SOUTH FAYETTE TOWNSHIP

A Community Growing Together

March 26, 2026 - 7:00 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:

   3-19-2026 PC MTG MINUTES.PDF

5. OLD BUSINESS

6. NEW BUSINESS

   A. Review And Discuss 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.

      A lot line adjustment between 244 & 234 Nesbit Road.

      Documents:

      APPLICATION S-02-2026.PDF
      AGENT AUTHORIZATION FORM.PDF
      SUBDIVISION PLAN.PDF
      GTE REVIEW LETTER 3-23-2026.PDF
      ALLEGHENY COUNTY REVIEW LETTER 2-19-2026.PDF
      MATSF REVIEW - NO COMMENTS.PDF
      SMITH DEED.PDF
      DEED - HENNEY.PDF

   B. Review And Discuss 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
GTE REVIEW LETTER 3-17-2026.PDF
MATSF REVIEW - NO COMMENTS.PDF
AGREEMENT OF SALE.PDF
ALOE DEED.PDF

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

The project includes 14 single-family and 10 townhomes on one of the remining developable parcels within the Hastings Neighborhood.

Documents:

APPLICATION F-01-2026.PDF
AGENT AUTHORIZATION.PDF
PROJECT NARRATIVE.PDF
MODIFICATION REQUESTS.PDF
LD PLANS (REDUCED).PDF
SUBDIVISION PLAN - HASTINGS PHASE 5.PDF
GTE REVIEW LETTER 3-17-2026.PDF
ALLEGHENY COUNTY REVIEW LETTER 3-17-2026.PDF
DEED REQUIRED NOTIFICATION CLAUSE.PDF
REVIEW REFERRAL F-01-2026 HASTINGS PHASE 5 MATSF.PDF
217-03-071_HASTINGS PHASE 5_PLAN REVIEW_SRG_02-26-26.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
AGREEMENT OF SALE.PDF
ALOE DEED.PDF

7. ACCEPTANCE OF APPLICATIONS

A. Review And Consider For Acceptance S-03-2026 Janocha Plan No.2, Preliminary And Final Minor Subdivision Application, Parcel 400-F-10, Zoned R-2 & I-P.

Documents:

APPLICATION S-03-2026.PDF
SUBDIVISION.PDF
MATSF REVIEW - NO COMMENTS.PDF
SWM REPORT.PDF
SEWAGE PLANNING MODULE REVIEW LETTER KLH 3-19-2026.PDF
SEWAGE PLANNING MODULE.PDF
DEED.PDF

B. Review And Consider For Acceptance F-02-2026 Walkers Mill Townhomes Preliminary And Final Land Development Application, Parcel 407-J-5, Zoned R-3.

Conditional Use Application was approved as an Open Space Design Option by the Board of Commissioners on July 10, 2024.

Documents:

APPLICATION F-02-2026.PDF
AGENT AUTHORIZATION.PDF
APPROVED MODIFICATIONS-WAKERS MILL-3-9-26.PDF
PROJECT NARRATIVE-WALKERS MILL-PHASE 2-3-9-26.PDF
LD PLANS (REDUCED).PDF
MATSF REVIEW (1).PDF
MATSF REVIEW - KLH ENGINEERS.PDF
TRAFFIC REPORT-WALKERS MILL-9-3-25.PDF
PCSM REPORT-WALKER MILL-3-9-26.PDF
GEOTECH REPORT-WALKERS MILL-9-29-25.PDF
OAKDALE BORO-PHASE 1 APPROVAL LETTER-11-7-26.PDF
DEED.PDF

8. OPEN DISCUSSION

9. ADJOURNMENT

SOUTH FAYETTE TOWNSHIP

A Community Growing Together

Planning Commission

www.southfayettepa.com

Meeting Minutes
March 3, 2026

1. **CALL TO ORDER**: Tom Iagnemma called the meeting to order at 7:30PM.

2. **ROLL CALL:**

- PRESENT: Iagnemma, Kaine, Johnson
- ABSENT: Noland, Cerrone
- 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 January 22, 2026.

It was moved by **Kaine** and seconded by **Johnson** with all members present voting AYE to approve the meeting minutes for the regular scheduled meeting on January 22, 2026.

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-L9, Zoned C-2.

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

It was moved by **Kaine** and seconded by **Johnson** with all members present voting **AYE** to recommend for approval 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, subject to the Gibson-Thomas Engineering review letter dated February, 19, 2026 and the Allegheny County review letter dated September 19, 2023.

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.

Modification request for double frontage to allow access on Newbury Drive and two access points on Millers Run Road.

The board had a discussion regarding traffic concerns onto Newbury Drive. The applicant stated that they are willing to take the necessary steps (a post construction traffic review and would not be opposed to installing signs on Newbury Drive in reference to traffic) to improve any issues with traffic flow/safety. The applicant is not willing to add anything within the development that would hinder access and would like to permit a right and left turn onto Newbury Drive.

It was moved by **Johnson** and seconded by **Kaine** with all members present voting **AYE** to recommend for approval 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, and modification request allowing double frontage with access on Newbury Drive and two access points on Millers Run Road, subject to the Gibson-Thomas Engineering review letter dated February, 19, 2026 and the Allegheny County review letter dated September 19, 2023.

7. ACCEPTANCE OF NEW 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.

It was moved by **Kaine** and seconded by **Johnson** with all members present voting AYE to accept application S-02-2026.

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

Linda Santoline with Hastings Neighborhood Association read a letter outlining complaints and concerns. (see attached)

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

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.

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

8. OPEN DISCUSSIONS:

9. ADJOURNMENT:

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

_____ _____

John Barrett, Township Manager Tom Iagnemma, Chairman

Date: _____ Date: _____

Statement from Hastings HNA at the Planning Commission Meeting on March 3, 2026:

My name is Linda Santoline, and I am a resident in the Hastings Community. The Hastings Neighborhood Association established a Hastings Futures Committee last year and just last month formed a Transition Team to look into progress made in the completion of our neighborhood, and to document areas of concern and identify potential deficiencies. We became aware of this meeting and plans for Phase 5 and decided it is important for us to be here, to hear about the plan and offer our brief perspective. I am speaking here – on behalf of the HNA Board, the transition team, our neighbors -- to STRESS that as you consider approving Charter's Phase 5 plan -- that so far, the homeowners have concerns about the completion, and where necessary, remediation of issues required in Phases 2-4, and even Phase 1, even though it was already turned over to the township.

We really like living in Hastings and believe that Charter generally strives to do a good job. The Hastings Neighborhoood Association is active and we are working to understand the township's construction standards, the approved plans and records for our community while focusing on working with Charter and the township as Phase 4 construction winds down. We are also trying to understand how the bonds required by the township are satisfied since our neighborhood was constructed in these multiple phases.

Let me remind that according to the published plans, Hastings Phases 1-4 include 12 public roads, six of the twelve have been turned over to the township either in whole or in part. Phases 1-4 include 28 PRIVATE roads and alleys, and Phase 5 proposes two additional private roads! We are genuinely concerned about being responsible for so many private roads and alleys, over 70% of the roads in Hastings. The condition of these PRIVATE roads when they are turned over matters very much to the homeowners and our HNA. The HNA strongly believes that Braebank Street in Phase 5 should be a public road, consistent with SF construction standards, and also because it is the

only access point for municipal and public safety vehicles and intersects with Mayview Road.

Hastings Crescent Drive	Public SFT (partial)	Multiple Phases
Sray Lane	Public SFT	Phase 1
Preserve Lane	Public SFT	Phase 1
Gladwell Street	Public SFT	Phase 1
First Alley	Private	Phase 1
Thurmont Alley	Private	Phase 1
Richard Alley	Private	Phase 1
Grover Alley	Private	Phase 1
Orion Road	Public SFT (paved in 2024)	Phase 1
Allan Street	Public SFT (partial)	Multiple Phases
Sycamore Lane	Private – one way	Phase 2
Cranford Lane	Public	Phase 2
Longmore Lane	Public	Phase 2
Ashton Row	Private	Phase 2
Chartiers Run	Private	Phase 2
Bow Street	Private	Phase 2
Garden Landing	Private	Phase 2
Westcott Lane	Private	Phase 2
Picote Lane	Private	Phase 2
Preston Way	Private	Phase 3A
Lynk Alley	Private	Phase 3A
Goodwin Alley	Private	Phase 3A
Tulane Way	Private	Phase 3A
Archers Way	Private	Phase 3A
Weavers Alley	Private	Phase 3B
Masons Alley	Private	Phase 3B
Westover Way	Private	Phase 3B
Brighton Way	Private	Phase 3B
Green Lane	Private	Phase 3B
Howell Drive	Private?	Phase 3B
Broad Way	Public	Multiple Phases
Hastings Park Drive	Public	Multiple Phases

Windsfield Way	Private	Phase 4
Regis Street	Public	Phase 4
Cottage Way	Private	Phase 4
Regal Street	Public	Phase 4
Benton Way	Private	Phase 4
Everett Alley	Private	Phase 4
Levi Lane	Public	Phase 4
Finch Lane	Private	Phase 4
Braebank Street	Private	Phase 5 - Proposed
Argyll Alley	Private	Phase 5 - Proposed

So, I am going to offer some examples of our concerns; not to be considered inclusive!

As you are now aware, we are concerned about the timeline for final paving of our public and private streets and alleys – Phase 2 has had unfinished roads for over 5 years now.

We have previously informed the township that we need additional street and traffic signs-- as required by the standards and in the interest of public safety. In particular, Charter and SF Township agreed that certain streets were to have a 15 mph speed limit, yet none are posted. This includes Hastings Crescent in front of the stores where residents are very concerned about speeding. The island that exists just below Crossroads causes constant confusion for drivers and walkers and is a safety issue. We have concerns about the condition of trails and sidewalks, and the condition of existing or missing ADA compliant sidewalks and crosswalks.

The livelihood of trees throughout Hastings – a design feature of the neighborhood, is an ongoing cost and concern. Charter received a number of modifications based on their stated plan to preserve mature sycamore trees. Unfortunately, they damaged those trees during construction, forcing us to remove seven. We are afraid more will need to come down in the future. We are asking for reimbursement for the costs of removal and replacement.

There is no street light at the intersection of Mayview Road with Hastings Crescent or Hastings Park Drive and the proposed Phase 5 will include another intersection with Mayview Road that will certainly need lighting.

We are in the process of documenting these and other issues and will provide details to the Township and Charter in the coming months.

We are respectfully asking that Charter and South Fayette work with Hastings residents on these issues, and develop a plan and timely schedule to address the issues identified. The completion of items for the first four phases should not be delayed due to the addition of Phase 5 if passed, and instead addressed concurrently with the completion of Phase 4.

Thank you for your attention.

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.	412-219-4509
Applicant's Address:	1712 Mount Nebo Road Sewickley, PA 15143	Fax No.	
Applicant's E-Mail:	thenwood@shefflerco.com		
Engineer Firm/Name	Sheffler & Company Inc.	Phone No.	412-219-4509
Engineer's Address:	1712 Mount Nebo Road Sewickley, PA 15143	Fax No.	
Contact Person:	Mike Cancilla	E-Mail Address	mcancilla@shefflerco.com

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	Kaley Marie Moyer
	(Owner)	(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	Matthew Bernard	Christine Anne Henney
(Signature)	(Owner)	(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—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

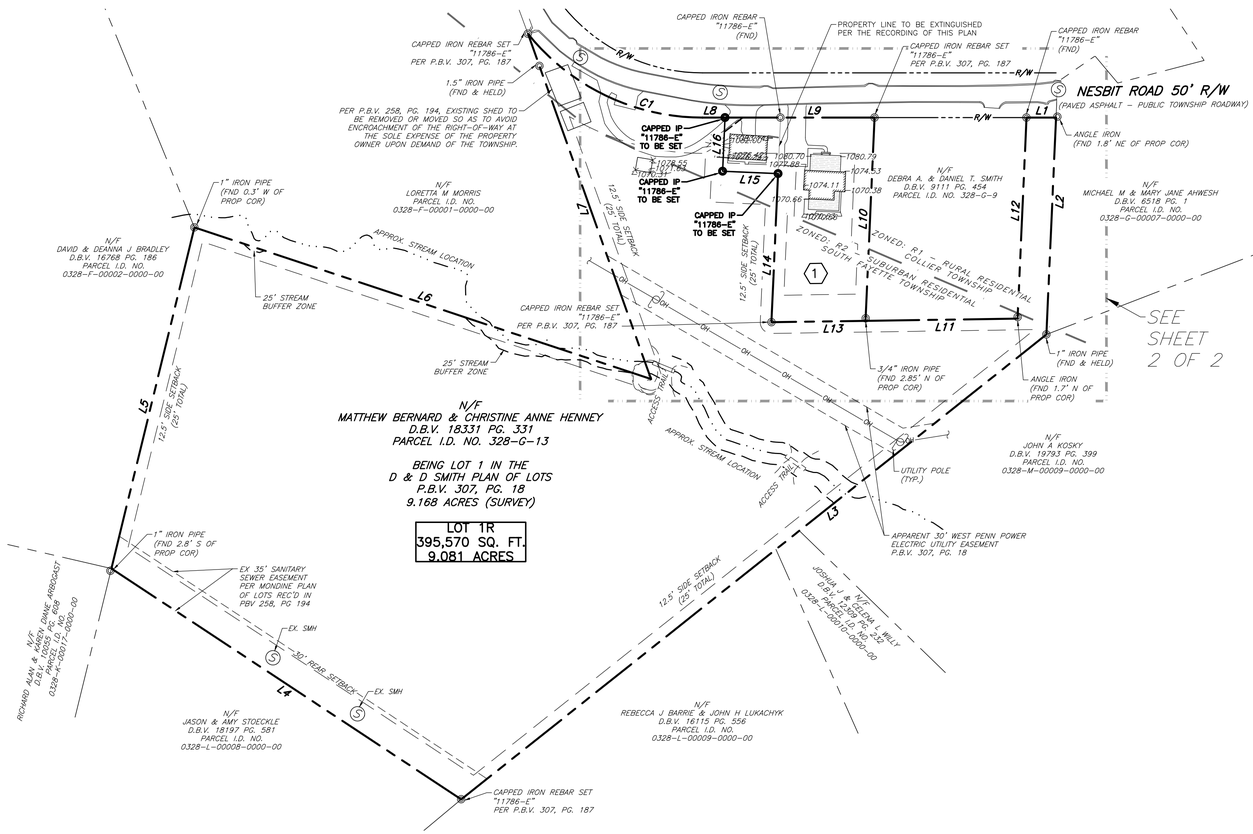
Curve Table

Curve #	Length	Radius	Chord Bearing	Chord Distance
C1	223.95	250.00	S78° 19' 03"E	216.54

(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)

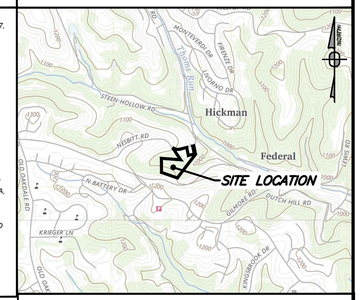
LOT 2R 27,771 SQ. FT. 0.637 ACRES



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.)

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

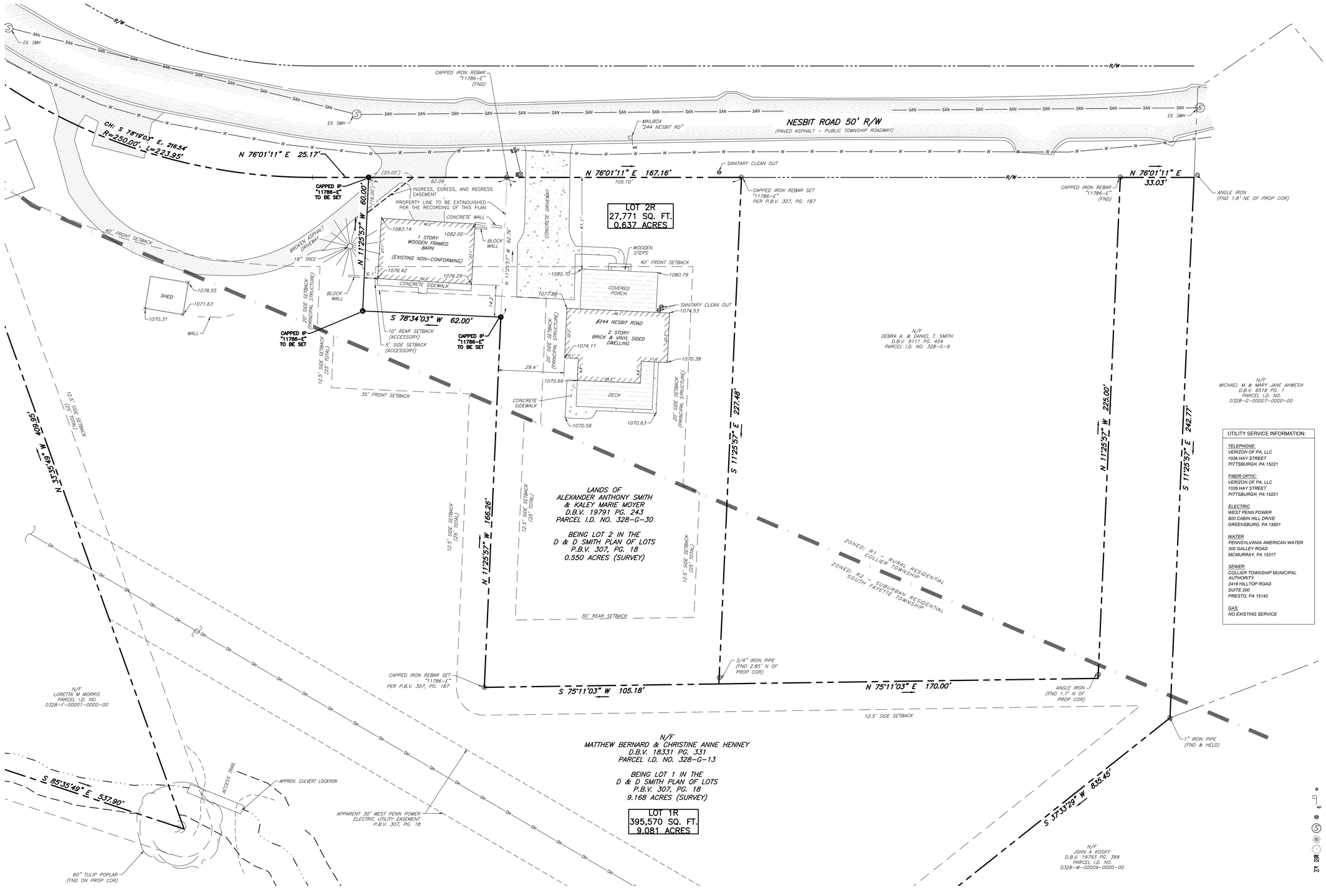
Being a Lot line Adjustment Plan of Lots 1 and 2 In The D & D Smith Plan of Lots P.B.V. 307, PG. 18

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.)
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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

Alex Smith
244 Nesbit Road
Oakdale, PA 15071
Phone: (412) 992-6274
Email: aasmith5645@gmail.com

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		

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

Gibson-Thomas ENGINEERING

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

March 23, 2026

GTE 18685

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: Lot Line Adjustment Plan – **Review #1**

PLAN NAME: Smith Henney Lot Line Adjustment

LOCATION: Nesbit Road
Oakdale, PA 15071

ZONING: R-2 Suburban Residential

MADE BY: Sheffler & Company, Inc.
1712 Mount Nebo Road
Sewickley, PA 15143
(412) 219-4509

MADE FOR: Alex Smith
244 Nesbit Road
Oakdale, PA 15071
(412) 992-6274

DATE OF PLAN: January 26, 2026

RECEIVED IN GTE OFFICE: February 20, 2026

SUBMITTED MATERIAL:

- Subdivision Plan (2 Sheet)
- 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 proposed lot line adjustment of Parcel Nos. 328-G-30 and 328-G-13, which span both South Fayette and Collier Townships. The parcels are separately owned and partially developed. Parcel No. 328-G-30 contains a 2-story single family dwelling. Parcel No. 328-G-13 contains and 1-story wooden framed barn and two sheds. The proposed lot line adjustment will incorporate the wooden-framed barn into Parcel No. 328-G-30. The original lot sizes of Parcel Nos. 328-G-30 and 328-G-13 are 0.55 acres and 9.168 acres, respectively. Following the proposed subdivision, the new lot sizes will be 0.637 acres and 9.081 acres, respectively.

4. Parcel Nos. 328-G-30 and 328-G-13 were previously recorded, respectively, as Lot 2 and Lot 1 of the D & D Smith Plan of Lots, P.B.V. 307, Page 18.

5. The Applicant shall address any third-party review and comments prior to final approval. This includes the Allegheny County Economic Development Review Letter dated February 19, 2026.

6. This plan shall be submitted to Collier Township for review.

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 for all involved parcels.

3. § 215-13.D – The Applicant shall provide an executed agent authorization form supplied by the Township.

4. § 215-16.A – 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.

Chapter 240 - Zoning Comments

1. No comments.

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.

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.

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	wWorks 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

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.	717-560-1400
Applicant's Address:	322 N. ARCH STREET, LANCASTER, PA 17603	Fax No.	
Applicant's E-Mail:	AFD@CHARTERHOMES.COM		
Engineer Firm/Name	THE GATEWAY ENGINEERS. INC	Phone No.	412-921-4030
Engineer's Address:	100 MCMORRIS ROAD PITTSBURGH, PA 15205	Fax No.	
Contact Person:	DAVID M. HEATH, PE	E-Mail Address	DHEATH@GATEWAYENGINEERS.COM

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

VIEWPORT 1

MAYVIEW STREET CONNECTIONS

FAIRVIEW PARK

PHASE 1

PHASE 2

PHASE 3A

PHASE 3B

PHASE 4

PHASE 5

RESORT LIFESTYLE COMMUNITIES

STORMWATER FACILITY

TRAIL CONNECTION

SRAY LANE (PUBLIC) 50' ROW

PRESERVE LANE (PUBLIC) 50' ROW

THURMONT ALLEY (PRIVATE) 20' ROW

GLADWELL STREET (PUBLIC) 50' ROW

HASTINGS CRESCENT (PUBLIC) 58' ROW

GROVER ALLEY (PRIVATE) 20' ROW

ALLAN STREET (PUBLIC) 50' ROW

ORION ROAD (PUBLIC) 50' ROW

FAIRVIEW SQUARE

HASTINGS PARK DR

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**

VIEWPORT 1

TRAIL CONNECTION

OVER THE BAR

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 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\18000\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 Calvin S. Seaman
Plot Date:2/6/2026 12:46 PM Calvin S. Seaman
18.02

Gibson-Thomas ENGINEERING

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

March 17, 2026

GTE 18728

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: Hastings Master Plan – **Review #1**

PLAN NAME: Charter Homes at Hastings, Phase 5 Master Plan

LOCATION: Parcel No. 480-P-01
Mayview Road
Bridgeville, PA 15017

ZONING: ND – Neighborhood Design

MADE BY: The Gateway Engineers, Inc.
100 McMorris Road
Pittsburgh, PA 15205
(412) 921-4030

MADE FOR: Charter Homes at Hastings, Inc.
322 North Arch Street, First Floor
Lancaster, PA 17603

DATE OF PLAN: February 2026

RECEIVED IN GTE OFFICE: February 13, 2026

SUBMITTED MATERIAL:

- Revised Master Plan (1 Sheet)
- Township Application
- Agent Authorization Form
- County 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 proposes the revision of a residential development master plan, Hastings, within the Township. The original Master Plan for the development was approved in 2016. This proposed revision pertains to the area shown as Phase 5. This area was originally designated for a Non-Residential Use and now proposes a residential use to construct 14 single-family homes and 10 town homes.

4. According to the plans, the Hastings development contains 292 constructed townhome units, 166 single-family units, and 130 multi-family units.

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

6. This review deals solely with the overall neighborhood design development as it pertains to the zoning ordinance.

Chapter 240 - Zoning Comments

1. § 240-76.20.A.2 – The Applicant shall specify the percentage of lot coverage within the 81.33 acres.

2. § 240-76.20.A.4 – The Applicant shall revise the required mix of residential uses table. Retirement living is considered a non-residential use in the ND district. The Applicant shall not use the 130 non-residential retirement units as part of the residential mix multi-family density. Townhomes are considered multi-family as per the definitions of this chapter, but the required mix of residential uses for this district must be a minimum of three.

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.

SOUTH FAYETTE TOWNSHIP

A Community Growing Together

Review Referral

www.southfayettepa.com

Plan Name: **Hastings Masterplan Revisions**	Plan File Number: **PP-01-2026**
Location: **Mayview Road**	Application Type: **Subdivision/Land Development**
Zoning: **ND – Neighborhood Design**	Applicant: **Charter Homes at Hastings, Inc.**

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

	Code Enf.	Public Works	wWorks 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, 100 Township Drive, South Fayette, PA, 15017 or by calling (412) 221-8700.

Gary Hartz, Planning Director

02/27/2026
Date

Agency Comments: MATSF- No comments.

Nick Goettman
Agency Signature

3-12-26
Date

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:

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

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

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 D. 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.	717-560-1400
Applicant's Address:	322 N. ARCH STREET, LANCASTER, PA 17603	Fax No.	
Applicant's E-Mail:	AFD@CHARTERHOMES.COM		
Engineer Firm/Name	THE GATEWAY ENGINEERS. INC	Phone No.	412-921-4030
Engineer's Address:	100 MCMORRIS ROAD PITTSBURGH, PA 15205	Fax No.	
Contact Person:	DAVID M. HEATH, PE	E-Mail Address	DHEATH@GATEWAYENGINEERS.COM

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.

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

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, 539, 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

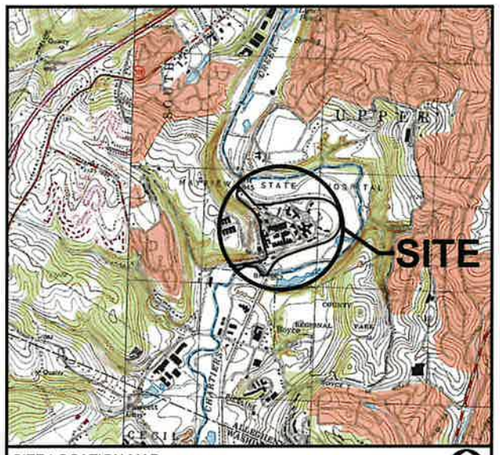
FOR

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

811 Know what's below. Call before you dig.
1-800-242-1776
Serial No. 20260352495

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

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

COVER SHEET

Project Number: 18927-0096
Drawing Scale: NTS
Date Issued: FEB. 2026
Index Number: —
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

C000

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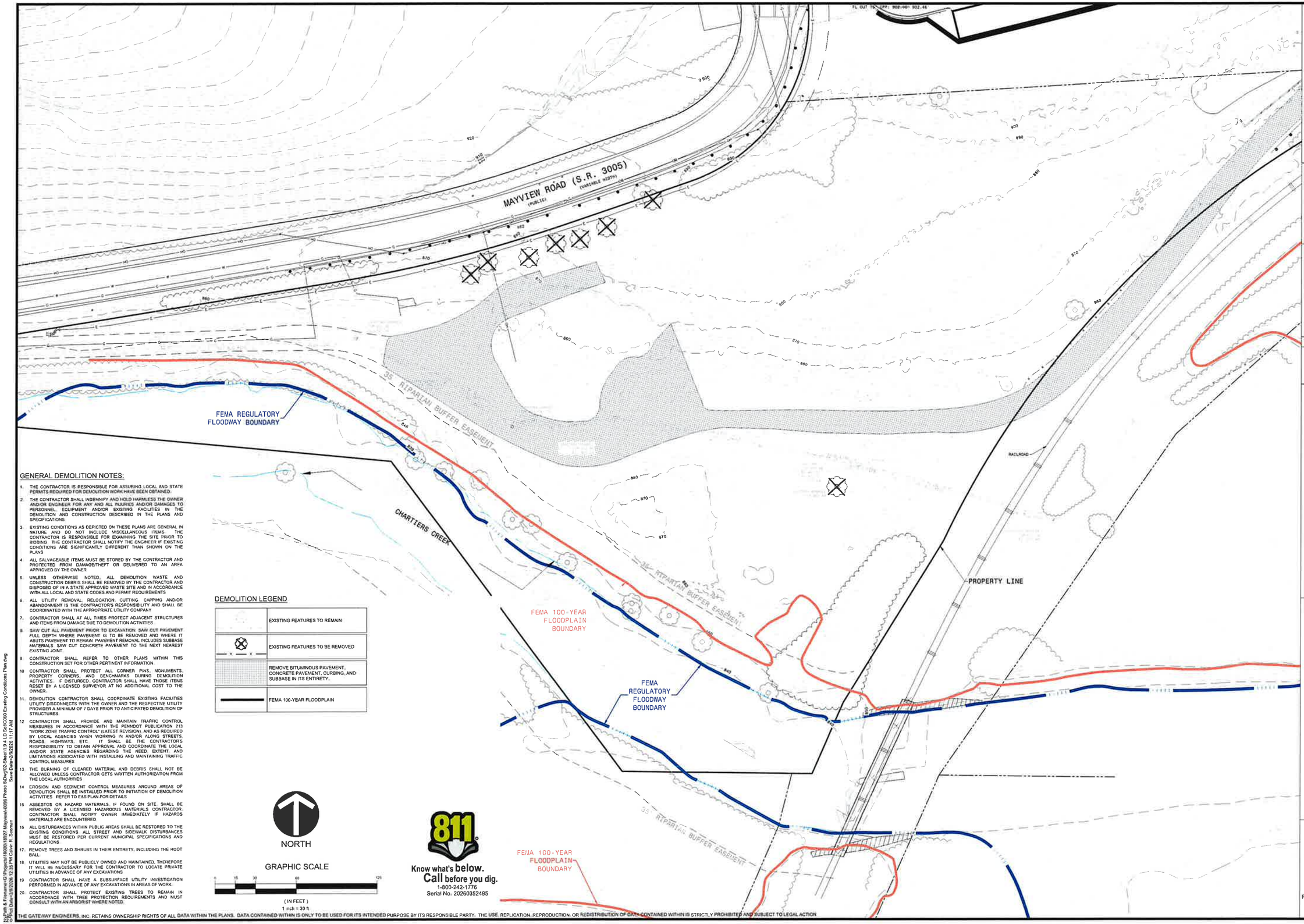

GENERAL DEMOLITION NOTES:

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
	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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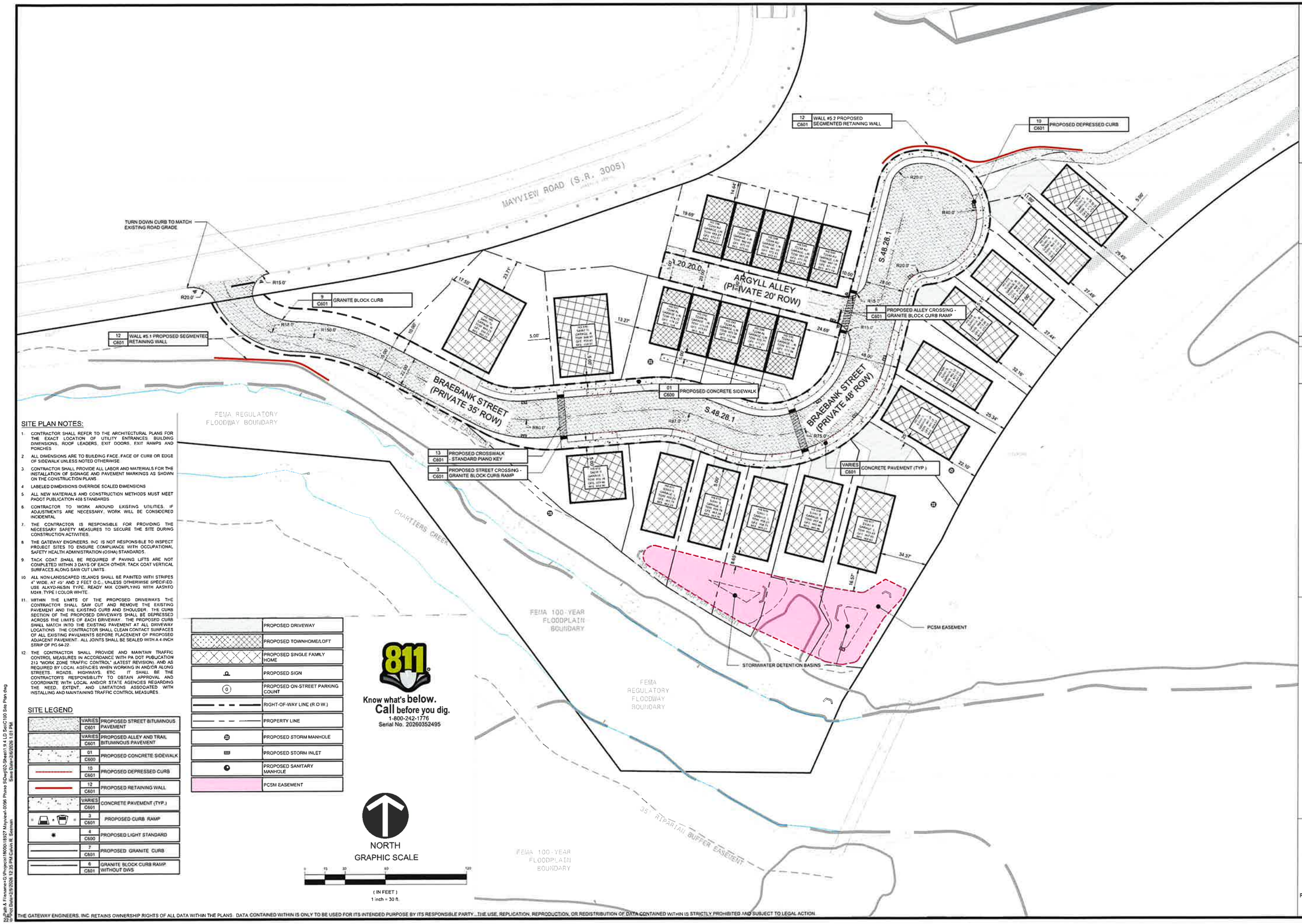

SITE PLAN NOTES:

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=2/6/2026 1:01 PM

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

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

SITE LEGEND

DEVELOPMENT PHASE LIMITS

VIEWPORT 1

MAYVIEW STREET CONNECTIONS

FAIRVIEW PARK

PHASE 1

PHASE 2

PHASE 3A

PHASE 3B

PHASE 4

PHASE 5

RESORT LIFESTYLE COMMUNITIES

STORMWATER FACILITY

TRAIL CONNECTION

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*
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RESIDENTIAL MIX MULTI-FAMILY	0	130	0	0	0	0	130	22.1%
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MAXIMUM DWELLING 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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Plotted: 2/20/2026, 12:28 PM Eastern, By: Spencer
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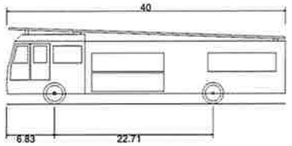

South Fayette Township Fire Truck

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

CHARTIERS CREEK

25' RIPARIAN BUFFER EASEMENT

FEMA 100-YEAR
FLOODPLAIN
BOUNDARY

FEMA
REGULATORY
FLOODWAY
BOUNDARY

811
Know what's below.
Call before you dig.
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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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A FULL-SERVICE CIVIL ENGINEERING FIRM

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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 2/20/2026 12:37 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
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Serial No. 20260352495

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.

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

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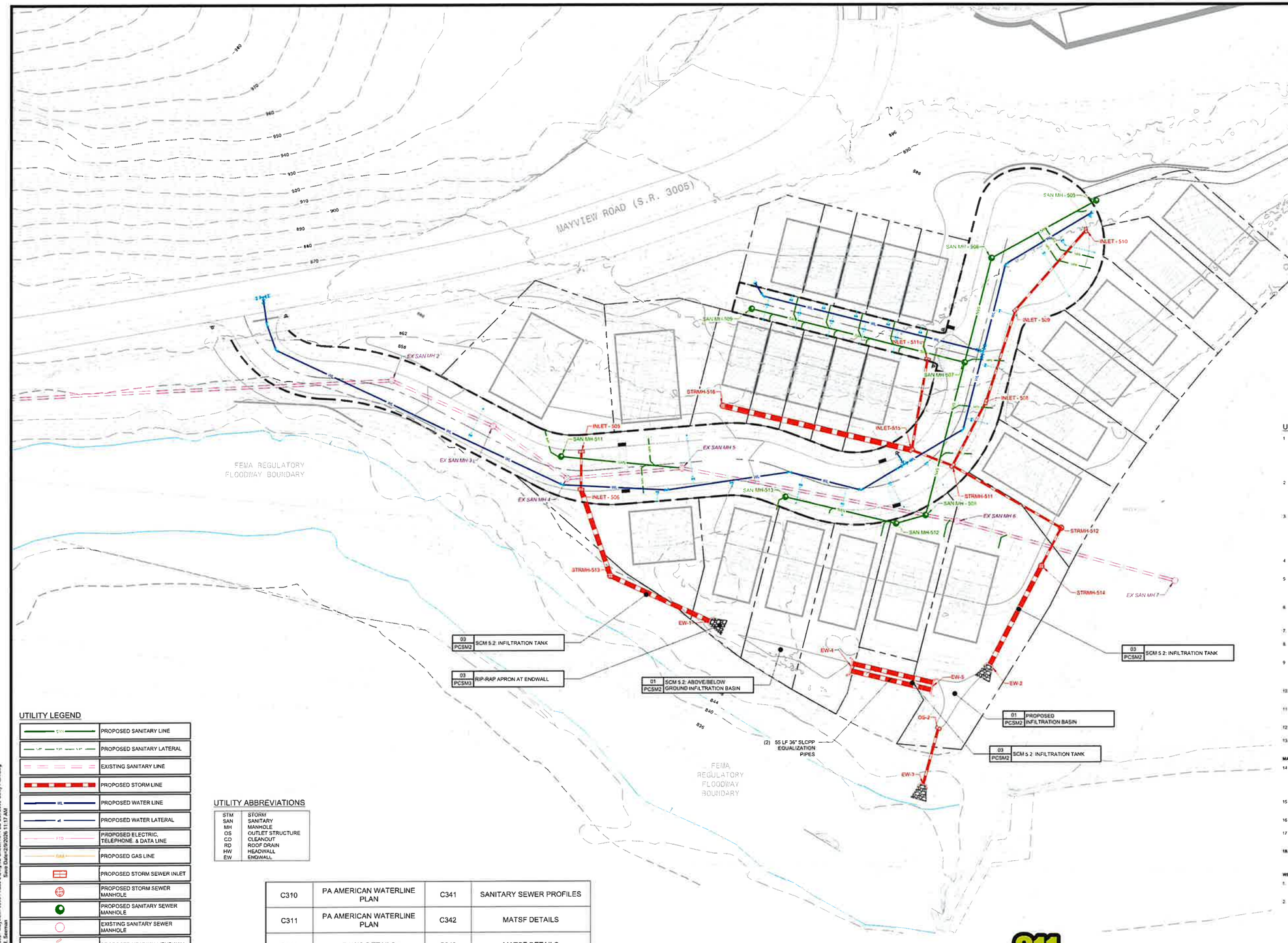

UTILITY LEGEND

SAN	PROPOSED SANITARY LINE
SL	PROPOSED SANITARY LATERAL
	EXISTING SANITARY LINE
STM	PROPOSED STORM LINE
WL	PROPOSED WATER LINE
WL	PROPOSED WATER LATERAL
FTD	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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Serial No. 20260352495

NORTH

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

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REVISION RECORD

No	Date
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HASTINGS PHASE 5
South Fayette Township/Pittsburgh, PA
CHARTER HOMES & NEIGHBORHOODS

HASTINGS PHASE 5
##########
##########
PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

UTILITY PLAN

Project Number: 18927-0096
Drawing Scale: 1" = 30'
Date Issued: FEB 2026
Index Number: –
Drawn By: CRS
Checked By: DMH
Project Manager: ###

C300

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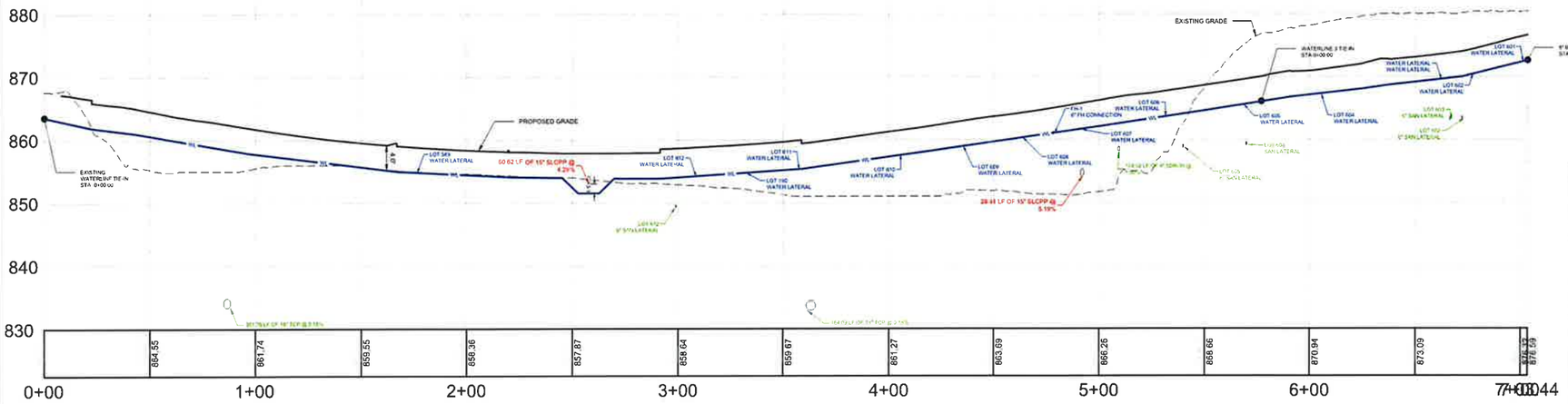
Plot Date: 2/9/2026 11:17 AM



WATERLINE 2 PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'

NORTH

GRAPHIC SCALE
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

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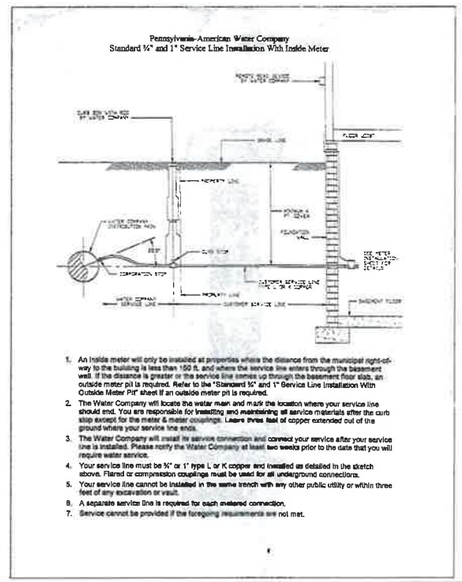
Serial No. 20260352495

UTILITY LEGEND

	PROPOSED SANITARY LINE
	PROPOSED SANITARY LATERAL
	PROPOSED STORM LINE
	ROOF-FOUNDATION DRAIN
W	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 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.

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REVISION RECORD

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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

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.
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7. COORDINATE CONNECTIONS TO EXISTING LINES WITH PAWC
8. LONG SERVICE LINES SHALL BE INSTALLED IN CONDUIT SEALED WITH FERNCOS.
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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.
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13. ADD TRACER WIRE TO ALL NEW MAINLINE WATERLINES

PROFILE STRUCTURE ABBREVIATONS

STM	STORM
SAN	SANITARY
MH	MANHOLE
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HW	HEADWALL
EW	ENDWALL

PROFILE NOTES:

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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.

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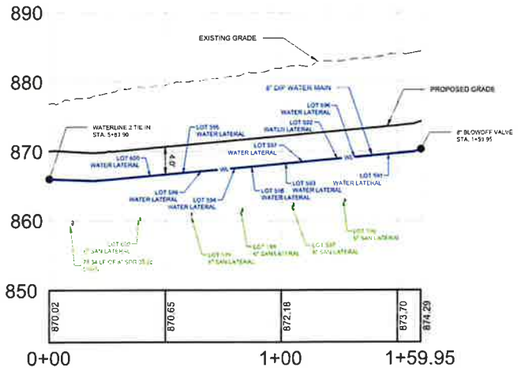
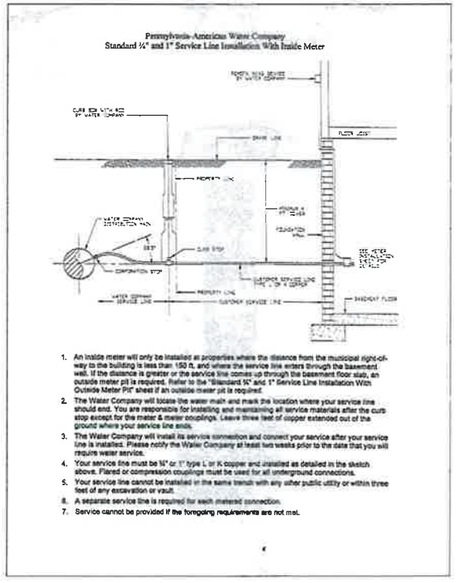
HOMESITE	SIZE (IN)	LENGTH (FT)	WATERLINE	STA	ALIGNMENT DIRECTION
589	1	23.3	WATERLINE 2	1+76.47	L
590	1	34.0	WATERLINE 2	3+32.67	L
591	1	15.0	WATERLINE 3	1+46.02	L
592	1	15.0	WATERLINE 3	1+24.02	L
593	1	15.0	WATERLINE 3	1+02.02	L
594	1	15.0	WATERLINE 3	0+80.02	L
595	1	15.0	WATERLINE 3	0+57.69	L
596	1	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

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

REVISION RECORD

No	Date
01	----
02	----
03	----
04	"
05	"
06	"
07	"
08	"

HASTINGS
South Fayette Township/Pittsburgh, PA
CHARTER HOMES & NEIGHBORHOODS

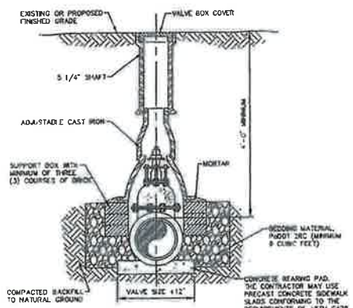
HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102
PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

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

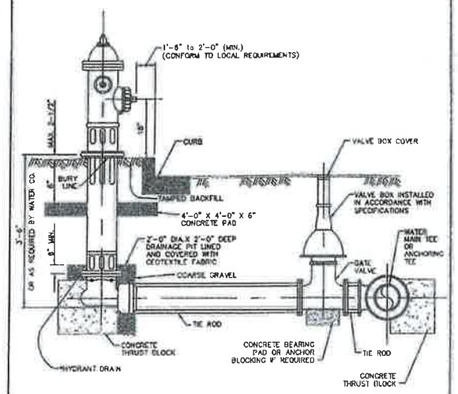
C311

TYPICAL VALVE BOX INSTALLATION
NOT TO SCALE



1	TYPICAL VALVE BOX
C606	INSTALLATION

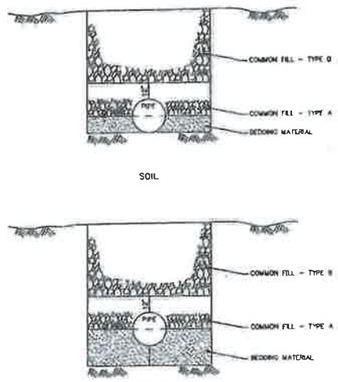
FIRE HYDRANT ASSEMBLY
NOT TO SCALE



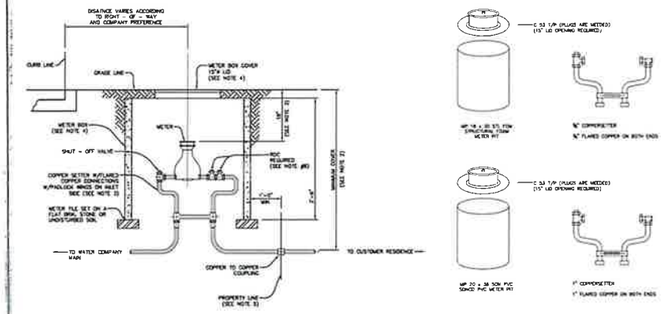
*NOTE:
FOR INSTALLATION IN HIGH GROUND WATER TABLES, ENGINEER MAY DELETE DRAINAGE PIT AND REQUIRE THE HYDRANT DRAIN TO BE PLUGGED.

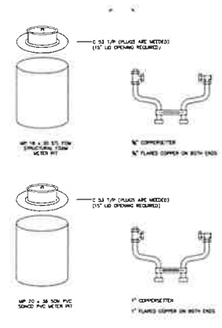
2	FIRE HYDRANT ASSEMBLY
C606	

TRENCH BACKFILL MATERIALS
NOT TO SCALE



3	TRENCH BACKFILL MATERIALS
C606	



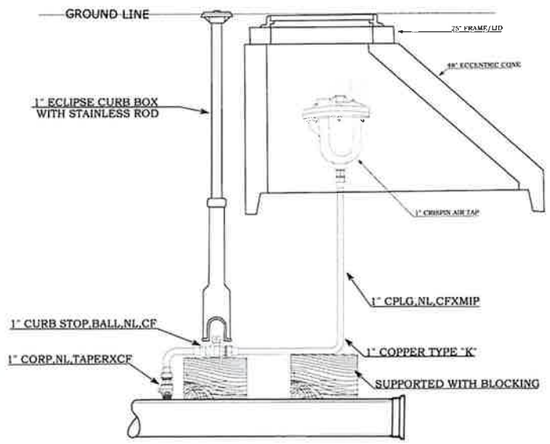


NOTES :

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	METER BOX INSTALLATION
C606	

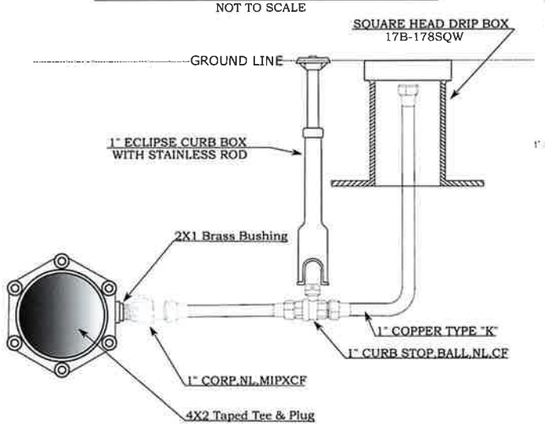
TYPICAL 1"AIR RELEASE DETAIL
NOT TO SCALE



DETAIL 61-300-8A
DETAIL 61-300-8

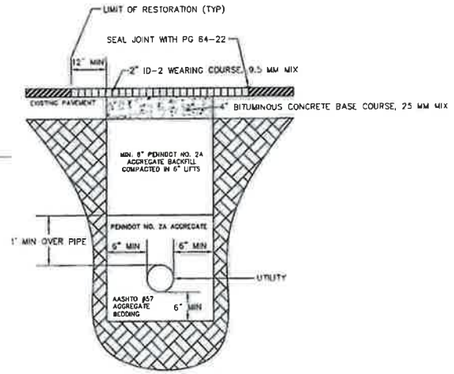
5	TYPICAL AIR RELEASE DETAIL
C606	

TYPICAL 1" BLOW-OFF DETAIL
NOT TO SCALE



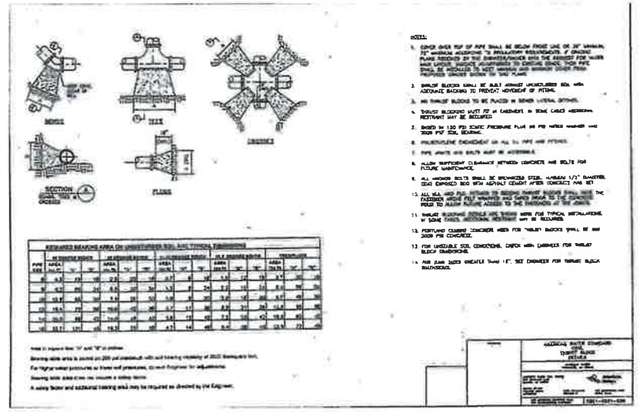
DETAIL 61-300-9

6	TYPICAL BLOW OFF DETAIL
C606	



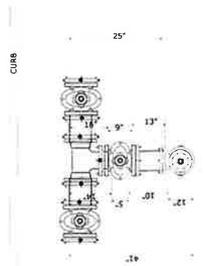
UTILITY LATERAL TRENCH RESTORATION
(PERPENDICULAR TO ROADWAY)
N.T.S.

7	LATERAL TRENCH RESTORATION
C606	



8	THRUST BLOCKING DETAIL
C606	

MINIMUM DISTANCE HYDRANT



9	MINIMUM DISTANCE HYDRANT
C606	

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

PAWC
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

C312

Plotted: Fri, Feb 27, 2026 - 12:43 PM by Caleb R. Spencer
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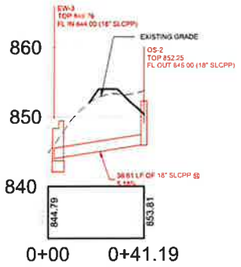
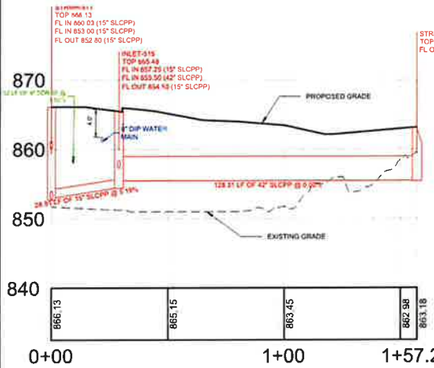


OS-2 TO EW-3 PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'



STRMH-516 TO STRMH-511 PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'

STRMH-515 TO INLET - 511 PROFILE
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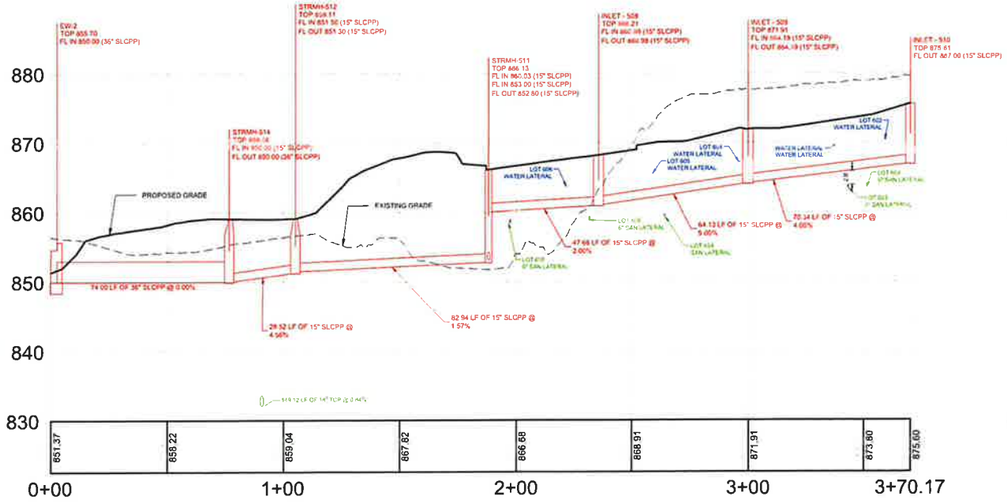
VERTICAL SCALE: 1" = 10'



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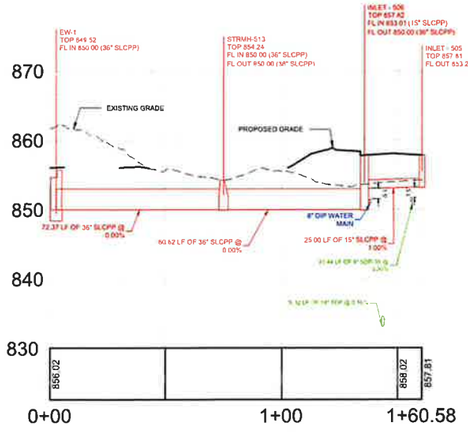
VERTICAL SCALE: 1" = 10'



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 811. 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
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

STORM PROFILES

Project Number: 18927-0096
Drawing Scale: ViewportScale
Date Issued: FEB 2026
Index Number: --
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

C330

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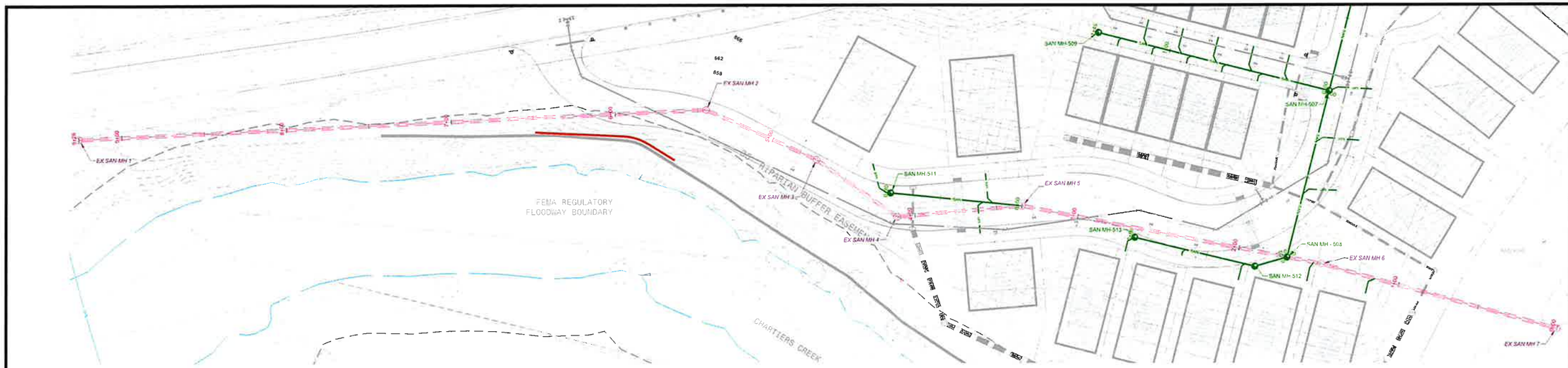

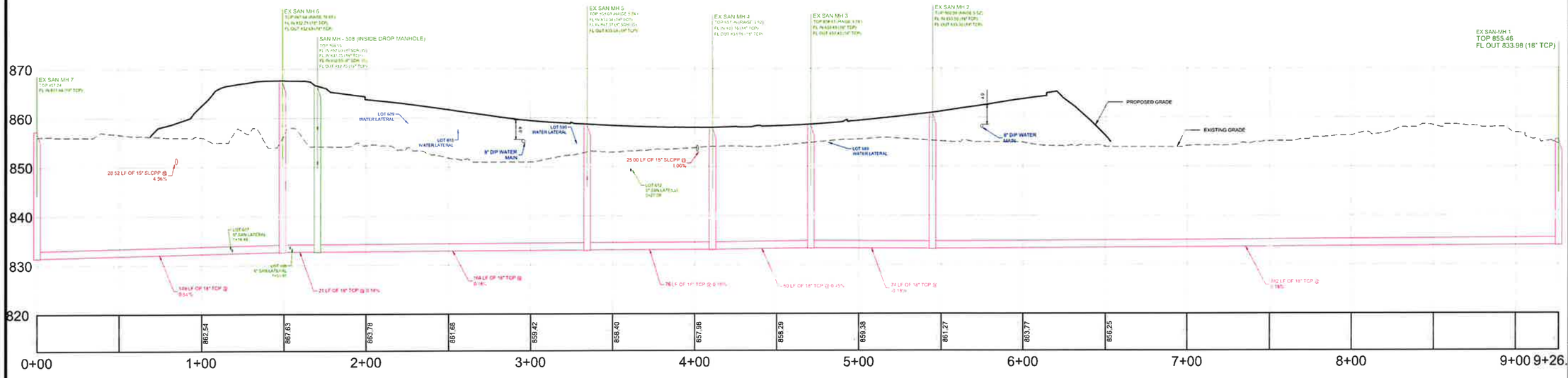

EXISTING SAN RUN PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'

UTILITY LEGEND

SAN	PROPOSED SANITARY LINE		PROPOSED STORM SEWER INLET
SAN SAN SAN	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.
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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.
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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.
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MATSF NOTES

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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 "WRAPOSEAL" 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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GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

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

SANITARY PROFILES

Project Number: 18927-0096
Drawing Scale: AS NOTED
Date Issued: FEB 2026
Index Number: --
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

C340

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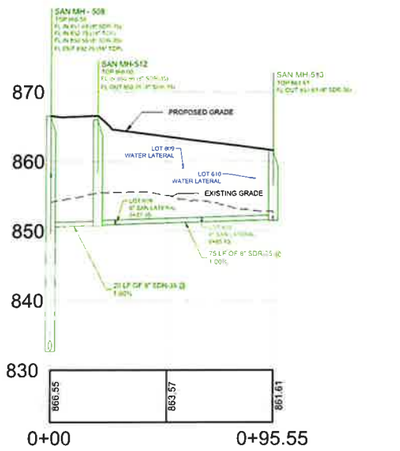


SAN MH-512 TO SAN MH-508 PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'

UTILITY LEGEND

SAN	PROPOSED SANITARY LINE
SAN LAT SAN LAT SAN LAT	PROPOSED SANITARY LATERAL
STM STM STM STM STM	PROPOSED STORM LINE
	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
	EXISTING SANITARY LINE
	EXISTING SANITARY SEWER MANHOLE

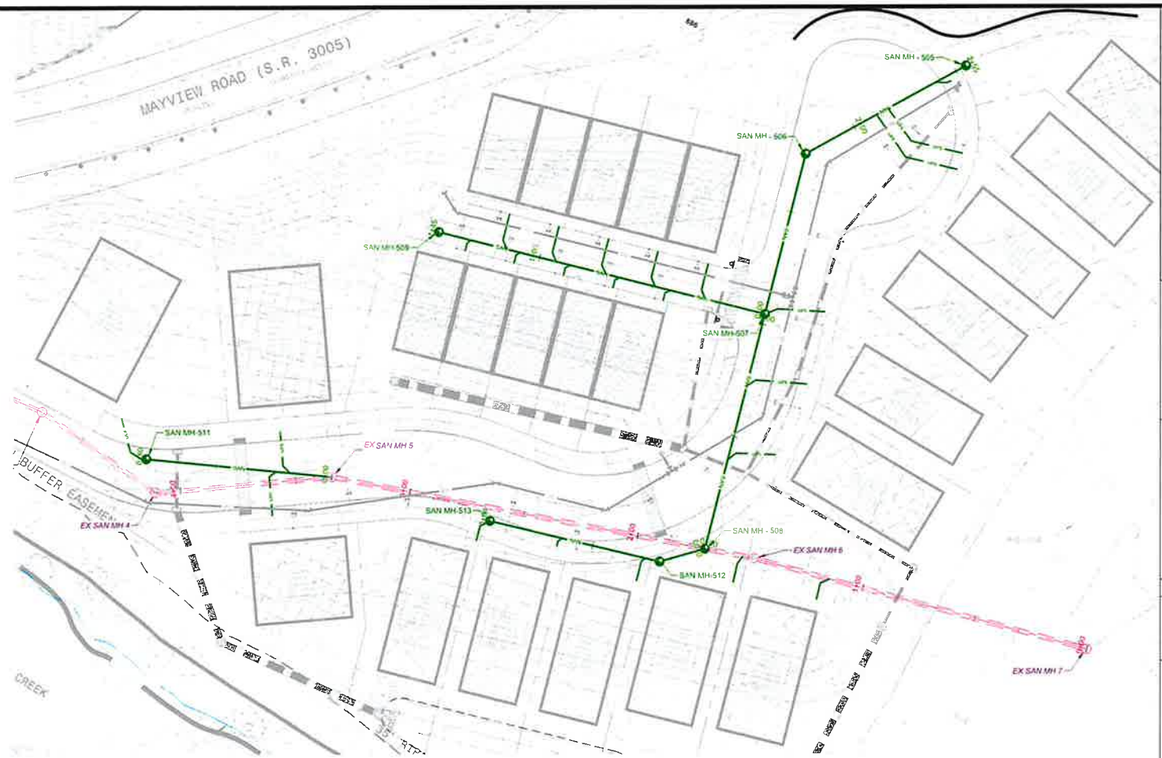
PROFILE NOTES:

