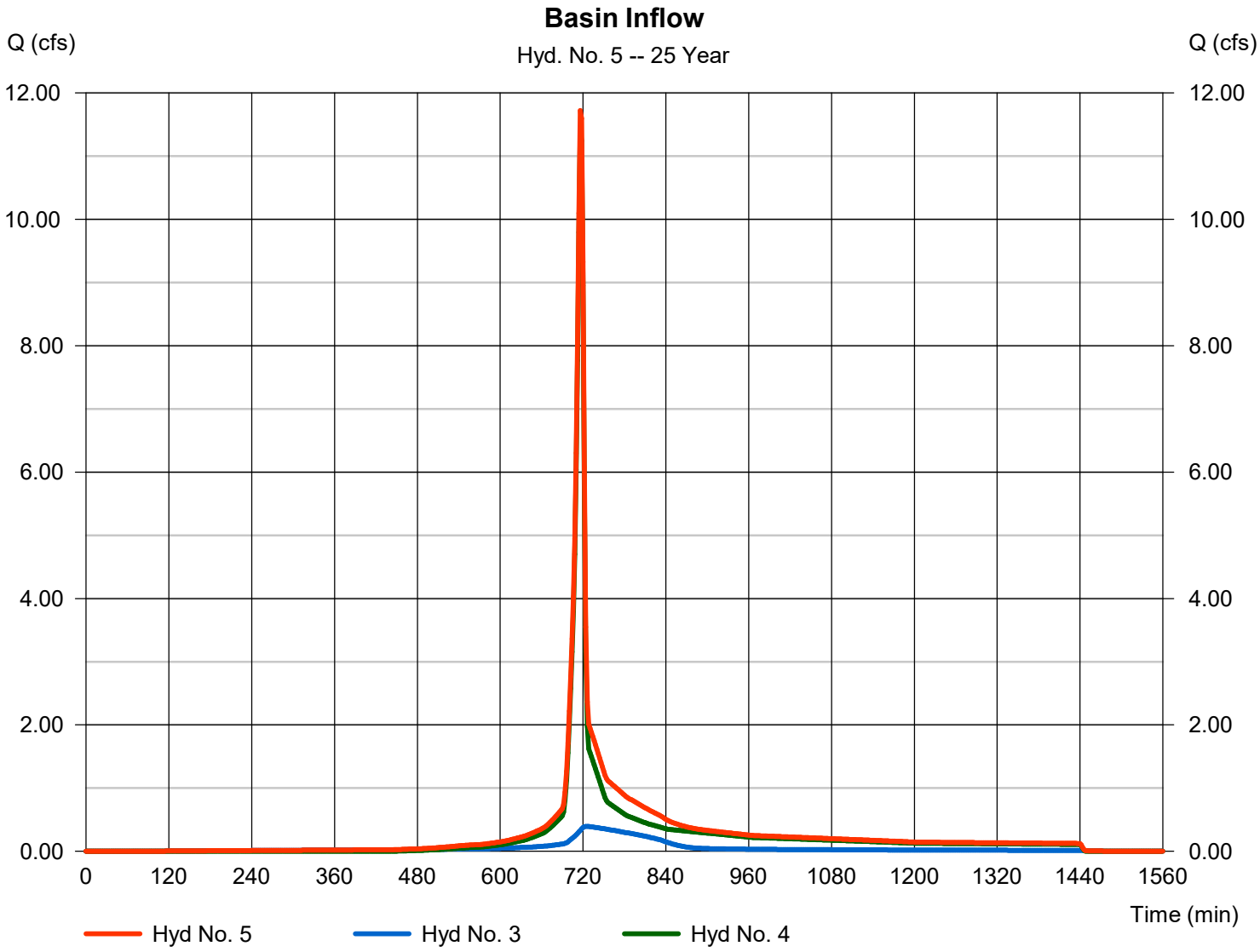


Hydrograph Report

Hyd. No. 5

Basin Inflow

Hydrograph type	= Combine	Peak discharge	= 11.72 cfs
Storm frequency	= 25 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 27,619 cuft
Inflow hyds.	= 3, 4	Contrib. drain. area	= 3.090 ac



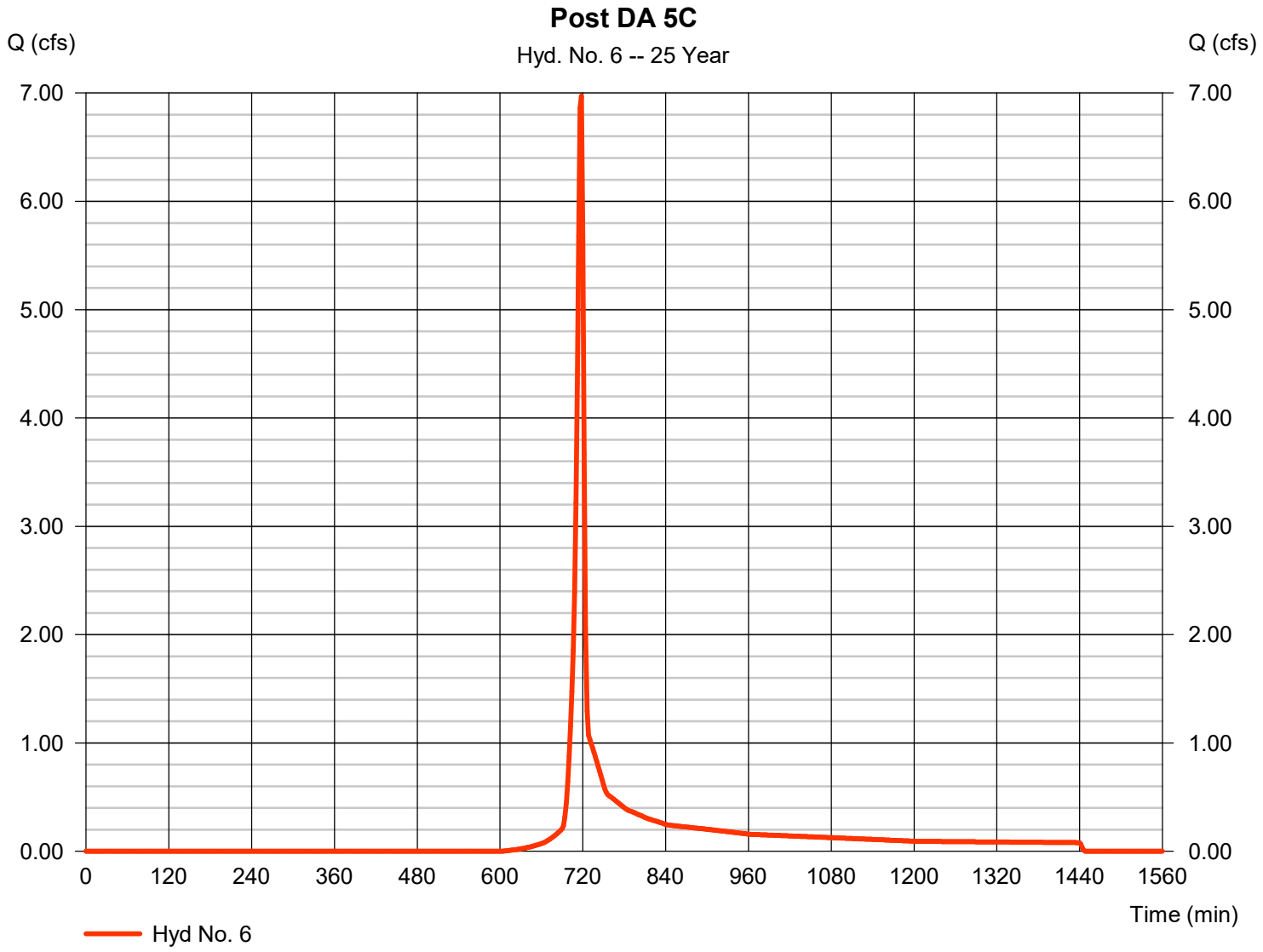
Hydrograph Report

Hyd. No. 6

Post DA 5C

Hydrograph type	=	SCS Runoff	Peak discharge	=	6.970 cfs
Storm frequency	=	25 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	13,945 cuft
Drainage area	=	2.690 ac	Curve number	=	74*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	3.90 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.130 x 98) + (2.040 x 74) + (0.520 x 70)] / 2.690



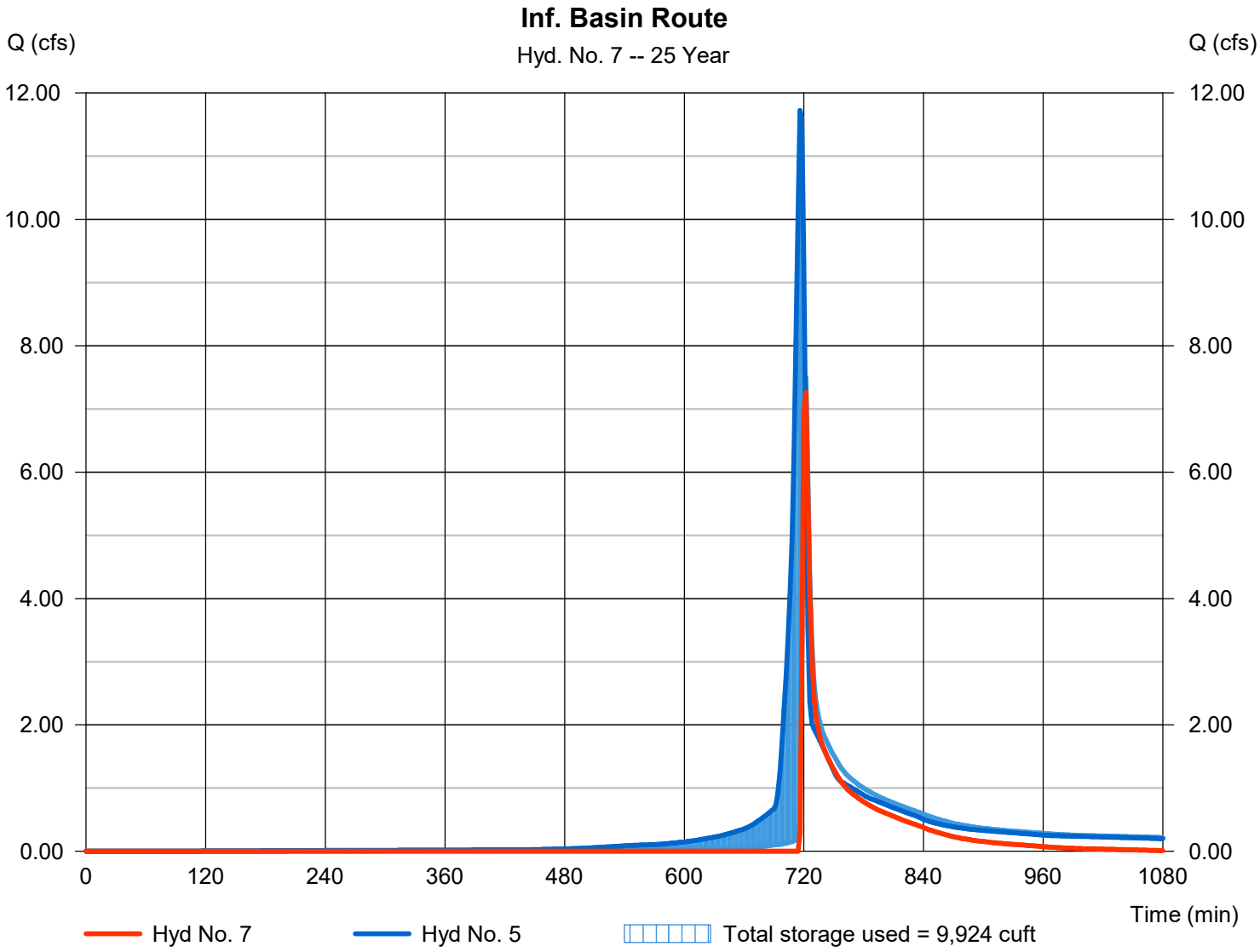
Hydrograph Report

Hyd. No. 7

Inf. Basin Route

Hydrograph type	=	Reservoir	Peak discharge	=	7.259 cfs
Storm frequency	=	25 yrs	Time to peak	=	722 min
Time interval	=	2 min	Hyd. volume	=	11,158 cuft
Inflow hyd. No.	=	5 - Basin Inflow	Max. Elevation	=	852.50 ft
Reservoir name	=	SCM 5.2 Inf Basin	Max. Storage	=	9,924 cuft

Storage Indication method used. Exfiltration extracted from Outflow.

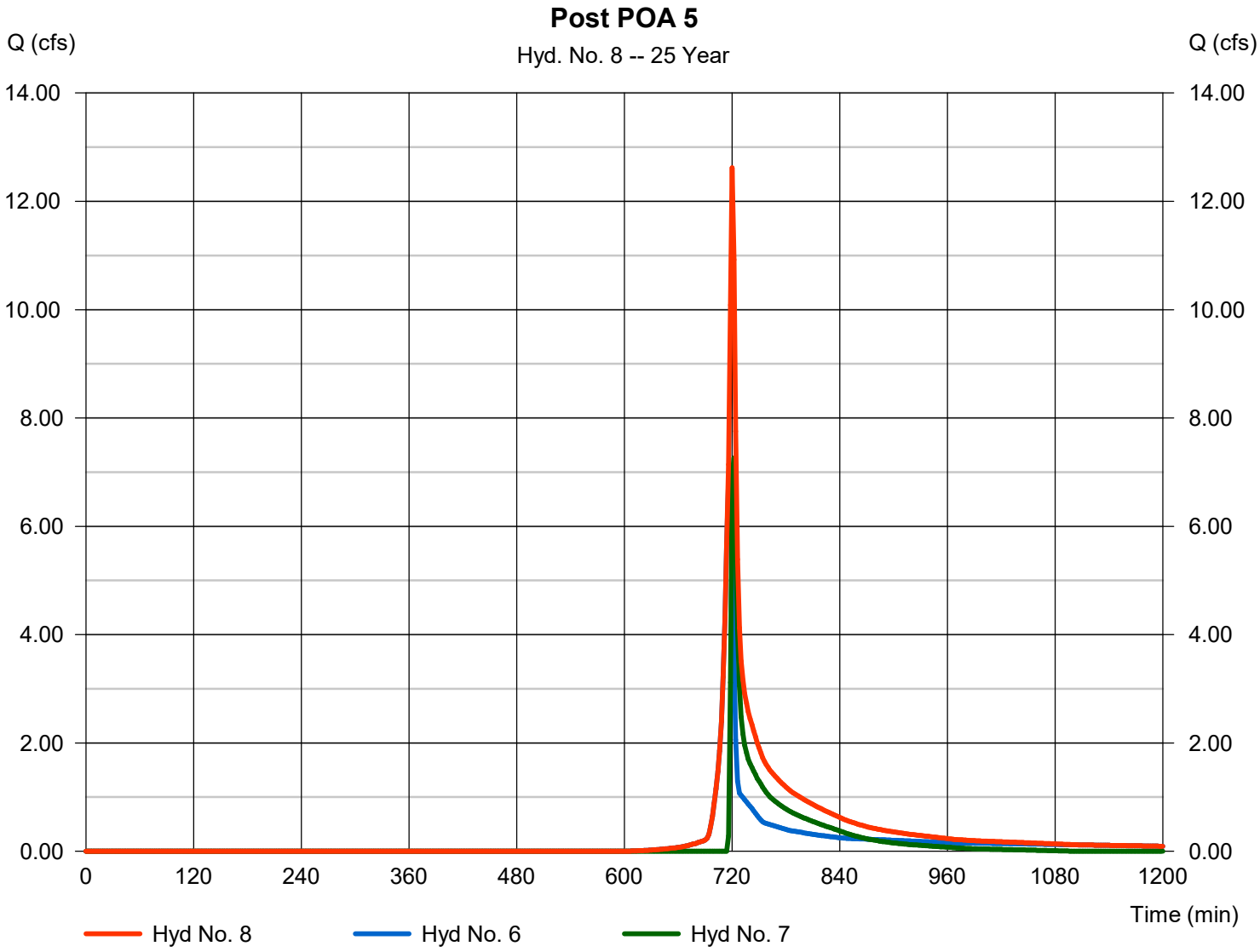


Hydrograph Report

Hyd. No. 8

Post POA 5

Hydrograph type	=	Combine	Peak discharge	=	12.62 cfs
Storm frequency	=	25 yrs	Time to peak	=	720 min
Time interval	=	2 min	Hyd. volume	=	25,103 cuft
Inflow hyds.	=	6, 7	Contrib. drain. area	=	2.690 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	21.58	2	718	43,246	------	------	------	Pre-Development DA 5
2	SCS Runoff	2.150	2	716	5,102	------	------	------	Post DA 5A
3	Reservoir	0.815	2	724	5,100	2	859.35	1,595	Tank 2 Route
4	SCS Runoff	13.59	2	716	27,729	------	------	------	Post DA 5B
5	Combine	13.94	2	716	32,829	3, 4	------	------	Basin Inflow
6	SCS Runoff	8.647	2	718	17,355	------	------	------	Post DA 5C
7	Reservoir	11.47	2	720	15,668	5	852.61	10,483	Inf. Basin Route
8	Combine	18.90	2	718	33,023	6, 7	------	------	Post POA 5
9	Reservoir	13.82	2	718	32,709	5	852.96	12,157	Spillway Route

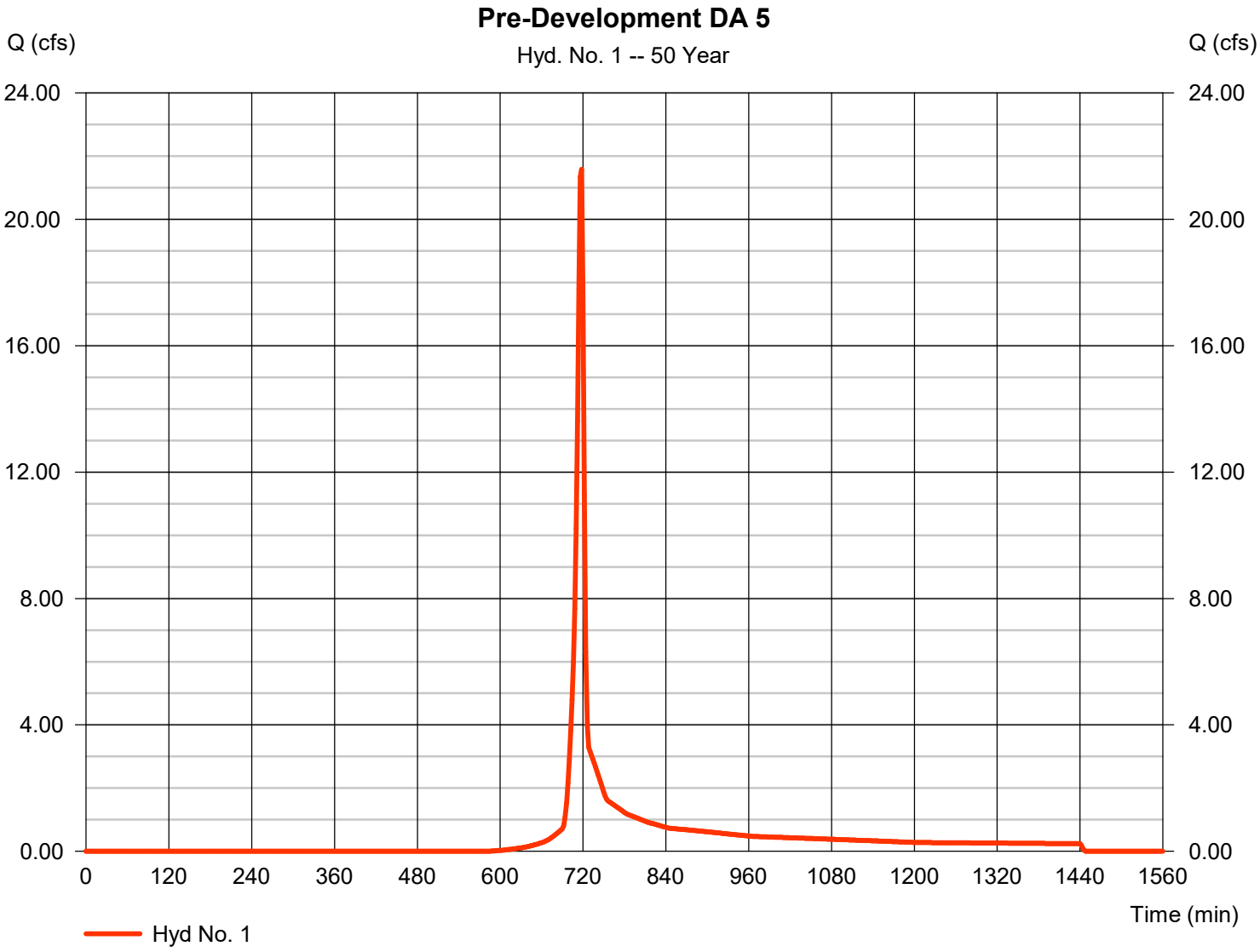
Hydrograph Report

Hyd. No. 1

Pre-Development DA 5

Hydrograph type	=	SCS Runoff	Peak discharge	=	21.58 cfs
Storm frequency	=	50 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	43,246 cuft
Drainage area	=	6.980 ac	Curve number	=	73*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	4.40 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.270 x 98) + (0.070 x 71) + (5.290 x 71) + (0.700 x 70) + (0.650 x 87)] / 6.980



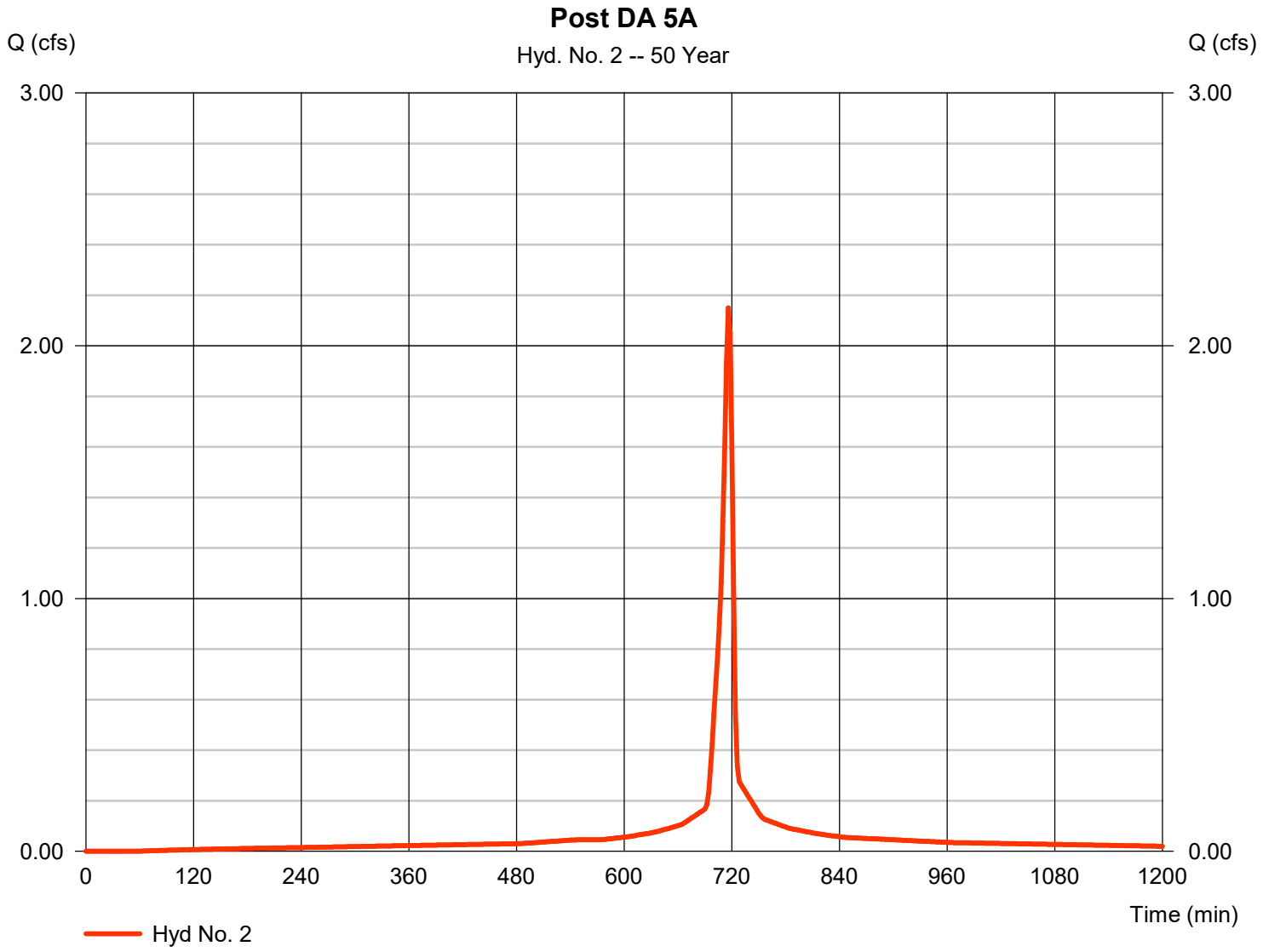
Hydrograph Report

Hyd. No. 2

Post DA 5A

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.150 cfs
Storm frequency	=	50 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	5,102 cuft
Drainage area	=	0.360 ac	Curve number	=	98*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	4.40 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.360 x 98)] / 0.360



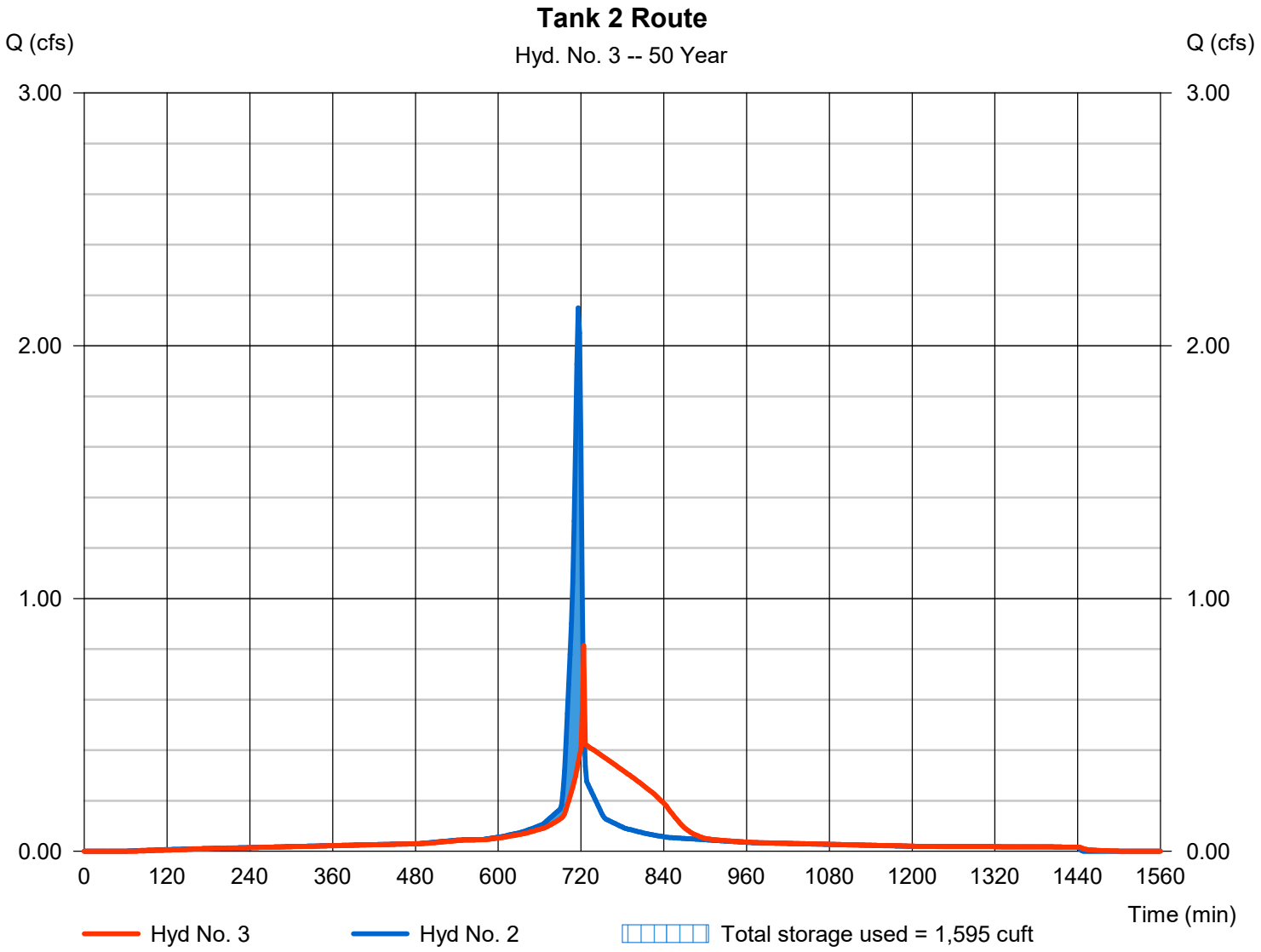
Hydrograph Report

Hyd. No. 3

Tank 2 Route

Hydrograph type	=	Reservoir	Peak discharge	=	0.815 cfs
Storm frequency	=	50 yrs	Time to peak	=	724 min
Time interval	=	2 min	Hyd. volume	=	5,100 cuft
Inflow hyd. No.	=	2 - Post DA 5A	Max. Elevation	=	859.35 ft
Reservoir name	=	SCM 5.1 Det Tank	Max. Storage	=	1,595 cuft

Storage Indication method used.



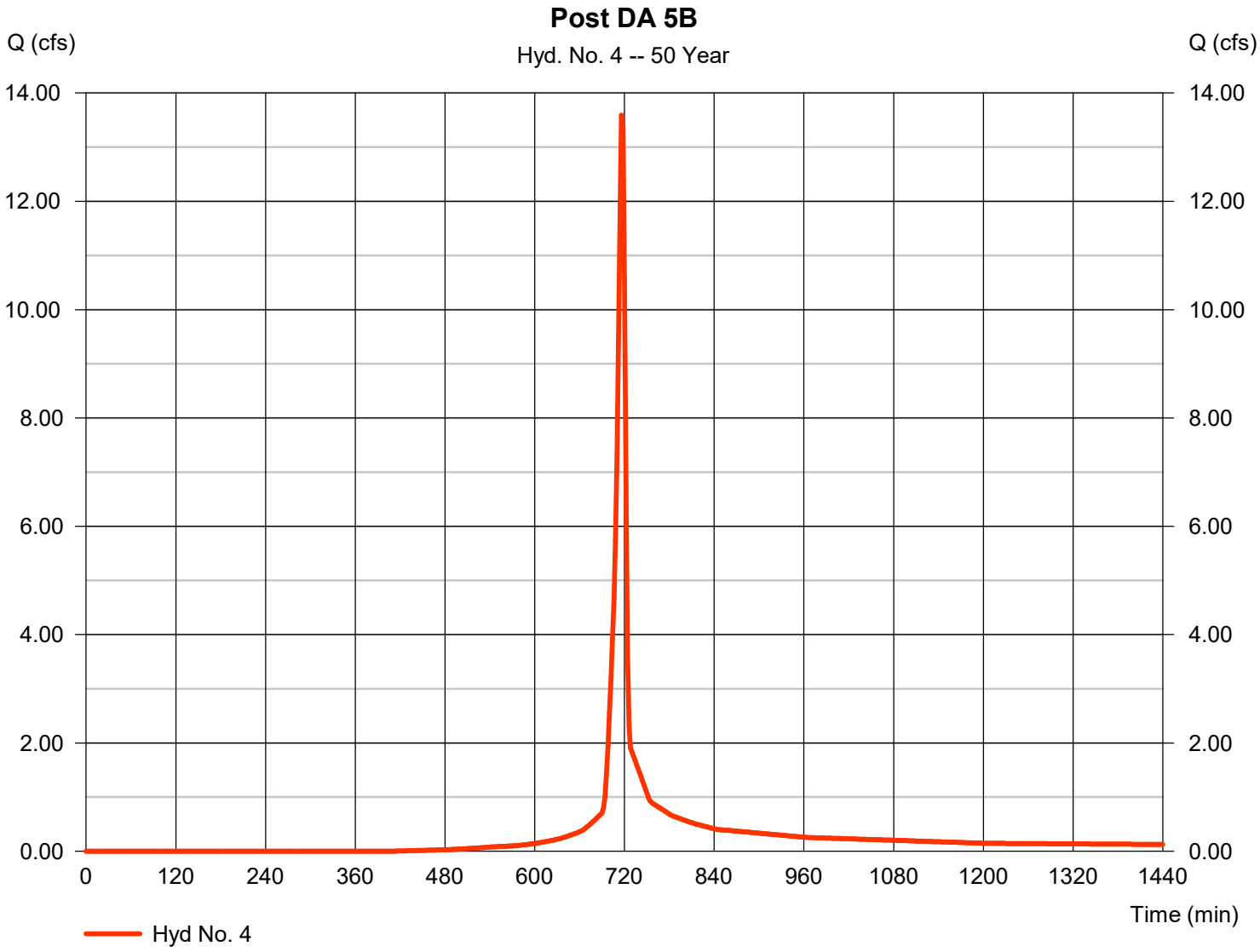
Hydrograph Report

Hyd. No. 4

Post DA 5B

Hydrograph type	=	SCS Runoff	Peak discharge	=	13.59 cfs
Storm frequency	=	50 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	27,729 cuft
Drainage area	=	3.090 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	4.40 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(1.210 x 98) + (1.880 x 74)] / 3.090

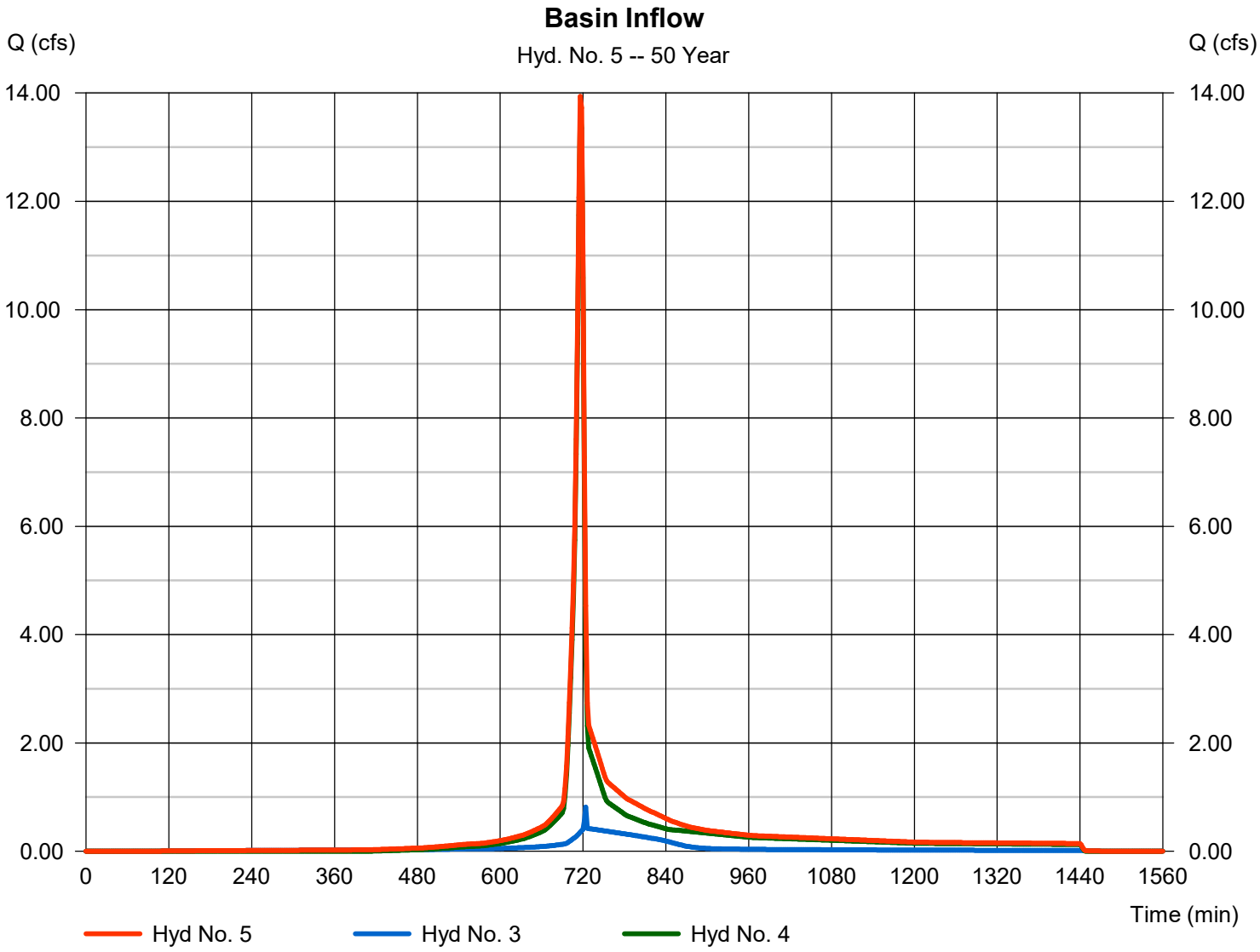


Hydrograph Report

Hyd. No. 5

Basin Inflow

Hydrograph type	= Combine	Peak discharge	= 13.94 cfs
Storm frequency	= 50 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 32,829 cuft
Inflow hyds.	= 3, 4	Contrib. drain. area	= 3.090 ac



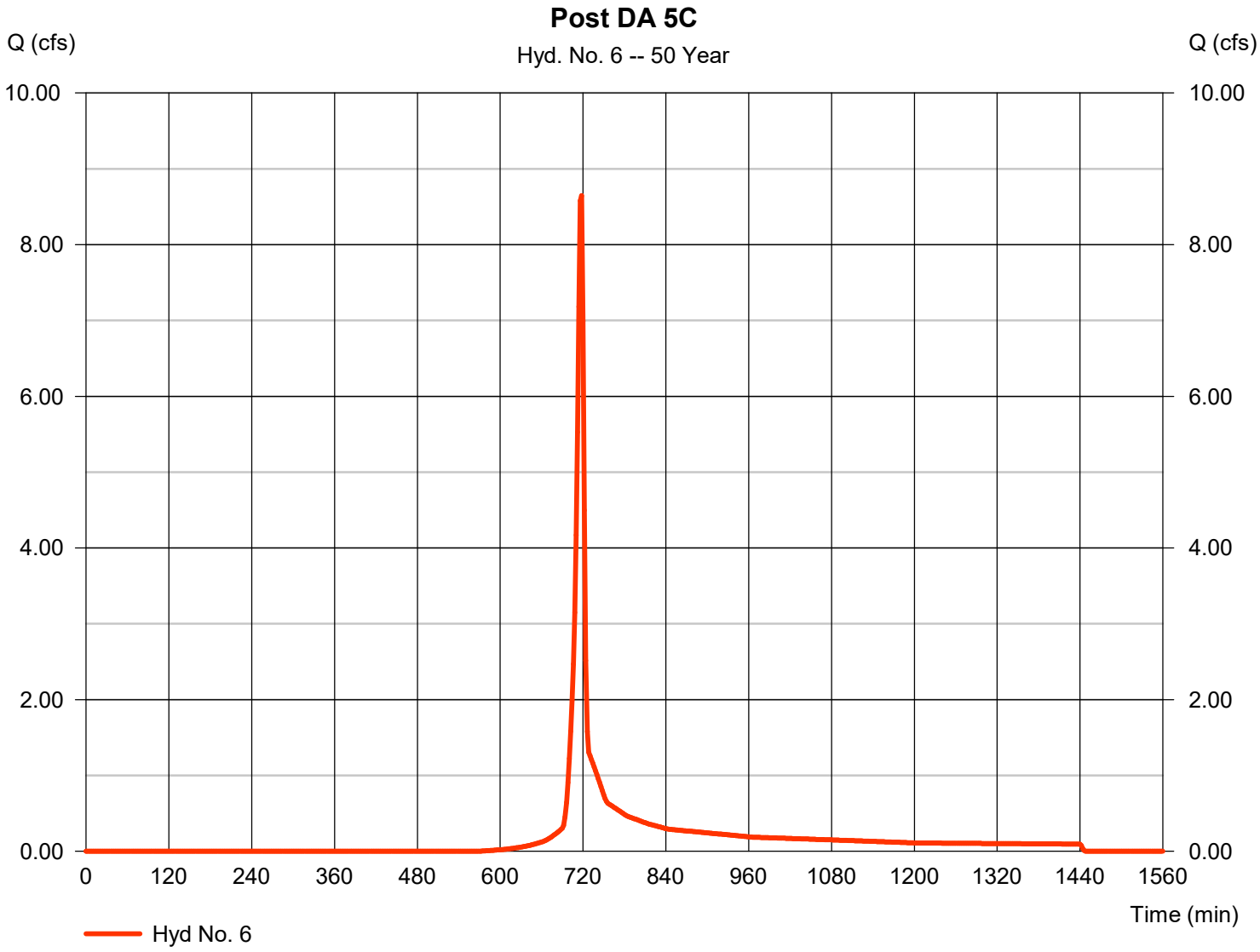
Hydrograph Report

Hyd. No. 6

Post DA 5C

Hydrograph type	=	SCS Runoff	Peak discharge	=	8.647 cfs
Storm frequency	=	50 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	17,355 cuft
Drainage area	=	2.690 ac	Curve number	=	74*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	4.40 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.130 x 98) + (2.040 x 74) + (0.520 x 70)] / 2.690



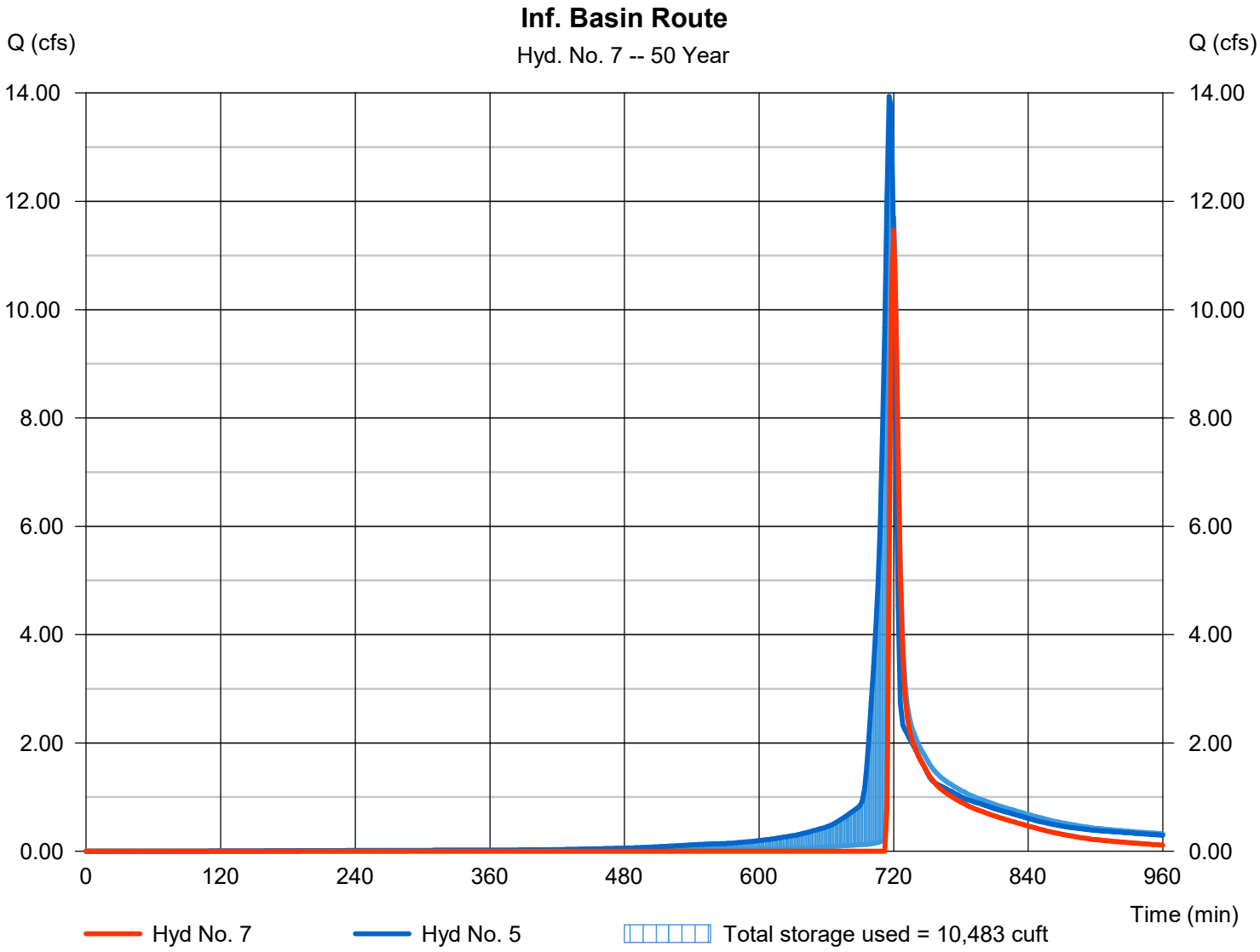
Hydrograph Report

Hyd. No. 7

Inf. Basin Route

Hydrograph type	=	Reservoir	Peak discharge	=	11.47 cfs
Storm frequency	=	50 yrs	Time to peak	=	720 min
Time interval	=	2 min	Hyd. volume	=	15,668 cuft
Inflow hyd. No.	=	5 - Basin Inflow	Max. Elevation	=	852.61 ft
Reservoir name	=	SCM 5.2 Inf Basin	Max. Storage	=	10,483 cuft

Storage Indication method used. Exfiltration extracted from Outflow.