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

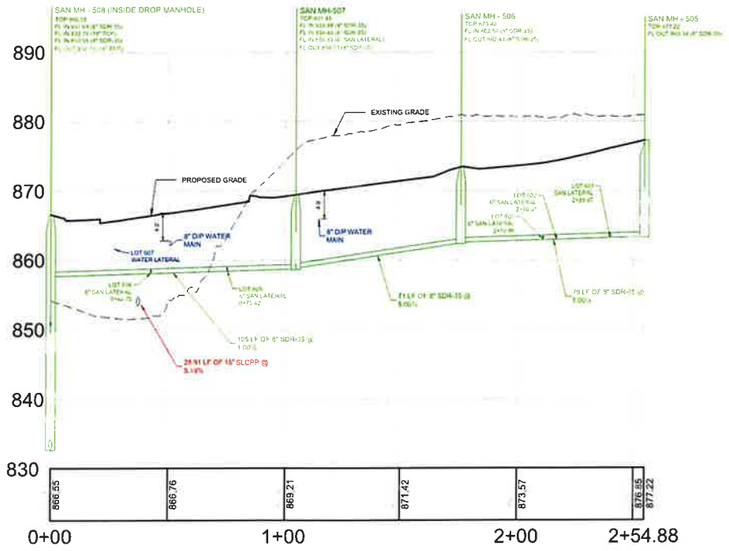
PROFILE STRUCTURE ABBREVIATONS

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

HOMESITE	STA FROM DS MH	DS MH
589	0+00	SAN MH-511
590	0+97	EX SAN MH 5
591	0+00	SAN MH-509
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
609	0+04	SAN MH - 512
610	0+41	SAN MH - 512
611	0+00	SAN MH - 513
612	0+22	EX SAN MH 5



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
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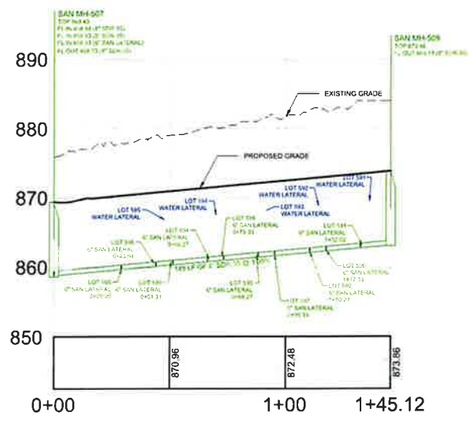
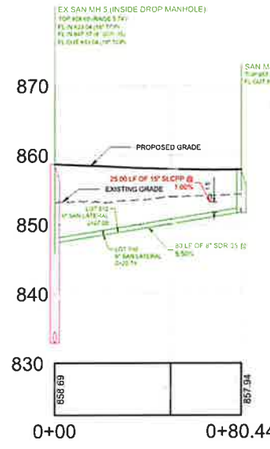
VERTICAL SCALE: 1" = 10'



SAN MH-509 TO SAN MH-507 PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'



SAN MH-511 TO EX SAN MH PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'

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.**

NORTH

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

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South Fayette Township/Pittsburgh, PA

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102

PREPARED FOR:
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SANITARY PROFILES

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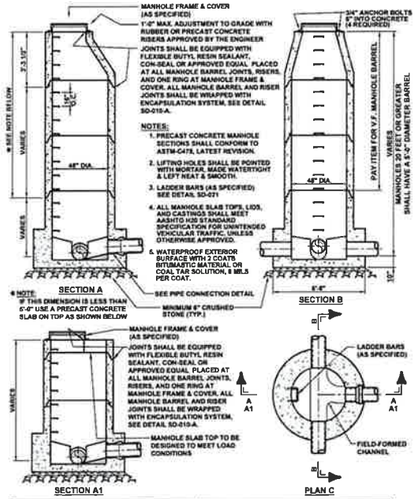
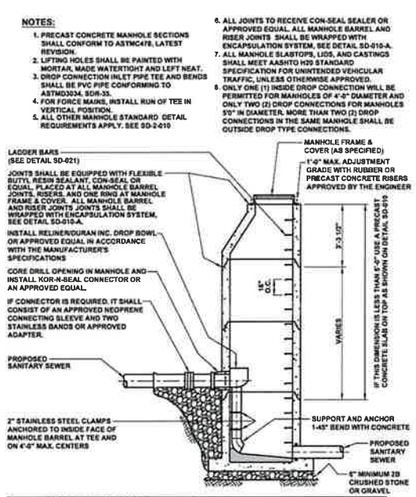
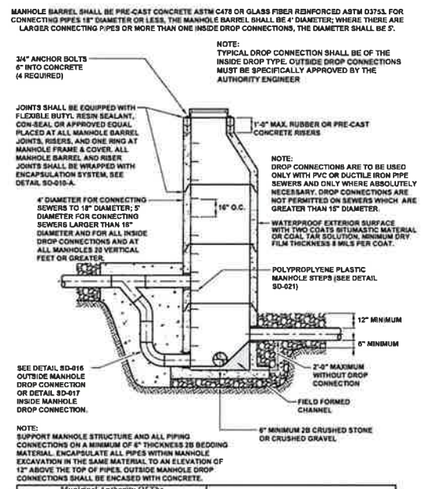


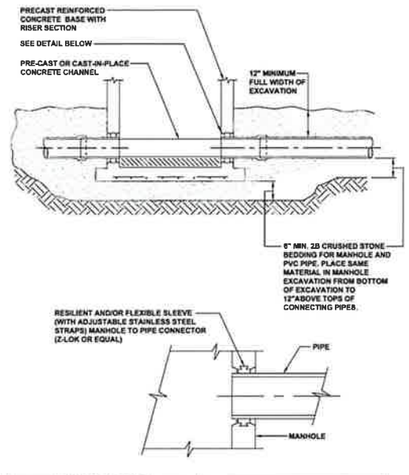
Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		PRECAST CONCRETE MANHOLE FOR SEWERS 8" TO 18"
Not to scale	January 2022	Standard Detail SD-010



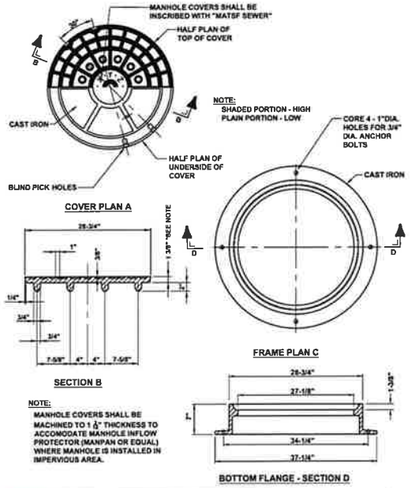
Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, PA 15017		INSIDE MANHOLE BOWL DROP CONNECTION
Not to scale	January 2022	Standard Detail SD-017



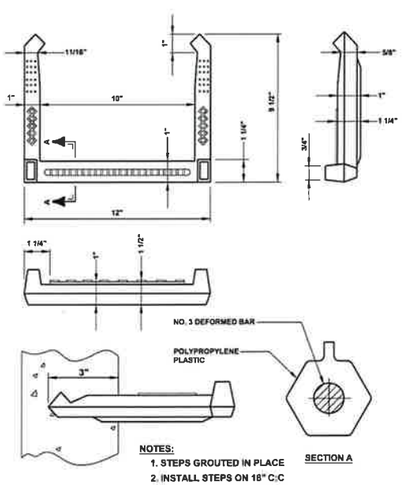
Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		MANHOLE FOR SEWERS FOR DEPTHS GREATER THAN 5 FEET
Not to scale	May 2022	Standard Detail SD-013



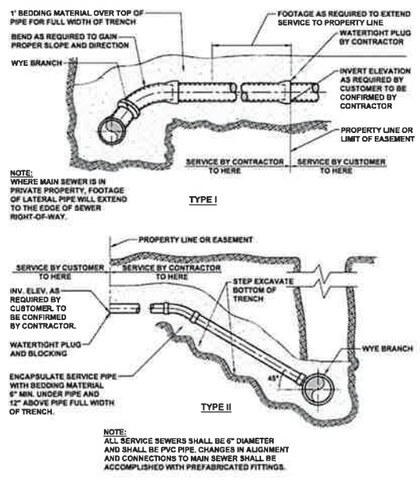
Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		PRECAST MANHOLE BASE DETAIL
Not to scale	January 2022	Standard Detail SD-012



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



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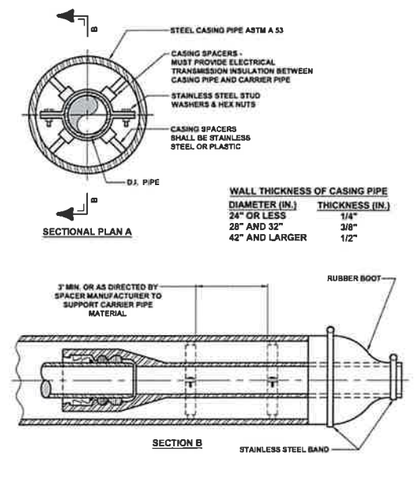
Not to scale	January 2022	Standard Detail SD-023



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

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HASTINGS
South Fayette Township/Pittsburgh, PA

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102

PREPARED FOR:
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LANCASTER, PA 17603

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Project Manager: DMH

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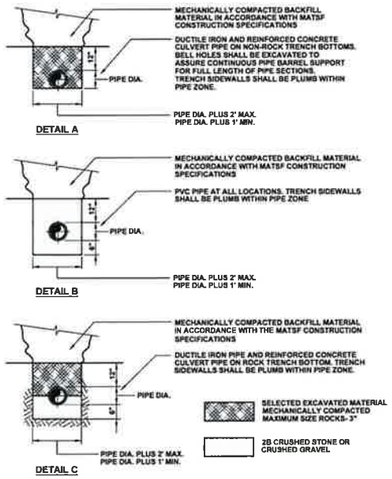

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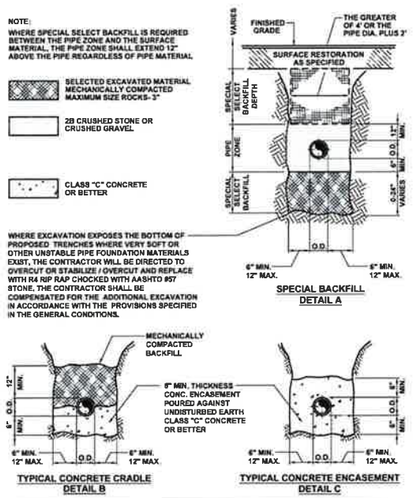
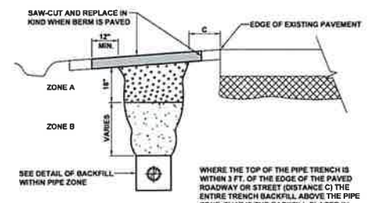
Not to scale	January 2022	Standard Detail SD-001



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

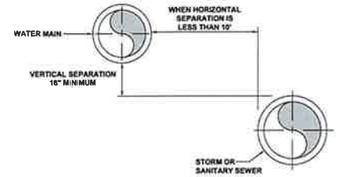


WHERE THE TOP OF THE PIPE TRENCH IS WITHIN 3 FT. OF THE EDGE OF THE PAVED ROADWAY OR STREET (DISTANCE C) THE ENTIRE TRENCH BACKFILL ABOVE THE PIPE ZONE, THAT IS THE BACKFILL PLACED IN ZONES A AND B SHALL CONSIST OF 2-A LIMESTONE MATERIAL MECHANICALLY COMPACTED IN 6" LAYERS.

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

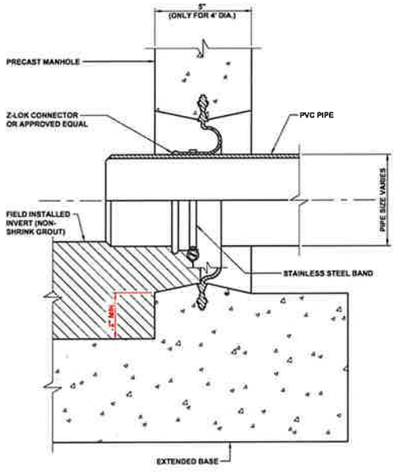


NOTES:

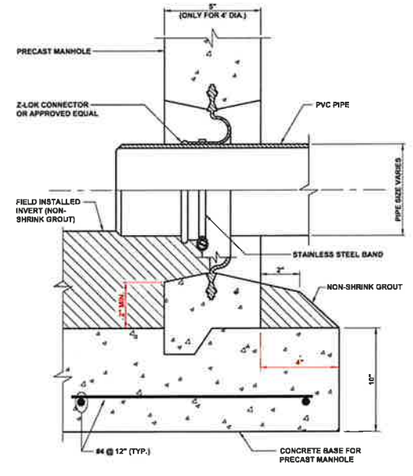
1. WHEN THE HORIZONTAL SEPARATION OF THE WATER MAIN AND SEWER LINE IS LESS THAN 10', THE VERTICAL SEPARATION BETWEEN THE TOP (CROWN) OF THE SEWER LINE AND THE BOTTOM (INVERT) OF THE WATER MAIN SHALL BE AT LEAST 18". SEWER LINE SHALL BE ENCASED IN CONCRETE FOR 10' ON EITHER SIDE OF THE WATER MAIN WHERE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

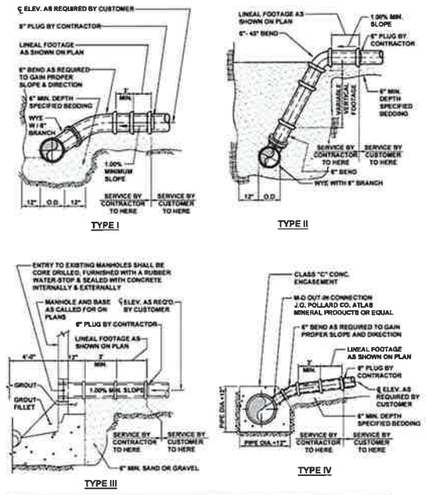


Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		MANHOLE CONNECTION FOR PVC PIPE (CAST-IN-PLACE BASE)
Not to scale	January 2022	Standard Detail SD-015

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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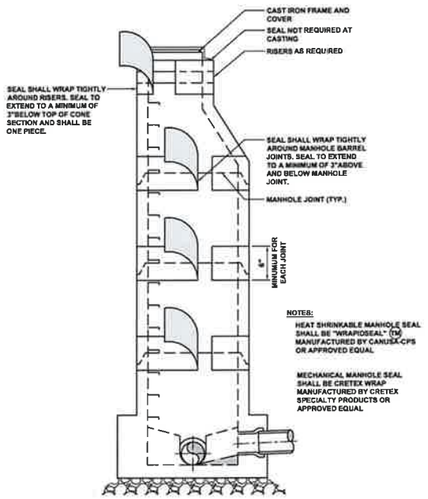
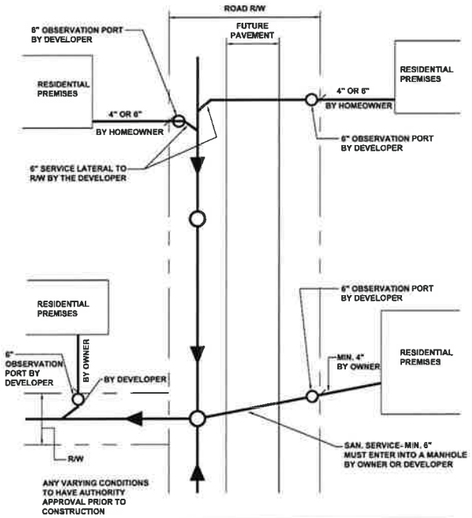
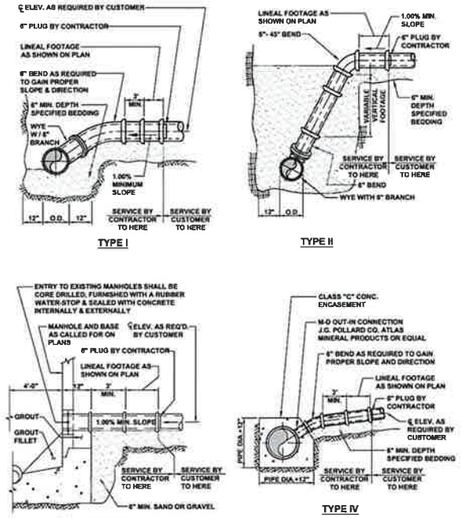


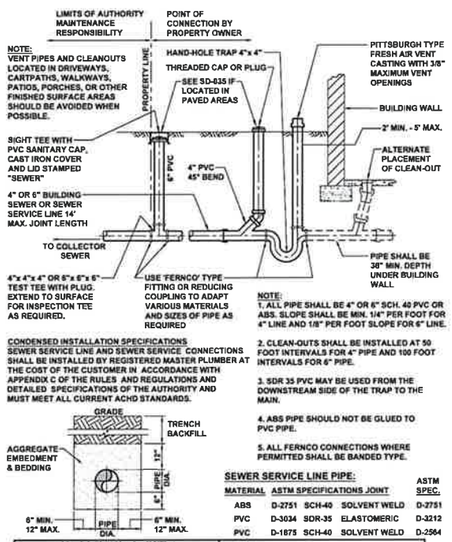
Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		MANHOLE JOINT ENCAPSULATION SYSTEM
Not to scale	January 2022	Standard Detail SD-010-A



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



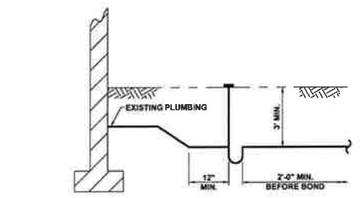
Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		SERVICE CONNECTIONS
Not to scale	January 2022	Standard Detail SD-024



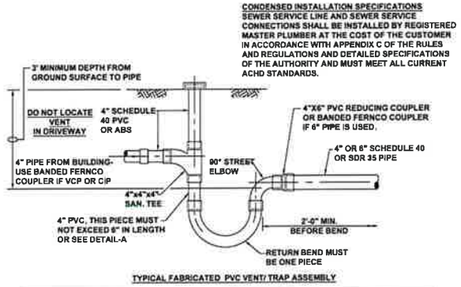
SEWER SERVICE LINE PIPE:

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

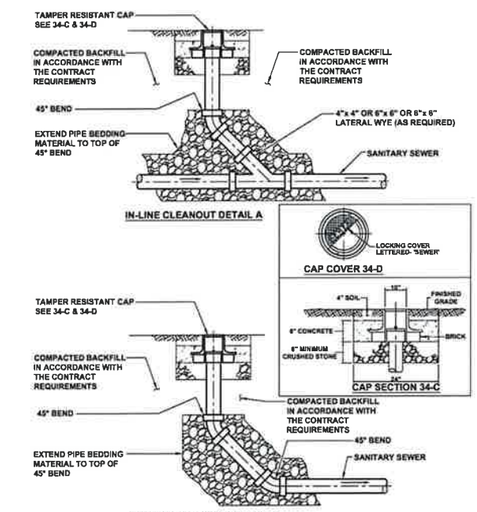


SHALLOW BUILDING SEWER TRAP DETAIL

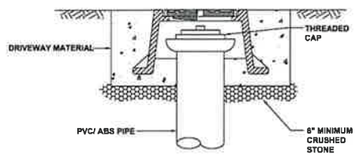


TYPICAL FABRICATED PVC VENT/ TRAP ASSEMBLY

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

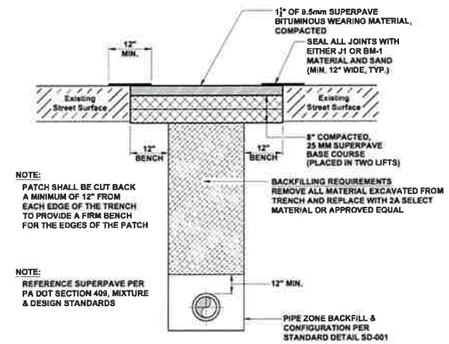


Municipal Authority Of The Township Of South Fayette 900 Presto Sygan Road Bridgeville, Pa 15017		MAIN LINE, IN-LINE, AND END LINE CLEANOUT FOR 6" AND 8" PVC SEWER
Not to scale	January 2022	Standard Detail SD-034



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

GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM
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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

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

C344

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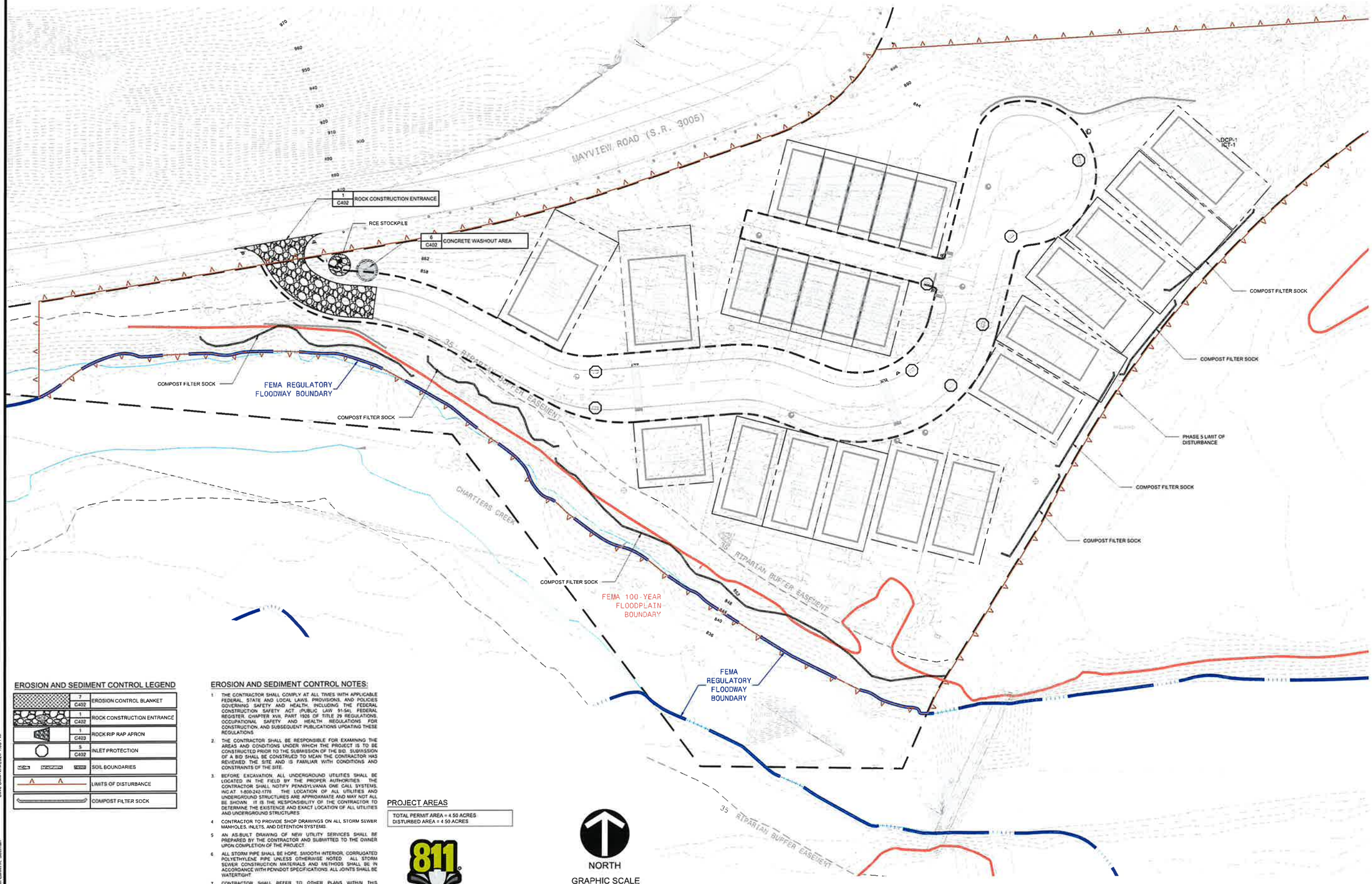
Plot Date: 2/6/2026 4:03 PM

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
		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.

GATEWAY ENGINEERS
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REVISION RECORD

No	Date
01	-
02	-
03	-
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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

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

C400

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Plot Date=2/5/2026 2:13 PM

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 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 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 90 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 139 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 %%TOPSOIL%%U 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	PERMANENT SEEDING
C401	

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	TEMPORARY SEEDING
C401	

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	CLEAN FILL & ENVIRONMENTAL DUE DILIGENCE
C401	

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	RECYCLING OR DISPOSAL OF MATERIALS
C401	

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	MAINTENANCE SCHEDULE
C401	

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/SWM 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 FOR 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 IN EXISTING 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. ONCE COMPLETE WITH DEMOLITION ACTIVITIES CONTRACTOR TO BEGIN TO PREPARE SITE FOR THE FINAL EROSION AND SEDIMENT CONTROL PHASE.
6. AS BULK GRADING ACTIVITIES APPROACH SUBGRADE ALONG BROAD WAY, A SECTION OF WINDSFIELD WAY, TULANE STREET, AND COTTAGE WAY, RESET/INSTALL COMPOST FILTER SOCKS #20-27 AS INDICATED ON THE FINAL EROSION AND SEDIMENT CONTROL PLAN DRAWING AND IN ACCORDANCE WITH THE CONSTRUCTION DETAILS.
7. BEGIN CONSTRUCTION OF SITE UTILITIES WORKING FROM BROAD STREET NORTH TOWARDS MAYVIEW ROAD INCLUDING SANITARY SEWER, STORM SEWER, WATER, AND OTHER DRY UTILITIES. ONCE INLETS ARE IN PLACE, IMMEDIATELY INSTALL/MAINTAIN INLET PROTECTION AS INDICATED ON THE FINAL EROSION AND SEDIMENT CONTROL PLAN AND IN ACCORDANCE WITH THE CONSTRUCTION DETAIL.
8. INSTALL THE CONCRETE WASHOUT AREA AS SHOWN ON THE PLAN, IN ACCORDANCE WITH THE CONSTRUCTION DETAIL, PRIOR TO ANY CONCRETE POURS. CONCURRENT WITH STORM SEWER INSTALLATION. MAINTAIN AT LEAST 50' FROM ANY EXISTING OR PROPOSED INLETS.
9. UPON COMPLETION OF UTILITY INSTALLATION, BEGIN PREPPING ROAD SUBGRADE, INSTALL CURBING, REMOVE ROCK CONSTRUCTION ENTRANCE #1 AND INSTALL PAVING SECTION AS SHOWN ON THE FINAL EROSION AND SEDIMENT CONTROL PLAN AND IN ACCORDANCE WITH CONSTRUCTION DETAILS.
10. REPLACE TOPSOIL ON NON-PAVED AREAS FOR SEEDING. SEED AND MULCH ALL DISTURBED AREAS, USING THE SPECIFIED SEEDING REQUIREMENTS FOUND ON THE DETAILED PLAN. 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.
11. BEGIN HOME CONSTRUCTION IN THE BROAD STREET, WINDSFIELD WAY, TULANE STREET, AND COTTAGE WAY AREAS.
12. CONCURRENTLY, CONTINUE BULK GRADING ACTIVITIES TOWARDS SUBGRADE ALONG REGAL STREET, BENTON WAY, EVERETT ALLEY, AND LYNA WAY. RESET COMPOST FILTER SOCKS #28-33 AS INDICATED ON THE FINAL EROSION AND SEDIMENT CONTROL PLAN DRAWING AND IN ACCORDANCE WITH THE CONSTRUCTION DETAILS.
13. BEGIN CONSTRUCTION OF SITE UTILITIES WORKING FROM REGAL STREET NORTH TOWARDS MAYVIEW ROAD INCLUDING SANITARY SEWER, STORM SEWER, WATER, AND OTHER DRY UTILITIES. ONCE INLETS ARE IN PLACE, IMMEDIATELY INSTALL/MAINTAIN INLET PROTECTION AS INDICATED ON THE FINAL EROSION AND SEDIMENT CONTROL PLAN AND IN ACCORDANCE WITH THE CONSTRUCTION DETAIL.
14. UPON COMPLETION OF UTILITY INSTALLATION, BEGIN PREPPING ROAD SUBGRADE, INSTALL CURBING, REMOVE ROCK CONSTRUCTION ENTRANCE #2, AND INSTALL PAVING SECTION AS SHOWN ON THE FINAL EROSION AND SEDIMENT CONTROL PLAN AND IN ACCORDANCE WITH CONSTRUCTION DETAILS.
15. REPLACE TOPSOIL ON NON-PAVED AREAS FOR SEEDING. SEED AND MULCH ALL DISTURBED AREAS, USING THE SPECIFIED SEEDING REQUIREMENTS FOUND ON THE DETAILED PLAN. 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.
16. BEGIN HOME CONSTRUCTION IN REGAL STREET, BENTON WAY, EVERETT ALLEY, LYNA WAY, LEVI LANE AND THE REMAINING SECTION OF WINDSFIELD WAY ALONG HASTINGS CRESCENT.
17. UPON COMPLETION OF THE VERTICAL CONSTRUCTION OF THE HOMES, COMPLETE FINE GRADING ACTIVITIES, INSTALL DRIVEWAYS, SIDEWALKS, RAMPS, SIGNAGE, AND FINAL COURSE OF PAVING. PLACE TOPSOIL AND PERMANENTLY SEED ALL DISTURBED AREAS IN ACCORDANCE WITH THE CONSTRUCTION DETAILS AND SPECIFICATIONS.
18. RESEED ALL DISTURBED AREAS IF 70% PERENNIAL VEGETATIVE COVER IS NOT ESTABLISHED AFTER 30 DAYS.
19. REMOVE ALL INLET PROTECTION ON ROAD NETWORK.

06	PHASE 5 CONSTRUCTION SEQUENCE
C401	

GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

REVISION RECORD

Date	No	
-	01	-
-	02	-
-	03	-
-	04	-
-	05	-
-	06	-
-	07	-
-	08	-

HASTINGS
South Fayette Township/Pittsburgh, PA
CHARTER

HASTINGS PHASE 5
MAYVEIW ROAD
PITTSBURGH, PA 15102
PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

EROSION & SEDIMENT CONTROL NOTES

Project Number: 18927-0096
Drawing Scale: 1" = 30'
Date Issued: FEB 2026
Index Number: –
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

C401

Path & Filename=G:\Projects\18000\18927 Mayview\-0096 Phase 5\Dwg\02-Sheet\1.9.4 LD Set\C401 Final E&S Plan.dwg
Plot Date=2/9/2026 12:54 PM Calvin R. Seeman   Save Date=2/9/2026 12:23 PM
22.0

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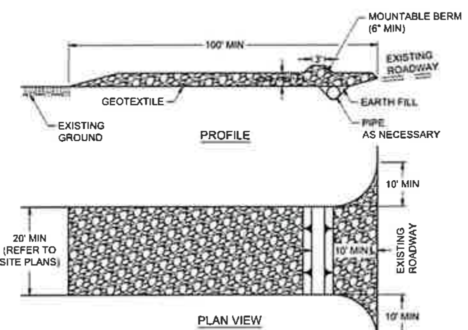


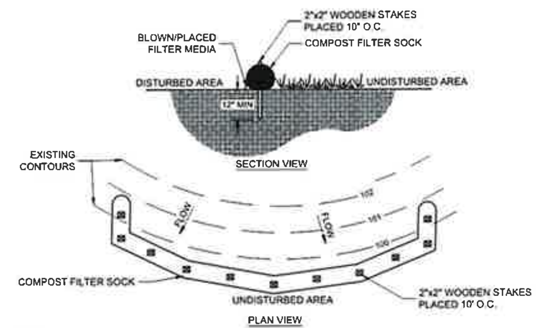
NOTES:

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 / C402	ROCK CONSTRUCTION ENTRANCE



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.

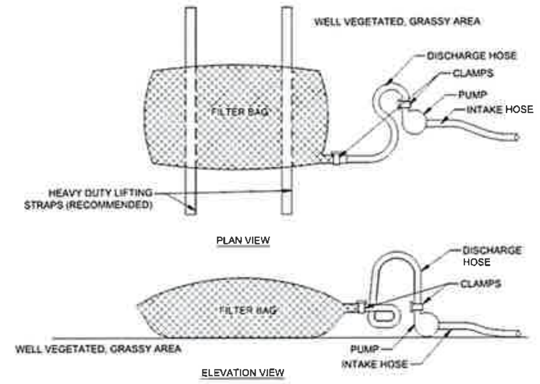
6 UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

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 / C402	COMPOST FILTER SOCK



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	60 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	80 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.

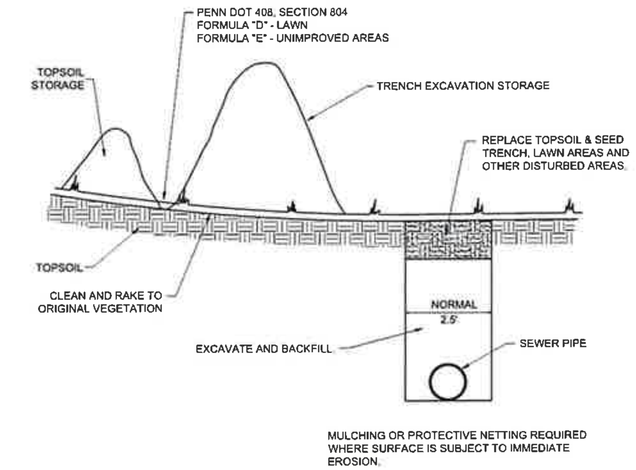
NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

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.

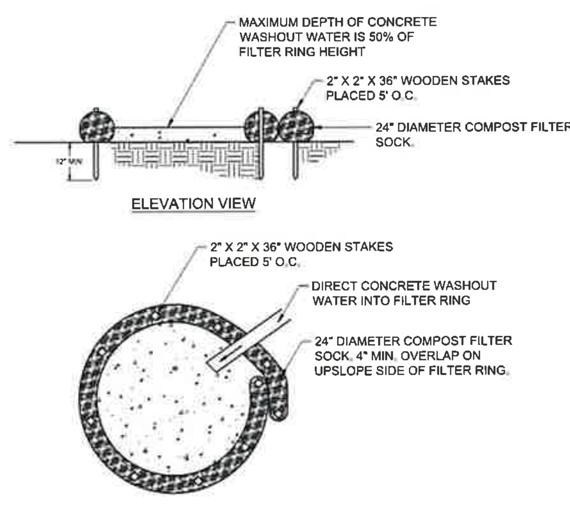
3 / C402	PUMPED WATER FILTER BAG



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

4 / C402	EROSION CONTROL FOR SEWER TRENCHES

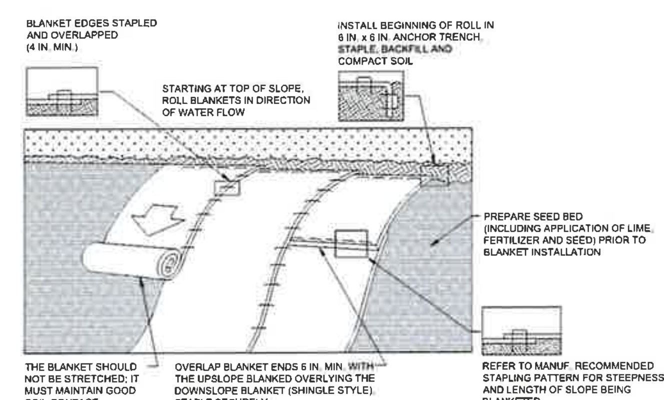
5 / C402	INLET PROTECTION



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 / C402	CONCRETE WASHOUT AREA



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 / C402	EROSION CONTROL BLANKET

GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

REVISION RECORD

Date	No	
-	01	-
-	02	-
-	03	-
-	04	-
-	05	-
-	06	-
-	07	-
-	08	-

HASTINGS
South Fayette Township/Pittsburgh, PA

HASTINGS PHASE 5
MAYVEIW ROAD
PITTSBURGH, PA 15102
PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

EROSION & SEDIMENT CONTROL DETAILS

Project Number: 18927-0096
Drawing Scale: 1" = 30'
Date Issued: FEB 2026
Index Number: –
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

C402

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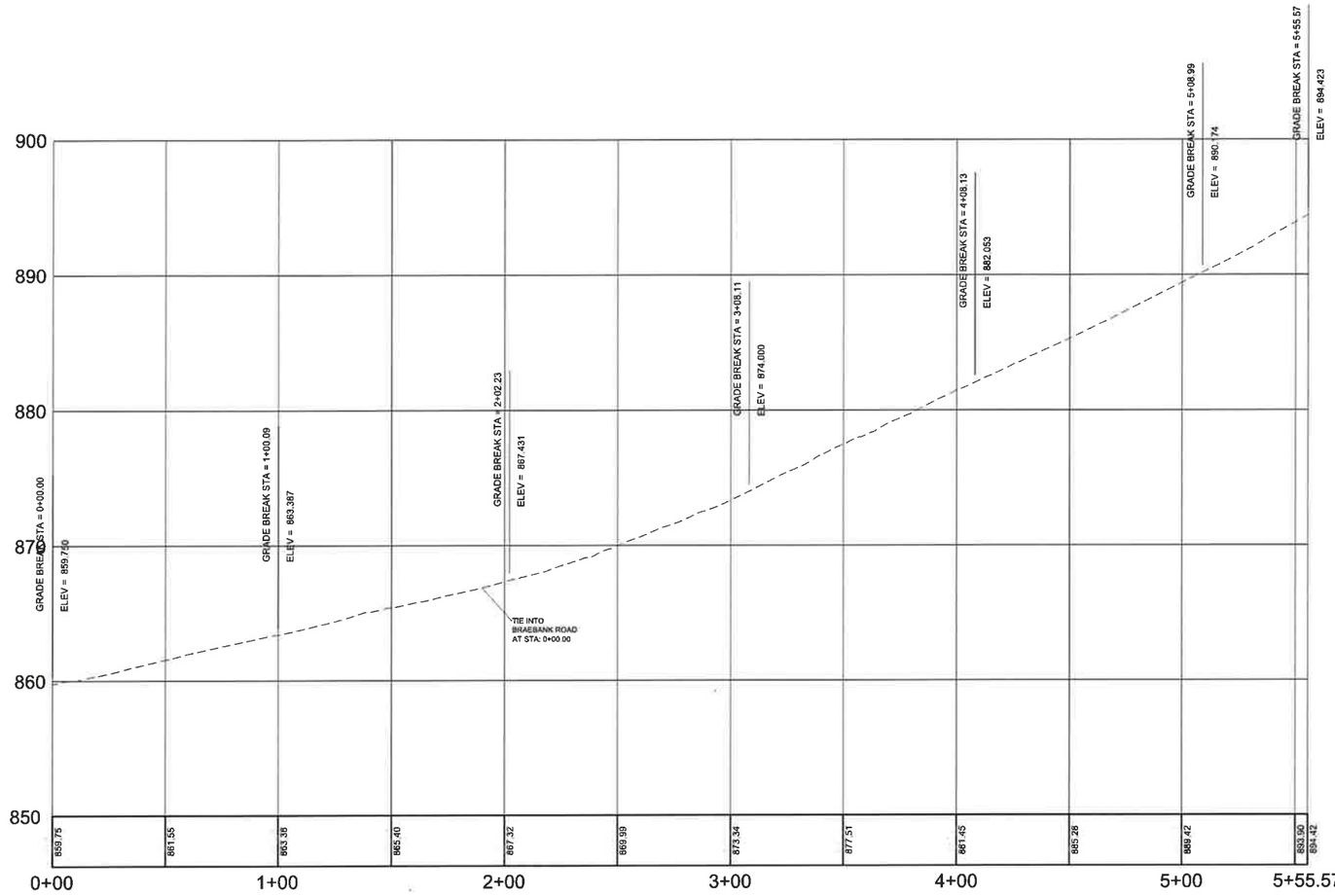


MAYVIEW ROAD PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 5'

PROFILE STRUCTURE ABBREVIATONS

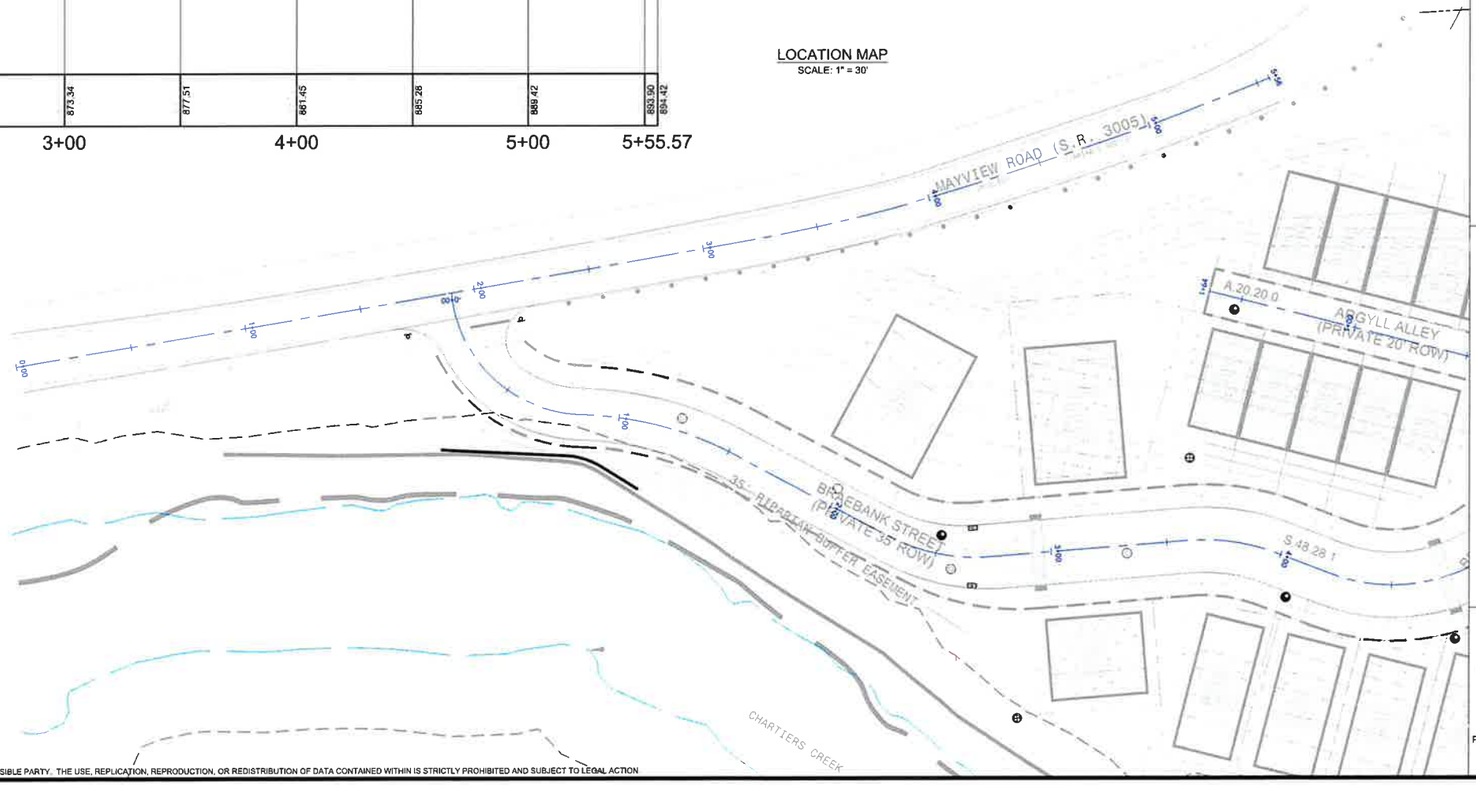
STM	STORM
SAN	SANITARY
MH	MANHOLE
OS	OUTLET STRUCTURE
CO	CLEANOUT
HW	HEADWALL
EW	ENDWALL

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

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

C500

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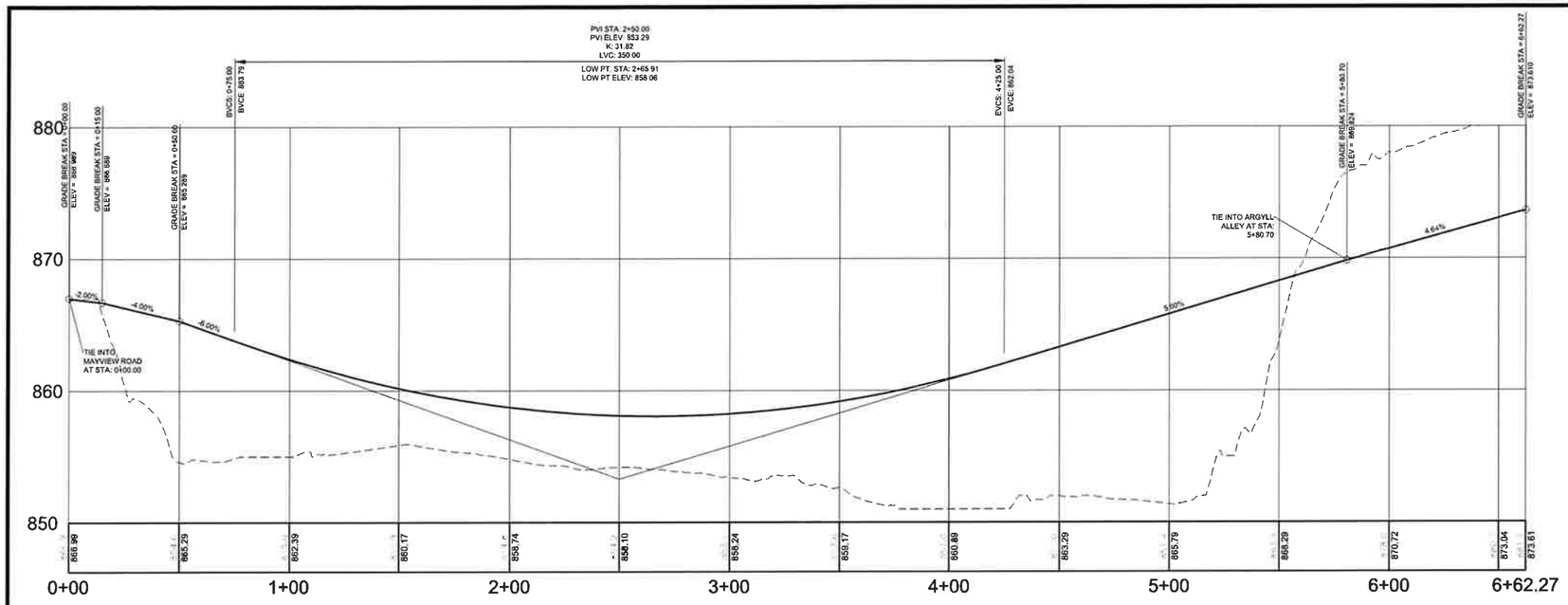
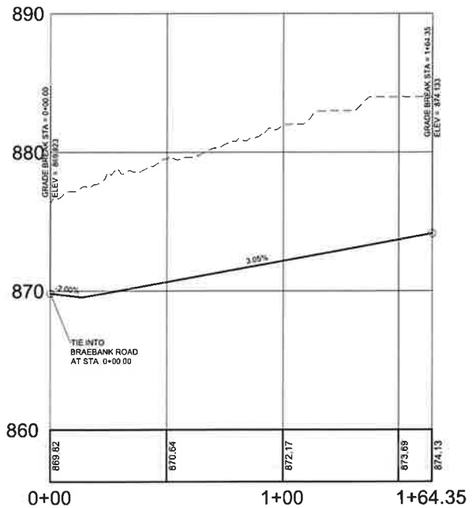
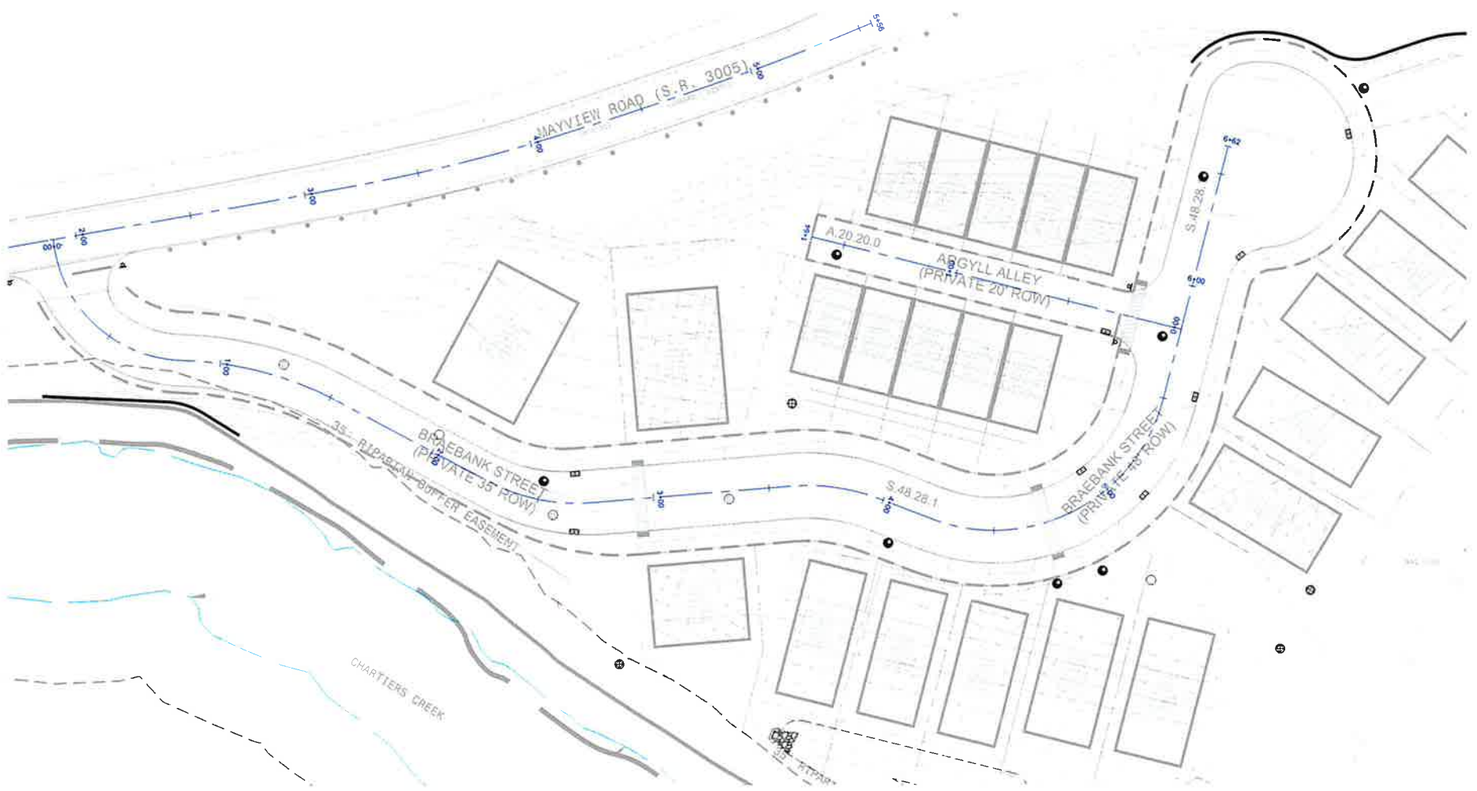


BRAEBANK ROAD PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 5'



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

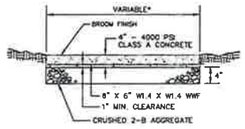
HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, PA 15102

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



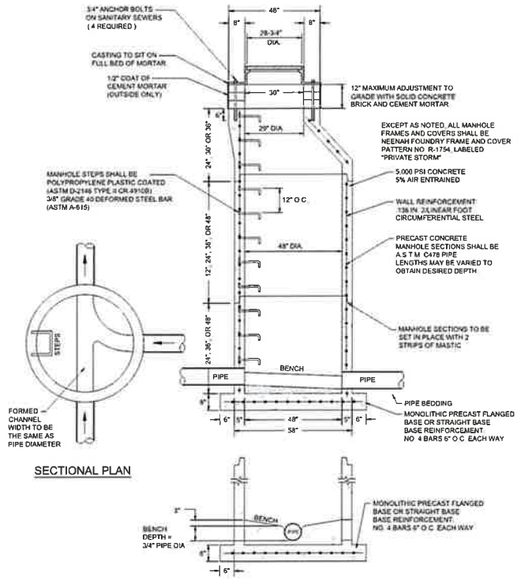
NOTES:
1. CONSTRUCT SIDEWALK IN ACCORDANCE WITH PA D.O.T. SPECIFICATIONS
2. PROVIDE TRANSVERSE DUMMY JOINTS AT 5' INTERVALS
3. PROVIDE 1/2" PREMOLDED EXPANSION JOINT MATERIAL AT 20' SPACING
4. SLOPE SIDEWALK AT 1/4" PER FOOT
5. CURING AND PROTECTING COVERS SHALL BE PROVIDED IN ACCORDANCE WITH FORM 408 SECTION 711.

NOT TO SCALE

NOTE: MIN. STANDARDS FOR A TYPICAL TRAFFIC SIGNAL CONTROLLER CABINET PAD INSTALLATION

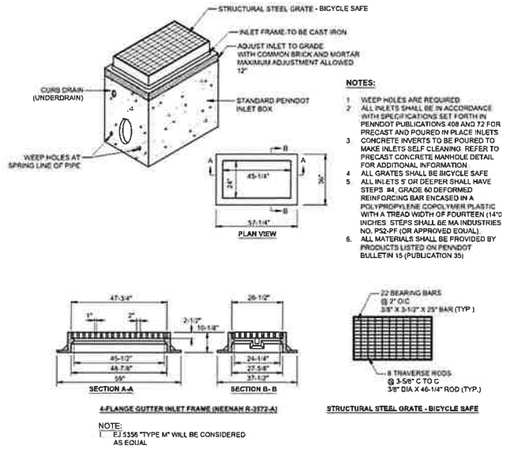
*SIDEWALK DIMENSIONS PER TYPICAL SECTION.
CONTROLLER PAD DIMENSIONS AS REQUIRED IN SECTION 17–414.

1	PROPOSED CONCRETE SIDEWALK
C600	

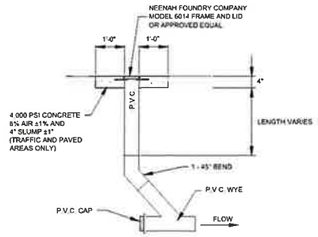


SECTIONAL PLAN

1	48" DIAMETER CONCRETE
C600	PRIVATE STORM MANHOLE

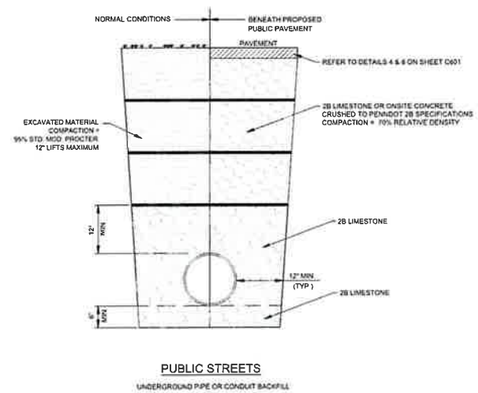


2	PENNDOT STANDARD INLET BOX WITH TYPE M FRAME AND BIKE SAFE GRATE
C600	



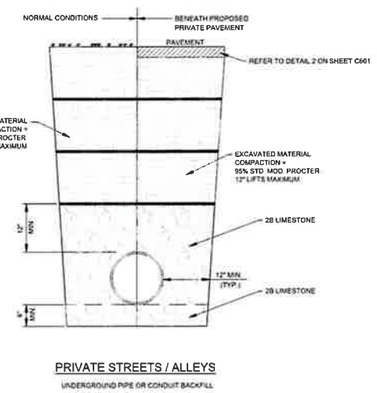
1. ALL ROOF/ BUILDING DRAINS MUST BE TRAPPED PRIOR TO TAPPING CONVEYANCE SYSTEM.
2. COORDINATE WITH PLUMBING DRAWINGS AND SPECIFICATIONS.

3	STORM CLEANOUT
C600	



PUBLIC STREETS

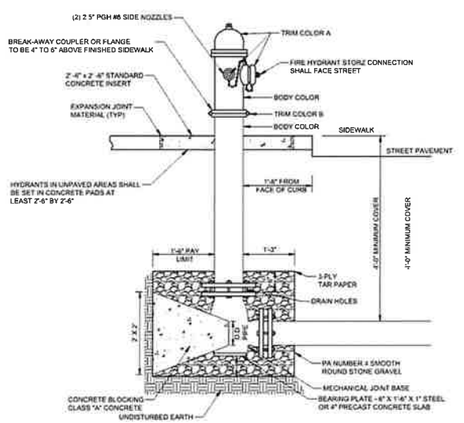
UNDERGROUND PIPE OR CONDUIT BACKFILL



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

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

C600

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Path & Filename: G:\Projects\18000\18927\Mayview\-009b Phase 3\Dwg\02-Sheets\1 9 4 LD Set\C600 - Construction Details.dwg
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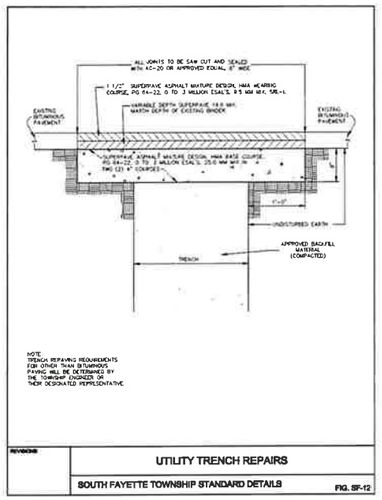
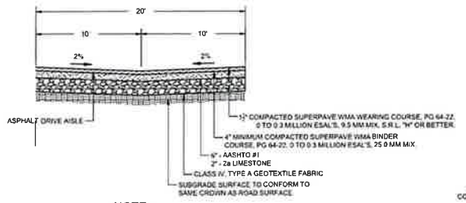


REVISIONS	UTILITY TRENCH REPAIRS
	SOUTH FAYETTE TOWNSHIP STANDARD DETAILS — FIG. SF-12

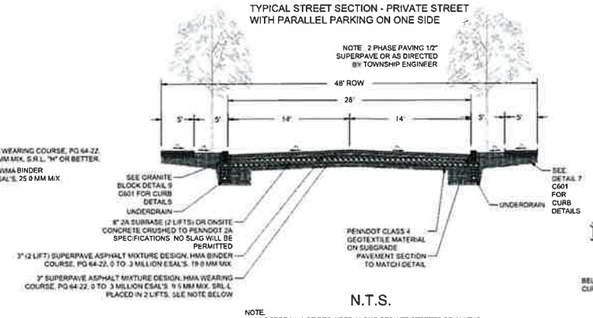
1	UTILITY TRENCH REPAIRS
C601	

A.20.20.0 ALLEY - PRIVATE
TYPICAL ALLEY SECTION - PRIVATE ALLEY WITH NO PARKING



NOTE:
1. NO UNDERDRAINS

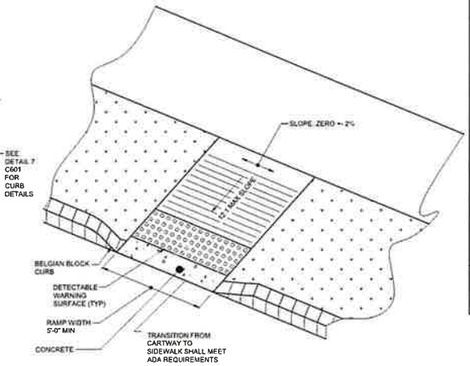
S.48.28.1 - PRIVATE
TYPICAL STREET SECTION - PRIVATE STREET WITH PARALLEL PARKING ON ONE SIDE



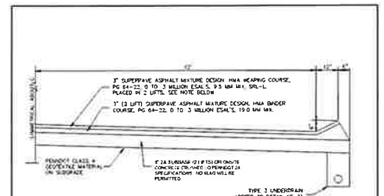
N.T.S.

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.

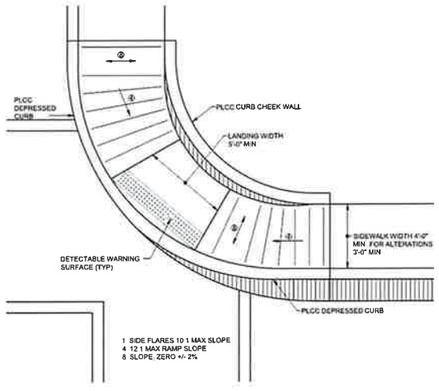
INTENSITY CATEGORY	OVERALL ASPHALT THICKNESS (INCHES)	WRG COURSE THICKNESS	BASE/BINDER THICKNESS
DI-1	6"	3"	3"

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

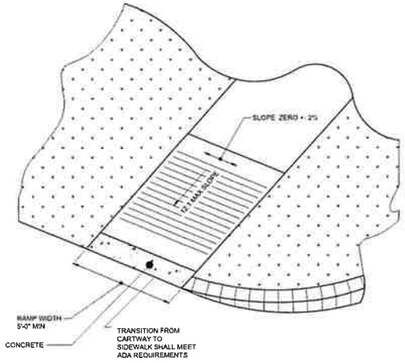
REVISIONS	TYPICAL ROADWAY PAVING SECTIONS
	SOUTH FAYETTE TOWNSHIP STANDARD DETAILS — FIG. SF-2

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

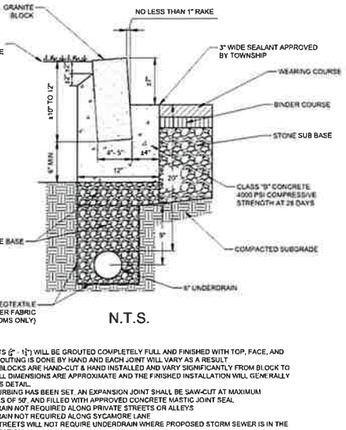
4	TYPICAL PAVING SECTION
C601	



5	TYPE 2 CURB RAMP (DIAGONAL) (RC-67M)
C601	



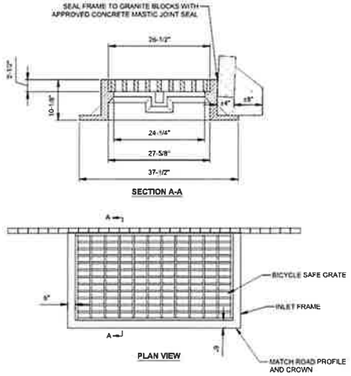
6	PROPOSED ALLEY CROSSING GRANITE BLOCK CURB RAMP
C601	



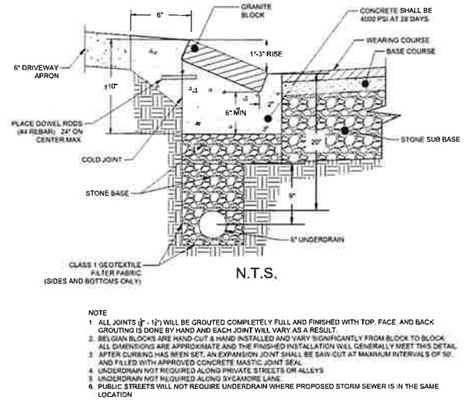
N.T.S.

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	



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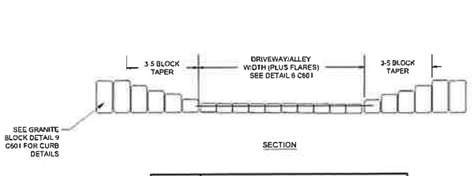
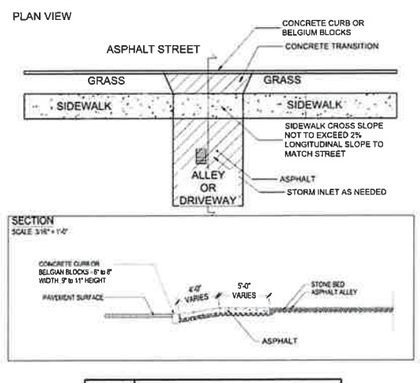
4. UNDERDRAIN NOT REQUIRED ALONG PRIVATE STREETS OR ALLEYS
5. UNDERDRAIN NOT REQUIRED ALONG SYCAMORE LANE
6. PUBLIC STREETS WILL NOT REQUIRE UNDERDRAIN WHERE PROPOSED STORM SEWER IS IN THE SAME LOCATION

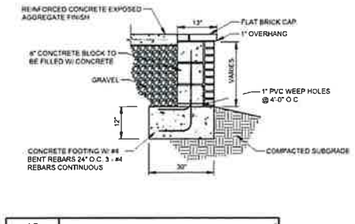
9	GRANITE BLOCK CURB - MOUNTABLE
C601	



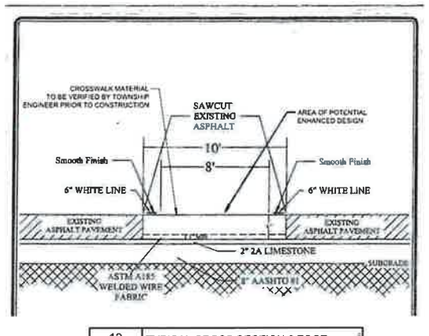
10	GRANITE BLOCK CURB - ALLEY/DRIVEWAY CONNECTIONS
C601	



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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Path & Filename=S:\Projects\18000\18927 Mayview\-0096 Phase 5\Dwg\02-Sheet\1.9 x LD Set\C600 - Construction Details -5.dwg
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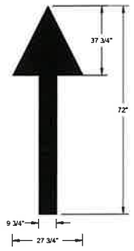
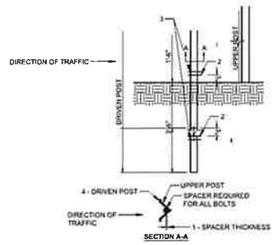


NOTES:

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.

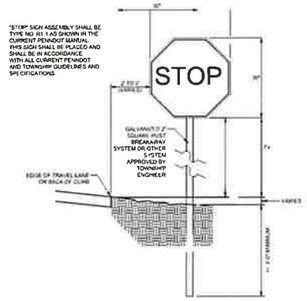
1 C602	PAINTED DIRECTIONAL ARROW



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	*

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

C602

18.02 [Gen & Firename-S:\Projects\18000-18999\18927-Mayview\-0096 Phase 5\Dwg\02-Sheet\19.4 LD Set\C602-Construction Details.dwg
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GRAPHIC SCALE

0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

NORTH

811
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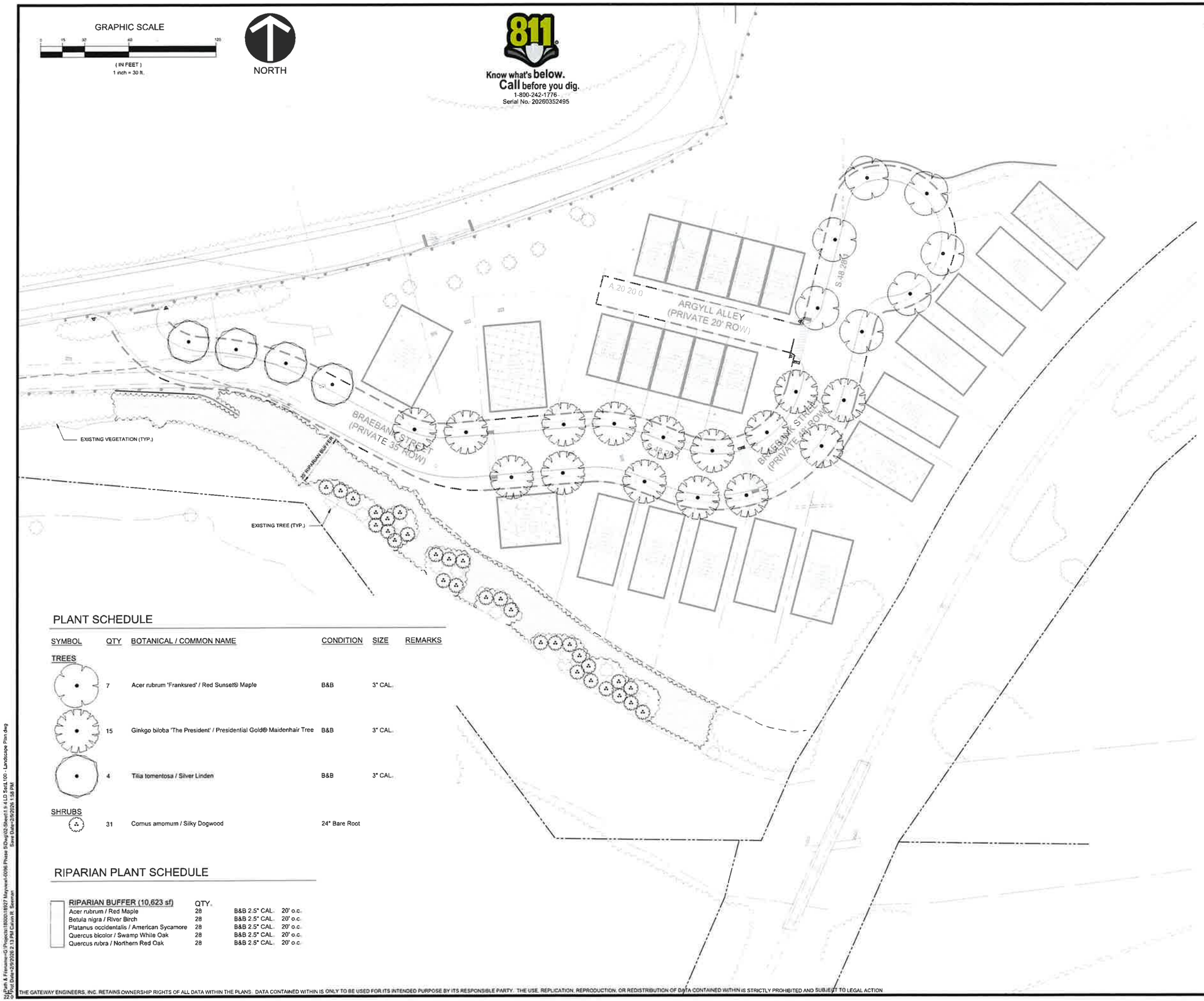
Serial No. 20260352495



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

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

Roth & Fitzsimons-G:\Projects\18000\18927 Mayview\-0096 Phase 5\Dwg\00-Sheet\1.5 # LD Set\L100 - Landscape Plan.dwg
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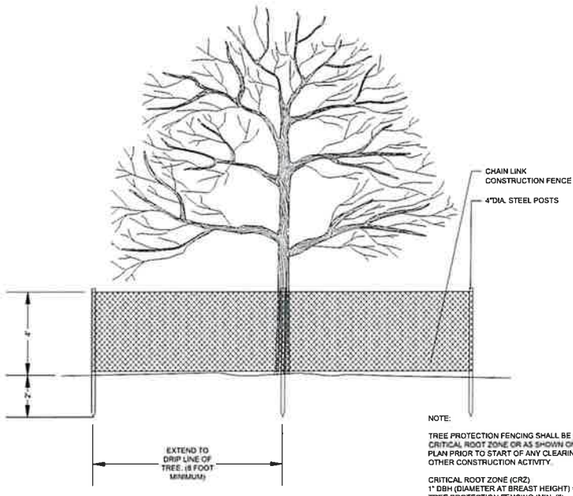


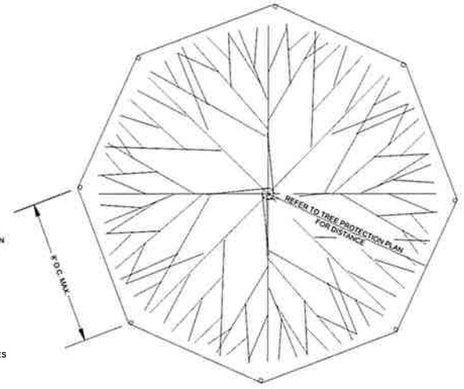
NOTE:

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.

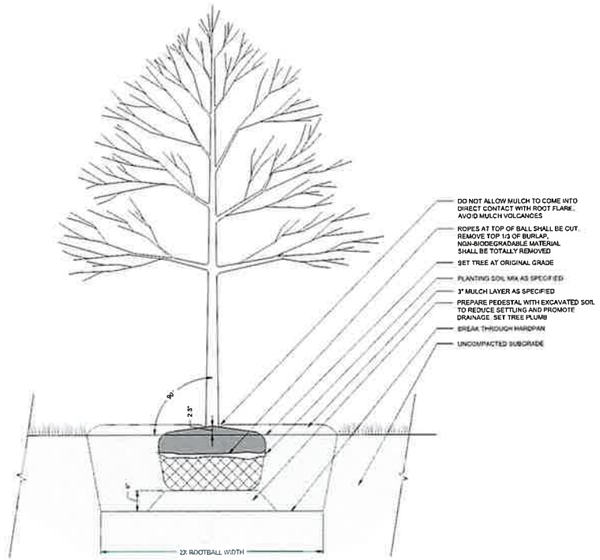
CRITICAL ROOT ZONE (CRZ)
1" DBH (DIAMETER AT BREAST HEIGHT) = 1' RADIUS OF TREE PROTECTION FENCING (MIN. 6')
(FOR EXAMPLE, A 10" DBH TREE WOULD HAVE TREE PROTECTION FENCE AROUND IT WITH A 10' RADIUS)

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.

811
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GATEWAY ENGINEERS
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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

by: Brian A. Fitzsimons-O:\Projects\18500\18927 Mayview\0096 Phase 5\Dwg\05 Sheets 9 to 14\L\B Xref L100 - 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

BRAEBANK STREET (PRIVATE 35' ROW)

ARGYLL ALLEY (PRIVATE 20' ROW)

A.20.20.0

S.48.28.1

BRAEBANK STREET (PRIVATE 48' ROW)

S.48.28.1

NORTH

GRAPHIC SCALE

0 15 30 60 120

(IN FEET)

1 inch = 30 ft.

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Plot Date=2/9/2026 2:14 PM Calvin R. Seaman
Save Date=2/9/2026 1:58 PM

GATEWAY ENGINEERS
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No	Date	REVISION RECORD
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03	04/08/2024	REVISED PLAN SET
04	05/14/2024	REVISED PLAN SET
05	-	-
06	-	-
07	-	-
08	-	-

HASTINGS

South Fayette Township/Pittsburgh, PA

HASTINGS PHASE 5
MAYVIEW ROAD
PITTSBURGH, 15102

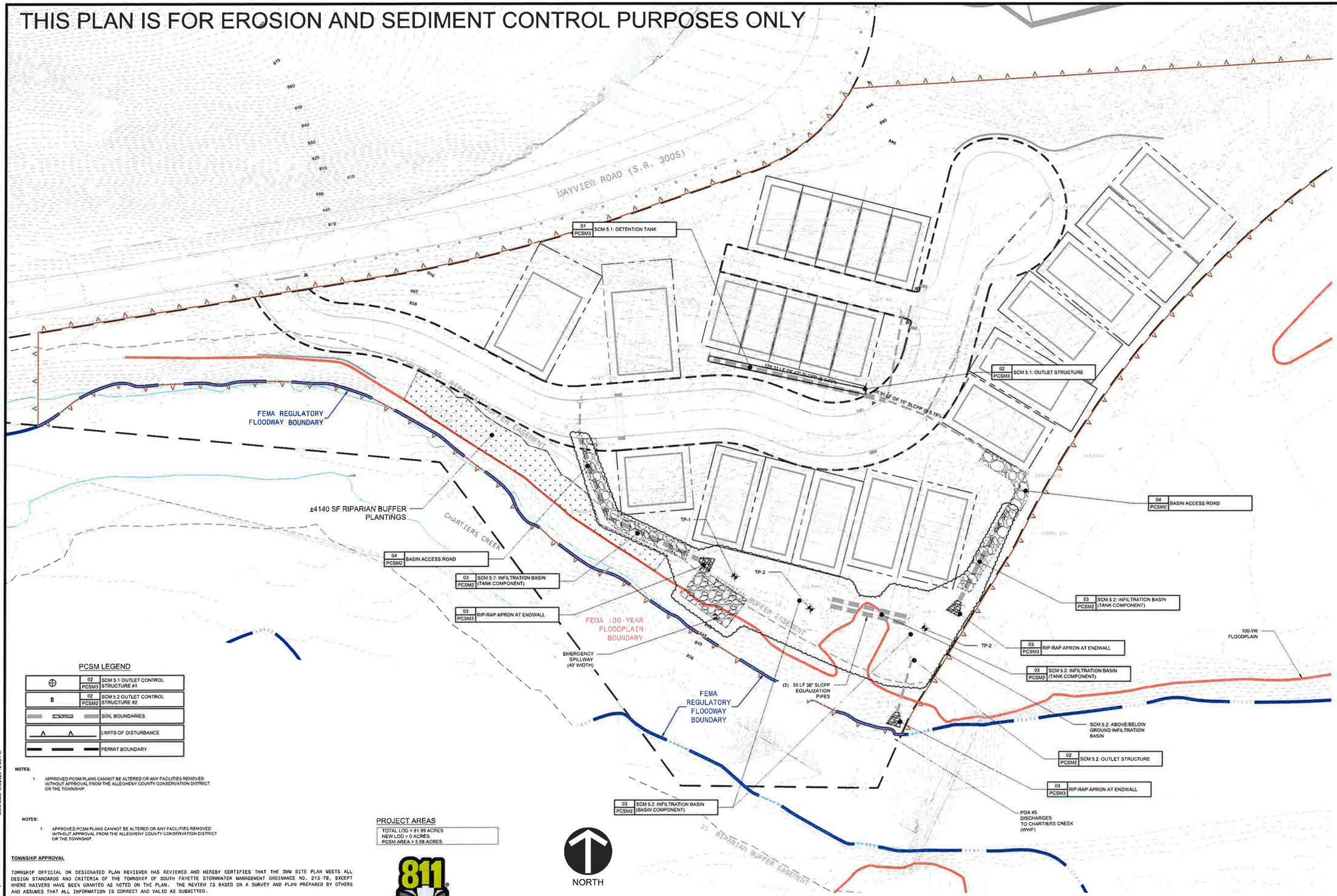
PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

LIGHTING PLAN

Project Number: 18927-0096
Drawing Scale: 1" = 30'
Date Issued: FEB 2026
Index Number: –
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

L110

THIS PLAN IS FOR EROSION AND SEDIMENT CONTROL PURPOSES ONLY



PCSM LEGEND

⊕ 02 PCSM3	SCM 5.1 OUTLET CONTROL STRUCTURE #1
B 02 PCSM2	SCM 5.2 OUTLET CONTROL STRUCTURE #2
	SOIL BOUNDARIES
	LIMITS OF DISTURBANCE
	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.

NOTES:

1. APPROVED PCSM PLANS CANNOT BE ALTERED OR ANY FACILITIES REMOVED WITHOUT APPROVAL FROM THE ALLEGHENY COUNTY CONSERVATION DISTRICT OR THE TOWNSHIP.

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

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.

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GATEWAY ENGINEERS
A FULL-SERVICE CIVIL ENGINEERING FIRM

REVISION RECORD

Date	No	
-	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

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
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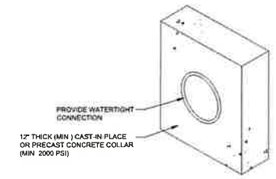
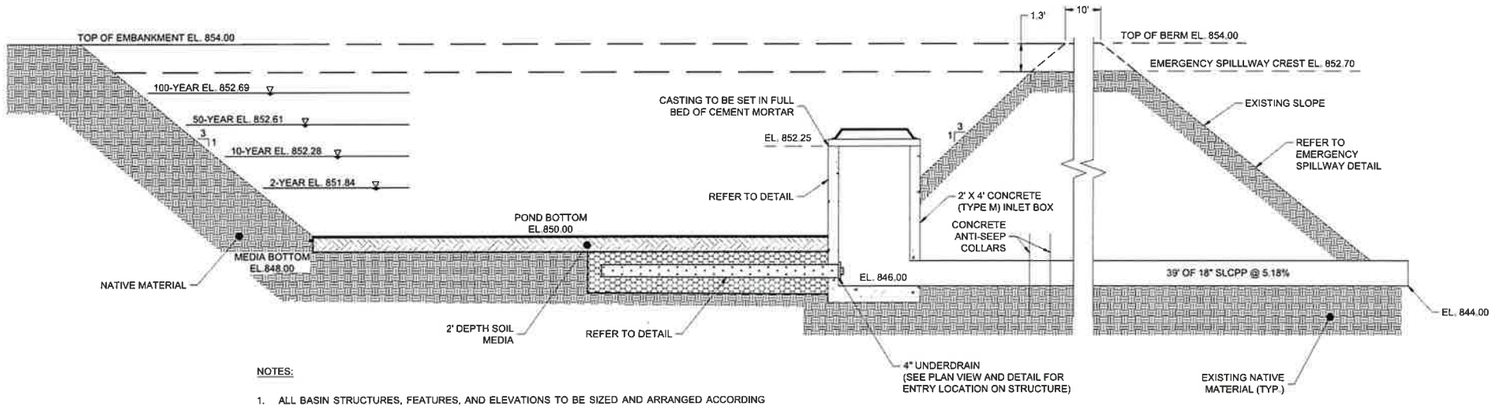


NOTES:

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.

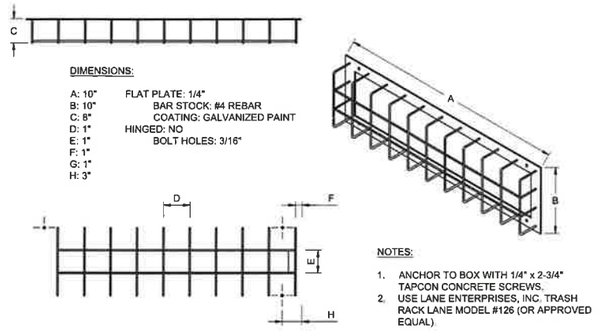
CONCRETE ANTI-SEEP COLLAR



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:

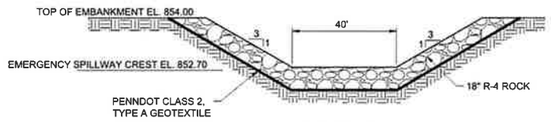
A: 10"
B: 10"
C: 8"
D: 1"
E: 1"
F: 1"
G: 1"
H: 3"

FLAT PLATE: 1/4"
BAR STOCK: #4 REBAR
COATING: GALVANIZED PAINT
HINGED: NO
BOLT HOLES: 3/16"

NOTES:

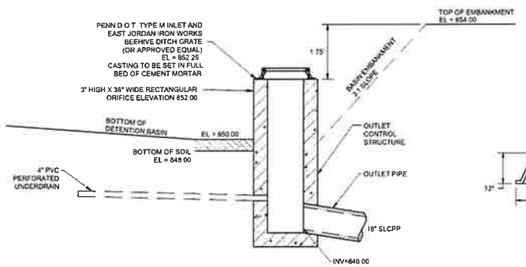
1. ANCHOR TO BOX WITH 1/4" x 2-3/4" TAPCON CONCRETE SCREWS.
2. USE LANE ENTERPRISES, INC. TRASH RACK LANE MODEL #126 (OR APPROVED EQUAL)

ORIFICE TRASH RACK

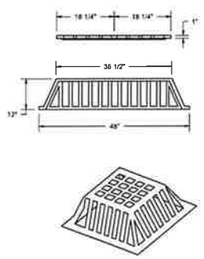


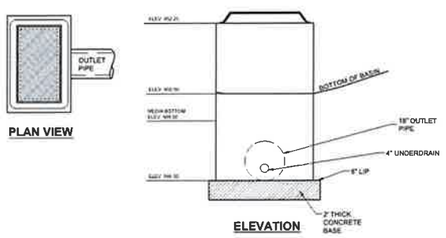
SECTION A-A

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:

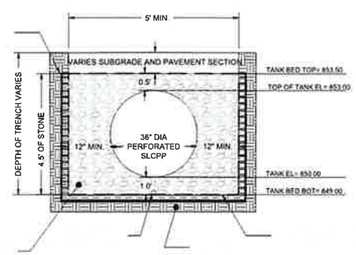
1. BEEHIVE DITCH GRATE SHALL BE EAST JORDAN IRON WORKS NUMBER 8496 (OR APPROVED EQUAL)

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

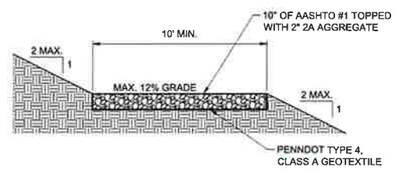
02	SCM 5.2: ABOVE/BELOW GROUND INFILTRATION BASIN OUTLET
PCSM2	CONTROL STRUCTURE OS-2



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

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: 16927-0096
Drawing Scale: N.T.S.
Date Issued: FEB 2026
Index Number: –
Drawn By: CRS
Checked By: DMH
Project Manager: DMH

PCSM2

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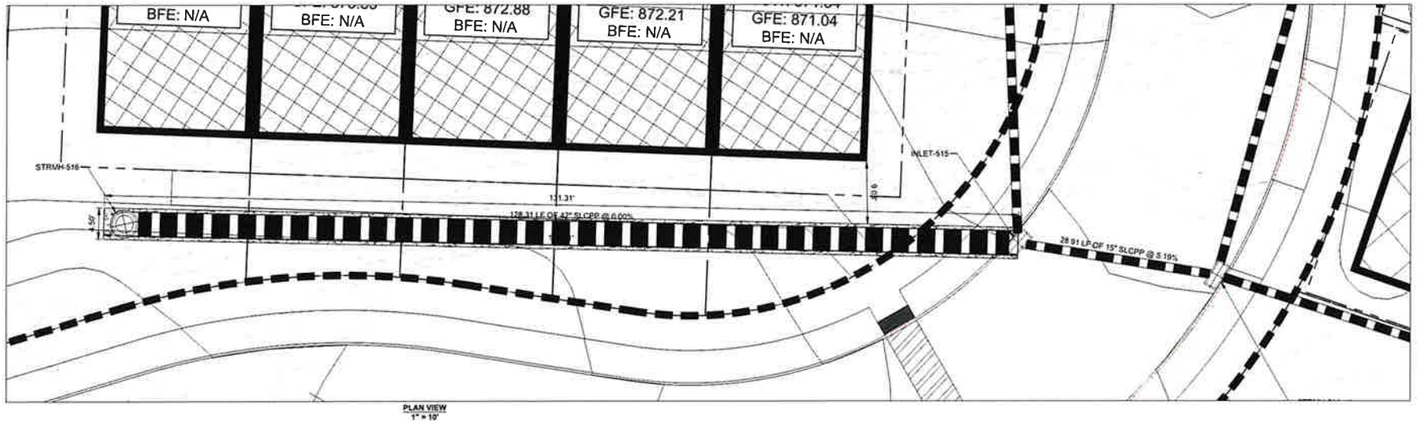
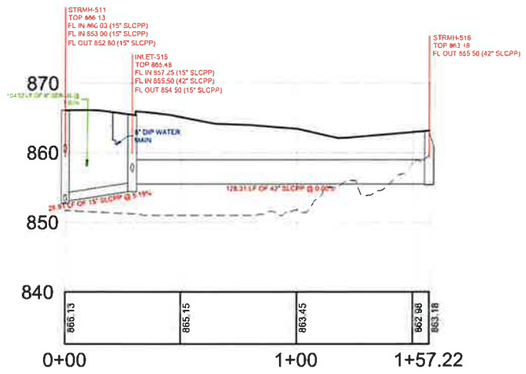
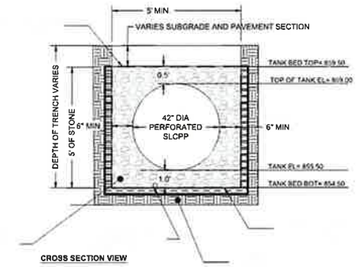


PLAN VIEW
1" = 10'



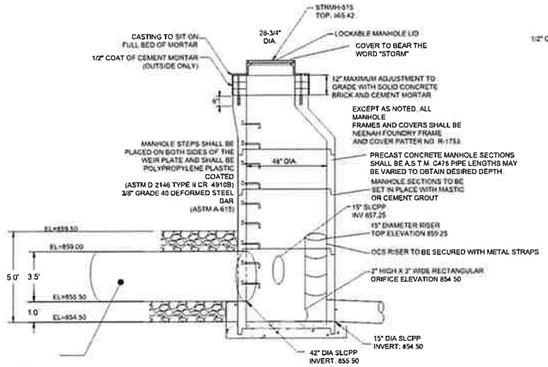
STRMH-516 TO STRMH-511 PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 10'

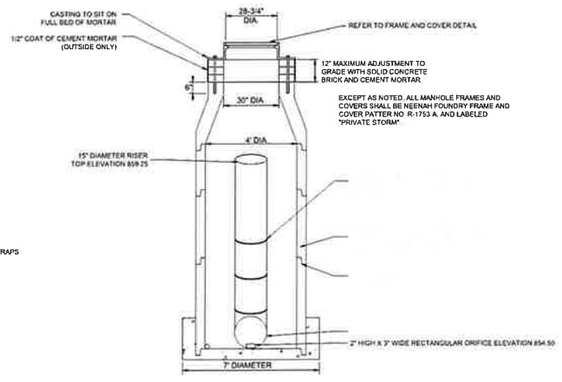


CROSS SECTION VIEW

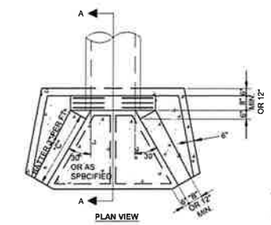
NOTE:
1. PROVIDE 6 PERFORATIONS PER LINEAR FOOT OF PIPE.
2. REFER TO PLANS FOR PIPE SIZE, TYPE, AND SLOPE.

01	SCM5.1: STORMWATER
PCSM3	DETENTION TANK





02	SCM5.1: OUTLET STRUCTURE
PCSM3	

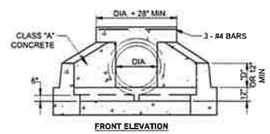


PLAN VIEW

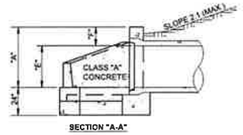
PIPE DIAMETER	A	B	C	D	E	F
15"	2'-6"	9"	2'-0"	12"	1'-9"	9"
18"	2'-6"	9"	2'-0"	12"	2'-0"	9"
24"	3'-3"	9"	2'-0"	12"	2'-6"	9"
30"	4'-0"	12"	2'-6"	15"	3'-0"	12"
36"	4'-6"	12"	2'-6"	15"	3'-6"	12"
42"	5'-3"	15"	4'-3"	18"	4'-0"	15"
48"	5'-9"	15"	4'-9"	21"	4'-6"	15"
54"	6'-3"	15"	5'-3"	24"	5'-0"	15"
60"	7'-0"	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	RIP-RAP APRON AT ENDWALL
PCSM3	

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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

Z:\Projects\18000\18927 Maywood-0096 Phase 5\Dwg\03 Sheet\18 9 4 LD Set\PCSM Plan.dwg
Last Date: 2/6/2026 1:31 PM Benjamin R. Landis, E.I.T.
Saved: 2/6/2026 12:39 PM

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 _____.

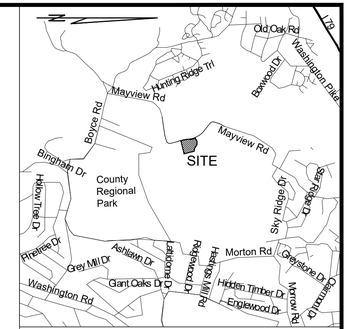
GIVEN UNDER MY HAND AND SEAL THIS _ DAY OF _____, _____.

_____

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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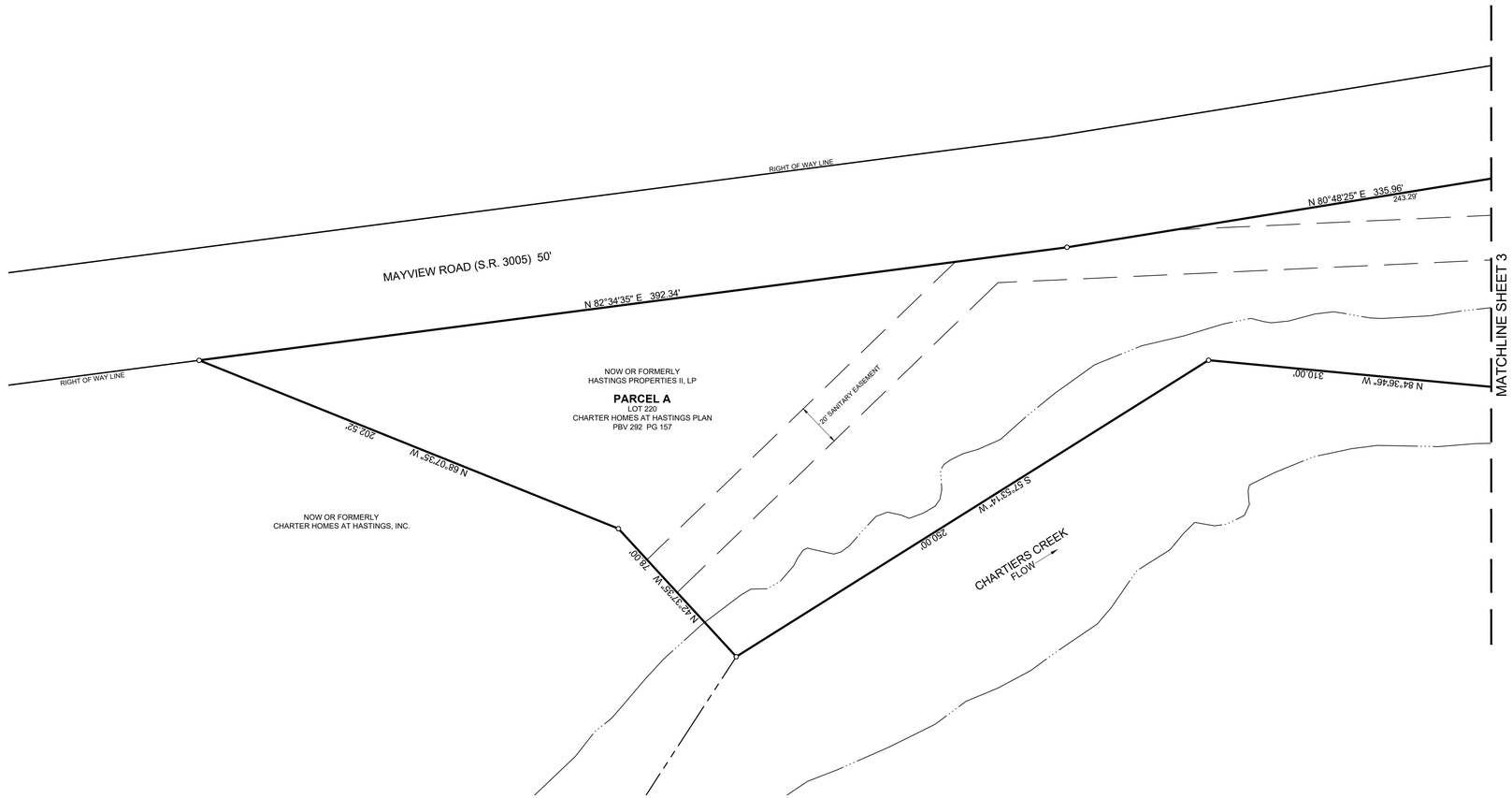
Plot Date=2/9/2026 1:46 PM Kenneth C. Winkler
18.01



GRAPHIC SCALE

0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

GATEWAY ENGINEERS
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: 1" = 30'

Date: FEBRUARY 9, 2026
Job Number: C-18927-0096
Dwg No: XXX.XXX SHEET 2 OF 3

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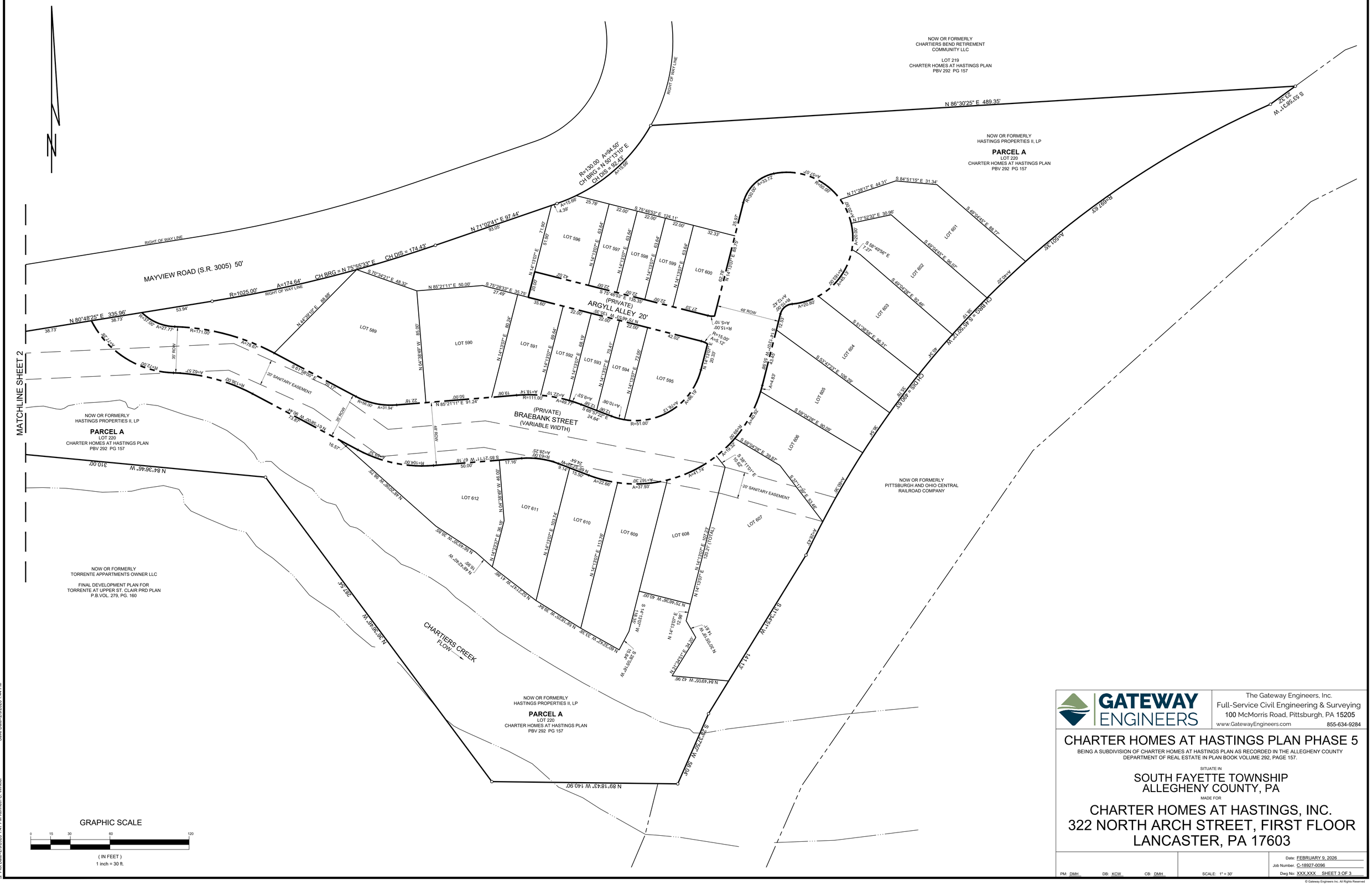

GATEWAY ENGINEERS

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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: 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\A-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

Gibson-Thomas ENGINEERING

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

March 17, 2026

GTE 18710

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: Preliminary & Final Land Development – **Review #1**

PLAN NAME: Charter Homes at Hastings, Phase 5

APPLICATION NO. F-01-2026

LOCATION: Parcel No. 571-A-10
Mayview Road
Bridgeville, PA 15017

ZONING: ND – Neighborhood Design

MADE BY: The Gateway Engineers, Inc.
100 McMorris Road
Pittsburgh, PA 15205
(412) 921-4030

MADE FOR: Charter Homes at Hastings, Inc.
322 North Arch Street, First Floor
Lancaster, PA 17603

DATE OF PLAN: February 2026

RECEIVED IN GTE OFFICE: February 13, 2026

SUBMITTED MATERIAL:

- Land Development Plans (30 Sheets)
- Subdivision Plan (3 Sheets)
- Township Applicatio

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 the continuation of a Neighborhood Design development within the Township. Phase 5 of the development proposes 14 single-family homes and 10 town homes on one of the remaining developable parcels within the Hastings neighborhood. This phase is contingent on approval of the Master Plan revision for the overall development, as this parcel was previously designated for a non-residential use.

4. The stormwater management system will include a series of pipe networks, underground tanks, and infiltration basins that will discharge into Chartiers Creek. The total disturbed area for the project is 4.50 acres.

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

6. The following modifications were previously granted for the Hastings Neighborhood Design project:

    I. Modification granted from §240-76.20.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 single family lots.

    II. Modification granted from §240-76.20.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, 539, 540, 543, 544, 545, 570, 571, 572, 585, 586, and 587. This modification does not apply to the townhouse units proposed for this phase.

7. The following modifications are requested for this application:

    I. A modification is requested for § 215-74.E 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.

    II. A modification is requested for § 215-78.C.5.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).

8. The approval of this plan is contingent upon the approval of the Master Plan Revision (PP-01-2026).

9. The Applicant shall submit a "Deed Required Notification Clause" signed by the owner.

10. The landowner's name shall be cited exactly as it appears in the deed to the property. Currently the name on the plan, "The Charter Homes at Hastings, Inc.", is inconsistent with the name on the deed "Hastings Properties II, LP". If the company has changed names, then both names shall be listed on the plan (A/K/A). If the properties have changed ownership, then the deed must be updated to reflect that change.

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. A permit shall be acquired for the stormwater management features encroaching on the 100-year floodway.

Chapter 163 – Grading and Excavating Comments

1. § 163-4.D – A grading permit shall be required for this project. When soil excavated under the authorization of a building permit properly issued by the governing body is temporarily stockpiled on the same site as excavation; provided, however, that if the material from such excavation is thereafter to be used for fill purposes for which a grading permit is required, such permit must be obtained prior to such use in accordance with the requirements of this chapter.

2. § 163-11.B – The Applicant shall provide a geotechnical report to determine whether the on-site material is sufficiently stable to sustain the proposed 2:1 slope.

3. § 163-11.C – The top and bottom edge of slopes shall generally be set back from adjacent property lines or street right-of-way lines in order to permit the normal rounding of the edge without encroaching on the abutting property or street.

4. § 163-14 – The Applicant shall provide plans for the retaining walls.

Chapter 210 – Streets and Sidewalks Comments

1. The Applicant shall specify the ownership of the proposed roadways. On the site plans, Braebank Street is listed as private. On the cover sheet, it is listed as public.

2. It is recommended that the existing access road connecting to Hastings Park Drive remain for an additional emergency access point to the properties. An access easement shall be created and referenced on the plan.

3. § 210-2 – The Applicant shall acquire a permit for the subsurface utility connections along Mayview Road. It shall be unlawful for any person to make any street opening without first securing a permit therefore from the Township of South Fayette.

4. § 210-4 – All public street openings and excavations shall follow the specifications in this chapter.

Chapter 215 – Subdivision/Land Development Comments

1. As per the Construction Standards, § 5.6.2, "All utilities will be located in the public right-of-way, but outside the pavement section or within a 10' utility easement just outside the right-of-way. All utilities will be located minimum of three and one-half (3.5) feet behind the back of the curb." The Applicant shall revise the water line placement and provide the location of the electric line.

2. Existing features that are to be removed in entirety shall be removed from all proposed site plans for clarity, including the existing bituminous pavement that is seen behind Lots 601 and 602 unless the access road is remaining as per Chapter 210, Comment #2.

3. The Applicant shall provide hatched areas for the townhouse driveways and provide sidewalk access for Lots 596-600.

4. Braebank Street is classified as S.48.28.1, indicating that parking will occur on one side of the street. These spaces shall be shown on the site plan and added to the parking table on the cover sheet. A detail of line striping shall be added to the plans.

5. A detail was provided for directional arrows, speed limit signs, and pedestrian crossing signs, but none are proposed on the site plan. The Applicant shall revise this and provide a detail for the proposed stop bars.

6. The truck turning template indicates that a firetruck cannot successfully use the cul-de-sac without encroaching on the granite block curb and sidewalk. This is due to the cul-de-sac not being of appropriate size as per SFT-SD-007. The Applicant shall consult the standard detail and revise the cul-de-sac.

7. § 215-39.E – The Applicant shall provide written evidence that the application has been submitted to the Allegheny County Conservation District for review.

8. § 215-39.K.6 – The Applicant shall provide survey data showing boundaries of the property, building or setback lines and lines of existing and proposed streets, lots, reservations, easements and areas dedicated to public use, including grants, restrictions and rights-of-way, to be prepared by a licensed land surveyor. The name, address, signature and seal of the surveyor shall be indicated. Setbacks shall be shown and labeled for the overall property and for each lot.

9. § 215-39.K.14 – The Applicant shall provide a steep slopes map with designation of areas with slopes in excess of 40% and slopes in excess of 25% but not more than 40% in accordance with § 215-73.C.

10. § 215-39.K.19 – The Applicant shall provide a table indicating the area, in square feet, of each lot.

11. § 215-39.K.24 – The Applicant shall provide the location, width and purpose of all existing and proposed easements and rights-of-way on the site plans.

12. § 215-39.K.27 – The Applicant shall provide a completed soil erosion and sedimentation control plan. The entire LOD shall be shown for this phase exclusively with an approximate acreage disturbance. The LOD shall be increased to include the utility and roadway connections along Mayview Road. A topsoil stockpile shall be identified.

13. § 215-39.K.31 – The Applicant shall provide a complete tabulation of site data as it pertains to this phase, indicating zoning requirements applicable to the site and whether the proposed site development features comply.

14. § 215-39.K.33 – The Applicant shall provide details of all exterior lighting fixtures and supports; documentation that the proposed lighting will be shielded and reflected away from adjacent streets and residential properties; a photometric plan in accordance with § 215-82.A.

15. § 215-39.K.36 – The Applicant shall provide a predicted time schedule.

16. § 215-42.E.5 – The Applicant shall provide lot and block numbers assigned to the property by the County Assessment Office, including lot and block numbers of immediately abutting property.

17. § 215-42.E.10 – The Applicant shall provide certification of service from all applicable utility companies.

18. § 215-42.E.22 – The Applicant shall provide an N.P.D.E.S. permit obtained from the Allegheny County Conservation District.

19. § 215-42.E.23 – The Applicant shall provide final stormwater management calculations and construction drawings for stormwater management facilities as required by § 215-78 of this chapter.

20. § 215-42.E.25 – The Applicant shall provide written evidence that an amenities bond for private improvements, as required by § 215-46 of this chapter, will be submitted at the time of execution of the development agreement.

21. § 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.

22. § 215-53.B – When the developer has completed the required private improvements in an approved land development plan, the developer shall make a request, in writing, to the Township Code Enforcement Officer for a final inspection as a prerequisite to the certificate of completion required by § 215-60 of this chapter. As-built plans shall be provided as per § 215-54.

23. § 215-63 – The Applicant shall provide existing and proposed monuments on the plan for recording. 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.

24. § 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.

25. § 215-65.B.8 – A notation shall be placed on the plat for recording indicating that the Township has no maintenance responsibilities for the private street.

26. § 215-65.B.9 – The plat for recording shall contain a notation and the deeds for each lot shall contain a reference to an executed and recorded agreement obligating the property owners to maintain the private street.

27. § 215-65.B.12 – The owners of the lots shall provide signage approved and installed by the Township in the public right-of-way to indicate the name of the street, that the street is private and that there is no outlet. The Applicant shall label the proposed street signage provided for clarity.

28. § 215-68.C – The Applicant shall provide additional street lights at the intersection of Mayview Road for public safety as Construction Standard § 5.7.7.

29. § 215-74.A.2 – Dead-end streets shall not be permitted, unless the requirements of Subsection E or F are met.

30. § 215-74.E – 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. A cul-de-sac shall have a minimum right-of-way radius and an outer minimum paving radius as specified in the Design Standards. The maximum grade of the turnaround portion of the cul-de-sac shall be 5%. A modification has been requested for this section.

Chapter 215-78 - Stormwater Management Comments

1. A complete review of this chapter will be completed once a report with calculations is received. All applicable requirements of § 215-78.D.1.c.3 shall be reflected on the plans and report.

2. It is recommended that the infiltration basin access roads be adjusted so that access is directly from the private street and that SCM's requiring maintenance are not covered by the access road.

3. Detail #1 on Sheet PCSM2 shall be expanded to include the equalization tanks and both sides of the basin.

4. Detail #2 on Sheet PCSM2 shall be expanded to include the 3" x 38" orifice on the elevation view.

5. The PCSM easement shall be increased to include the access roads.

6. No catch basins shall be placed where a driveway intersects a street as per § 5.2.1.2 of the Township Construction Standards.

7. § 215-78.C.5.c.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). A modification has been requested for this section.

8. § 215-78.D.1.c.3.f – The Applicant shall provide an expected project time schedule.

9. § 215-78.E.3.f – Facilities shall be equipped with an access road at least 10 feet wide and with a maximum grade of 15% that extends to the bottom of the detention facility. Access roads greater than 12% grade must be paved. Access roads 12% or less shall have a minimum six-inch depth of non-eroding aggregate surface. A gate with a minimum opening of 10 feet shall be provided for maintenance access. An access easement with a minimum width of 20 feet to all stormwater detention facilities shall be provided. The access easement shall include a statement on the recorded plan from the owner/operator of the facility granting access to the municipality.

10. § 215-78.E.3.g – All stormwater facility outlet structures shall have suitable gaskets to prevent leakage and piping of water through the facility embankment. All storm pipes installed through the facility embankment must be constructed of reinforced concrete pipe. Use of high-performance polypropylene pipe may be permitted with documentation of pipe manufacturer's backfill requirements.

11. § 215-78.E.3.h – A geotechnical investigation report for the construction of the stormwater detention/retention and infiltration facilities must be provided including design recommendation for embankment construction, interior and exterior slopes, drainage swales and infiltration areas.

12. § 215-78.E.3.i – Basin outlet structures shall have nonclogging trash racks over all design openings. Periodic cleaning of debris from trash racks shall be included in the operation and maintenance plan. The Applicant shall ensure each applicable orifice is labeled on the details as needing a trash rack and that the trash rack detail reflects appropriate dimensions.

13. § 215-78.H.2.c – Roof drains shall be a minimum of six inches in diameter and provide cleanouts at 50 feet intervals or at horizontal and vertical changes. The approximate roof drains locations and tie-ins shall be provided on the plans.

Chapter 240 - Zoning Comments

1. § 240-76.20.L – Maximum building height shall be added to the zoning requirements table.

2. § 240-76.23 – The Applicant shall identify if any of the non-building parcels shall be reserved for open space.

3. § 240-76.24.2.b – Alleys are permitted in this district but must be constructed in accordance with the standards for local streets. The Applicant shall revise the alley paving detail on Sheet C601 to be of the same thicknesses as the private street 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.

COUNTY OF ALLEGHENY
SARA INNAMORATO
COUNTY EXECUTIVE

March 17, 2026

Gary Hartz
Planning Manager
South Fayette Township
100 Township Drive
South Fayette, PA 15017

Project:	**Charter Homes at Hastings Plan Phase 5**
Location:	800 Millers Run Road Cecil, PA 15321
Description:	Major Subdivision
Area:	6.182 acres
ACED File#:	26-046 SU

Dear Mr. Hartz,

We received the above-referenced application on February 17, 2026, for a subdivision of parcel ID #571-A-10 into 25 lots on Mayview Road in the Township of South Fayette. We reviewed the application, and we offer the following comments:

- Areal footage shows an access road from this property onto the neighboring parcel 571-B-8. That road has not been drawn on the plans submitted implying that it will be removed. It is recommended that the road remains, at minimum for emergency access, to act as another access point for the property.
    - If an access easement doesn't already exist, one should be created and referenced on the plan.
- There is an unlabeled seal space, most likely reserved for the township. It is recommended that it be labeled to prevent confusion during signing.

The section below references the Allegheny County Subdivision and Land Development Ordinance:

- Appendix 2.1. To ensure that the owner is aware that the recording of this plat does not change the ownership of the property and that they will need to record a deed, a "Deed Required Notification Clause" should be added to the plans, and the owner must sign it. Please see the attached handout which explains this in greater detail and has the proposed language for the clause.

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

- Appendix 2.7. The landowner's name must be cited exactly as it appears in the deed to the property. Currently the name on the plan, "The Charter Homes at Hastings, Inc.", is inconsistent with the name on the deed "Hastings Properties II, LP". If the company has changed names, then both names must be listed on the plan (A/K/A). If the properties have changed ownership, then the deed must be updated to reflect that change.

The section below references the South Fayette Township Subdivision and Land Development Ordinance:

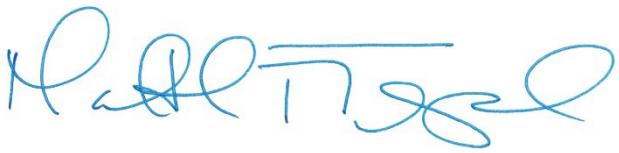
- §215-26.H.(7). A legend was not included in the plans submitted.
- §215-23.H.(21). Front building lines were not included in the plans submitted.
- §215-23.H.(23). An area tabulation table was not included in the plans submitted.
- §215-23.H.(24). A zoning information table was not included in the plans submitted.
- §215-23.F.(7). The areas of the proposed lots were not provided.
- §215-23.F.(20). Monuments, and whether they were found or set, were not included in the plans submitted.

The section below references the South Fayette Township Zoning Ordinance:

- §240-76.20. Given the lack of information provided it is hard to determine whether the design standards provided in this section have been met.
- §240-76.23. Is the residual Parcel A intended to be reserved for common open space?

Should you have any questions, please contact Nicolas Binfield at (412) 350-3719 or at nicolas.binfield@alleghenycounty.us.

Sincerely,



Matthew T. Trepal, AICP
Manager, Planning Division

MTT:ngb

DEED REQUIRED NOTIFICATION CLAUSE

Recording a plan of subdivision alone does not change the ownership of the property. After a plan of subdivision has been recorded, a deed must also be recorded in order to transfer the title of the property from one landowner to another. If the deed and plan are recorded in the same year, the revaluation of the property will be completed, and the tax bills adjusted accordingly by the following year.

To ensure that the owners of property in a plan of subdivision are aware of the requirements regarding deeds, the following notification must be provided on all subdivision record plans and signed by all parties who are identified on the plan as a landowner:

I/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 Owner

Contact Information

Allegheny County Economic Development
Attn: Planning Manager
Koppers Building
436 Seventh Avenue, Suite 500
Pittsburgh, PA 15219
Phone: 412-350-1030

SOUTH FAYETTE TOWNSHIP

A Community Growing Together

Review Referral

www.southfayettepa.com

Plan Name: **Hastings Phase 5**	Plan File Number: **F-01-2026**
Location: **571-A-10 (Mayview Road)**	Application Type: **Subdivision/Land Development**
Zoning: **ND – Neighborhood Design**	Applicant: **Hastings Properties**

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

	Code Enf.	Public Works	wWorks 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, 100 Township Drive, South Fayette, PA, 15017 or by calling (412) 221-8700.

Gary Hartz, Planning Director

02/13/2024
Date

Agency Comments: MATSF- Please see attached letter from KLH.

Nick Goettman
Agency Signature

2/27/26
Date

KLH ENGINEERS, INC

February 26, 2026
Ref. No. 217-03-071

Mr. David M. Heath, P.E.
The Gateway Engineers, Inc.
100 McMorris Road
Pittsburgh, PA 15205

Dear Mr. Heath:

Municipal Authority of the Township of South Fayette
Hastings Phase 5
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 Hastings Phase 5. The plans are dated February 2026. The plans were prepared by The Gateway Engineers, Inc. and received by our office on February 17, 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. This requirement is specifically noted on Drawings C300, C340, and C341.

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. The Developer shall obtain and provide easements for the proposed sanitary sewers on all impacted private properties where MATSF will take ownership of the sewers. All easements shall include acceptable exhibits and shall be reviewed and approved by MATSF and its solicitor prior to recording at the Allegheny County Recorder of Deeds office.

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. On the List of Utilities on Drawing C000, update MATSF's address to 700 Holland Street.

8. Due to the fill proposed over the existing 18" TCP sewer from Existing MH1 to Existing MH6, and based upon preliminary discussions between MATSF and the developer, the existing 18" TCP sewers are to be lined in these segments at the expense of the developer and in accordance with MATSF requirements. MATSF records indicate the sewer between Existing MH6 and Existing MH7 under the railroad is ductile iron and will not be required to be lined. MATSF requests that the developer responds in writing to acknowledge the proposed CIPP lining requirement. Lining shall occur prior to placement of fill in these areas.

9. We do not agree with the proposed MH508 tying into the existing 18" TCP sewer between Existing MH5 and Existing MH6. See attached recommended revision. Units 607 and 608 can then tie into the proposed sewers rather than the existing 18" TCP. This will eliminate the deep excavation and should result in savings for the developer. An inside drop connection will be required at Existing MH6.

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

11. All sanitary sewers must be designed to serve basement levels without pumping unless specifically authorized by both MATSF and Allegheny County Health Department (ACHD) Plumbing Division. Any proposed building that requires pumping for sanitary sewage must be clearly called out on design drawings during the municipal review process with justification as to why gravity flow is not reasonably feasible. The design engineer shall certify that no pumping is required. It is strongly recommended that the proposed utility plans be provided to the ACHD Plumbing Division for comments as they have primary jurisdiction for all sanitary sewers that will not be ultimately conveyed to MATSF.

12. 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.

13. Sanitary sewer pipes located in fill areas require at least 95% compaction density and evidence of test results per MATSF specifications. This requirement is specifically noted on Drawings C300, C340, and C341.

14. 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 plan and 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.

15. 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.

16. 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. This requirement is specifically noted on Drawings C300, C340, and C341.

17. Proposed sanitary service lateral wye stations based on stationing as measured from the downstream manhole are shown on the profile drawings.

18. A final “Issued for Construction” set of plans shall be provided to MATSF.

19. 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.

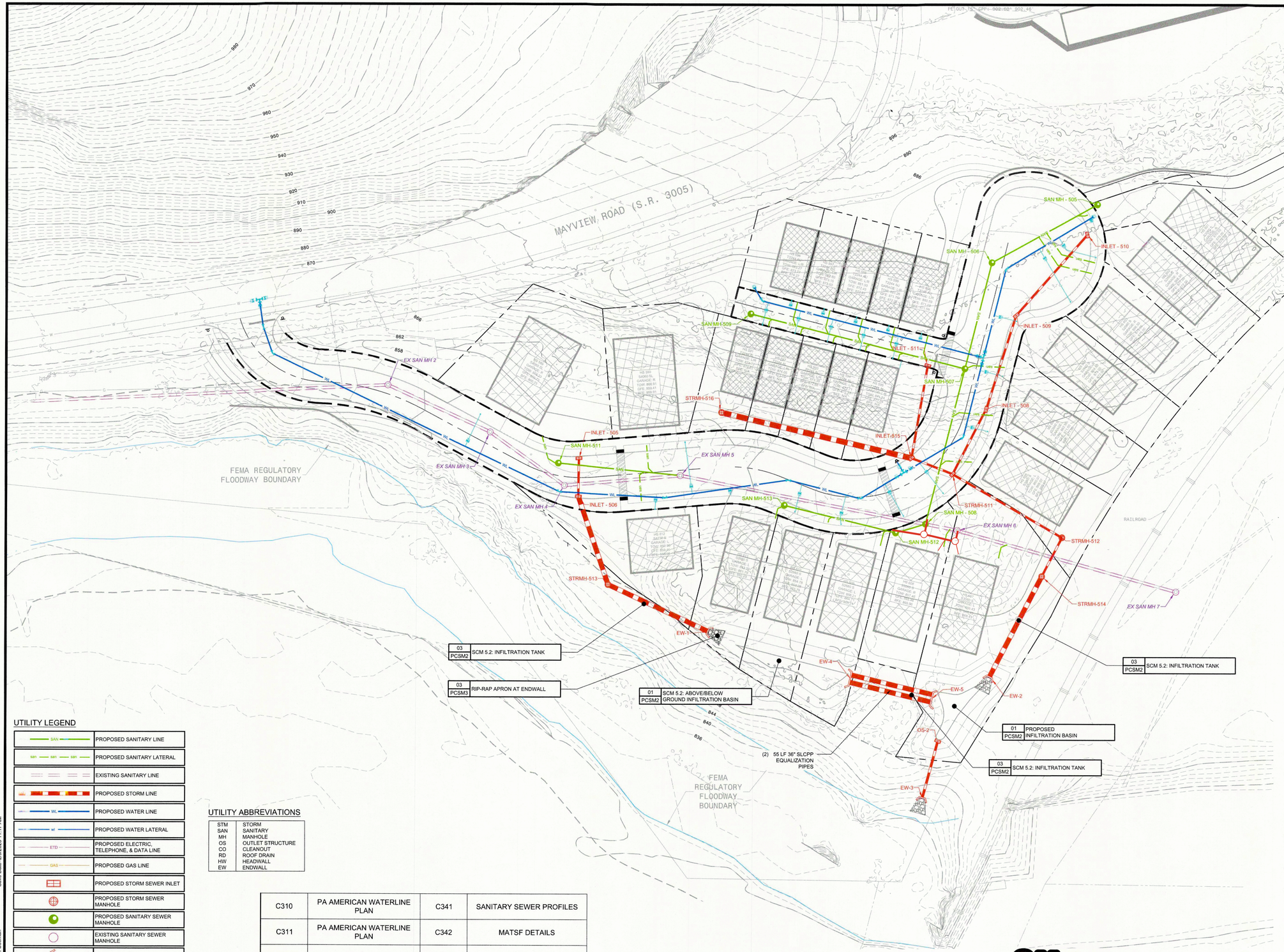
Very truly yours,

KLH ENGINEERS, INC.