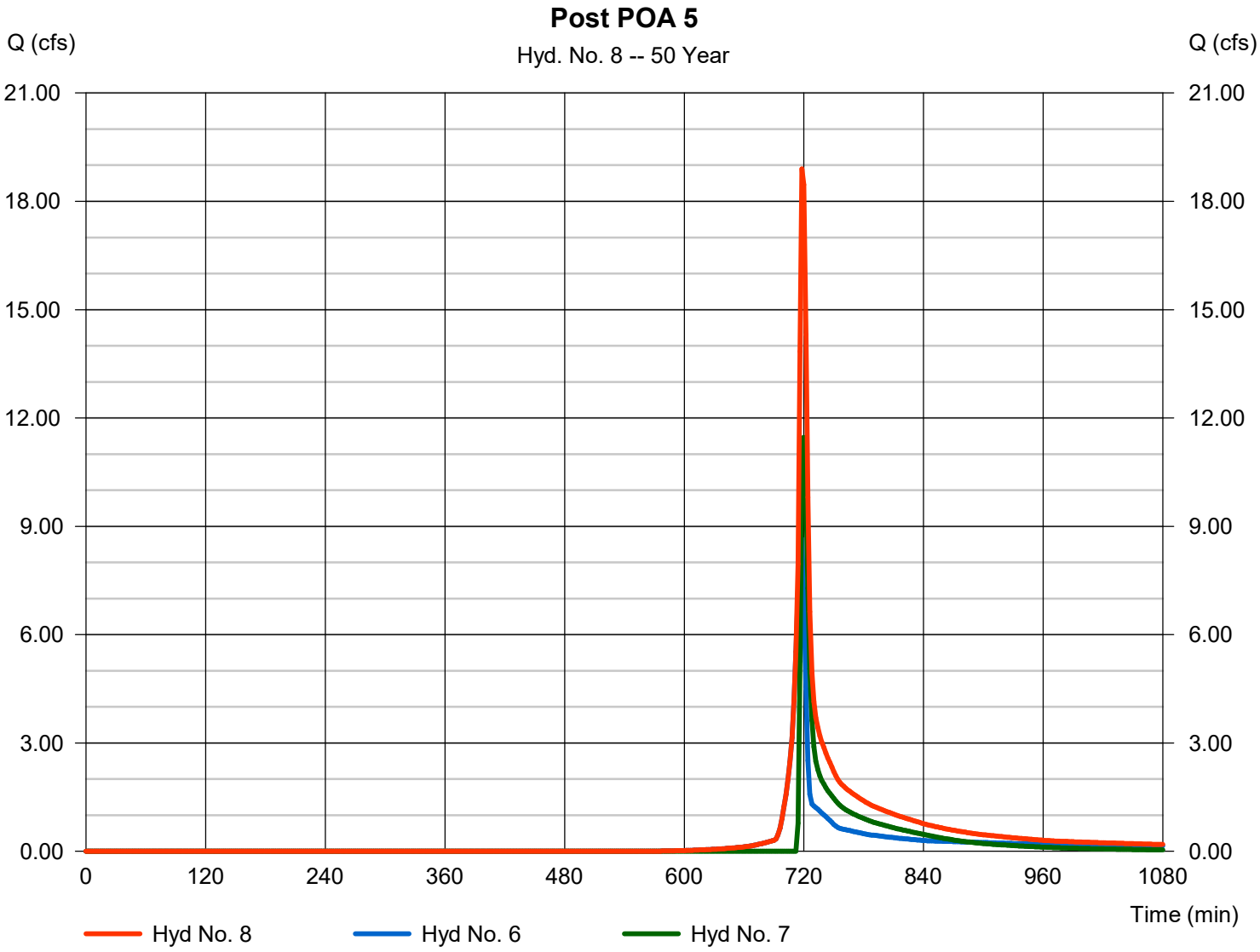


Hydrograph Report

Hyd. No. 8

Post POA 5

Hydrograph type	=	Combine	Peak discharge	=	18.90 cfs
Storm frequency	=	50 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	33,023 cuft
Inflow hyds.	=	6, 7	Contrib. drain. area	=	2.690 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	26.19	2	718	52,684	------	------	------	Pre-Development DA 5
2	SCS Runoff	2.407	2	716	5,738	------	------	------	Post DA 5A
3	Reservoir	1.719	2	720	5,736	2	859.46	1,618	Tank 2 Route
4	SCS Runoff	15.89	2	716	32,618	------	------	------	Post DA 5B
5	Combine	16.26	2	716	38,354	3, 4	------	------	Basin Inflow
6	SCS Runoff	10.44	2	718	21,061	------	------	------	Post DA 5C
7	Reservoir	14.69	2	720	20,558	5	852.69	10,861	Inf. Basin Route
8	Combine	24.97	2	718	41,618	6, 7	------	------	Post POA 5
9	Reservoir	16.12	2	718	38,234	5	852.99	12,295	Spillway Route

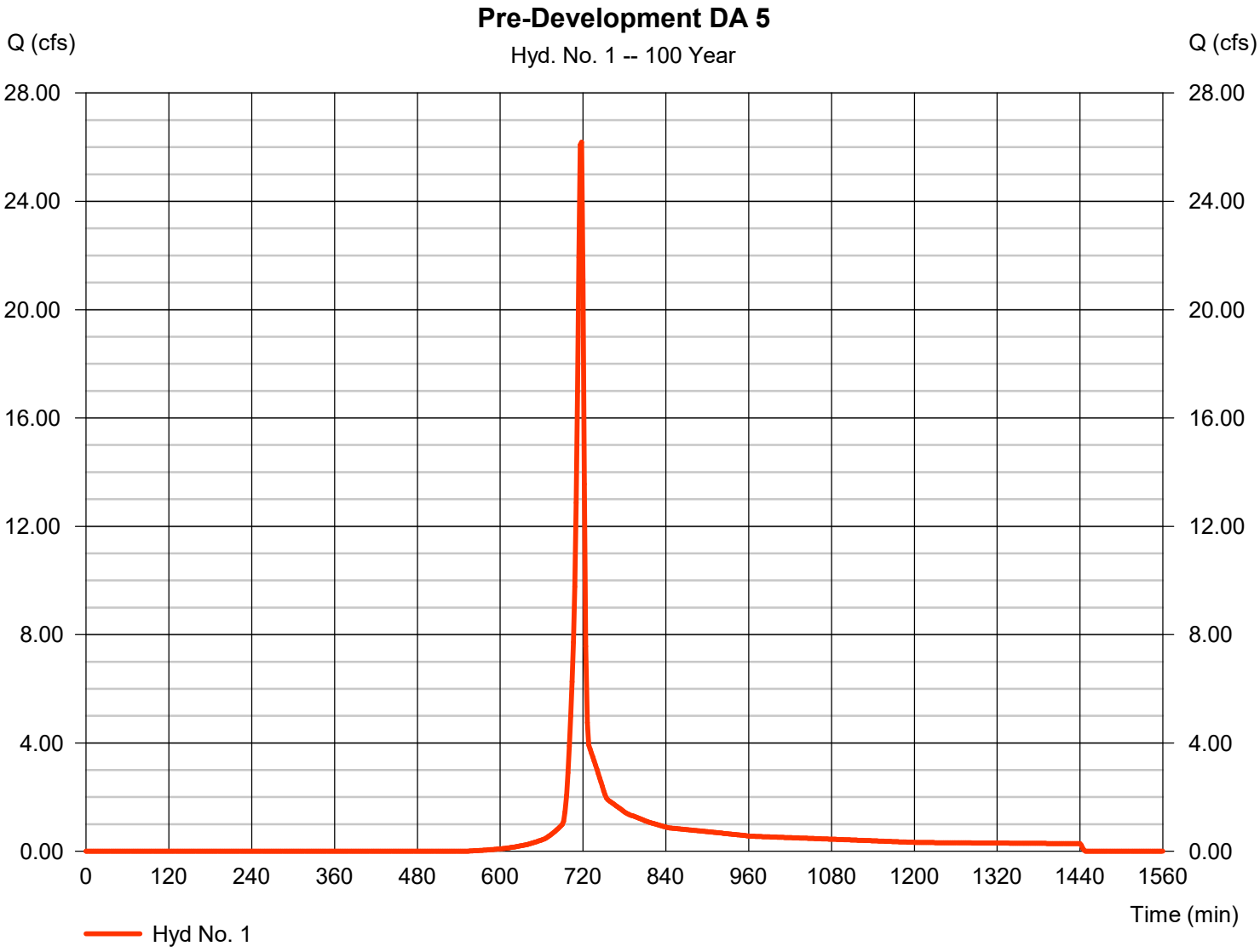
Hydrograph Report

Hyd. No. 1

Pre-Development DA 5

Hydrograph type	= SCS Runoff	Peak discharge	= 26.19 cfs
Storm frequency	= 100 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 52,684 cuft
Drainage area	= 6.980 ac	Curve number	= 73*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 4.92 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.270 x 98) + (0.070 x 71) + (5.290 x 71) + (0.700 x 70) + (0.650 x 87)] / 6.980



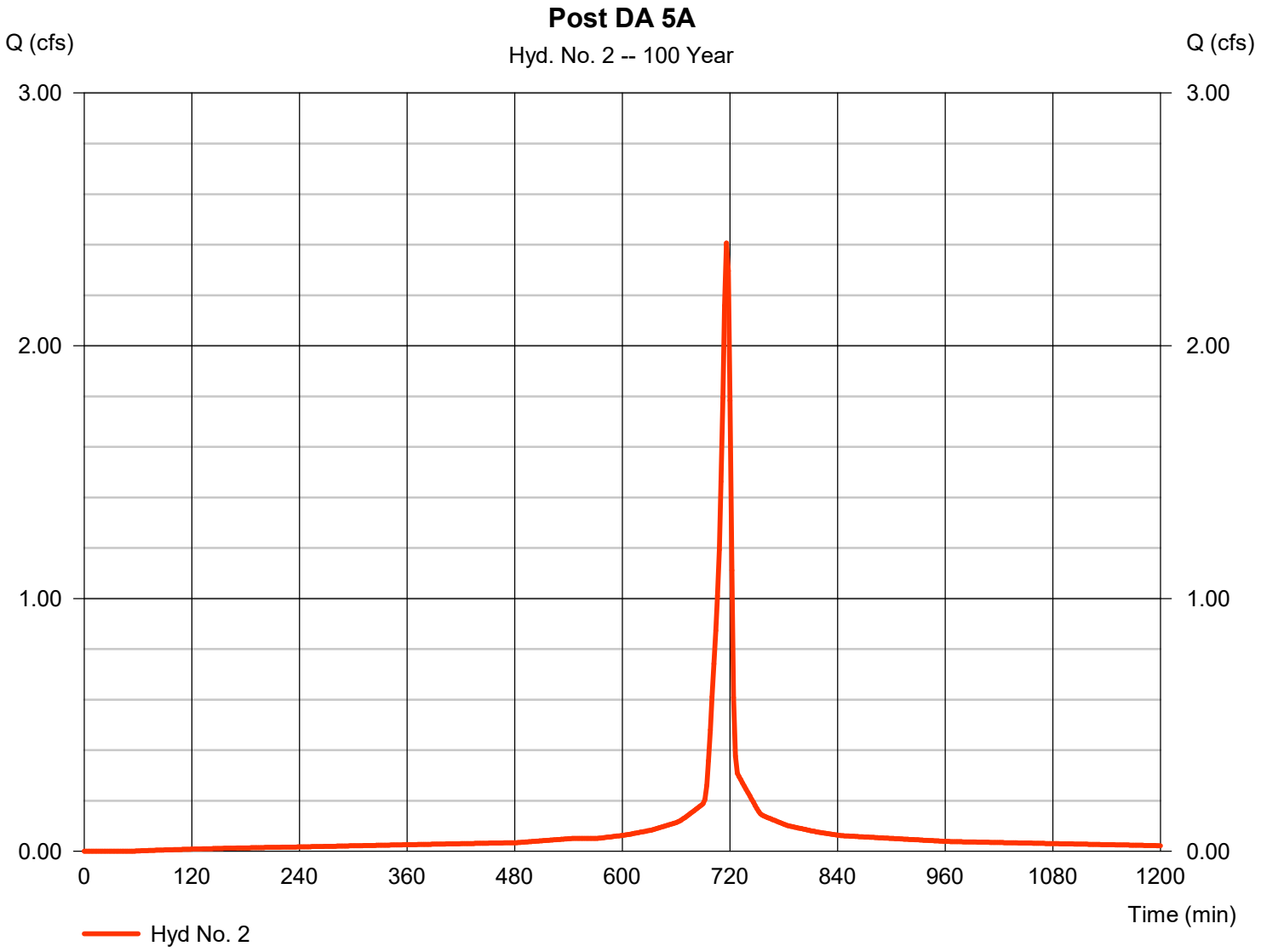
Hydrograph Report

Hyd. No. 2

Post DA 5A

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.407 cfs
Storm frequency	=	100 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	5,738 cuft
Drainage area	=	0.360 ac	Curve number	=	98*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	4.92 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.360 x 98)] / 0.360



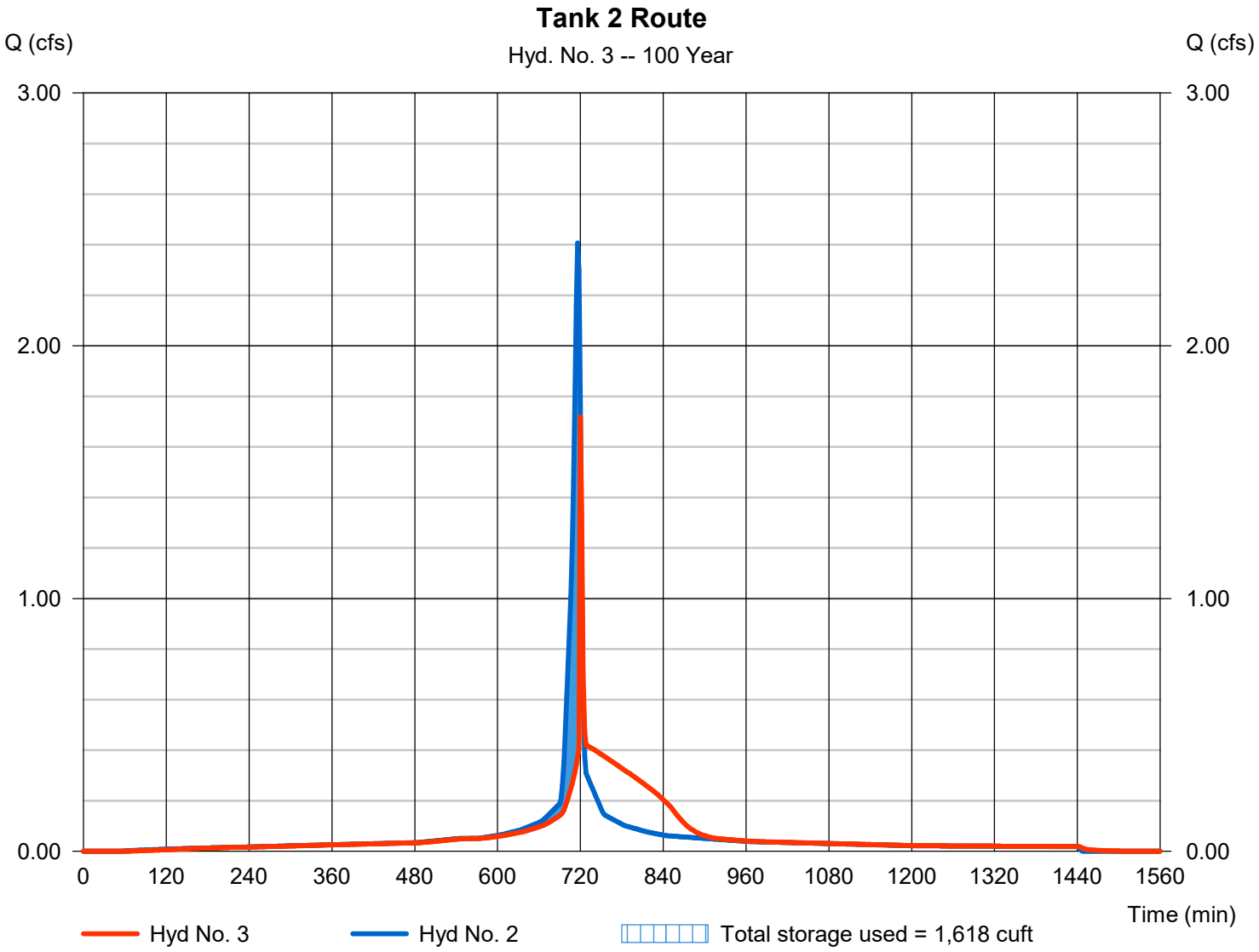
Hydrograph Report

Hyd. No. 3

Tank 2 Route

Hydrograph type	=	Reservoir	Peak discharge	=	1.719 cfs
Storm frequency	=	100 yrs	Time to peak	=	720 min
Time interval	=	2 min	Hyd. volume	=	5,736 cuft
Inflow hyd. No.	=	2 - Post DA 5A	Max. Elevation	=	859.46 ft
Reservoir name	=	SCM 5.1 Det Tank	Max. Storage	=	1,618 cuft

Storage Indication method used.



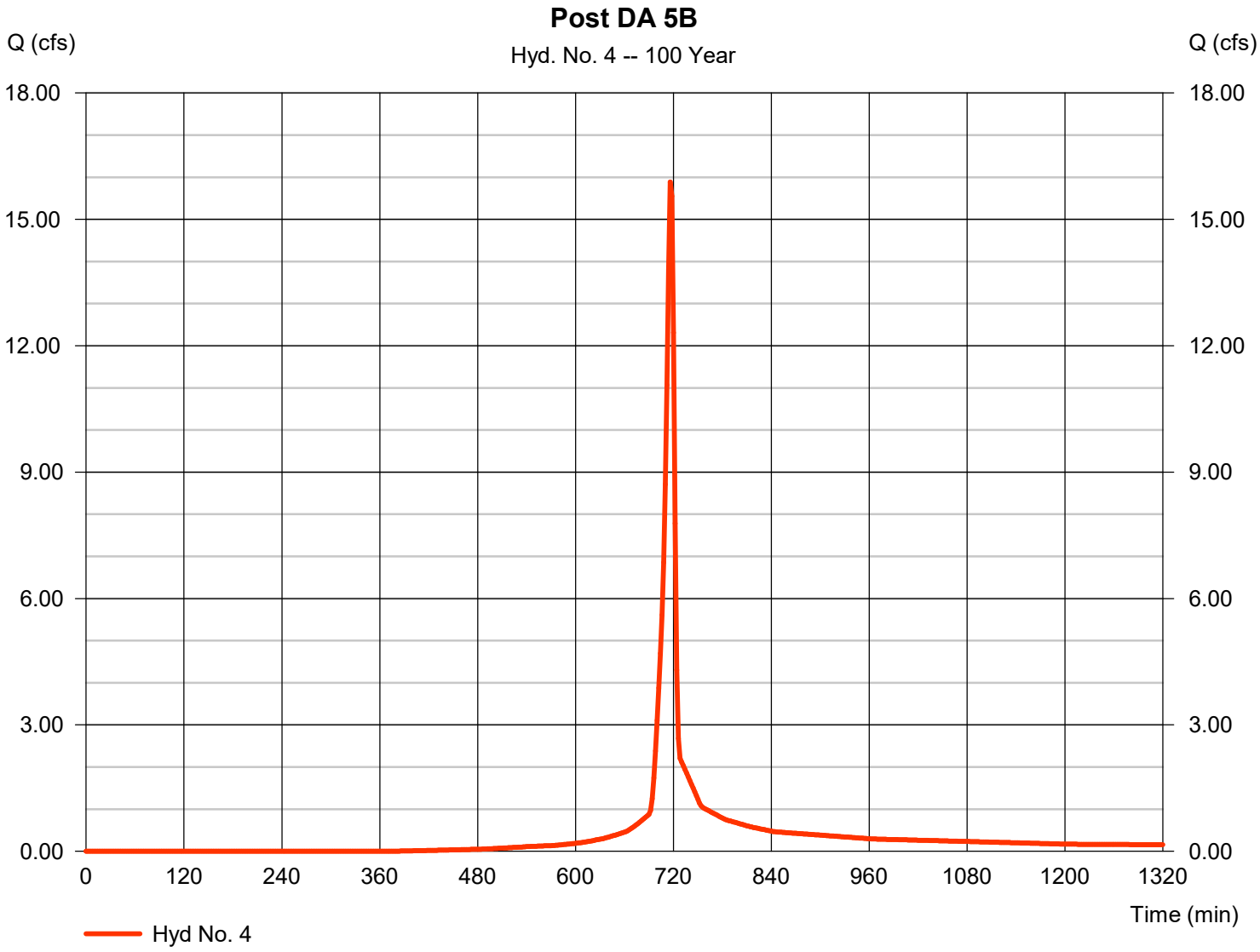
Hydrograph Report

Hyd. No. 4

Post DA 5B

Hydrograph type	=	SCS Runoff	Peak discharge	=	15.89 cfs
Storm frequency	=	100 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	32,618 cuft
Drainage area	=	3.090 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	4.92 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(1.210 x 98) + (1.880 x 74)] / 3.090

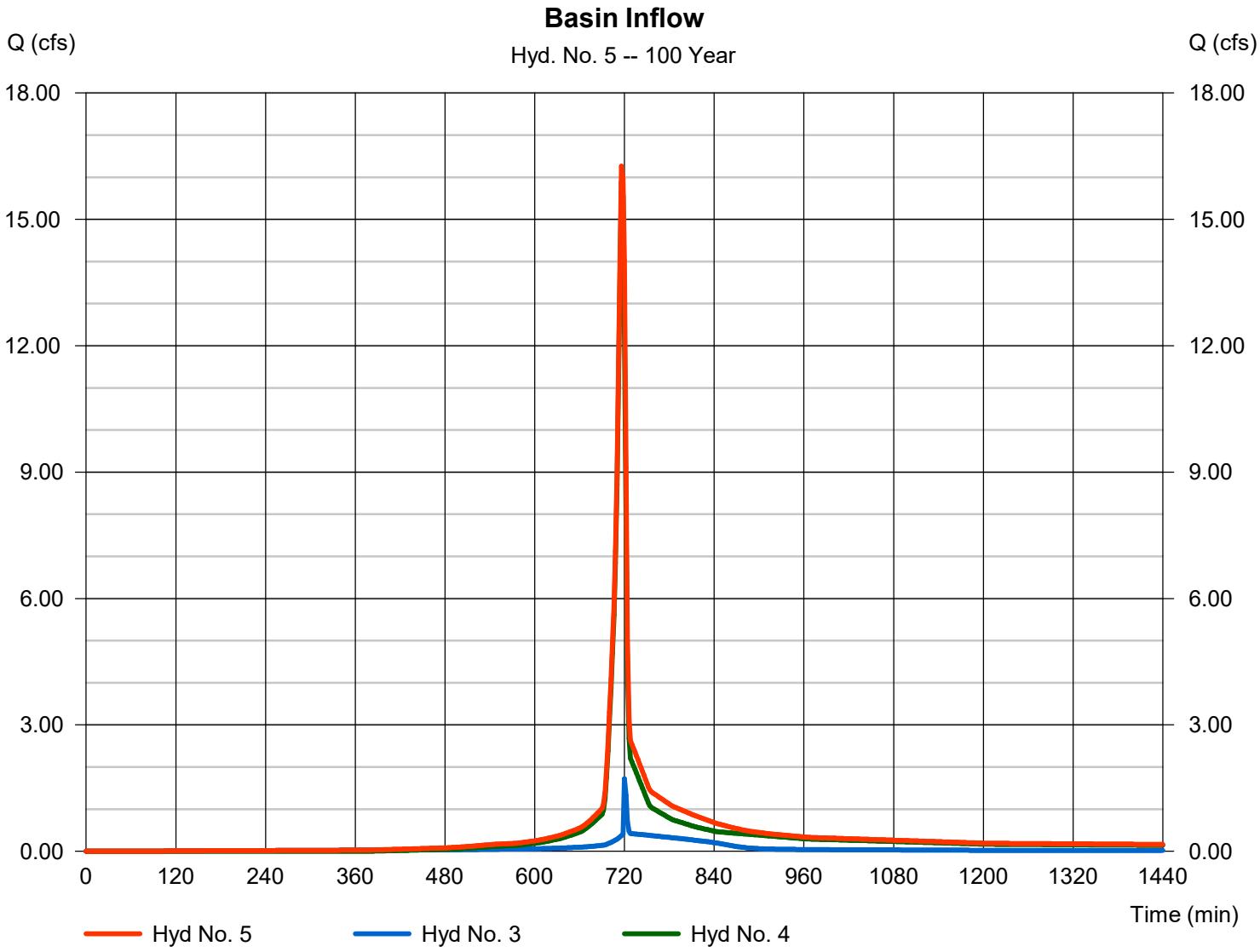


Hydrograph Report

Hyd. No. 5

Basin Inflow

Hydrograph type	=	Combine	Peak discharge	=	16.26 cfs
Storm frequency	=	100 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	38,354 cuft
Inflow hyds.	=	3, 4	Contrib. drain. area	=	3.090 ac



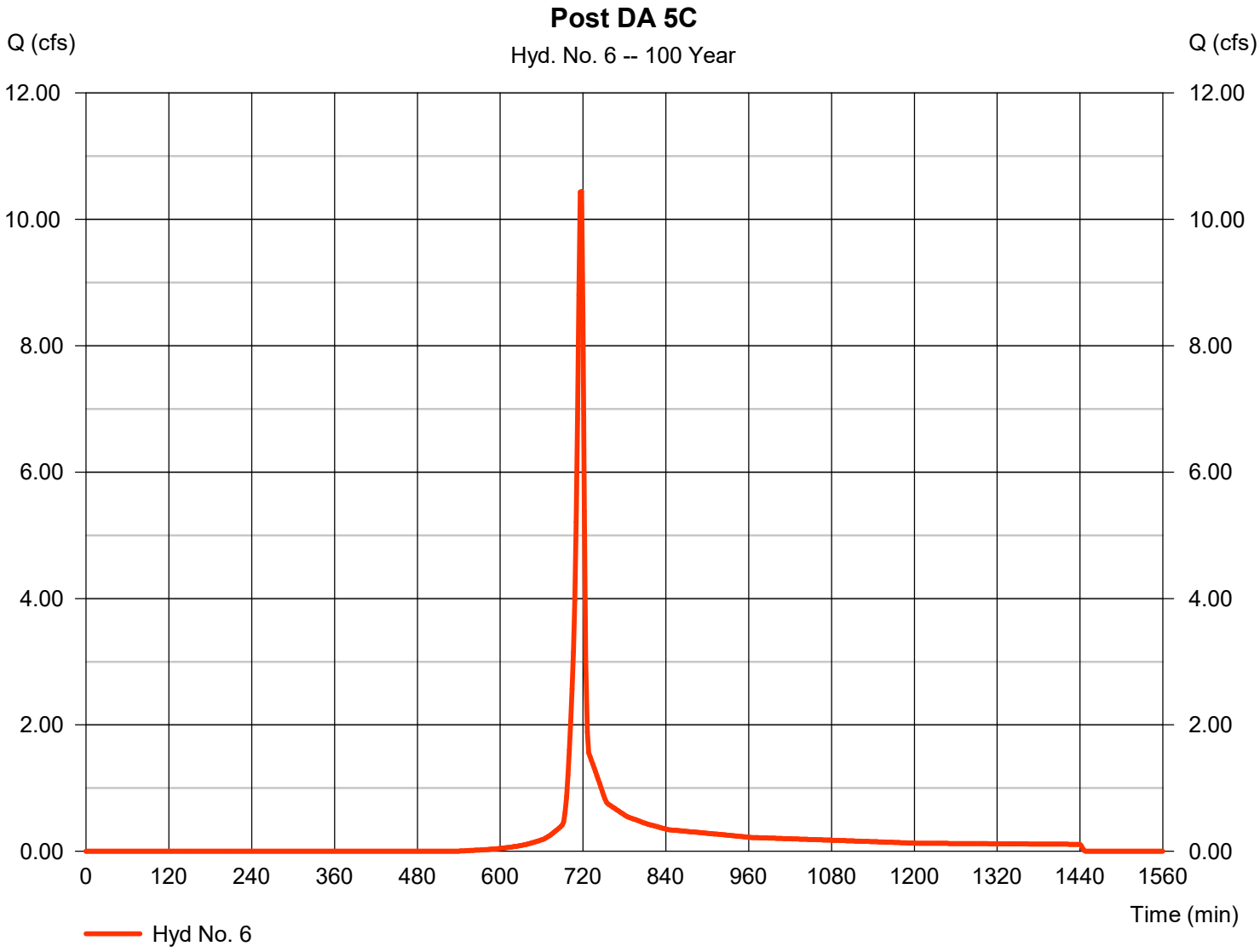
Hydrograph Report

Hyd. No. 6

Post DA 5C

Hydrograph type	=	SCS Runoff	Peak discharge	=	10.44 cfs
Storm frequency	=	100 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	21,061 cuft
Drainage area	=	2.690 ac	Curve number	=	74*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	4.92 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.130 x 98) + (2.040 x 74) + (0.520 x 70)] / 2.690



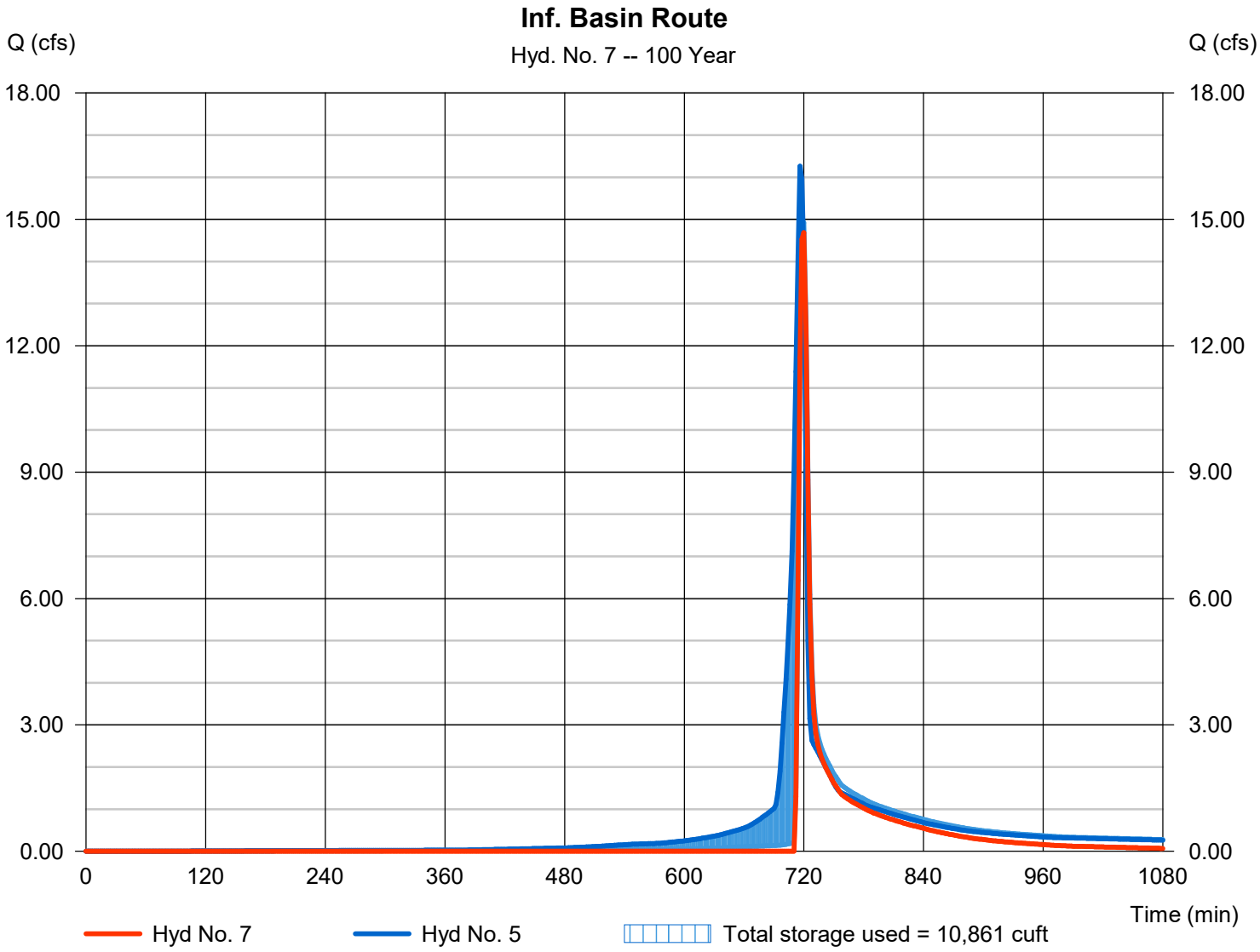
Hydrograph Report

Hyd. No. 7

Inf. Basin Route

Hydrograph type	=	Reservoir	Peak discharge	=	14.69 cfs
Storm frequency	=	100 yrs	Time to peak	=	720 min
Time interval	=	2 min	Hyd. volume	=	20,558 cuft
Inflow hyd. No.	=	5 - Basin Inflow	Max. Elevation	=	852.69 ft
Reservoir name	=	SCM 5.2 Inf Basin	Max. Storage	=	10,861 cuft

Storage Indication method used. Exfiltration extracted from Outflow.

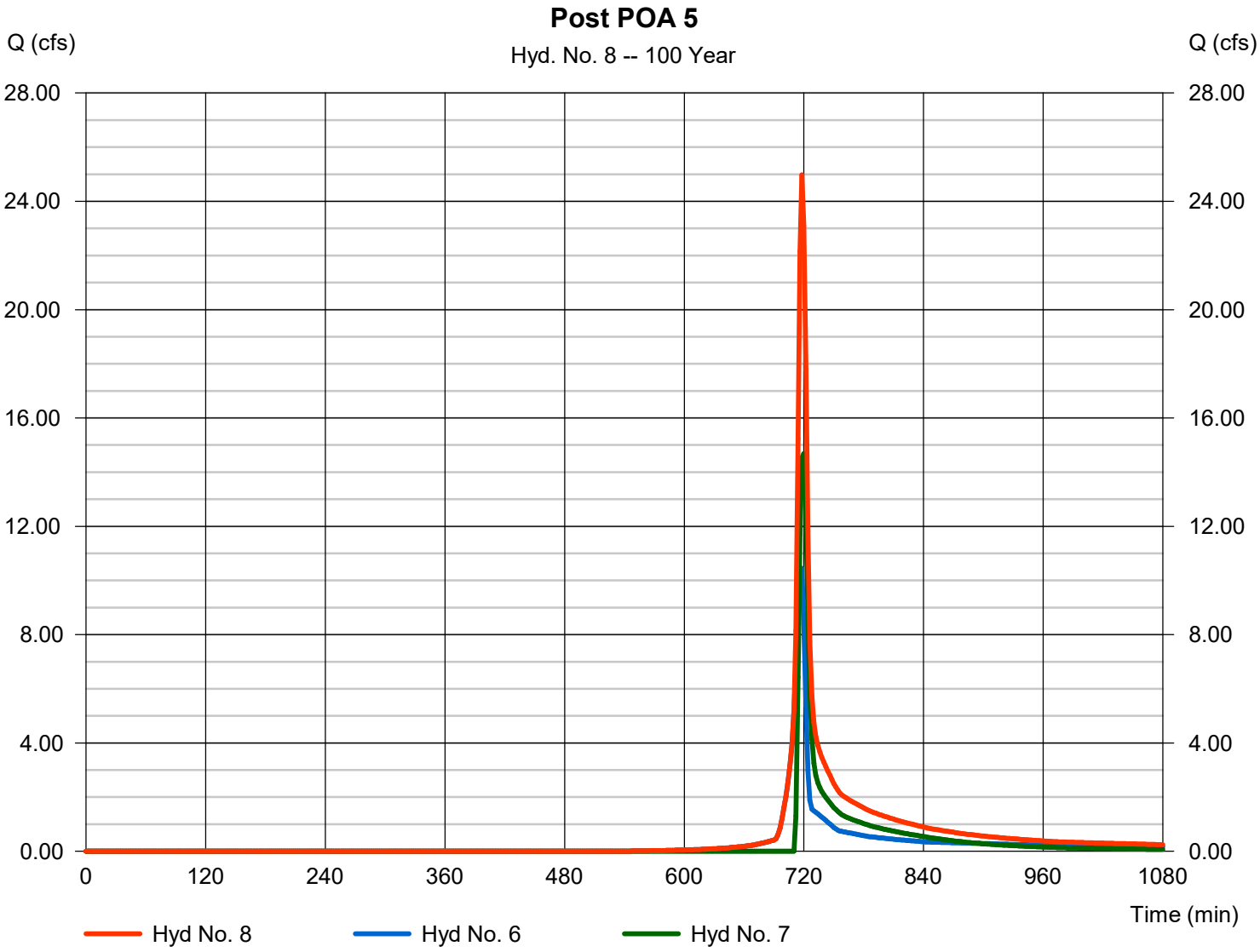


Hydrograph Report

Hyd. No. 8

Post POA 5

Hydrograph type	=	Combine	Peak discharge	=	24.97 cfs
Storm frequency	=	100 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	41,618 cuft
Inflow hyds.	=	6, 7	Contrib. drain. area	=	2.690 ac



Hydraflow Rainfall Report

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	0.0000	0.0000	0.0000	--------
2	69.8703	13.1000	0.8658	--------
3	0.0000	0.0000	0.0000	--------
5	79.2597	14.6000	0.8369	--------
10	88.2351	15.5000	0.8279	--------
25	102.6072	16.5000	0.8217	--------
50	114.8193	17.2000	0.8199	--------
100	127.1596	17.8000	0.8186	--------

File name: SampleFHA.idf

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5.69	4.61	3.89	3.38	2.99	2.69	2.44	2.24	2.07	1.93	1.81	1.70
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	6.57	5.43	4.65	4.08	3.65	3.30	3.02	2.79	2.59	2.42	2.27	2.15
10	7.24	6.04	5.21	4.59	4.12	3.74	3.43	3.17	2.95	2.77	2.60	2.46
25	8.25	6.95	6.03	5.34	4.80	4.38	4.02	3.73	3.48	3.26	3.07	2.91
50	9.04	7.65	6.66	5.92	5.34	4.87	4.49	4.16	3.88	3.65	3.44	3.25
100	9.83	8.36	7.30	6.50	5.87	5.36	4.94	4.59	4.29	4.03	3.80	3.60

Tc = time in minutes. Values may exceed 60.

Precip. file name: Sample.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	1.97	2.35	0.00	2.88	3.30	3.90	4.40	4.92
SCS 6-Hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX D
FLOOD ROUTING

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 — Thursday, 02 / 5 / 2026

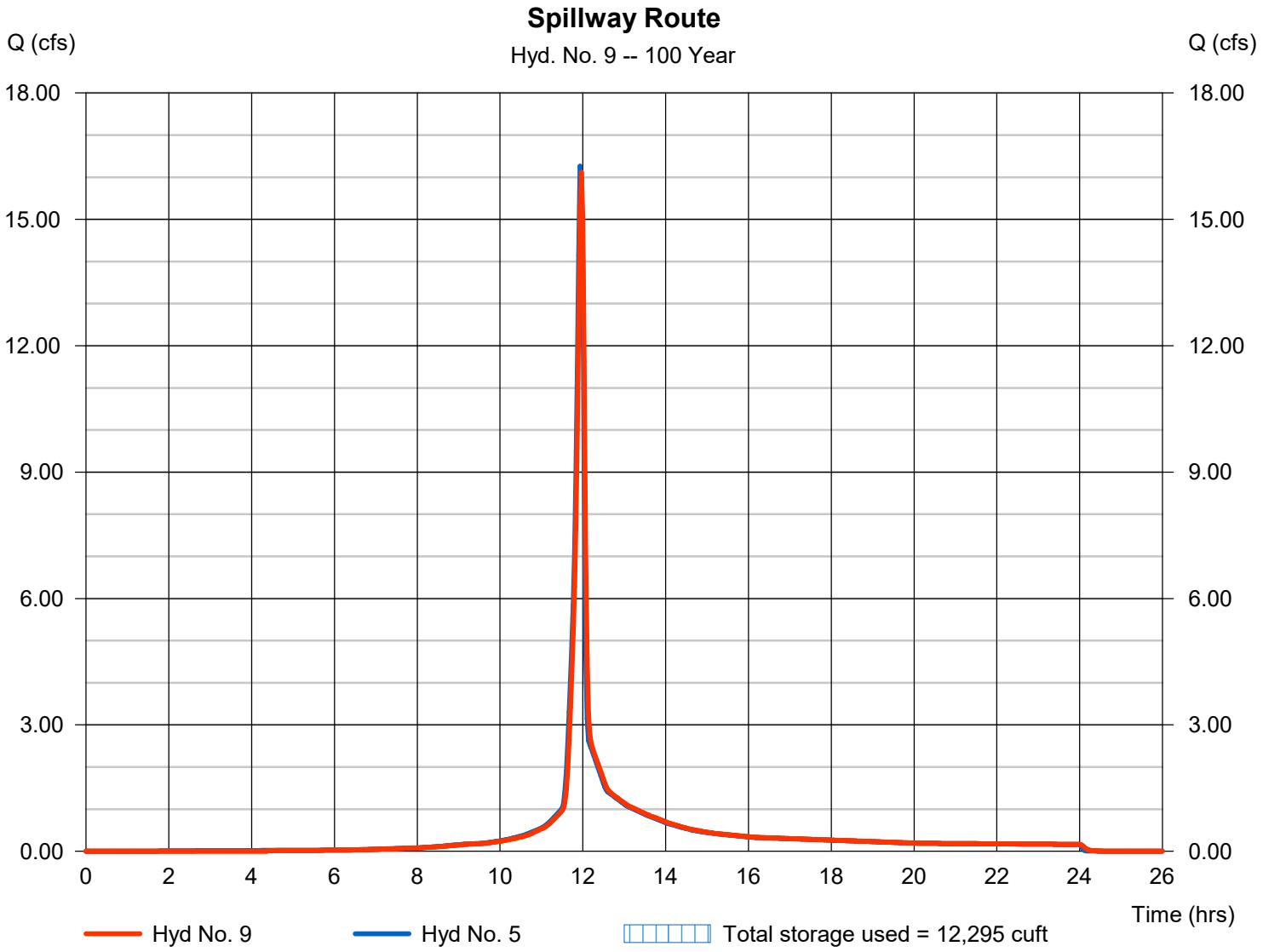
Hyd. No. 9

Spillway Route

Hydrograph type	=	Reservoir	Peak discharge	=	16.12 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	38,234 cuft
Inflow hyd. No.	=	5 - Basin Inflow	Max. Elevation	=	852.99 ft
Reservoir name	=	SCM 5.2 Embankment Spillway	Max. Storage	=	12,295 cuft

Storage Indication method used. Wet pond routing start elevation = 852.68 ft.

Top of Berm = 854.00
Freeboard = 1.01'



Pond Report

Pond No. 4 - SCM 5.2 Embankment Spillway

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 848.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	848.00	941	0	0
0.25	848.25	329	152	152
0.50	848.50	329	82	234
1.00	849.00	963	309	544
1.50	849.50	963	481	1,025
2.00	850.00	1,575	628	1,653
2.25	850.25	2,123	461	2,114
2.50	850.50	2,466	573	2,687
2.75	850.75	2,768	654	3,341
3.00	851.00	3,046	726	4,067
3.25	851.25	3,359	800	4,867
3.50	851.50	3,655	876	5,744
3.75	851.75	3,935	948	6,692
4.00	852.00	4,200	1,017	7,709
4.25	852.25	4,459	1,082	8,791
4.50	852.50	4,693	1,144	9,934
4.75	852.75	4,886	1,197	11,132
5.00	853.00	4,875	1,220	12,352
5.50	853.50	5,564	2,608	14,959
6.00	854.00	5,620	2,796	17,755

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	Inactive	Inactive	Inactive	0.00
Span (in)	= 18.00	38.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 846.00	852.00	0.00	0.00
Length (ft)	= 39.00	0.00	0.00	0.00
Slope (%)	= 5.10	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	Inactive	40.00	0.00	0.00
Crest El. (ft)	= 852.25	852.70	0.00	0.00
Weir Coeff.	= 3.33	2.60	3.33	3.33
Weir Type	= 1	Broad	---	---
Multi-Stage	= Yes	No	No	No
Exfil.(in/hr)	= 0.000 (by Contour)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	848.00	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.03	15	848.03	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.05	30	848.05	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.08	46	848.08	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.10	61	848.10	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.13	76	848.13	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.15	91	848.15	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.18	107	848.18	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.20	122	848.20	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.23	137	848.23	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.25	152	848.25	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.28	160	848.28	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.30	169	848.30	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.33	177	848.33	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.35	185	848.35	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.38	193	848.38	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.40	202	848.40	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.43	210	848.43	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.45	218	848.45	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.48	226	848.48	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.50	234	848.50	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.55	265	848.55	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.60	296	848.60	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000

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SCM 5.2 Embankment Spillway

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.65	327	848.65	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.70	358	848.70	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.75	389	848.75	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.80	420	848.80	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.85	451	848.85	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.90	482	848.90	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.95	513	848.95	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.00	544	849.00	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.05	592	849.05	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.10	640	849.10	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.15	688	849.15	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.20	736	849.20	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.25	784	849.25	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.30	832	849.30	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.35	881	849.35	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.40	929	849.40	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.45	977	849.45	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.50	1,025	849.50	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.55	1,088	849.55	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.60	1,151	849.60	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.65	1,213	849.65	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.70	1,276	849.70	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.75	1,339	849.75	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.80	1,402	849.80	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.85	1,465	849.85	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.90	1,528	849.90	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.95	1,590	849.95	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.00	1,653	850.00	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.03	1,699	850.03	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.05	1,745	850.05	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.08	1,791	850.08	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.10	1,837	850.10	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.13	1,883	850.13	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.15	1,929	850.15	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.18	1,976	850.18	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.20	2,022	850.20	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.23	2,068	850.23	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.25	2,114	850.25	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.28	2,171	850.28	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.30	2,228	850.30	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.33	2,286	850.33	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.35	2,343	850.35	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.38	2,400	850.38	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.40	2,458	850.40	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.43	2,515	850.43	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.45	2,572	850.45	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.48	2,629	850.48	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.50	2,687	850.50	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.53	2,752	850.53	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.55	2,817	850.55	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.58	2,883	850.58	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.60	2,948	850.60	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.63	3,014	850.63	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.65	3,079	850.65	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.68	3,144	850.68	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.70	3,210	850.70	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.73	3,275	850.73	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.75	3,341	850.75	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.78	3,413	850.78	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.80	3,486	850.80	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.83	3,558	850.83	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.85	3,631	850.85	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.88	3,704	850.88	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.90	3,776	850.90	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.93	3,849	850.93	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.95	3,922	850.95	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.98	3,994	850.98	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.00	4,067	851.00	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.03	4,147	851.03	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.05	4,227	851.05	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.08	4,307	851.08	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.10	4,387	851.10	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000

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SCM 5.2 Embankment Spillway

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
3.13	4,467	851.13	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.15	4,547	851.15	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.18	4,627	851.18	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.20	4,707	851.20	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.23	4,787	851.23	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.25	4,867	851.25	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.28	4,955	851.28	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.30	5,042	851.30	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.33	5,130	851.33	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.35	5,218	851.35	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.38	5,305	851.38	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.40	5,393	851.40	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.43	5,481	851.43	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.45	5,568	851.45	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.48	5,656	851.48	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.50	5,744	851.50	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.53	5,838	851.53	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.55	5,933	851.55	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.58	6,028	851.58	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.60	6,123	851.60	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.63	6,218	851.63	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.65	6,313	851.65	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.68	6,407	851.68	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.70	6,502	851.70	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.73	6,597	851.73	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.75	6,692	851.75	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.78	6,794	851.78	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.80	6,895	851.80	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.83	6,997	851.83	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.85	7,099	851.85	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.88	7,200	851.88	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.90	7,302	851.90	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.93	7,404	851.93	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.95	7,505	851.95	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.98	7,607	851.98	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.00	7,709	852.00	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.03	7,817	852.03	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.05	7,925	852.05	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.08	8,033	852.08	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.10	8,141	852.10	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.13	8,250	852.13	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.15	8,358	852.15	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.18	8,466	852.18	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.20	8,574	852.20	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.23	8,683	852.23	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.25	8,791	852.25	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.28	8,905	852.28	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.30	9,019	852.30	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.33	9,134	852.33	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.35	9,248	852.35	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.38	9,363	852.38	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.40	9,477	852.40	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.43	9,591	852.43	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.45	9,706	852.45	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.48	9,820	852.48	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.50	9,934	852.50	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.53	10,054	852.53	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.55	10,174	852.55	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.58	10,294	852.58	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.60	10,413	852.60	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.63	10,533	852.63	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.65	10,653	852.65	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.68	10,772	852.68	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.70	10,892	852.70	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.73	11,012	852.73	0.00	0.00	---	---	0.00	0.42	---	---	---	---	0.416
4.75	11,132	852.75	0.00	0.00	---	---	0.00	1.16	---	---	---	---	1.162
4.78	11,254	852.78	0.00	0.00	---	---	0.00	2.14	---	---	---	---	2.137
4.80	11,376	852.80	0.00	0.00	---	---	0.00	3.29	---	---	---	---	3.291
4.83	11,498	852.83	0.00	0.00	---	---	0.00	4.60	---	---	---	---	4.600
4.85	11,620	852.85	0.00	0.00	---	---	0.00	6.05	---	---	---	---	6.047
4.88	11,742	852.88	0.00	0.00	---	---	0.00	7.62	---	---	---	---	7.621
4.90	11,864	852.90	0.00	0.00	---	---	0.00	9.31	---	---	---	---	9.311

Continues on next page...

SCM 5.2 Embankment Spillway

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
4.93	11,986	852.93	0.00	0.00	---	---	0.00	11.11	---	---	---	---	11.11
4.95	12,108	852.95	0.00	0.00	---	---	0.00	13.01	---	---	---	---	13.01
4.98	12,230	852.98	0.00	0.00	---	---	0.00	15.01	---	---	---	---	15.01
5.00	12,352	853.00	0.00	0.00	---	---	0.00	17.09	---	---	---	---	17.09
5.05	12,612	853.05	0.00	0.00	---	---	0.00	21.53	---	---	---	---	21.53
5.10	12,873	853.10	0.00	0.00	---	---	0.00	26.31	---	---	---	---	26.31
5.15	13,134	853.15	0.00	0.00	---	---	0.00	31.39	---	---	---	---	31.39
5.20	13,395	853.20	0.00	0.00	---	---	0.00	36.76	---	---	---	---	36.76
5.25	13,655	853.25	0.00	0.00	---	---	0.00	42.41	---	---	---	---	42.41
5.30	13,916	853.30	0.00	0.00	---	---	0.00	48.32	---	---	---	---	48.32
5.35	14,177	853.35	0.00	0.00	---	---	0.00	54.49	---	---	---	---	54.49
5.40	14,438	853.40	0.00	0.00	---	---	0.00	60.89	---	---	---	---	60.89
5.45	14,698	853.45	0.00	0.00	---	---	0.00	67.53	---	---	---	---	67.53
5.50	14,959	853.50	0.00	0.00	---	---	0.00	74.41	---	---	---	---	74.41
5.55	15,239	853.55	0.00	0.00	---	---	0.00	81.50	---	---	---	---	81.50
5.60	15,518	853.60	0.00	0.00	---	---	0.00	88.79	---	---	---	---	88.79
5.65	15,798	853.65	0.00	0.00	---	---	0.00	96.29	---	---	---	---	96.29
5.70	16,078	853.70	0.00	0.00	---	---	0.00	103.99	---	---	---	---	103.99
5.75	16,357	853.75	0.00	0.00	---	---	0.00	111.88	---	---	---	---	111.88
5.80	16,637	853.80	0.00	0.00	---	---	0.00	119.97	---	---	---	---	119.97
5.85	16,916	853.85	0.00	0.00	---	---	0.00	128.24	---	---	---	---	128.24
5.90	17,196	853.90	0.00	0.00	---	---	0.00	136.69	---	---	---	---	136.69
5.95	17,475	853.95	0.00	0.00	---	---	0.00	145.32	---	---	---	---	145.32
6.00	17,755	854.00	0.00	0.00	---	---	0.00	154.15	---	---	---	---	154.15

...End

APPENDIX E
PADEP WORKSHEETS

General Information

Instructions | *General* | Volume | Rate | Quality

Project Name: **Charter Homes at Hastings - Ph 5**

Application Type: **PAG-02 NOI**

County: **Allegheny**

Municipality: **South Fayette Township**

Project Type: **Single-Family Housing**

○ New Project ◉ Minor / Major Amendment

Area: **6.98** acres
(In Watershed)

Total Earth Disturbance: **6.98** acres
(In Watershed)

No. of Post-Construction Points of Analysis: **1**

at: **005**

Point of Analysis (POA) No.	Drainage Area (DA) (acres)	Earth Disturbance in DA (acres)	Existing Impervious in DA (acres)	Proposed Impervious in DA (acres)	Receiving Waters	Ch. 93 Class	Structural SCM(s)
005	3.45	3.45	0.27	1.57	Chartiers Creek	WWF	Yes
Undetained Areas	2.69	2.69	0.00	0.13	Chartiers Creek	WWF	
Totals:	**6.14**	**6.14**	**0.27**	**1.70**			

Volume Management

Project: Charter Homes at Hastings - Ph 5

Instructions | General | *Volume* | Rate | Quality

2-Year / 24-Hour Storm Event (NOAA Atlas 14): _____ inches

Alternative 2-Year / 24-Hour Storm Event **2.35** inches

Alternative Source: **South Fayette Township SWM Ordinance**

Pre-Construction Conditions: *No. Rows:* **5** ☐ *Exempt from Meadow in Good Condition* ☑ *Automatically Calculate CN, Ia, Runoff and Volume*

Land Cover	Area (acres)	Soil Group	CN	Ia (in)	Q Runoff (in)	Runoff Volume (cf)
Impervious Areas: Paved Parking Lots, Roofs, Driveways, Etc. (Excluding ROW)	0.27	N/A	98	0.041	2.12	2,079
Impervious Areas: Streets and Roads - Dirt (Including ROW)	0.65	C	87	0.299	1.19	2,800
Impervious as Meadow	0.07	C	71	0.817	0.42	106
Pervious as Meadow	5.29	C	71	0.817	0.42	8,034
Forested (Good Condition)	0.70	C	70	0.857	0.39	980
TOTAL (ACRES):	**6.98**				**TOTAL (CF):**	**14,000**

Post-Construction Conditions: *No. Rows:* **4**

Land Cover	Area (acres)	Soil Group	CN	Ia (in)	Q Runoff (in)	Runoff Volume (cf)
Impervious Areas: Paved Parking Lots, Roofs, Driveways, Etc. (Excluding ROW)	0.80	N/A	98	0.041	2.12	6,161
Impervious Areas: Streets and Roads - Paved; Curbs and Storm Sewers (Excluding ROW)	0.90	N/A	98	0.041	2.12	6,932
Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	3.92	C	74	0.703	0.53	7,482

Woods (Good Condition)	0.52	C	70	0.857	0.39	728
TOTAL (ACRES):	**6.14**				**TOTAL (CF):**	**21,303**

NET CHANGE IN VOLUME TO MANAGE (CF): **7,303**

Non-Structural SCM Volume Credits:

☐ Tree Planting Credit

☐ Other (attach calculations):

Description: **CREDIT (CF):**

Structural SCM Volume Credits: *No. Structural SCMs:* **2** *Start SCM Numbering at:* **5**

	POA No.	SCM No.	SCM Name	MRC?	Discharge	Incremental SCM DA (acres)	Volume Routed to SCM (CF)	Infiltration / Vegetated Area (SF)	Infiltration Rate (in/hr)	Infiltration Period (hrs)	Vegeta-ted?	Media Depth (ft)	Storage Volume (CF)	Infiltration Credit (CF)	ET Credit (CF)
(SCM 5.2)	005	5	Infiltration Basin (Tank Component)	-	to SCM No. 5	3.45	12,524	1,585	2.13	12			2,835	**3,038**	
(SCM 5.2)	005	6	Infiltration Basin (Basin Component)	-	Off-Site	0.00	9,486	941	2.13	28	Yes	2.0	4,722	**4,209**	**495**
													Totals:	**7,248**	**495**

(12,524-3,038=9,486)

INFILTRATION & ET CREDITS (CF): **7,743**

NET CHANGE IN VOLUME TO MANAGE (CF): **7,303**

TOTAL CREDITS (CF): **7,743**

VOLUME REQUIREMENT SATISFIED

Rate Control

Project: Charter Homes at Hastings - Ph 5

Instructions | General | Volume | *Rate* | Quality

Precipitation Amounts:

NOAA 2-Year 24-Hour Storm Event (in):		Alternative 2-Year 24-Hour Storm Event (in):	**2.35**
NOAA 10-Year 24-Hour Storm Event (in):		Alternative 10-Year 24-Hour Storm Event (in):	**3.32**
NOAA 50-Year 24-Hour Storm Event (in):		Alternative 50-Year 24-Hour Storm Event (in):	**4.43**
NOAA 100-Year 24-Hour Storm Event (in):		Alternative 100-Year 24-Hour Storm Event (in):	**4.96**

☑ **Report Summary of Peak Rates Only**

Attach model input and output data or other calculations to support the rates reported below.

	Peak Discharge Rates (cfs)			
	Pre-Construction	**Post-Construction**	**Net Change**	
2-Year Storm:	**5.50**	**2.31**	**-3.19**	***Rate Control Satisfied***
10-Year Storm:	**12.40**	**5.05**	**-7.35**	***Rate Control Satisfied***
50-Year Storm:	**21.58**	**18.90**	**-2.68**	***Rate Control Satisfied***
100-Year Storm:	**26.19**	**24.97**	**-1.22**	***Rate Control Satisfied***

Water Quality

Project: Charter Homes at Hastings - Ph 5

PRINT

Instructions | General | Volume | Rate | *Quality*

Pre-Construction Pollutant Loads:

Land Cover (from Volume Worksheet)	Land Cover for Water Quality	Area (acres)	Soil Group	Runoff Volume (cf)	Pollutant Conc. (mg/L)			Pollutant Loads (lbs)		
					TSS	TP	TN	TSS	TP	TN
Impervious Areas: Paved Parking Lots, Roofs, Driveways, Etc. (Excluding ROW)	Residential	0.27	N/A	2,079	65.0	0.29	2.05	8.44	0.04	0.27
Impervious Areas: Streets and Roads - Dirt (Including ROW)	Highway (general)	0.65	C	2,800	141.0	0.43	2.65	24.65	0.08	0.46
Impervious as Meadow	Grassland/Herbaceous	0.07	C	106	48.8	0.22	2.30	0.32	0.00	0.02
Pervious as Meadow	Grassland/Herbaceous	5.29	C	8,034	48.8	0.22	2.30	24.48	0.11	1.15
Forested (Good Condition)	Deciduous Forest/Evergreen Forest/Mixed Forest	0.70	C	980	45.0	0.13	1.05	2.75	0.01	0.06
	TOTAL (ACRES):	**6.98**					**TOTALS:**	**60.65**	**0.23**	**1.96**

Post-Construction Pollutant Loads (without SCMs):

Land Cover (from Volume Worksheet)	Land Cover for Water Quality	Area (acres)	Soil Group	Runoff Volume (cf)	Pollutant Conc. (mg/L)			Pollutant Loads (lbs)		
					TSS	TP	TN	TSS	TP	TN

Impervious Areas: Paved Parking Lots, Roofs, Driveways, Etc. (Excluding ROW)	Residential	0.80	N/A	6,161	65.0	0.29	2.05	25.01	0.11	0.79
Impervious Areas: Streets and Roads - Paved; Curbs and Storm Sewers (Excluding ROW)	Urban Highway	0.90	N/A	6,932	142.0	0.32	3.00	61.46	0.14	1.30
Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	Open Space	3.92	C	7,482	78.0	0.25	1.25	36.44	0.12	0.58
Woods (Good Condition)	Deciduous Forest/Evergreen Forest/Mixed Forest	0.52	C	728	45.0	0.13	1.05	2.05	0.01	0.05
	TOTAL (ACRES):	**6.14**					**TOTALS:**	**124.96**	**0.37**	**2.72**

POLLUTANT LOAD REDUCTION REQUIREMENTS (LBS):	**64.30**	**0.14**	**0.76**

☑ **Characterize Undetained Areas (for Untreated Stormwater)** *No. Rows:* **3**

Land Cover	Area (acres)	Soil Group	CN	Ia (in)	Q Runoff (in)	Runoff Volume (cf)
Impervious Areas: Paved Parking Lots, Roofs, Driveways, Etc. (Excluding ROW)	**0.13**	**N/A**	**98**	**0.041**	**2.12**	**1,001**
Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	**2.04**	**C**	**74**	**0.703**	**0.53**	**3,894**
Woods (Good Condition)	**0.52**	**C**	**70**	**0.857**	**0.39**	**728**

Non-Structural SCM Water Quality Credits:

☐ Pervious Undetained Area Credit

☐ Other (attach calculations)

Description:

TSS	TP	TN

Structural SCM Water Quality Credits:

☑ *Use default SCM Outflows and Median SCM Outflow Concentrations*

	POA No.	SCM No.	SCM Name	MRC?	SCM DA (acres)	Vol. Routed to SCM (CF)	Inf. & ET Credits (CF)	Capture & Buffer Credits (CF)	Outflow (CF)	Outflow Conc. (mg/L)			Pollutant Loads (lbs)		
										TSS	TP	TN	TSS	TP	TN
(SCM 5.2)	005	5	Infiltration Basin (Tank Component)	-	3.45	12,524	3,038		9,486	-	-	-	-	-	-
(SCM 5.2)	005	6	Infiltration Basin (Basin Component)	-	0.00	9,486	4,704		4,782	10.00	0.24	0.96	2.99	0.07	0.29

	TSS	TP	TN
POLLUTANT LOADS FROM STRUCTURAL SCM (TREATED) OUTFLOWS (LBS):	**2.99**	**0.07**	**0.29**
POLLUTANT LOADS FROM UNTREATED STORMWATER (LBS):	**25.07**	**0.08**	**0.48**
NON-STRUCTURAL SCM WATER QUALITY CREDITS (LBS):			
NET POLLUTANT LOADS FROM SITE, POST-CONSTRUCTION (LBS):	**28.06**	**0.15**	**0.77**
POLLUTANT LOADS FROM SITE, PRE-CONSTRUCTION (LBS):	**60.65**	**0.23**	**1.96**

WATER QUALITY REQUIREMENT SATISFIED

CERTIFICATION

I certify under penalty of law and subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities) that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I further certify that the structure, function, and calculations contained in this spreadsheet have not been modified in comparison to the spreadsheet DEP has posted to its website or, if modifications were made, an explanation of the modifications made is attached to this spreadsheet.

Ben Landin, E.I.T.	2/4/2026
Spreadsheet User Name	Date

Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Thursday, 02 / 5 / 2026

Pond No. 7 - Above Ground Infiltraton Basin w Soil

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 848.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	848.00	941	0	0
0.25	848.25	329	152	152
0.50	848.50	329	82	234
1.00	849.00	329	164	399
1.50	849.50	329	164	563
2.00	850.00	941	304	868
2.25	850.25	1,174	264	1,132
2.50	850.50	1,407	322	1,454
2.75	850.75	1,640	380	1,834
3.00	851.00	1,874	439	2,273
3.25	851.25	2,162	504	2,777
3.50	851.50	2,450	576	3,353
3.75	851.75	2,738	648	4,001
4.00	852.00	3,028	720	4,722
4.25	852.25	3,331	794	5,516
4.50	852.50	3,634	870	6,386
4.75	852.75	3,937	946	7,332
5.00	853.00	4,241	1,022	8,354
5.50	853.50	4,930	2,290	10,645
6.00	854.00	5,620	2,635	13,280

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .000	.000	.000	n/a
Orifice Coeff.	= 0.00	0.00	0.00	0.00
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 0.00	0.00	0.00	0.00
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	848.00	---	---	---	---	---	---	---	---	---	---	0.000
0.03	15	848.03	---	---	---	---	---	---	---	---	---	---	0.000
0.05	30	848.05	---	---	---	---	---	---	---	---	---	---	0.000
0.08	46	848.08	---	---	---	---	---	---	---	---	---	---	0.000
0.10	61	848.10	---	---	---	---	---	---	---	---	---	---	0.000
0.13	76	848.13	---	---	---	---	---	---	---	---	---	---	0.000
0.15	91	848.15	---	---	---	---	---	---	---	---	---	---	0.000
0.18	107	848.18	---	---	---	---	---	---	---	---	---	---	0.000
0.20	122	848.20	---	---	---	---	---	---	---	---	---	---	0.000
0.23	137	848.23	---	---	---	---	---	---	---	---	---	---	0.000
0.25	152	848.25	---	---	---	---	---	---	---	---	---	---	0.000
0.28	160	848.28	---	---	---	---	---	---	---	---	---	---	0.000
0.30	169	848.30	---	---	---	---	---	---	---	---	---	---	0.000
0.33	177	848.33	---	---	---	---	---	---	---	---	---	---	0.000
0.35	185	848.35	---	---	---	---	---	---	---	---	---	---	0.000
0.38	193	848.38	---	---	---	---	---	---	---	---	---	---	0.000
0.40	202	848.40	---	---	---	---	---	---	---	---	---	---	0.000
0.43	210	848.43	---	---	---	---	---	---	---	---	---	---	0.000
0.45	218	848.45	---	---	---	---	---	---	---	---	---	---	0.000
0.48	226	848.48	---	---	---	---	---	---	---	---	---	---	0.000
0.50	234	848.50	---	---	---	---	---	---	---	---	---	---	0.000
0.55	251	848.55	---	---	---	---	---	---	---	---	---	---	0.000
0.60	267	848.60	---	---	---	---	---	---	---	---	---	---	0.000

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Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Thursday, 02 / 5 / 2026

Pond No. 13 - Infiltration Pipe Volume

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 849.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	849.00	634	0	0
0.25	849.25	634	158	158
0.50	849.50	634	158	317
0.75	849.75	634	158	475
1.00	850.00	634	158	634
1.25	850.25	949	197	830
1.50	850.50	1,059	251	1,081
1.75	850.75	1,128	273	1,355
2.00	851.00	1,172	287	1,642
2.25	851.25	1,197	296	1,938
2.50	851.50	1,205	300	2,238
2.75	851.75	1,197	300	2,539
3.00	852.00	1,172	296	2,835
3.25	852.25	1,128	287	3,122
3.50	852.50	1,059	273	3,395
3.75	852.75	949	251	3,646
4.00	853.00	634	197	3,843
4.25	853.25	634	158	4,001
4.50	853.50	634	158	4,160

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .000	.000	.000	n/a
Orifice Coeff.	= 0.00	0.00	0.00	0.00
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 0.00	0.00	0.00	0.00
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	849.00	---	---	---	---	---	---	---	---	---	---	0.000
0.03	16	849.03	---	---	---	---	---	---	---	---	---	---	0.000
0.05	32	849.05	---	---	---	---	---	---	---	---	---	---	0.000
0.08	48	849.08	---	---	---	---	---	---	---	---	---	---	0.000
0.10	63	849.10	---	---	---	---	---	---	---	---	---	---	0.000
0.13	79	849.13	---	---	---	---	---	---	---	---	---	---	0.000
0.15	95	849.15	---	---	---	---	---	---	---	---	---	---	0.000
0.18	111	849.18	---	---	---	---	---	---	---	---	---	---	0.000
0.20	127	849.20	---	---	---	---	---	---	---	---	---	---	0.000
0.23	143	849.23	---	---	---	---	---	---	---	---	---	---	0.000
0.25	158	849.25	---	---	---	---	---	---	---	---	---	---	0.000
0.28	174	849.28	---	---	---	---	---	---	---	---	---	---	0.000
0.30	190	849.30	---	---	---	---	---	---	---	---	---	---	0.000
0.33	206	849.33	---	---	---	---	---	---	---	---	---	---	0.000
0.35	222	849.35	---	---	---	---	---	---	---	---	---	---	0.000
0.38	238	849.38	---	---	---	---	---	---	---	---	---	---	0.000
0.40	254	849.40	---	---	---	---	---	---	---	---	---	---	0.000
0.43	269	849.43	---	---	---	---	---	---	---	---	---	---	0.000
0.45	285	849.45	---	---	---	---	---	---	---	---	---	---	0.000
0.48	301	849.48	---	---	---	---	---	---	---	---	---	---	0.000
0.50	317	849.50	---	---	---	---	---	---	---	---	---	---	0.000
0.52	333	849.53	---	---	---	---	---	---	---	---	---	---	0.000
0.55	349	849.55	---	---	---	---	---	---	---	---	---	---	0.000
0.57	365	849.58	---	---	---	---	---	---	---	---	---	---	0.000

Continues on next page...

Below Ground Infiltration Basin

Infiltration Period Calculation

Storage Volume	2835	CF
Surface Area	1585	SF
Volume Routed to SCM*	12524	CF
Infiltration Rate	2.13	in/hr
Infiltration Capacity	281.3375	
Infiltration Period	10.076865	Hrs

*Where Storage Volume below lowest orifice is less than volume routed to SCM, use storage volume below lowest orifice

Above Ground Infiltration Basin

Infiltration Period Calculation

Storage Volume	4722	CF
Surface Area	941	SF
Volume Routed to SCM*	9506	CF
Infiltration Rate	2.13	in/hr
Infiltration Capacity	167.0275	
Infiltration Period	28.270794	Hrs

*Where Storage Volume below lowest orifice is less than volume routed to SCM, use storage volume below lowest orifice

Project Number: C-18927-0096 Date: 2/4/2026

Prepared By: BRL Page Number:

Project Name: Hastings Phase 5

Attendee(s):

Purpose / Goal: Design Infiltration Rate Calculation

GATEWAY ENGINEERS

Bottom of Infiltration Basin Soil Media = 848.00

Tests at Elevation 848 — Use FOS = 2 Per Geotech

ITP-1	2.5 in/hr	× 1/2	=	1.25	in/hr
ITP-2	2.6 in/hr	× 1/2	=	1.3	in/hr
ITP-3	2.4 in/hr	× 1/2	=	1.2	in/hr

Temperature Adjustment Factor per PCSM Manual App B - Table B-5 (Temp 30° F)

ITP-1	1.25 in/hr	× 1.7	=	2.13	in/hr
ITP-2	1.3 in/hr	× 1.7	=	2.21	in/hr
ITP-3	1.2 in/hr	× 1.7	=	2.04	in/hr

Geometric Mean

$(2.13 \times 2.21 \times 2.04)^{1/3} =$ **2.13 in/hr Design Rate**

APPENDIX F
SOIL INFILTRATION TESTING REPORT

Ecotune
ENVIRONMENTAL CONSULTANTS

Charter Homes
322 N. Arch Street
Lancaster, PA 17603

19 JAN 2026

Attn: Anthony
Re: Hastings Site – Infiltration Testing Report #2
Phase 1.9.3, 1.9.4 and OTB Alternate Area

Dear Anthony:

We have completed the infiltration testing at the Hastings Site (inclusive of the Phase 1.9.3, 1.9.4 and OTB Alternate Areas) as per the design provided by the Gateway Engineers (refer to Figures 1 & 2).

The Gateway Infiltration Test Plans consisted of three (3) infiltration test pit sites (TP-1, TP-2 and TP-3) in the Phase 1.9.3/1.9.4 proposed basin area and an three (3) infiltration test pit sites (TP-7, TP-8, TP-9) in the OTB Alternate Area (TP 1-6 were completed during the initial testing phase at the OTB Area).

We initiated the testing procedure by staking all 6 test sites in the field using the lat./long. information provided by Gateway.

At each TP location, a test pit was then excavated from the existing ground surface down to the depth of proposed testing elevation. The excavations within each TP then proceeded an additional 2' lower that the test elevation to determine the presence/absence of any bearing surface. Test benches were established (one at each test elevation) within each TP based on observed soil conditions, and infiltration testing was then conducted.

A brief profile description of the soil profile within each TP location can be seen in Appendix A and photographs of each TP can be seen in Appendix B.

A bearing surface (clay and solid rock) was encountered in several of the TP locations, but these bearing surfaces were higher in elevation than the prescribed test elevations.

Signs of deposited fill were encountered in a number of the TP locations, but at elevations higher than the proposed test elevations.

215 Executive Drive, Suite 204 · Cranberry Township, PA 16066
Voice (724) 779-9010 Fax (724) 779-9011

A summary of the Test Pits is as follows:

TP#	EGS	Test El.	Test Depth	Pit Depth
1	860.0	848.0	12.0	14.7
1A		846.0	14.0	
2	858.0	848.0	10.0	14.3
2A		846.0	12.0	
3	857.0	848.0	9.0	13.9
3A		846.0	11.0	
7	846.5	842.0	4.5	8.9
7A		840.0	6.5	
8	847.0	842.0	5.0	9.3
8A		840.0	7.0	
9	845.0	842.0	3.0	7.6
9A		840.0	5.0	

TP#	Test Pit number
EGS	Existing Ground Surface elevation
Test El.	Test Elevation
Test Depth	Depth from EGS to infiltration test locations (2/TP)
Pit Depth	Total depth of Test Pit

Following the excavation of each test pit, the soils on each test bench were scarified to remove any soils that were compacted while excavating or working in the Test Pit.

A 12” high double-ring infiltrometer (consisting of an 8” outer ring and a 4” inner ring) was installed in each test pit at the test depths, with approximately 4” being driven into the ground, while 8” remaining above the floor elevation of each test pit.

The infiltration testing was conducted according to the following protocol:

1. Both rings of each infiltrometer were filled with clean water and two, thirty-minute-long preliminary infiltration rate tests were completed in order to determine the appropriate time interval (10- or 30-minute) for monitoring the infiltration tests.

The pre-test periods determined preliminary infiltration rates of greater than 2”/hour in all of the test pits, so each test location was subsequently monitored one time every 10 minutes respectively.

At the conclusion of the pre-testing periods, both rings of each infiltrometer were again filled with clean water to a pre-marked point on the inside of each ring.

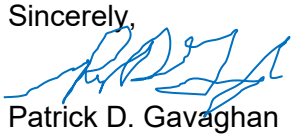
2. Each Infiltrometer was monitored one time per 10 minutes for a minimum of 4 readings or until a stabilized rate of drop is obtained (defined as a difference of ¼ inch or less of drop between the highest and the lowest readings of four consecutive readings). During each monitoring, the drop in water surface elevation within the inner ring of each infiltrometer was measured (to the nearest 0.1”) and recorded. Both rings of each infiltrometer were again filled with clean water to a pre-marked point on the inside of each ring.

3. At the conclusion of the timed infiltration intervals, the infiltrometers were removed from each Test Pit.

The raw and adjusted (for a factor of safety of 2 based upon the soils observed) results of the infiltration testing conducted at each depth within each test pit can be seen in Table 1.

If you have any questions, please contact me at my office.

Sincerely,



Patrick D. Gavaghan
Senior Ecologist, Owner

Table 1

Infiltration Rates (in Inches/hr.)

ITP	Test Depth	Ave Rate/hr.	Adjusted Rate/Hr.*
1	12.0’	2.50	1.25
1A	14.0’	3.00	1.50
2	10.0’	2.60	1.30
2A	12.0’	2.90	1.45
3	9.0’	2.40	1.20
3A	11.0’	2.80	1.40
7	4.4’	1.60	0.80
7A	6.5’	2.60	1.30
8	5.0’	1.80	0.90
8A	7.0’	2.20	1.10
9	3.0’	1.40	0.70
9A	5.0’	1.70	0.85

* Adjuster rate per hour based upon a Factor of Safety of 2 (based on observed soil conditions).