Samuel R. Gibson, P.E.
Vice President

Enclosures

cc: Nick Goettman, Operations Manager, MATSF



UTILITY LEGEND

SAN	PROPOSED SANITARY LINE
SBTL SBTL SBTL	PROPOSED SANITARY LATERAL
	EXISTING SANITARY LINE
STM	PROPOSED STORM LINE
WL	PROPOSED WATER LINE
W	PROPOSED WATER LATERAL
ETD	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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NORTH

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

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A FULL-SERVICE CIVIL ENGINEERING FIRM
300 KEYSTONE POINTE, SUITE 400 | PITTSBURGH, PA 15238 | (412) 963-6804

REVISION RECORD

No	Date
##	#####
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HASTINGS
South Fayette Township/Pittsburgh, PA
CHARTER HOMES & NEIGHBORHOODS

HASTINGS PHASE 5
PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

UTILITY PLAN

Project Number: 18927-0096
Drawing Scale: 1" = 30'
Date Issued: FEB 2026
Index Number: --
Drawn By: CRS
Checked By: DMH
Project Manager: ###

C300

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Plot Date=2/9/2026 11:17 AM
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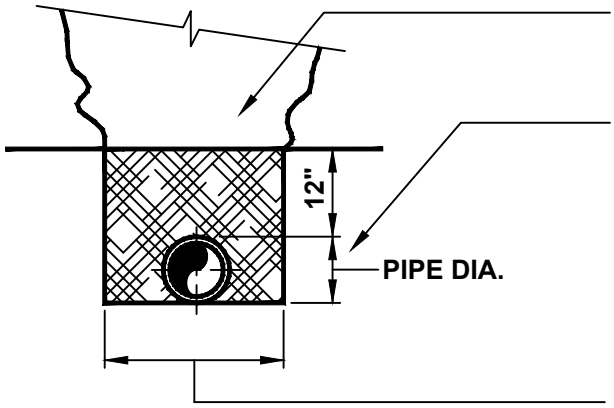
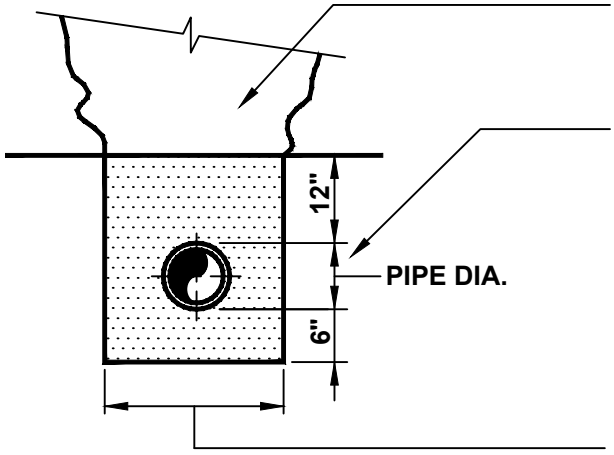


MECHANICALLY COMPACTED BACKFILL MATERIAL IN ACCORDANCE WITH MATSF CONSTRUCTION SPECIFICATIONS

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

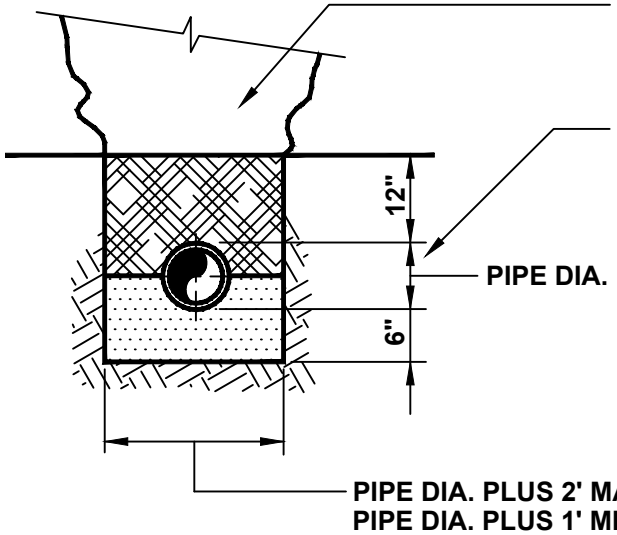


MECHANICALLY COMPACTED BACKFILL MATERIAL IN ACCORDANCE WITH MATSF CONSTRUCTION SPECIFICATIONS

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

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

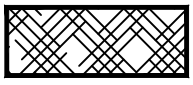
DETAIL B



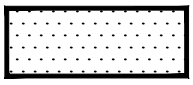
MECHANICALLY COMPACTED BACKFILL MATERIAL IN ACCORDANCE WITH THE MATSF CONSTRUCTION SPECIFICATIONS

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

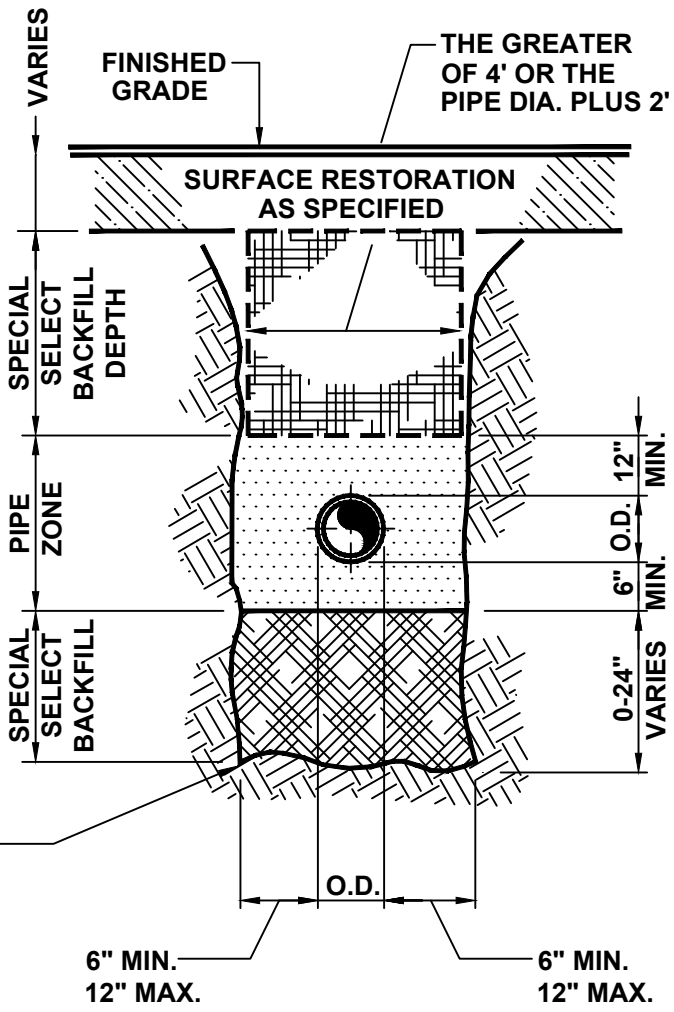
NOTE:

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"

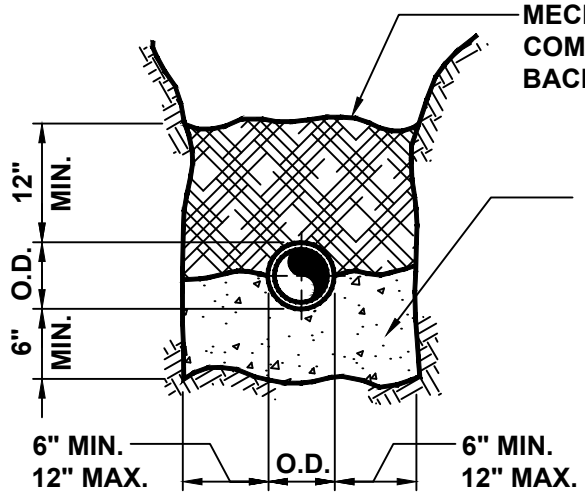
2B CRUSHED STONE OR CRUSHED GRAVEL

CLASS "C" CONCRETE OR BETTER

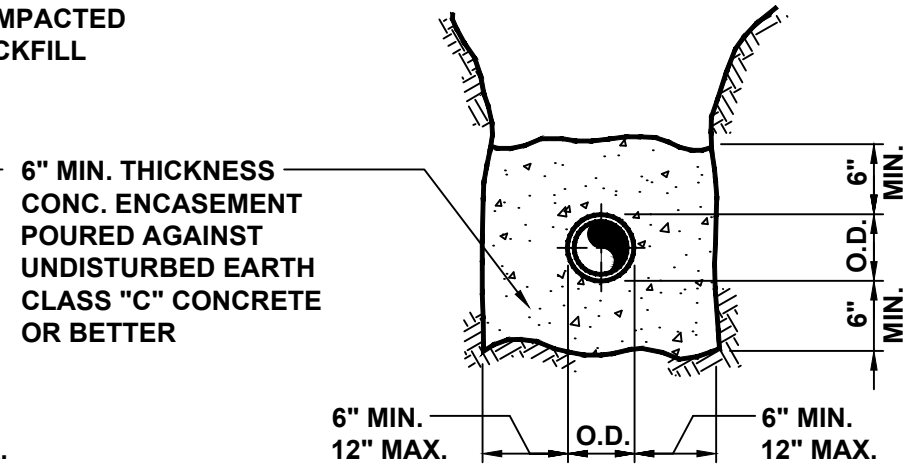


WHERE EXCAVATION EXPOSES THE BOTTOM OF PROPOSED TRENCHES WHERE VERY SOFT OR OTHER UNSTABLE PIPE FOUNDATION MATERIALS EXIST, THE CONTRACTOR WILL BE DIRECTED TO OVERCUT OR STABILIZE / OVERCUT AND REPLACE WITH R4 RIP RAP CHOCKED WITH AASHTO #57 STONE. THE CONTRACTOR SHALL BE COMPENSATED FOR THE ADDITIONAL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

SPECIAL BACKFILL DETAIL A

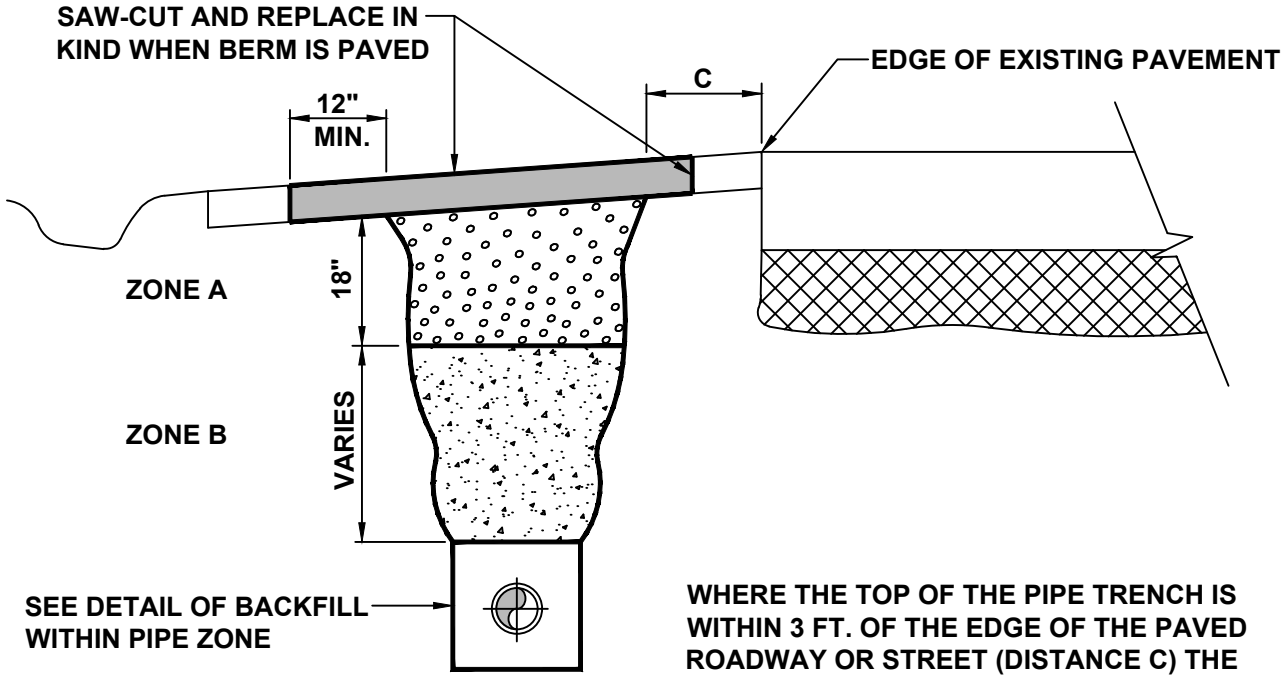


TYPICAL CONCRETE CRADLE DETAIL B



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

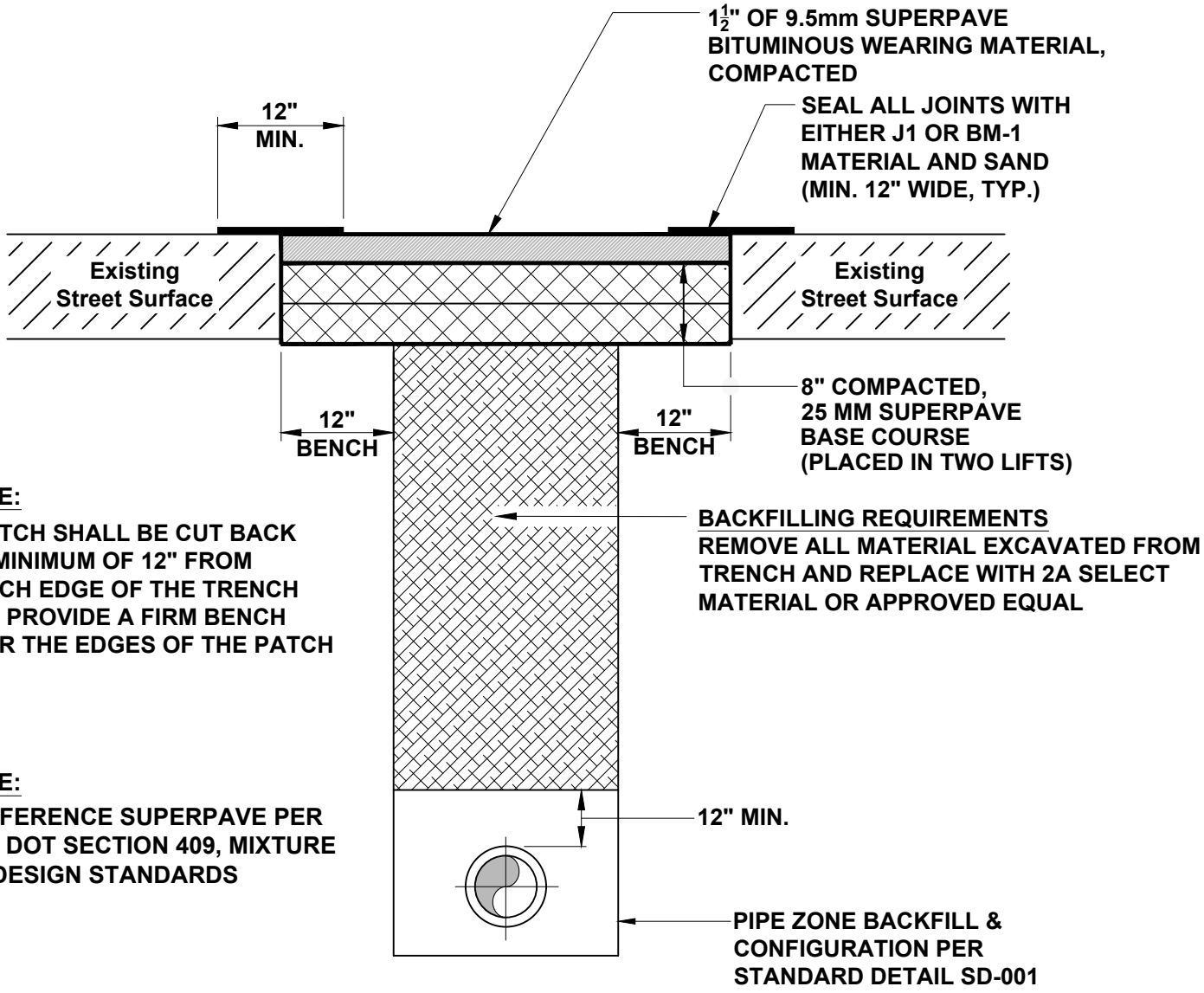


WHERE THE TOP OF THE PIPE TRENCH IS WITHIN 3 FT. OF THE EDGE OF THE PAVED ROADWAY OR STREET (DISTANCE C) THE ENTIRE TRENCH BACKFILL ABOVE THE PIPE ZONE, THAT IS THE BACKFILL PLACED IN ZONES A AND B SHALL CONSIST OF 2-A LIMESTONE MATERIAL MECHANICALLY COMPACTED IN 6" LAYERS.

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

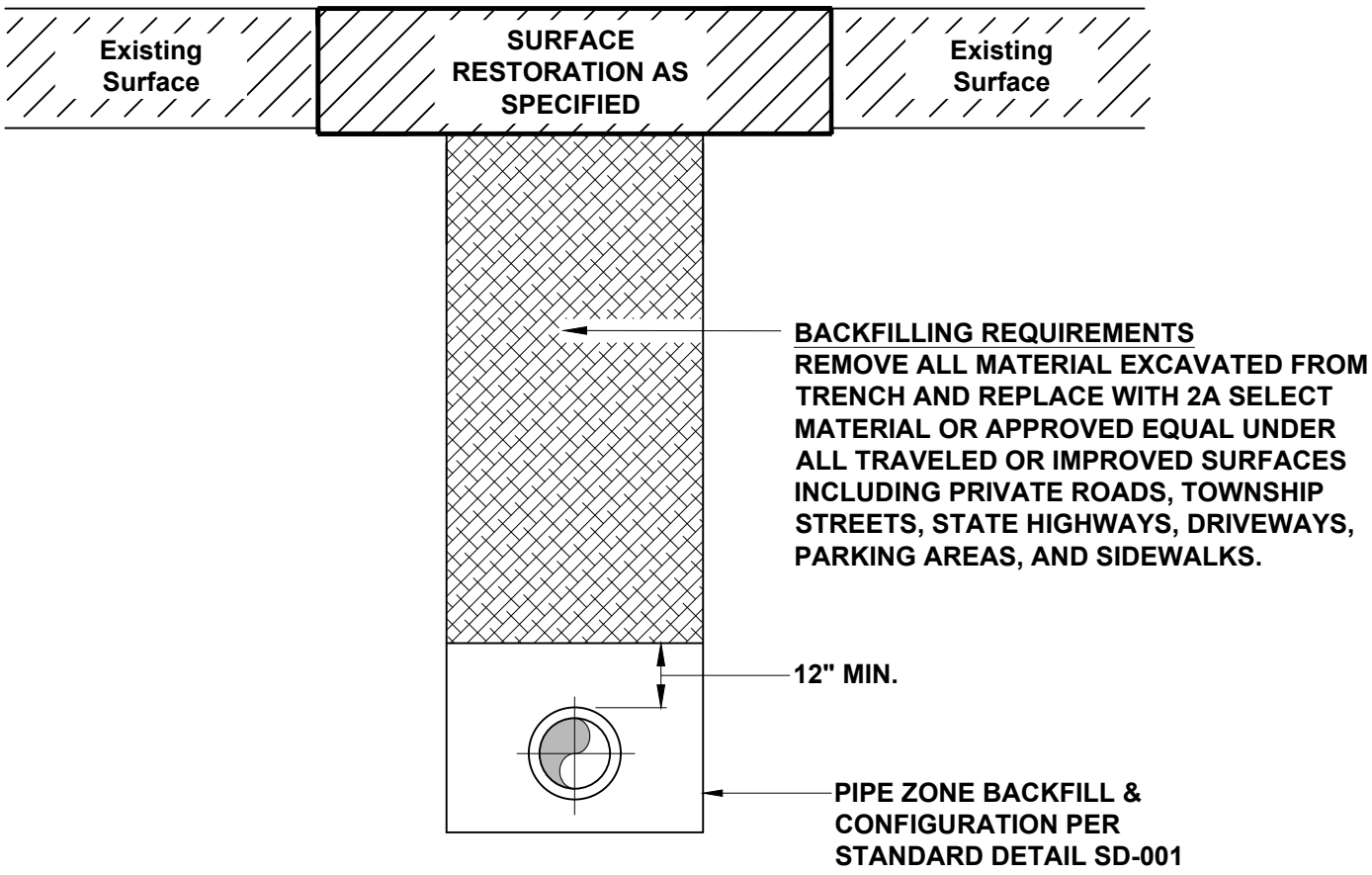
NOTE:

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

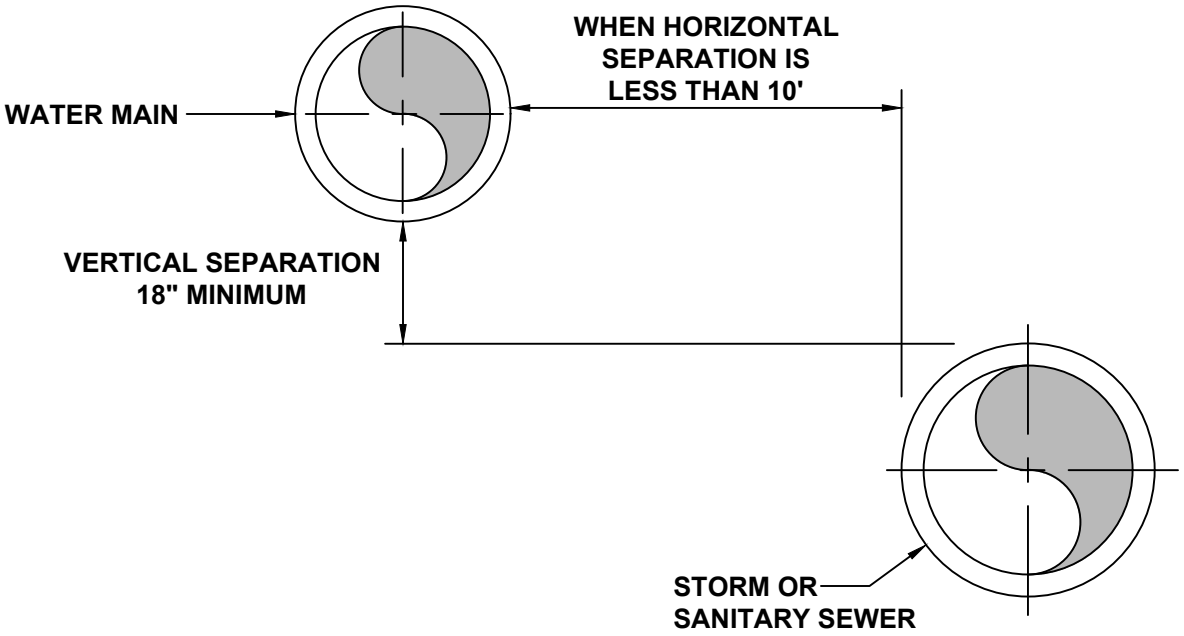
NOTE:

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



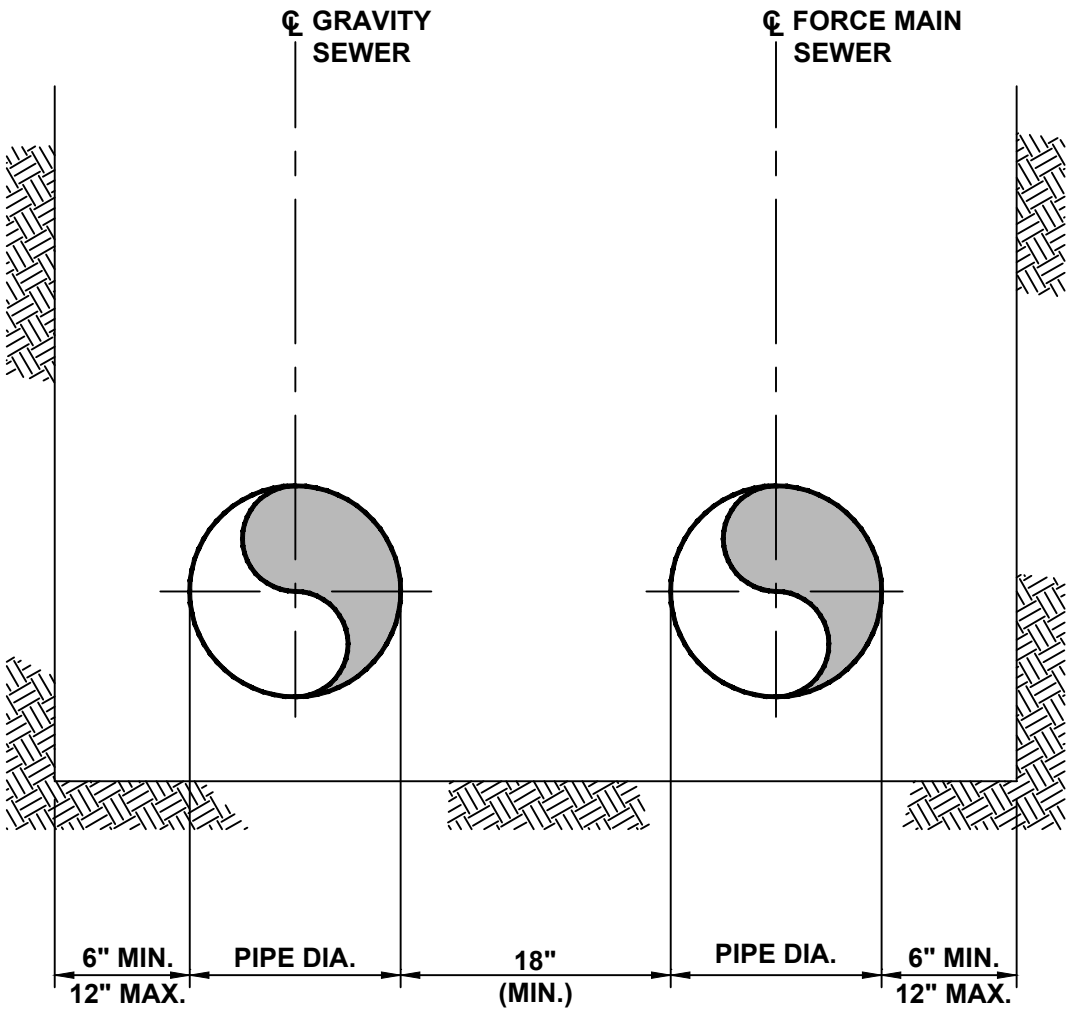
NOTES:

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.

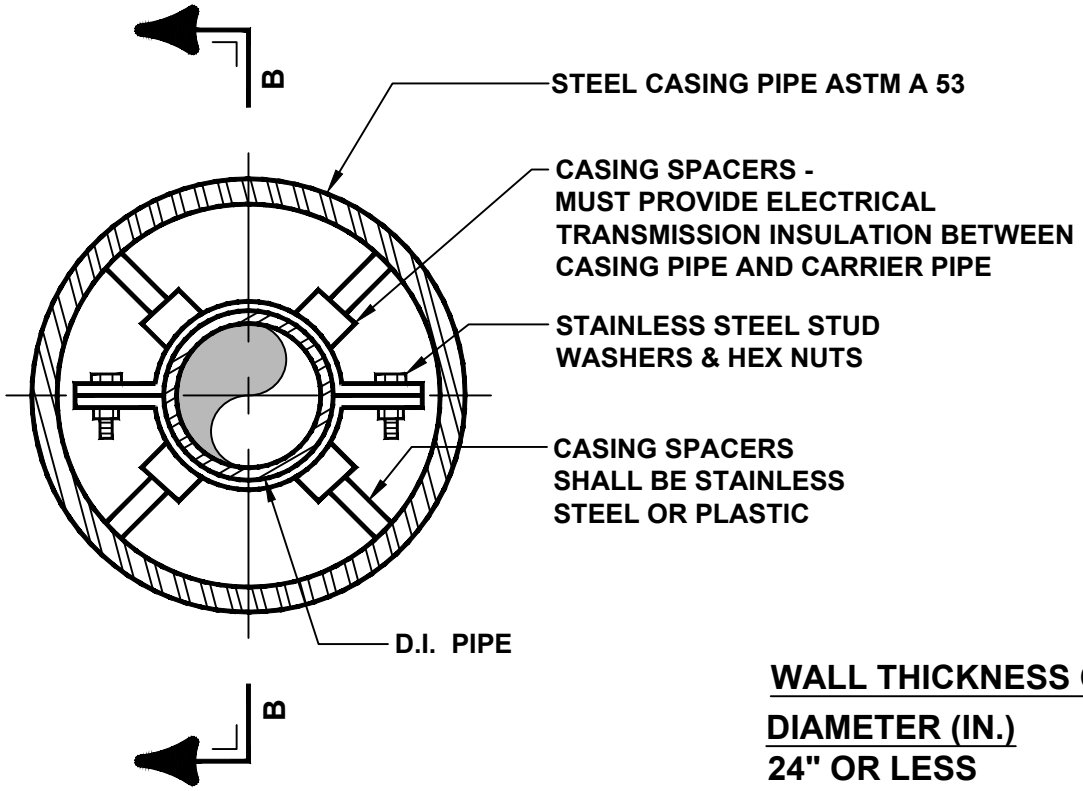
Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		**DESIRED DISTANCES BETWEEN WATER AND SEWER PIPES**
Not to scale	**February 2025**	**Standard Detail SD-006**

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



NOTE:
FORCE MAIN TO BE INSTALLED ON RISING GRADIENT

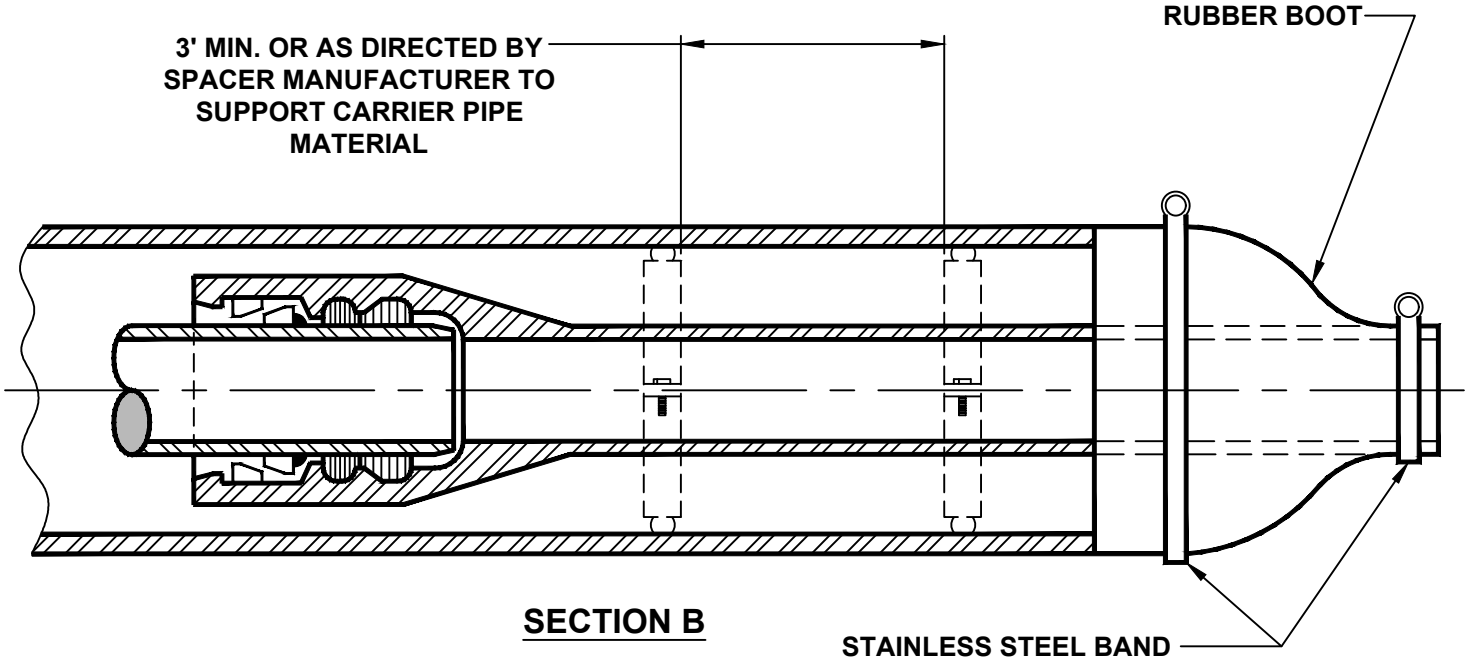
Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		GRAVITY SEWER AND FORCE MAIN CONSTRUCTED PARALLEL IN COMMON TRENCH
Not to scale	February 2025	Standard Detail SD-007



SECTIONAL PLAN A

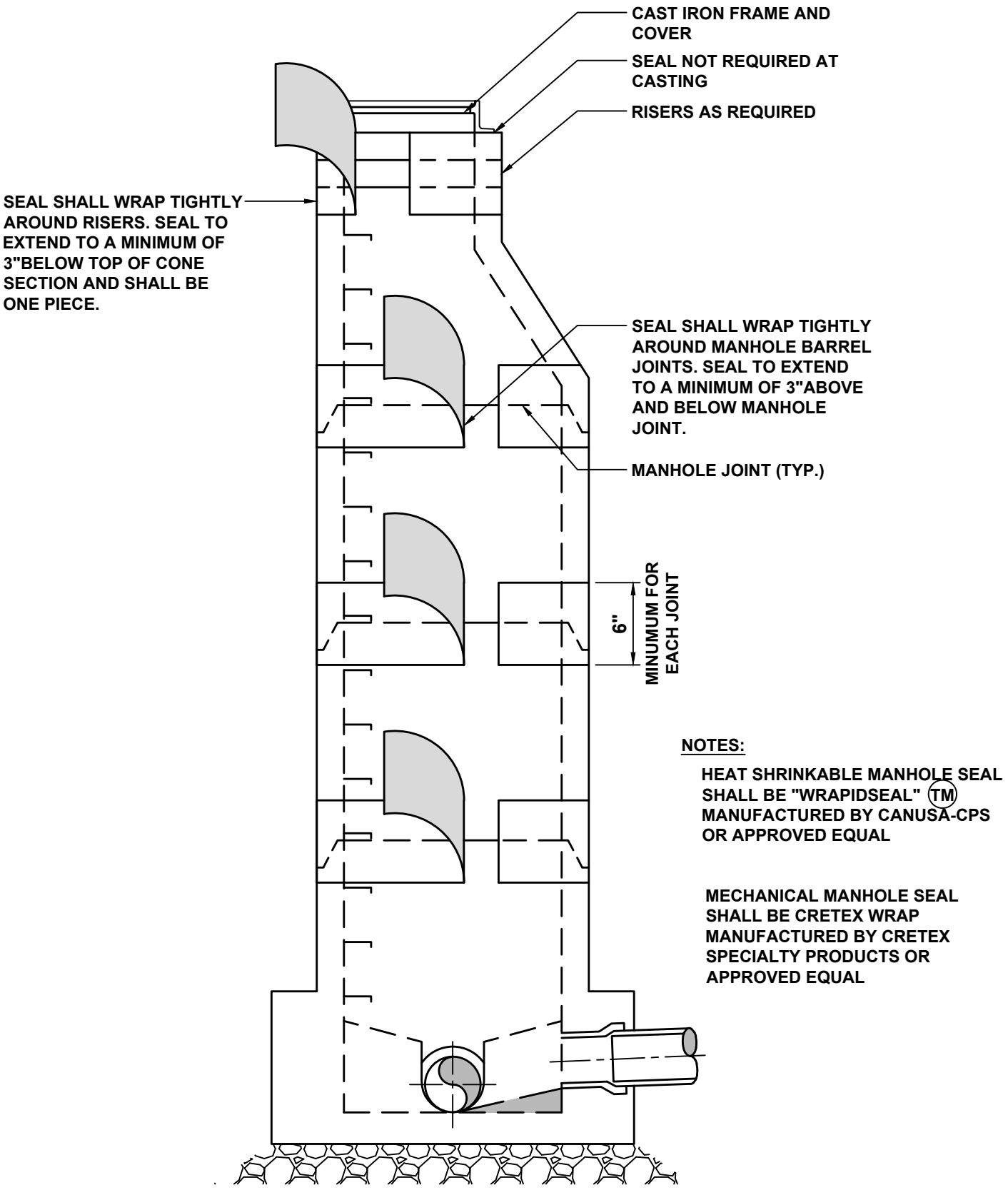
WALL THICKNESS OF CASING PIPE

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

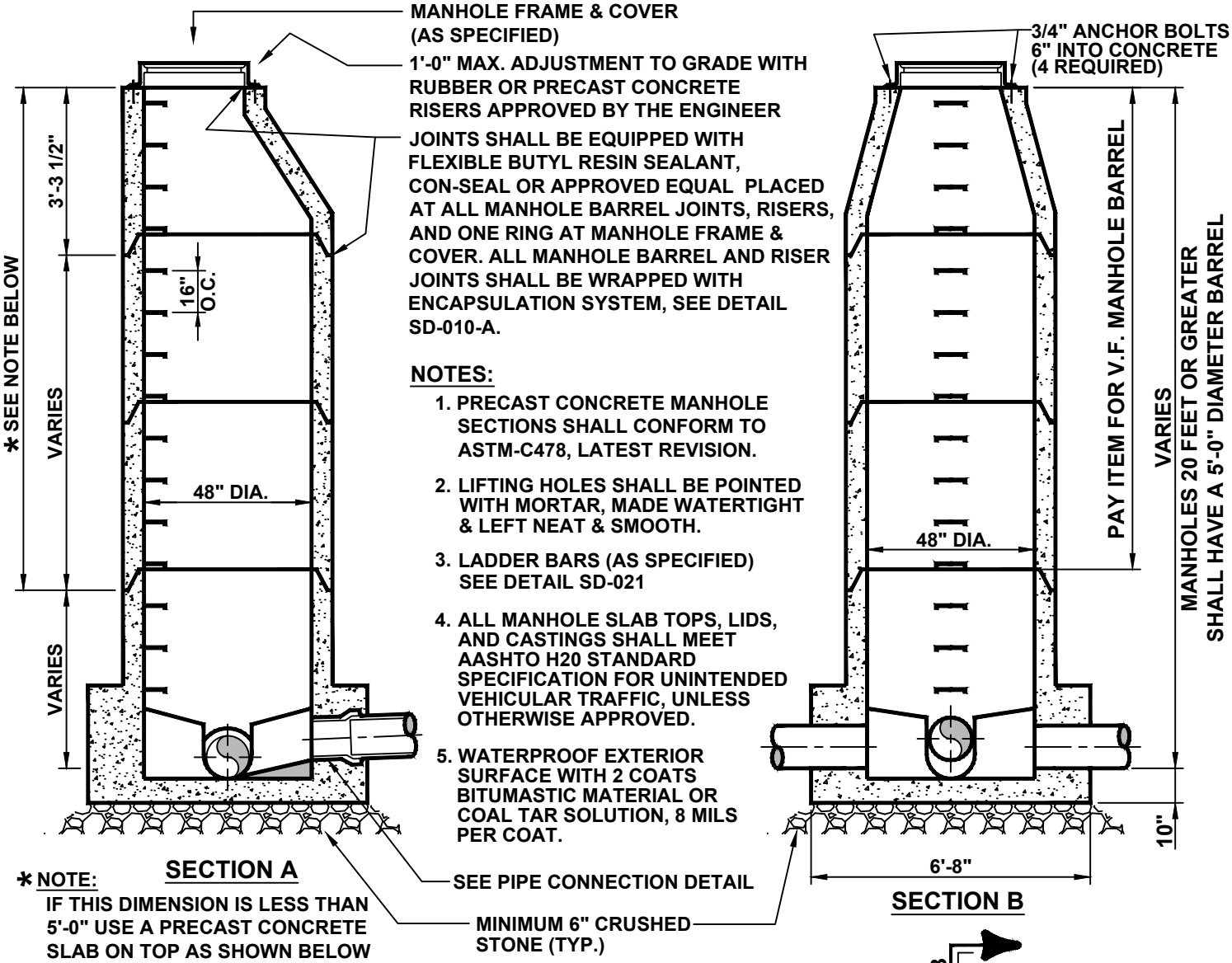


SECTION B

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



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



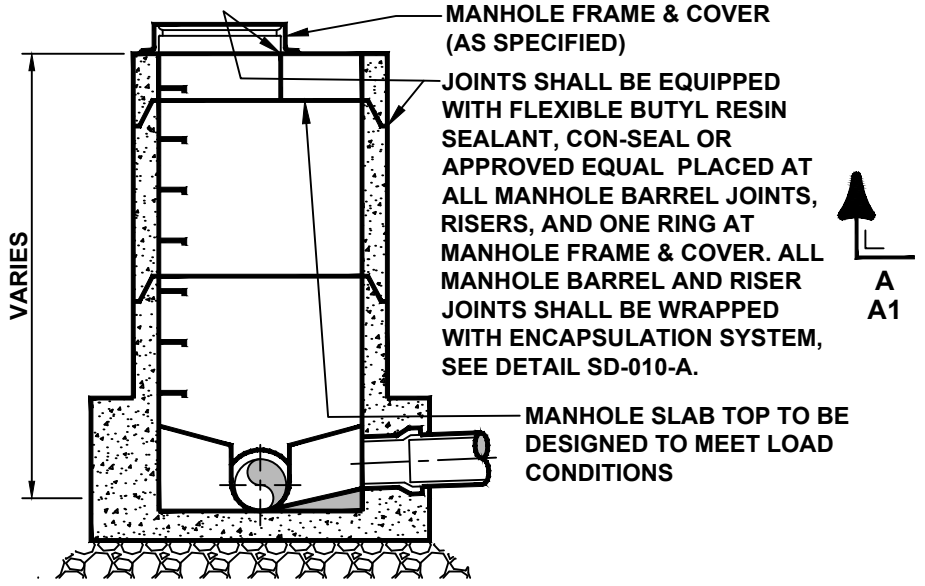
NOTES:

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.

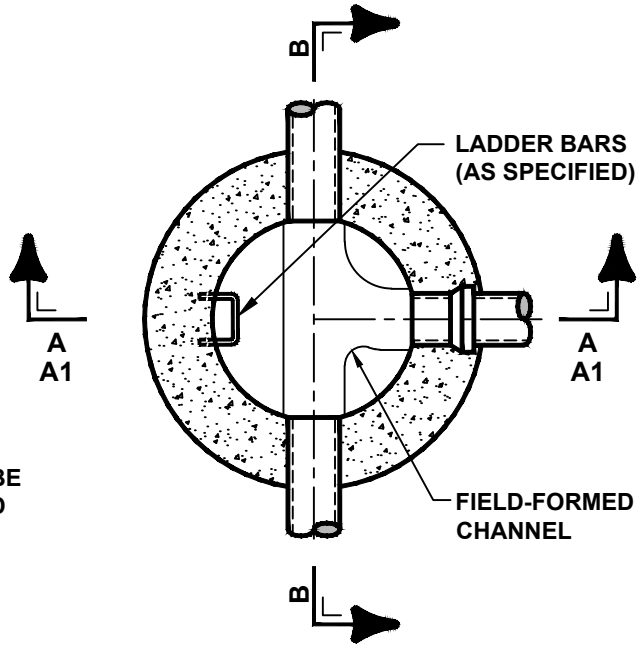
SECTION A

SECTION B

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

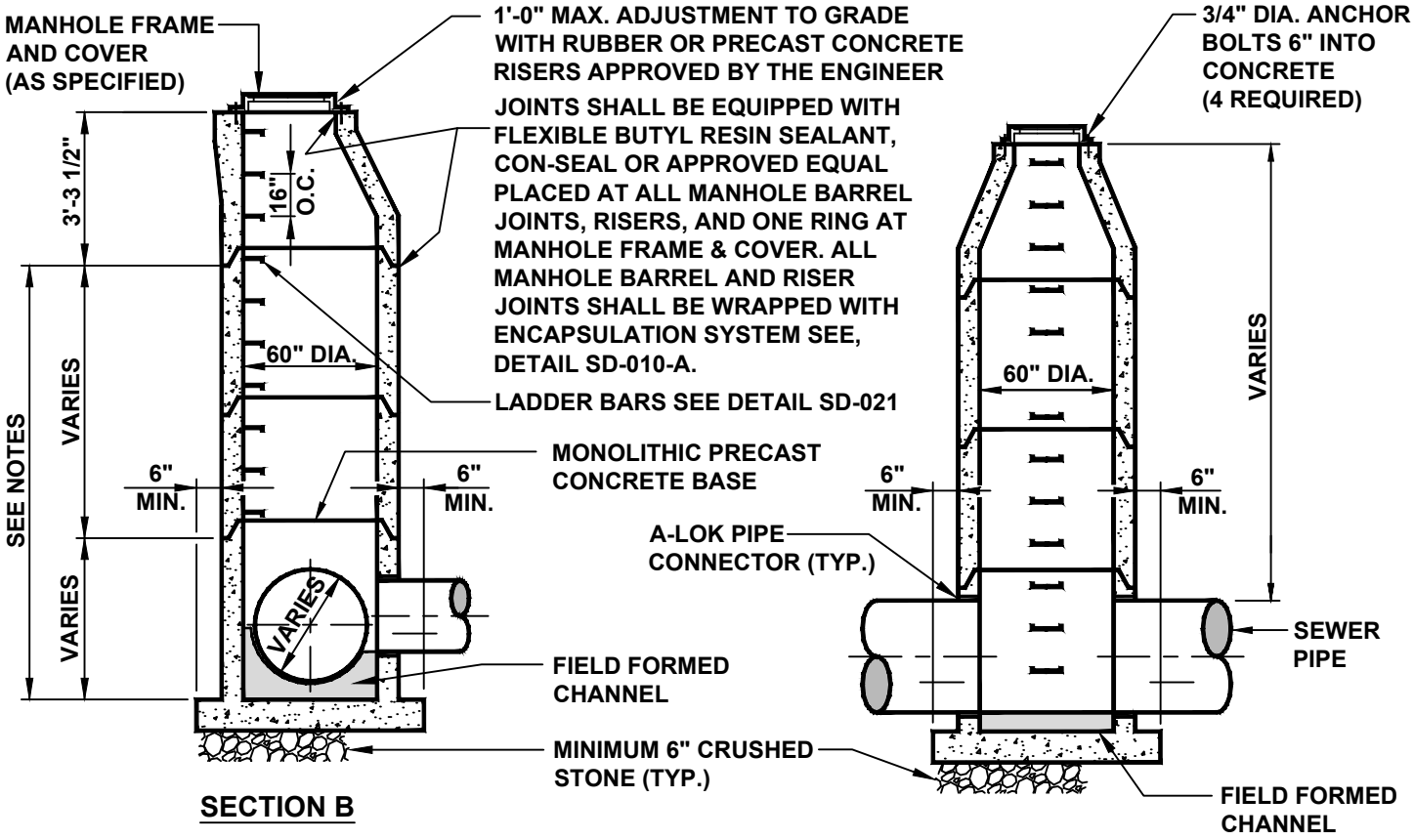


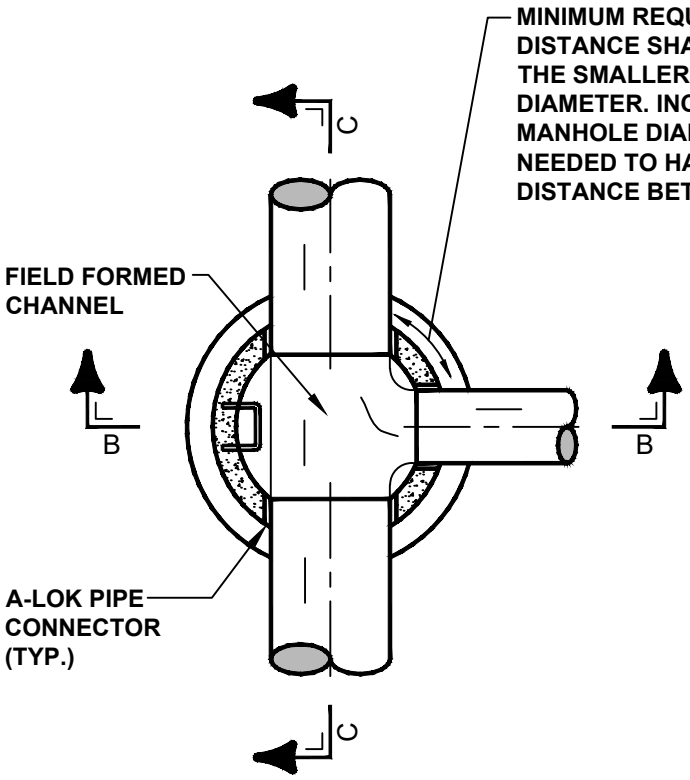
SECTION A1



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**

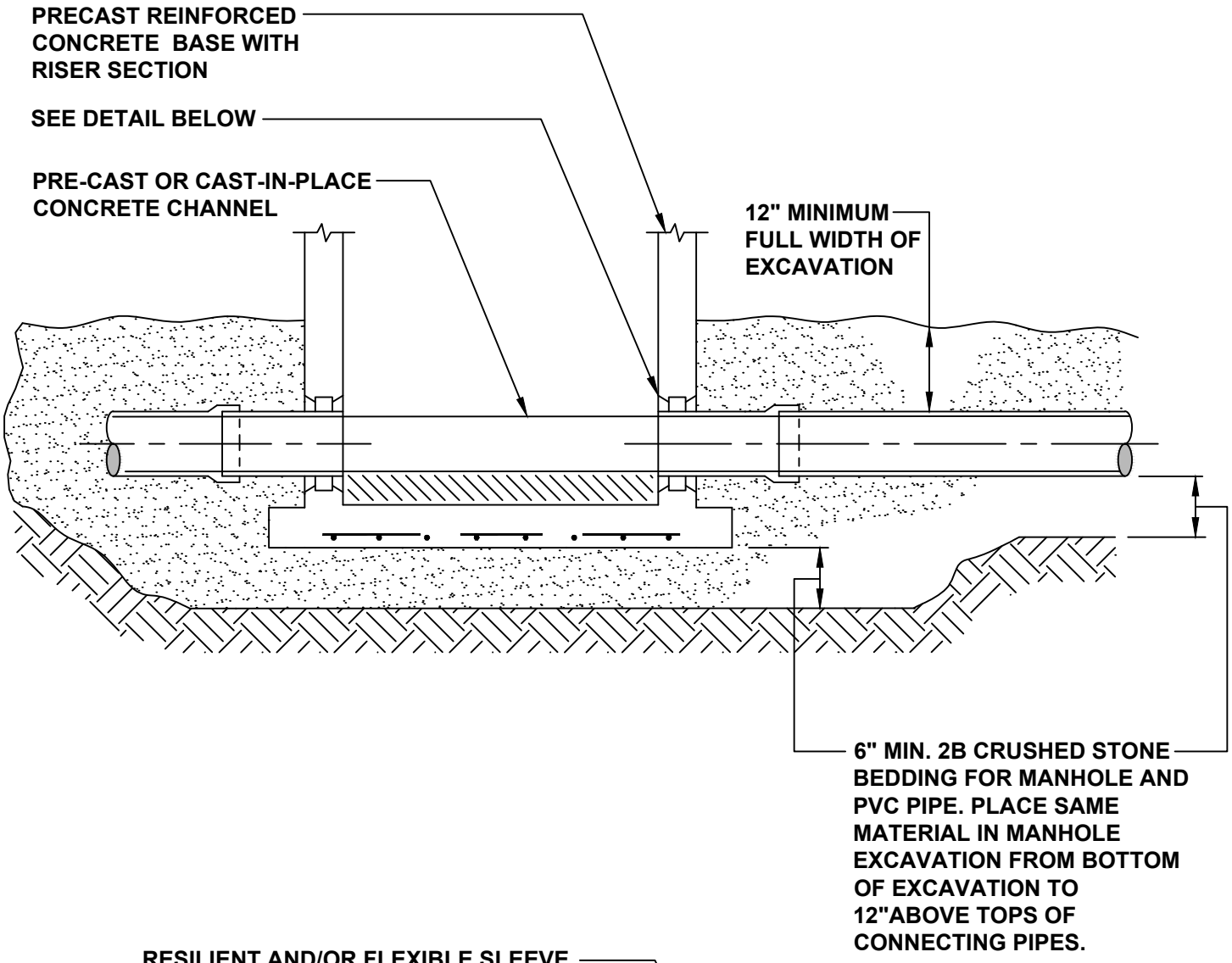


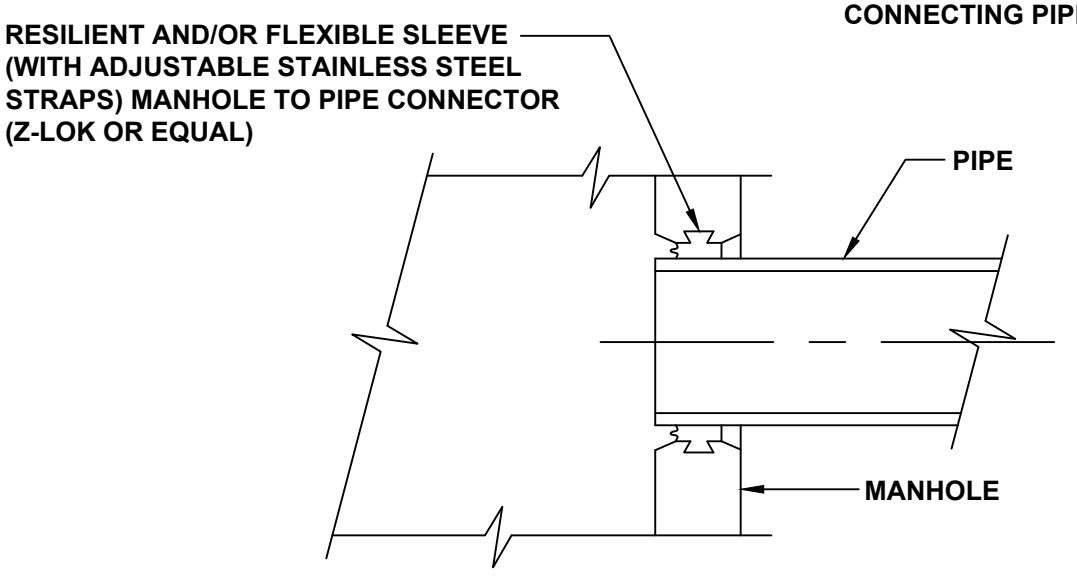


NOTES:

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

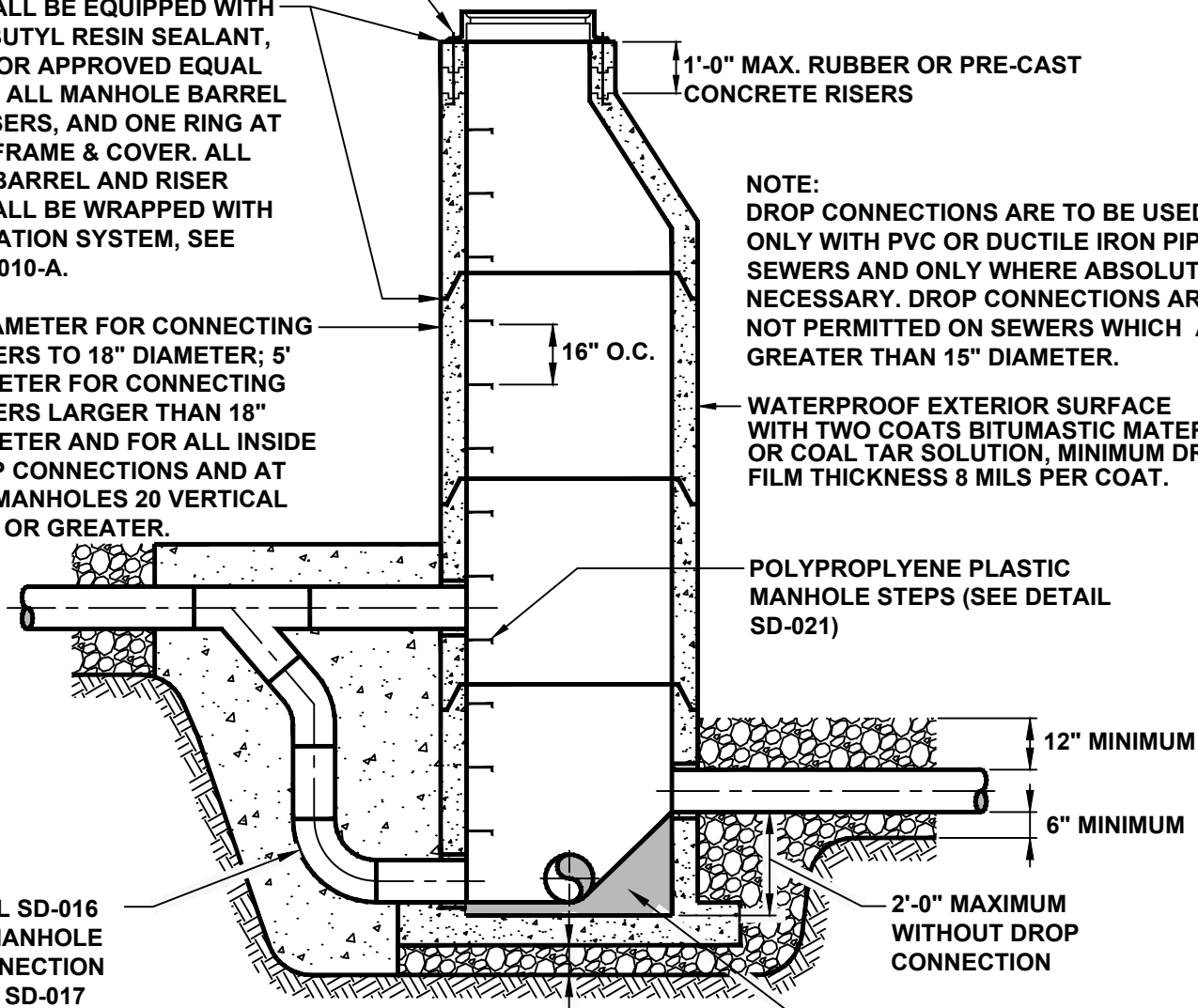
MANHOLE BARREL SHALL BE PRE-CAST CONCRETE ASTM C478 OR GLASS FIBER REINFORCED ASTM D3753. FOR CONNECTING PIPES 18" DIAMETER OR LESS, THE MANHOLE BARREL SHALL BE 4' DIAMETER; WHERE THERE ARE LARGER CONNECTING PIPES OR MORE THAN ONE INSIDE DROP CONNECTIONS, THE DIAMETER SHALL BE 5'.

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.

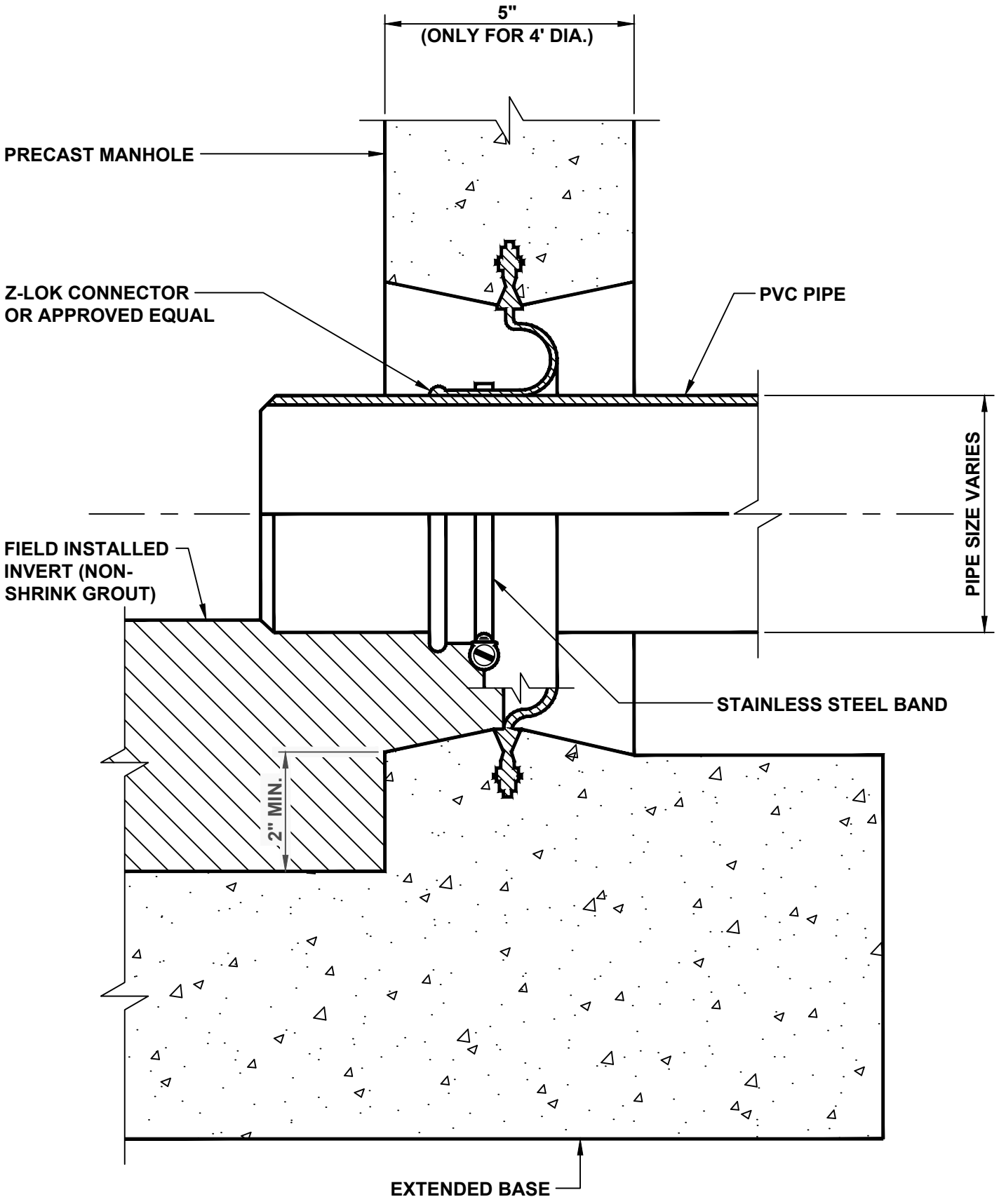
POLYPROPLYENE PLASTIC MANHOLE STEPS (SEE DETAIL SD-021)

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

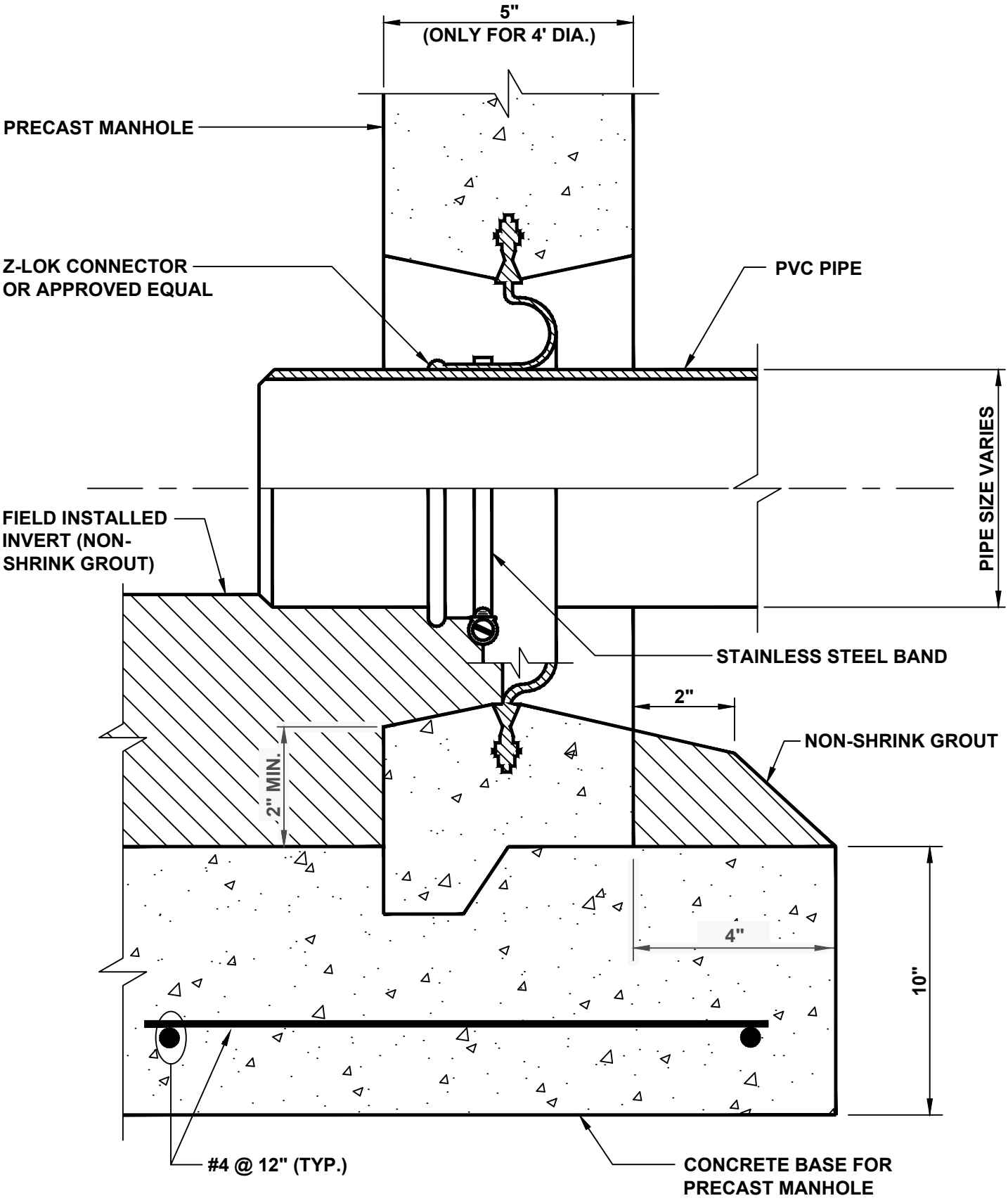
6" MINIMUM 2B CRUSHED STONE OR CRUSHED GRAVEL

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.