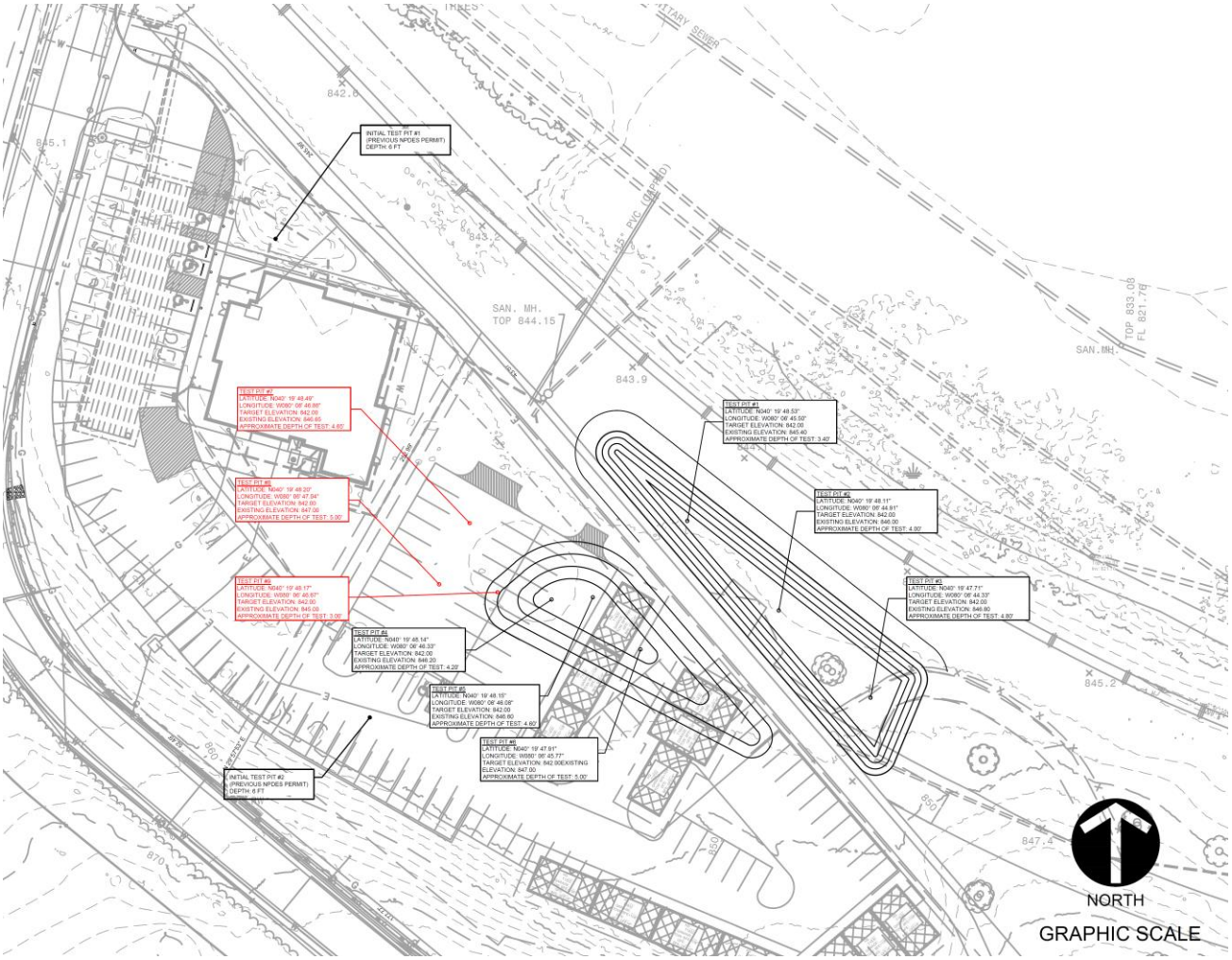


Figure 1 – Infiltration Testing Plan – OTB Alternate Area

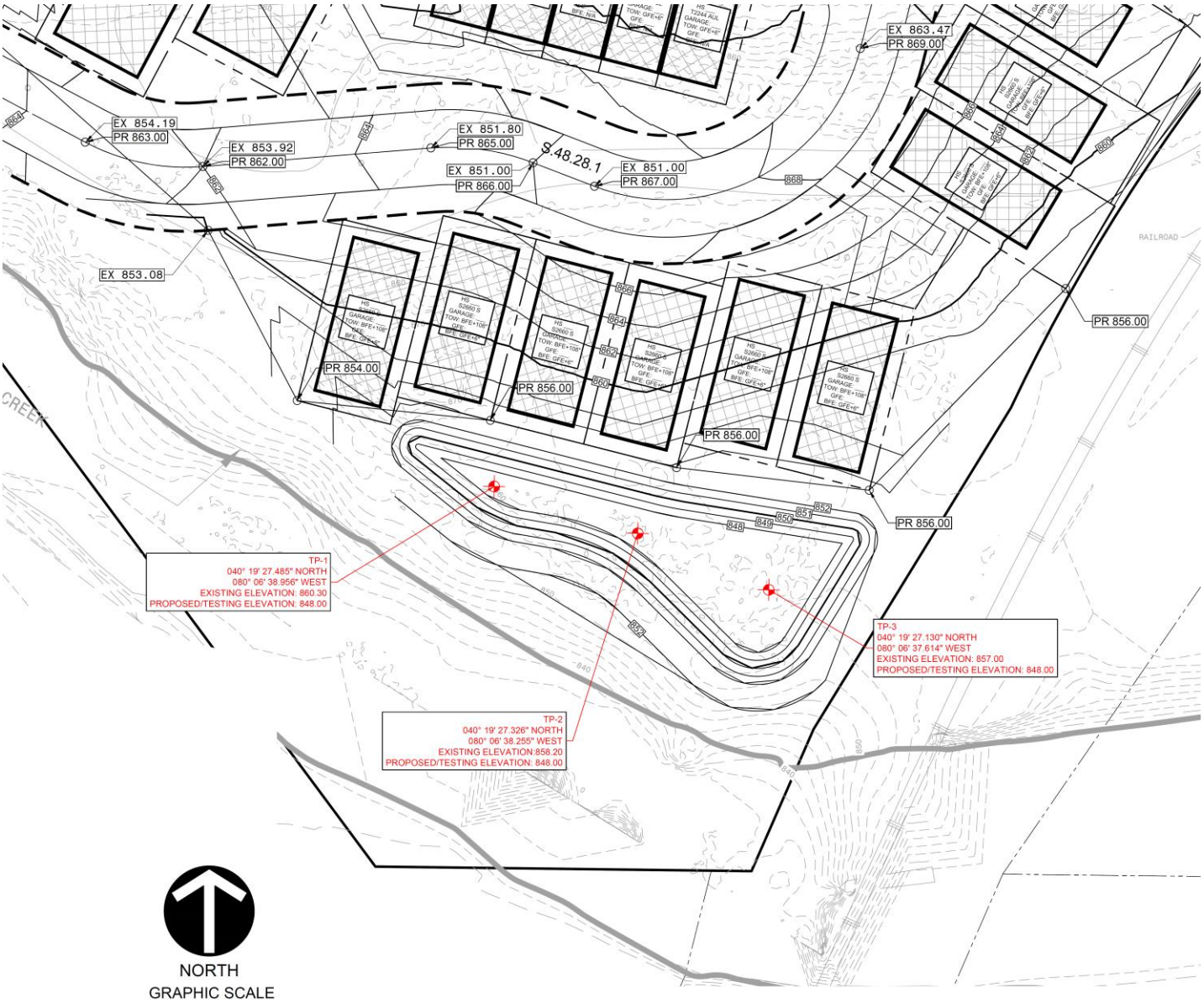


Figure 2 – Infiltration Testing Plan – Phase 1.9.3 / 1.9.4 Area

Appendix A – Soil Profile Information

TP-1 860.0	Upper Limit (ft.)	Lower Limit (ft.)	Texture Class	Color	Color patterns	Pores, roots, rock, etc.	Depth to rock	Depth to water
	0	2.5	C	10YR4/3	-	Roots Debris (fill)	-	-
	2.5	4.9	C	10YR4/4 10YR4/1	Mottles	Debris (fill)	-	-
	4.9	6.3	SC	10YR5/4 10YR6/4	-	Debris (fill)	-	-
	6.3	9.2	SC	10YR4/6 10YR5/2	-	Debris (fill)	-	-
	9.2	10.0	Rock	-	-	Sandstone	-	-
	10.0	14.7	SC	10YR5/4 10YR4/3	-	rocks	-	-

L – Loam, CS – Course Sandy, SL – Sandy Loam, CL – Clay Loam, SHL – Shale loam, SC – Sandy Clay, C – Clay, SS – Solid Shale, WS – Weathered Shale

TP-2 858.0	Upper Limit (ft.)	Lower Limit (ft.)	Texture Class	Color	Color patterns	Pores, roots, rock, etc.	Depth to rock	Depth to water
	0	1.3	C	10YR4/3 10YR5/3	-	Roots Debris (fill)	-	-
	1.3	3.1	C	10YR5/3 10YR5/4	-	Debris (fill)	-	-
	3.1	7.4	C	10YR5/3 10YR5/4	-	Debris (fill)	-	-
	7.4	8.1	Rock	-	-	Sandstone	-	-
	8.1	14.3	SC	10YR4/6 10YR4/4	-	rocks	-	-

L – Loam, CS – Course Sandy, SL – Sandy Loam, CL – Clay Loam, SHL – Shale loam, SC – Sandy Clay, C – Clay, SS – Solid Shale, WS – Weathered Shale

TP-3 857.0	Upper Limit (ft.)	Lower Limit (ft.)	Texture Class	Color	Color patterns	Pores, roots, rock, etc.	Depth to rock	Depth to water
	0	1.1	C	10YR4/3	-	Roots Debris (fill)	-	-
	1.1	2.8	C	10YR5/5 10YR4/3	-	Debris (fill)	-	-
	2.8	4.4	SC	10YR5/6 10YR5/4	-	Debris (fill)	-	-
	4.4	7.6	SC	10YR3/4 10YR3/2	-	Debris (fill)	-	-
	7.6	9.8	Bricks	-	-	Bricks	-	-
	9.8	13.9	SC	10YR4/5 10YR4/3	-	rocks	-	-

L – Loam, CS – Course Sandy, SL – Sandy Loam, CL – Clay Loam, SHL – Shale loam, SC – Sandy Clay, C – Clay, SS – Solid Shale, WS – Weathered Shale

TP-7 846.5	Upper Limit (ft.)	Lower Limit (ft.)	Texture Class	Color	Color patterns	Pores, roots, rock, etc.	Depth to rock	Depth to water
	0	0.5	CL	10YR4/4 10YR4/3	-	Roots	-	-
	0.5	1.3	SC	10YR4/5 10YR4/2	-	Debris (fill)	-	-
	1.3	4.3	C	10YR5/6 10YR5/3	-	Debris (fill)	-	-
	4.3	4.8	SC	10YR5/5 10YR4/3	-	Debris (fill) Shale	-	-
	4.8	8.9	WS	-	-	Weathered shale	-	-

L – Loam, CS – Course Sandy, SL – Sandy Loam, CL – Clay Loam, SHL – Shale loam, SC – Sandy Clay, C – Clay, SS – Solid Shale, WS – Weathered Shale

TP-8 847.0	Upper Limit (ft.)	Lower Limit (ft.)	Texture Class	Color	Color patterns	Pores, roots, rock, etc.	Depth to rock	Depth to water
	0	0.6	SC	10YR4/4	-	Roots Debris (fill)	-	-
	0.6	1.5	SC	10YR4/6 10YR4/4	-	Debris (fill)	-	-
	1.5	4.1	C	10YR5/6 10YR5/3	-	Debris (fill)	-	-
	4.1	9.3	SC	10YR5/6 10YR4/3	-	Rocks	-	-

L – Loam, CS – Course Sandy, SL – Sandy Loam, CL – Clay Loam, SHL – Shale loam, SC – Sandy Clay, C – Clay, SS – Solid Shale, WS – Weathered Shale

TP-9 845.0	Upper Limit (ft.)	Lower Limit (ft.)	Texture Class	Color	Color patterns	Pores, roots, rock, etc.	Depth to rock	Depth to water
	0	0.8	SC	10YR4/4	-	Roots Debris (fill)	-	-
	0.8	7.6	SC	10YR4/6 10YR4/3	-	rocks	-	-

L – Loam, CS – Course Sandy, SL – Sandy Loam, CL – Clay Loam, SHL – Shale loam, SC – Sandy Clay, C – Clay, SS – Solid Shale, WS – Weathered Shale

Appendix B – Test Pit Photos



TP-1



TP-2



TP-3



TP-7



TP-8



TP-9

APPENDIX G
STORM SEWER & RIPRAP CALCULATIONS



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(IN FEET)
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REVISION RECORD

No	Date
01	----
02	----
03	- -
04	- -
05	- -
06	- -
07	- -
08	- -

HASTINGS
South Fayette Township/Pittsburgh, PA
CHARTER Homes & Neighborhoods

HASTINGS PHASE 1.9.3 & 1.9.4
MAYVIEW ROAD
PITTSBURGH, PA 15102

PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC.
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

INLET DRAINAGE AREA MAP

Project Number: 18927-0096
Drawing Scale: 1" = 30'
Date Issued: DEC. 2025
Index Number: --
Drawn By: DRC
Checked By: DMH
Project Manager: DMH

INLET DAS

N:\Rich & Filenames-O\Projects\18000\18927 Mayview\-0096 Phase II\Dwg\02-Sheet\Ex-5 SWM POST DA.dwg
Plot Date=2/4/2026 6:49 PM Benjamin R. Landis, E.I.T.
Save Date=2/4/2026 6:47 PM
22.0

The Gateway Engineers, Inc.
100 McMorris Road
Pittsburgh, Pennsylvania 15205-9401
Phone: 412-921-4030
Facsimile: 412-921-9960

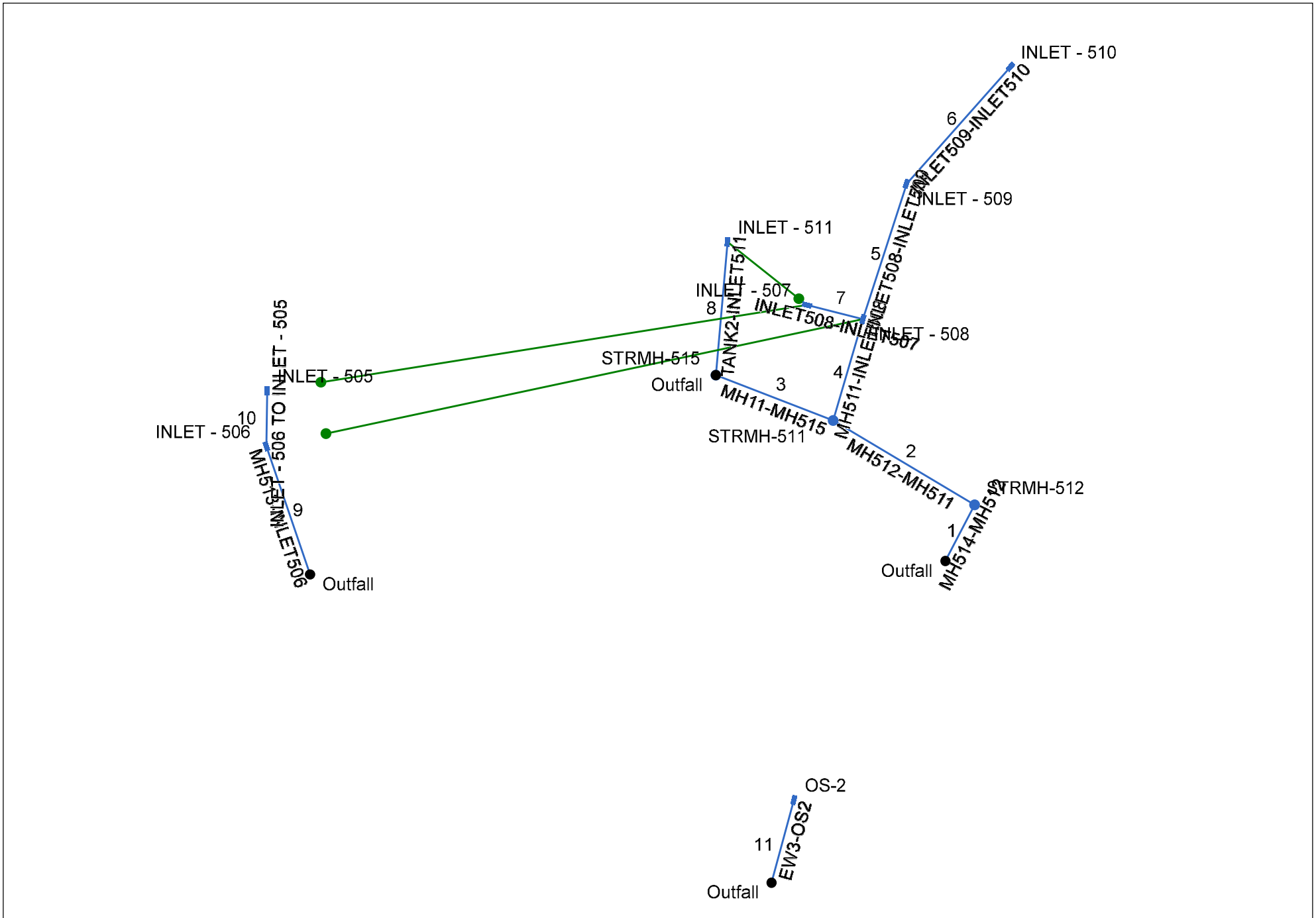
Date: 2026-02-04
Project: Hastings Phase 5
Project No: C-18927-0096
By: BL

Design Storm: 100
Rainfall Intensity: 8.52 (Tc = 5 min assumed for all inlet drainage areas)
PennDOT IDF Curve: Region 3

SUB-AREA RUNOFF CALCULATIONS

Receiving Structure	Drainage Area (AC)	Impervious Area (AC)	Impervious 'C' Value	Impervious Runoff (CFS)	Pervious Area (AC)	Pervious 'C' Value	Pervious Runoff (CFS)	Composite 'C' Value	Total Runoff (CFS)
INLET 505	0.95	0.35	0.90	2.68	0.60	0.35	1.79	0.55	**4.47**
INLET 506	0.32	0.30	0.90	2.30	0.02	0.35	0.06	0.87	**2.36**
INLET 507	0.45	0.08	0.90	0.61	0.37	0.35	1.10	0.45	**1.72**
INLET 508	0.13	0.11	0.90	0.84	0.02	0.35	0.06	0.82	**0.90**
INLET 509	0.32	0.20	0.90	1.53	0.12	0.35	0.36	0.69	**1.89**
INLET 510	0.19	0.11	0.90	0.84	0.08	0.35	0.24	0.67	**1.08**
INLET 511	0.09	0.09	0.90	0.69	0.00	0.35	0.00	0.90	**0.69**
STRMH-511	0.04	0.04	0.90	0.31	0.00	0.35	0.00	0.90	**0.31**

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Project File: storm sewers.stm	Number of lines: 11	Date: 2/9/2026

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	28.521	-62.502	MH	0.00	0.00	0.00	5.0	851.00	1.05	851.30	15	Cir	0.011	1.00	859.11	MH514-MH512
2	1	73.935	-86.573	MH	0.00	0.00	0.00	5.0	851.50	1.76	852.80	15	Cir	0.011	0.97	866.96	MH512-MH511
3	2	56.549	-9.750	MH	1.72	0.00	0.00	5.0	853.00	2.65	854.50	15	Cir	0.011	1.00	865.42	MH11-MH515
4	2	47.552	75.400	Grate	0.00	0.13	0.82	5.0	860.03	2.00	860.98	15	Cir	0.011	1.50	868.21	MH511-INLET508
5	4	64.126	1.401	Grate	0.00	0.32	0.69	5.0	860.98	5.01	864.19	15	Cir	0.011	0.69	871.91	INLET508-INLET509
6	5	70.341	23.835	Grate	0.00	0.19	0.67	5.0	864.19	3.99	867.00	15	Cir	0.011	1.00	875.61	INLET509-INLET510
7	4	26.000	-92.106	Grate	0.00	0.45	0.45	5.0	860.98	1.00	861.24	15	Cir	0.011	1.00	866.99	INLET508-INLET507
8	End	60.238	-85.000	Grate	0.00	0.04	0.90	5.0	855.50	19.51	867.25	15	Cir	0.011	1.00	870.25	TANK2-INLET511
9	End	61.000	-108.837	Grate	0.00	0.32	0.87	5.0	850.00	0.00	850.00	15	Cir	0.011	0.58	857.82	MH513-INLET506
10	9	25.001	19.613	Grate	0.00	0.95	0.55	5.0	853.01	1.00	853.26	15	Cir	0.011	1.00	857.81	INLET - 506 TO INL
11	End	38.606	-74.931	Grate	15.59	0.00	0.00	5.0	844.00	7.77	847.00	18	Cir	0.011	1.00	852.25	EW3-OS2

Project File: storm sewers.stm | Number of lines: 11 | Date: 2/9/2026

Structure Report

Struct No.	Structure ID	Junction Type	Rim Elev (ft)	Structure			Line Out			Line In		
				Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)
1	STRMH-512	Manhole	859.11	Cir	4.00	4.00	15	Cir	851.30	15	Cir	851.50
2	STRMH-511	Manhole	866.96	Cir	4.00	4.00	15	Cir	852.80	15 15	Cir Cir	853.00 860.03
3	STRMH-515	Manhole	865.42	Cir	4.00	4.00	15	Cir	854.50			
4	INLET - 508	Grate	868.21	Rect	4.00	2.00	15	Cir	860.98	15 15	Cir Cir	860.98 860.98
5	INLET - 509	Grate	871.91	Rect	4.00	2.00	15	Cir	864.19	15	Cir	864.19
6	INLET - 510	Grate	875.61	Rect	4.00	2.00	15	Cir	867.00			
7	INLET - 507	Grate	866.99	Rect	4.00	2.00	15	Cir	861.24			
8	INLET - 511	Grate	870.25	Rect	4.00	2.00	15	Cir	867.25			
9	INLET - 506	Grate	857.82	Rect	4.00	2.00	15	Cir	850.00	15	Cir	853.01
10	INLET - 505	Grate	857.81	Rect	4.00	2.00	15	Cir	853.26			
11	OS-2	Grate	852.25	Rect	4.00	2.00	18	Cir	847.00			

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	MH514-MH512	6.67	15	Cir	28.521	851.00	851.30	1.052	852.04	852.34	0.58	852.34	End	Manhole
2	MH512-MH511	6.72	15	Cir	73.935	851.50	852.80	1.758	852.34	853.84	n/a	853.84	1	Manhole
3	MH11-MH515	1.72	15	Cir	56.549	853.00	854.50	2.653	853.84	855.02	n/a	855.02 j	2	Manhole
4	MH511-INLET508	5.05	15	Cir	47.552	860.03	860.98	1.998	860.63	861.89	0.65	861.89	2	Grate
5	INLET508-INLET509	2.74	15	Cir	64.126	860.98	864.19	5.006	861.89	864.85	n/a	864.85 j	4	Grate
6	INLET509-INLET510	1.08	15	Cir	70.341	864.19	867.00	3.995	864.85	867.41	n/a	867.41 j	5	Grate
7	INLET508-INLET507	1.72	15	Cir	26.000	860.98	861.24	1.000	861.89	861.76	0.20	861.76	4	Grate
8	TANK2-INLET511	0.31	15	Cir	60.238	855.50	867.25	19.506	855.71	867.46	0.07	867.46	End	Grate
9	MH513-INLET506	6.77	15	Cir	61.000	850.00	850.00	0.000	851.04*	851.64*	0.27	851.91	End	Grate
10	INLET - 506 TO INLET - 505	4.45	15	Cir	25.001	853.01	853.26	1.000	853.70	854.11	n/a	854.11	9	Grate
11	EW3-OS2	15.59	18	Cir	38.606	844.00	847.00	7.771	845.42	848.42	1.26	848.42	End	Grate

Project File: storm sewers.stm | Number of lines: 11 | Run Date: 2/9/2026

NOTES: Return period = 100 Yrs. ; *Surcharged (HGL above crown). ; j - Line contains hyd. jump.

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	28.521	0.00	1.09	0.00	0.00	0.66	5.0	7.2	7.5	6.67	7.83	6.12	15	1.05	851.00	851.30	852.04	852.34	859.09	859.11	MH514-MH512
2	1	73.935	0.00	1.09	0.00	0.00	0.66	5.0	7.0	7.6	6.72	10.12	6.92	15	1.76	851.50	852.80	852.34	853.84	859.11	866.96	MH512-MH511
3	2	56.549	0.00	0.00	0.00	0.00	0.00	5.0	5.0	0.0	1.72	12.43	2.76	15	2.65	853.00	854.50	853.84	855.02	866.96	865.42	MH11-MH515
4	2	47.552	0.13	1.09	0.82	0.11	0.66	5.0	6.8	7.7	5.05	10.79	6.96	15	2.00	860.03	860.98	860.63	861.89	866.96	868.21	MH511-INLET508
5	4	64.126	0.32	0.51	0.69	0.22	0.35	5.0	6.3	7.9	2.74	17.07	3.50	15	5.01	860.98	864.19	861.89	864.85	868.21	871.91	INLET508-INLET5
6	5	70.341	0.19	0.19	0.67	0.13	0.13	5.0	5.0	8.5	1.08	15.25	2.37	15	3.99	864.19	867.00	864.85	867.41	871.91	875.61	INLET509-INLET5
7	4	26.000	0.45	0.45	0.45	0.20	0.20	5.0	5.0	8.5	1.72	7.63	2.68	15	1.00	860.98	861.24	861.89	861.76	868.21	866.99	INLET508-INLET5
8	End	60.238	0.04	0.04	0.90	0.04	0.04	5.0	5.0	8.5	0.31	33.71	2.19	15	19.51	855.50	867.25	855.71	867.46	865.42	870.25	TANK2-INLET511
9	End	61.000	0.32	1.27	0.87	0.28	0.80	5.0	5.1	8.5	6.77	0.00	5.85	15	0.00	850.00	850.00	851.04	851.64	854.24	857.82	MH513-INLET506
10	9	25.001	0.95	0.95	0.55	0.52	0.52	5.0	5.0	8.5	4.45	7.63	5.72	15	1.00	853.01	853.26	853.70	854.11	857.82	857.81	INLET - 506 TO I
11	End	38.606	0.00	0.00	0.00	0.00	0.00	5.0	5.0	0.0	15.59	34.60	9.02	18	7.77	844.00	847.00	845.42	848.42	849.76	852.25	EW3-OS2

Project File: storm sewers.stm | Number of lines: 11 | Run Date: 2/9/2026

NOTES:Intensity = 40.14 / (Inlet time + 5.60) ^ 0.66; Return period =Yrs. 100 ; c = cir e = ellip b = box

Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp Line No
							Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	STRMH-512	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
2	STRMH-511	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
3	STRMH-515	1.72*	0.00	0.00	1.72	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
4	INLET - 508	0.91	0.35	1.14	0.12	Grate	0.0	0.00	0.00	4.00	2.00	0.050	2.00	0.050	0.020	0.013	0.15	4.38	0.06	1.26	0.0	9
5	INLET - 509	1.88	0.08	1.61	0.35	Grate	0.0	0.00	0.00	4.00	2.00	0.050	2.00	0.050	0.020	0.013	0.17	5.52	0.09	1.87	0.0	4
6	INLET - 510	1.08	0.00	1.01	0.08	Grate	0.0	0.00	0.00	4.00	2.00	0.050	2.00	0.050	0.020	0.013	0.14	4.03	0.05	1.07	0.0	5
7	INLET - 507	1.72	0.00	1.46	0.26	Grate	0.0	0.00	0.00	4.00	2.00	0.050	2.00	0.050	0.020	0.013	0.16	5.18	0.08	1.69	0.0	10
8	INLET - 511	0.31	0.00	0.31	0.00	Grate	0.0	0.00	0.00	4.00	2.00	0.050	2.00	0.050	0.020	0.013	0.09	1.79	0.00	0.00	0.0	7
9	INLET - 506	2.37	0.12	2.49	0.00	Grate	0.0	0.00	6.14	4.00	2.00	Sag	2.00	0.050	0.020	0.000	0.27	10.53	0.27	10.53	0.0	Off
10	INLET - 505	4.45	0.26	4.71	0.00	Grate	0.0	0.00	6.14	4.00	2.00	Sag	2.00	0.050	0.020	0.000	0.39	16.38	0.39	16.38	0.0	Off
11	OS-2	15.59*	0.00	15.59	0.00	Grate	0.0	0.00	6.14	4.00	2.00	Sag	2.00	0.050	0.020	0.000	0.80	37.00	0.80	37.00	0.0	Off

Project File: storm sewers.stm | Number of lines: 11 | Run Date: 2/9/2026

NOTES: Inlet N-Values = 0.016; Intensity = 40.14 / (Inlet time + 5.60) ^ 0.66; Return period = 100 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

Hydraulic Grade Line Computations

Line	Size	Q	Downstream								Len	Upstream								Check		JL coeff	Minor loss
			Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf		Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf	Ave Sf	Enrgy loss		
	(in)	(cfs)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(%)	(ft)	(K)	(ft)
1	15	6.67	851.00	852.04	1.04	1.09	6.12	0.58	852.62	0.000	28.521	851.30	852.34	1.04**	1.09	6.12	0.58	852.92	0.000	0.000	n/a	1.00	0.58
2	15	6.72	851.50	852.34	0.84	0.87	7.69	0.59	852.93	0.000	73.935	852.80	853.84	1.04**	1.09	6.15	0.59	854.43	0.000	0.000	n/a	0.97	n/a
3	15	1.72	853.00	853.84	0.84	0.48	1.96	0.20	854.04	0.000	56.549	854.50	855.02 j	0.52**	0.48	3.56	0.20	855.22	0.000	0.000	n/a	1.00	0.20
4	15	5.05	860.03	860.63	0.60*	0.58	8.64	0.43	861.06	0.000	47.552	860.98	861.89	0.91**	0.96	5.27	0.43	862.32	0.000	0.000	n/a	1.50	0.65
5	15	2.74	860.98	861.89	0.91	0.66	2.86	0.27	862.16	0.000	64.126	864.19	864.85 j	0.66**	0.66	4.14	0.27	865.12	0.000	0.000	n/a	0.69	n/a
6	15	1.08	864.19	864.85	0.66	0.35	1.64	0.15	865.00	0.000	70.341	867.00	867.41 j	0.41**	0.35	3.10	0.15	867.56	0.000	0.000	n/a	1.00	0.15
7	15	1.72	860.98	861.89	0.91	0.48	1.80	0.20	862.09	0.000	26.000	861.24	861.76	0.52**	0.48	3.56	0.20	861.96	0.000	0.000	n/a	1.00	0.20
8	15	0.31	855.50	855.71	0.21*	0.14	2.19	0.07	855.79	0.000	60.238	867.25	867.46	0.21**	0.14	2.19	0.07	867.54	0.000	0.000	n/a	1.00	0.07
9	15	6.77	850.00	851.04	1.04*	1.10	6.18	0.59	851.64	0.761	61.000	850.00	851.64	1.25	1.23	5.52	0.47	852.11	0.787	0.774	0.472	0.58	0.27
10	15	4.45	853.01	853.70	0.69*	0.69	6.45	0.39	854.08	0.000	25.001	853.26	854.11	0.85**	0.89	4.98	0.39	854.50	0.000	0.000	n/a	1.00	n/a
11	18	15.59	844.00	845.42	1.42*	1.73	9.02	1.26	846.68	0.000	38.606	847.00	848.42	1.42**	1.73	9.02	1.26	849.68	0.000	0.000	n/a	1.00	1.26

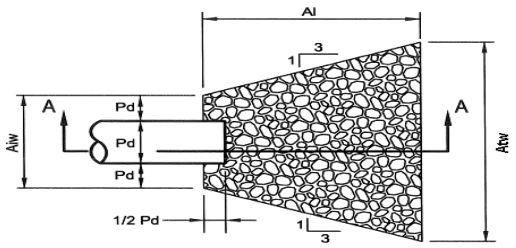
Project File: storm sewers.stm | Number of lines: 11 | Run Date: 2/9/2026

Notes: * Normal depth assumed; ** Critical depth.; j-Line contains hyd. jump ; c = cir e = ellip b = box

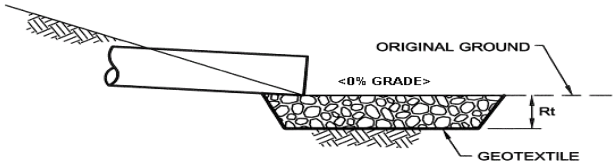
GATEWAY
On Call. On Time. On Target.

DATE :	FEBRUARY 2026
PROJECT :	HASTINGS PHASE 5
JOB NO. :	C-18927-0096
BY :	BRL
CHECKED BY :	

RIPRAP APRON OUTLET PROTECTION



PLAN VIEW



SECTION A - A

NO.	PIPE DIA. Do (in)	TAIL WATER COND. (Max or Min)	MIN. "n" FOR PIPE	PIPE SLOPE (FT/FT)	Q (CFS)	V* (FPS)	Flow Depth (ft)	Tailwater Condition	RIPRAP SIZE	Rt (in)	Al (ft)	Aiw (ft)	Atw (ft)
EW-1	36	Min	0.011	0	6.36	4.27	0.79	Min	R-4	18	8.00	9.00	17.00
EW-2	36	Min	0.011	0	6.65	4.32	0.81	Min	R-4	18	8.00	9.00	17.00
EW-3	18	Min	0.011	0.0778	15.59	9.02	1.42	Max	R-5	27	25.00	4.50	15.00

*The anticipated velocity (V) should not exceed the maximum permissible shown in Table 6.6 for the proposed riprap protection. Adjust for less than full pipe flow. Use Manning's equation to calculate velocity for pipe slopes ≥ 0.05 ft/ft.

APPENDIX H
LONG TERM OPERATION AND MAINTENANCE SCHEDULE

Stormwater Management Conveyance
Maintenance Schedule

Owner and responsible maintenance party: **Charter Homes and Neighborhoods**

The stormwater management system, which includes inlets, storm sewers, an underground detention tank, and an above/below ground infiltration basin, should be inspected around April 15 and November 15 of each year and after heavy rainfall events. The stormwater management conveyance is a privately owned system, and it is the responsibility of the property owner, to perform these inspections, make all necessary repairs, and keep a record of the findings and results of the inspections available for review.

The following maintenance shall be performed as soon as practical following an inspection:

Manholes/Inlets – The manholes/inlets shall be maintained so as not to allow any sediment or debris to prevent the flow of water into the manholes/inlets. Any obstructions to the pipe should be removed.

Storm Sewer Pipes – All storm sewer piping should be inspected to make sure no sediment or debris build-up has occurred that might restrict the flow of water through them. If build-up has occurred, the pipes should be flushed and cleaned.

Infiltration Basin – Infiltration basins, including basin bottoms, trash racks, outlet structures, riprap and inlet, should be inspected for clogging and excessive debris and sediment accumulation at least four times per year, as well as after every storm greater than1-inch. Sediment removal should be conducted when the basin is completely dry. Sediment should be disposed of properly and once sediment removed; disturbed areas need to be immediately stabilized and revegetated. Mowing and/or trimming of vegetation should be performed as necessary to sustain the system, but all detritus should be removed from the basin. Vehicles should not be parked or driven on an Infiltration Basin, and care should be taken to avoid excessive compaction by mowers. Vegetated areas should be inspected annually for erosion. Vegetated areas should be inspected annually for unwanted growth of exotic/invasive species. Vegetative cover should be maintained at a minimum of 95 percent. If vegetative cover has been reduced by 10 percent, vegetation should be reestablished. Mulch should be re-spread when erosion is evident and soil media should be replenished as needed. Grasses within the vegetated area may be mowed twice per year to a height no lower than 6 inches (or cut back every year) but not more frequently.

Detention Tanks – The detention tanks should be inspected to make sure there is no buildup of debris or silt in the vessels. Dispose of sediment, debris/trash, and any other waste material removed from the system. The facility should be inspected at least 4 times a year, as well as after every storm exceeding 1 inch.

Primary Spillway Orifices - The primary spillway should be inspected to make sure no obstructions are preventing the orifice opening(s) from passing water into the outlet pipe. Any obstructions preventing the primary spillway from functioning properly must be removed.

Outlet Control Structure – The outlet control structure should be inspected to make sure no obstructions are preventing the orifice opening(s) from passing water into the outlet pipe. Any obstructions preventing the primary spillway from functioning properly must be removed.

Underdrain – The underdrain for the basin shall be in the closed position, except for maintenance purposes. If the underdrain is opened, return it to the closed position once maintenance operations are completed. The underdrain should be inspected and tested 4 times

per year.

Riprap Aprons – Inspect weekly and after every runoff event for sediment accumulation and/or apron washout. Reshape as necessary and replace with larger size riprap if necessary.

In addition to these measures, all maintenance requirements of the South Fayette Township Stormwater Management Ordinance must be followed.

APPENDIX I
PLAN PREPARER INFORMATION

STANDARD WORKSHEET #22: PLAN PREPARER RECORD OF TRAINING AND EXPERIENCE IN POST CONSTRUCTION STORMWATER MANAGEMENT METHODS AND TECHNIQUES

NAME OF PLAN PREPARER: Benjamin R. Landin, E.I.T.

FORMAL EDUCATION:

Name of college or Technical Institute: Penn State University
Curriculum or Program: Civil Engineering
Date of Attendance: **From:** August 2004 **To:** May 2008
Degree(s) Received: Bachelor of Science in Civil Engineering

EMPLOYMENT HISTORY:

Current Employer: The Gateway Engineers, Inc.
Telephone: (412) 921-4030
From: July 2025 **To:** Current

Former Employer: LSSE, Inc.
Telephone: (412) 264-4400
From: June 2008 **To:** June 2025

RECENT POST CONSTRUCTION STORMWATER PLANS PREPARED:

Fox Chapel Estates, L.P.
Indiana Trails Plan of Lots
Erosion and Sedimentation Control – Chapter 102 Individual NPDES Permit
Indiana Township, Allegheny County, PA
Reviewed By: Pennsylvania Department of Environmental Protection Southwest Regional Office

Western Avenue Associates
GetGo Western & Fulton
Erosion and Sedimentation Control – Chapter 102 General NPDES Permit
City of Pittsburgh, Allegheny County, PA
Reviewed By: Allegheny County Conservation District

GetGo Portfolio II, LLC
GetGo South Union – Work Parkway
Erosion and Sedimentation Control – Chapter 102 General NPDES Permit
South Union Township, Fayette County, PA
Reviewed By: Fayette County Conservation District

Bradford Park Borough
Acorn Park Improvements
Erosion and Sedimentation Control – Chapter 102 Individual NPDES Permit
Borough of Bradford Park, Allegheny County, PA
Reviewed By: Pennsylvania Department of Environmental Protection Southwest Regional Office

Imperial Land Corporation
Fort Cherry Development District
Erosion and Sedimentation Control – Chapter 102 General NPDES Permit
Robinson Township, Washington County, PA
Reviewed By: Washington County Conservation District

GATEWAY

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TIS ADDENDUM

TRANSPORTATION IMPACT STUDY

C-18927-2512

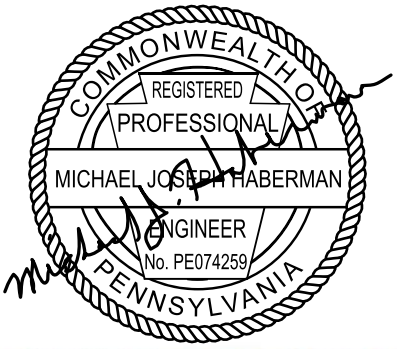
February 2026

Hastings – Final Phase TIS Addendum

Mayview Road
South Fayette Township
Allegheny County, Pennsylvania

PREPARED FOR

Charter Homes & Neighborhoods
322 N. Arch Street
Lancaster, PA 17603



SUBMITTED BY

Michael J. Haberman, P.E.
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A FULL-SERVICE CIVIL ENGINEERING FIRM

Final Phase TIS Addendum
Proposed Hastings Development
South Fayette Township, Allegheny County, Pennsylvania

1.0 INTRODUCTION

The Hastings development is located on the eastern side of Mayview Road (SR 3005) in South Fayette Township, Allegheny County, PA. To date, all of Phases 1, 2, and 3 have been constructed and are occupied along with a portion of Phase 4 of the development. The purpose of this report is to provide updated trip generation information to the Developer regarding the final phase of the development known as Phase 5.

This addendum provides a comparison of the trip generation from the original Master Plan TIS to the actual site-generated traffic of what has been built and occupied, combined with the anticipated trip generation for the remainder of the development.

2.0 MASTER PLAN SUMMARY

2.1 Project Summary and Trip Generation

The original Master Plan TIS Report was completed in August 2016 and included a full buildout of the Hastings mixed-use development with the following land use mix:

- *Single-Family Homes* – 156 dwelling units
- *Multifamily Housing (Mid-Rise)* – 300 dwelling units
- *Multifamily Housing (Low-Rise)* – 160 dwelling units
- *Senior Adult Housing – Attached* – 73 dwelling units
- *Assisted Living* – 62 beds
- *Nursing Home* – 15 beds
- *General Office* – 40,000 s.f.
- *Shopping Center* – 28,000 s.f.
- *Quality Restaurant* – 100 seats

The anticipated trip generation from the original Master Plan TIS were calculated using ITE *Trip Generation*, 9th Edition. The total trip generation that was evaluated can be seen in **Table 1** in the Tables section at the end of this addendum.

2.2 Results and Mitigation – Master Plan

In the August 2016 Master Plan TIS Report, several impacts were identified and measures were recommended to mitigate the projected impacts to the roadway network. With the

exclusion of the proposed accesses, which have all been constructed along with the auxiliary left turn lanes on Mayview Road (SR 3005), the following impacts and improvements were identified:

Mayview Road (SR 3005) and Chartiers Street (SR 3034)/Lesnett Road (SR 3034)

- Construct a 125-foot channelized right turn lane on the Chartiers Street (SR 3034) approach to Mayview Road (SR 3005).
- Construct a 200-foot channelized right turn lane on the Lesnett Road (SR 3034) approach to Bank Street (SR 3005).

Mayview Road (SR 3005) and Boyce Road (SR 3006)

- Construct a 400-foot southbound left turn lane on Mayview Road (SR 3005).
- Modify the traffic signal as necessary to accommodate the proposed turn lane and optimize signal timings.

Copies of relevant pages from the August 2016 Master Plan TIS Report are included in **Appendix A** at the end of this report.

2.3 Phase 1 TIS

Subsequent to the preparation of the Master Plan TIS in August 2016, Gateway prepared a "Phase 1 TIS". The purpose of the Phase 1 TIS was to determine how much of the development could be constructed before offsite improvements would be warranted. The analyses was an iterative analysis and were based on trip generation estimates from ITE *Trip Generation*, 9th Edition. The results of the Phase 1 TIS (dated January 2017) showed that the following land use mix could be constructed without impacting either offsite intersection:

- *Single-Family Homes* – 42 dwelling units
- *Multifamily Housing (Mid-Rise)* – 270 dwelling units
- *Multifamily Housing (Low-Rise)* – 77 dwelling units
- *Senior Adult Housing – Attached* – 130 dwelling units
- *Shopping Center* – 20,920 s.f.

The anticipated trip generation from the approved Phase 1 TIS were calculated using ITE *Trip Generation*, 9th Edition. The total Phase 1 TIS trip generation that was evaluated can be seen in **Table 2** in the Tables section at the end of this addendum.

2.4 Results and Mitigation – Phase 1 TIS

In the January 2017 Phase 1 TIS Report, the results showed that neither offsite intersection would experience a drop in Level-of-Service or an impact of greater than 10.0 seconds per vehicle for the overall intersection. As such, no offsite mitigation was required. In addition to the evaluation of the offsite intersections, the Phase 1 TIS also recommended the installation of auxiliary left turn lanes along Mayview Road (SR 3005) at the two (2) local-road site-access intersections. The southbound left turn lane at Site Road B (Hastings Crescent Drive) was recommended to provide 125 feet of vehicular storage and the southbound left turn lane at Site Road C (Hastings Park Drive) was recommended to provide 75 feet of vehicular storage as well as a northbound left turn lane onto relocated Sunset Drive, which also was recommended to provide 75 feet of vehicular storage. The recommended auxiliary turn lanes along Mayview Road (SR 3005) at the Site Road intersections were constructed in 2022 and are open to traffic.

Copies of relevant pages from the January 2017 Phase 1 TIS Report are included in **Appendix B** at the end of this report.

3.0 UPDATED ANALYSES, DATA, AND PROJECTIONS

The purpose of this Addendum study is to provide updated data and analyses to determine if improvements to the offsite intersections will actually be required upon full buildout. To perform the analyses, new existing condition AM and PM peak hour turning movement counts were performed at the Site Drive A (Over the Bar), Site Road B (Hastings Crescent Drive) and Site Road C (Hastings Park Drive) intersections to establish the actual site-generated peak hour trips.

Further, the overall development land use mix has evolved since the time the original Master Plan TIS and the Phase 1 TIS were prepared. So this Addendum study also outlines the differences in land use mix (type and size) between the Master Plan and Phase 1 TIS and what has been / will be constructed upon full buildout of the development. The following sections of this report summarize the results of the updated analyses.

3.1 Turning Movement Counts

Turning movement counts were performed at the following intersections:

- Mayview Road (SR 3005) and Over the Bar Driveway (Site Drive A)
- Mayview Road (SR 3005) and Hastings Crescent Drive (Site Road B)
- Mayview Road (SR 3005) and Hastings Park Drive (Site Road C)

These counts were performed on Wednesday, December 3, 2025, from 7:00 a.m. to 9:00 a.m. and from 4:00 p.m. to 6:00 p.m. These times were chosen because they reflect the typical morning (AM) and evening (PM) peak hours for vehicular traffic. Summaries of the turning movement count data have been included in **Appendix C** at the end of this report.

3.2 Currently Completed and Occupied Development

At the time of the counts, all of Phases 1, 2, and 3 (of the development land development plan phasing, not the TIS phasing) were completed and occupied, and a portion of Phase 4 was completed and occupied. Specifically, the following components of the overall Hastings development were completed and occupied at the time of the turning movement counts:

- *Single-Family Detached Housing* – 173 dwelling units
- *Single-Family Attached Housing* – 406 dwelling units
- *Senior Adult Housing – Attached* – 130 dwelling units
- *General Office* – 8,040 s.f.
- *Shopping Center* – 10,940 s.f.
- *High-Turnover (Sit-Down) Restaurant* – 11,916 s.f.

The trips generated by the components of the Hastings Mixed-Use Development that have been constructed and occupied are now captured in turning movement counts. The constructed components are generating 213 trips (76 in, 137 out) during the AM peak hour, and 260 trips (165 in, 95 out) during the PM peak hour. These actual site-generated AM and PM peak hour trips can be seen in **Table 3** in the Tables section at the end of this report.

3.3 Remainder of Phase 4 and Phase 5

To determine the updated total site-generated trips for the development, the actual site-generated AM and PM peak hour trips (Table 3) were combined with the projected trips associated with the remainder of Phase 4 and the proposed Phase 5 of the development. The remainder of Phase 4 and Phase 5 consist of the following components:

- *Single-Family Detached Homes* – 21 dwelling units (7 remaining in Phase 4 and 14 proposed in Phase 5)
- *Single-Family Attached Homes* – 57 dwelling units (47 remaining in Phase 4 and 10 proposed in Phase 5)

Copies of the site plan for Phase 4 and Phase 5 are included in **Appendix D** at the end of this report for reference.

The Institute of Transportation Engineers' (ITE) *Trip-Generation*, 12th Edition, was utilized to determine the trip generation for the remainder of Phase 4 and for Phase 5. The AM and PM peak hour rates were based on the following Land Use Codes:

- LU Code 210 – *Single-Family Detached Housing*
- LU Code 215 – *Single-Family Attached Housing*

The projected AM and PM peak hour trips associated with the remainder of the development can be seen in **Table 4** in the Tables section at the end of this report.

Copies of the trip generation calculations have been included in **Appendix E** at the end of this report.

As can be seen in Table 4, the remaining components of the Hastings development are projected to generate 38 trips (10 in, 28 out) during the AM peak hour and 48 trips (28 in, 20 out) during the PM peak hour. These actual trips and calculated remaining trips were then combined to establish the Total Development Trips (at full buildout) for the Hastings development. These trips can be seen graphically in **Table 5**.