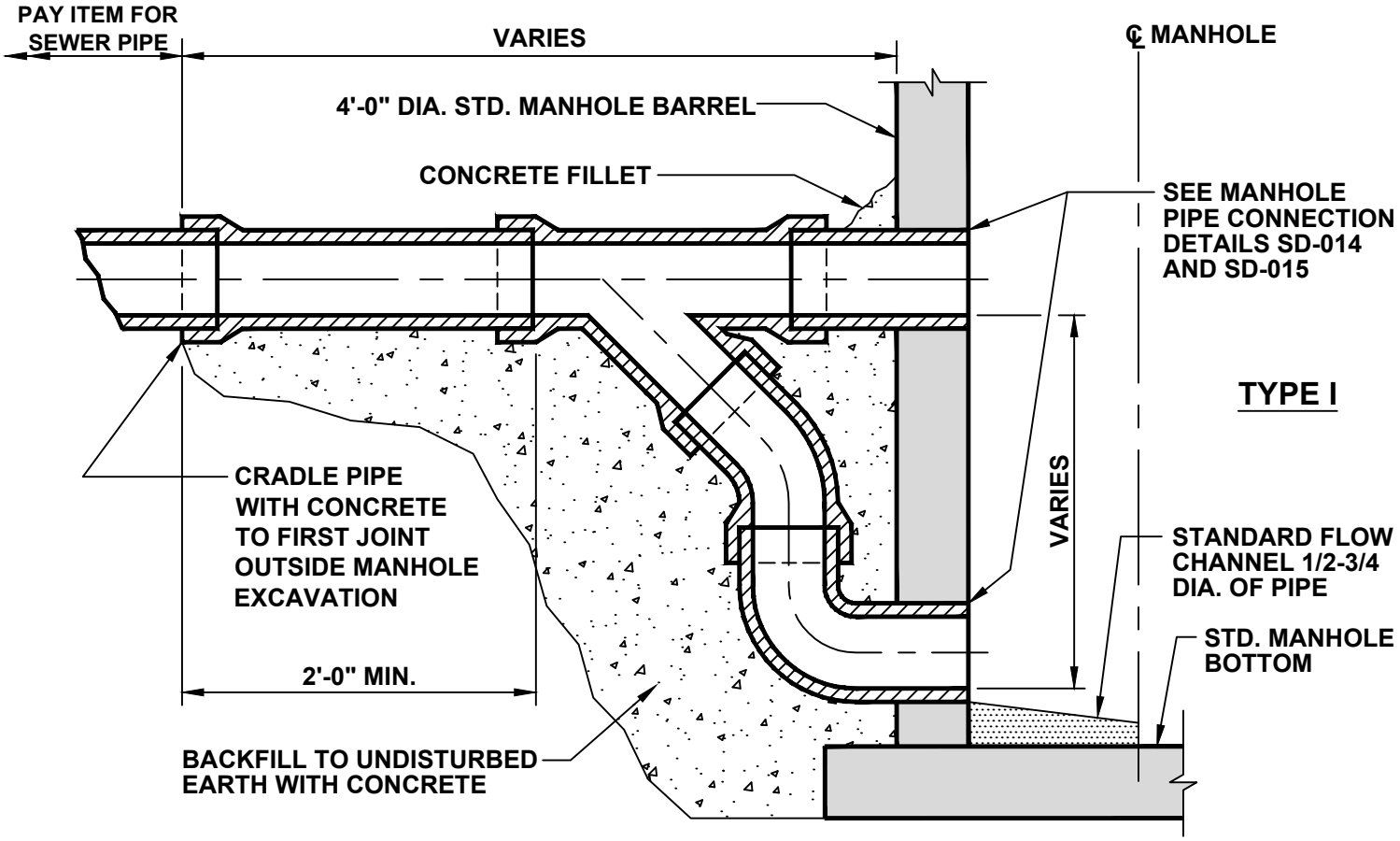
Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		MANHOLE FOR SEWERS FOR DEPTHS GREATER THAN 5 FEET
Not to scale	February 2025	Standard Detail SD-013

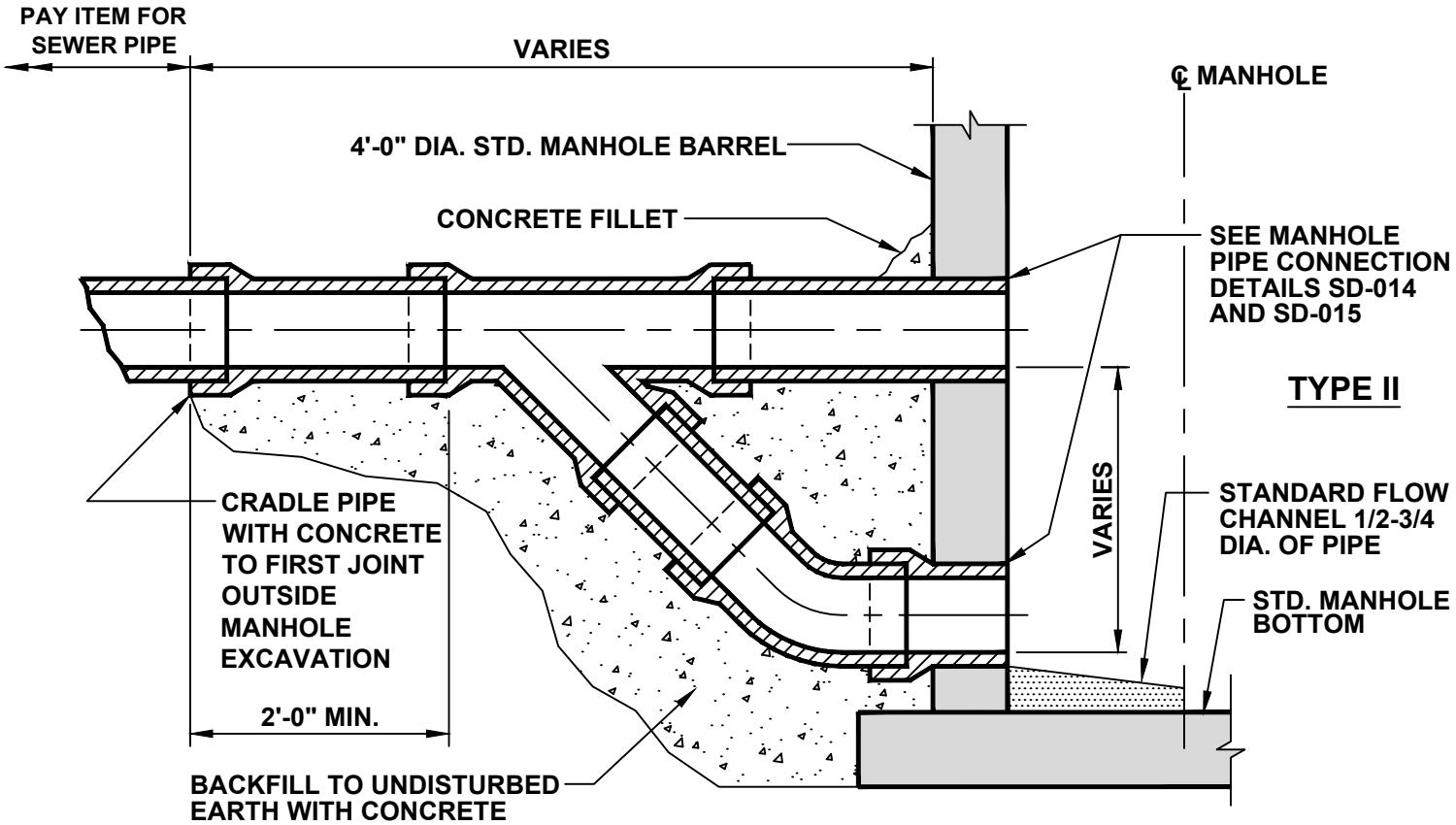


Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		MANHOLE CONNECTION FOR PVC PIPE (PRE-CAST BASE)
Not to scale	February 2025	Standard Detail SD-014



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

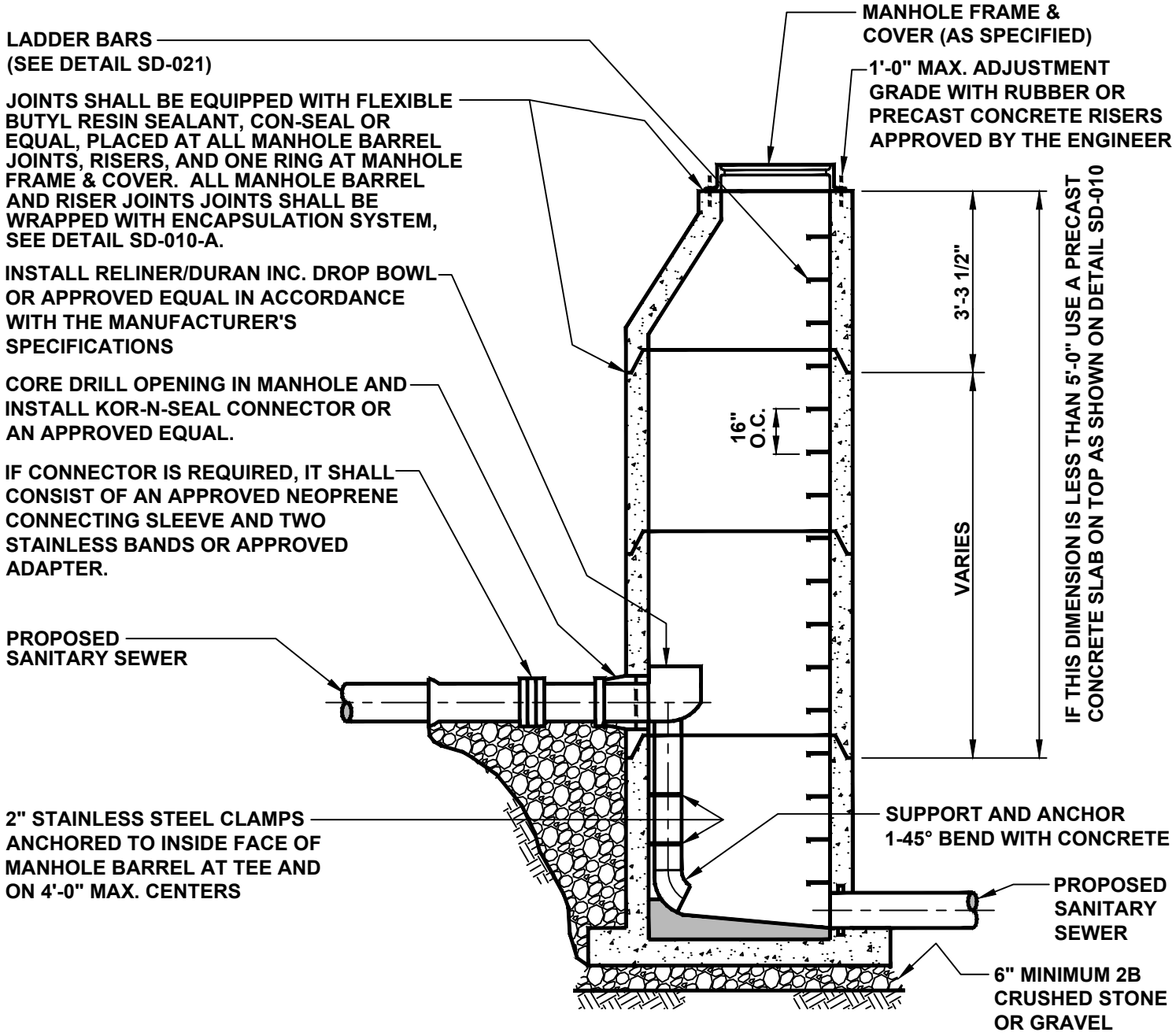




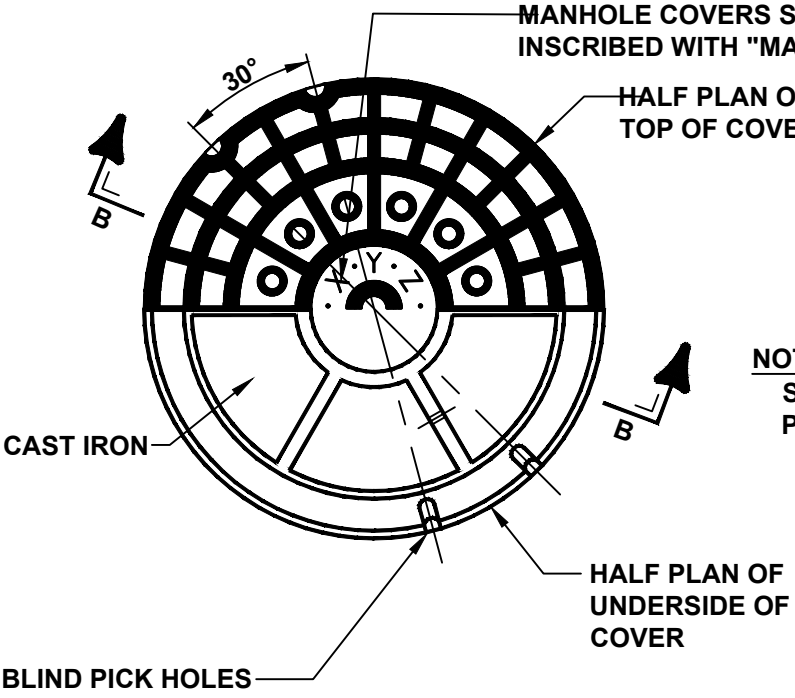
Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		OUTSIDE MANHOLE DROP CONNECTION
Not to scale	February 2025	Standard Detail SD-016

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.

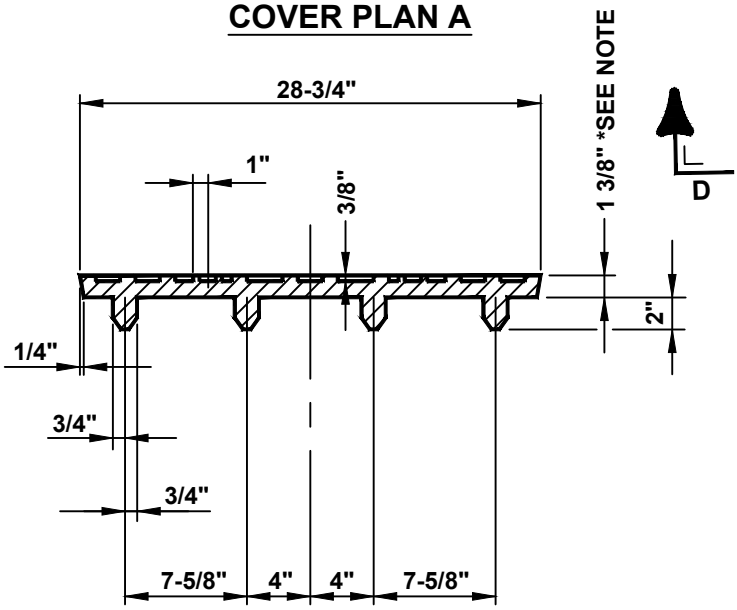


Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		INSIDE MANHOLE BOWL DROP CONNECTION
Not to scale	February 2025	Standard Detail SD-017

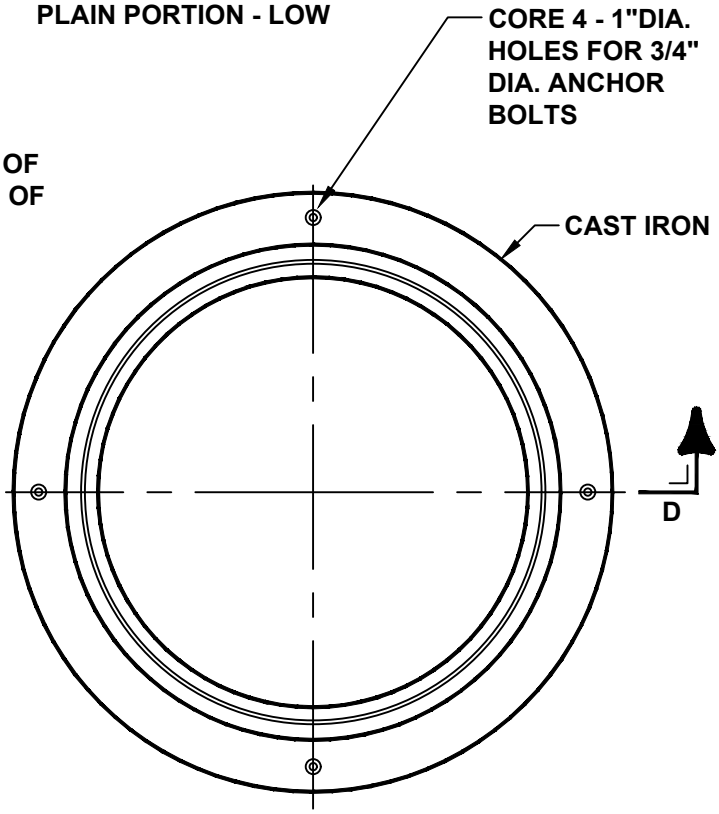


NOTE:
SHADED PORTION - HIGH
PLAIN PORTION - LOW

COVER PLAN A

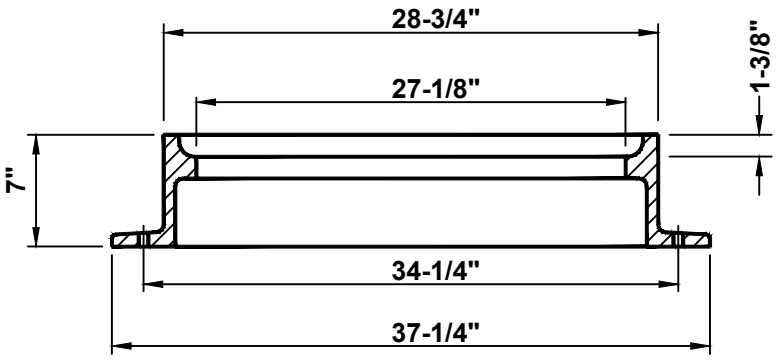


SECTION B



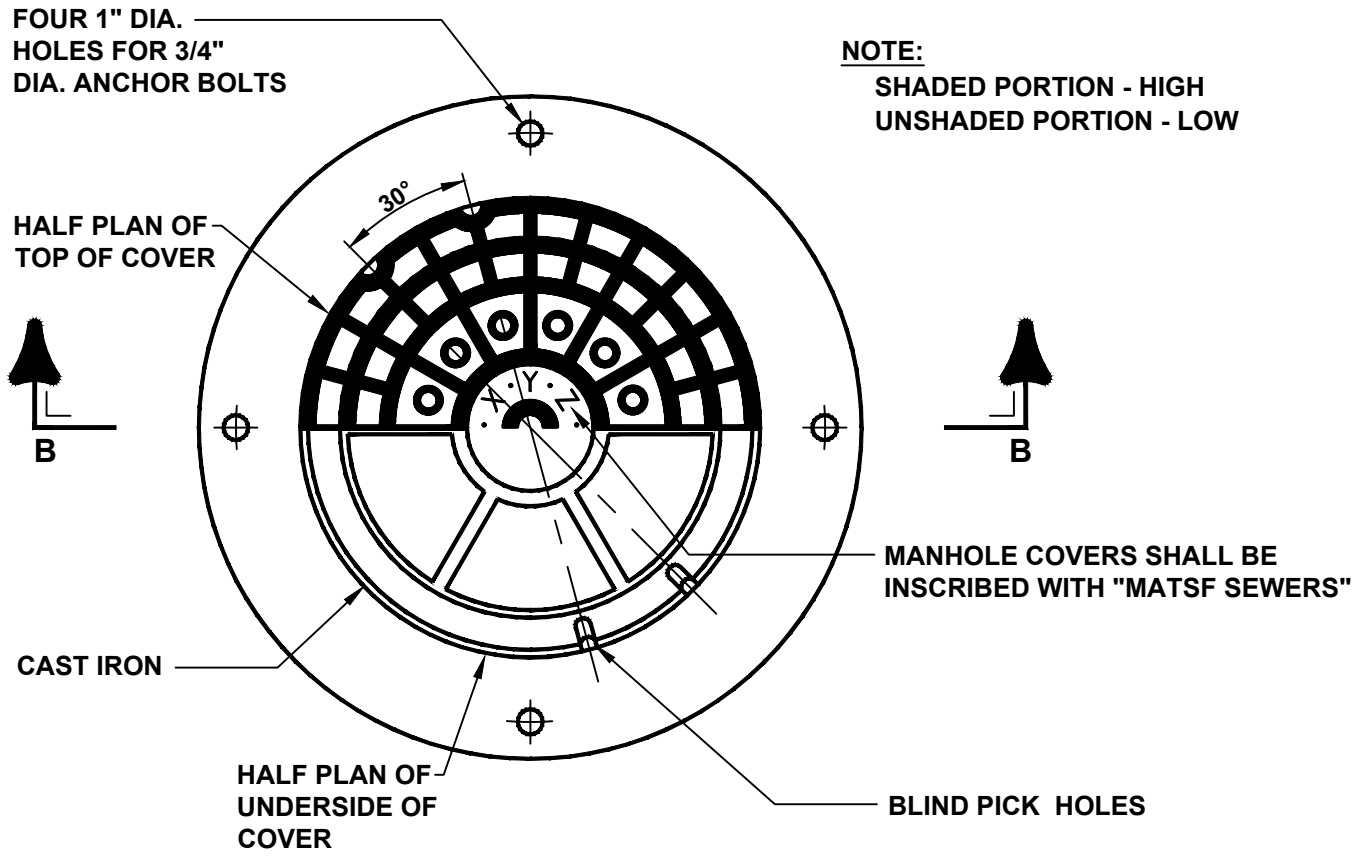
FRAME PLAN C

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.

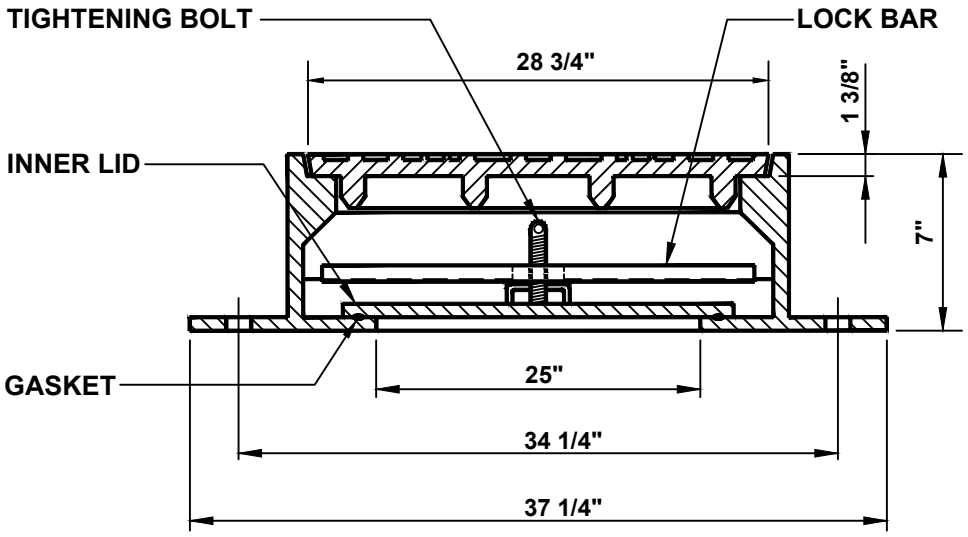


BOTTOM FLANGE - SECTION D

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

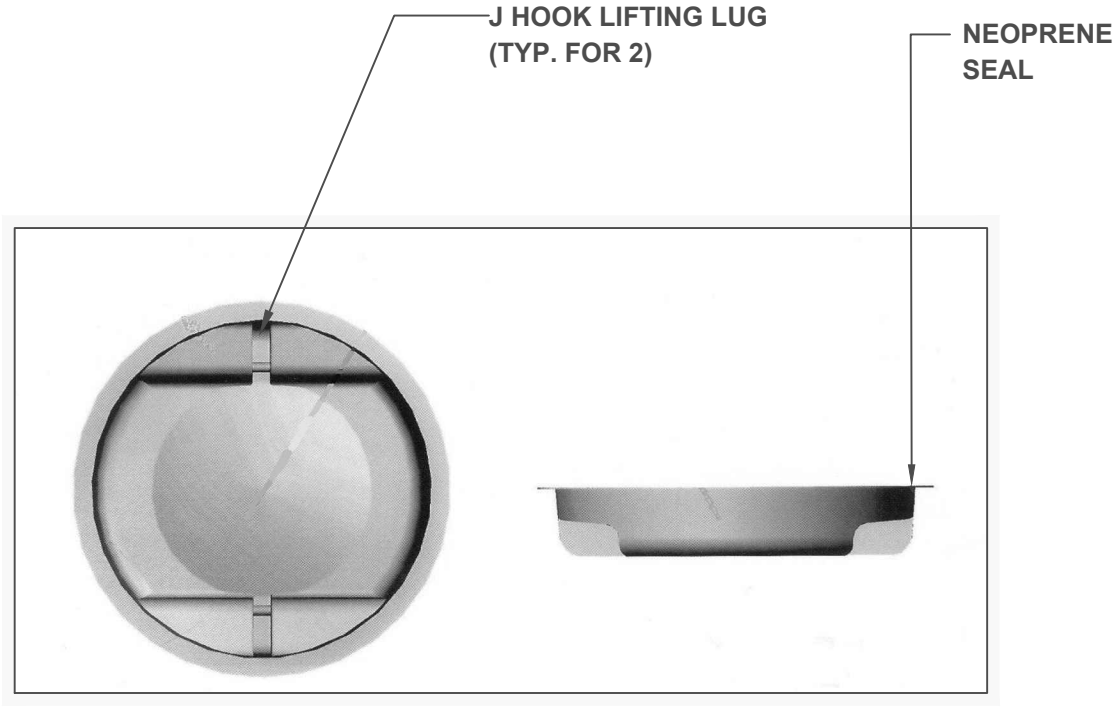


PLAN A



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

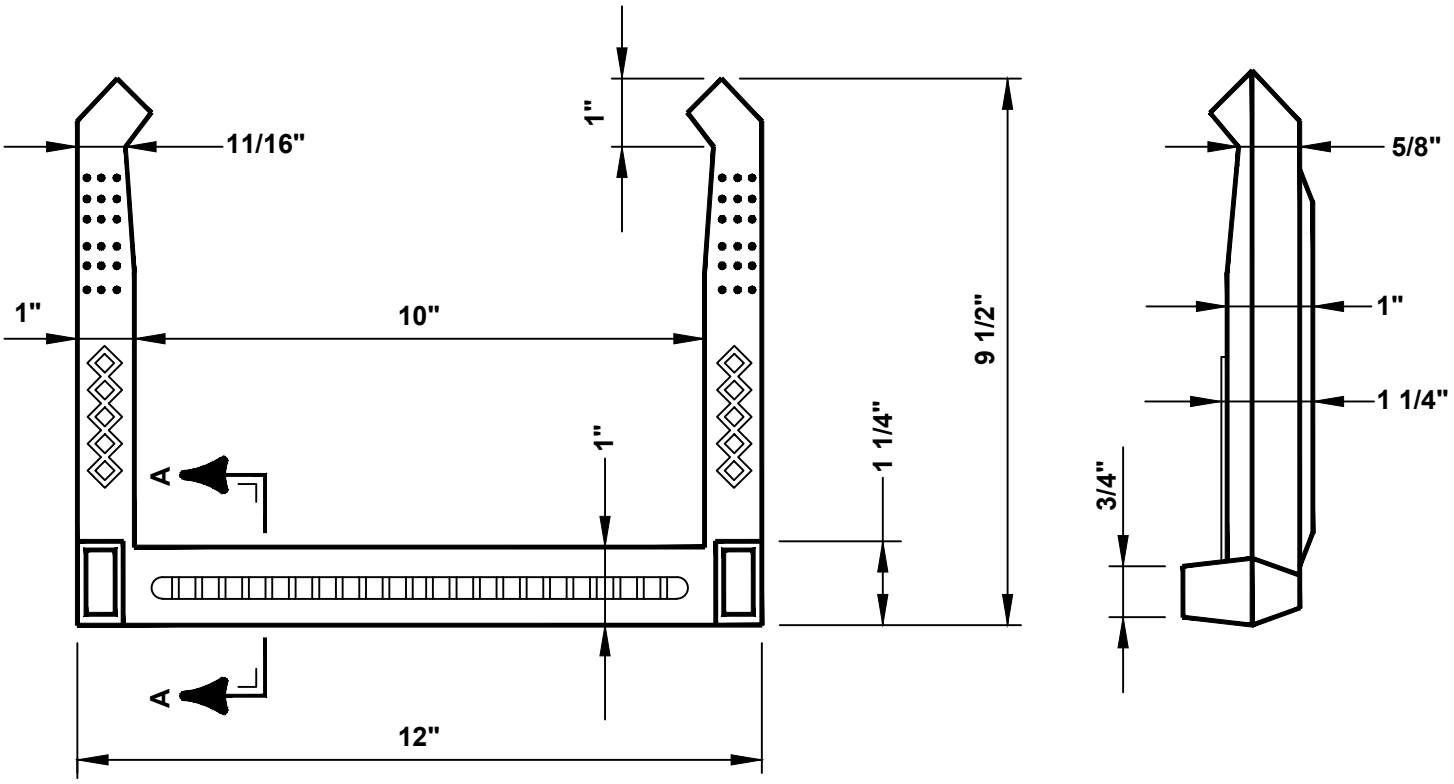


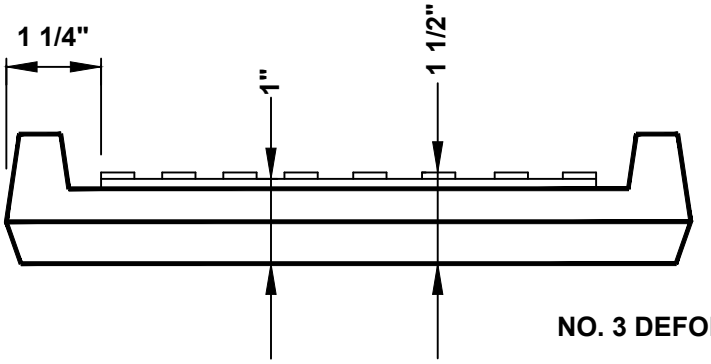
TOP VIEW **SIDE VIEW**

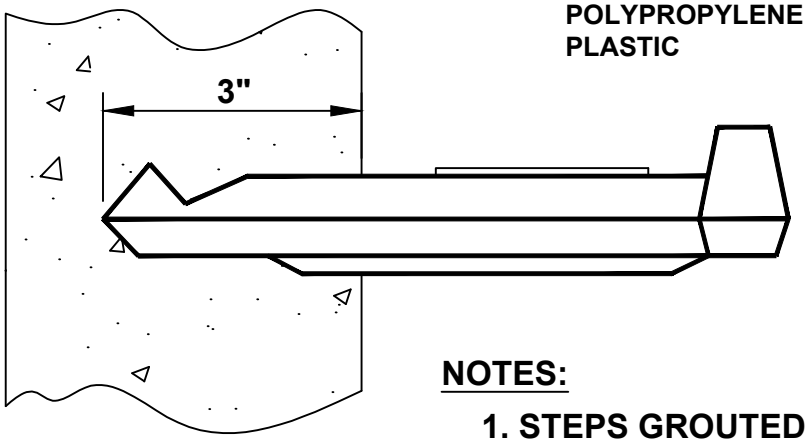
NOTES:

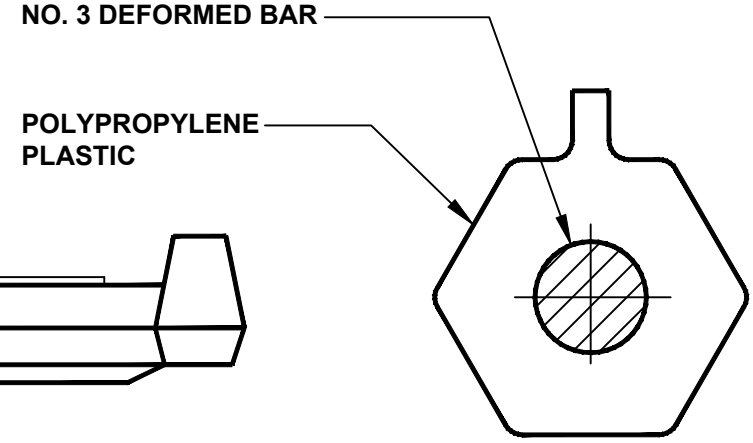
1. INFLOW PROTECTOR SHALL BE MAN-PAN OR APPROVED EQUAL AND SHALL BE INSTALLED WITH ALL NON-WATER TIGHT MANHOLE COVERS IN IMPERVIOUS AREAS ONLY.
2. INFLOW PROTECTORS SHALL BE FABRICATED AND SIZED TO FIT PROPOSED MANHOLE FRAMES.
3. MANHOLE COVERS SHALL BE MACHINED TO ACCOMODATE MANHOLE INFLOW PROTECTORS.

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







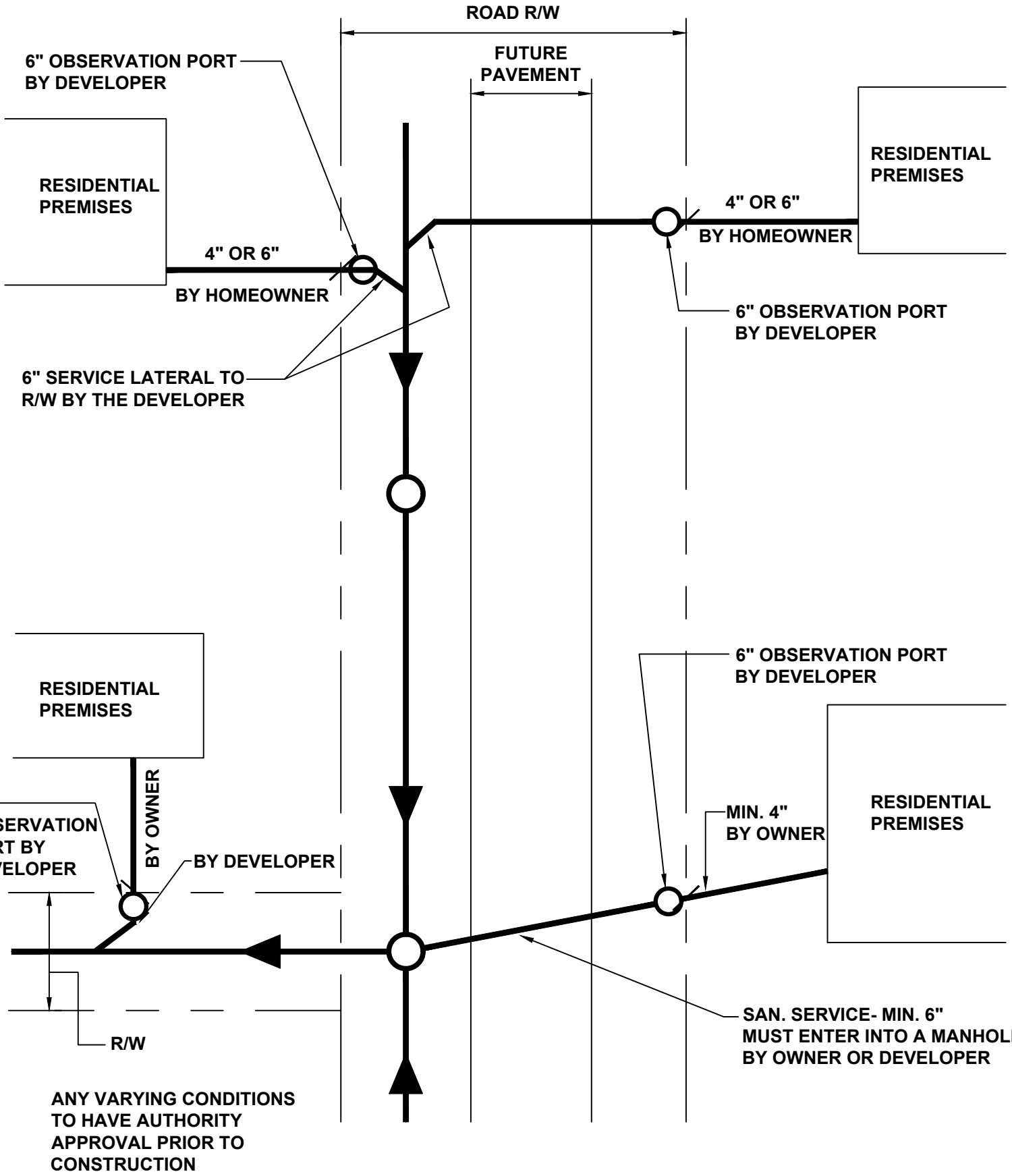


SECTION A

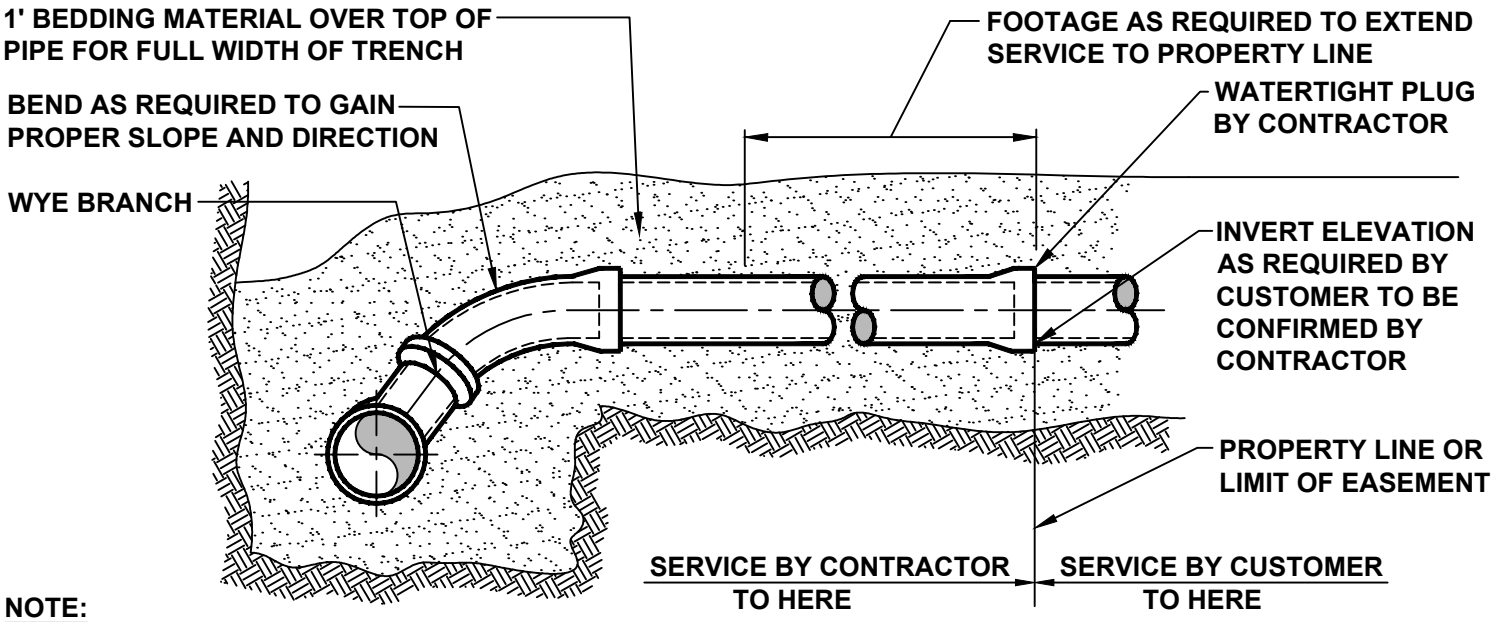
NOTES:

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

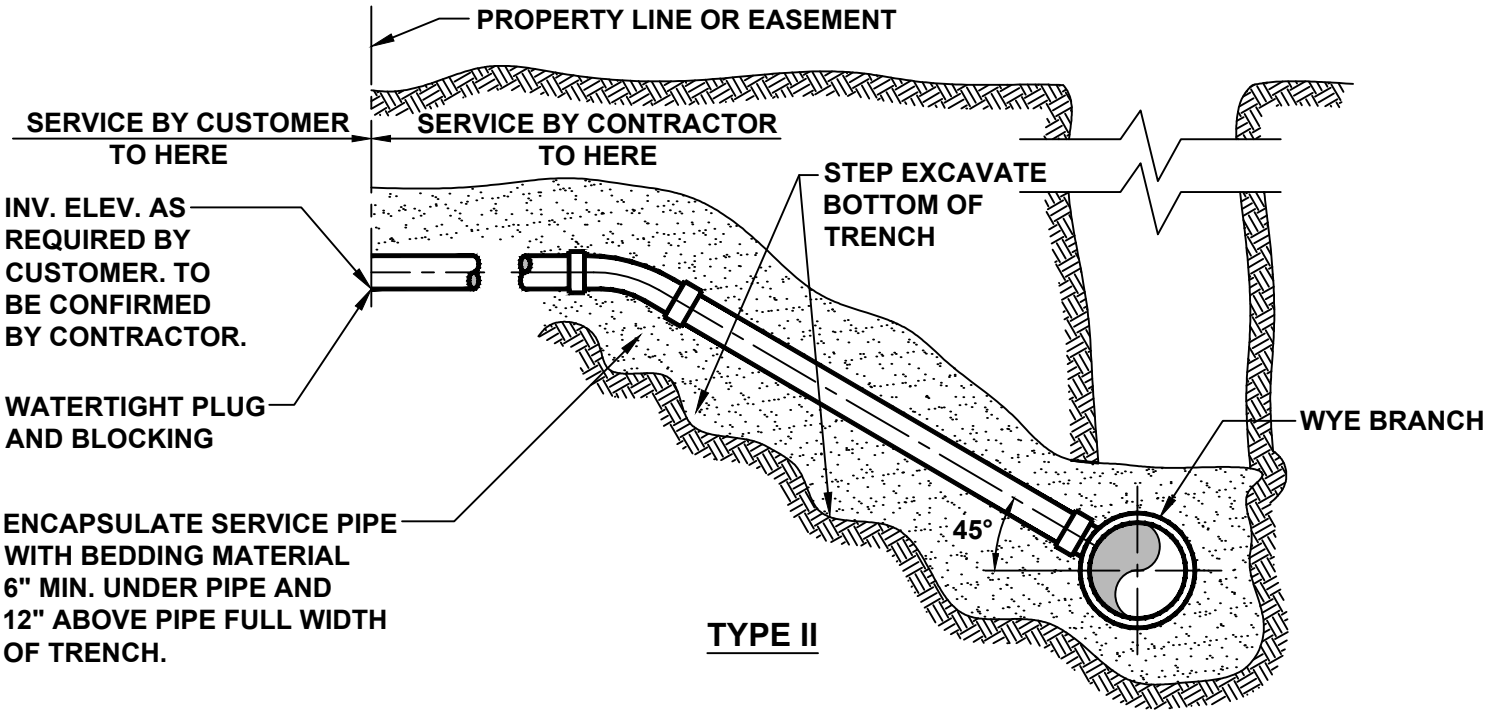


Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		SERVICE LINE CONNECTIONS
Not to scale	February 2025	Standard Detail SD-022



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

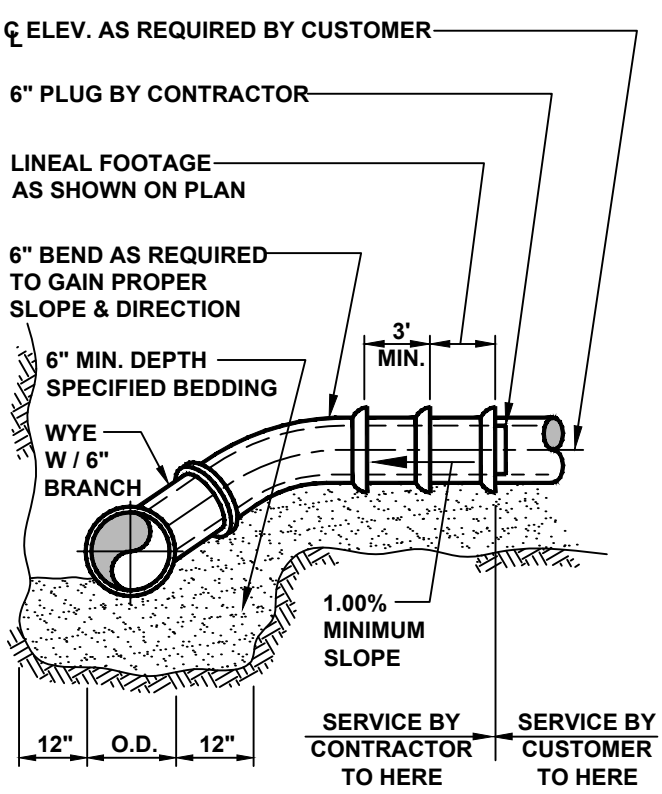
TYPE I



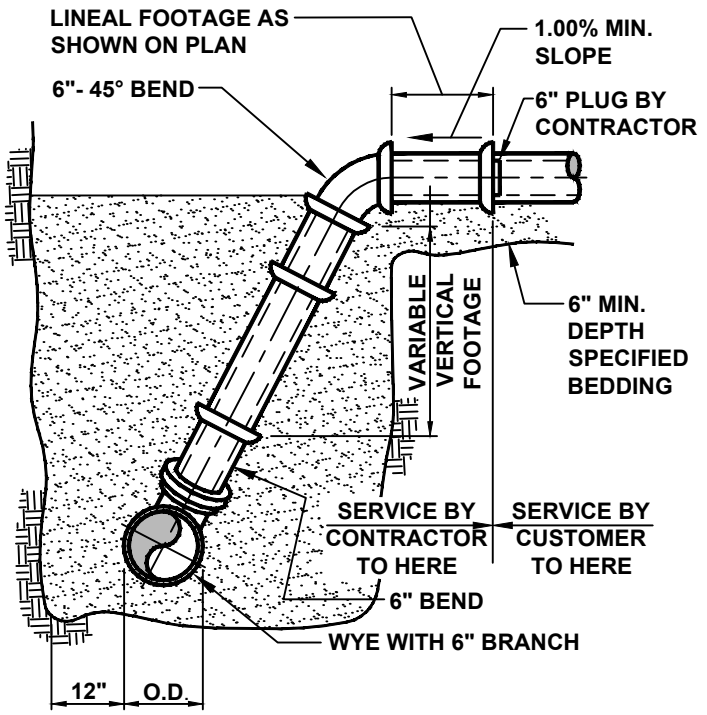
TYPE II

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.

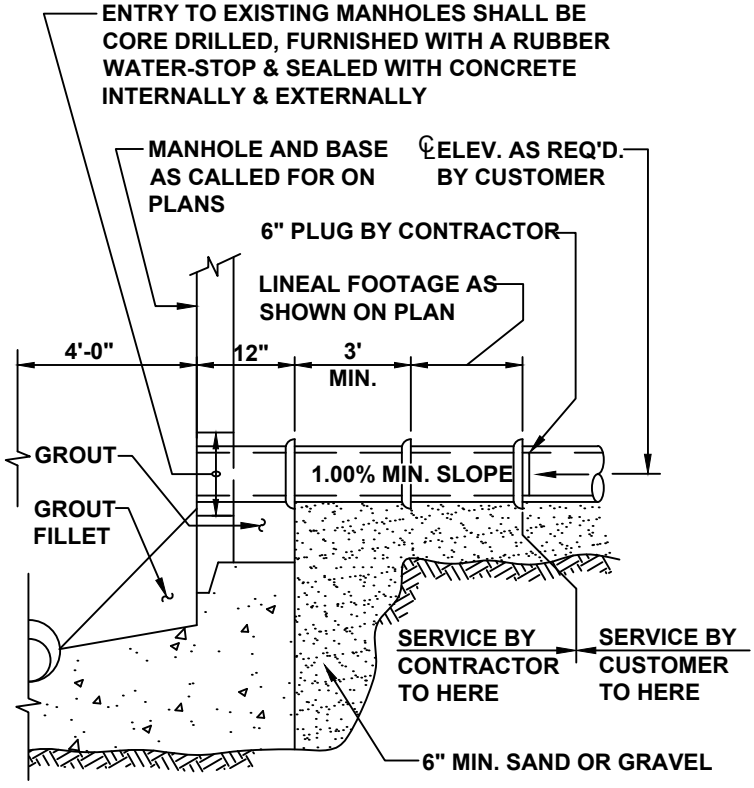
Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		TYPICAL SERVICE LATERAL CONNECTIONS
Not to scale	February 2025	Standard Detail SD-023



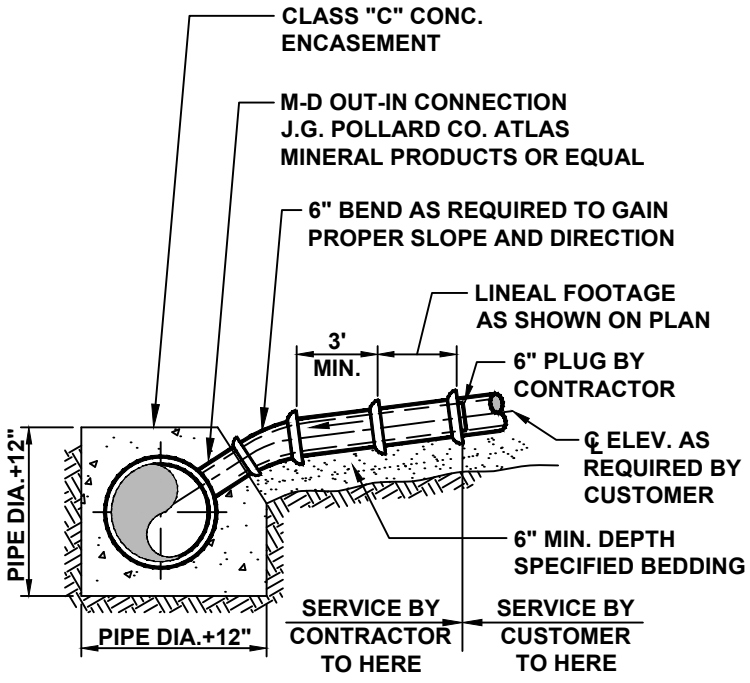
TYPE I



TYPE II

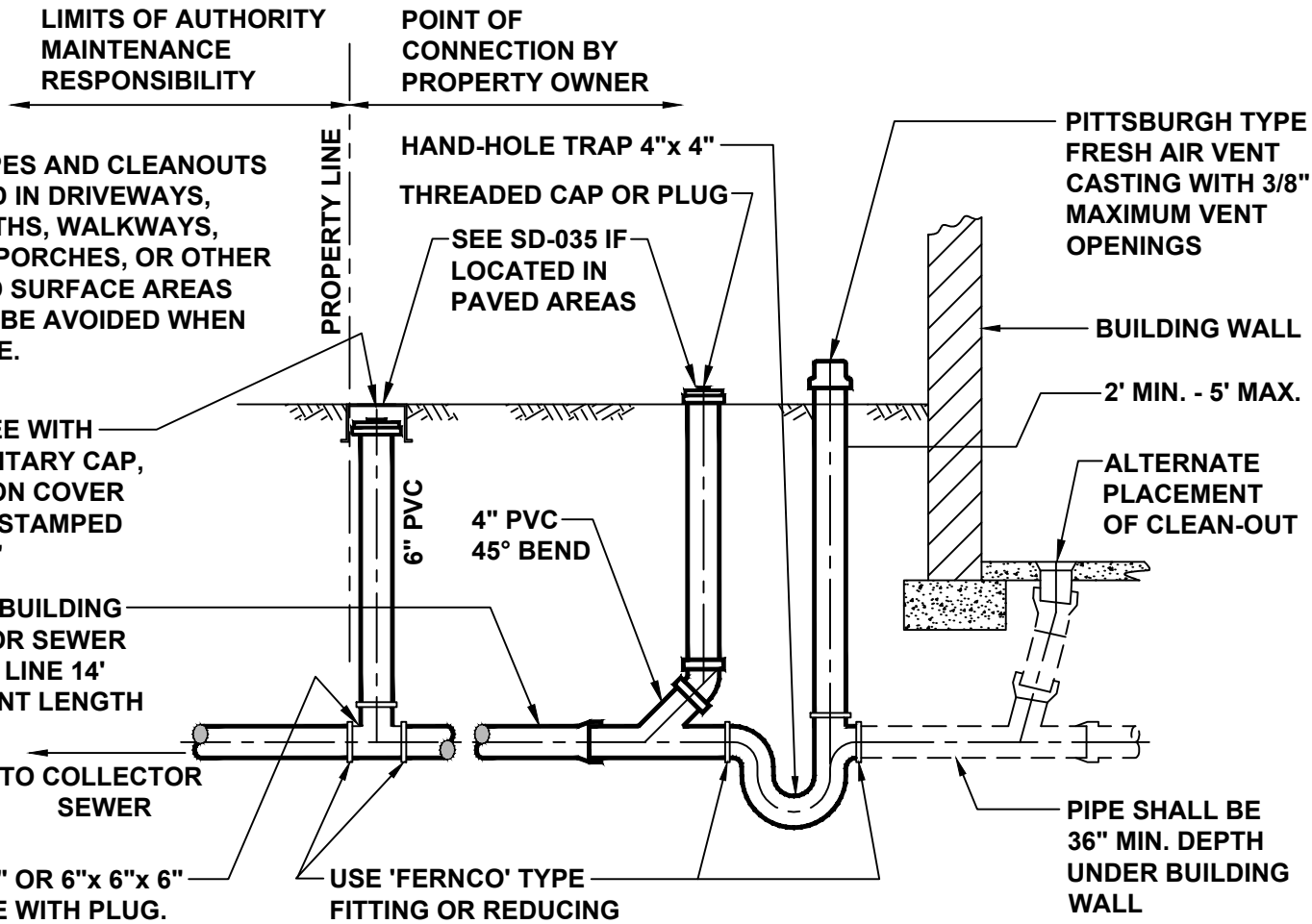


TYPE III



TYPE IV

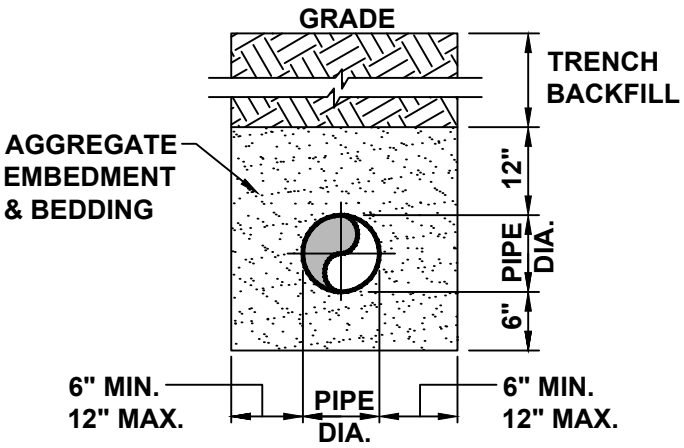
Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		SERVICE CONNECTIONS
Not to scale	February 2025	Standard Detail SD-024



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

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.



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.

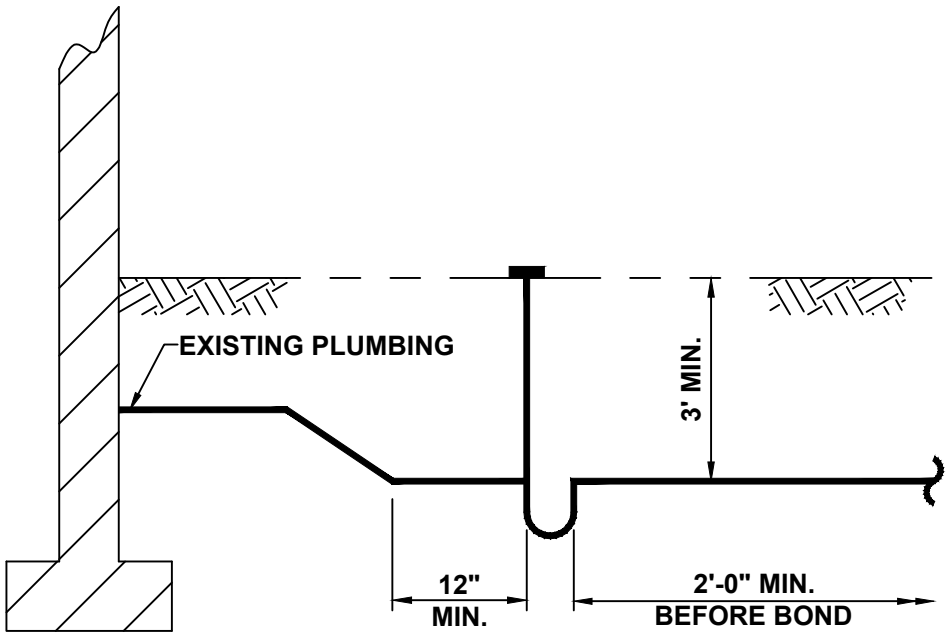
4. ABS PIPE SHOULD NOT BE GLUED TO PVC PIPE.

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

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

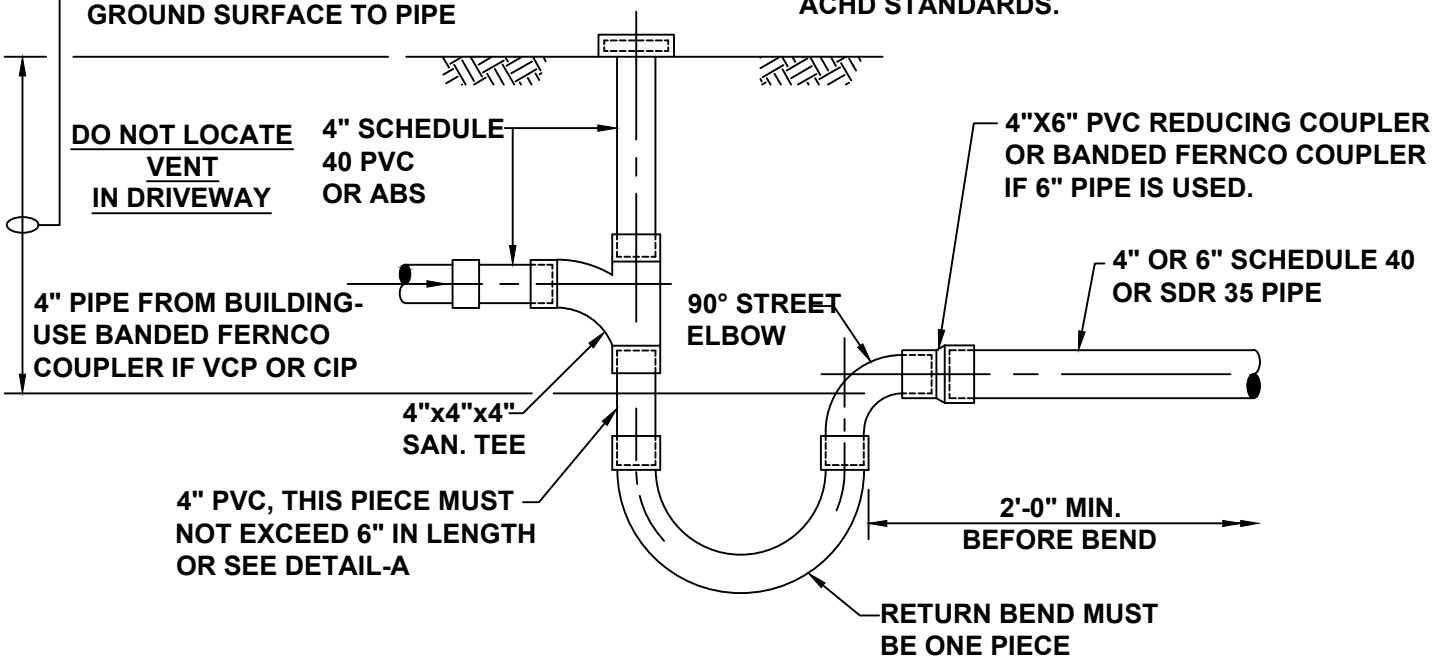
Municipal Authority Of The Township Of South Fayette 700 Holland Street Bridgeville, Pa 15017		SERVICE CONNECTION TO SANITARY SEWER FROM A NEW INSTALLATION
Not to scale	February 2025	Standard Detail SD-025



SHALLOW BUILDING SEWER TRAP DETAIL

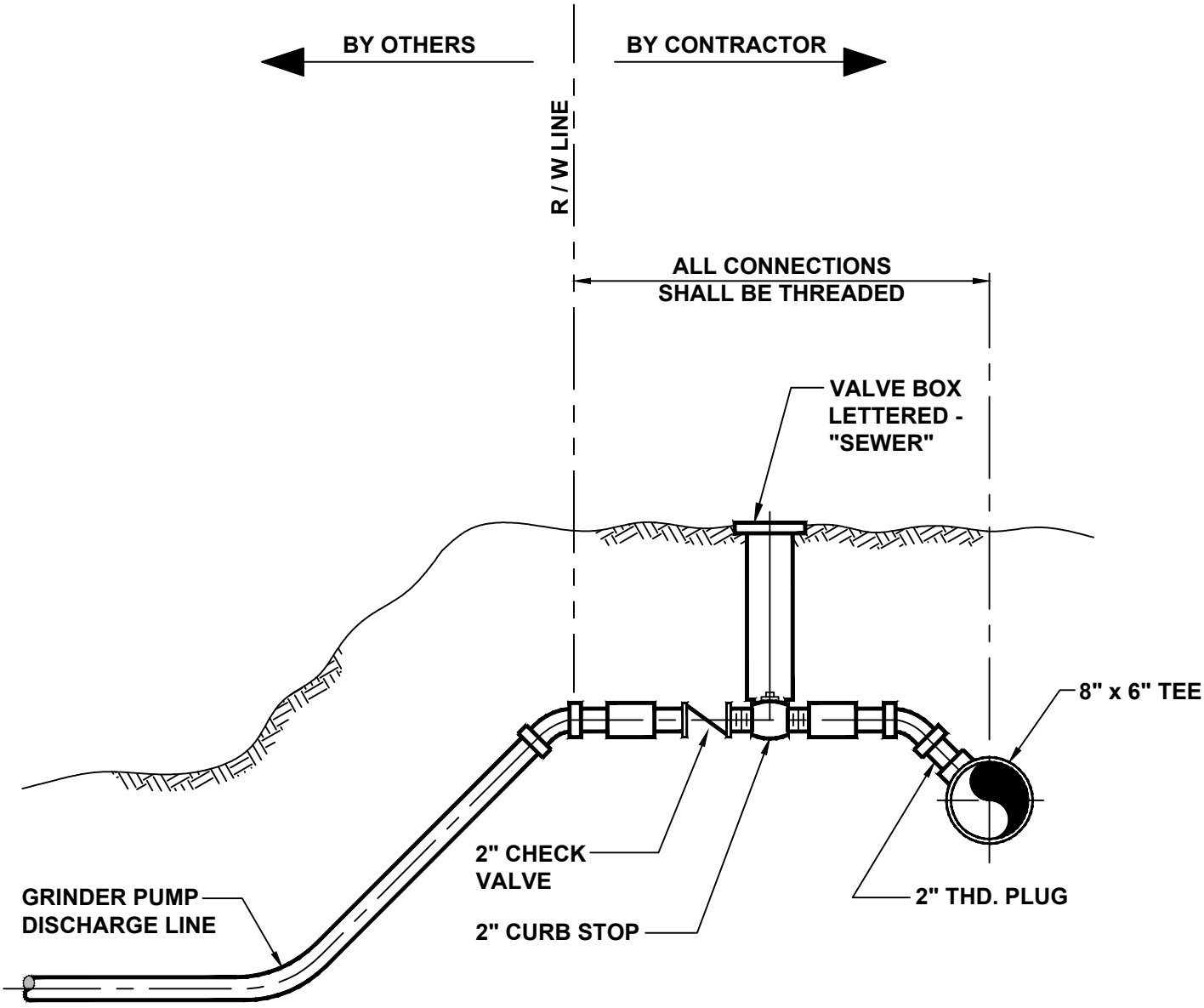
CONDENSED INSTALLATION SPECIFICATIONS

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.