3.4 Trip Generation Comparison

3.4.1 Actual/Remaining Trip Generation vs. Original Master Plan TIS Trip Generation

Table 6a in the Tables section at the end of this report provides a comparison between the original Master Plan TIS trip generation projections and the Actual/Remaining Trip Generation for the Hastings Development. As can be seen in Table 6a, the overall site development mix and trip generating characteristics are significantly different than what was included in the original Master Plan TIS that was prepared in 2016. Overall, the proposed Hastings development is projected to generate **220 *fewer* AM peak hour trips** and **199 *fewer* PM peak hour trips** than what was originally projected and analyzed.

Specifically, the commercial components (proposed uses and sizes) are tangibly different than what originally contemplated and the total number of residential units is significantly less than what was included on the tentative master plan. For example, the originally proposed 300 apartment units on the Phase 4 parcel have been replaced with a mixture of single family homes (20 dwelling units) and townhomes (67 dwelling units). Thus the total number of residential units on the Phase 4 parcel is now 87 compared to the 300 that were included in the original Master Plan TIS.

3.4.2 Actual/Remaining Trip Generation vs. Phase 1 TIS Trip Generation

In addition to the comparison of the trips to the original Master Plan TIS, **Table 6b** has been prepared to provide a comparison of the approved Phase 1 TIS trips to the Actual/Remaining Trip Generation for the Hastings development at full buildout. As can be seen in Table 6b, the total trip generation of the Hastings development at full buildout (actual/remaining trips) will be almost equal to the total trips that were estimated in the Phase 1 TIS for the AM peak hour (22 fewer trips) and for the PM peak hour (6 additional trips). Based on the results of these analyses, the full buildout of the development is essentially projected to generate approximately the same number of trips during the AM and PM peak hours as was analyzed in the Phase 1 TIS, which was approved by both South Fayette Township and PennDOT and did not require any offsite improvements.

As was described in Section 2.3 of this report, the purpose of the Phase 1 TIS was to determine how much of the proposed development could be constructed before impacts to the offsite intersections would be realized. An "impact" is identified when the site-generated traffic from a proposed development increases the overall intersection delay by more than 10.0 seconds per vehicle during either the AM or PM peak hour. As was outlined in the approved Phase 1 TIS, at least a total of 273 AM and 302 PM peak hour trips could be generated by the development without impacting the offsite intersections. The newly collected actual trip generation data combined with the trip generation estimates for the remainder of the development and the proposed change to the use/mix of Phase 4 reveals that the Hastings development is projected to generate significantly fewer AM and PM peak hour trips at full buildout than what was projected in the original Master Plan TIS. Further, the full buildout trips (actual and remaining) are now expected to mirror the total trips that were analyzed in the Phase 1 TIS, which did not require any offsite mitigation.

4.0 SUMMARY AND CONCLUSIONS

4.1 Summary of Analyses and Findings

The purpose of this Addendum traffic study for the Hastings development was to provide updated analyses and trip generation calculations for the development to determine if offsite improvements will be required as part of the development, and if so, what improvements would be required. Based on the analyses performed, it has been demonstrated that the Hastings development at full buildout will generate significantly less AM and PM peak hour traffic than what was evaluated in the original Master Plan TIS that was prepared in 2016.

Specifically, Gateway collected actual AM and PM peak hour traffic volumes at the existing accesses to the development to establish current trip generation for the completed and occupied components of the development. Those existing AM and PM peak hour trips were then combined with the trip generation projections for the remainder of the

development (remainder of Phase 4 and proposed Phase 5) to establish updated full buildout trip generation projections. The analyses show that at full buildout the Hastings development is projected to generate **220 *fewer* AM peak hour trips** and **199 *fewer* PM peak hour trips** than what was originally contemplated in the Master Plan TIS from 2016.

In addition to the comparison of the updated full buildout trip generation (actual/remaining) to the Master Plan TIS trip generation, Gateway also compared the updated full buildout trip generation (actual/remaining) to the approved Phase 1 TIS trip generation that was included in the approved Phase 1 TIS, which was prepared in 2017. That analyses shows that at full buildout, the Hastings development will generate approximately the same amount of AM and PM peak hour traffic as was projected and analyzed in the Phase 1 TIS.

4.2 Conclusion

Based on the information and analyses included in this report, Gateway concludes that at full buildout, the Hastings development will generate *significantly less* traffic during the AM and PM peak hours when compared to what was evaluated in the original Master Plan TIS, which was prepared in 2016. In the original Master Plan TIS, offsite intersection impacts were identified; however, the implementation of those improvements was deferred in order to allow the development to begin buildout.

In order to determine how much of the development could be constructed before offsite improvements would be triggered, a Phase 1 TIS was prepared in 2017. The Phase 1 TIS was an iterative analysis of AM and PM peak hour trips in order to determine how many trips could be generated by the development before an impact would be realized at the offsite intersections. The Phase 1 TIS was ultimately reviewed and approved by both South Fayette Township and PennDOT.

The results of the analyses included in this report reveal that at full buildout, the trip generation of the Hastings development (actual trips plus projections for the remainder of the development) will be approximately the same as what was analyzed in the approved Phase 1 TIS. Because the approved Phase 1 TIS revealed no impacts to any of the offsite intersections, Gateway concludes that no offsite intersection impacts will be realized upon full buildout of the development. The developer has already constructed the required auxiliary left turn lanes along Mayview Road (SR 3005) at Hastings Crescent Drive and Hastings Park Drive/Sunset Drive. No further improvements are necessary or required.

TABLES

Table 1

Hastings Mixed-Use Development – Trip Generation Summary
Original Master Plan TIS (May 2016)

TIME PERIOD	ANTICIPATED TRIP GENERATION		
	IN	OUT	TOTAL
Total Projected Site-Generated Trips - Master Plan			
ADT	**3,584**	**3,584**	**7,168**
AM Peak Hour	**218**	**279**	**497**
Internal Capture	*13*	*13*	*26*
Pass-By Trips	*10*	*5*	*15*
Primary Trips	*195*	*261*	*456*
PM Peak Hour	**318**	**271**	**589**
Internal Capture	*41*	*41*	*82*
Pass-By Trips	*14*	*12*	*26*
Primary Trips	*263*	*218*	*481*

Table 2

Hastings Mixed-Use Development – Trip Generation Summary
Approved Phase 1 TIS (January 2017)

TIME PERIOD	ANTICIPATED TRIP GENERATION		
	IN	OUT	TOTAL
Total Projected Site-Generated Trips – Phase I			
ADT	**2,158**	**2,158**	**4,316**
AM Peak Hour	**107**	**174**	**281**
Internal Capture	*4*	*4*	*8*
Pass-By Trips	*8*	*5*	*13*
Primary Trips	*95*	*165*	*260*
PM Peak Hour	**185**	**151**	**336**
Internal Capture	*17*	*17*	*34*
Pass-By Trips	*9*	*10*	*19*
Primary Trips	*159*	*124*	*283*

Table 3

Hastings Development – Actual Trip Generation Summary
Data Collected at Three (3) Site Accesses (December 2025)

TIME PERIOD	ANTICIPATED TRIP GENERATION		
	IN	OUT	TOTAL
Site Drive A (Over The Bar Driveway)			
AM Peak Hour	0	0	0
PM Peak Hour	32	11	43
Site Road B (Hastings Crescent Drive)			
AM Peak Hour	50	99	149
PM Peak Hour	94	54	148
Site Road C (Hastings Park Drive)			
AM Peak Hour	26	38	64
PM Peak Hour	39	30	69
Total Actual Site-Generated Trips (Phase 1, Phase 2, Phase 3, and Partial Phase 4)			
AM Peak Hour	**76**	**137**	**213**
PM Peak Hour	**165**	**95**	**260**

Table 4

Hastings Mixed-Use Development Remaining Trips
Remainder of Phase 4 (7 single family homes and 47 townhomes) and
Proposed Phase 5 (14 single family homes and 10 townhomes)

TIME PERIOD	ANTICIPATED TRIP GENERATION		
	IN	OUT	TOTAL
Land Use Code #210, *Single-Family Detached Housing* **–** 21 dwelling units			
AM Peak Hour	5	15	20
PM Peak Hour	14	9	23
Land Use Code #215, *Single-Family Attached Housing* **–** 57 dwelling units			
AM Peak Hour	5	13	18
PM Peak Hour	14	11	25
Total Remaining Site-Generated Trips (Partial Phase 4 and Phase 5)			
AM Peak Hour	**10**	**28**	**38**
PM Peak Hour	**28**	**20**	**48**

Table 5

Hastings Mixed-Use Development – Actual & Projected Trip Generation Summary

TIME PERIOD	ANTICIPATED TRIP GENERATION		
	IN	OUT	TOTAL
Actual Site Trips – Phases 1, 2, 3, and Part of Phase 4[1]			
AM Peak Hour	76	137	213
PM Peak Hour	165	95	260
Calculated Trip Generation –Remainder of Phase 4[2]			
AM Peak Hour	10	28	38
PM Peak Hour	28	20	48
Total Development Trips			
AM Peak Hour	**86**	**165**	**251**
PM Peak Hour	**193**	**115**	**308**

[1] From count data and as summarized in Table 3.
[2] Total remaining trips from Table 4.

Table 6a

Hastings Development – Trip Generation Comparison
Master Plan TIS Trip Generation vs. Actual/Projected Full Buildout Trip Generation

TIME PERIOD	ANTICIPATED TRIP GENERATION		
	IN	OUT	TOTAL
Actual and Projected Full Buildout Trip Generation (see Table 5)			
AM Peak Hour	86	165	251
PM Peak Hour	193	115	308
Original Master Plan TIS Trip Generation (see Table 1)*			
AM Peak Hour	205	266	471
PM Peak Hour	277	230	507
Actual/Project Trip Generation Minus (-) Original Master Plan TIS Projections			
AM Peak Hour	**-119**	**-101**	**-220**
PM Peak Hour	**-84**	**-115**	**-199**

*Trips include only primary and pass-by trips as internal trips are internal to the site.

Table 6b

Hastings Development – Trip Generation Comparison
Phase 1 TIS Trip Generation vs. Actual/Projected Full Buildout Trip Generation

TIME PERIOD	ANTICIPATED TRIP GENERATION		
	IN	OUT	TOTAL
Actual and Projected Full Buildout Trip Generation (see Table 5)			
AM Peak Hour	86	165	251
PM Peak Hour	193	115	308
Phase 1 TIS Trip Generation (see Table 2)*			
AM Peak Hour	103	170	273
PM Peak Hour	168	134	302
Actual/Project Trip Generation Minus (-) Original Phase 1 TIS Projections			
AM Peak Hour	**-17**	**-5**	**-22**
PM Peak Hour	**+25**	**-19**	**+6**

*Trips include only primary and pass-by trips as internal trips are internal to the site.

APPENDICES

APPENDIX A

Relevant Pages and Information from Master Plan TIS (August 2016)

GATEWAY

On Call. On Time. On Target.

TIS REPORT

TRANSPORTATION IMPACT STUDY

C-18927-0017

May 19, 2016
Revised August 2016

Proposed Hastings Mixed-Use Development Master Plan TIS (EPS # 111361)

Mayview Road (SR 3005)
South Fayette Township
Allegheny County, Pennsylvania

PREPARED FOR

Charter Homes &
Neighborhoods
1190 Dillerville Road
Lancaster, PA 17601



SUBMITTED BY

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Revised Transportation Impact Study
Proposed Hastings Mixed-Use Development
South Fayette Township, Allegheny County, Pennsylvania

EXECUTIVE SUMMARY

Background / Introduction

This TIS for the proposed Hastings mixed-use development has been revised to incorporate comments made by PennDOT in their review letter dated June 10, 2016. This letter and the response to review comments have been attached to this revised TIS as **Appendix EE**. This revised TIS incorporates the responses to these comments including the following changes from the May 2016 submission:

- Adjustments to signal timing parameters at the Mayview Road (SR 3005) and Boyce Road (SR 3006) intersection.
- Adjustments to the methodology used to determine the conditions of the Mayview Road / Bank Street (SR 3005) and Chartiers Street / Lesnett Road (SR 3034) intersection due to its skewed geometry.

Project Description

The proposed development is located on the eastern side of Mayview Road (SR 3005) in South Fayette Township, Allegheny County, Pennsylvania. The mixed-use development is proposed to include the following residential, office, and retail components at *full buildout*:

- *Single-Family Homes* – 156 dwelling units
- *Mid-Rise Apartments* – 300 dwelling units[1]
- *Residential Condominium / Townhouses* – 160 dwelling units
- *Senior Adult Housing – Attached* – 73 dwelling units
- *Assisted Living* – 62 beds
- *Nursing Home* – 15 beds
- *General Office* – 40,000 s.f.
- *Specialty Retail / Shopping Center* – 28,000 s.f.
- *Quality Restaurant* – 100 seats

[1] The development plan indicates anywhere from 260 to 300 units; however, 300 units was utilized to provide conservative results.

The intersection of Bank Street (SR 3005) and Lesnett Road (SR 3034) is projected to operate at an overall LOS "F" during both peak hours under Design Year 2028 Without Development Conditions. The side-street (Lesnett) approach is anticipated to continue operating above capacity during both peak hours.

The Mayview Road (SR 3005) and Boyce Road (SR 3006) intersection is anticipated to improve overall intersection operations as compared to Existing Year 2015 Conditions with the improvements proposed as part of the PennDOT project. The intersection is projected to continue to operate with acceptable Levels-of-Service (LOS "C" or better) during both the AM and PM peak hours with significant improvements as a result of PennDOT's project.

Table 1a and **Table 1c** in the Tables section at the end of this report show the Design Year 2028 Without Development Condition AM and PM peak hour Levels-of-Service for the study intersections. The Design Year 2028 Without Development Condition LOS can also be seen graphically on **Figure 6c**.

Synchro printouts for the signalized intersections for the Design Year 2028 Without Development Conditions can be found in **Appendix K** at the end of this report. HCM / HCS reports from Synchro for the Design Year 2028 Without Development Conditions can be found in **Appendix L** at the end of this report.

7.0 PROPOSED DEVELOPMENT

7.1 Development Description

The proposed development is located on the east side of Mayview Road (SR 0008) north of Boyce Road (SR 3006) in South Fayette Township, Allegheny County, Pennsylvania. The mixed-use development is proposed to include the following residential, office, and retail components at *full buildout*:

- *Single-Family Homes* – 156 dwelling units
- *Mid-Rise Apartments* – 300 dwelling units[7]
- *Residential Condominium / Townhouses* – 160 dwelling units
- *Senior Adult Housing – Attached* – 73 dwelling units
- *Assisted Living* – 62 beds
- *Nursing Home* – 15 beds
- *General Office Building* – 40,000 s.f.

[7] The development plan indicates anywhere from 260 to 300 units; however, 300 units was utilized to provide conservative results.

- *Specialty Retail / Shopping Center* – 28,000 s.f.
- *Quality Restaurant* – 100 seats

7.2 Development Access

The proposed development will include the construction of the following access driveways:

- Site Drive A (full access to Mayview Road for the general office only)
- Site Road B (full access to Mayview Road)
- Site Road C (full access to Mayview Road)

The locations of these driveways relative to each of the land uses within the development can be seen on the conceptual site plan (Figure 2).

7.3 Trip Generation Estimates

7.3.1 Land Use Codes

The Institute of Transportation Engineers' (ITE) *Trip-Generation*, 9th Edition, was used to determine the trip generation rates for the proposed Middlesex Crossings Mixed-Use Development. Specifically, the following ITE Land Use Codes were utilized:

- LU Code 210 – *Single Family Detached Housing*
- LU Code 223 – *Mid-Rise Apartments*
- LU Code 230 – *Residential Condominium / Townhouse*
- LU Code 252 – *Senior Adult Housing – Attached*
- LU Code 254 – *Assisted Living*
- LU Code 620 – *Nursing Home*
- LU Code 710 – *General Office Building*
- LU Code 826 / 820 – *Specialty Retail Center / Shopping Center*
- LU Code 931 – *Quality Restaurant*

7.3.2 Overall Trip Generation

The Institute of Transportation Engineers' (ITE) *Trip-Generation*, 9th Edition, was used to determine the trip generation rates for the proposed Hastings Mixed-Use Development. The site-generated trips were split into internal, primary, and pass-by trips.

A copy of the trip generation calculations for the proposed development can be found in **Appendix M** at the end of this report. The ADT, AM peak hour, and PM peak hour trips

Table 2

Hastings Mixed-Use Development – Trip Generation Summary

TIME PERIOD	ANTICIPATED TRIP GENERATION		
	IN	OUT	TOTAL
Land Use Code #210, Single-Family Detached Housing – **156 dwelling units**			
ADT	**791**	**791**	**1,582**
AM Peak Hour	**30**	**89**	**119**
Internal Capture	*1*	*2*	*3*
Primary Trips	*29*	*87*	*116*
PM Peak Hour	**99**	**58**	**157**
Internal Capture	*6*	*4*	*10*
Primary Trips	*93*	*54*	*147*
Land Use Code #223, Mid-Rise Apartments – **300 dwelling units**			
ADT	**971**	**971**	**1,942**
AM Peak Hour	**34**	**76**	**110**
Internal Capture	*1*	*1*	*2*
Primary Trips	*33*	*75*	*108*
PM Peak Hour	**77**	**56**	**133**
Internal Capture	*5*	*5*	*10*
Primary Trips	*72*	*51*	*123*
Land Use Code #230, Residential Townhouse / Condominium – **160 dwelling units**			
ADT	**484**	**484**	**968**
AM Peak Hour	**13**	**62**	**75**
Internal Capture	*0*	*1*	*1*
Primary Trips	*13*	*61*	*74*
PM Peak Hour	**59**	**29**	**88**
Internal Capture	*4*	*2*	*6*
Primary Trips	*55*	*27*	*82*
Land Use Code #252, Senior Adult Housing - Attached – **73 dwelling units**			
ADT	**120**	**120**	**240**
AM Peak Hour	**5**	**9**	**14**
Internal Capture	*0*	*0*	*0*
Primary Trips	*5*	*9*	*14*
PM Peak Hour	**10**	**9**	**19**
Internal Capture	*1*	*1*	*2*
Primary Trips	*9*	*8*	*16*
Land Use Code #254, Assisted Living – **62 beds**			
ADT	**109**	**109**	**218**
AM Peak Hour	**6**	**3**	**9**
Internal Capture	*0*	*0*	*0*
Primary Trips	*6*	*3*	*9*
PM Peak Hour	**6**	**8**	**14**
Internal Capture	*0*	*0*	*0*
Primary Trips	*6*	*8*	*14*

Table 2 (continued)

Hastings Mixed-Use Development – Trip Generation Summary

TIME PERIOD	ANTICIPATED TRIP GENERATION		
	IN	OUT	TOTAL
Land Use Code #620, Nursing Home – **15 beds**			
ADT	**21**	**21**	**42**
AM Peak Hour	**2**	**1**	**3**
Internal Capture	*0*	*0*	*0*
Primary Trips	*2*	*1*	*3*
PM Peak Hour	**1**	**2**	**3**
Internal Capture	*0*	*0*	*0*
Primary Trips	*1*	*2*	*3*
Land Use Code #710, General Office Building – **40,000 s.f.**			
ADT	**327**	**327**	**654**
AM Peak Hour	**81**	**11**	**92**
Internal Capture	*5*	*3*	*8*
Primary Trips	*76*	*8*	*84*
PM Peak Hour	**10**	**50**	**60**
Internal Capture	*7*	*4*	*11*
Primary Trips	*3*	*46*	*49*
Land Use Code #826 / #820, Specialty Retail Center / Shopping Center – **28,000 s.f.***			
ADT	**618**	**618**	**1,236**
AM Peak Hour*	**45**	**27**	**72**
Internal Capture	*5*	*6*	*11*
Pass-By Trips (24%)	*10*	*5*	*15*
Primary Trips	*30*	*16*	*46*
PM Peak Hour	**39**	**50**	**89**
Internal Capture	*11*	*19*	*30*
Pass-By Trips (34%)	*10*	*11*	*21*
Primary Trips	*18*	*20*	*38*

***LU Code #820 used for AM peak hour for the retail shops.**

Table 2 (continued)

Hastings Mixed-Use Development – Trip Generation Summary

TIME PERIOD	ANTICIPATED TRIP GENERATION		
	IN	OUT	TOTAL
Land Use Code #931, Quality Restaurant – **100 Seats**			
ADT	**143**	**143**	**286**
AM Peak Hour	**2**	**1**	**3**
Internal Capture	*1*	*0*	*1*
Pass-By Trips (34%)	*0*	*0*	*0*
Primary Trips	*1*	*1*	*2*
PM Peak Hour	**17**	**9**	**26**
Internal Capture	*7*	*6*	*13*
Pass-By Trips (44%)	*4*	*1*	*5*
Primary Trips	*6*	*2*	*8*
Total Development Trips			
ADT	**3,584**	**3,584**	**7,168**
AM Peak Hour	**218**	**279**	**497**
Internal Capture	*13*	*13*	*26*
Pass-By Trips	*10*	*5*	*15*
Primary Trips	*195*	*261*	*456*
PM Peak Hour	**318**	**271**	**589**
Internal Capture	*41*	*41*	*82*
Pass-By Trips	*14*	*12*	*26*
Primary Trips	*263*	*218*	*481*

APPENDIX B

Relevant Pages and Information from Phase 1 TIS (January 2017)

GATEWAY

On Call. On Time. On Target.

C-18927-0017

July 14, 2016
Revised January 10, 2017

Proposed Hastings Mixed-Use Development (Phase 1) EPS # 111361

Mayview Road (SR 3005)
South Fayette Township
Allegheny County, Pennsylvania

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
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TIS REPORT
TRANSPORTATION IMPACT STUDY

Revised Transportation Impact Study
Proposed Hastings Mixed-Use Development – Phase 1
South Fayette Township, Allegheny County, Pennsylvania

EXECUTIVE SUMMARY

Project Description

The proposed development is located on the east side of Mayview Road (SR 3005) north of Boyce Road (SR 3006) in South Fayette Township, Allegheny County, Pennsylvania. The mixed-use development is proposed to include the following residential, office, and retail components at *full buildout*[1]:

- *Single-Family Homes* – 151 dwelling units
- *Mid-Rise Apartments* – 270 dwelling units
- *Residential Condominium / Townhouses* – 165 dwelling units
- *Senior Adult Housing – Attached* – 130 dwelling units
- *General Office Building* – 10,000 s.f.
- *Specialty Retail / Shopping Center* – 20,920 s.f.

Phase 1 of the development is proposed to include the following components of the site:

- 42 Single-Family Homes
- 270 Mid-Rise Apartments
- 77 Residential Condominium / Townhouses
- 130 Senior Adult Housing –Attached Units
- 20,920 s.f. of Specialty Retail / Shopping Center

The construction of the development is anticipated to occur in two phases. These phases are as follows:

- Phase 1 – Opening Year 2017[2] and Design Year 2022
- Full Build Out – Opening Year 2023 and Design Year 2028

[1] A Master Plan TIS has been submitted under separate cover and is being reviewed as a standalone document.
[2] Occupancy of components within Phase I of the development anticipated to occur beginning in 2017; completion of Phase I likely won't occur until 2019-2020. 2017 was evaluated as the Opening Year for Phase I as occupancy is projected to begin in that calendar year with a Design Year of 2022.

- 77 Residential Condominium / Townhouses
- 130 Senior Adult Housing –Attached Units
- 20,920 s.f. of Specialty Retail / Shopping Center

7.2 Development Access

This phase of the development will include the construction of the following access driveways:

- **Site Drive A** – full access low-volume driveway along Mayview Road (SR 3005).
- **Site Road B** – full access local road along Mayview Road (SR 3005).
- **Site Road C** – full access local road along Mayview Road (SR 3005).

The locations of these driveways relative to each of the land uses within the development can be seen on the site plan (Figure 2).

7.3 Trip Generation Estimates

The Institute of Transportation Engineers' (ITE) *Trip-Generation*, 9th Edition, was used to determine the trip generation rates for each of the individual uses within the proposed development. These rates were then utilized to determine the additional trips expected to be generated by the proposed development. The site-generated trips were split into internal capture, pass-by, and primary trips. The following Land Use Codes were utilized:

- LU Code 210 – *Single Family Detached Housing*
- LU Code 223 – *Mid-Rise Apartment*
- LU Code 230 – *Residential Condominium / Townhouse*
- LU Code 252 – *Senior Housing – Attached*
- LU Code 820 / 826[10] – *Specialty Retail / Shopping Center*

A copy of the trip generation calculations for Phase 1 of the proposed development can be found in **Appendix M** at the end of this report. The ADT, AM peak hour, and PM peak hour trips for Phase 1 are also summarized in **Table 2**, which can be found in the Tables section at the end of this report.

[10] It should be noted that LU Code 826 was utilized to estimate the ADT and the PM peak hour trip generation for the 20,920 s.f. of general retail; however, LU Code 820 was utilized for the AM peak hour. This was done because LU Code 826 does not include data for the AM peak hour of the adjacent street.

Table 2

Hastings Mixed-Use Development – Trip Generation Summary (Phase 1)

TIME PERIOD	ANTICIPATED TRIP GENERATION		
	IN	OUT	TOTAL
Land Use Code #210, Single-Family Detached Housing – **42 dwelling units**			
ADT	**237**	**237**	**474**
AM Peak Hour	**10**	**29**	**39**
Internal Capture	*0*	*0*	*0*
Primary Trips	*10*	*29*	*39*
PM Peak Hour	**30**	**18**	**48**
Internal Capture	*2*	*1*	*3*
Primary Trips	*28*	*17*	*45*
Land Use Code #223, Mid-Rise Apartments – **270 dwelling units**			
ADT	**880**	**880**	**1,760**
AM Peak Hour	**30**	**68**	**98**
Internal Capture	*1*	*1*	*2*
Primary Trips	*29*	*67*	*96*
PM Peak Hour	**69**	**50**	**119**
Internal Capture	*5*	*2*	*7*
Primary Trips	*64*	*48*	*112*
Land Use Code #230, Residential Townhouse / Condominium – **77 dwelling units**			
ADT	**256**	**256**	**512**
AM Peak Hour	**7**	**35**	**42**
Internal Capture	*0*	*0*	*0*
Primary Trips	*7*	*35*	*42*
PM Peak Hour	**33**	**16**	**49**
Internal Capture	*2*	*1*	*3*
Primary Trips	*31*	*15*	*46*
Land Use Code #252, Senior Adult Housing - Attached – **130 dwelling units**			
ADT	**204**	**204**	**408**
AM Peak Hour	**9**	**17**	**26**
Internal Capture	*0*	*0*	*0*
Primary Trips	*9*	*17*	*26*
PM Peak Hour	**18**	**15**	**33**
Internal Capture	*1*	*0*	*1*
Primary Trips	*17*	*15*	*32*
Land Use Code #710, General Office – **10,000 s.f.**			
ADT	**114**	**114**	**228**
AM Peak Hour	**14**	**2**	**16**
Internal Capture	*1*	*1*	*2*
Primary Trips	*13*	*1*	*14*
PM Peak Hour	**3**	**12**	**15**
Internal Capture	*2*	*2*	*4*
Primary Trips	*1*	*10*	*11*

Table 2 (continued)

Hastings Mixed-Use Development – Trip Generation Summary (Phase 1)

TIME PERIOD	ANTICIPATED TRIP GENERATION		
	IN	OUT	TOTAL
Land Use Code #826 / #820, Specialty Retail Center / Shopping Center – **20,920 s.f.***			
ADT	**467**	**467**	**934**
AM Peak Hour*	**37**	**23**	**60**
Internal Capture	*2*	*2*	*4*
Pass-By Trips (24%)	*8*	*5*	*13*
Primary Trips	*27*	*16*	*43*
PM Peak Hour	**32**	**40**	**72**
Internal Capture	*5*	*11*	*16*
Pass-By Trips (34%)	*9*	*10*	*19*
Primary Trips	*18*	*19*	*37*
Total Development Trips – Phase I			
ADT	**2,158**	**2,158**	**4,316**
AM Peak Hour	**107**	**174**	**281**
Internal Capture	*4*	*4*	*8*
Pass-By Trips	*8*	*5*	*13*
Primary Trips	*95*	*165*	*260*
PM Peak Hour	**185**	**151**	**336**
Internal Capture	*17*	*17*	*34*
Pass-By Trips	*9*	*10*	*19*
Primary Trips	*159*	*124*	*283*
Change from Submitted (Current – Submitted)			
ADT	**-167**	**-167**	**-334**
AM Peak Hour	**+1**	**+9**	**+10**
Internal Capture	*+1*	*+1*	*+2*
Pass-By Trips	*-3*	*-1*	*-4*
Primary Trips	*+3*	*+9*	*+12*
PM Peak Hour	**-9**	**-17**	**-26**
Internal Capture	*-13*	*-13*	*-26*
Pass-By Trips	*-6*	*-2*	*-8*
Primary Trips	*+10*	*-2*	*+8*

***LU Code #820 used for AM peak hour for the retail shops.**

APPENDIX C

Site Access Intersection Turning Movement Count Data

TIME INTERVAL	Volumes Site Drive A (Over the Bar)		Site Road B (Hastings Crescent)		Site Road C (Hastings Park)		TOTAL			1-hr Intervals	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	TOTAL		
7:00-7:15	0	0	6	20	4	5	10	25	35	7:00	170
7:15-7:30	0	0	8	17	6	6	14	23	37	7:15	184
7:30-7:45	0	0	13	27	5	8	18	35	53	7:30	202
7:45-8:00	0	0	11	21	8	5	19	26	45	7:45	200
8:00-8:15	0	0	10	25	5	9	15	34	49	8:00	213
8:15-8:30	0	0	9	28	5	13	14	41	55		
8:30-8:45	0	0	16	25	3	7	19	32	51		
8:45-9:00	0	0	15	21	13	9	28	30	58		
8:00-9:00	**0**	**0**	**50**	**99**	**26**	**38**	**76**	**137**	**213**		
4:00-4:15	11	3	14	12	7	14	32	29	61	4:00	238
4:15-4:30	4	1	21	18	8	7	33	26	59	4:15	240
4:30-4:45	5	4	19	12	12	12	36	28	64	4:30	258
4:45-5:00	7	4	20	10	9	4	36	18	54	4:45	260
5:00-5:15	9	0	20	18	8	8	37	26	63	5:00	260
5:15-5:30	8	3	26	15	16	9	50	27	77		
5:30-5:45	8	4	28	11	6	9	42	24	66		
5:45-6:00	9	2	12	13	11	7	32	22	54		
5:00-6:00	**32**	**11**	**94**	**54**	**39**	**30**	**165**	**95**	**260**		

South Fayette, PA
Mayview Rd & Hastings Crescent Dr
Wednesday, December 3, 2025
Location: 40.328302, -80.111539

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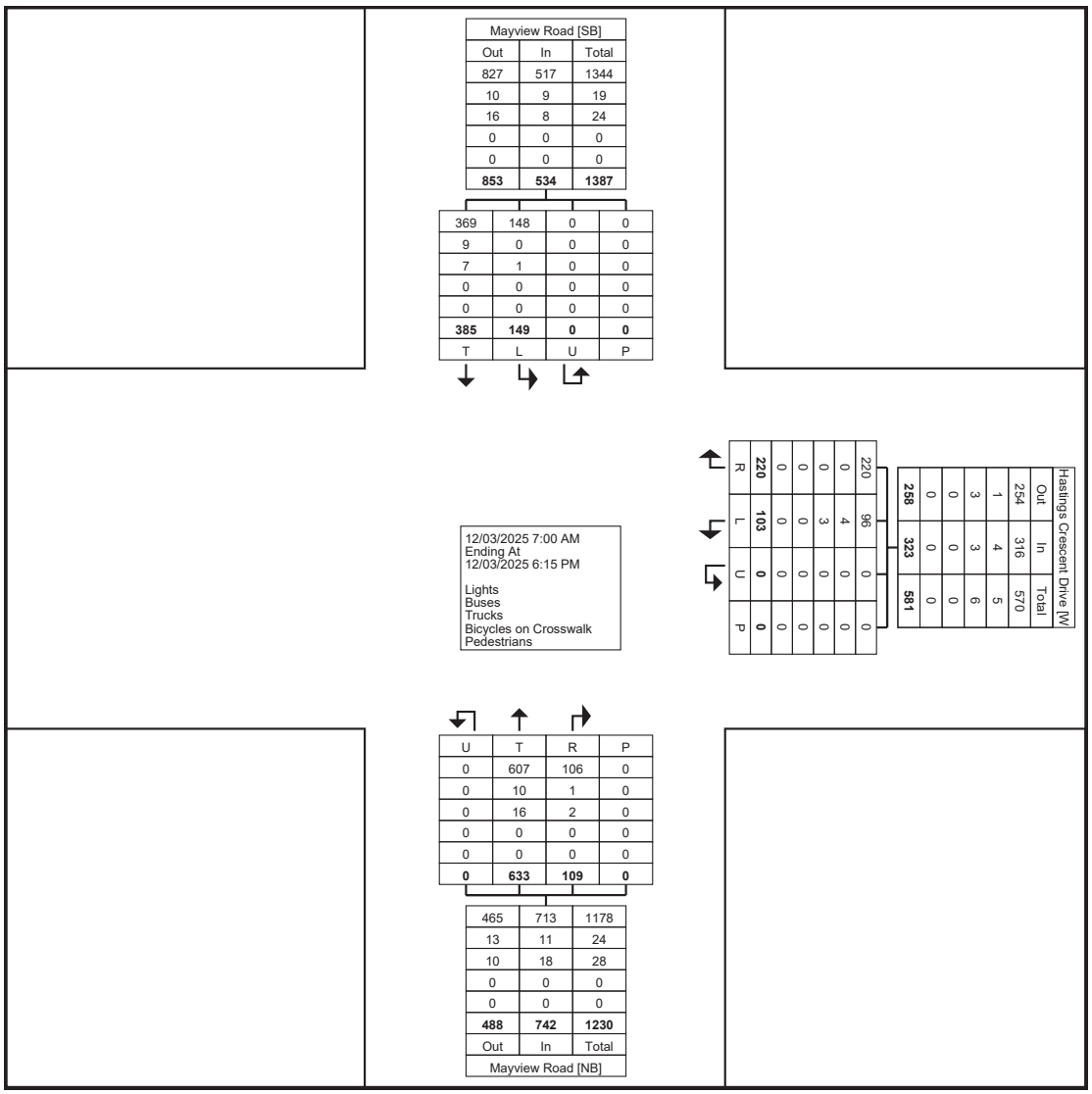
Count Name: Mayview Road and Hastings Crescent Drive
Site Code:
Start Date: 12/03/2025

Turning Movement Data

Start Time	Mayview Road Southbound					Hastings Crescent Drive Westbound					Mayview Road Northbound					
	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Int. Total
7:00 AM	14	4	0	0	18	18	2	0	0	20	2	23	0	0	25	63
7:15 AM	16	5	0	0	21	15	2	0	0	17	3	19	0	0	22	60
7:30 AM	20	6	0	0	26	13	14	0	0	27	7	34	0	0	41	94
7:45 AM	21	4	0	0	25	11	10	0	0	21	7	32	0	0	39	85
Hourly Total	71	19	0	0	90	57	28	0	0	85	19	108	0	0	127	302
8:00 AM	15	8	0	0	23	14	11	0	0	25	2	30	0	0	32	80
8:15 AM	17	5	0	0	22	18	10	0	0	28	4	26	0	0	30	80
8:30 AM	29	12	0	0	41	18	7	0	0	25	4	30	0	0	34	100
8:45 AM	32	8	0	0	40	19	2	0	0	21	7	46	0	0	53	114
Hourly Total	93	33	0	0	126	69	30	0	0	99	17	132	0	0	149	374
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	35	19	0	0	54	15	5	0	0	20	5	52	0	0	57	131
4:15 PM	33	12	0	0	45	8	6	0	0	14	9	51	0	0	60	119
4:30 PM	23	14	0	0	37	9	6	0	0	15	5	49	0	0	54	106
4:45 PM	35	12	0	0	47	8	2	0	0	10	8	60	0	0	68	125
Hourly Total	126	57	0	0	183	40	19	0	0	59	27	212	0	0	239	481
5:00 PM	24	6	0	0	30	17	6	0	0	23	14	60	0	0	74	127
5:15 PM	31	11	0	0	42	12	4	0	0	16	15	50	0	0	65	123
5:30 PM	20	15	0	0	35	14	8	0	0	22	13	39	0	0	52	109
5:45 PM	20	8	0	0	28	11	8	0	0	19	4	32	0	0	36	83
Hourly Total	95	40	0	0	135	54	26	0	0	80	46	181	0	0	227	442
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	385	149	0	0	534	220	103	0	0	323	109	633	0	0	742	1599
Approach %	72.1	27.9	0.0	-	-	68.1	31.9	0.0	-	-	14.7	85.3	0.0	-	-	-
Total %	24.1	9.3	0.0	-	33.4	13.8	6.4	0.0	-	20.2	6.8	39.6	0.0	-	46.4	-
Lights	369	148	0	-	517	220	96	0	-	316	106	607	0	-	713	1546
% Lights	95.8	99.3	-	-	96.8	100.0	93.2	-	-	97.8	97.2	95.9	-	-	96.1	96.7
Buses	9	0	0	-	9	0	4	0	-	4	1	10	0	-	11	24
% Buses	2.3	0.0	-	-	1.7	0.0	3.9	-	-	1.2	0.9	1.6	-	-	1.5	1.5
Trucks	7	1	0	-	8	0	3	0	-	3	2	16	0	-	18	29
% Trucks	1.8	0.7	-	-	1.5	0.0	2.9	-	-	0.9	1.8	2.5	-	-	2.4	1.8
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Turning Movement Data Plot

South Fayette, PA
Mayview Rd & Hastings Crescent Dr
Wednesday, December 3, 2025
Location: 40.328302, -80.111539

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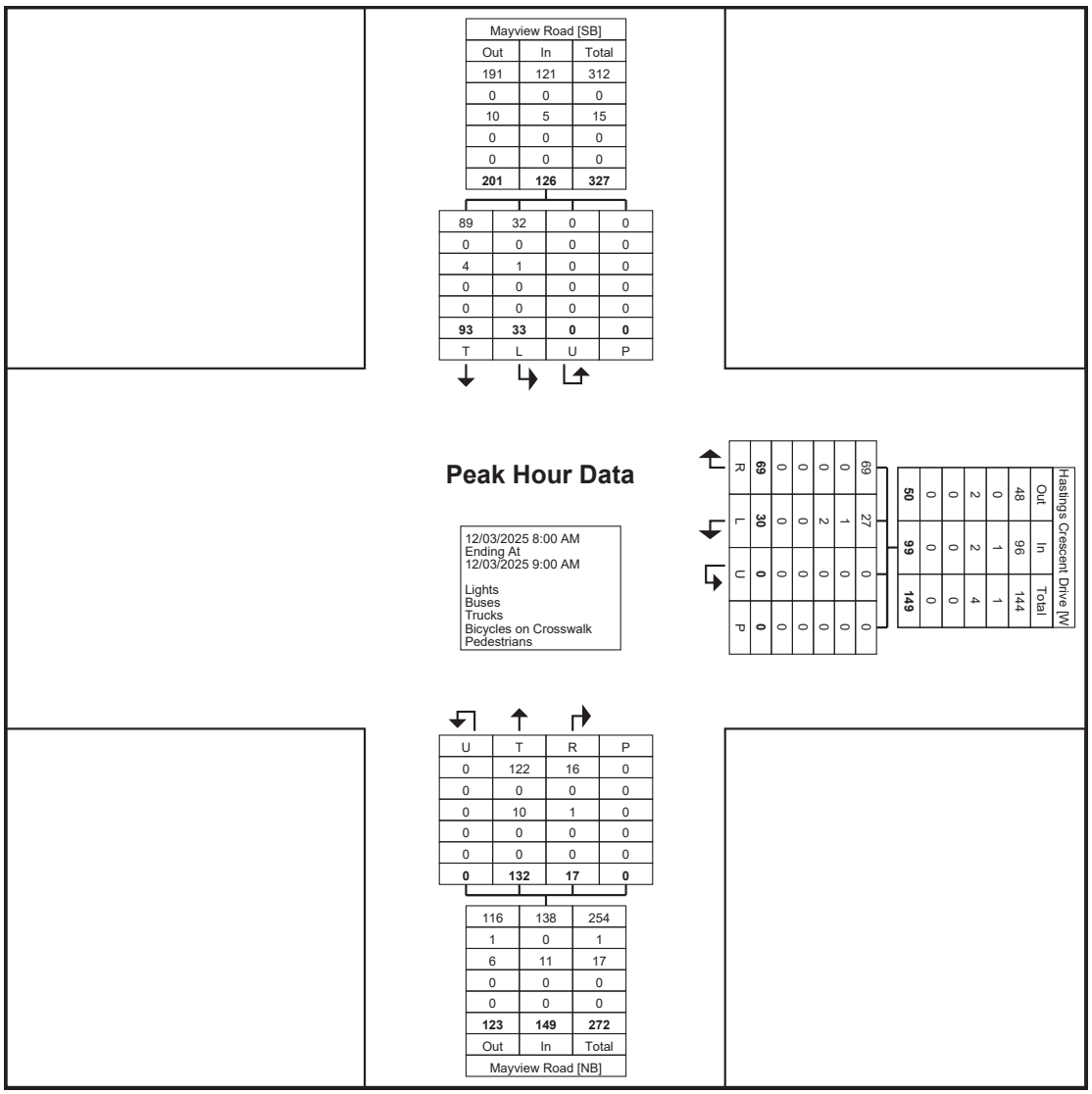
Count Name: Mayview Road and Hastings Crescent Drive
Site Code:
Start Date: 12/03/2025

Turning Movement Peak Hour Data (8:00 AM)

Start Time	Mayview Road Southbound					Hastings Crescent Drive Westbound					Mayview Road Northbound					Int. Total
	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	
8:00 AM	15	8	0	0	23	14	11	0	0	25	2	30	0	0	32	80
8:15 AM	17	5	0	0	22	18	10	0	0	28	4	26	0	0	30	80
8:30 AM	29	12	0	0	41	18	7	0	0	25	4	30	0	0	34	100
8:45 AM	32	8	0	0	40	19	2	0	0	21	7	46	0	0	53	114
Total	93	33	0	0	126	69	30	0	0	99	17	132	0	0	149	374
Approach %	73.8	26.2	0.0	-	-	69.7	30.3	0.0	-	-	11.4	88.6	0.0	-	-	-
Total %	24.9	8.8	0.0	-	33.7	18.4	8.0	0.0	-	26.5	4.5	35.3	0.0	-	39.8	-
PHF	0.727	0.688	0.000	-	0.768	0.908	0.682	0.000	-	0.884	0.607	0.717	0.000	-	0.703	0.820
Lights	89	32	0	-	121	69	27	0	-	96	16	122	0	-	138	355
% Lights	95.7	97.0	-	-	96.0	100.0	90.0	-	-	97.0	94.1	92.4	-	-	92.6	94.9
Buses	0	0	0	-	0	0	1	0	-	1	0	0	0	-	0	1
% Buses	0.0	0.0	-	-	0.0	0.0	3.3	-	-	1.0	0.0	0.0	-	-	0.0	0.3
Trucks	4	1	0	-	5	0	2	0	-	2	1	10	0	-	11	18
% Trucks	4.3	3.0	-	-	4.0	0.0	6.7	-	-	2.0	5.9	7.6	-	-	7.4	4.8
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Turning Movement Peak Hour Data Plot (8:00 AM)