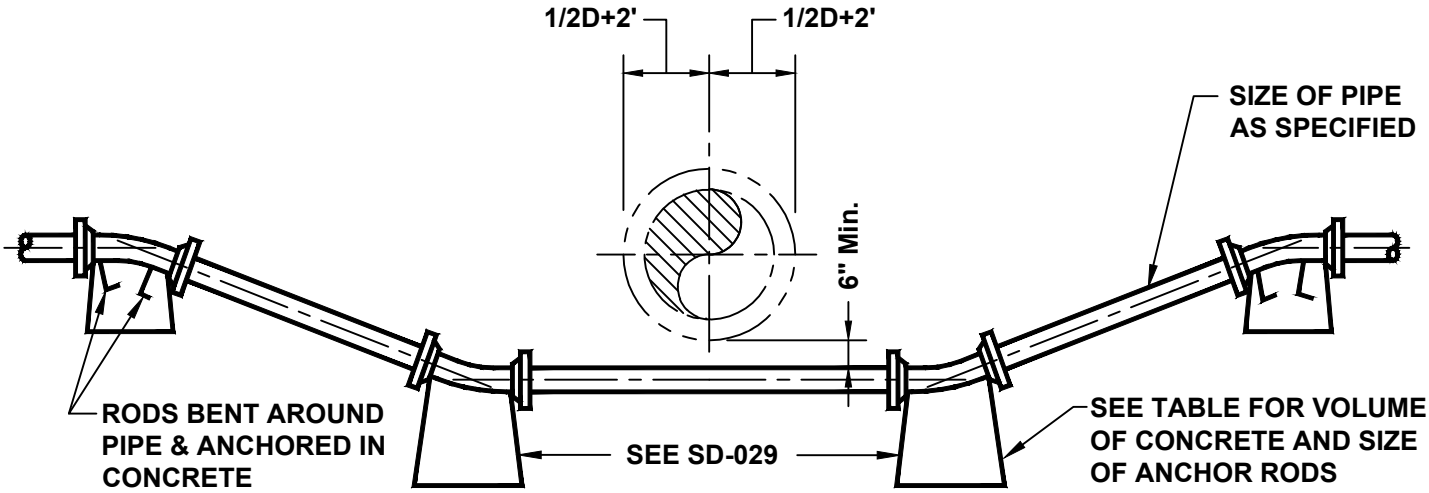


TYPICAL FABRICATED PVC VENT/ TRAP ASSEMBLY

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

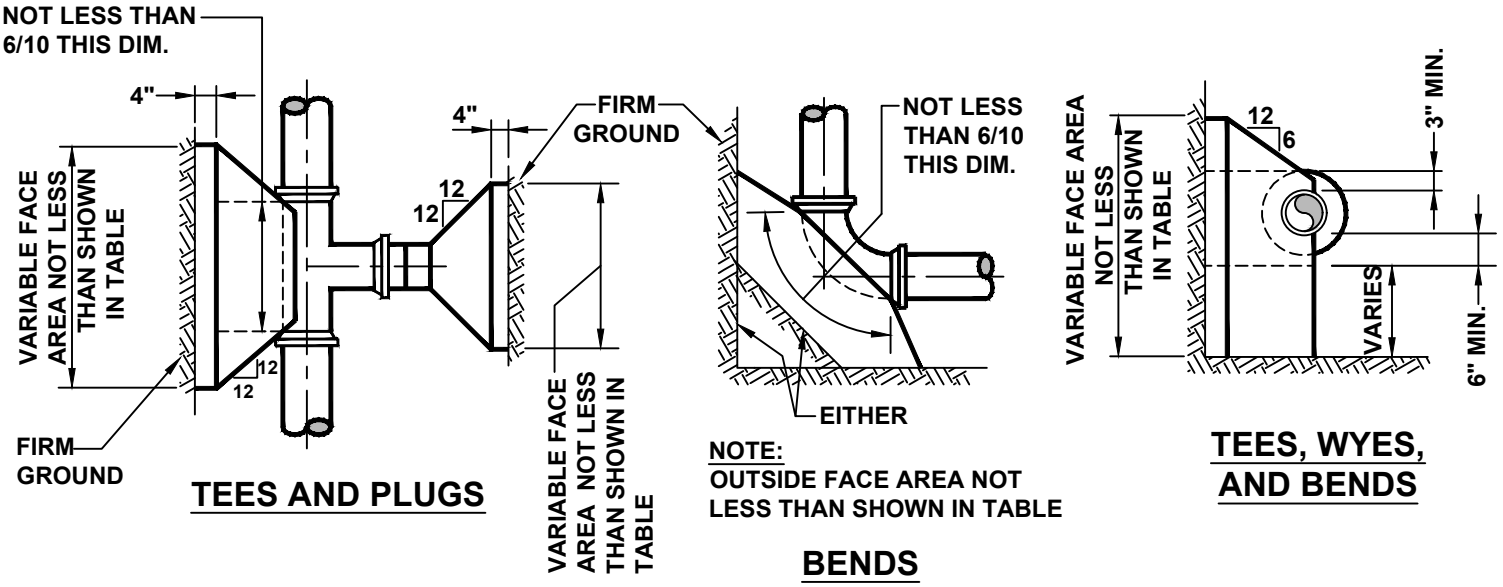


NOTE:
THE TABLE IS BASED ON 225 PSI TEST PRESSURE. ALL BLOCKS HAVING LENGTH OF 3'-0" OR MORE TO BE REINFORCED WITH #4 @ 6" PLACED 3" FROM TOP OF BLOCK.

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.

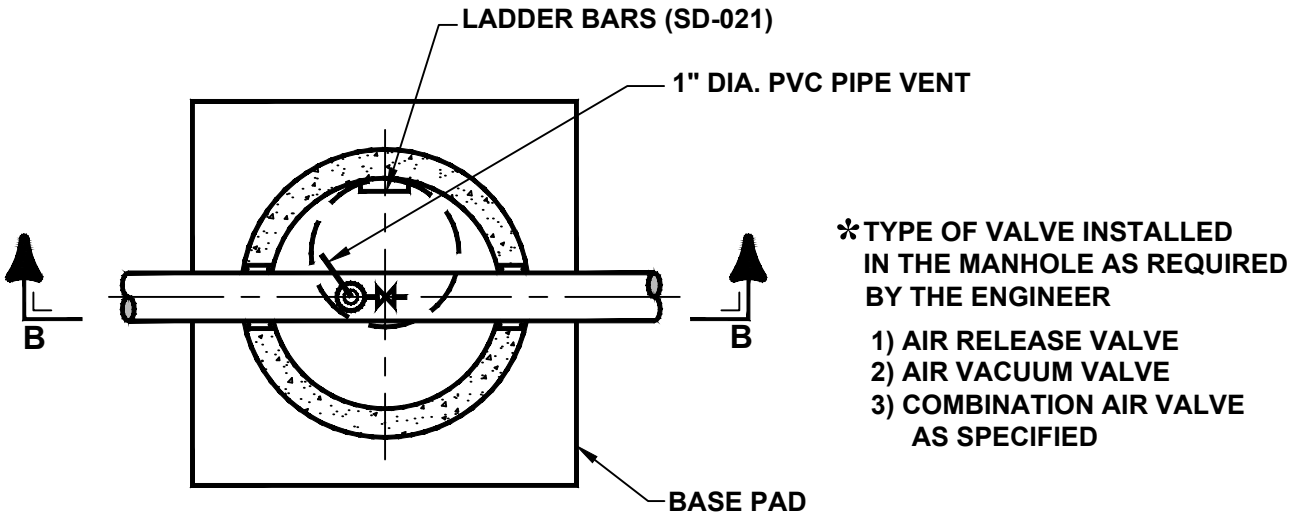
2. EARTH PRESSURE FIGURED AT 4000 PSF. IF EARTH ENCOUNTERED WILL NOT WITHSTAND THIS PRESSURE, THE AREA OF THE BLOCK MUST BE INCREASED PROPORTIONATELY.

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

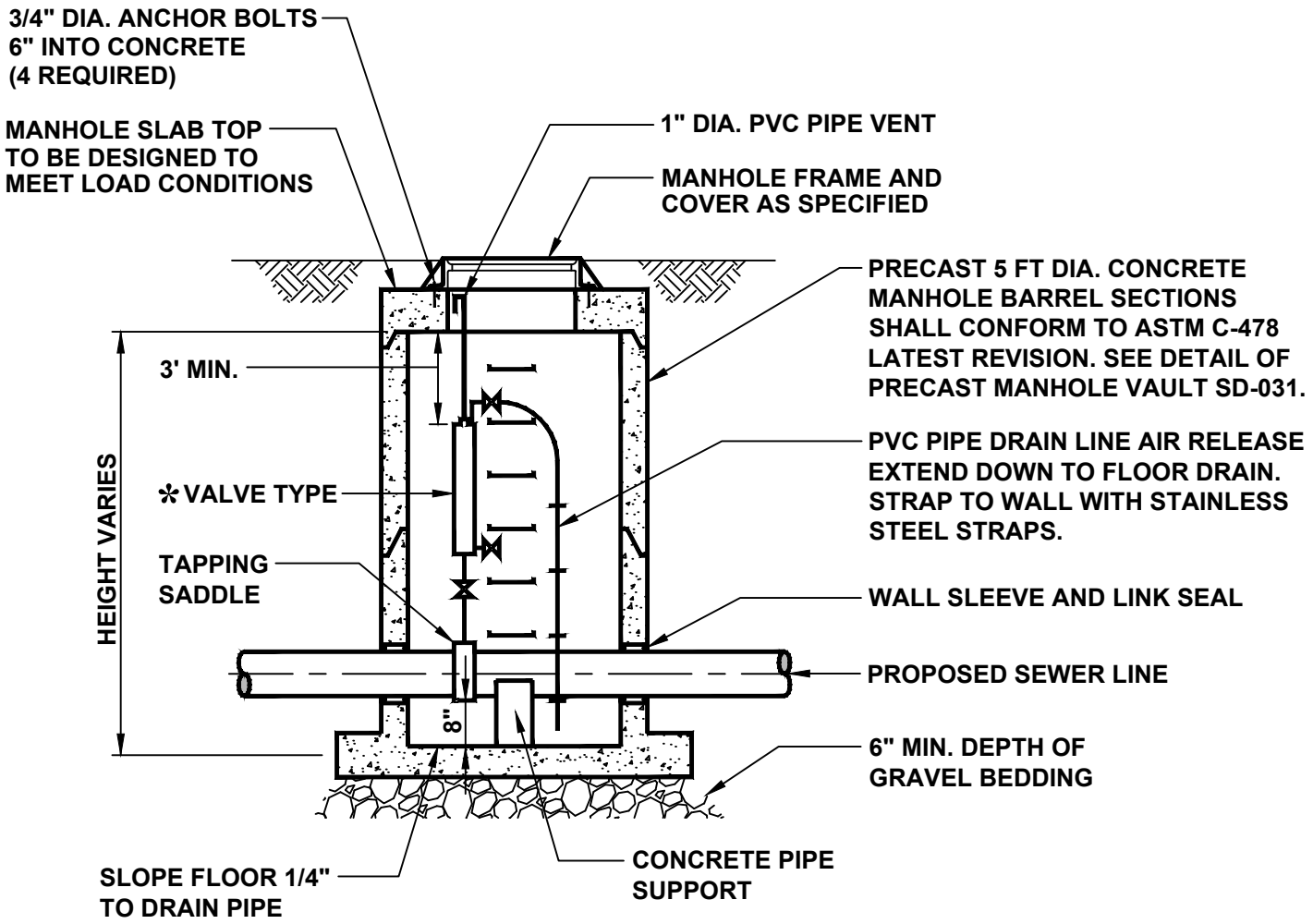
			AREA OF BLOCK IN SQUARE FEET				
PIPE SIZE (in)	AREA* (sq in)	TOTAL FORCE (lbs)	TEES & PLUGS	90 DEGREE BENDS	45 DEGREE BENDS	22 1/2 DEGREE BENDS	11 1/4 DEGREE BENDS
4	19	4,275	1.1	1.5	1.0	1.0	1.0
6	38	8,550	2.2	3.0	1.6	1.0	1.0
8	65	14,625	3.7	5.2	2.8	1.4	1.0
10	97	21,825	5.5	7.7	4.2	2.1	1.1
12	137	30,825	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

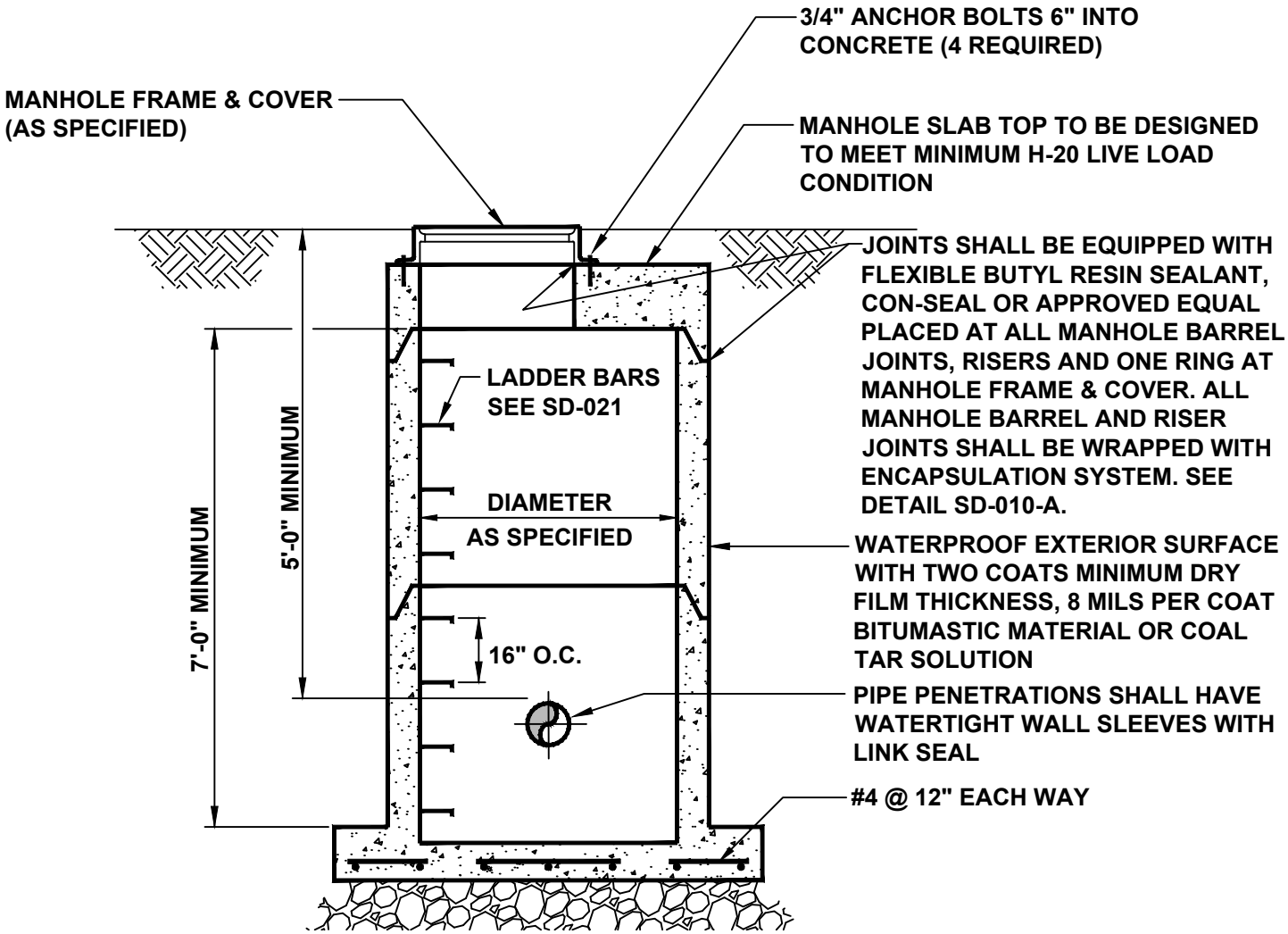


PLAN 2-040-A



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

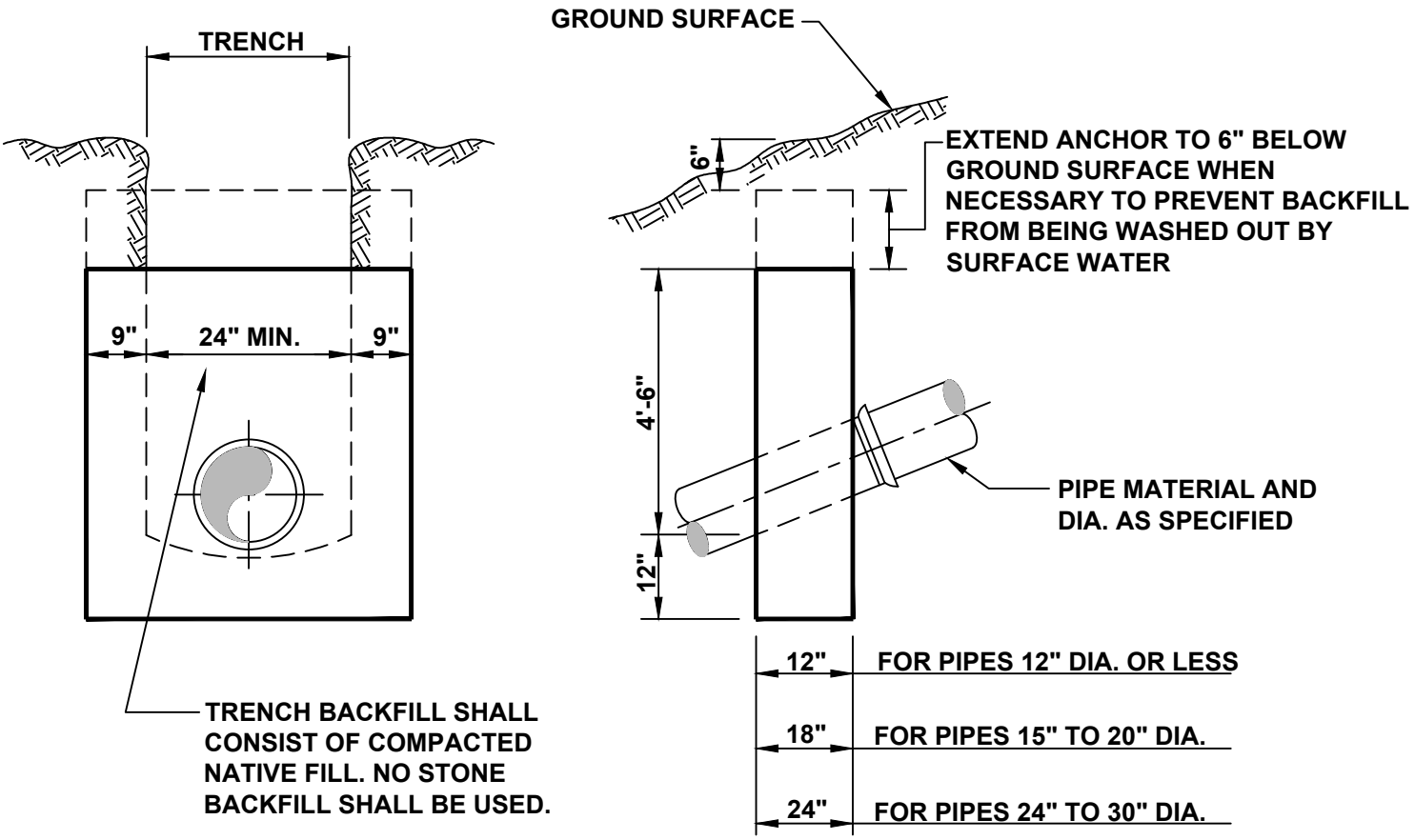


SECTION A-A

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%

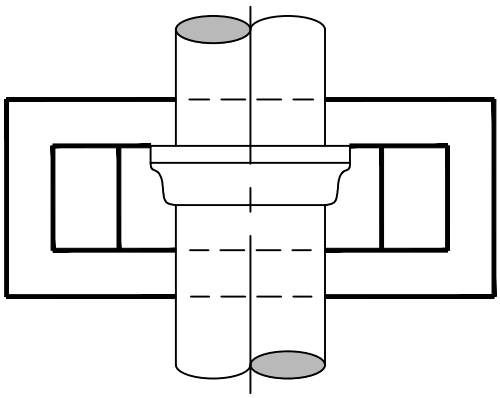
NOTE:

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.

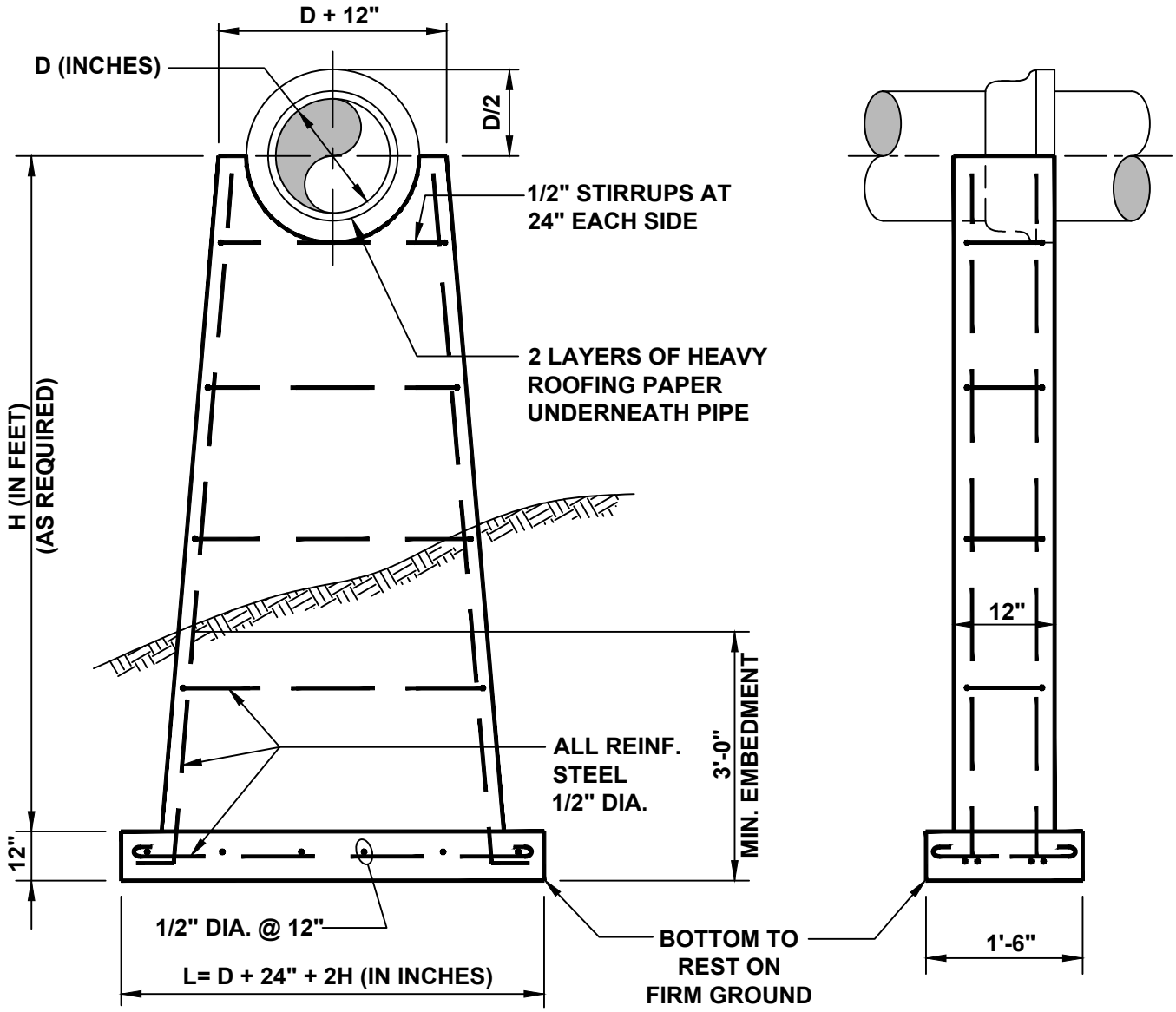
3. WHERE PIPES ARE INSTALLED ON STEEP GRADES, CONTRACTOR SHALL INSTALL CONCRETE THRUST BLOCKING AT THE BOTTOM OF THE PIPE RUN AT THE MANHOLE CONNECTION.

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



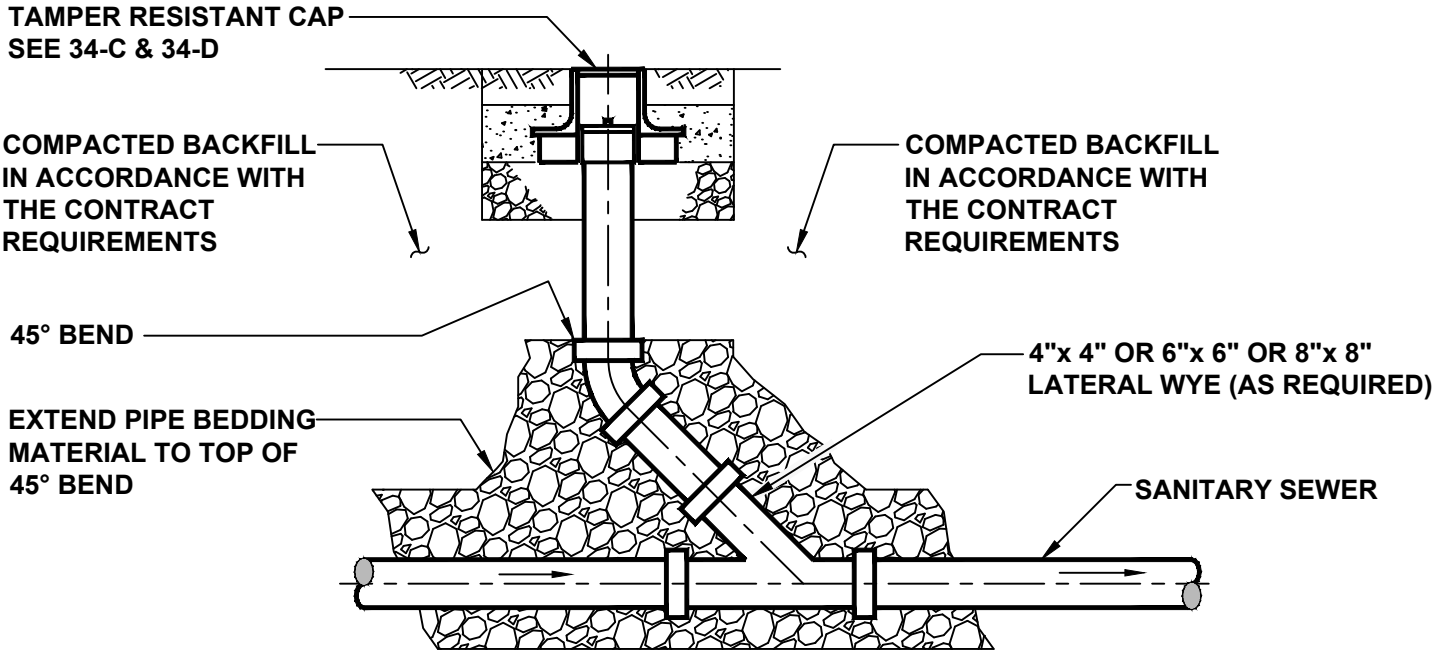
NOTE:

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

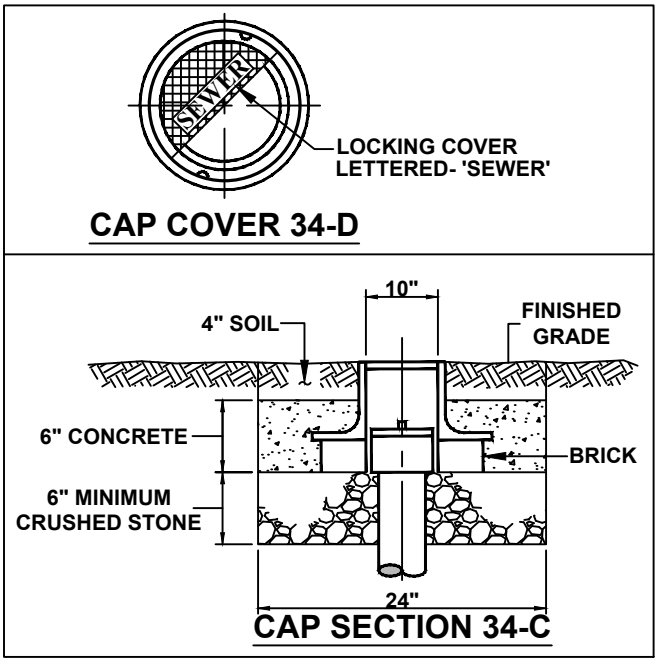


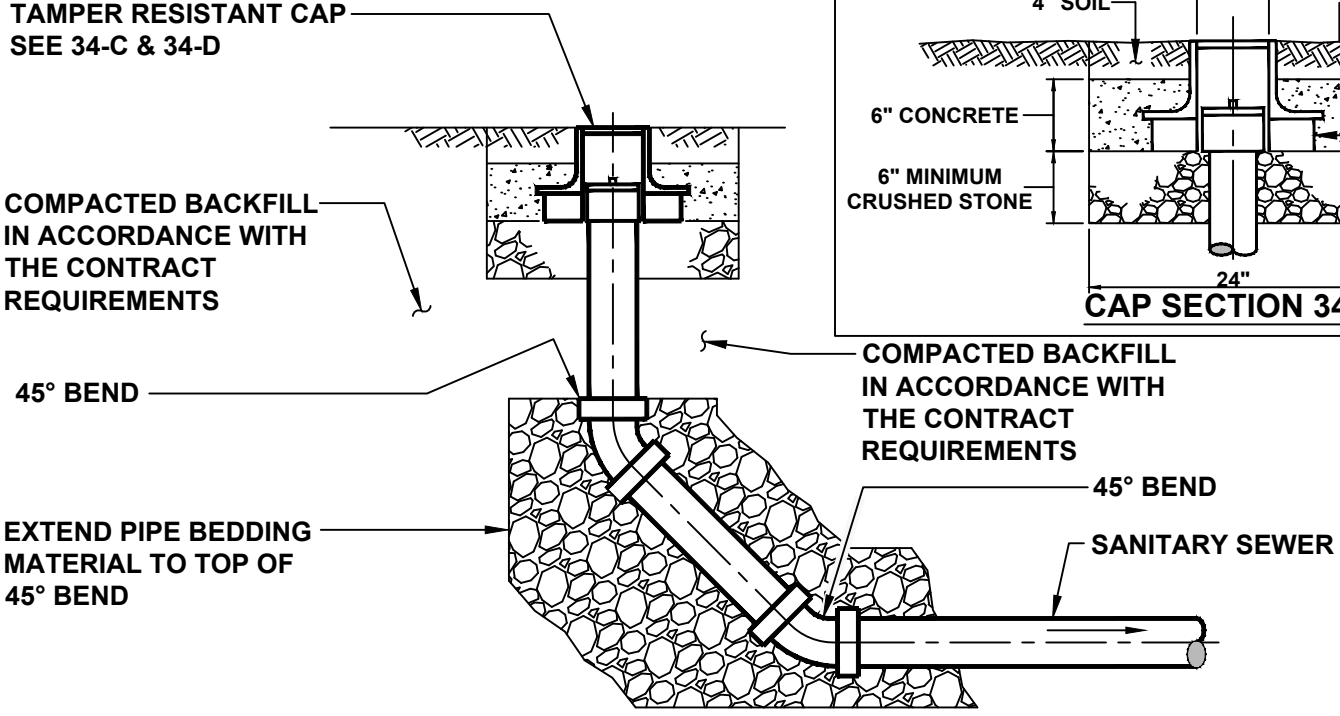
EXAMPLE: D=12"
H=10'-0"
L=12"+24"+(2X10)=56"

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



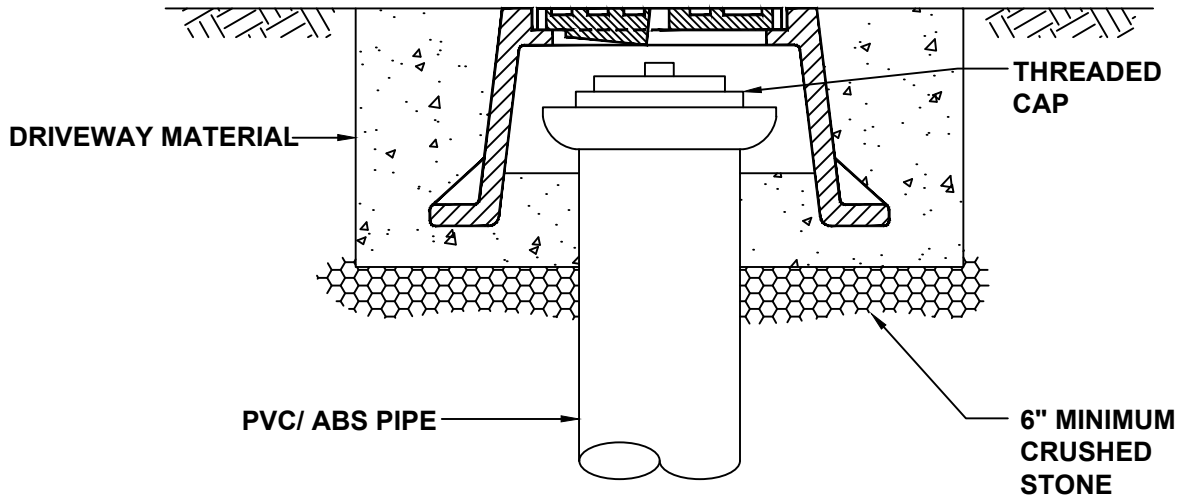
IN-LINE CLEANOUT DETAIL A





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

PCSM REPORT

POST CONSTRUCTION STORMWATER MANAGEMENT REPORT

GATEWAY ENGINEERS

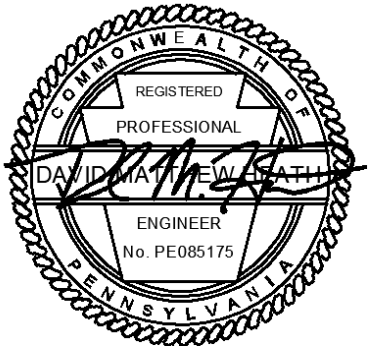
C-18927-0096 February 2026

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

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100 McMorris Road
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REVIEWED BY

Ryan R. Richard, E.I.T.

A FULL-SERVICE CIVIL ENGINEERING FIRM

TABLE OF CONTENTS

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Site Conditions and Calculations	2
Methodology	2-4
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.

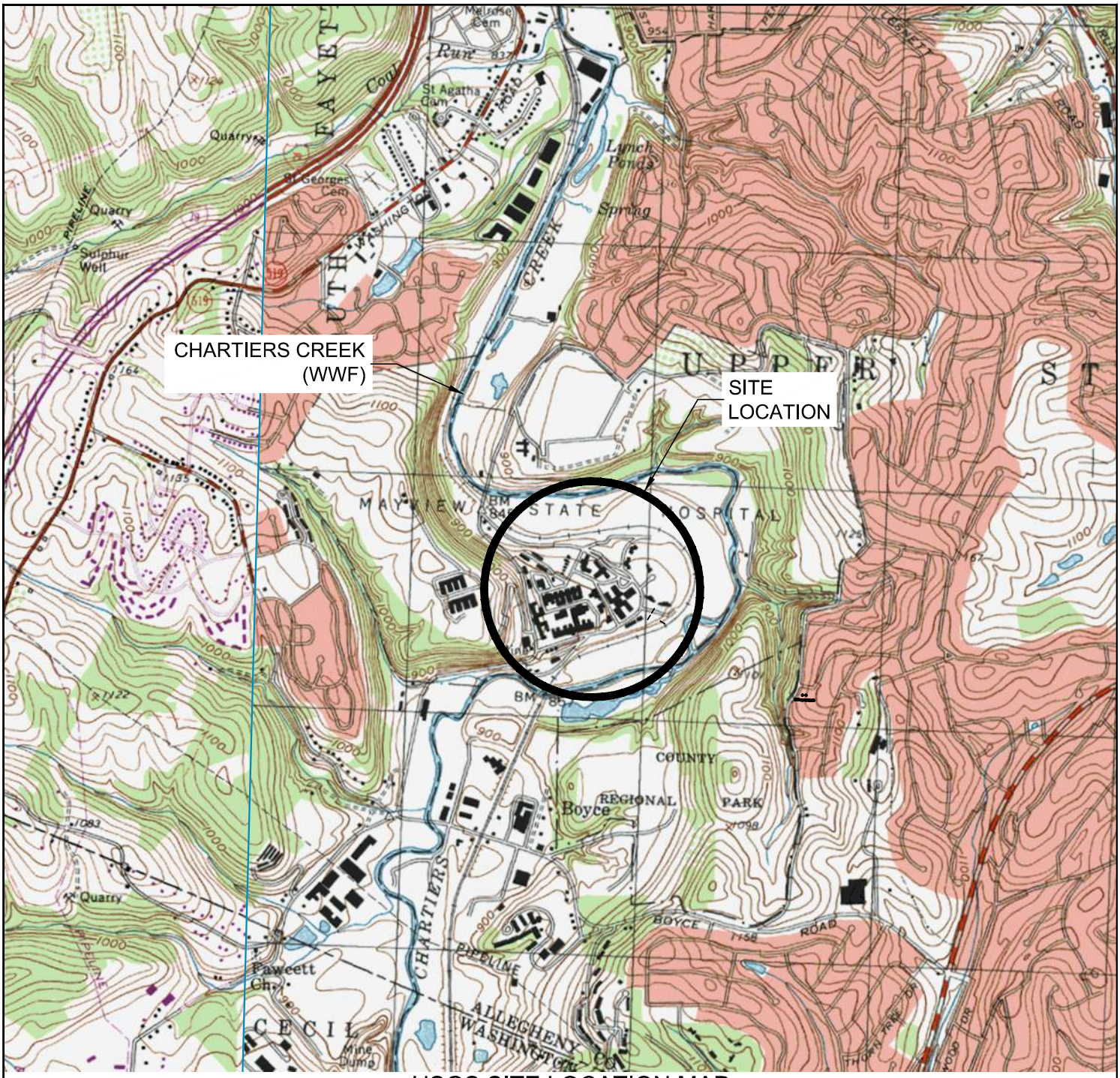
Design Storms (POA-5)							
	1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR
Pre-Development Flow Rates (POA-5)							
PRE POA-5 (CFS) (Hyd 1)	3.17	5.50	9.19	12.40	17.30	21.58	26.19
Post Development Flow Rates (POA-5)							
SCM 5.1 Tank Outflow (CFS) (Hyd 3)	0.28	0.30	0.33	0.36	0.39	0.82	1.72
SCM 5.1 Tank 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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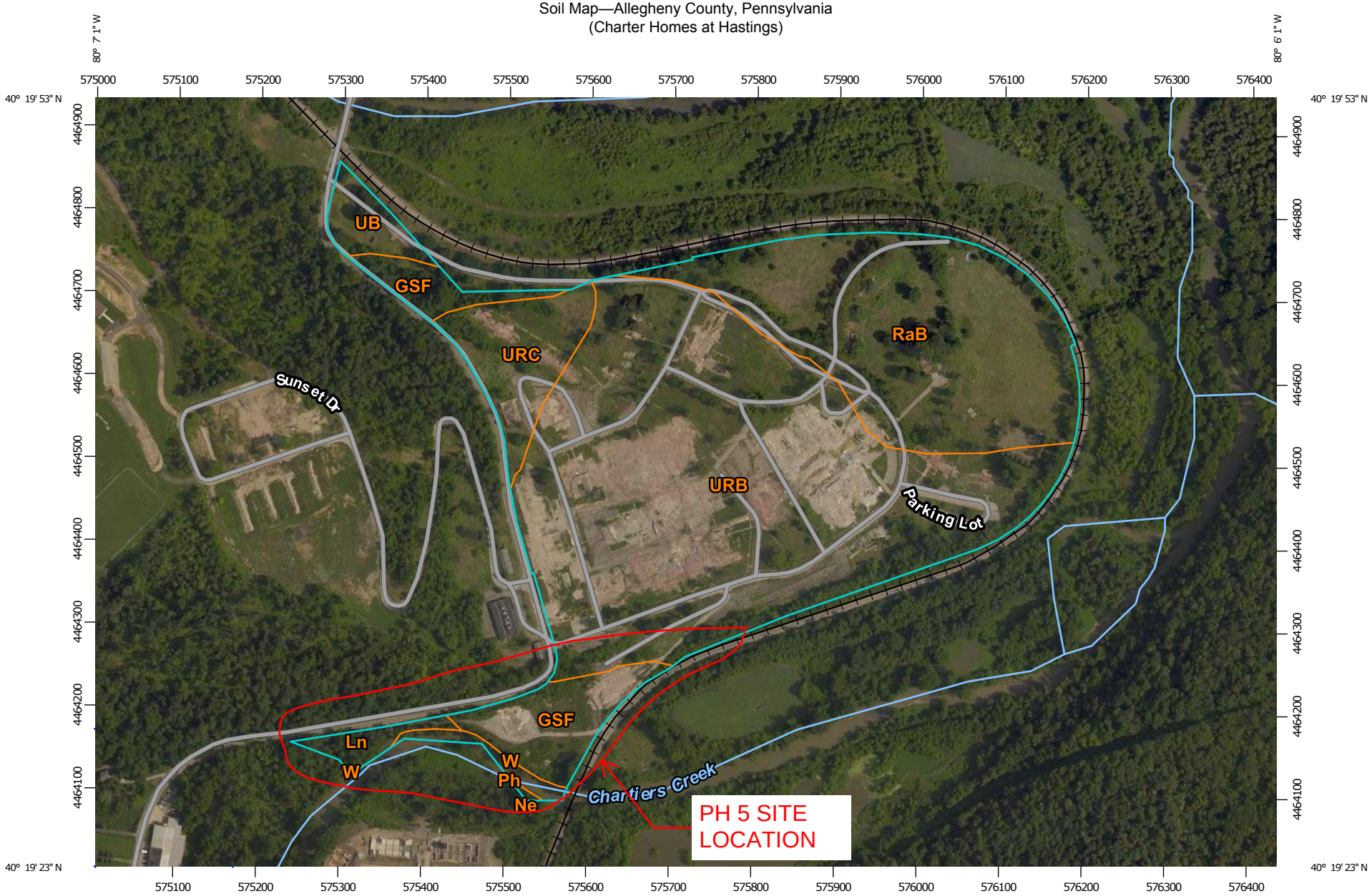
Path & Filename=G:\Projects\18000\18927 Mayview\-0016 Master Plan Revisions\Dwg\02-Sheet\Exhibits\USGS Site Location Map.dwg
Plot Date=5/17/2016 10:58 AM Lindsay E. Appel, E.I.T.
Save Date=5/17/2016 10:55 AM

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.

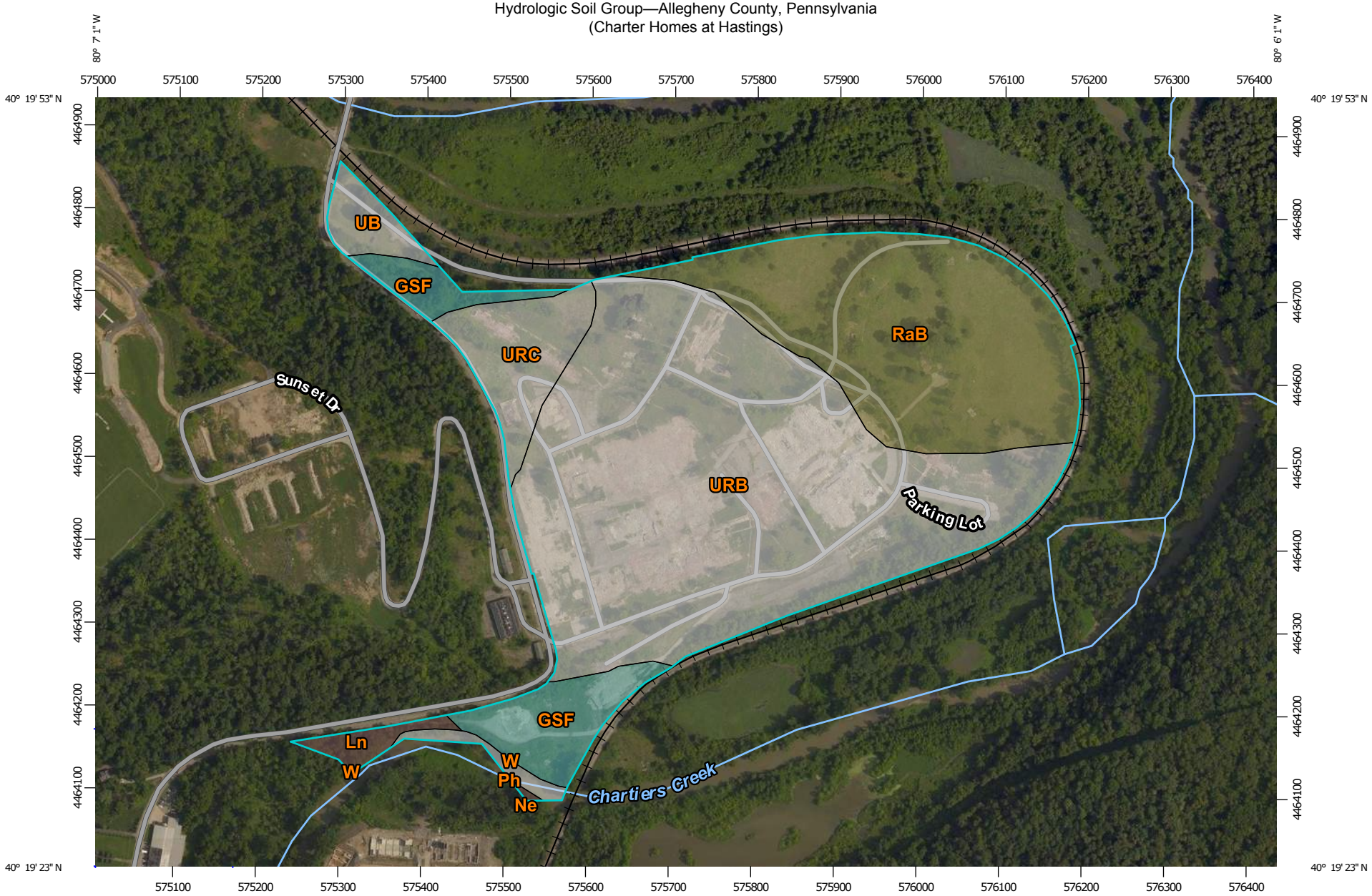
Date(s) aerial images were photographed: Jul 5, 2014—Aug 28, 2014

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

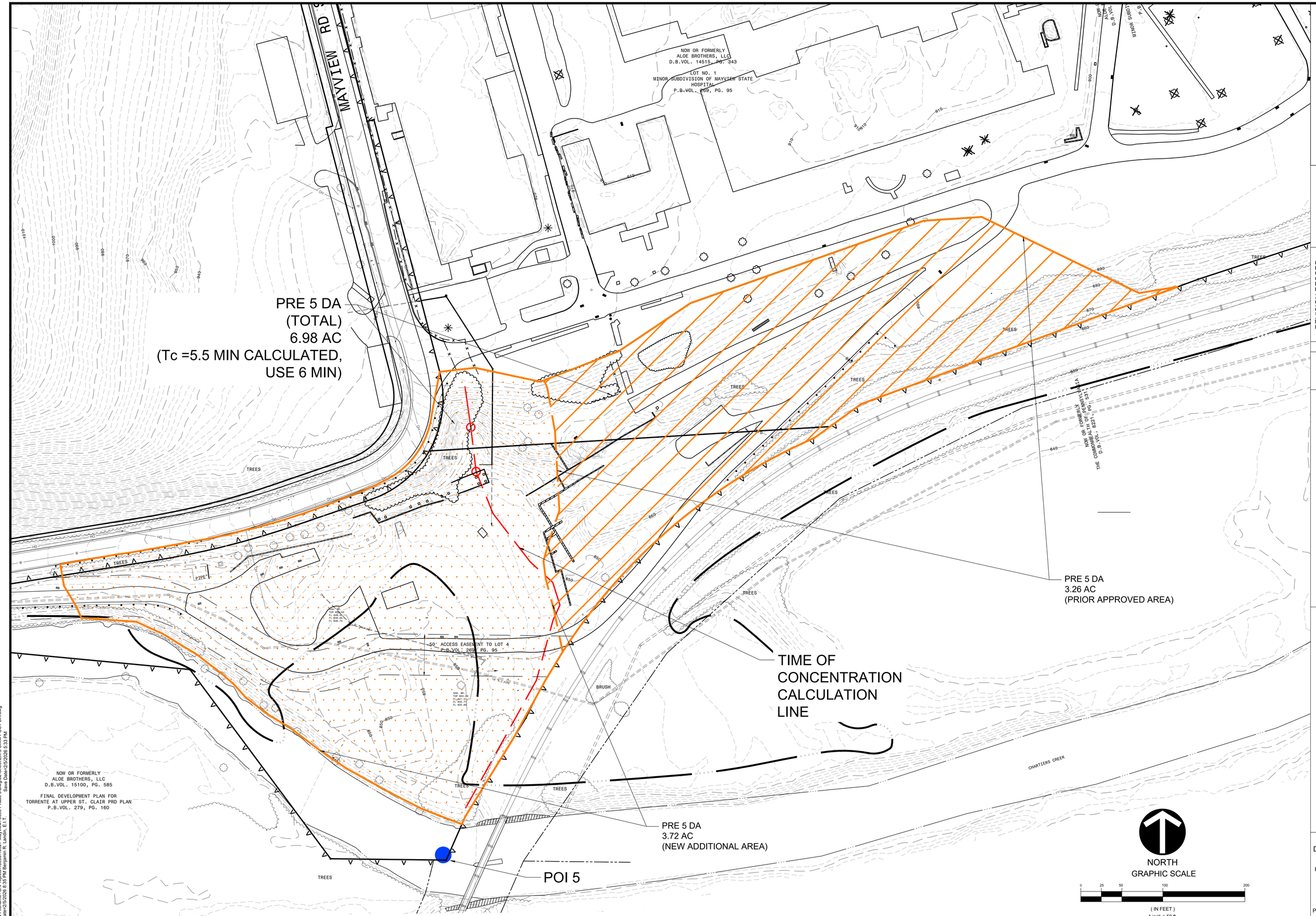
Soils corrosive to concrete/steel:

- 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



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-	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

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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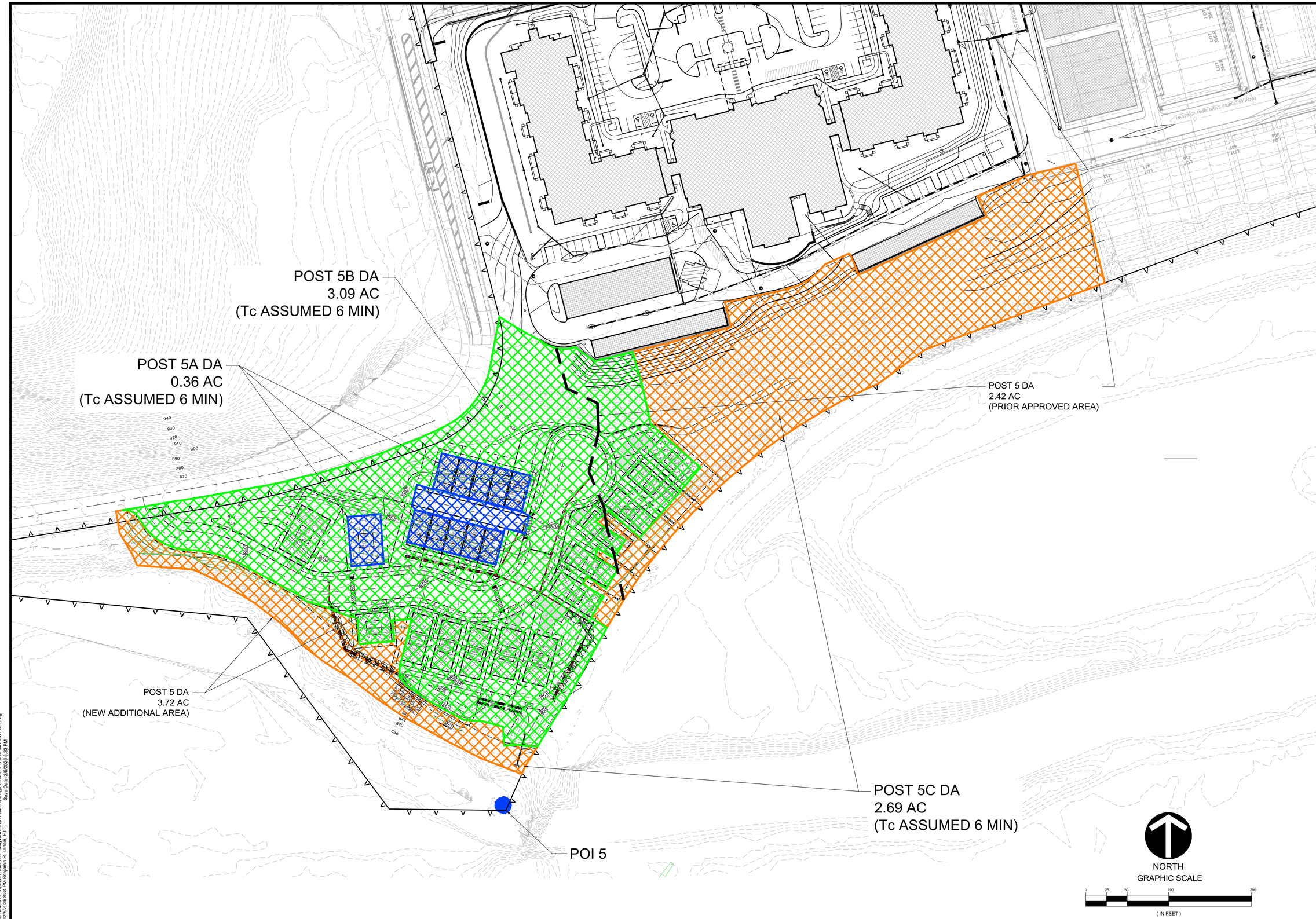

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HASTINGS
South Fayette Township/Pittsburgh, PA
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PREPARED FOR:
CHARTER HOMES AT HASTINGS, INC
322 NORTH ARCH STREET, FIRST FLOOR
LANCASTER, PA 17603

POST 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

POST DA

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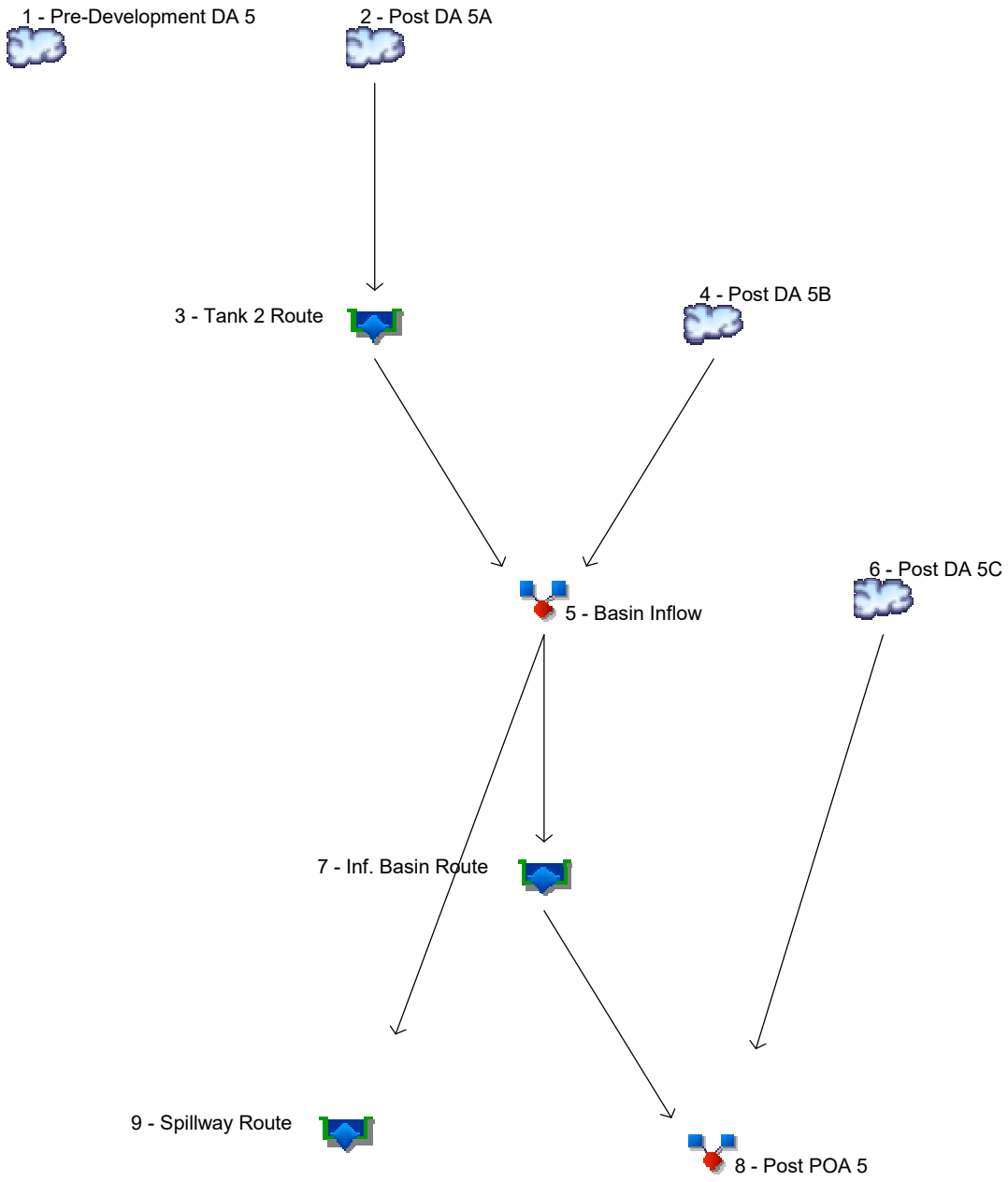
Watershed Model Schematic