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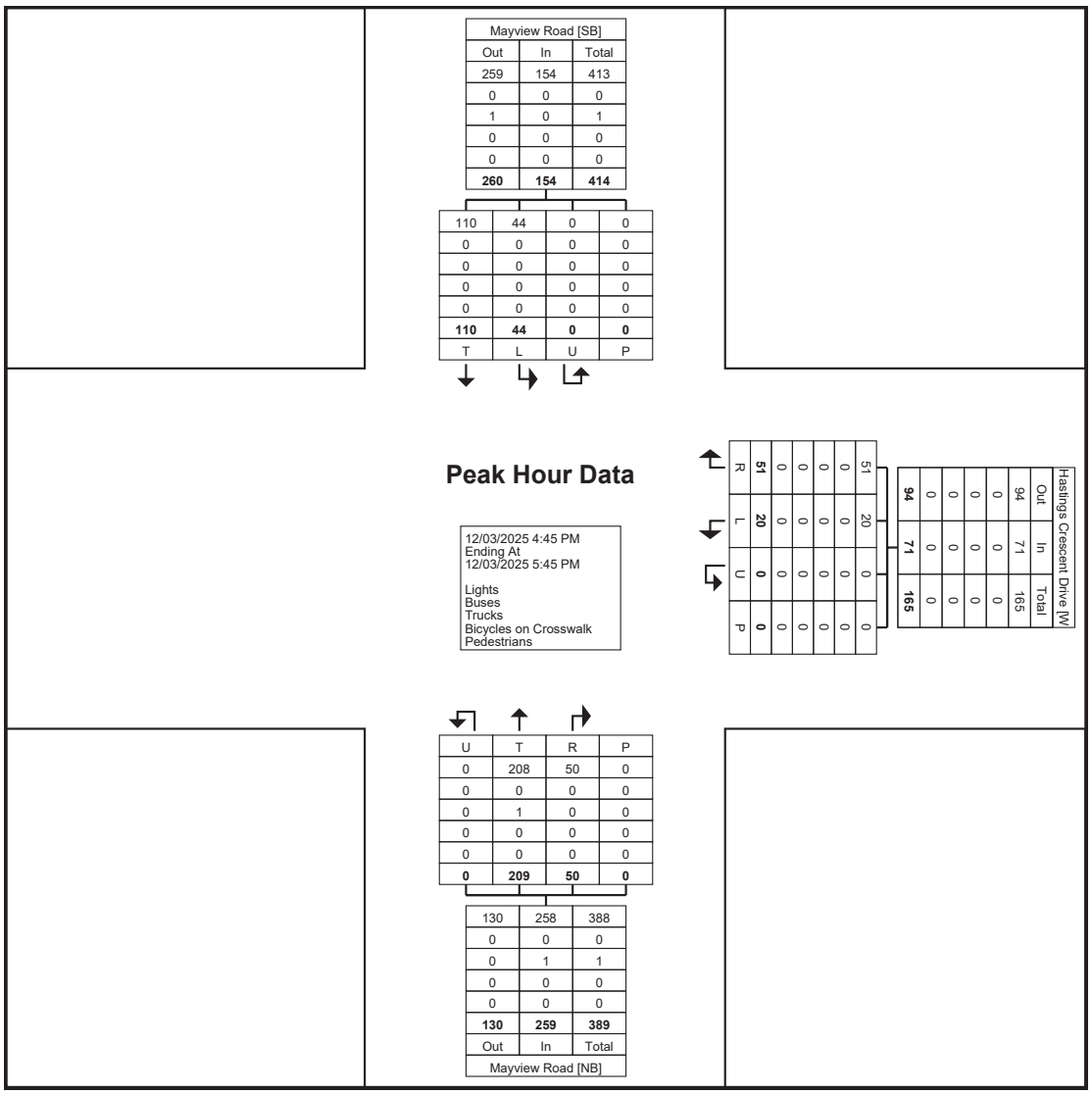
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Turning Movement Peak Hour Data (4:45 PM)

Start Time	Mayview Road Southbound					Hastings Crescent Drive Westbound					Mayview Road Northbound					Int. Total
	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	
4:45 PM	35	12	0	0	47	8	2	0	0	10	8	60	0	0	68	125
5:00 PM	24	6	0	0	30	17	6	0	0	23	14	60	0	0	74	127
5:15 PM	31	11	0	0	42	12	4	0	0	16	15	50	0	0	65	123
5:30 PM	20	15	0	0	35	14	8	0	0	22	13	39	0	0	52	109
Total	110	44	0	0	154	51	20	0	0	71	50	209	0	0	259	484
Approach %	71.4	28.6	0.0	-	-	71.8	28.2	0.0	-	-	19.3	80.7	0.0	-	-	-
Total %	22.7	9.1	0.0	-	31.8	10.5	4.1	0.0	-	14.7	10.3	43.2	0.0	-	53.5	-
PHF	0.786	0.733	0.000	-	0.819	0.750	0.625	0.000	-	0.772	0.833	0.871	0.000	-	0.875	0.953
Lights	110	44	0	-	154	51	20	0	-	71	50	208	0	-	258	483
% Lights	100.0	100.0	-	-	100.0	100.0	100.0	-	-	100.0	100.0	99.5	-	-	99.6	99.8
Buses	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Buses	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Trucks	0	0	0	-	0	0	0	0	-	0	0	1	0	-	1	1
% Trucks	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.5	-	-	0.4	0.2
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Turning Movement Peak Hour Data Plot (4:45 PM)

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South Fayette, PA
Mayview Rd & Hastings Park Dr
Wednesday, December 3, 2025
Location: 40.326553, -80.111021

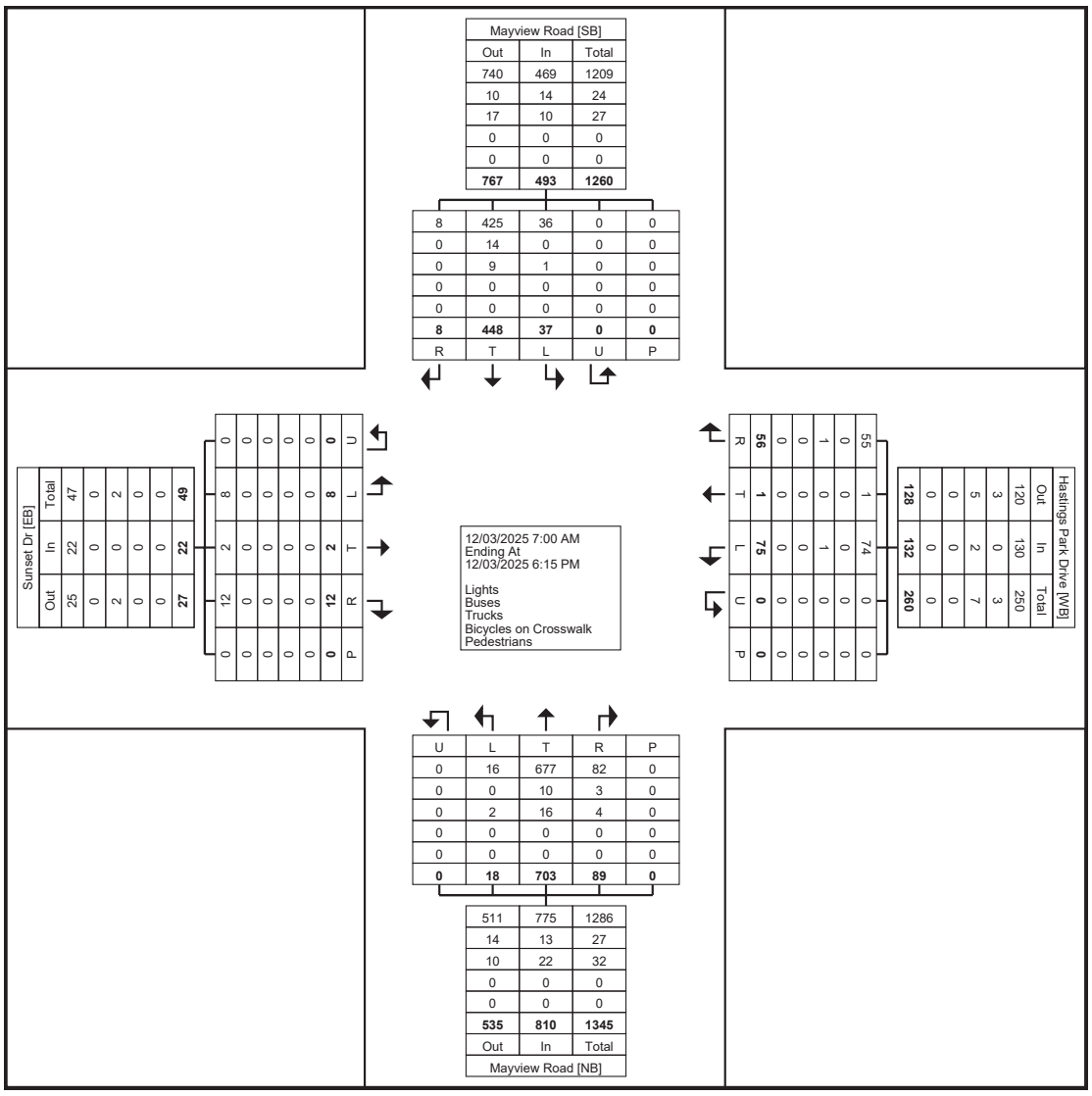
Count Name: Mayview Road and Hastings Park Drive
Site Code:
Start Date: 12/03/2025

Turning Movement Data

Start Time	Mayview Road Southbound						Hastings Park Drive Westbound						Mayview Road Northbound						Sunset Dr Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
7:00 AM	0	13	3	0	0	16	2	0	3	0	0	5	1	22	3	0	0	26	0	0	0	0	0	0	47
7:15 AM	0	14	3	0	0	17	3	0	3	0	0	6	3	19	1	0	0	23	0	0	0	0	0	0	46
7:30 AM	1	30	3	0	0	34	5	0	3	0	0	8	2	34	3	0	0	39	2	0	1	0	0	3	84
7:45 AM	0	28	3	0	0	31	4	0	1	0	0	5	5	35	0	0	0	40	0	0	0	0	0	0	76
Hourly Total	1	85	12	0	0	98	14	0	10	0	0	24	11	110	7	0	0	128	2	0	1	0	0	3	253
8:00 AM	1	22	2	0	0	25	0	0	9	0	0	9	3	31	1	0	0	35	0	0	0	0	0	0	69
8:15 AM	1	25	1	0	0	27	2	0	11	0	0	13	4	28	1	0	0	33	2	0	0	0	0	2	75
8:30 AM	0	33	2	0	0	35	2	0	5	0	0	7	1	32	2	0	0	35	1	0	0	0	0	1	78
8:45 AM	1	29	5	0	0	35	3	0	6	0	0	9	8	51	3	0	0	62	2	0	0	0	0	2	108
Hourly Total	3	109	10	0	0	122	7	0	31	0	0	38	16	142	7	0	0	165	5	0	0	0	0	5	330
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	35	5	0	0	40	6	0	8	0	0	14	2	54	0	0	0	56	2	0	1	0	0	3	113
4:15 PM	2	36	1	0	0	39	3	0	4	0	0	7	7	52	0	0	0	59	1	1	1	0	0	3	108
4:30 PM	1	27	2	0	0	30	6	0	6	0	0	12	10	48	1	0	0	59	0	0	0	0	0	0	101
4:45 PM	0	38	1	0	0	39	1	0	3	0	0	4	8	68	1	0	0	77	0	0	1	0	0	1	121
Hourly Total	3	136	9	0	0	148	16	0	21	0	0	37	27	222	2	0	0	251	3	1	3	0	0	7	443
5:00 PM	1	30	1	0	0	32	5	0	3	0	0	8	7	68	0	0	0	75	2	0	3	0	0	5	120
5:15 PM	0	33	2	0	0	35	4	0	5	0	0	9	14	58	2	0	0	74	0	1	0	0	0	1	119
5:30 PM	0	27	2	0	0	29	5	1	3	0	0	9	4	60	0	0	0	64	0	0	1	0	0	1	103
5:45 PM	0	28	1	0	0	29	5	0	2	0	0	7	10	43	0	0	0	53	0	0	0	0	0	0	89
Hourly Total	1	118	6	0	0	125	19	1	13	0	0	33	35	229	2	0	0	266	2	1	4	0	0	7	431
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	8	448	37	0	0	493	56	1	75	0	0	132	89	703	18	0	0	810	12	2	8	0	0	22	1457
Approach %	1.6	90.9	7.5	0.0	-	-	42.4	0.8	56.8	0.0	-	-	11.0	86.8	2.2	0.0	-	-	54.5	9.1	36.4	0.0	-	-	-
Total %	0.5	30.7	2.5	0.0	-	33.8	3.8	0.1	5.1	0.0	-	9.1	6.1	48.2	1.2	0.0	-	55.6	0.8	0.1	0.5	0.0	-	1.5	-
Lights	8	425	36	0	-	469	55	1	74	0	-	130	82	677	16	0	-	775	12	2	8	0	-	22	1396
% Lights	100.0	94.9	97.3	-	-	95.1	98.2	100.0	98.7	-	-	98.5	92.1	96.3	88.9	-	-	95.7	100.0	100.0	100.0	-	-	100.0	95.8
Buses	0	14	0	0	-	14	0	0	0	0	-	0	3	10	0	0	-	13	0	0	0	0	-	0	27
% Buses	0.0	3.1	0.0	-	-	2.8	0.0	0.0	0.0	-	-	0.0	3.4	1.4	0.0	-	-	1.6	0.0	0.0	0.0	-	-	0.0	1.9
Trucks	0	9	1	0	-	10	1	0	1	0	-	2	4	16	2	0	-	22	0	0	0	0	-	0	34
% Trucks	0.0	2.0	2.7	-	-	2.0	1.8	0.0	1.3	-	-	1.5	4.5	2.3	11.1	-	-	2.7	0.0	0.0	0.0	-	-	0.0	2.3
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

South Fayette, PA
Mayview Rd & Hastings Park Dr
Wednesday, December 3, 2025
Location: 40.326553, -80.111021

Count Name: Mayview Road and Hastings Park Drive
Site Code:
Start Date: 12/03/2025



Turning Movement Data Plot

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South Fayette, PA
Mayview Rd & Hastings Park Dr
Wednesday, December 3, 2025
Location: 40.326553, -80.111021

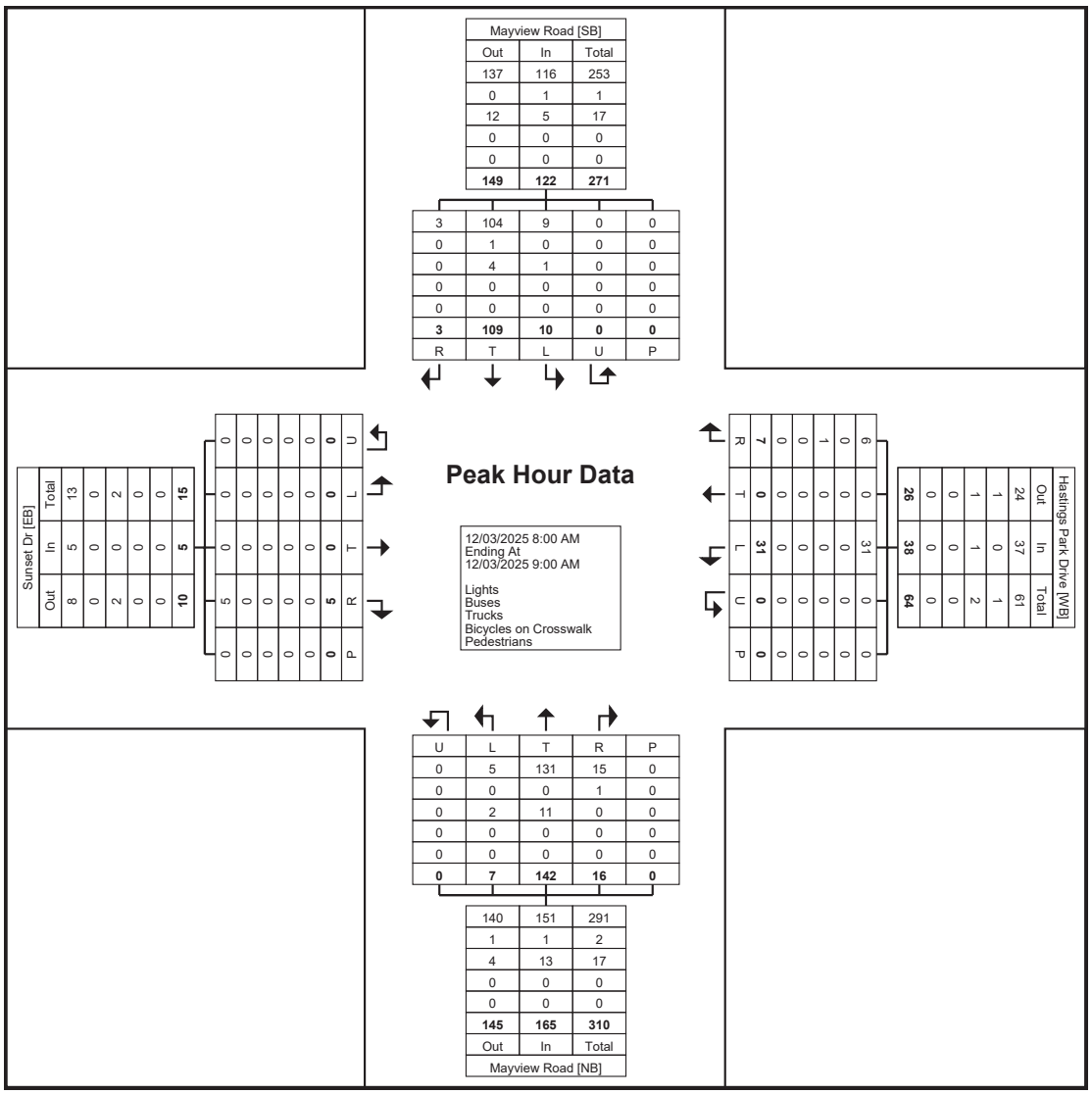
Count Name: Mayview Road and Hastings Park Drive
Site Code:
Start Date: 12/03/2025

Turning Movement Peak Hour Data (8:00 AM)

Start Time	Mayview Road Southbound						Hastings Park Drive Westbound						Mayview Road Northbound						Sunset Dr Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
8:00 AM	1	22	2	0	0	25	0	0	9	0	0	9	3	31	1	0	0	35	0	0	0	0	0	0	69
8:15 AM	1	25	1	0	0	27	2	0	11	0	0	13	4	28	1	0	0	33	2	0	0	0	0	2	75
8:30 AM	0	33	2	0	0	35	2	0	5	0	0	7	1	32	2	0	0	35	1	0	0	0	0	1	78
8:45 AM	1	29	5	0	0	35	3	0	6	0	0	9	8	51	3	0	0	62	2	0	0	0	0	2	108
Total	3	109	10	0	0	122	7	0	31	0	0	38	16	142	7	0	0	165	5	0	0	0	0	5	330
Approach %	2.5	89.3	8.2	0.0	-	-	18.4	0.0	81.6	0.0	-	-	9.7	86.1	4.2	0.0	-	-	100.0	0.0	0.0	0.0	-	-	-
Total %	0.9	33.0	3.0	0.0	-	37.0	2.1	0.0	9.4	0.0	-	11.5	4.8	43.0	2.1	0.0	-	50.0	1.5	0.0	0.0	0.0	-	1.5	-
PHF	0.750	0.826	0.500	0.000	-	0.871	0.583	0.000	0.705	0.000	-	0.731	0.500	0.696	0.583	0.000	-	0.665	0.625	0.000	0.000	0.000	-	0.625	0.764
Lights	3	104	9	0	-	116	6	0	31	0	-	37	15	131	5	0	-	151	5	0	0	0	-	5	309
% Lights	100.0	95.4	90.0	-	-	95.1	85.7	-	100.0	-	-	97.4	93.8	92.3	71.4	-	-	91.5	100.0	-	-	-	-	100.0	93.6
Buses	0	1	0	0	-	1	0	0	0	0	-	0	1	0	0	0	-	1	0	0	0	0	-	0	2
% Buses	0.0	0.9	0.0	-	-	0.8	0.0	-	0.0	-	-	0.0	6.3	0.0	0.0	-	-	0.6	0.0	-	-	-	-	0.0	0.6
Trucks	0	4	1	0	-	5	1	0	0	0	-	1	0	11	2	0	-	13	0	0	0	0	-	0	19
% Trucks	0.0	3.7	10.0	-	-	4.1	14.3	-	0.0	-	-	2.6	0.0	7.7	28.6	-	-	7.9	0.0	-	-	-	-	0.0	5.8
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

South Fayette, PA
Mayview Rd & Hastings Park Dr
Wednesday, December 3, 2025
Location: 40.326553, -80.111021

Count Name: Mayview Road and Hastings Park Drive
Site Code:
Start Date: 12/03/2025



Turning Movement Peak Hour Data Plot (8:00 AM)

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South Fayette, PA
Mayview Rd & Hastings Park Dr
Wednesday, December 3, 2025
Location: 40.326553, -80.111021

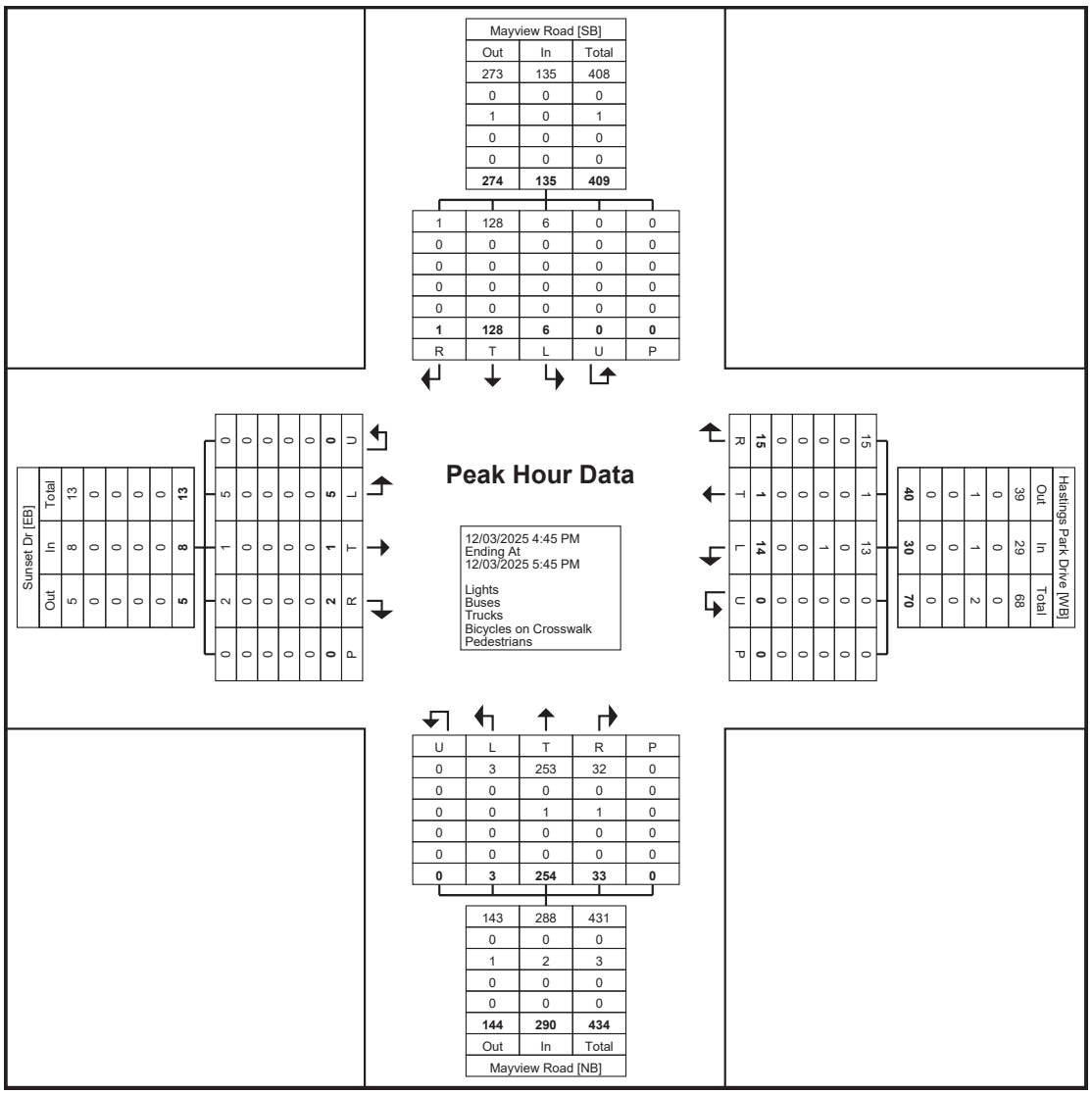
Count Name: Mayview Road and Hastings Park Drive
Site Code:
Start Date: 12/03/2025

Turning Movement Peak Hour Data (4:45 PM)

Start Time	Mayview Road Southbound						Hastings Park Drive Westbound						Mayview Road Northbound						Sunset Dr Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
4:45 PM	0	38	1	0	0	39	1	0	3	0	0	4	8	68	1	0	0	77	0	0	1	0	0	1	121
5:00 PM	1	30	1	0	0	32	5	0	3	0	0	8	7	68	0	0	0	75	2	0	3	0	0	5	120
5:15 PM	0	33	2	0	0	35	4	0	5	0	0	9	14	58	2	0	0	74	0	1	0	0	0	1	119
5:30 PM	0	27	2	0	0	29	5	1	3	0	0	9	4	60	0	0	0	64	0	0	1	0	0	1	103
Total	1	128	6	0	0	135	15	1	14	0	0	30	33	254	3	0	0	290	2	1	5	0	0	8	463
Approach %	0.7	94.8	4.4	0.0	-	-	50.0	3.3	46.7	0.0	-	-	11.4	87.6	1.0	0.0	-	-	25.0	12.5	62.5	0.0	-	-	-
Total %	0.2	27.6	1.3	0.0	-	29.2	3.2	0.2	3.0	0.0	-	6.5	7.1	54.9	0.6	0.0	-	62.6	0.4	0.2	1.1	0.0	-	1.7	-
PHF	0.250	0.842	0.750	0.000	-	0.865	0.750	0.250	0.700	0.000	-	0.833	0.589	0.934	0.375	0.000	-	0.942	0.250	0.250	0.417	0.000	-	0.400	0.957
Lights	1	128	6	0	-	135	15	1	13	0	-	29	32	253	3	0	-	288	2	1	5	0	-	8	460
% Lights	100.0	100.0	100.0	-	-	100.0	100.0	100.0	92.9	-	-	96.7	97.0	99.6	100.0	-	-	99.3	100.0	100.0	100.0	-	-	100.0	99.4
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Buses	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Trucks	0	0	0	0	-	0	0	0	1	0	-	1	1	1	0	0	-	2	0	0	0	0	-	0	3
% Trucks	0.0	0.0	0.0	-	-	0.0	0.0	0.0	7.1	-	-	3.3	3.0	0.4	0.0	-	-	0.7	0.0	0.0	0.0	-	-	0.0	0.6
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

South Fayette, PA
Mayview Rd & Hastings Park Dr
Wednesday, December 3, 2025
Location: 40.326553, -80.111021

Count Name: Mayview Road and Hastings Park Drive
Site Code:
Start Date: 12/03/2025



Turning Movement Peak Hour Data Plot (4:45 PM)

South Fayette, PA
Mayview Rd & Over the Bar Driveway
Wednesday, December 3, 2025
Location: 40.330755, -80.113739

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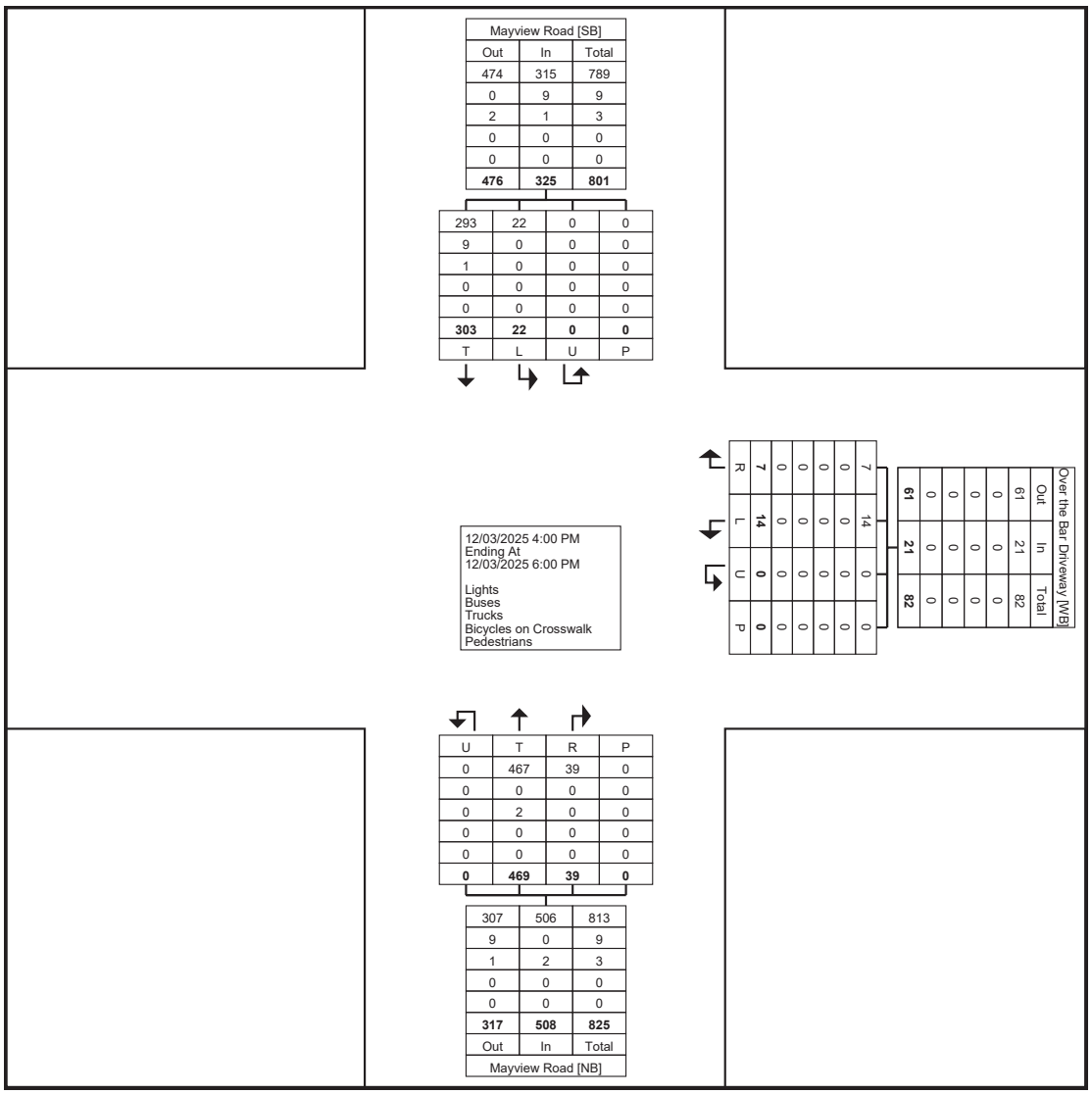
Count Name: Mayview Road and Over the Bar Driveway
Site Code:
Start Date: 12/03/2025

Turning Movement Data

Start Time	Mayview Road Southbound					Over the Bar Driveway Westbound					Mayview Road Northbound					
	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Int. Total
4:00 PM	52	6	0	0	58	0	3	0	0	3	5	62	0	0	67	128
4:15 PM	42	0	0	0	42	0	1	0	0	1	4	55	0	0	59	102
4:30 PM	36	0	0	0	36	3	1	0	0	4	5	51	0	0	56	96
4:45 PM	44	2	0	0	46	1	3	0	0	4	5	63	0	0	68	118
Hourly Total	174	8	0	0	182	4	8	0	0	12	19	231	0	0	250	444
5:00 PM	30	2	0	0	32	0	0	0	0	0	7	71	0	0	78	110
5:15 PM	41	6	0	0	47	1	2	0	0	3	2	60	0	0	62	112
5:30 PM	32	4	0	0	36	2	2	0	0	4	4	62	0	0	66	106
5:45 PM	26	2	0	0	28	0	2	0	0	2	7	45	0	0	52	82
Hourly Total	129	14	0	0	143	3	6	0	0	9	20	238	0	0	258	410
Grand Total	303	22	0	0	325	7	14	0	0	21	39	469	0	0	508	854
Approach %	93.2	6.8	0.0	-	-	33.3	66.7	0.0	-	-	7.7	92.3	0.0	-	-	-
Total %	35.5	2.6	0.0	-	38.1	0.8	1.6	0.0	-	2.5	4.6	54.9	0.0	-	59.5	-
Lights	293	22	0	-	315	7	14	0	-	21	39	467	0	-	506	842
% Lights	96.7	100.0	-	-	96.9	100.0	100.0	-	-	100.0	100.0	99.6	-	-	99.6	98.6
Buses	9	0	0	-	9	0	0	0	-	0	0	0	0	-	0	9
% Buses	3.0	0.0	-	-	2.8	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	1.1
Trucks	1	0	0	-	1	0	0	0	-	0	0	2	0	-	2	3
% Trucks	0.3	0.0	-	-	0.3	0.0	0.0	-	-	0.0	0.0	0.4	-	-	0.4	0.4
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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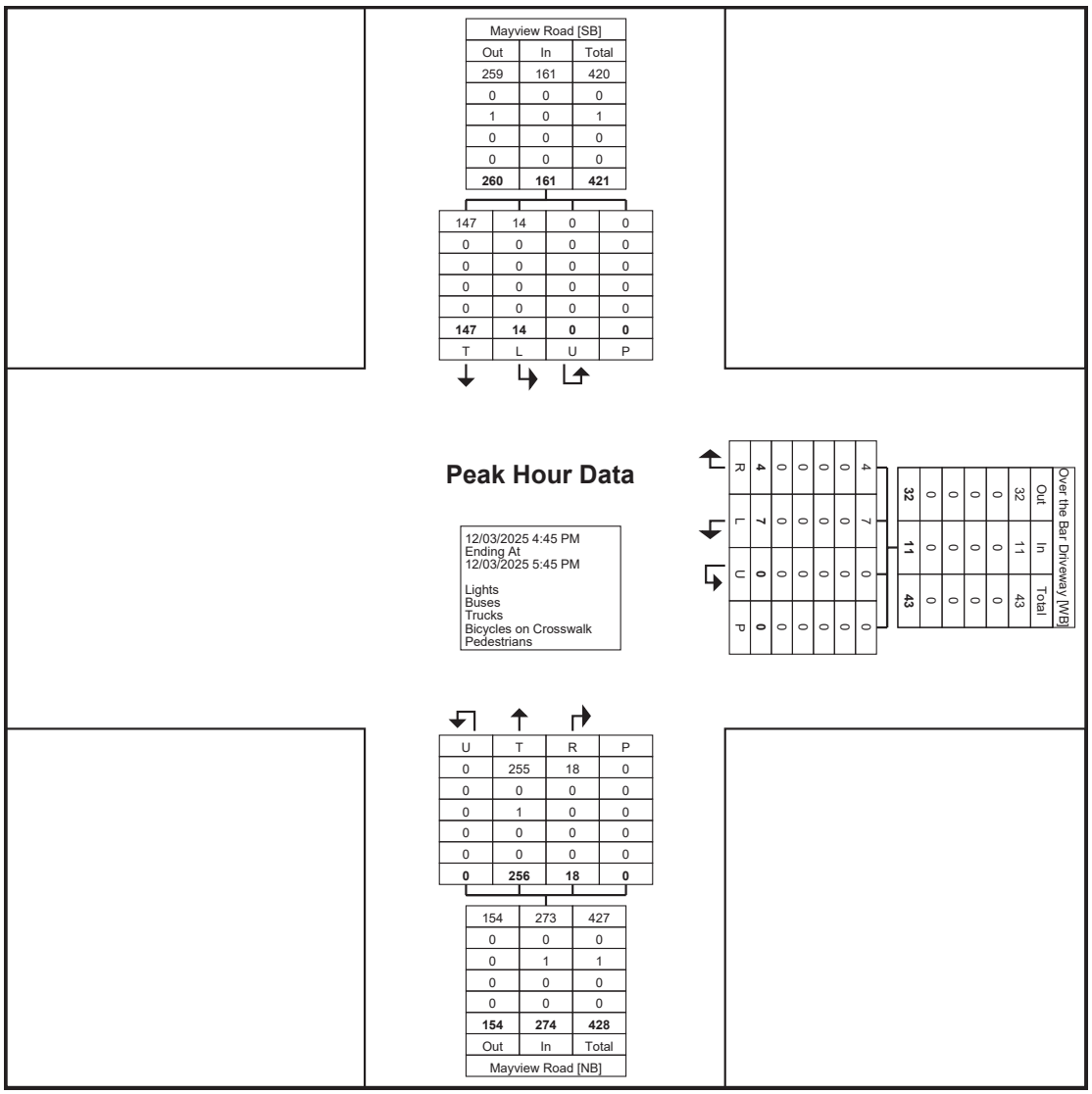
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Turning Movement Peak Hour Data (4:45 PM)

Start Time	Mayview Road Southbound					Over the Bar Driveway Westbound					Mayview Road Northbound					Int. Total
	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	
4:45 PM	44	2	0	0	46	1	3	0	0	4	5	63	0	0	68	118
5:00 PM	30	2	0	0	32	0	0	0	0	0	7	71	0	0	78	110
5:15 PM	41	6	0	0	47	1	2	0	0	3	2	60	0	0	62	112
5:30 PM	32	4	0	0	36	2	2	0	0	4	4	62	0	0	66	106
Total	147	14	0	0	161	4	7	0	0	11	18	256	0	0	274	446
Approach %	91.3	8.7	0.0	-	-	36.4	63.6	0.0	-	-	6.6	93.4	0.0	-	-	-
Total %	33.0	3.1	0.0	-	36.1	0.9	1.6	0.0	-	2.5	4.0	57.4	0.0	-	61.4	-
PHF	0.835	0.583	0.000	-	0.856	0.500	0.583	0.000	-	0.688	0.643	0.901	0.000	-	0.878	0.945
Lights	147	14	0	-	161	4	7	0	-	11	18	255	0	-	273	445
% Lights	100.0	100.0	-	-	100.0	100.0	100.0	-	-	100.0	100.0	99.6	-	-	99.6	99.8
Buses	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Buses	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Trucks	0	0	0	-	0	0	0	0	-	0	0	1	0	-	1	1
% Trucks	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.4	-	-	0.4	0.2
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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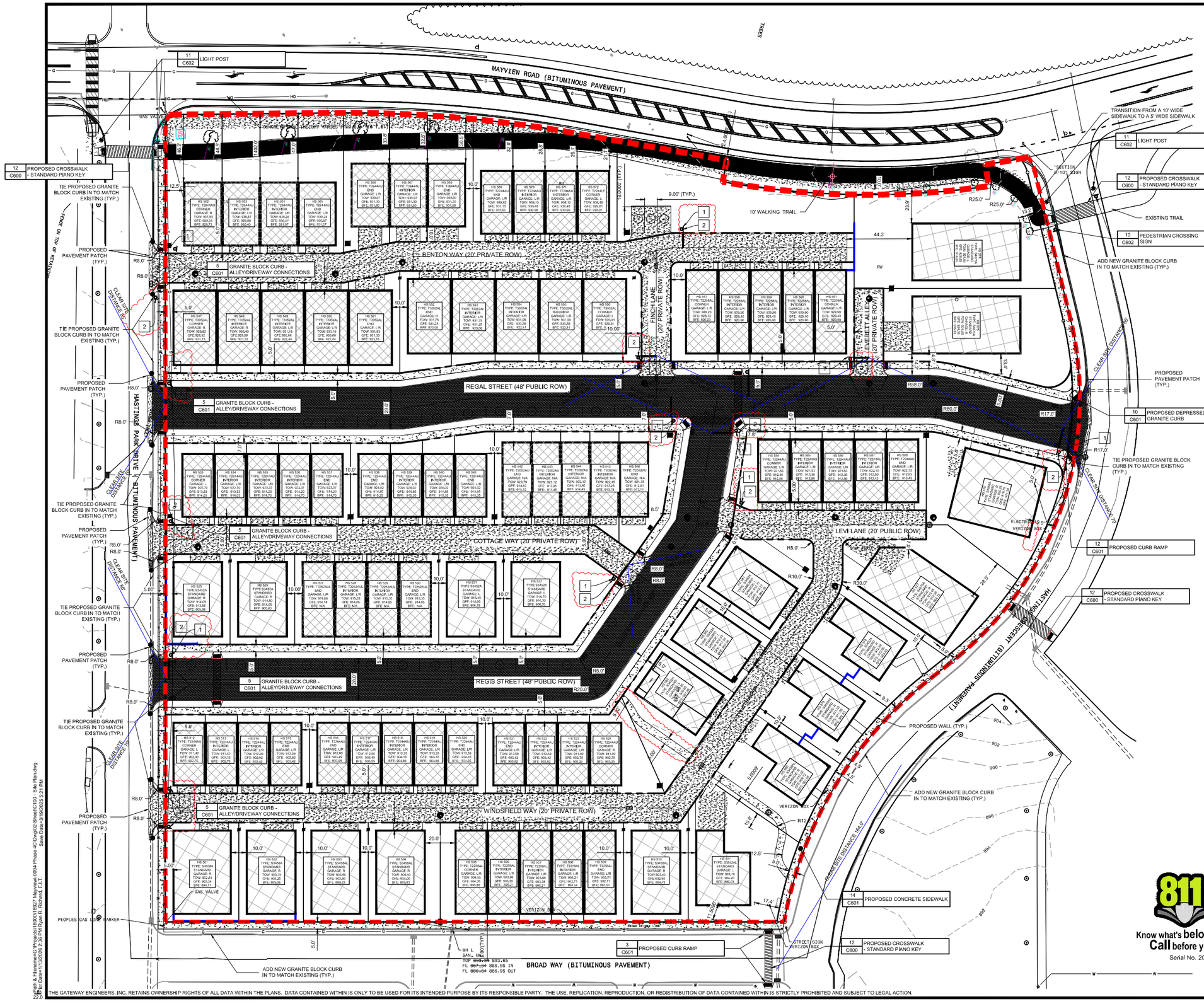
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APPENDIX D

Copies of Phase 4 and Phase 5 Site Plans



SITE LEGEND

	4 C600	PROPOSED LIGHT STANDARD
	13 C601	PROPOSED CURB RAMP
	9 C601	PROPOSED GRANITE CURB
	9 C601	DEPRESSED GRANITE CURB
	11 C601	GRANITE BLOCK CURB RAMP WITHOUT DWS
	VARIES C601	PROPOSED ALLEY & TRAIL BITUMINOUS PAVING
	VARIES C601	PROPOSED STREET BITUMINOUS PAVING
	12 C600	PROPOSED CROSSWALK - STANDARD PIANO KEY
		PROPOSED PAVEMENT PATCH
		PROPOSED CONCRETE SIDEWALK
		PROPOSED TOWNHOME/LOFT
		PROPOSED SINGLE FAMILY HOME
		PROPOSED SIGN
		PROPOSED R.O.W. LINE
		PROPOSED PROPERTY LINE
		PROPOSED PHASE LINE
(28)		PROPOSED STREET PARKING COUNT
		PROPOSED STORM MANHOLE
		PROPOSED STORM INLET
		PROPOSED SANITARY MANHOLE
		PROPOSED STOP BAR
		PROPOSED WALL
T		PROPOSED TRANSFORMER
1		PROPOSED STOP SIGN
2		PROPOSED STREET NAME SIGN

GENERAL SITE NOTES:

1. ALL PROPOSED WALLS ARE OWNED AND MAINTAINED BY THE HOME OWNERS ASSOCIATION.
2. ALL SIDEWALKS WILL BE SEPARATED FROM DOWNGRADE SLOPES GREATER THAN 3:1 BY GUIDERAIL, FENCING, A FIVE-FOOT GRADING STRIP OR SHRUBBERY.
3. A MINIMUM OF TWO NEW MONUMENTS WILL BE PLACED IN ACCORDANCE WITH DETAIL SD-18 ON SHEET C600.
4. ALL DESIGNATED CROSSWALKS WILL BE HEAVY DUTY THERMOPLASTIC.