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

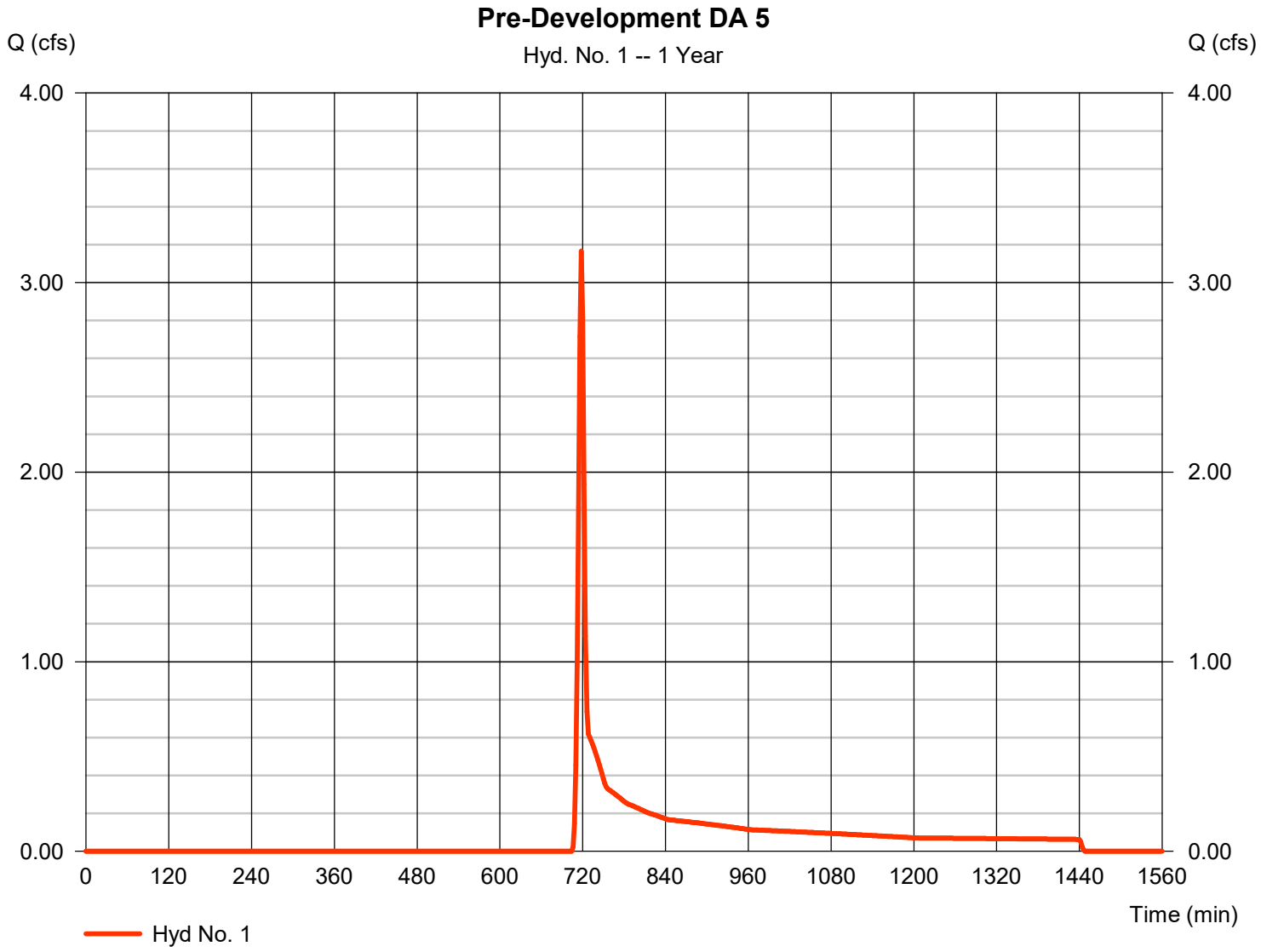
Hydrograph Report

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

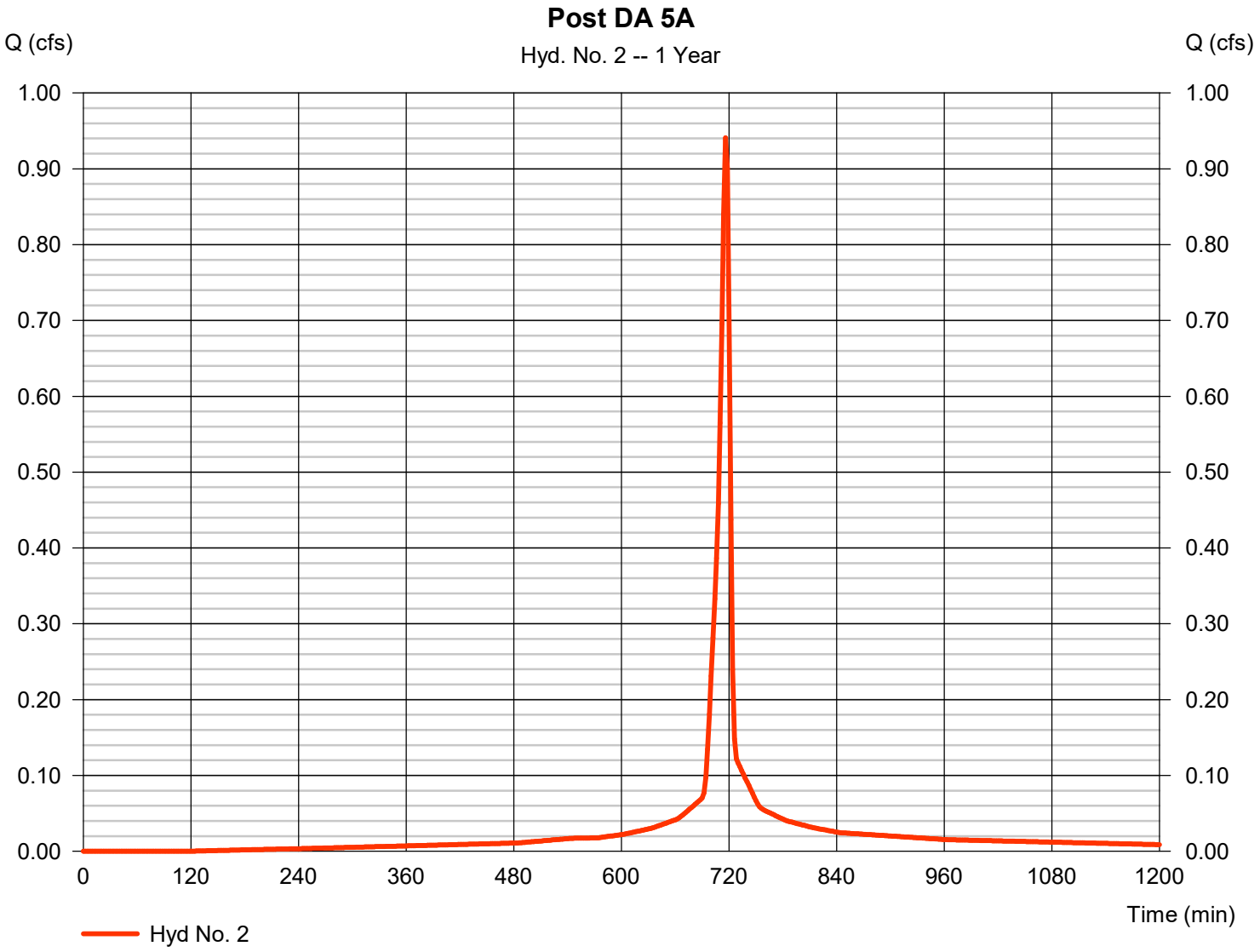
Hydrograph Report

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



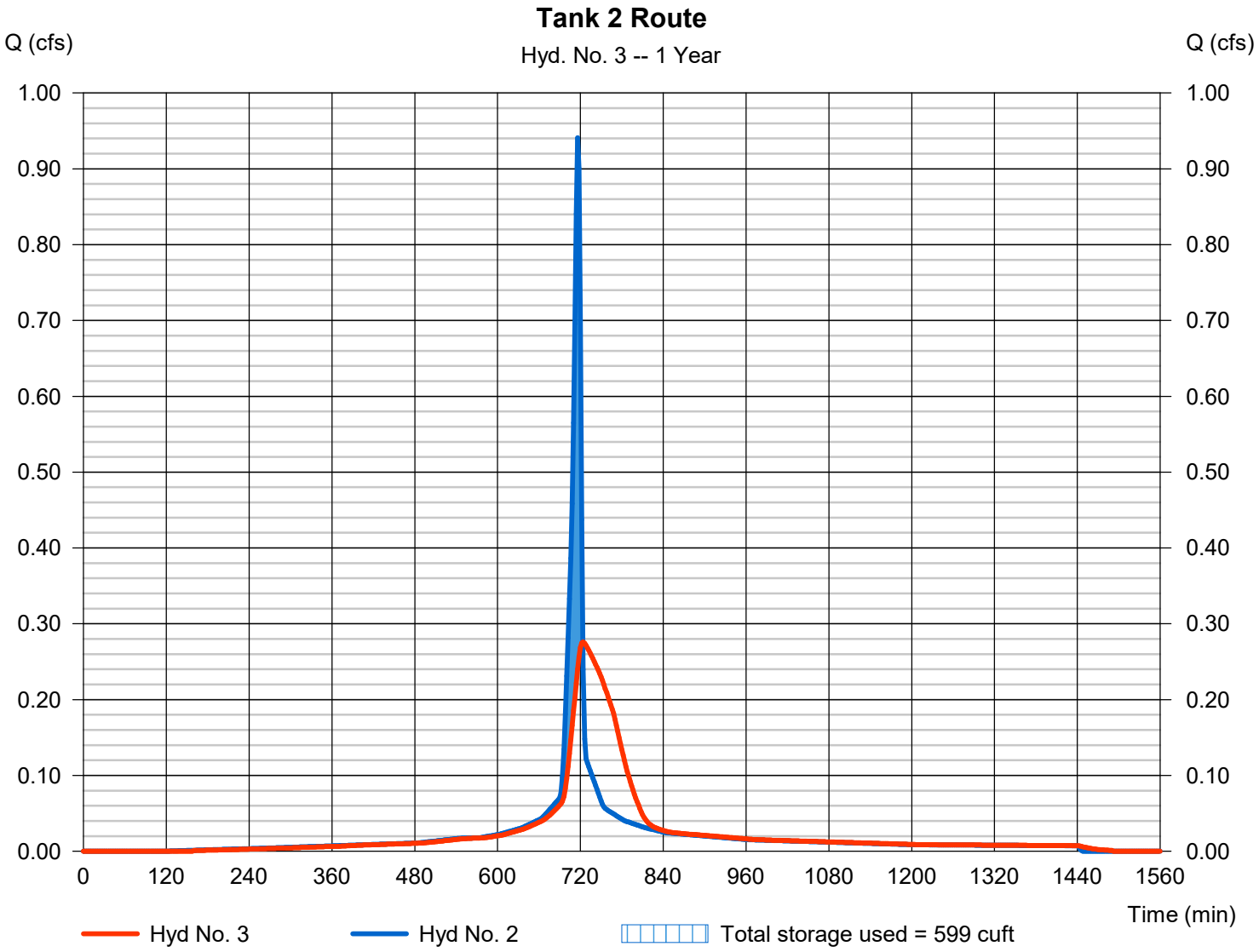
Hydrograph Report

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

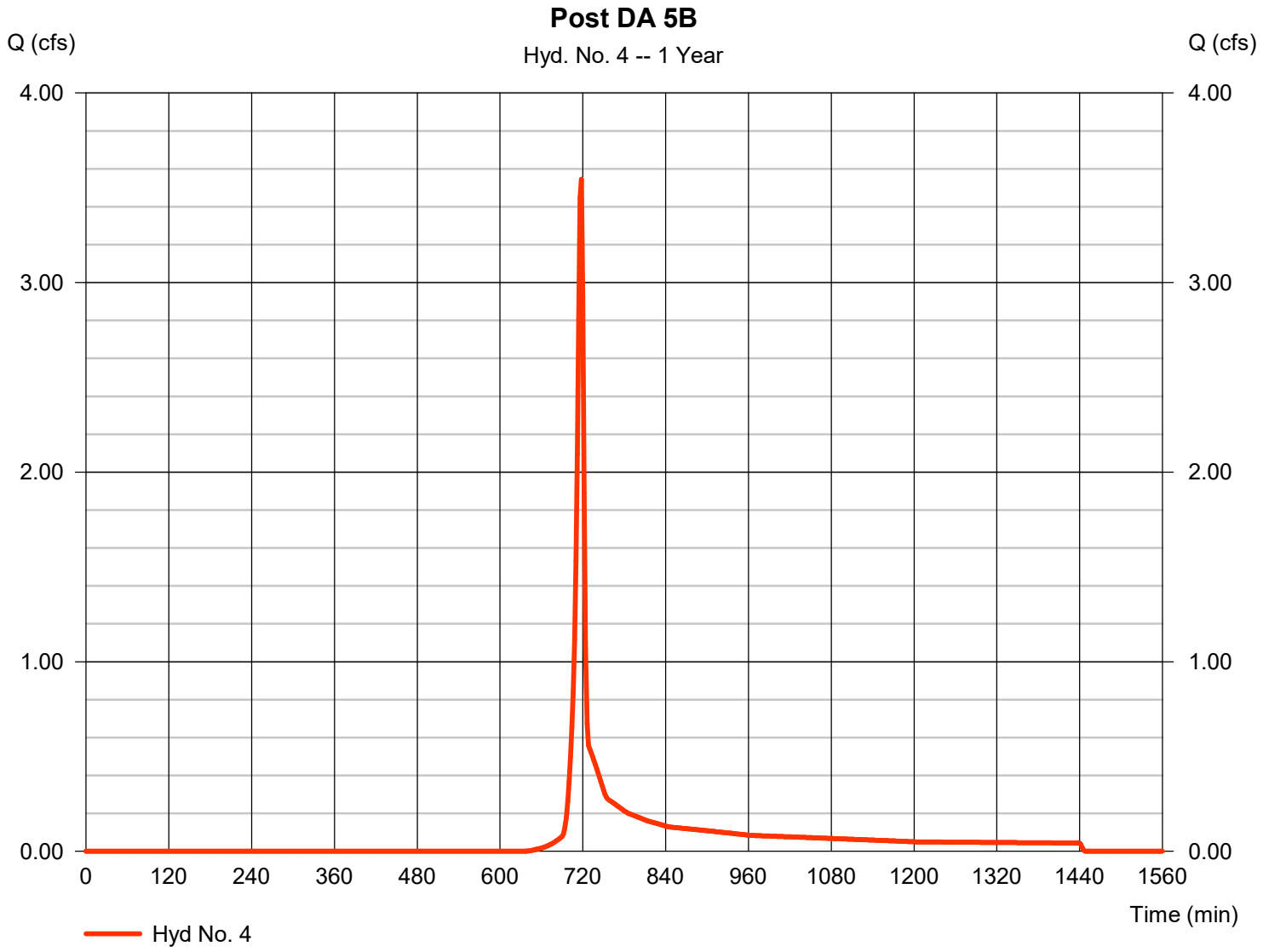
Hydrograph Report

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

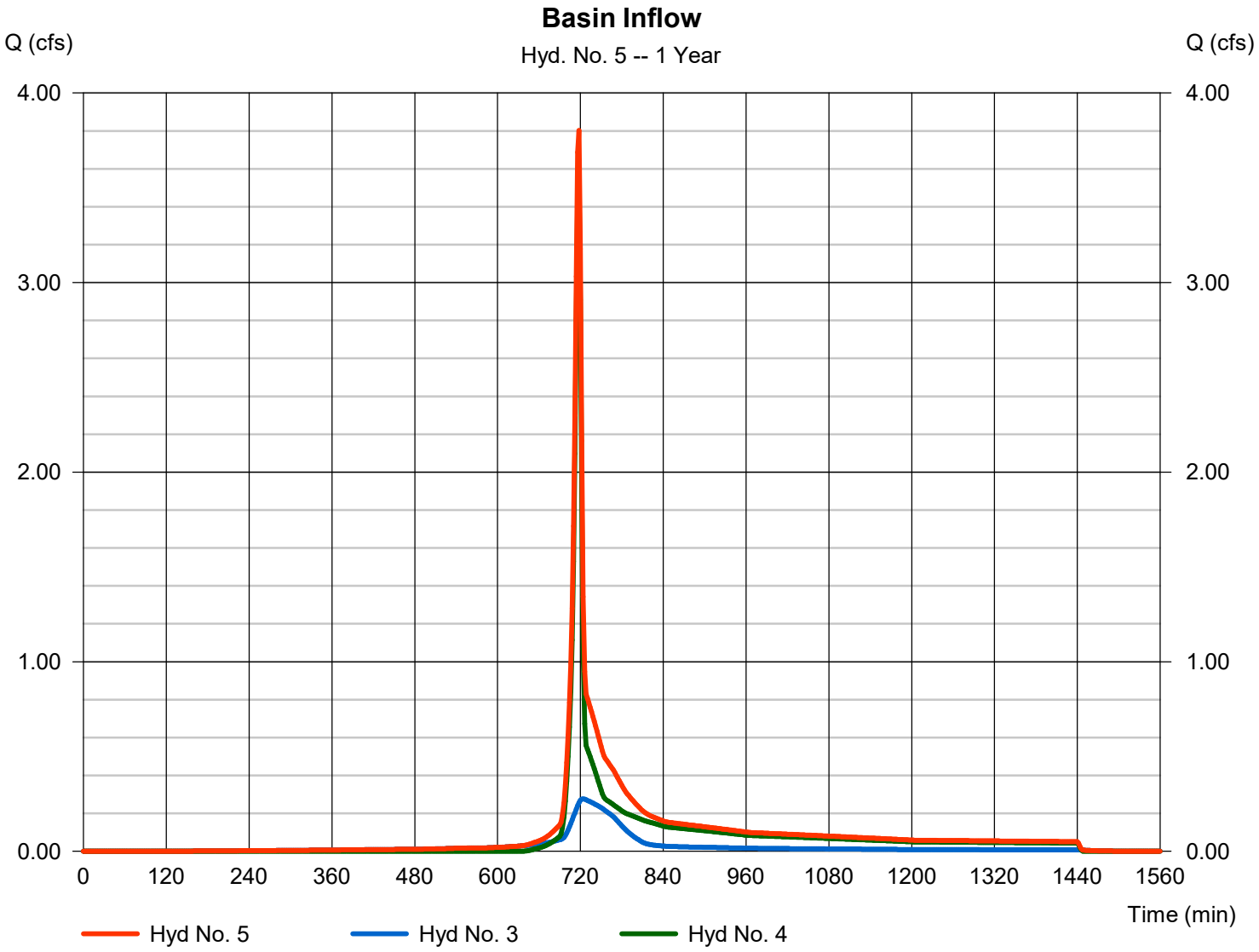


Hydrograph Report

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



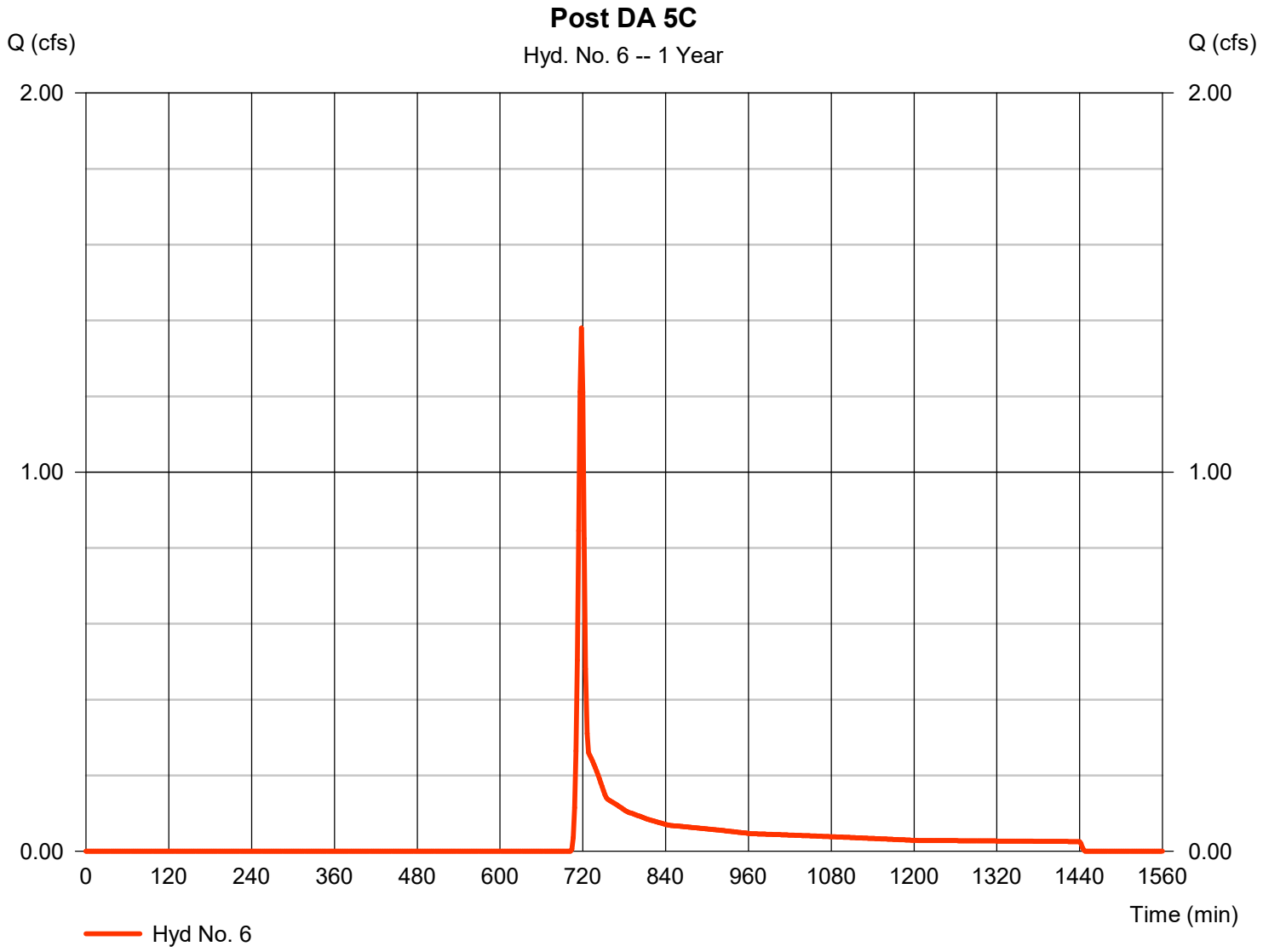
Hydrograph Report

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



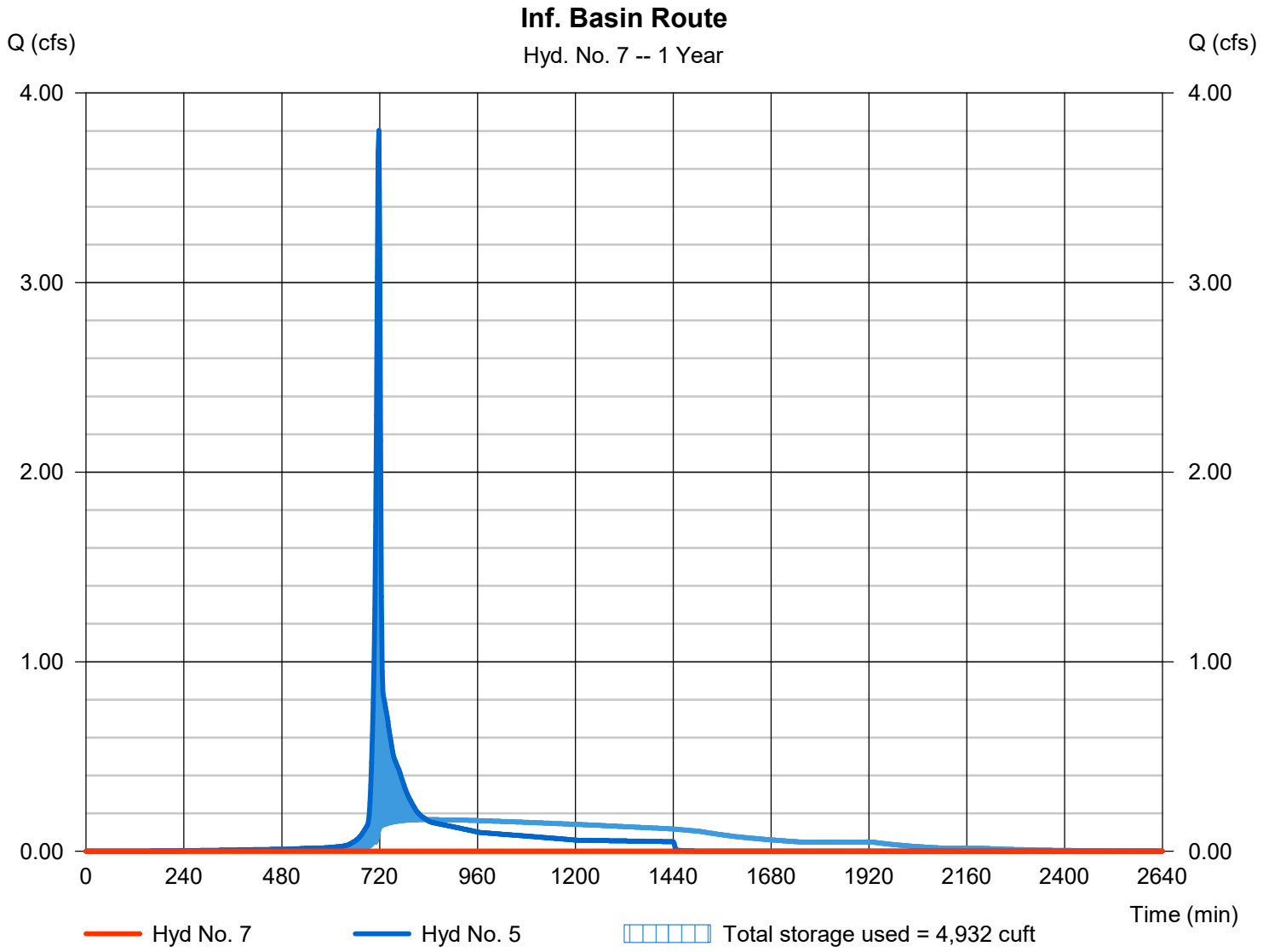
Hydrograph Report

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

Continues on next page...

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

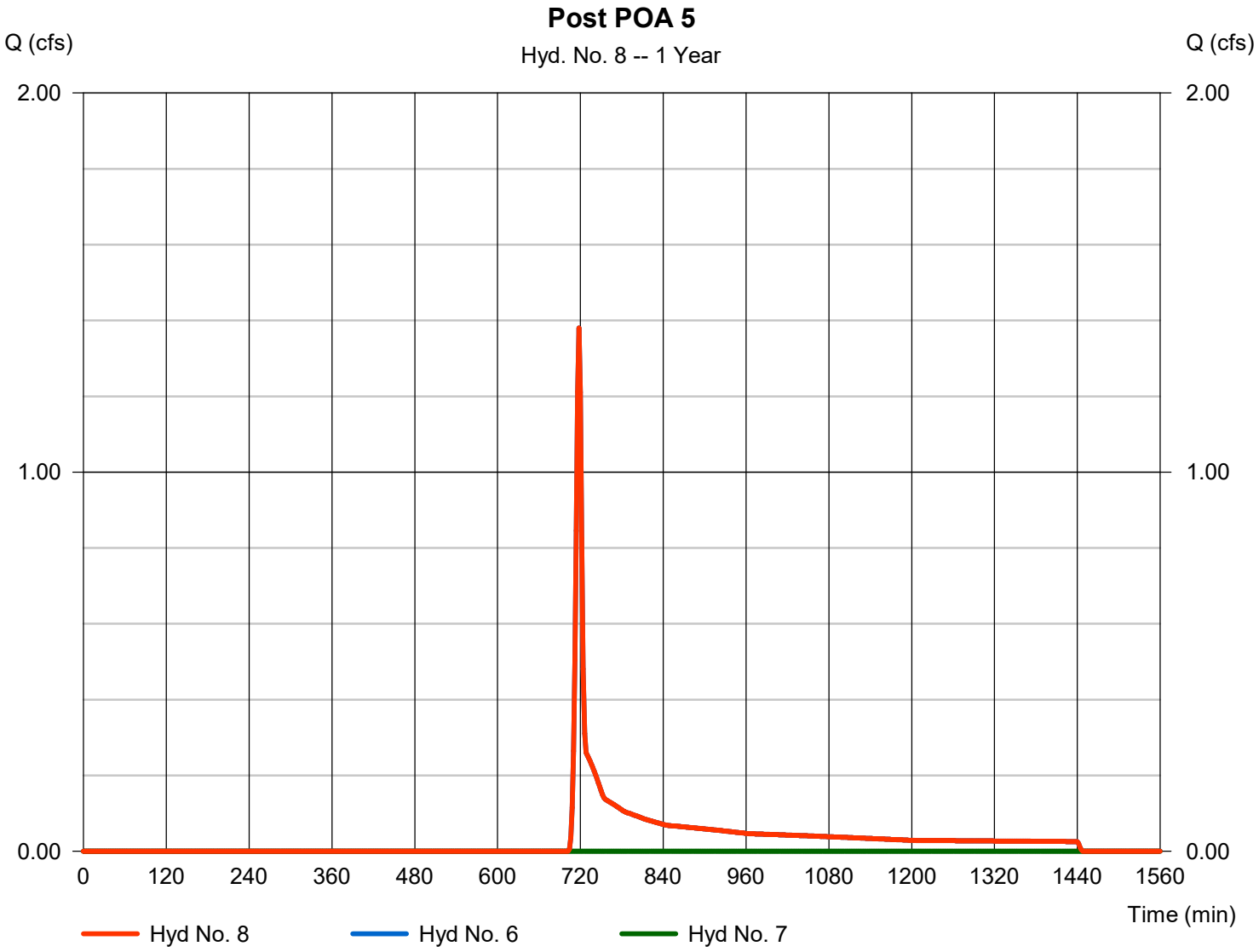
...End

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

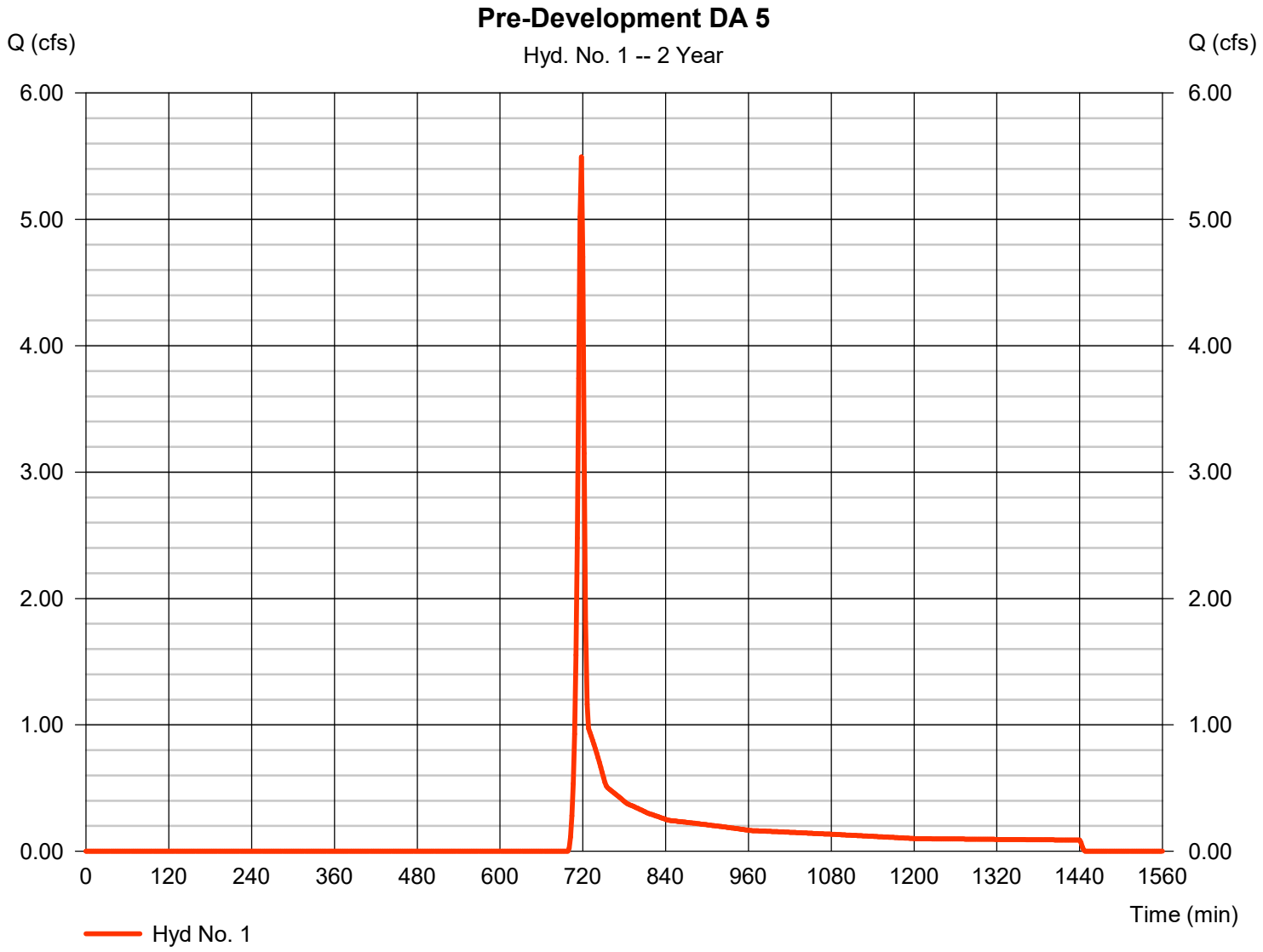
Hydrograph Report

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



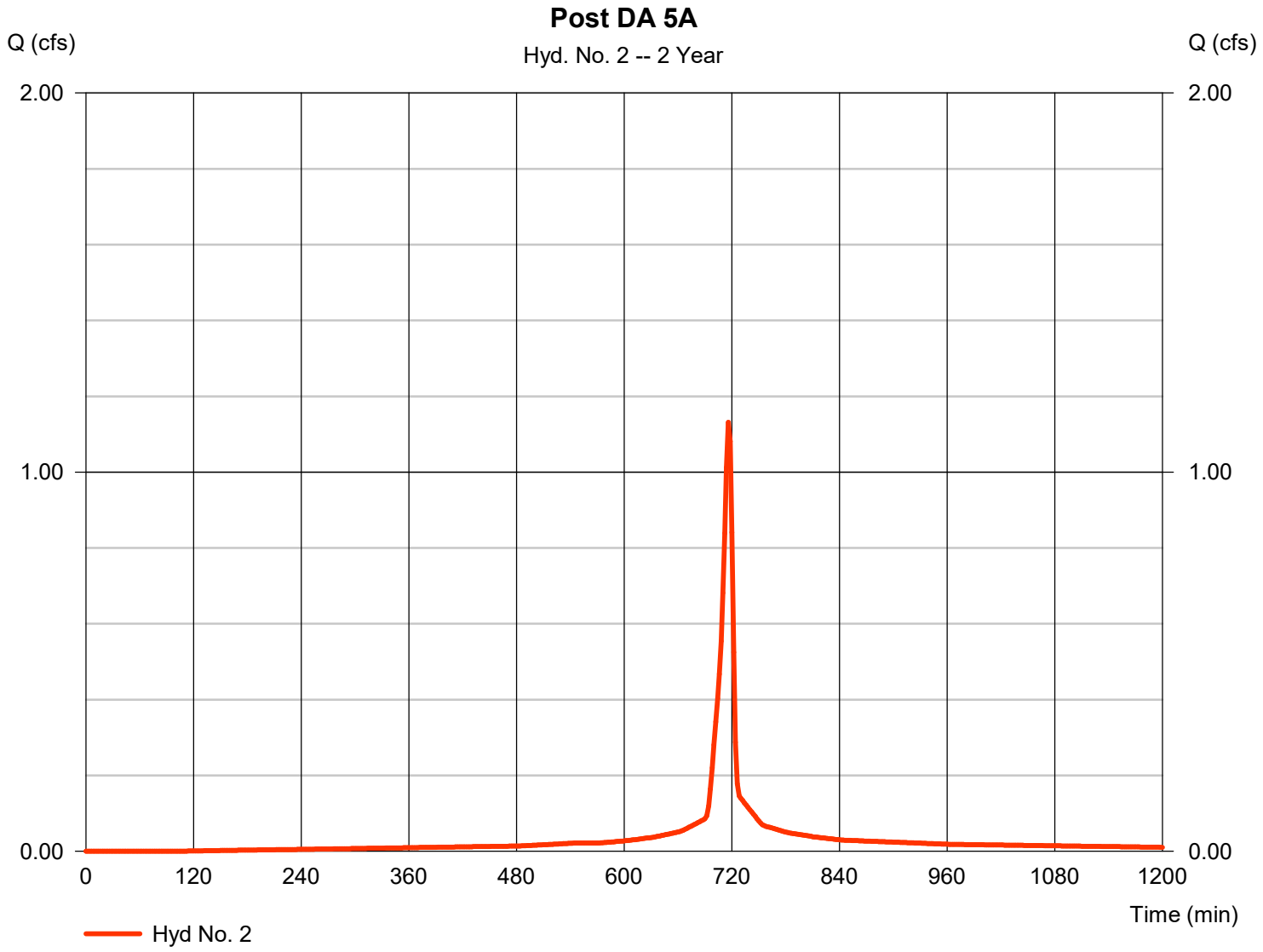
Hydrograph Report

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



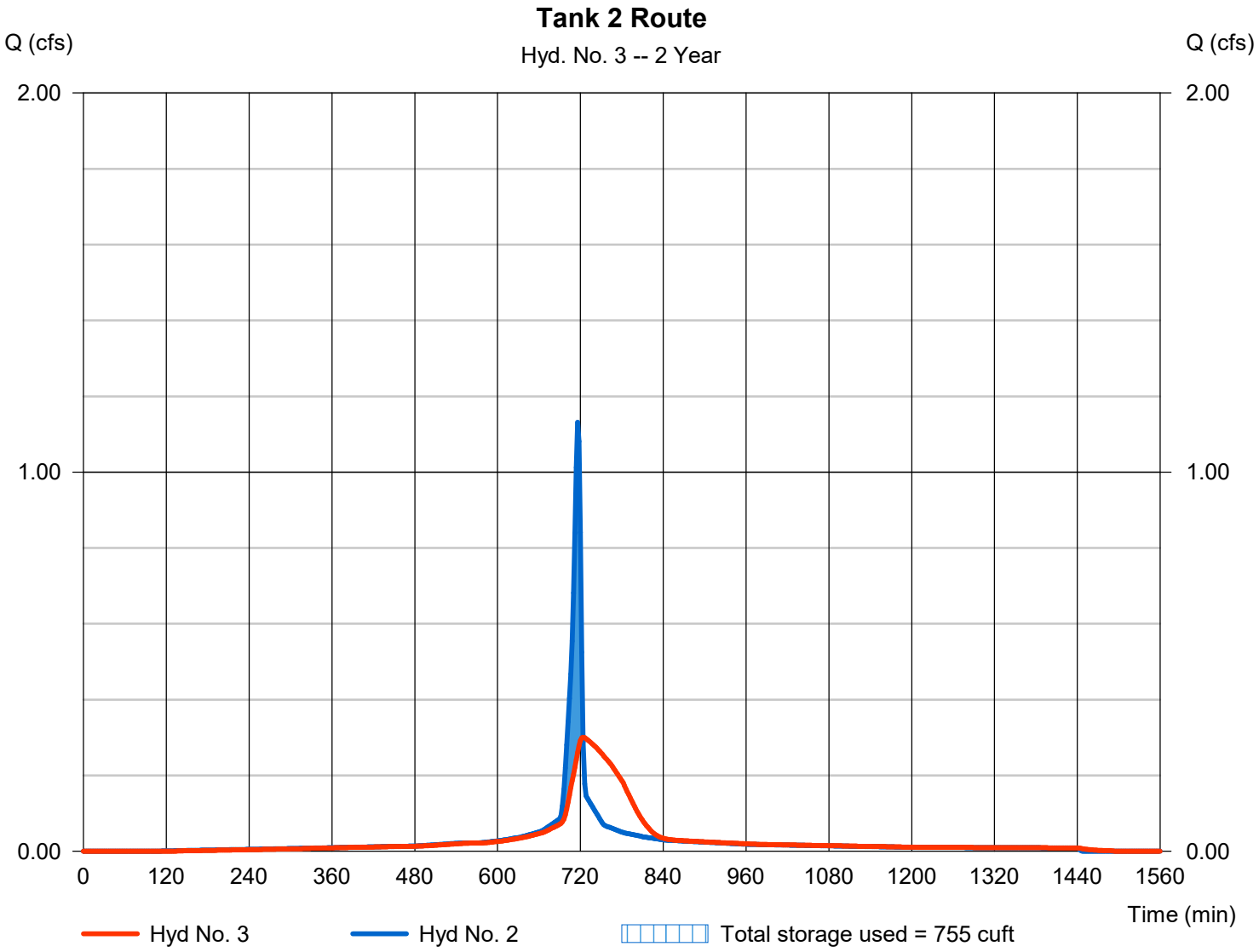
Hydrograph Report

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.



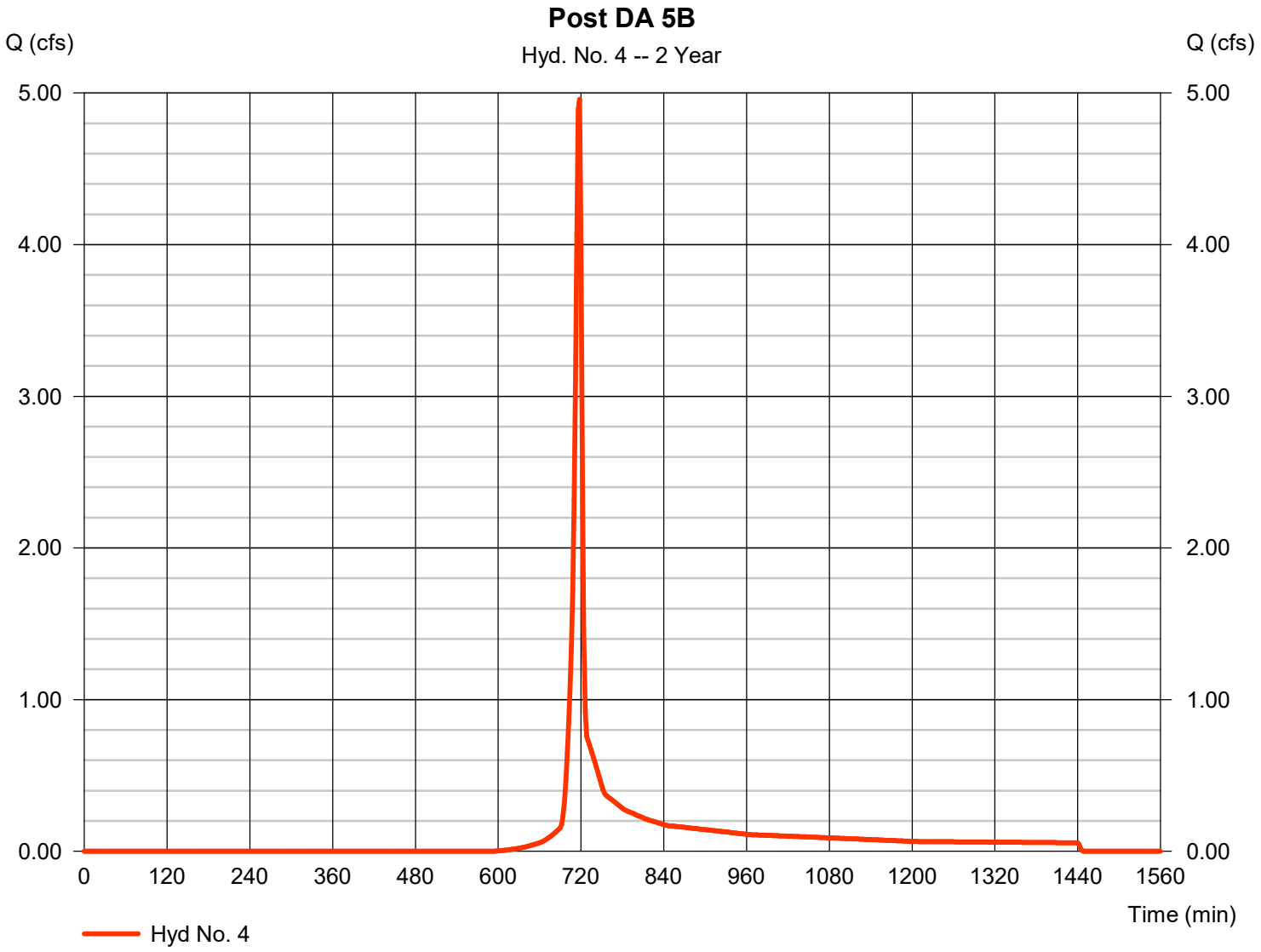
Hydrograph Report

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

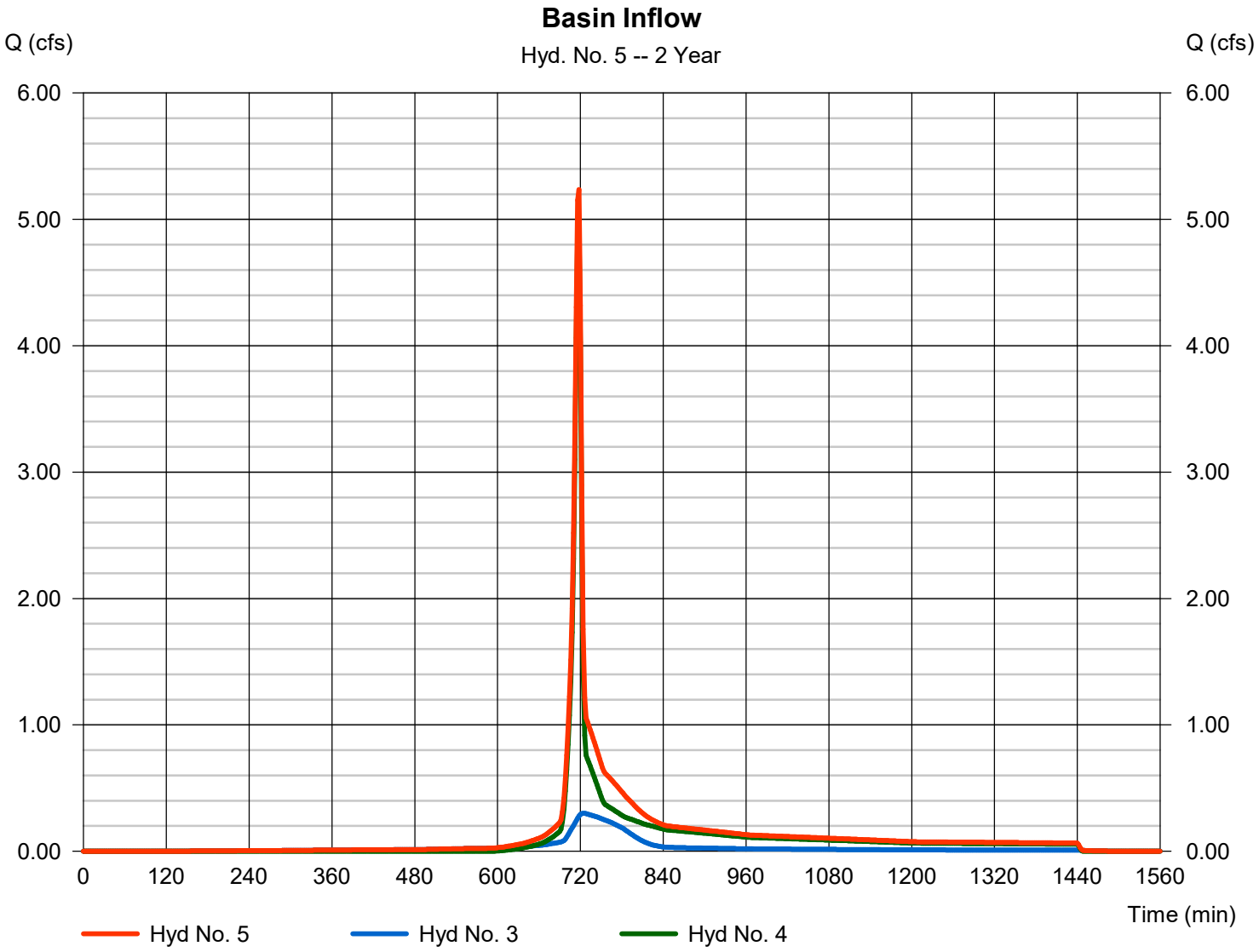


Hydrograph Report

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



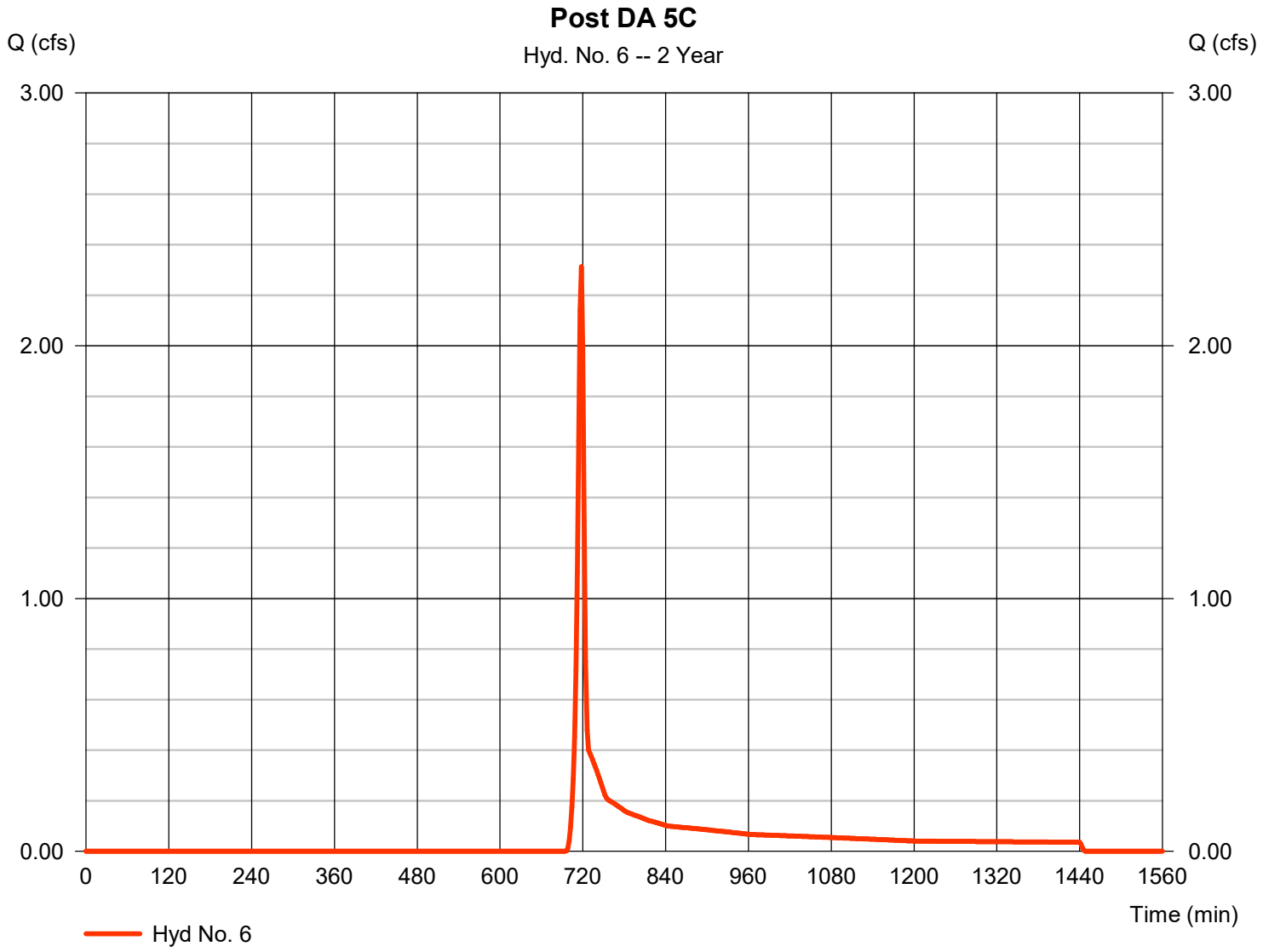
Hydrograph Report

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



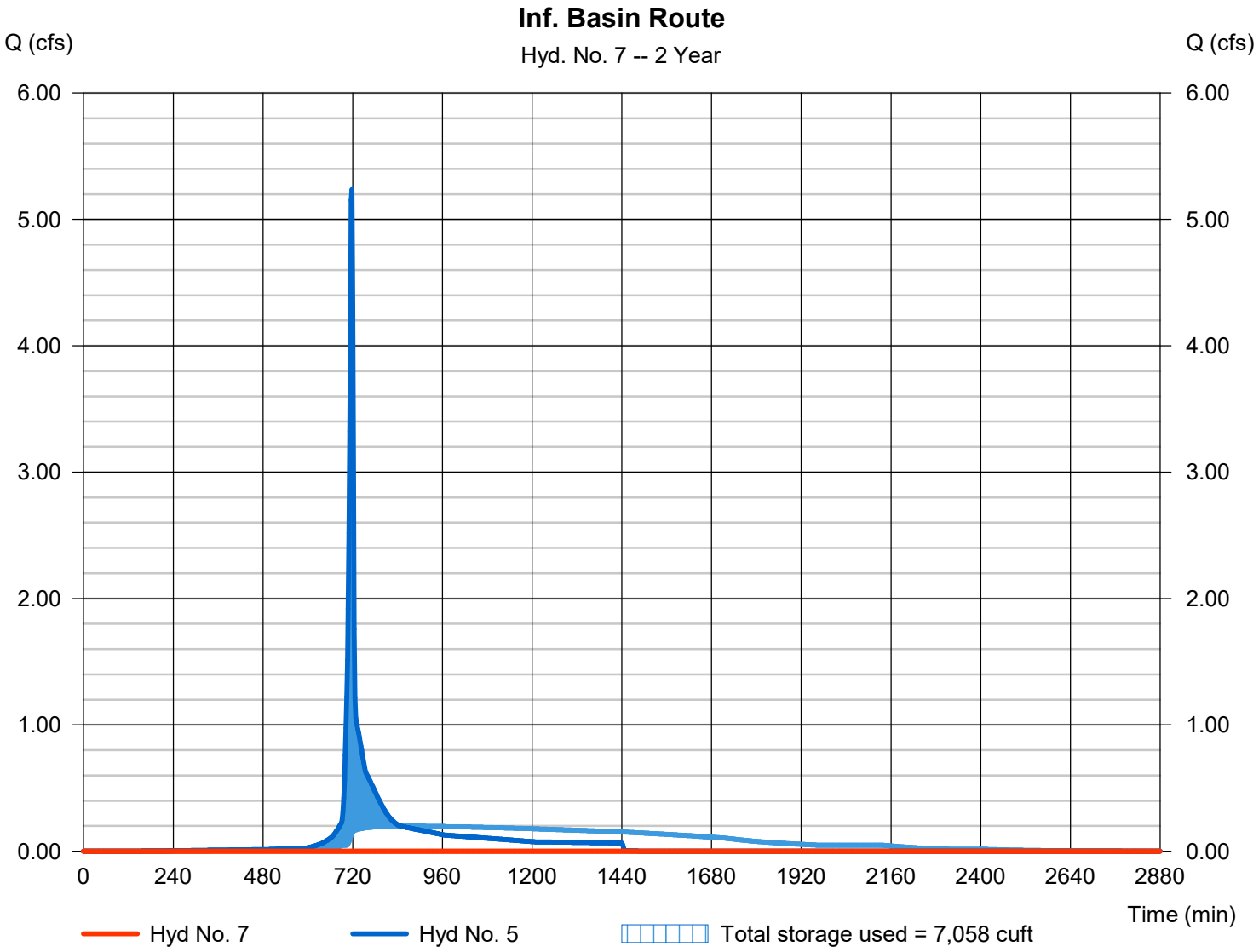
Hydrograph Report

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.

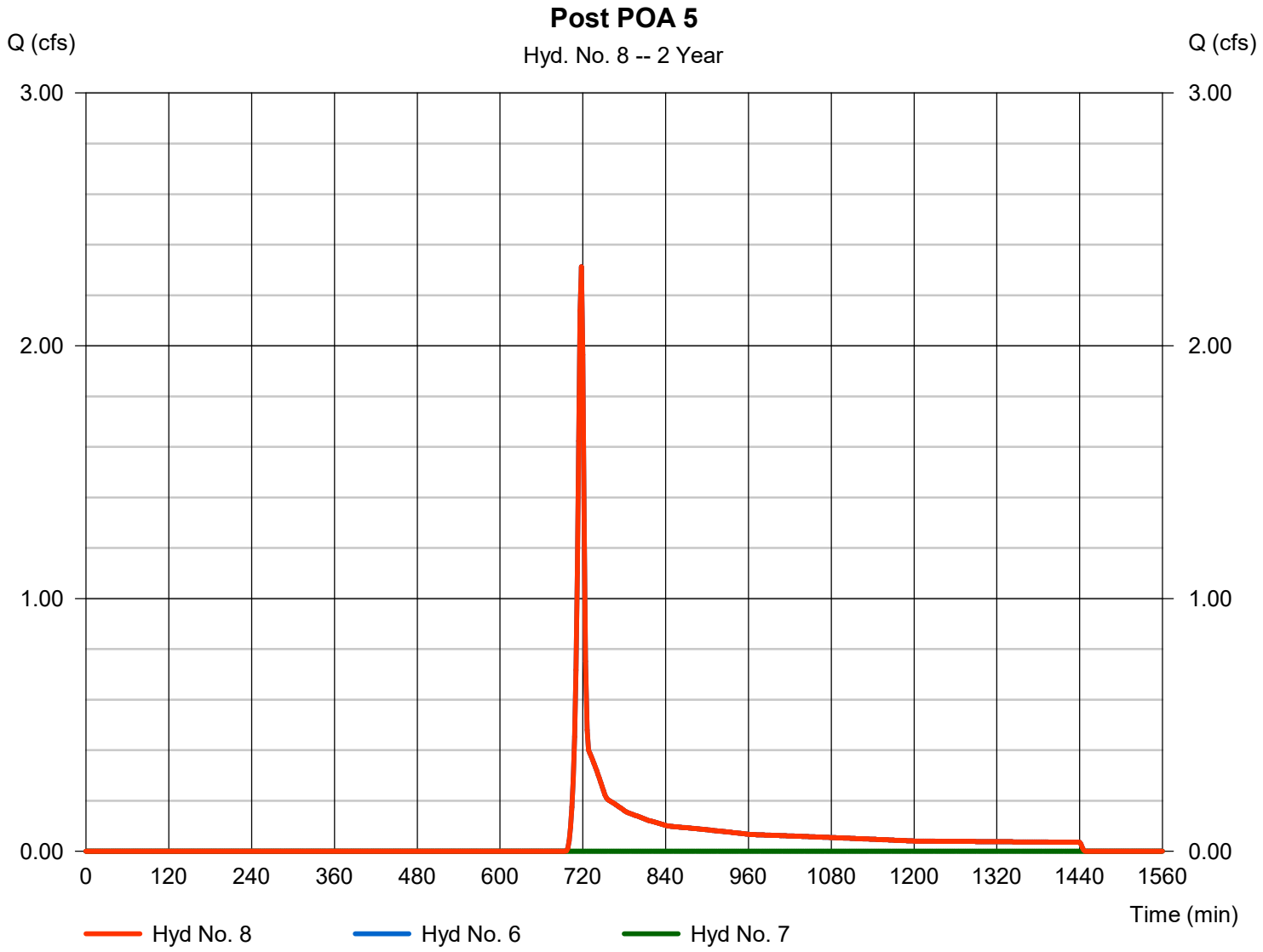


Hydrograph Report

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

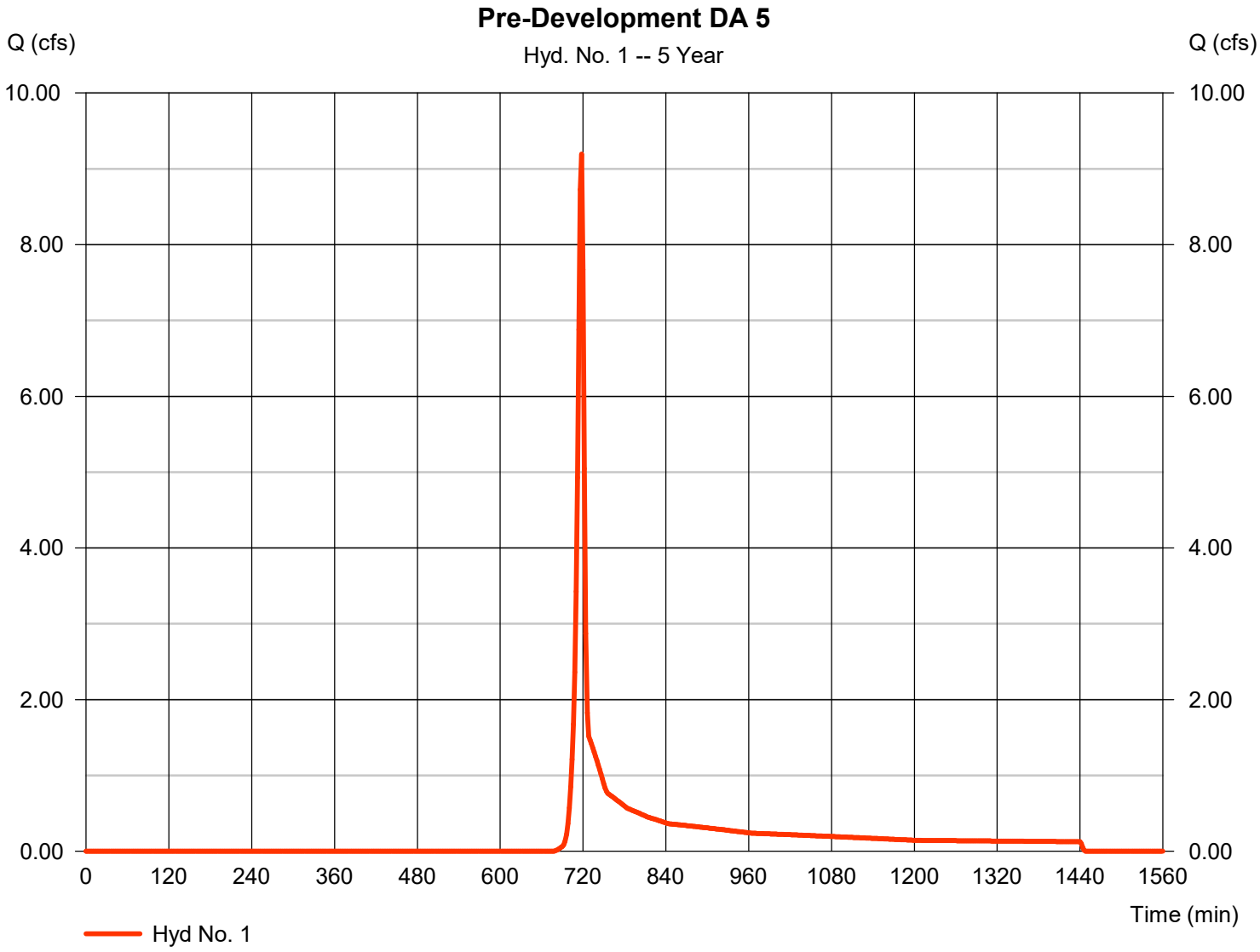
Hydrograph Report

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



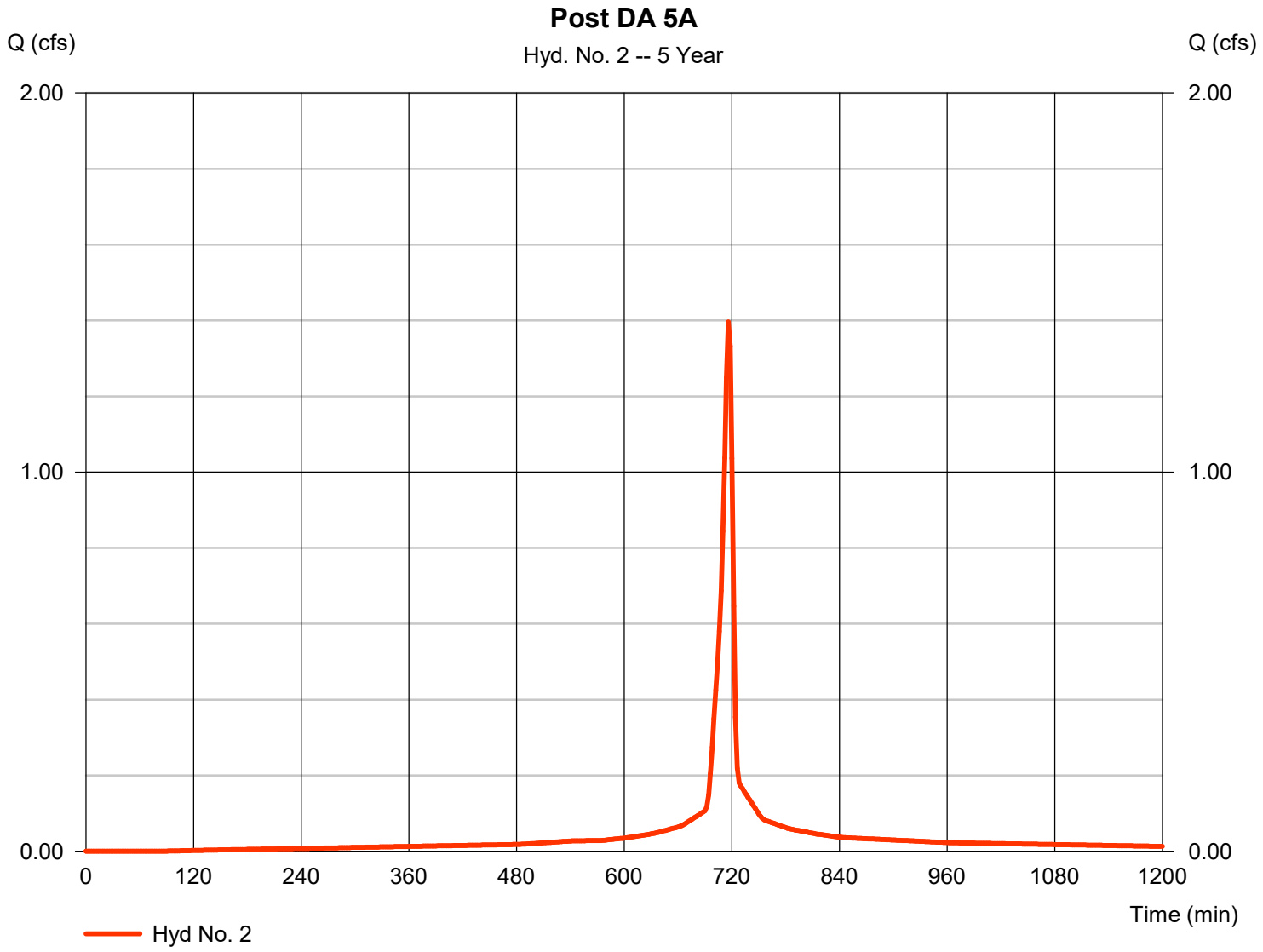
Hydrograph Report

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



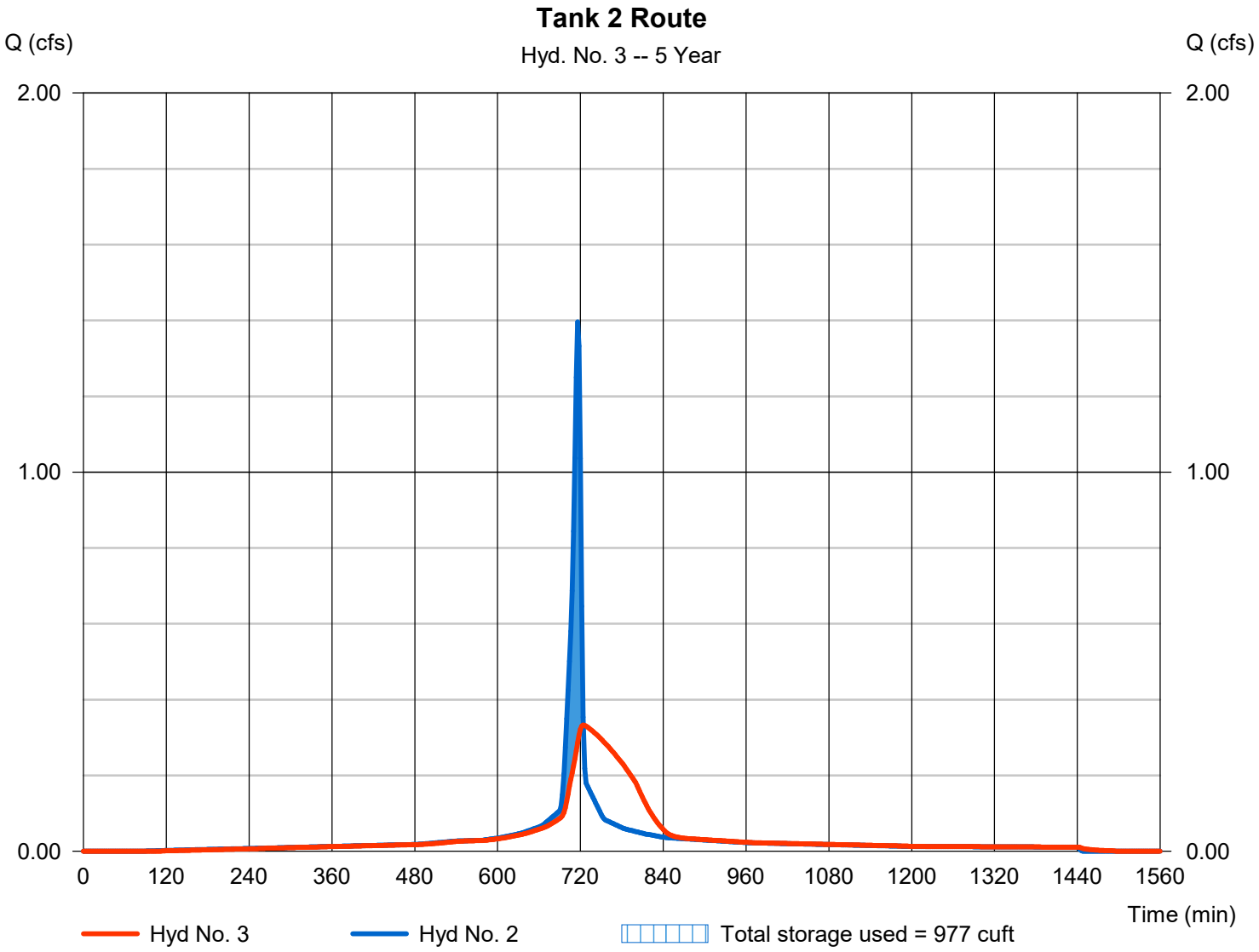
Hydrograph Report

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.