Know what's below. Call before you dig.
Serial No. 20240523160

NORTH

GRAPHIC SCALE
0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

THE GATEWAY ENGINEERS, INC. RETAINS OWNERSHIP RIGHTS OF ALL DATA WITHIN THE PLANS. DATA CONTAINED WITHIN IS ONLY TO BE USED FOR ITS INTENDED PURPOSE BY ITS RESPONSIBLE PARTY. THE USE, REPLICATION, REPRODUCTION, OR REDISTRIBUTION OF DATA CONTAINED WITHIN IS STRICTLY PROHIBITED AND SUBJECT TO LEGAL ACTION.

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A FULL-SERVICE CIVIL ENGINEERING FIRM
301 OXFORD VALLEY ROAD, SUITE 204 | YARDLEY, PA 19067 | PH: 215.493.6363 | FX: 215.493.6384
GATEWAYENGINEERS.COM

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REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF PENNSYLVANIA
DAVID M. HOLLOWAY
ENGINEER
No. PE085157

No	Date	REVISION RECORD
01	03/14/2024	RESPONSE TO TWP COMMENTS
02	03/29/2024	REVISED PLAN SET
03	04/08/2024	REVISED PLAN SET
04	05/14/2024	REVISED PLAN SET
05	05/21/2024	REVISED PLAN SET
06	06/24/2024	PAWC REVISIONS
07	07/03/2024	DRY UTILITY REVISIONS
08	09/13/2024	ADA RAMP RELOCATION

HASTINGS
South Fayette Township/Pittsburgh, PA
CLIMB ON Home & Neighborhood

HASTINGS PHASE 4

MAYVIEW ROAD
PITTSBURGH, 15102

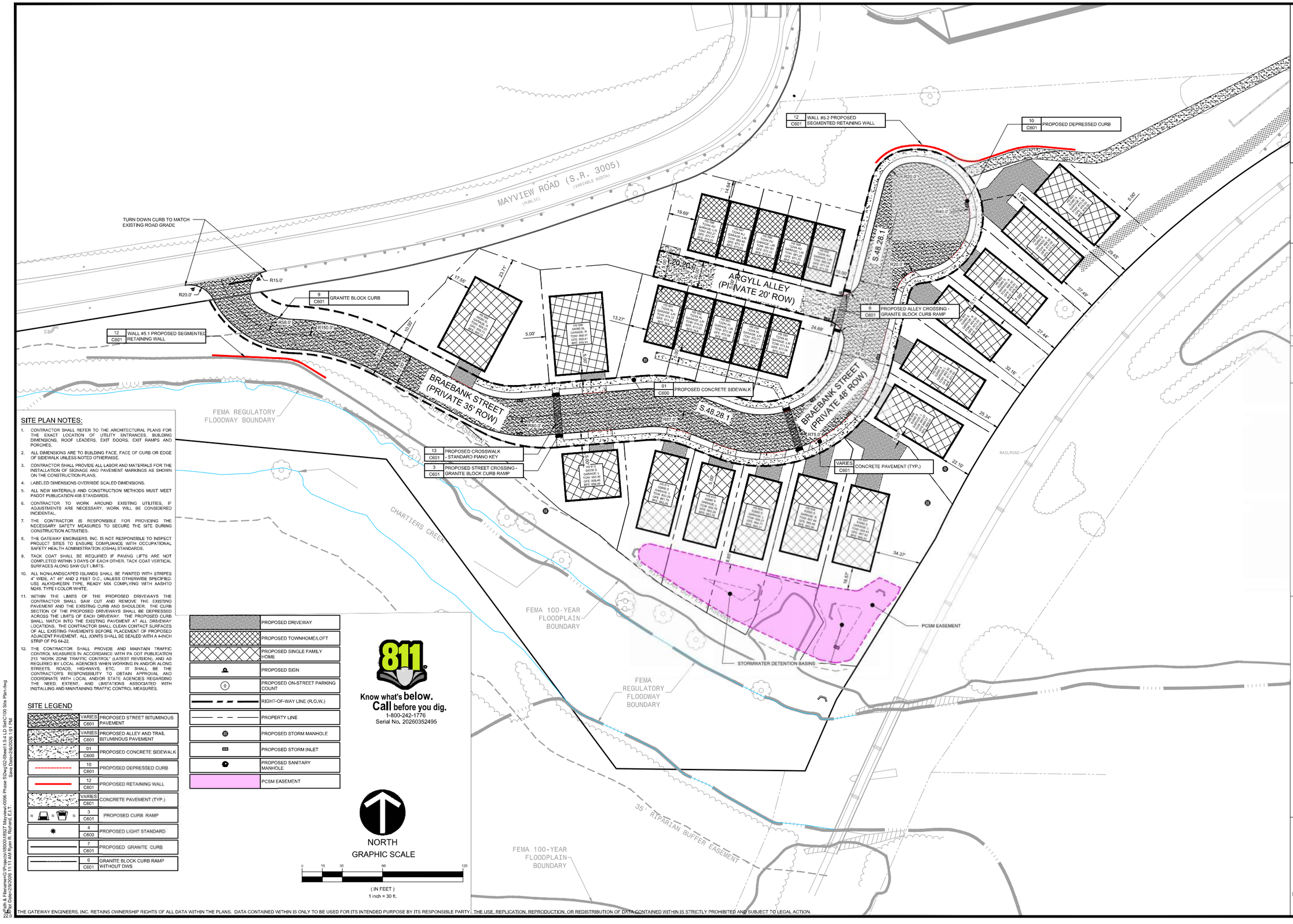
PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC.
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

SITE PLAN

Project Number: 18927-0094
Drawing Scale: 1" = 30'
Date Issued: MARCH, 2024
Index Number: —
Drawn By: VLP
Checked By: DMH
Project Manager: DMH

C100

Path & Filename=G:\Projects\18000\18927 Mayview\0094 Phase 4\CIDwg\02-Sheet\C100 - Site Plan.dwg
Plot Date=1/13/2026 2:36 PM Ryan R. Rickard, E.I.T. Saved Date=3/19/2025 5:21 PM
22



SITE PLAN NOTES:

1. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR THE EXACT LOCATION OF UTILITY ENTRANCES, BUILDING DIMENSIONS, ROOF LEADERS, EXIT DOORS, EXIT RAMPS AND PORCHES.
2. ALL DIMENSIONS ARE TO BUILDING FACE, FACE OF CURB OR EDGE OF SIDEWALK UNLESS NOTED OTHERWISE.
3. CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIALS FOR THE INSTALLATION OF SIGNAGE AND PAVEMENT MARKINGS AS SHOWN ON THE CONSTRUCTION PLANS.
4. LABELED DIMENSIONS OVERRIDE SCALED DIMENSIONS.
5. ALL NEW MATERIALS AND CONSTRUCTION METHODS MUST MEET PADOT PUBLICATION 408 STANDARDS.
6. CONTRACTOR TO WORK AROUND EXISTING UTILITIES, IF ADJUSTMENTS ARE NECESSARY, WORK WILL BE CONSIDERED INCIDENTAL.
7. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE NECESSARY SAFETY MEASURES TO SECURE THE SITE DURING CONSTRUCTION ACTIVITIES.
8. THE GATEWAY ENGINEERS, INC. IS NOT RESPONSIBLE TO INSPECT PROJECT SITES TO ENSURE COMPLIANCE WITH OCCUPATIONAL SAFETY HEALTH ADMINISTRATION (OSHA) STANDARDS.
9. TACK COAT SHALL BE REQUIRED IF PAVING LIFTS ARE NOT COMPLETED WITHIN 3 DAYS OF EACH OTHER. TACK COAT VERTICAL SURFACES ALONG SAW CUT LIMITS.
10. ALL NON-LANDSCAPED ISLANDS SHALL BE PAINTED WITH STRIPES 4" WIDE, AT 45° AND 2 FEET O.C., UNLESS OTHERWISE SPECIFIED. USE ALKYD-RESIN TYPE, READY MIX COMPLYING WITH AASHTO M248, TYPE I COLOR WHITE.
11. WITHIN THE LIMITS OF THE PROPOSED DRIVEWAYS THE CONTRACTOR SHALL SAW CUT AND REMOVE THE EXISTING PAVEMENT AND THE EXISTING CURB AND SHOULDER. THE CURB SECTION OF THE PROPOSED DRIVEWAYS SHALL BE DEPRESSED ACROSS THE LIMITS OF EACH DRIVEWAY. THE PROPOSED CURB SHALL MATCH INTO THE EXISTING PAVEMENT AT ALL DRIVEWAY LOCATIONS. THE CONTRACTOR SHALL CLEAN CONTACT SURFACES OF ALL EXISTING PAVEMENTS BEFORE PLACEMENT OF PROPOSED ADJACENT PAVEMENT. ALL JOINTS SHALL BE SEALED WITH A 4-INCH STRIP OF PG 64-22.
12. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TRAFFIC CONTROL MEASURES IN ACCORDANCE WITH PA DOT PUBLICATION 213 "WORK ZONE TRAFFIC CONTROL" (LATEST REVISION), AND AS REQUIRED BY LOCAL AGENCIES WHEN WORKING IN AND/OR ALONG STREETS, ROADS, HIGHWAYS, ETC. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN APPROVAL AND COORDINATE WITH LOCAL AND/OR STATE AGENCIES REGARDING THE NEED, EXTENT, AND LIMITATIONS ASSOCIATED WITH INSTALLING AND MAINTAINING TRAFFIC CONTROL MEASURES.

SITE LEGEND

VARIES C601	PROPOSED STREET BITUMINOUS PAVEMENT
VARIES C601	PROPOSED ALLEY AND TRAIL BITUMINOUS PAVEMENT
01 C600	PROPOSED CONCRETE SIDEWALK
10 C601	PROPOSED DEPRESSED CURB
12 C601	PROPOSED RETAINING WALL
VARIES C601	CONCRETE PAVEMENT (TYP.)
3 C601	PROPOSED CURB RAMP
4 C600	PROPOSED LIGHT STANDARD
7 C601	PROPOSED GRANITE CURB
6 C601	GRANITE BLOCK CURB RAMP WITHOUT DWS

	PROPOSED DRIVEWAY
	PROPOSED TOWNHOME/LOFT
	PROPOSED SINGLE FAMILY HOME
	PROPOSED SIGN
(0)	PROPOSED ON-STREET PARKING COUNT
	RIGHT-OF-WAY LINE (R,O,W.)
	PROPERTY LINE
	PROPOSED STORM MANHOLE
	PROPOSED STORM INLET
	PROPOSED SANITARY MANHOLE
	PCSM EASEMENT

811
Know what's below.
Call before you dig.
1-800-242-1776
Serial No. 20260352495

NORTH

GRAPHIC SCALE
0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

THE GATEWAY ENGINEERS, INC. RETAINS OWNERSHIP RIGHTS OF ALL DATA WITHIN THE PLANS. DATA CONTAINED WITHIN IS ONLY TO BE USED FOR ITS INTENDED PURPOSE BY ITS RESPONSIBLE PARTY. THE USE, REPLICATION, REPRODUCTION, OR REDISTRIBUTION OF DATA CONTAINED WITHIN IS STRICTLY PROHIBITED AND SUBJECT TO LEGAL ACTION.

Path & Filename=G:\Projects\18000\18927 Mayview\-0096 Phase 5\Dwg\02-Sheet\1.9.4 LD Set\C100 Site Plan.dwg
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Save Date=2/6/2026 1:01 PM
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A FULL-SERVICE CIVIL ENGINEERING FIRM
301 CUSTER AVENUE, SUITE 400, EXTON, PA 19341 | PH: (484) 875-8300 | FAX: (484) 875-8301

REVISION RECORD

No	Date	
01	----	----
02	----	----
03	"	"
04	"	"
05	"	"
06	"	"
07	"	"
08	"	"

HASTINGS
South Fayette Township/Pittsburgh, PA
CHARTER HOMES & NEIGHBORHOODS

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102

PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

SITE PLAN

Project Number: 18927-0096
Drawing Scale: 1" = 30'
Date Issued: FEB 2026
Index Number: –
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

C100

APPENDIX E

Trip Generation Calculations – Remainder Phase 4 and Phase 5:
21 Single Family Homes and 57 Townhouses

Land Use: 210
Single-Family Detached Housing

Description

A single-family detached housing site includes any single-family detached home on an individual lot. A typical site surveyed is a suburban subdivision.

Specialized Land Use

Data have been submitted for several single-family detached housing developments with homes that are commonly referred to as patio homes. A patio home is a detached housing unit that is located on a small lot with little (or no) front or back yard. In some subdivisions, communal maintenance of outside grounds is provided for the patio homes. The three patio home sites total 299 dwelling units with overall weighted average trip generation rates of 5.35 vehicle trips per dwelling unit for weekday, 0.26 for the AM adjacent street peak hour, and 0.47 for the PM adjacent street peak hour. These patio home rates, based on a small sample of sites, are lower than those for single-family detached housing (Land Use 210), lower than those for single-family attached housing (Land Use 215), and higher than those for senior adult housing—single-family (Land Use 251). (Source 1008)

Additional Data

The sites were surveyed in the 1990s, the 2000s, the 2010s, and the 2020s in Alabama, Arizona, British Columbia (CAN), California, Delaware, Illinois, Kentucky, Massachusetts, Minnesota, Montana, New Jersey, New York, North Carolina, Ontario (CAN), Oregon, Pennsylvania, South Carolina, South Dakota, Vermont, and West Virginia.

Source Numbers

356, 357, 367, 384, 387, 407, 435, 522, 550, 552, 579, 598, 601, 603, 614, 637, 711, 716, 720, 728, 735, 868, 869, 903, 925, 936, 1005, 1007, 1008, 1010, 1033, 1066, 1077, 1078, 1079, 1204, 1221, 1225, 1236, 1251, 1265, 1267

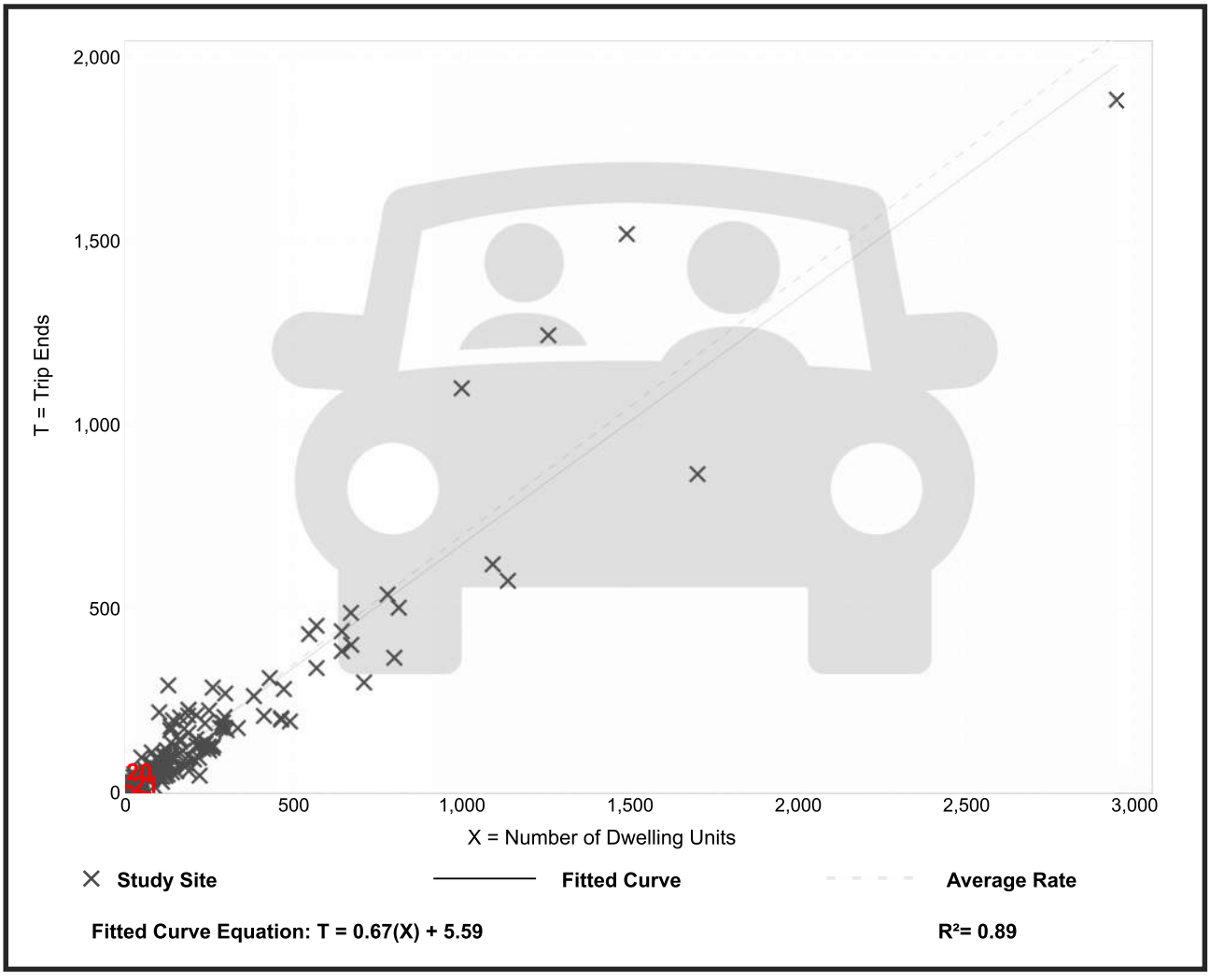
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 153
Avg. Num. of Dwelling Units: 239
Directional Distribution: 27% entering, 73% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.22 - 2.27	0.26

Data Plot and Equation



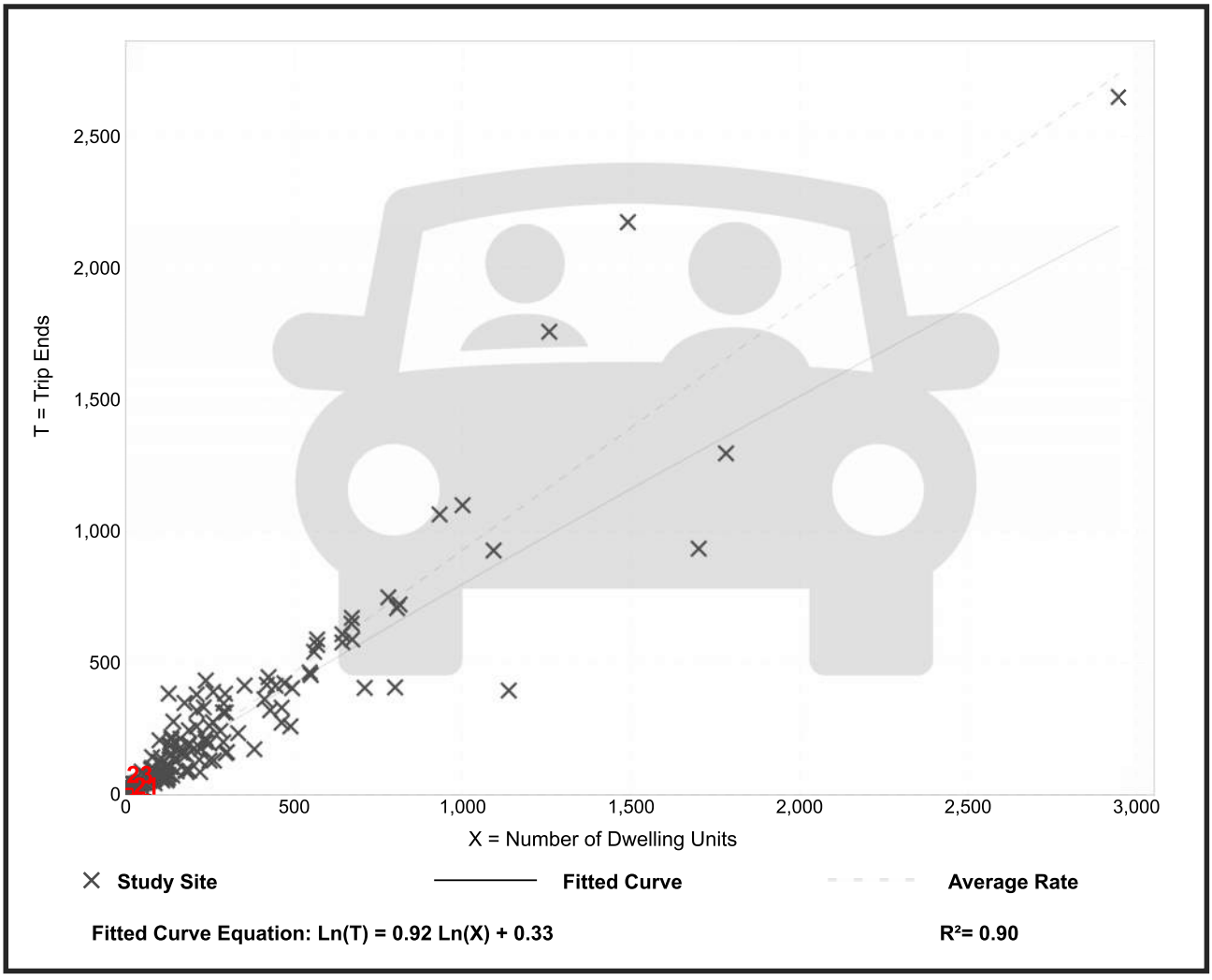
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	166
Avg. Num. of Dwelling Units:	266
Directional Distribution:	62% entering, 38% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.93	0.35 - 2.98	0.33

Data Plot and Equation



Land Use: 215
Single-Family Attached Housing

Description

Single-family attached housing includes any single-family housing unit that shares a wall with an adjoining dwelling unit, whether the walls are for living space, a vehicle garage, or storage space. This land use includes duplexes (defined as a single structure with two distinct dwelling units, typically joined side-by-side and each with at least one outside entrance) and townhouses/rowhouses (defined as a single structure with three or more distinct dwelling units, joined side-by-side in a row and each with an outside entrance).

Additional Data

The sites were surveyed in the 1990s, the 2000s, and the 2010s in British Columbia (CAN), California, Georgia, Massachusetts, Minnesota, New Jersey, Ontario (CAN), Oregon, Pennsylvania, South Dakota, Utah, and Wisconsin.

Source Numbers

357, 390, 418, 525, 571, 583, 638, 868, 869, 870, 896, 912, 959, 1009, 1046, 1056, 1058, 1077

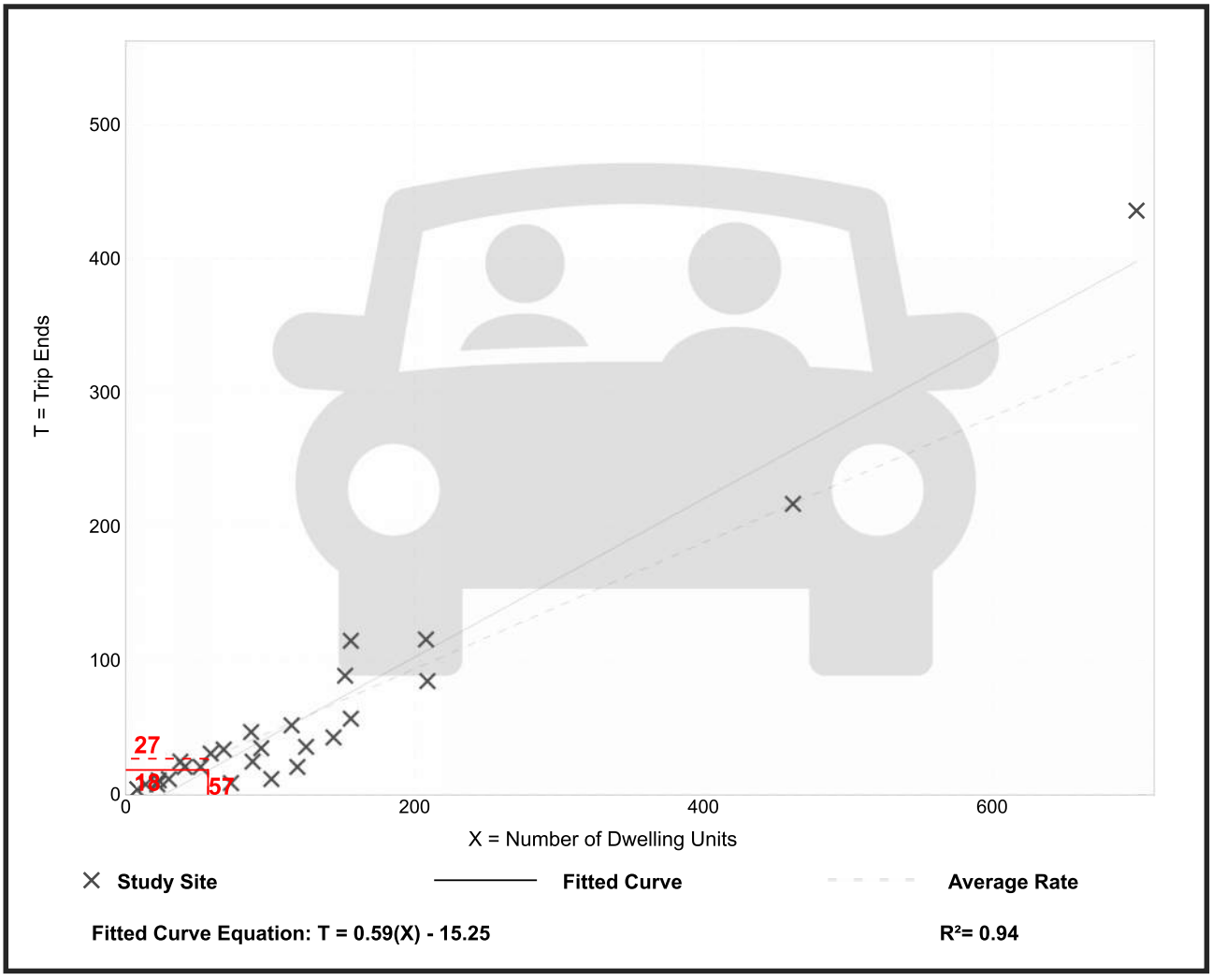
Single-Family Attached Housing
(215)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	26
Avg. Num. of Dwelling Units:	129
Directional Distribution:	25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.47	0.12 - 0.74	0.16

Data Plot and Equation



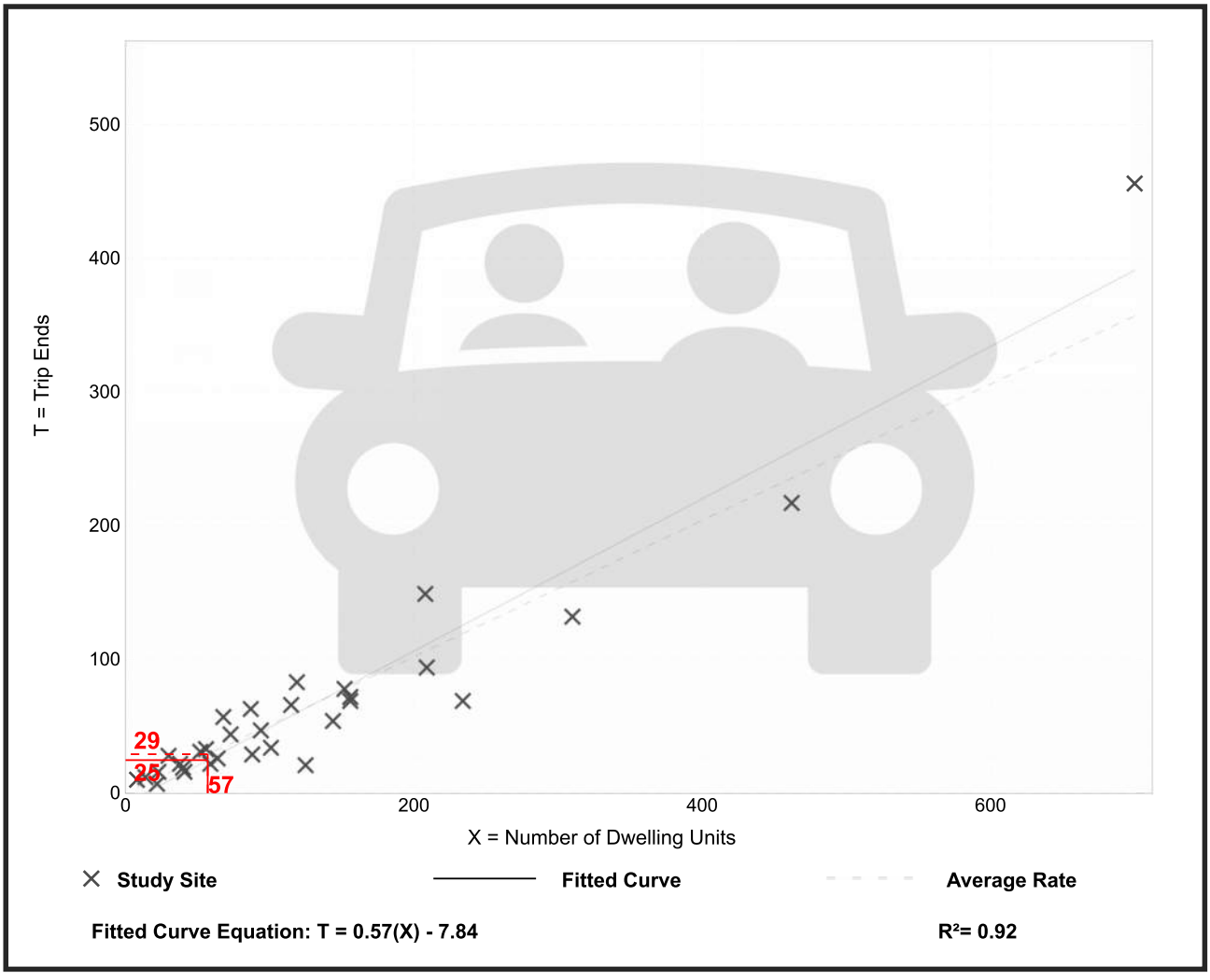
Single-Family Attached Housing
(215)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	31
Avg. Num. of Dwelling Units:	131
Directional Distribution:	57% entering, 43% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.51	0.17 - 1.25	0.16

Data Plot and Equation



PENNSYLVANIA
AMERICAN WATER

Matthew Macek
Superintendent-Pittsburgh Field Operations
Pennsylvania American Water
560 Horning Road
Bethel Park, PA 15102
412-854-7603 Email: matthew.macek@amwater.com

June 23, 2016

Joe Chirumbolo
Gateway Engineering
400 Holiday Dr
Pittsburgh, PA 15220

Subject: Water Availability
Hasting Development
Mayview Rd – South Fayette Township – Allegheny County

This letter is to advise that Pennsylvania American Water, Pittsburgh District, has an 12" water line along Mayview Rd. that is available to provide water service to the above referenced project. Water service would be provided under our Rules and Regulations as approved by the Pennsylvania Public Utility Commission.

A meeting at the site is required to verify and discuss the water service line location and meter placement. In addition, tap and meter information can be discussed. The Field Supervisor handling this particular area is Gary Eiter. He can be reached at 412-854-7619.

A water service application will need to be filled out and returned. You may contact the New Service Department for the necessary paperwork at 800-565-7692.

Sincerely Yours,

Matthew Macek
Superintendent – Field Operations

Cc: D. Smith, G. Eiter,

Peoples Natural Gas Company LLC
1201 Pitt St. Pittsburgh, PA 15221

May 11th, 2016

Joe Chirumbolo
Gateway Engineers
400 Holiday Dr. #300
Pittsburgh, PA 15220

Ref: Letter of Availability for the proposed project located on Mayview Rd., Pittsburgh, PA 15241

Dear Mr. Chirumbolo:

Natural gas service is available from Peoples Natural Gas Company LLC to serve the "proposed" project located on **Mayview Rd., Pittsburgh, PA 15241.**

However, any time we extend our mainline or increase our capacity a possibility exists that there may be a cost to the developer. The determination of cost will be made once the developer submits a formal site plan with the total BTU requirements and pressure requirements. Then all construction costs will be evaluated and Peoples Natural Gas Company LLC will then be able to submit a proposal to serve this new development.

I have enclosed a gas application to be completed – only the areas highlighted. Once completed, please send back to the attention of Beth Reicherter via mail, 1201 Pitt St. Pittsburgh, PA 15221 or email, beth.reicherter@peoples-gas.com.

If you require further information, please do not hesitate to call 412-639-1058.

Sincerely,

Beth M. Reicherter

Beth M. Reicherter
Sales Specialist

Columbia Gas of Pennsylvania
A NiSource Company

May 9, 2016

Mr. Joseph E. Chirumbolo
The Gateway Engineers, Inc.
400 Holiday Drive, Suite 300
Pittsburgh, PA 15143

RE: Mayview Road Development

Dear Mr. Chirumbolo,

This letter is to inform you of the availability of natural gas service from Columbia Gas of Pennsylvania, Inc. (CPA) for the above-referenced development. CPA has existing natural gas facilities located along Mayview Road. Please be advised that while gas service is located near the site, this letter should not be interpreted as commitment to serve until a more thorough application process is completed. Once CAD development drawings and load information are received, our engineering group will begin the design of a gas system to serve the development.

Please keep us updated on the timing and progress of this development so we may coordinate the installation of the natural gas facilities to meet the development timeline. I look forward to working with you to assist in making this development a success.

Best regards,

Mike Belsky, Jr

Mike Belsky, Jr.
New Business Development Manager

BY A RESOLUTION APPROVED ON THE ____ DAY OF _____, _____, THE BOARD OF DIRECTORS OF THE CHARTER HOMES AT HASTINGS, INC., INCORPORATED IN THE COMMONWEALTH OF PENNSYLVANIA, OWNER OF THE LAND SHOWN ON THE CHARTER HOMES AT HASTINGS PLAN PHASE 5 ADOPTED THIS PLAN AS ITS PLAN OF LOTS AND IRREVOCABLY DEDICATED ALL STREETS AND OTHER PROPERTY IDENTIFIED FOR DEDICATION ON THE PLAN TO THE TOWNSHIP OF SOUTH FAYETTE. THIS ADOPTION AND DEDICATION SHALL BE BINDING UPON THE CORPORATION AND UPON ITS SUCCESSORS AND ASSIGNS.

CHARTER HOMES AT HASTINGS, INC.

_____ _____
WITNESS SIGNATURE — SIGNATURE OF AUTHORIZED OFFICER
TITLE OF AUTHORIZED OFFICER:

_____
DATE

BEFORE ME, THE UNDERSIGNED NOTARY PUBLIC IN AND FOR THE COMMONWEALTH OF PENNSYLVANIA AND COUNTY OF ALLEGHENY, PERSONALLY APPEARED THE _____ OF THE CHARTER HOMES AT HASTINGS, INC., WHO STATED THAT (HE/SHE) IS AUTHORIZED TO EXECUTE THE ABOVE ADOPTION AND DEDICATION ON BEHALF OF THE CORPORATION AND WAS PRESENT AT THE MEETING AT WHICH THE ACTION OF THE CORPORATION WAS TAKEN TO ADOPT THE PLAN AND DEDICATE PUBLIC PROPERTY CONTAINED THEREIN TO THE TOWNSHIP OF SOUTH FAYETTE .

WITNESS MY HAND AND NOTARIAL SEAL THIS _ DAY OF _____, _____.

MY COMMISSION EXPIRES THE ____ DAY OF _____, _____.

_____
NOTARY PUBLIC

WE HEREBY CERTIFY THAT THE TITLE TO THE PROPERTY CONTAINED IN THE CHARTER HOMES AT HASTINGS PLAN PHASE 5 IS IN THE NAME OF CHARTER HOMES AT HASTINGS, INC. AND IS RECORDED IN DEED BOOK VOLUME 18729, PAGE 546. WE FURTHER CERTIFY THAT THERE IS NO MORTGAGE, LIEN, OR OTHER ENCUMBRANCE AGAINST THIS PROPERTY.

_____ _____
WITNESS — OWNER

I CERTIFY THAT, TO THE BEST OF MY INFORMATION, KNOWLEDGE, AND BELIEF THE SURVEY AND PLAN SHOWN HEREON ARE CORRECT AND ACCURATE TO THE STANDARDS REQUIRED.

_____ _____
DATE — PATRICK C. COOPER. P.L.S.
REG.NO.040392-E

I CERTIFY THAT THIS PLAN MEETS ALL ENGINEERING AND DESIGN REQUIREMENTS OF THE APPLICABLE ORDINANCES OF THE TOWNSHIP OF SOUTH FAYETTE, EXCEPT AS DEPARTURES HAVE BEEN AUTHORIZED BY THE APPROPRIATE OFFICIALS OF THE MUNICIPALITY.

_____ _____
DATE — NAME
REG. No. _____

THE BOARD OF COMMISSIONERS OF THE TOWNSHIP OF SOUTH FAYETTE GIVES NOTICE THAT, IN APPROVING THIS PLAN FOR RECORDING, THE TOWNSHIP OF SOUTH FAYETTE ASSUMES NO OBLIGATION TO ACCEPT THE DEDICATION OF ANY STREETS, LAND OR PUBLIC FACILITIES AND HAS NO OBLIGATION TO IMPROVE OR MAINTAIN SUCH STREETS, LAND OR FACILITIES.

_____ _____
SECRETARY — CHAIRPERSON OF THE BOARD

THE TOWNSHIP OF SOUTH FAYETTE AGREES NOT TO ISSUE BUILDING PERMITS UNTIL THE "PLANNING MODULE FOR LAND DEVELOPMENT" HAS BEEN APPROVED IN ACCORDANCE WITH THE REGULATIONS OF THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.

_____ _____
DATE — MUNICIPAL SECRETARY

REVIEWED BY THE SOUTH FAYETTE PLANNING COMMISSION OF THE TOWNSHIP OF SOUTH FAYETTE, THIS __ DAY OF _____,_____.

_____ _____
SECRETARY — CHAIRPERSON

APPROVED BY THE BOARD OF COMMISSIONERS OF THE TOWNSHIP OF SOUTH FAYETTE, BY RESOLUTION, THIS ___DAY OF _____, ____ _____, ALL CONDITIONS OF APPROVAL HAVE BEEN REVIEWED, AND THE PLAN SIGNED AND NOTED AS APPROVED, THIS _____ DAY OF _____, _____.

_____ _____
SECRETARY — CHAIRPERSON OF THE BOARD

REVIEWED BY ALLEGHENY COUNTY DEPARTMENT OF ECONOMIC DEVELOPMENT ON THIS ___ DAY OF _____, _____.

_____
DIRECTOR

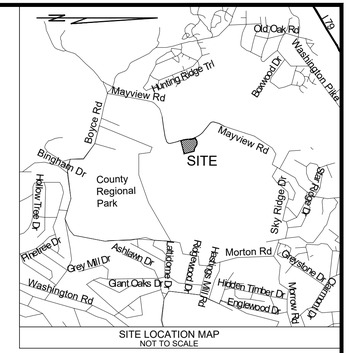
RECORDED IN THE DEPARTMENT OF REAL ESTATE OF THE COUNTY OF ALLEGHENY, COMMONWEALTH OF PENNSYLVANIA, IN PLAN BOOK VOLUME _____, PAGE _____.

GIVEN UNDER MY HAND AND SEAL THIS _ DAY OF _____, _____.

_____
MANAGER, DEPARTMENT OF REAL ESTATE

ENGINEER | SURVEYOR | COUNTY PLANNING | DEPARTMENT OF REAL ESTATE | -

NOTE: ALL SIGNATURES MUST BE MADE WITH A NAVY BLUE INK FELT TIP PEN.



SITE LOCATION MAP
NOT TO SCALE

NOTES:

1) THESE PLANS AS SUBMITTED ARE INTENDED TO COMPLY WITH ALL REGULATIONS, STANDARDS, AND ORDINANCES OF THE SOUTH FAYETTE TOWNSHIP. ANY DEVIATION FROM THOSE REGULATIONS, STANDARDS AND ORDINANCES IS UNINTENTIONAL AND AS SUCH, IN THE EVENT THAT A CONFLICT IS DISCOVERED, IT IS UNDERSTOOD AND AGREED THAT THE SOUTH FAYETTE TOWNSHIP'S REGULATIONS, STANDARDS AND ORDINANCES WILL APPLY.

2) THE SUBJECT PROPERTY LIES IN AREA ZONE X, OTHER FLOOD AREAS, WHICH ARE AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 0.1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AREAS PROTECTED BY LEVEES FROM 0.1% ANNUAL FLOOD CHANNEL AND SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD AS DEPICTED ON FLOOD INSURANCE RATE MAP NUMBER 422003C0453H, MAP REVISED SEPTEMBER 26, 2014.

3) THERE IS HEREBY RESERVED ONTO CHARTER HOMES AT HASTINGS, INC. AND TO EACH OF ITS ASSIGNEES OR DESIGNEES AN EASEMENT FOR THE UNINTERRUPTED RIGHT OF ENTRY, INGRESS, EGRESS, AND REGRESS UPON, OVER, UNDER, THROUGH, AND ACROSS EACH OF THE LOTS DEPICTED ON THIS PLAN FOR THE PLACING AND MAINTAINING OF UTILITY SERVICE EQUIPMENT, FACILITIES, AND COMPONENTS, AND FOR ACCESS FOR THE INSTALLATION, REMOVAL, MAINTENANCE, REPAIR OR REPLACEMENT OF ANY UTILITY OR SERVICE CONDUITS, LINES, AND SYSTEMS, INCLUDING, BUT NOT LIMITED TO, THOSE PROVIDING WATER, SANITARY SEWER, STORM WATER MANAGEMENT (INCLUDING BUT NOT LIMITED TO STORM WATER DRAINAGE, SWALES, CULVERTS, PIPING, DISCHARGE OUTLETS, BASINS AND SIMILAR IMPROVEMENTS), ELECTRIC, TELEPHONE, GAS, TELEVISION CABLE, COMMUNICATION OR ANY OTHER SUCH SERVICE, SUBJECT TO THE CONDITION THAT UPON ANY USE OF THE EASEMENT, UPON COMPLETION OF THE WORK PERFORMED, THE USER SHALL, AT USER'S SOLE COST AND EXPENSE, RESTORE ANY PART OF THE LAND DISTURBED BY SUCH WORK TO APPROXIMATELY THE SAME CONDITION AS EXISTING PRIOR TO COMMENCEMENT OF THE WORK.

4) ALL BUILDING SETBACK LINES SHOWN OR CITED ON THIS PLAN ARE FOR INFORMATIONAL PURPOSES ONLY AND ONLY REPRESENT THE PRESENT BUILDING SETBACK REQUIREMENTS OF THE SOUTH FAYETTE TOWNSHIP ZONING ORDINANCE. NO EASEMENT, COVENANT OR OTHER RESTRICTION LIMITING THE USE OR LOCATION OF PRESENT OR FUTURE DEVELOPMENT OF ANY OF THE PROPERTY(IES) INCLUDED IN THIS PLAN IS INTENDED BY THE SHOWING OF THE ABOVE REFERENCED BUILDING SETBACK LINES. HOWEVER, ANY MODIFICATION IN USE OR LOCATION OF THE BUILDING SETBACK LINES SHOWN OR CITED ON THIS PLAN MUST BE WITH PRIOR WRITTEN APPROVAL OF SOUTH FAYETTE TOWNSHIP.

6) ALL PRIVATE STREETS SHOWN ON THIS PLAN ARE EASEMENTS FOR INGRESS, EGRESS, REGRESS, AND UTILITY PURPOSES.
   a. BRAEBANK STREET - VARIABLE WIDTH ROW AND UTILITY EASEMENT
   b. ARGYLL ALLEY - 20' ROW AND UTILITY EASEMENT

7) THE FOLLOWING RIGHTS OF WAY ARE SHOWN AND LABELED AS PUBLIC, PER THE REQUEST OF SOUTH FAYETTE TOWNSHIP. THESES RIGHTS OF WAY ARE TO BE DEDICATED FOR UTILITY AND ROAD PURPOSES AND ARE EVENTUALLY TO BE CONSIDERED PUBLIC, ONCE AND IF THE SOUTH FAYETTE TOWNSHIP ACCEPTS THEM.

8) THE FOLLOWING RIGHTS OF WAY ARE SHOWN AND LABELED AS PRIVATE, PER THE REQUEST OF SOUTH FAYETTE TOWNSHIP.

9) THE TOWNSHIP HAS NO MAINTENANCE RESPONSIBILITY ON PRIVATE STREETS.

10) DRIVEWAY ACCESS TO THE STATE HIGHWAY SHALL BE ONLY AS AUTHORIZED BY A HIGHWAY OCCUPANCY PERMIT FROM THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION, AS REQUIRED PURSUANT TO SECTION 420 OF THE ACT OF JUNE 1, 1945 (PL. 1242, NO. 428) KNOWN AS THE STATE HIGHWAY LAW."

OWNER:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET
LANCASTER, PA 17603

GATEWAY ENGINEERS
The Gateway Engineers, Inc.
Full-Service Civil Engineering & Surveying
100 McMorris Road, Pittsburgh, PA 15205
www.GatewayEngineers.com 855-634-9284

CHARTER HOMES AT HASTINGS PLAN PHASE 5

BEING A SUBDIVISION OF CHARTER HOMES AT HASTINGS PLAN AS RECORDED IN THE ALLEGHENY COUNTY DEPARTMENT OF REAL ESTATE IN PLAN BOOK VOLUME 292, PAGE 157.

SITUATE IN

SOUTH FAYETTE TOWNSHIP
ALLEGHENY COUNTY, PA

MADE FOR

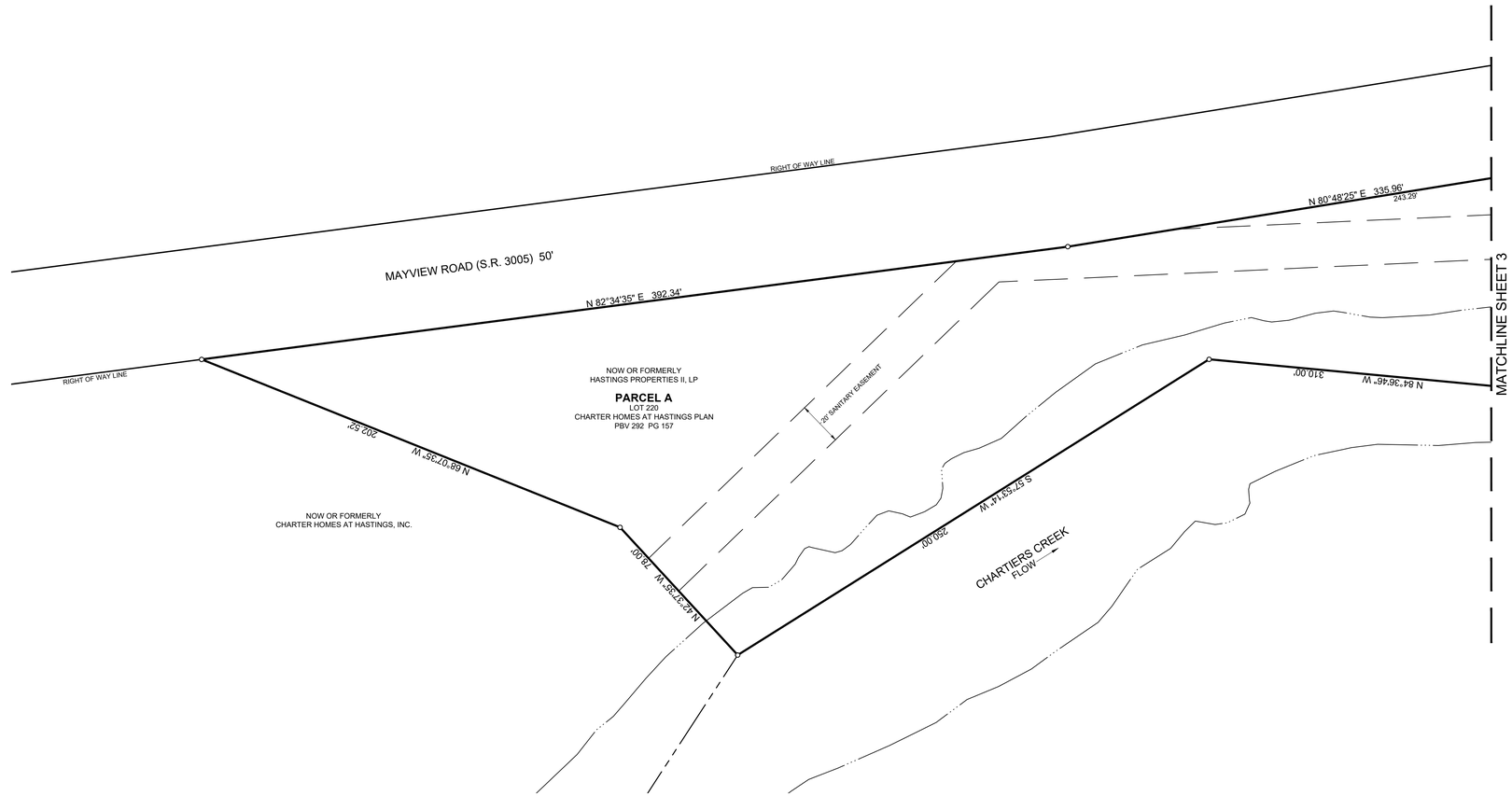
CHARTER HOMES AT HASTINGS, INC.
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

PM: DMH DB: KCW CB: DMH SCALE: NTS

Date: FEBRUARY 9, 2026
Job Number. C-18927-0096
Dwg No: XXX.XXX SHEET 1 OF 3

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Path & Filename=G:\Projects\18000\18927 Mayview\-0096 Phase 5\Dwg\07-Survey\Hastings Phase 5 Subdivision Plan.dwg
Save Date=2/9/2026 1:44 PM
Plot Date=2/9/2026 1:46 PM Kenneth C. Winkler
18.01



GRAPHIC SCALE

0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

GATEWAY ENGINEERS
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SITUATE IN

SOUTH FAYETTE TOWNSHIP
ALLEGHENY COUNTY, PA

MADE FOR

CHARTER HOMES AT HASTINGS, INC.
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

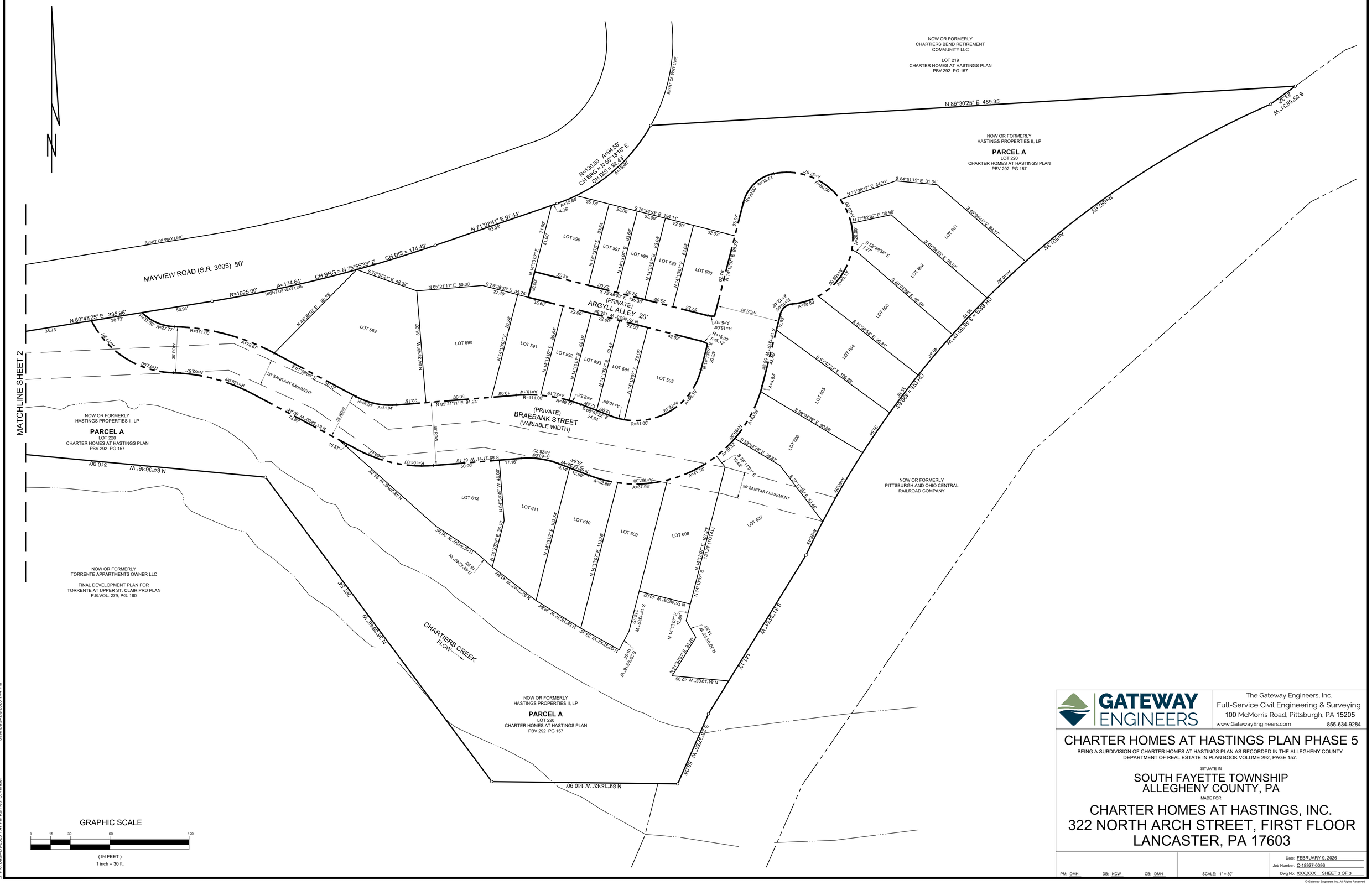
PM: DMH DB: KCW CB: DMH

SCALE: 1" = 30'

Date: FEBRUARY 9, 2026
Job Number: C-18927-0096
Dwg No: XXX.XXX SHEET 2 OF 3

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Path & Filename=G:\Projects\18000\18927 Mayview\-0096 Phase 5\Dwg\07-Survey\Hastings Phase 5 Subdivision Plan.dwg
Plot Date=2/9/2026 1:46 PM Kenneth C. Winkler
Save Date=2/9/2026 1:44 PM
18.01



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CHARTER HOMES AT HASTINGS PLAN PHASE 5

BEING A SUBDIVISION OF CHARTER HOMES AT HASTINGS PLAN AS RECORDED IN THE ALLEGHENY COUNTY DEPARTMENT OF REAL ESTATE IN PLAN BOOK VOLUME 292, PAGE 157.

SITUATE IN

SOUTH FAYETTE TOWNSHIP
ALLEGHENY COUNTY, PA

MADE FOR

CHARTER HOMES AT HASTINGS, INC.
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

PM: DMH DB: KCW CB: DMH

SCALE: 1" = 30'

Date: FEBRUARY 9, 2026
Job Number: C-18927-0096
Dwg No: XXX.XXX SHEET 3 OF 3

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Path & Filename=G:\Projects\18000\18927 Mayview\-0096 Phase 5\Dwg\07-Survey\Hastings Phase 5 Subdivision Plan.dwg
Save Date=2/9/2026 1:44 PM
Plot Date=2/9/2026 1:47 PM Kenneth C. Winkler
18.01

26633 DRE Certified
01-Mar-2011 02:19P\Int By: S B

DEED

THIS DEED MADE AND ENTERED into this 5th day of January, 20 11, between the **COMMONWEALTH OF PENNSYLVANIA**, acting by and through the Department of General Services, an administrative department of the Commonwealth of Pennsylvania, with the approval of the Governor of the Commonwealth of Pennsylvania, herein referred to as **GRANTOR**,

A

N

D

ALOE BROTHERS L.L.C., 5540 Dunmoyle Avenue, Pittsburgh, Pennsylvania, 15217, hereinafter referred to as **GRANTEE**,

WHEREAS, under authority of ***Act 117 of 2010***, the General Assembly of the Commonwealth of Pennsylvania authorized the Department of General Services, with the approval of the Governor, to grant and convey to **GRANTEE**, three (3) tracts of land containing 152 acres +/- together with improvements thereon, situate in the Township of South Fayette, County of Allegheny, Commonwealth of Pennsylvania, hereinafter described.

WITNESSETH, that the said **GRANTOR** for and in consideration of **FIVE HUNDRED FIVE THOUSAND FIVE HUNDRED FIVE DOLLARS AND 00/100 ($505,505.00)** has granted and conveyed and by these presents does grant and convey to **GRANTEE**, its successors and assigns three (3) tracts of land, together with all buildings and improvements thereon, situate in the Township of South Fayette, Allegheny County, Pennsylvania, bounded and described as follows:

LOT NO. 1

BEING all of that certain piece or parcel of land being situate in the Township of South Fayette, Allegheny County, more particularly bound and described as follows:

BEGINNING at an iron pin set at the southern right of way line of Mayview Road, a fifty foot right of way and lands now or formerly of BEE Properties LLC, thence continuing

(7)

along the southern right of way line of Mayview Road, a fifty foot right of way, the following seven (7) courses and distances:

1. North 82°34'35" East 392.34 feet to a point, thence;
2. North 80°48'25" East 335.96 feet to a point, thence;
3. By a curve to the left with a radius of 1025.00 feet for an arc length of 174.64 feet with a chord bearing North 75°55'33" East 174.43 feet to a point, thence;
4. North 71°02'41" East 97.44 feet to a point, thence;
5. By a curve to the left with a radius of 130.00 feet and an arc length of 194.34 feet with a chord bearing North 28°13'07" East 176.74 feet to a point, thence;
6. North 14°36'27" West 317.99 feet to a point, thence;
7. South 75°23'33" West 8.50 feet to a point where the right of way of Mayview Road changes from 50 to 33 feet, thence, continuing along Mayview Road;
8. North 14°36'27" West 215.17 feet to a point, thence;
9. By a curve to the right with a radius of 898.50 feet and an arc length of 168.21feet with a chord bearing North 09°14'39" West 167.96 feet to a point, thence;
10. North 03°52'52" West 106.37 feet to a point, thence;
11. By a curve to the left with a radius of 542.50 feet with an arc length of 231.86 feet and a chord bearing North 16°07'29" West 230.10 feet to a point, thence;
12. North 28°22'07" West 153.00 feet to a point, thence;
13. By a curve to the left with a radius of 551.50 feet and an arc length of 215.61 feet with a chord bearing North 39°34'07" West 214.24 feet to a point, thence;
14. North 50°46'08" West 457.91 feet to a point, thence;
15. By a curve to the right with a radius of 166.58 feet with an arc length of 163.24 with a chord bearing North 22°31'44" West 156.71 feet to a point of compound curvature, thence;
16. By a curve to the right with a radius of 277.76 feet and an arc length of 48.96 feet with a chord bearing North 10°45'52" East 48.90 feet to a point, thence;
17. North 15°48'52" East 104.43 feet to a point, thence;
18. North 16°47'48" East 76.15 feet to a point on the southern and western right of way lines of lands now or formerly of the Ohio Central Railroad System, thence

(8)

by lands now or formerly of the Ohio Central Railroad System, the following eighteen (18) courses and distances;

19. South 42°54'10" East 289.56 feet to a point, thence;

20. South 40°33'49" East 419.59 feet to a point, thence;

21. South 89°36'43" East 432.07 feet to a point, thence;

22. North 68°47'14" East 101.98 feet to a point, thence;

23. North 80°05'50" East 400.00 feet to a point, thence;

24. North 09°54'10" West 10.00 feet to a point, thence;

25. North 80°05'50" East 270.00 feet to a point, thence;

26. By a curve to the right with a radius of 2303.66 with an arc length of 723.72 feet with a chord bearing North 89°05'50" East 720.74 feet to a point of compound curvature, thence;

27. By a curve to the right with a radius of 654.14 with an arc length of 727.75 with a chord bearing South 50°01'52" East 690.80 feet to a point, thence;

28. South 71°50'27" West 20.00 feet to a point, thence;

29. By a non-tangent curve to the right with a radius 634.14 feet with an arc length of 978.29 feet and a chord bearing South 26°02'09" West 884.12 feet to a point, thence;

30. South 72°39'30" West 475.41 feet to a point, thence;

31. South 71°55'20" West 331.44 feet to a point, thence;

32. South 69°40'12" West 438.03 feet to a point, thence;

33. South 53°58'31" West 70.04 feet to a point, thence;

34. By a curve to the left with a radius of 697.63 feet with an arc length of 501.35 feet and a chord bearing South 45°50'12" West 490.63 feet to a point, thence;

35. South 31°34'51" West 141.13 feet to a point, thence;

36. South 23°37'50" West 58.04 feet to a point in Chartiers Creek along lands now or formerly of the Township of Upper St. Clair, thence continuing along lands now or formerly of the Township of Upper St. Clair, the following four (4) courses and distances;

37. North 89°18'43" West 140.90 feet to a point in Chartiers Creek, thence;

38. North 36°36'46" West 287.54 feet to a point in Chartiers Creek, thence;

39. North 84°36'46" West 310.00 feet to a point in Chartiers Creek, thence;

40. South 57°53'14" West 250.00 feet to a point in Chartiers Creek at lands now or formerly of BEE Properties, LLC, thence continuing along lands of BEE Properties, LLC the following two (2) courses and distances:

41. North 42°37'35" West 78.00 feet to a point, thence;

42. North 68°07'35" West 202.52 feet to the **POINT and PLACE of BEGINNING.**

SUBJECT to a fifty foot (50') wide access easement, as depicted on the "Minor Subdivision of Mayview State Hospital" prepared by L. Robert Kimball & Associates, Inc., Project 09-1300-0243, for use by the PA Department of Transportation for ingress and egress to their wetland mitigation sites which are situated on Lot No. 4 Residual Tract of the aforementioned "Minor Subdivision of Mayview State Hospital".

BEING Tax Parcel No. 480-P-1.

The above described tract of land consists of a portion of Parcel Nos. formerly known as 9946-X-50590, 9946-X-50595, 9946-X-50605, and 9946-X-50616, and being shown as Lot No. 1 on a plan entitled "Minor Subdivision of Mayview State Hospital" as prepared by L. Robert Kimball & Associates, Inc., Project 09-1300-0243 and recorded August 30, 2010, in the office of the Department of Real Estate of the County of Allegheny, Commonwealth of Pennsylvania, in Plan Book Volume 269, Page 95.

SAID PARCEL CONTAINS 3,542,770.36 square feet or 81.331 acres of land.

LOT NO. 2

BEING all of that certain piece or parcel of land being situate in the Township of South Fayette, Allegheny County, more particularly bound and described as follows:

BEGINNING at an existing concrete monument found at lands now or formerly of South Fayette Township and lands now or formerly of Ernest Webb, thence continuing along lands now or formerly of South Fayette Township, the following eight (8) courses and distances:

1. North 31°50'30" East 816.23 to a point, thence;
2. North 19°57'43" West 400.20 to a point, thence;
3. North 55°14'15" East 335.74 to a point, thence;
4. North 47°24'45" West 201.18 to a point, thence;
5. North 29°38'37" West 719.15 to a point, thence;

6. South 70°56'43" West 116.25 to a point, thence;

7. North 17°09'04" West 279.72 to a point, thence;

8. North 64°53'30" East 763.66 to a point on the western right of way line of lands now or formerly of the Ohio Central Railroad System, thence by lands now or formerly of the Ohio Central Railroad System, the following two (2) courses and distances;

9. By a non-tangent curve to the left with a radius 984.93 feet with an arc length of 326.32 feet and a chord bearing South 33°24'41" East 324.83 feet to a point, thence;

10. South 42°54'10" East 393.37 to a point on the western right of way line of Mayview Road, of varying width. Thence, continuing along Mayview Road, the following two (2) courses and distances:

11. South 15°48'52" West 126.50 feet to a point, thence;

12. South 74°11'08" East 5.50 feet to a point where the right of way of Mayview Road is 33 feet in width, thence continuing along the right of way of Mayview Road, the following seventeen (17) courses and distances:

13. South 15°48'52" West 78.25 feet to a point, thence;

14. By a curve to the left with a radius of 310.76 feet with an arc length of 54.78 feet and a chord bearing South 10°45'52" West 54.71 feet to a point of compound curvature, thence,

15. By a curve to the left with a radius of 198.58 feet and an arc length of 195.77 feet with a chord bearing South 22°31'43" East 187.94 feet to a point, thence;

16. South 50°46'08" East 457.91 feet to a point, thence;

17. By a curve to the right with a radius of 518.50 feet with an arc length of 202.71 feet and a chord bearing South 39°34'07" East 201.42 feet to a point, thence;

18. South 28°22'07" East 153.00 feet to a point, thence;

19. By a curve to the right with a radius of 509.50 feet and an arc length of 217.75 feet with a chord bearing South 16°07'29" East 216.10 feet to a point, thence;

20. South 03°52'52" East 106.37 feet to a point, thence;

21. By a curve to the left with a radius of 931.50 feet and an arc length of 174.39 feet with a chord bearing South 09°14'39" East 174.13 feet to a point, thence;

22. South 14°36'27" East 215.17 feet to a point, thence;

(11)

23. South 75°23'33" West 8.50 feet to a point where the right of way is fifty feet in width, thence;

24. South 14°36'27" East 317.99 feet to a point, thence;

25. By a curve to the right with a radius of 80.00 feet and an arc length of 119.59 feet with a chord bearing South 28°13'07" West 108.76 feet to a point, thence;

26. South 71°02'41" West 97.44 feet to a point, thence;

27. By a curve to the right with a radius of 975.00 feet and an arc length of 166.12 feet with a chord bearing South 75°55'33" West 165.92 feet to a point, thence;

28. South 80°48'25" West 335.19 feet to a point, thence;

29. South 82°34'35" West 480.68 feet to a point at lands now or formerly of BEE Properties, LLC, thence along lands now or formerly of BEE Properties, LLC at first, then Ernest Webb;

30. North 68°07'35" West 741.53 feet to the **POINT and PLACE of BEGINNING.**

BEING Tax Parcel No. 571-B-2.

The above described tract of land consists of a portion of Parcel Nos. formerly known as 9946-X-50590, and 9946-X-678, and being shown as Lot No. 2 on a plan entitled "Minor Subdivision of Mayview State Hospital" as prepared by L. Robert Kimball & Associates, Inc., Project 09-1300-0243 and recorded August 30, 2010, in the office of the Department of Real Estate of the County of Allegheny, Commonwealth of Pennsylvania, in Plan Book Volume 269, Page 95.

SAID PARCEL CONTAINS 3,004,864.98 square feet or 68.982 acres of land.

LOT NO. 3

BEING all of that certain piece or parcel of land being situate in the Township of South Fayette, Allegheny County, more particularly bound and described as follows:

BEGINNING at a point on the western right of way line of Mayview Road, a variable width right of way and lands now or formerly of the Township of Upper St. Clair, said point being located within Chartiers Creek, thence continuing along the western right of way line of Mayview Road the following three (3) courses and distances:

1. South 15°48'52" West 76.32 feet to a point, thence;

2. South 22°50'43" East 32.02 feet to a point, thence;

3. South 09°17'41" West 54.55 feet to a point on the northern right of way line of lands now or formerly of the Ohio Central Railroad, thence continuing along lands now or formerly of the Ohio Central Railroad, the following two (2) courses and distances;

4. North 42°54'10" West 354.80 feet to a point, thence;

5. By a curve to the right with a radius of 924.93 feet and an arc length of 613.17 feet with a chord bearing North 23°54'40" West 602.00 feet to a point, thence;

6. North 72°39'04" East 70.32 feet to a point in Chartiers Creek, thence along Chartiers Creek;

7. South 19°18'18" East 494.16 feet to a point, thence;

8. South 41°30'18" East 200.00 feet to a point; thence;

9. South 67°21'18" East 151.36 feet to the **POINT and PLACE of BEGINNING.**

BEING Tax Parcel No. 480-E-3.

The above described tract of land consists of a portion of Parcel No. formerly known as 9946-X-50590, and being shown as Lot No. 3 on a plan entitled "Minor Subdivision of Mayview State Hospital" as prepared by L. Robert Kimball & Associates, Inc., Project 09-1300-0243 and recorded August 30, 2010, in the office of the Department of Real Estate of the County of Allegheny, Commonwealth of Pennsylvania, in Plan Book Volume 269, Page 95.

SAID PARCEL CONTAINS 73,671.25 square feet or 1.691 acres of land.

LOT NO. 1, LOT NO. 2 and LOT NO. 3, AS ABOVE DESCRIBED, BEING a part of the premises conveyed from the Allegheny County Institution District, to the Commonwealth of Pennsylvania, by deed dated October 31, 1949 and recorded November 3, 1949 in Deed Book Volume 3074, Page 129 and also the land taken by the Commonwealth of Pennsylvania pursuant to the Act of September 29, 1938, Special Session, P.L. 53, as amended by the Act of May 19, 1943, P.L. 262, and the Act of May 25, 1945, P.L. 1074, 50 P.S. Section 1051, no deed having been given.

ALSO BEING A PORTION of the same premises conveyed from the General State Authority, to the Commonwealth of Pennsylvania, acting by and through the Department of General Services, by deed dated June 16, 1989 and recorded April 6, 1990 in Allegheny County Deed Book Volume 8221, Page 531.

TO HAVE AND TO HOLD the said tract or piece of ground unto the said **GRANTEE**, its successors and assigns, to and for the only proper use and behoof of the said **GRANTEE**, its successors and assigns forever.

UNDER AND SUBJECT to all lawful and enforceable easements, servitudes and rights of others, including but not confined to streets, roadways, and rights of any telephone, telegraph, water, electric, gas or pipeline companies, as well as under and subject to any lawful and enforceable estates or tenancies vested in third persons appearing of record, for any portion of the land or improvements erected thereon.

UNDER AND SUBJECT to the condition, that no portion of the property conveyed shall be used as a licensed facility, as defined in 4 Pa.C.S. § 1103 (relating to definitions), or any other similar type of facility authorized under state law. The condition shall be a covenant running with the land and shall be binding upon the **GRANTEE**, its successors and assigns. Should the **GRANTEE**, its successors or assigns, permit any portion of the property to be used in violation of this restriction, the title shall immediately revert to and revest in the **GRANTOR**.

NOTICE THE UNDERSIGNED, AS EVIDENCED BY THE SIGNATURE(S) TO THIS NOTICE AND THE ACCEPTANCE AND RECORDING OF THIS DEED, IS FULLY COGNIZANT OF THE FACT THAT THE UNDERSIGNED MAY NOT BE OBTAINING THE RIGHT OF PROTECTION AGAINST SUBSIDENCE, AS TO THE PROPERTY HEREIN CONVEYED, RESULTING FROM COAL MINING OPERATIONS AND THAT THE PURCHASED PROPERTY, HEREIN CONVEYED, MAY BE PROTECTED FROM DAMAGE DUE TO MINE SUBSIDENCE BY A PRIVATE CONTRACT WITH THE OWNERS OF THE ECONOMIC INTEREST IN THE COAL. THIS NOTICE IS INSERTED HEREIN TO COMPLY WITH THE BITUMINOUS MINE SUBSIDENCE AND LAND CONSERVATION ACT OF 1966, AS AMENDED 1980, OCT. 10, P.L. 874, NO. 156 § 1.

WITNESS: Attorney

Aloe Brothers, L.L.C.

Name:

Title: Manager

NOTICE-- THIS DOCUMENT MAY NOT SELL, CONVEY, TRANSFER, INCLUDE OR INSURE THE TITLE TO THE COAL AND RIGHT OF SUPPORT UNDERNEATH THE SURFACE LAND DESCRIBED OR REFERRED TO HEREIN, AND THE OWNER OR OWNERS OF SUCH COAL MAY HAVE THE COMPLETE LEGAL RIGHT TO REMOVE ALL OF SUCH COAL AND, IN THAT CONNECTION, DAMAGE MAY RESULT TO THE SURFACE OF THE LAND AND ANY HOUSE, BUILDING OR OTHER STRUCTURE ON OR IN SUCH LAND. THE INCLUSION OF THIS NOTICE DOES NOT ENLARGE, RESTRICT OR MODIFY ANY LEGAL RIGHTS OR ESTATES OTHERWISE CREATED, TRANSFERRED, EXCEPTED OR RESERVED BY THIS INSTRUMENT. [This notice is set forth pursuant to Act No. 255, approved September 10, 1965.]

AND THE GRANTOR shall warrant specially the premises herein conveyed.

(12)

IN WITNESS WHEREOF, GRANTOR, by Elizabeth A. O'Reilly, Secretary of General Services, has caused this Instrument to be signed the day and year first above written.

APPROVED AS TO LEGALITY AND FORM
Office of Chief Counsel, DGS

COMMONWEALTH OF PENNSYLVANIA
Department of General Services

Secretary Date 1/5/11

APPROVED AS TO LEGALITY AND FORM
Office of General Counsel

APPROVED AS TO LEGALITY AND FORM
Office of Attorney General

By Deputy Attorney General

APPROVED:

GOVERNOR

(13)

ACKNOWLEDGMENT

COMMONWEALTH OF PENNSYLVANIA:

:

COUNTY OF DAUPHIN :

On this, the 5th day of January, 2011, before me, the undersigned officer, personally appeared Elizabeth O'Reilly, Acting Secretary of the Department of General Services of the Commonwealth of Pennsylvania, known to me (or satisfactorily proven) to be the person described in the foregoing instrument, and acknowledged that she/he executed the same in the capacity therein stated and for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Melisa S. Warner

NOTARY PUBLIC

NOTARIAL SEAL
MELISA S WARNER
Notary Public
CITY OF HARRISBURG, DAUPHIN COUNTY
My Commission Expires Aug 2, 2014

CERTIFICATE OF RESIDENCE

I certify that the true and precise address of the within named **GRANTEE** is Aloe Brothers L.L.C., 5540 Dunmoyle Avenue, Pittsburgh, Pennsylvania, 15217.

Mail Tax Statement to: 5540 Dunmoyle Avenue
Pittsburgh, PA 15217

MARCH 1, , 20 11

ATTORNEY FOR GRANTEE

Mail to:
Jeffrey T. Olup, esq.
P.O. Box 144
111 Fallowfield Avenue
Charleroi, PA 15022

(17)

.12

COMMONWEALTH OF PENNSYLVANIA
OFFICE OF THE GOVERNOR
HARRISBURG

THE GOVERNOR

August 17, 2010

I, Edward G. Rendell, hereby authorize Elizabeth A. O'Reilly, Acting Secretary of General Services, to execute on my behalf, documents of the Department of General Services listed below:

Deeds
Demolition of Buildings
Easements
Indentures
Leases
Legislatively Mandated Conveyances
Licenses
Rights-of-Way
Sales Agreements

Edward G. Rendell

Edward G. Rendell
Governor

(18)



Allegheny County
Valerie McDonald Roberts
Department of Real Estate
Pittsburgh, PA 15219

Instrument Number: 2011-4690 BK-DE VL-14515 PG-343

Recorded On: March 01, 2011 As-Deed

Parties: PENNSYLVANIA COMWTH DEP GENL SERVICES

To ALOE BROTHERS L L C # of Pages: 13

Comment:

********** THIS IS NOT A BILL **********

Deed		94.50
	Pages > 4	8
	Names > 4	0
Total:		94.50

Realty Transfer Stamp

Affidavit Attached-No Stamp Num-T415840
SOUTH FAYETTE TP
Ward-99-NO WARD
Value 505,505.00

Commonwealth of Pennsylvania	5,055.05
Munic-South Fayette Twp	2,527.53
School District-South Fayette	2,527.52
Munic-Penalty	0.00
Munic-Interest	0.00
School-Penalty	0.00
School-Interest	0.00
	10,110.10

Department of Real Estate Stamp

Certified By-> S B
ON 03-01-2011 AT 02:19p
0480P00001000000 0571B00002000000
0480E00003000000

I hereby certify that the within and foregoing was recorded in the Department of Real Estate in Allegheny County, PA

****DO NOT REMOVE-THIS PAGE IS PART OF THE RECORDED DOCUMENT****

File Information:

Document Number: 2011-4690
Receipt Number: 1775784
Recorded Date/Time: March 01, 2011 02:26:53P
Book-Vol/Pg: BK-DE VL-14515 PG-343
User / Station: K Greenwade - Cash Super 06

Record and Return To:

JEFFREY T OLUP ESQUIRE
PO BOX 144
111 FALLOWFIELD AVE
CHARLEROI PA 15022

Valerie McDonald Roberts, Manager
Dan Onorato, County Executive

(6)

60 2014 00034872

Allegheny County
Jerry Tyskiewicz
Department of Real Estate
Pittsburgh, PA 15219

Instrument Number: 2014-34872 **BK-DE VL-15821 PG-542**

Recorded On: December 09, 2014 **As-Deed Agreement**

Parties: ALOE BROTHERS L L C

To CHARTER HOMES DEVELOP PROPERTIES XI INC **# of Pages: 4**

Comment: MEMO PURCHASE AGRMT

********** **THIS IS NOT A BILL** **********

Deed Agreement	162.00
	0
	0
Total:	162.00

Realty Transfer Stamp

Affidavit Attached-No
NOT A DEED OF TRANSFER EXEMPT

Value

Department of Real Estate Stamp

Certified On/By-> 12-09-2014 / Amy Racko

NOT A DEED OF TRANSFER

I hereby certify that the within and foregoing was recorded in the Department of Real Estate in Allegheny County, PA

****DO NOT REMOVE-THIS PAGE IS PART OF THE RECORDED DOCUMENT****

File Information:

Document Number: 2014-34872
Receipt Number: 2777383
Recorded Date/Time: December 09, 2014 12:26:30P
Book-Vol/Pg: BK-DE VL-15821 PG-542
User / Station: M Ward - Cash Station 22

Record and Return To:

BASSI VREELAND & ASSOCIATES PC
111 FALLOWFIELD AV
PO BOX 144
CHARLEROI PA 15022

Jerry Tyskiewicz, Acting Manager
Rich Fitzgerald, County Executive

172800 DRE Certified
09-Dec-2014 12:22P\Int By: Amy Racko

MEMORANDUM OF PURCHASE AGREEMENT

This Memorandum of Purchase Agreement is made this 19th day of November 2014, by and between **ALOE BROTHERS, LLC,** a Pennsylvania Limited Liability Company, with a registered office address of 5540 Dunmoyle Avenue, Pittsburgh, Pennsylvania 15217 ("Seller"), and **CHARTER HOMES DEVELOPMENT PROPERTIES XI, INC,** a Pennsylvania Corporation with a registered office address of 1190 Dillerville Road, Lancaster, Pennsylvania 17601 ("Buyer").

Witnesseth:

1. Aloe Brothers, LLC, and Charter Homes Development Properties XI, Inc., have entered into a written Purchase Agreement dated April 30, 2014, for the sale and purchase of:

i. a. 68.98 (+/-) acres, being Parcel ID No. 0571-B-00002-0000-00;

b. 81.33 (+/-) acres, being Parcel ID No. 0480-P-00001-0000-00;

c. 8.46 (+/-) acres, being Parcel ID No. 571-A-00001-000-00; and

d. 1.69 (+/-) acres, being Parcel ID No. 480-E-00003-000-00 and

ii. which parcels are situate in the Township of South Fayette, Allegheny County, Pennsylvania, and

iii. Aloe Brothers, LLC, has excepted and reserved Seller's subterranean mineral rights (including without limitation, coal rights) and any subterranean oil and gas rights appurtenant thereto, provided that the exercise by Aloe Brothers, LLC, of the subsurface rights shall not unreasonably or materially interfere with Charter Homes Development Properties XI, Inc.'s use of the subject properties for its intended purposes, and further provided that Aloe Brothers, LLC, shall not be permitted to use the surface of the subject property in conjunction with the exercise of the subsurface rights reserved to Aloe Brothers, LLC.

2. The purpose of this Memorandum of Purchase Agreement is to provide notice of the existence of the parties' Purchase Agreement, aforementioned.

IN WITNESS WHEREOF, the parties have set forth their hands and seals on the 19th day of November 2014.

ATTEST:

, Esq.

ALOE BROTHERS, LLC

By _____
Mark Aloe, Managing Member

ATTEST:

CHARTER HOMES DEVELOPMENT PROPERTIES XI, INC.

By _____
Robert P. Bowman, President

Commonwealth of Pennsylvania
:SS
County of WASHINGTON

On this 21ST day of November, A.D. 2014, before me a Notary Public, the undersigned officer, personally appeared Mark Aloe, Managing Member, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

In Witness Whereof, I hereunto set my hand and official seal.

_____
NOTARY PUBLIC

My commission expires:

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
Rosemary Bello, Notary Public
Charleroi Boro, Washington County
My Commission Expires June 29, 2018
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

Commonwealth of Pennsylvania

:SS

County of Lancaster

On this 19th day of November, A.D. 2014, before me a Notary Public, the undersigned officer, personally appeared Robert P. Bowman, President, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

In Witness Whereof, I hereunto set my hand and official seal.

Cynthia K. Lucci

NOTARY PUBLIC

My commission expires: April 18, 2016

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Cynthia K. Lucci, Notary Public
City of Lancaster, Lancaster County
My Commission Expires April 18, 2016
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

After Recording Return To:
Bassi, Vreeland & Associates, P.C.
111 Fallowfield Avenue
P.O. Box 144
Charleroi, Pennsylvania 15022

BASSI, VREELAND & ASSOCIATES, P.C. ATTORNEYS AT LAW • COST ACCOUNT

30005

VENDOR: ALLEGHENY COUNTY DEPT OF REAL ESTATE

OUR REF. NO.	YOUR INVOICE NUMBER	INVOICE DATE	INVOICE AMOUNT	AMOUNT PAID	DISCOUNT TAKEN

CHECK NO:30005

Official Receipt for Recording in:

Department of Real Estate
101 County Office Bldg - 542 Forbes Avenue
542 Forbes Avenue
Pittsburgh, PA 15219

Issued To:
CUSTOMER

PITTSBURGH PA 15219

Recording Fees

Filing Type / Number Volm Page Time	Recording Amount
Deed Agreement	
34872 15821 00542 12:26:30p	162.00
MEMO PURCHASE AGRMT	
DR-ALOE BROTHERS L L C	
IN-CHARTER HOMES DEVELOP PROPERTIES XI INC	
Not a Deed of Transfer	
34872 15821 00542 12:26:30p	.00
DR-ALOE BROTHERS L L C	
IN-CHARTER HOMES DEVELOP PROPERTIES XI INC	
	162.00

Collected Amounts

Payment Type		Amount
2-Check	CFS 005	162.00
		162.00

Total Received :	162.00
Less Total Recordings:	162.00
Change Due :	.00

Thank You
JERRY TYSKIEWICZ - Department of Real Estate

By - Maureen Ward

Receipt#	Date	Time
2777383	12/09/2014	12:26p