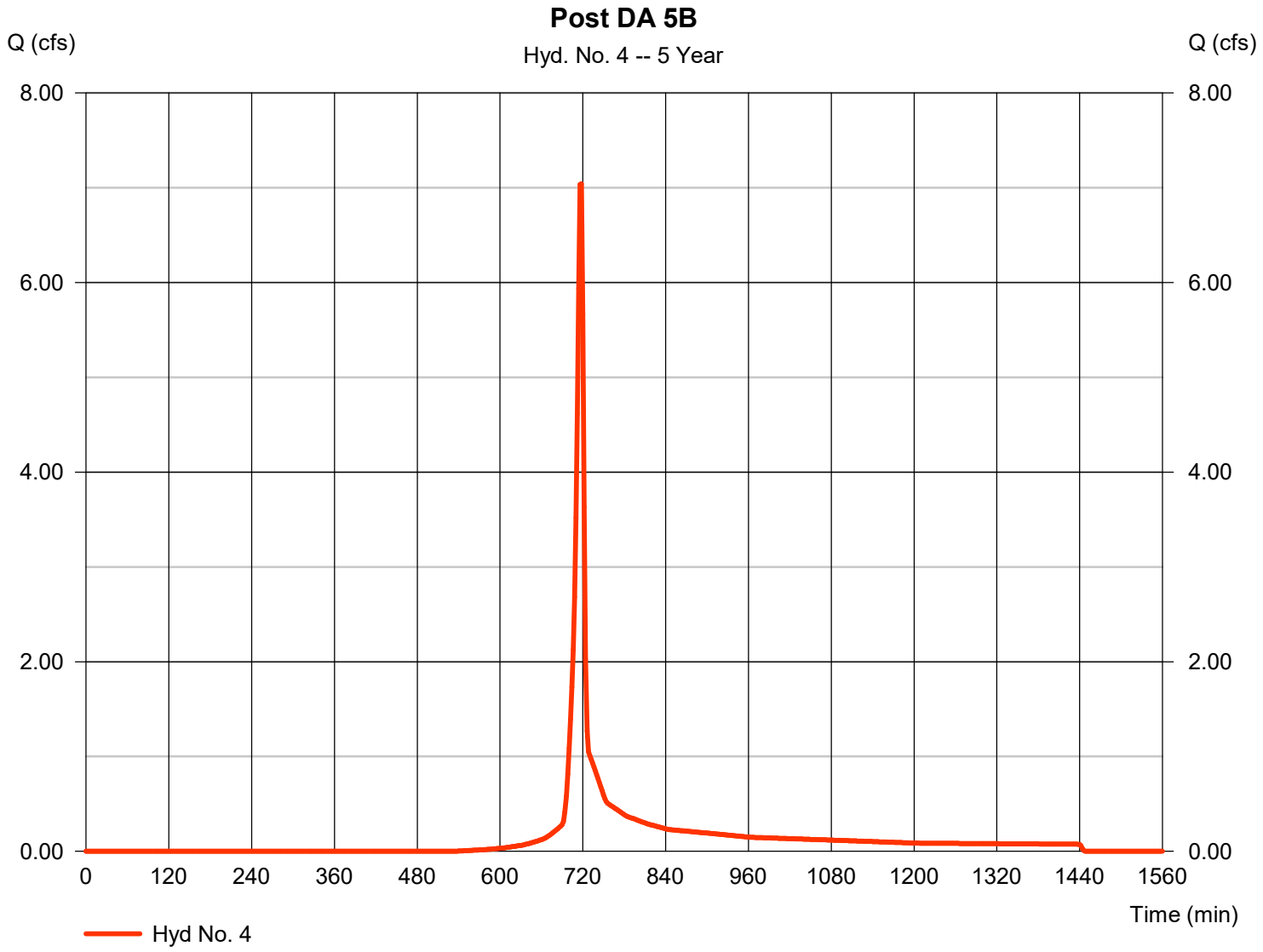
Hydrograph Report

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

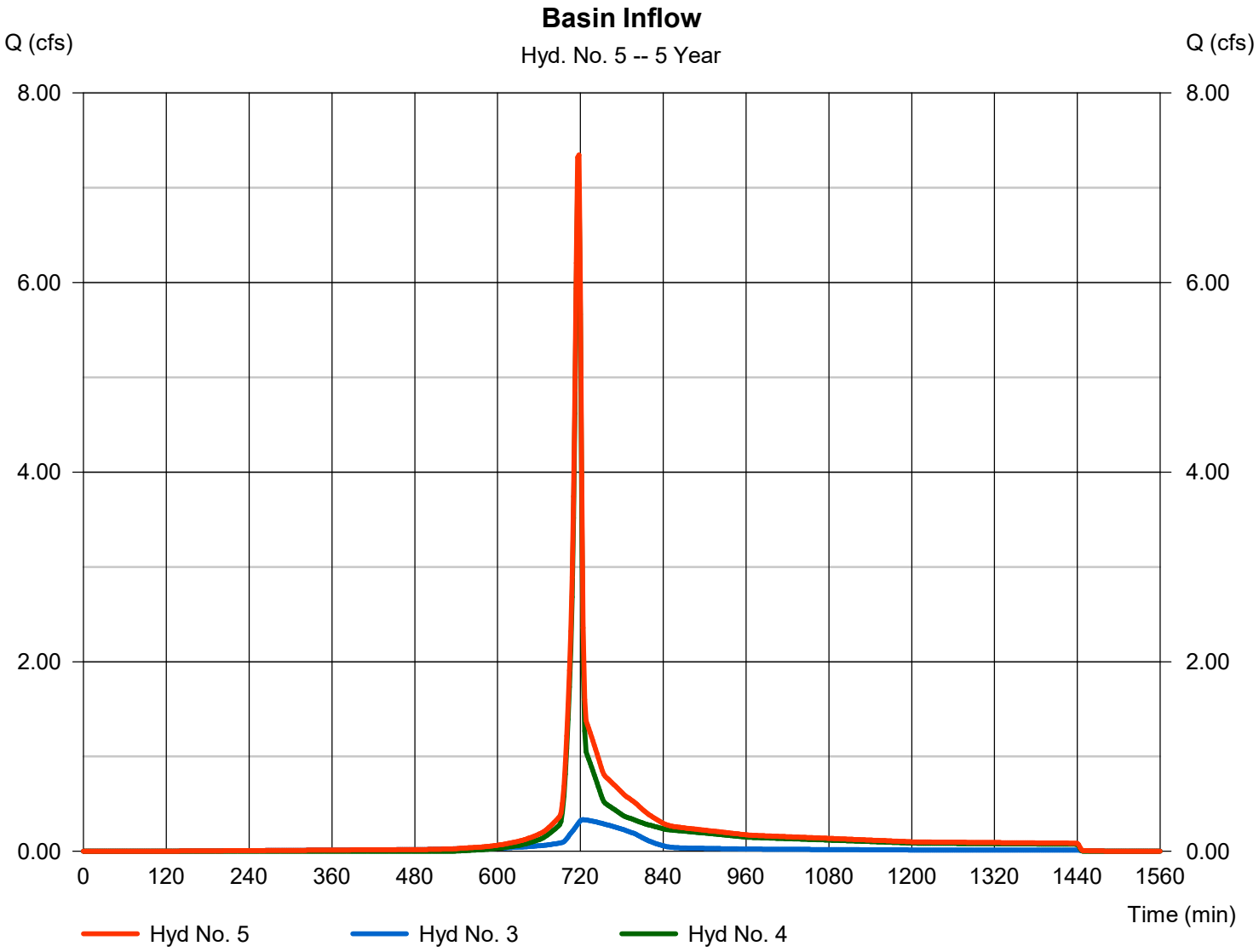


Hydrograph Report

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



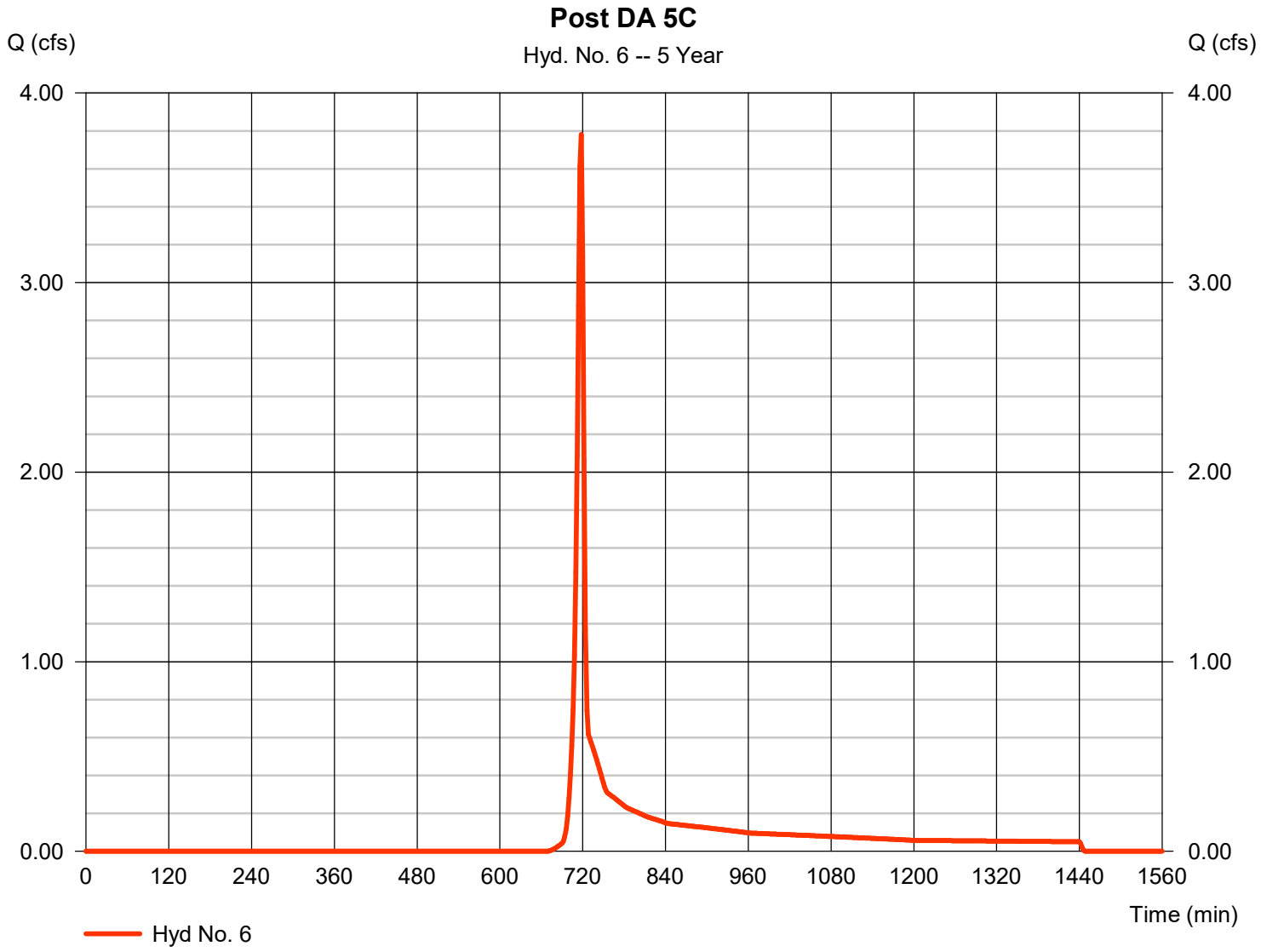
Hydrograph Report

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



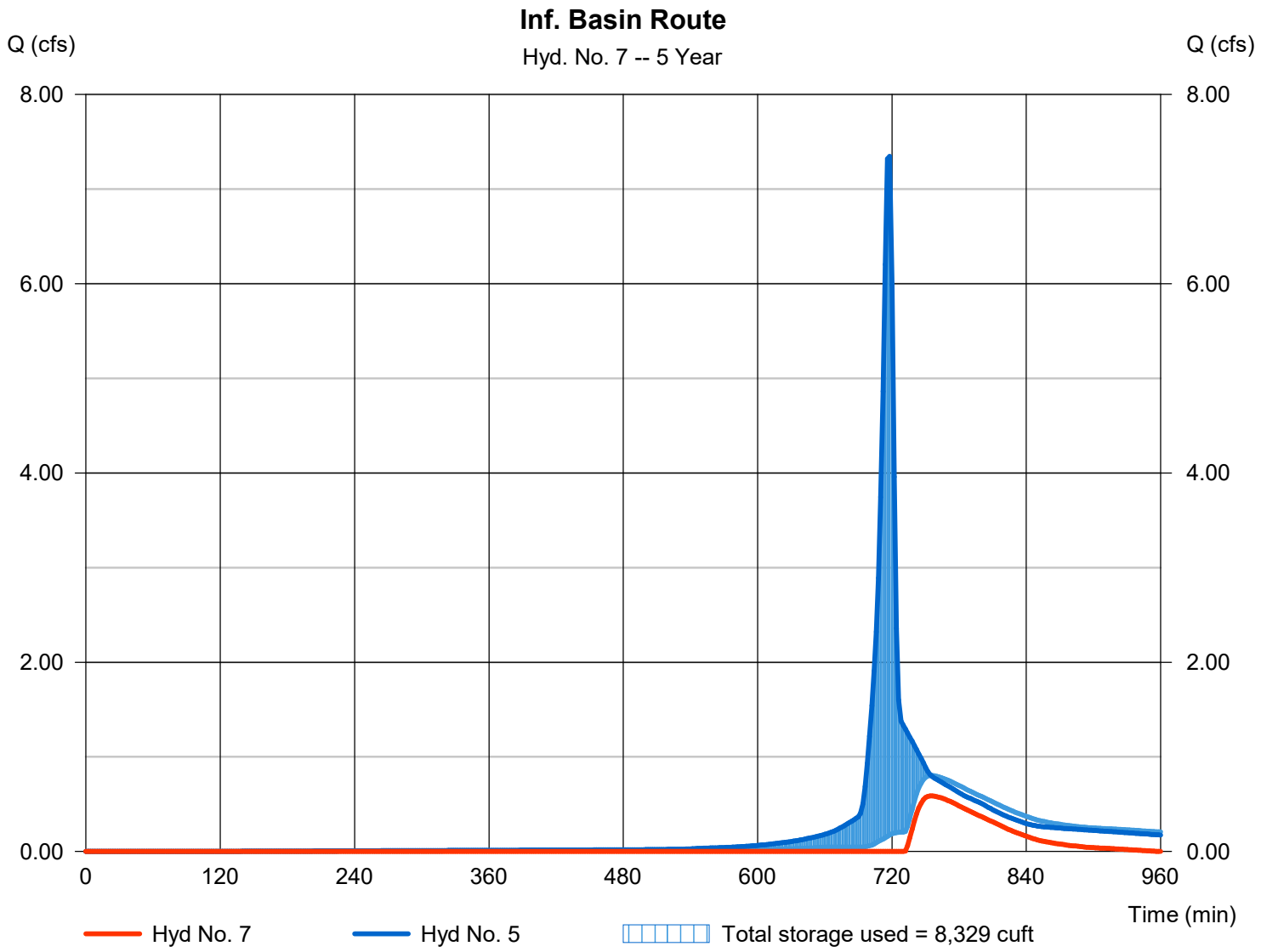
Hydrograph Report

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.

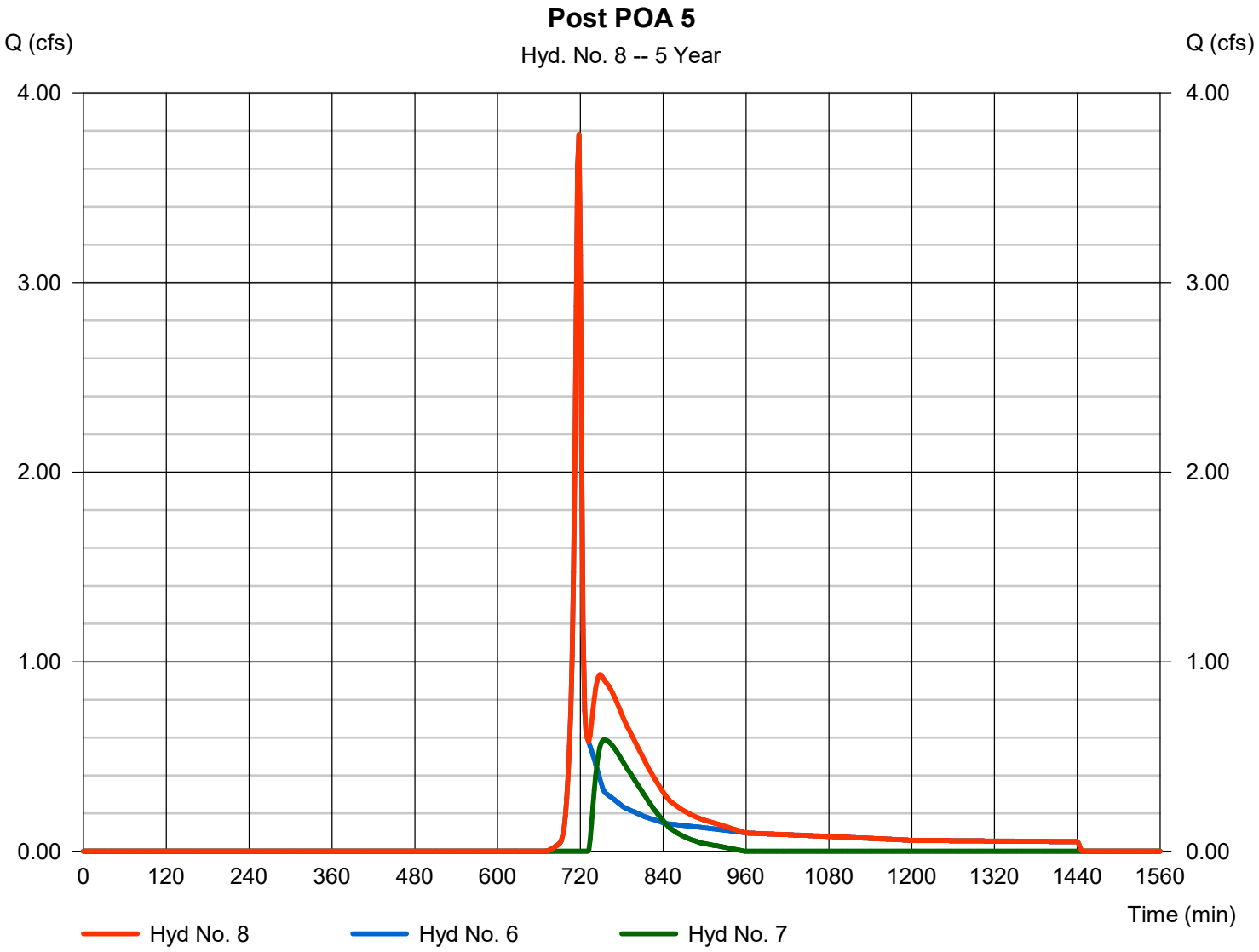


Hydrograph Report

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

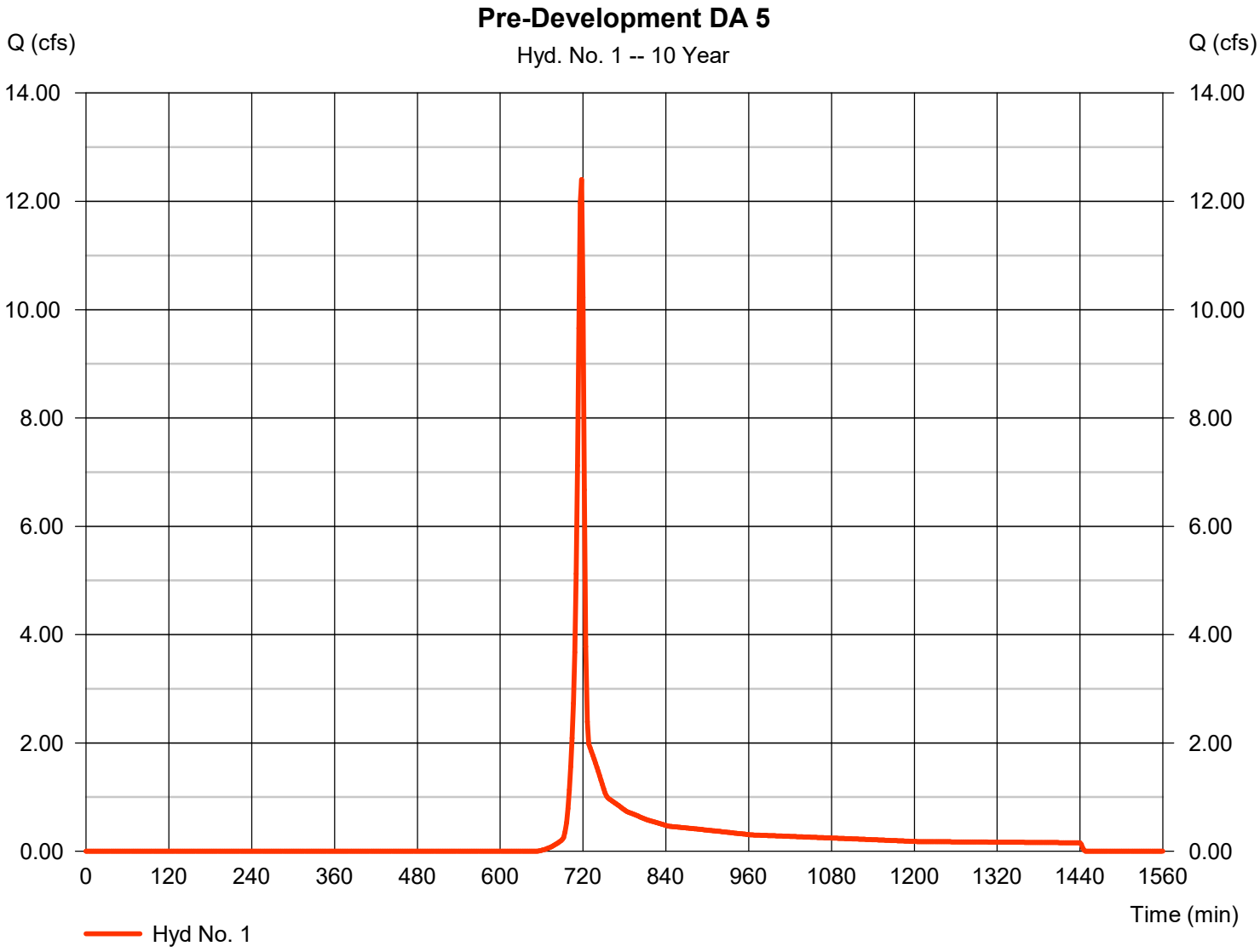
Hydrograph Report

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



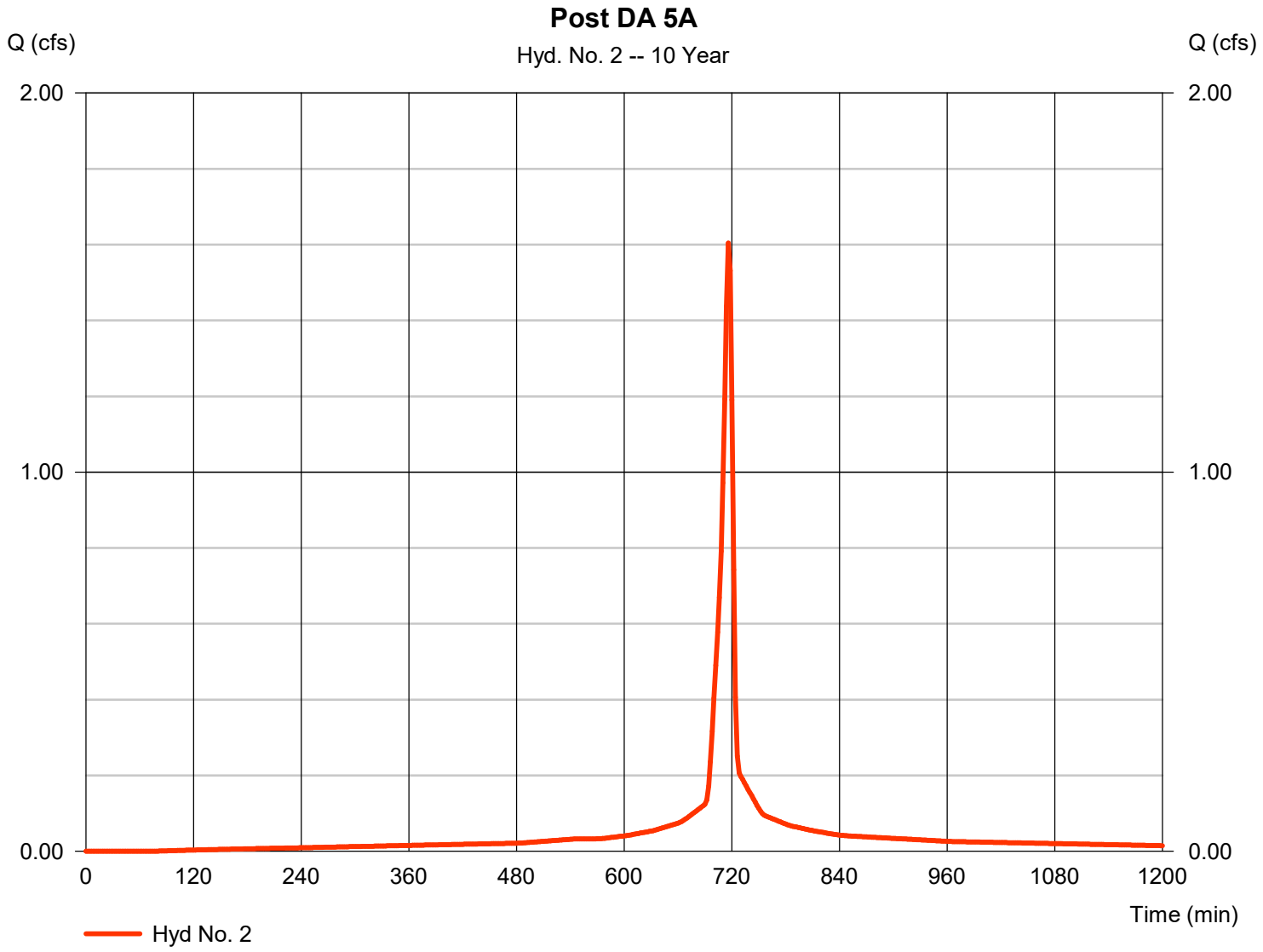
Hydrograph Report

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



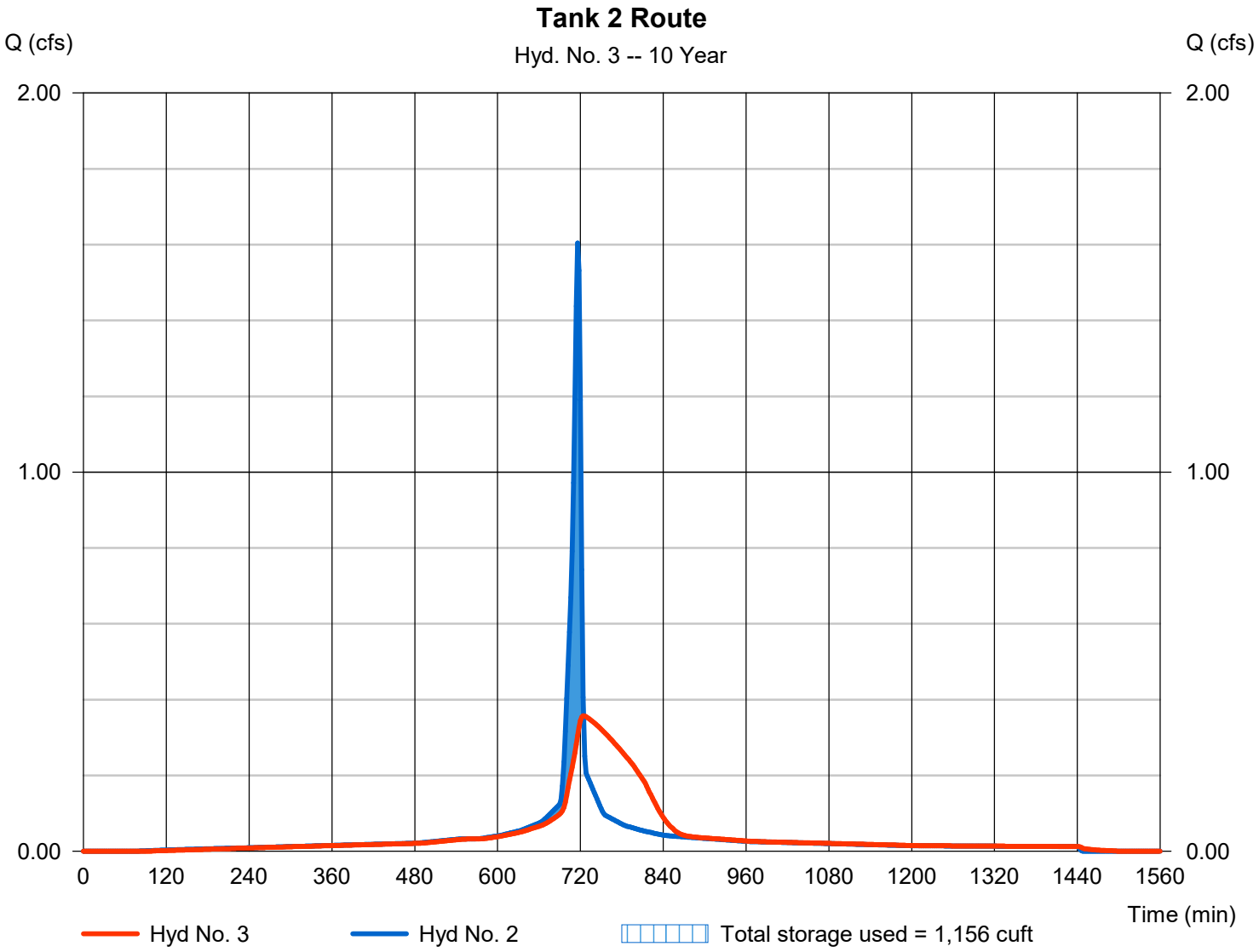
Hydrograph Report

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.



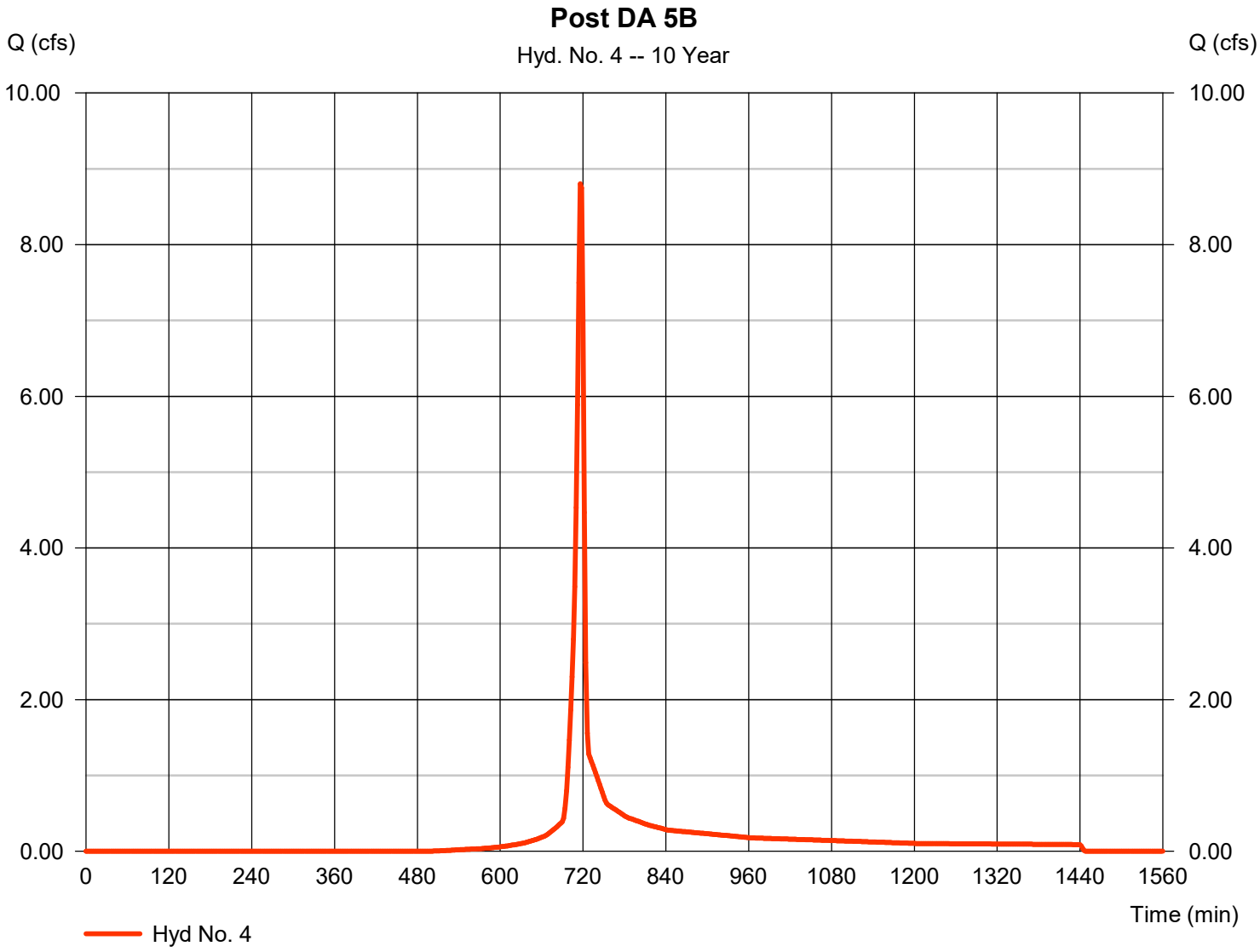
Hydrograph Report

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

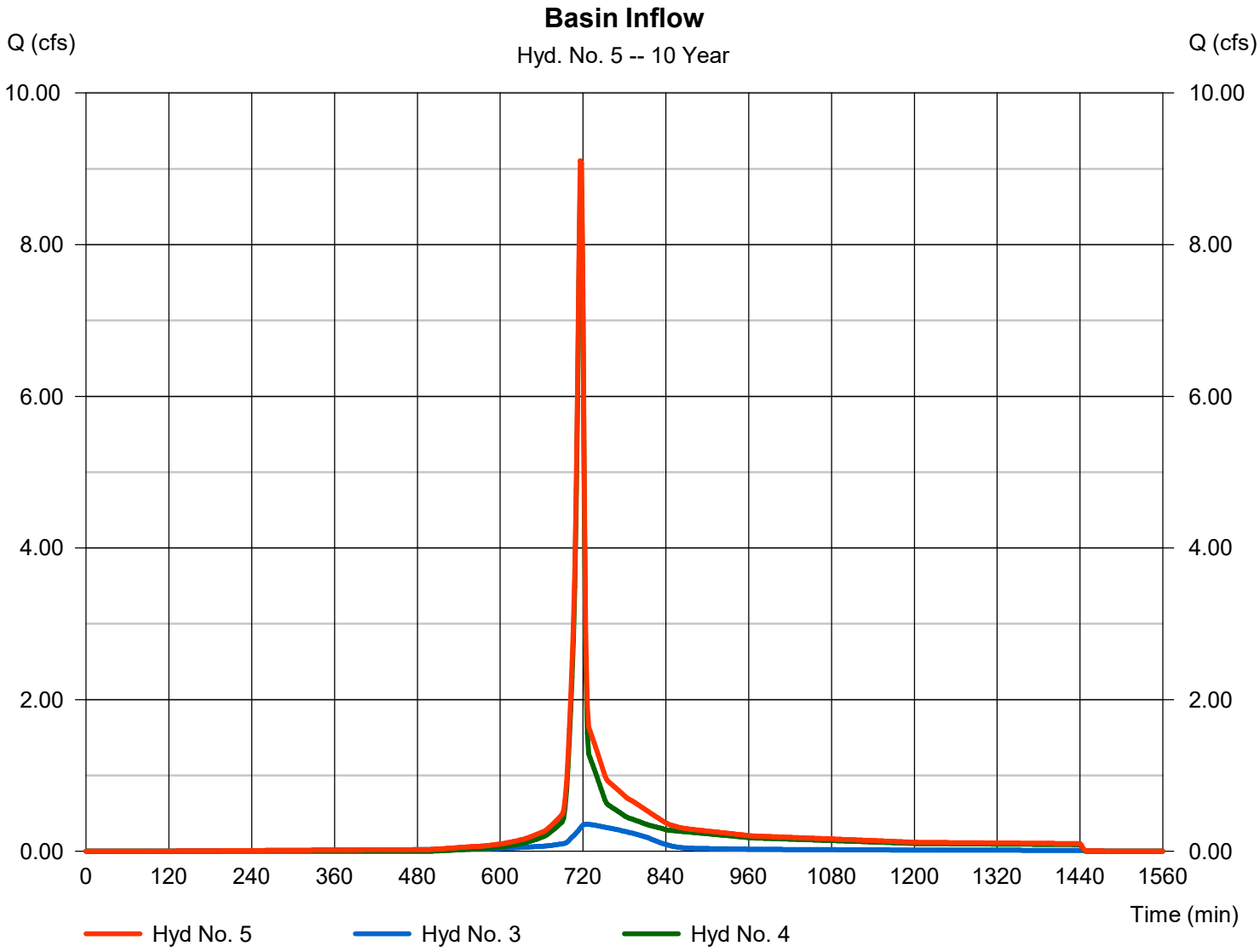


Hydrograph Report

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



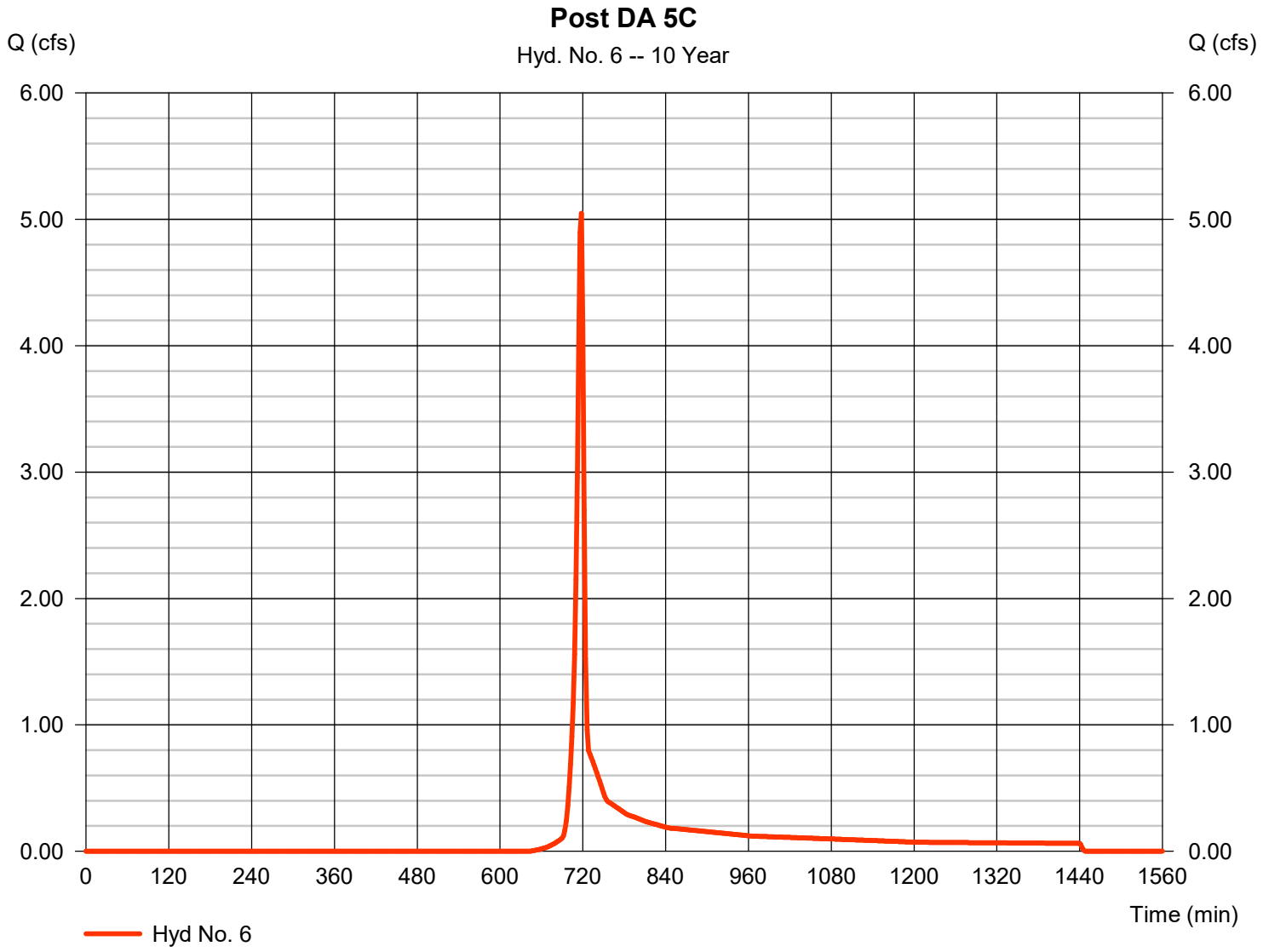
Hydrograph Report

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



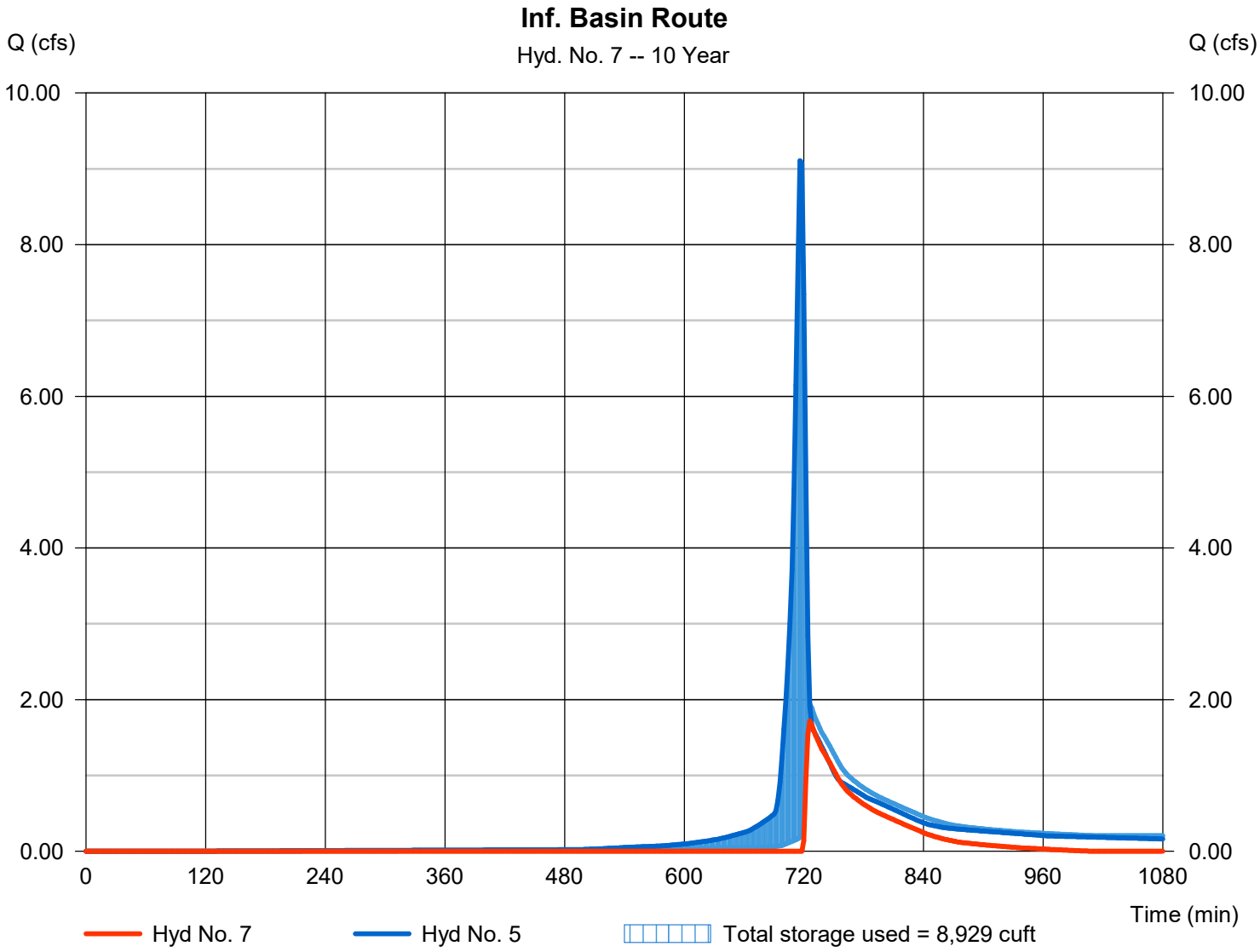
Hydrograph Report

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.

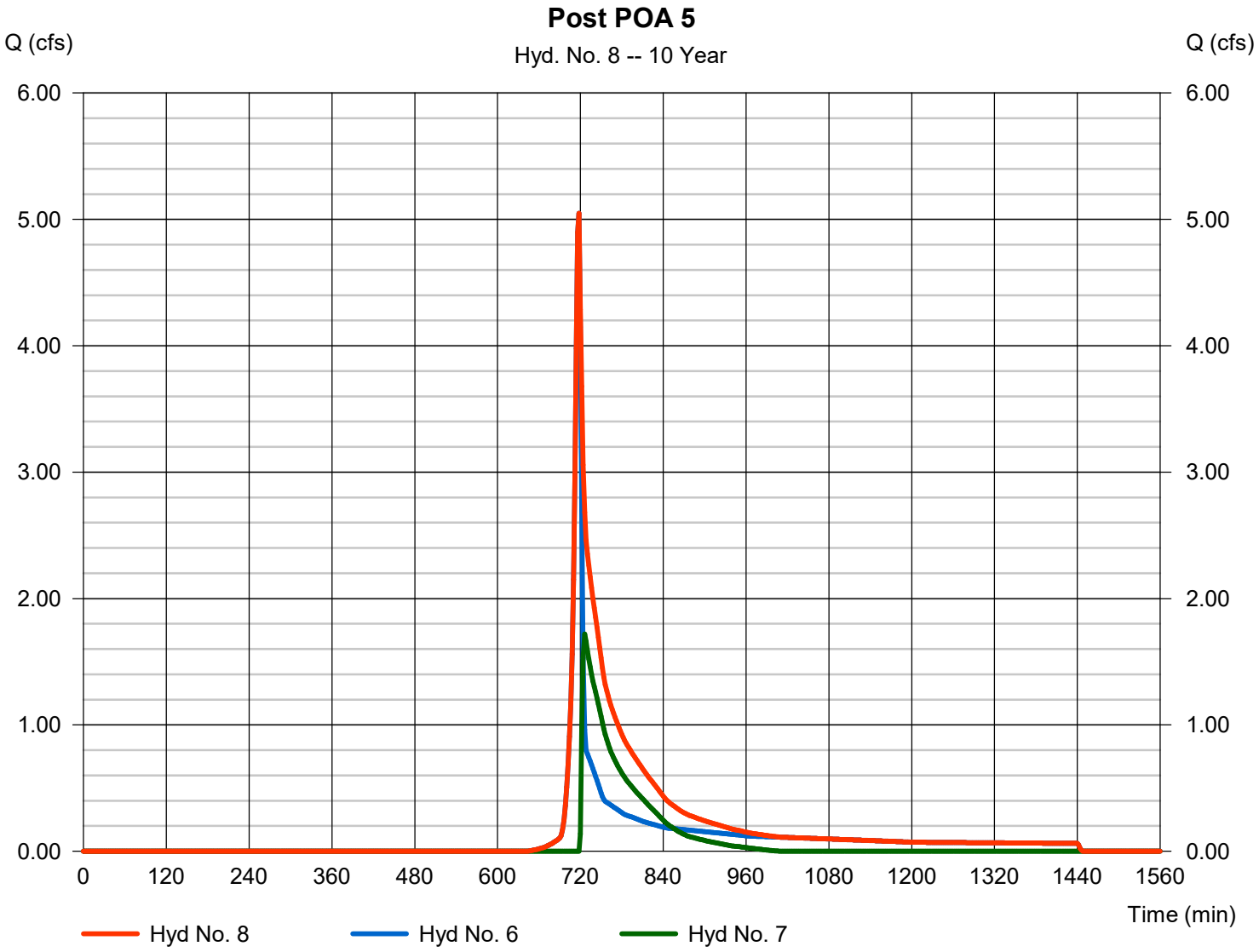


Hydrograph Report

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

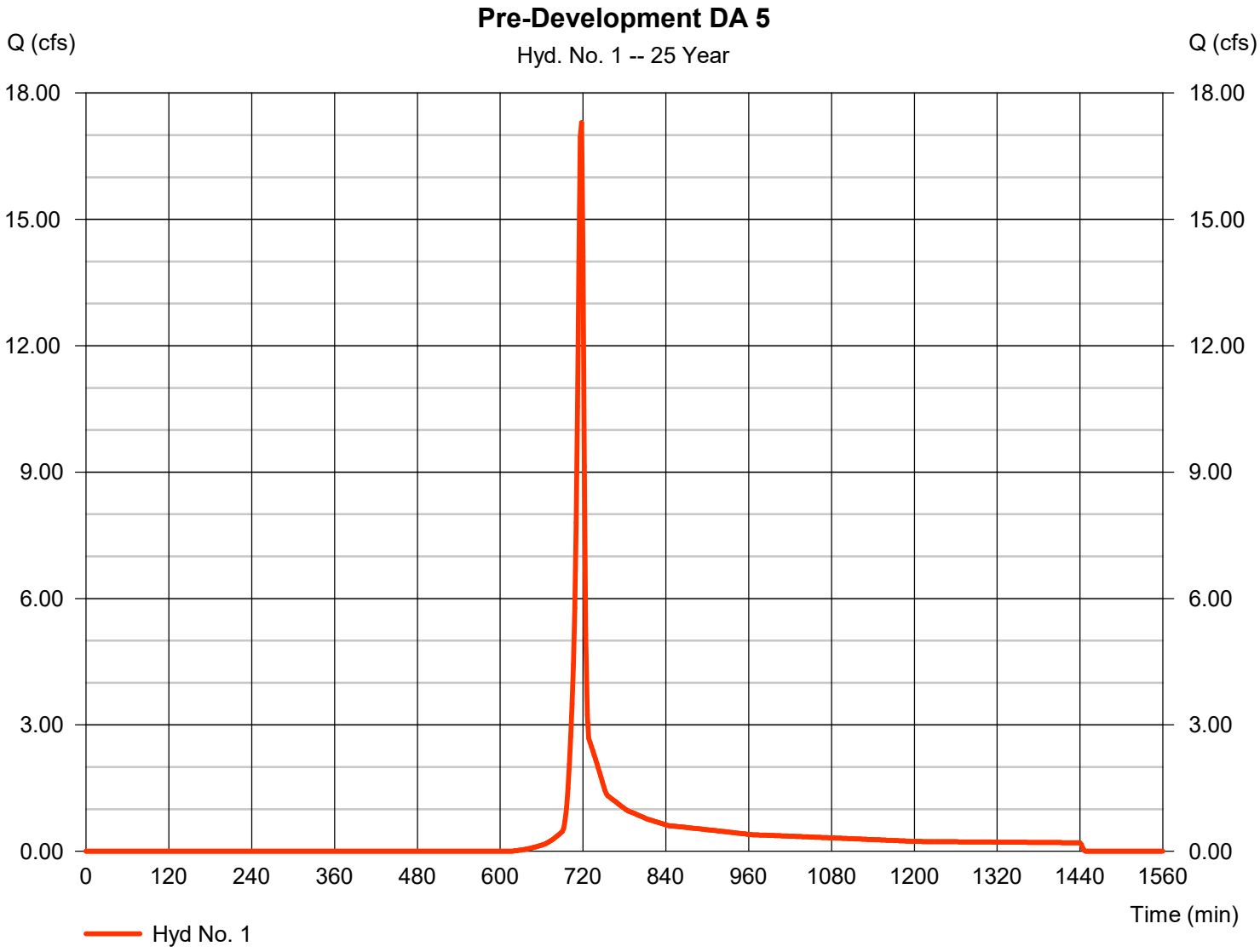
Hydrograph Report

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



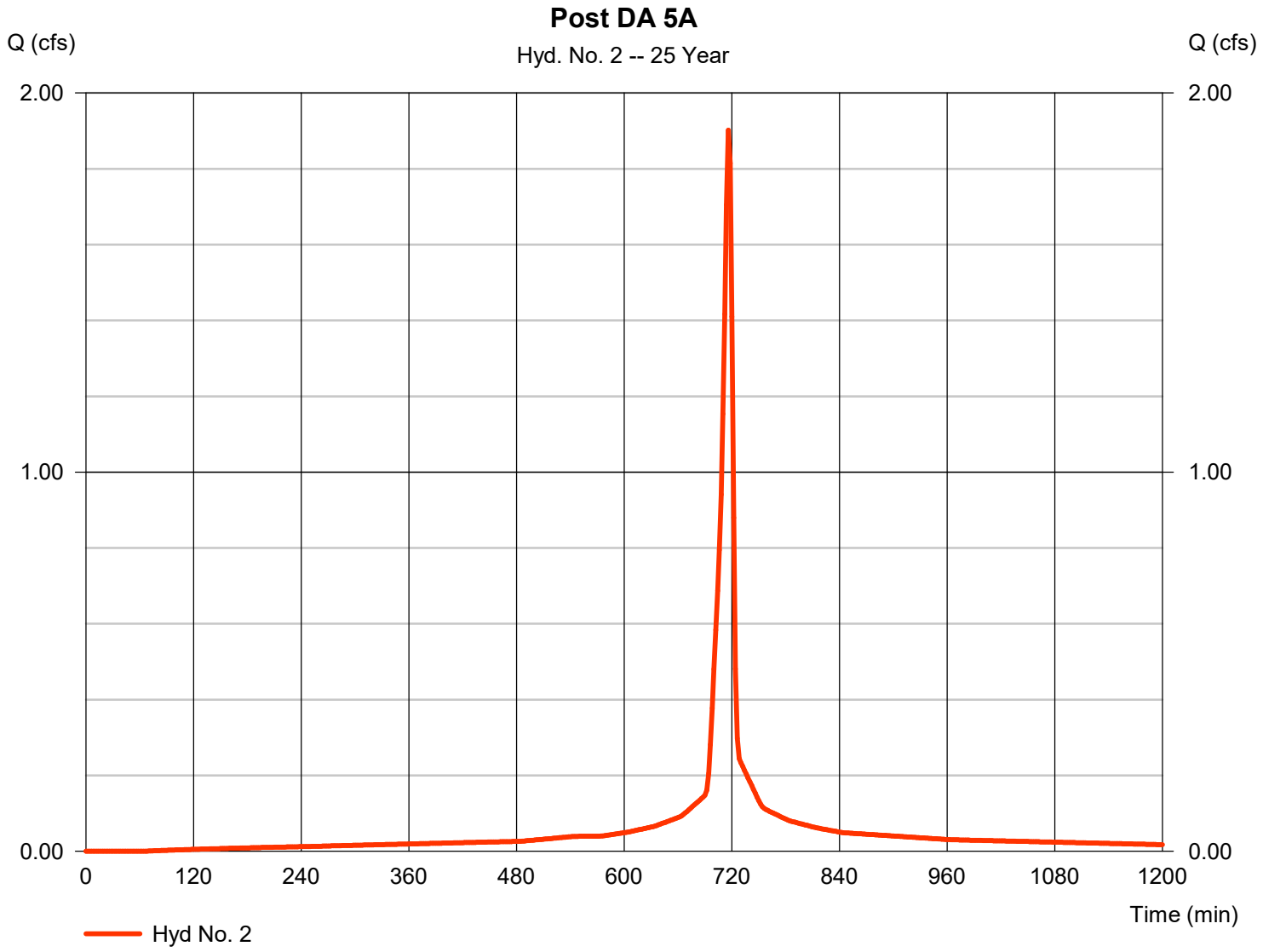
Hydrograph Report

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



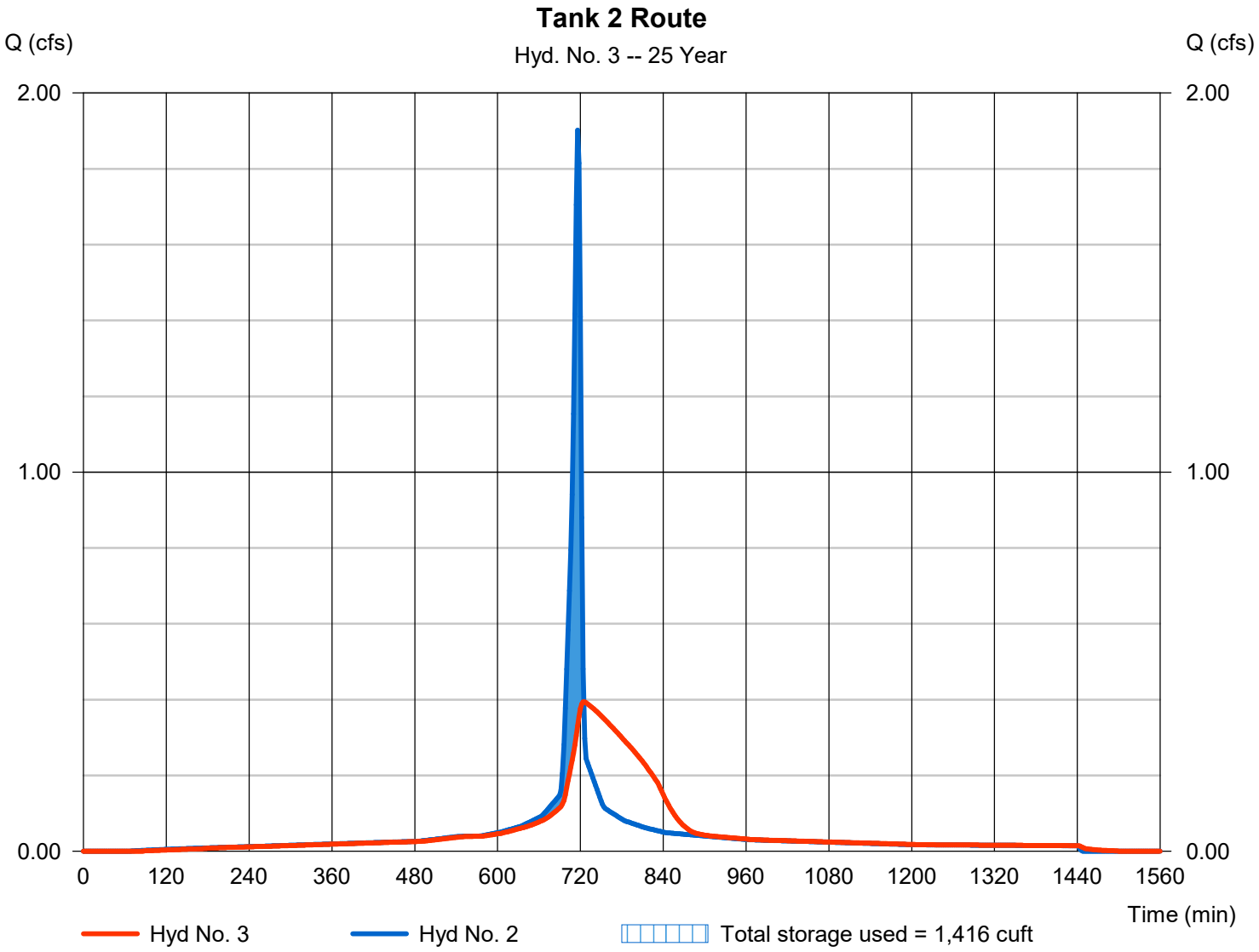
Hydrograph Report

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.



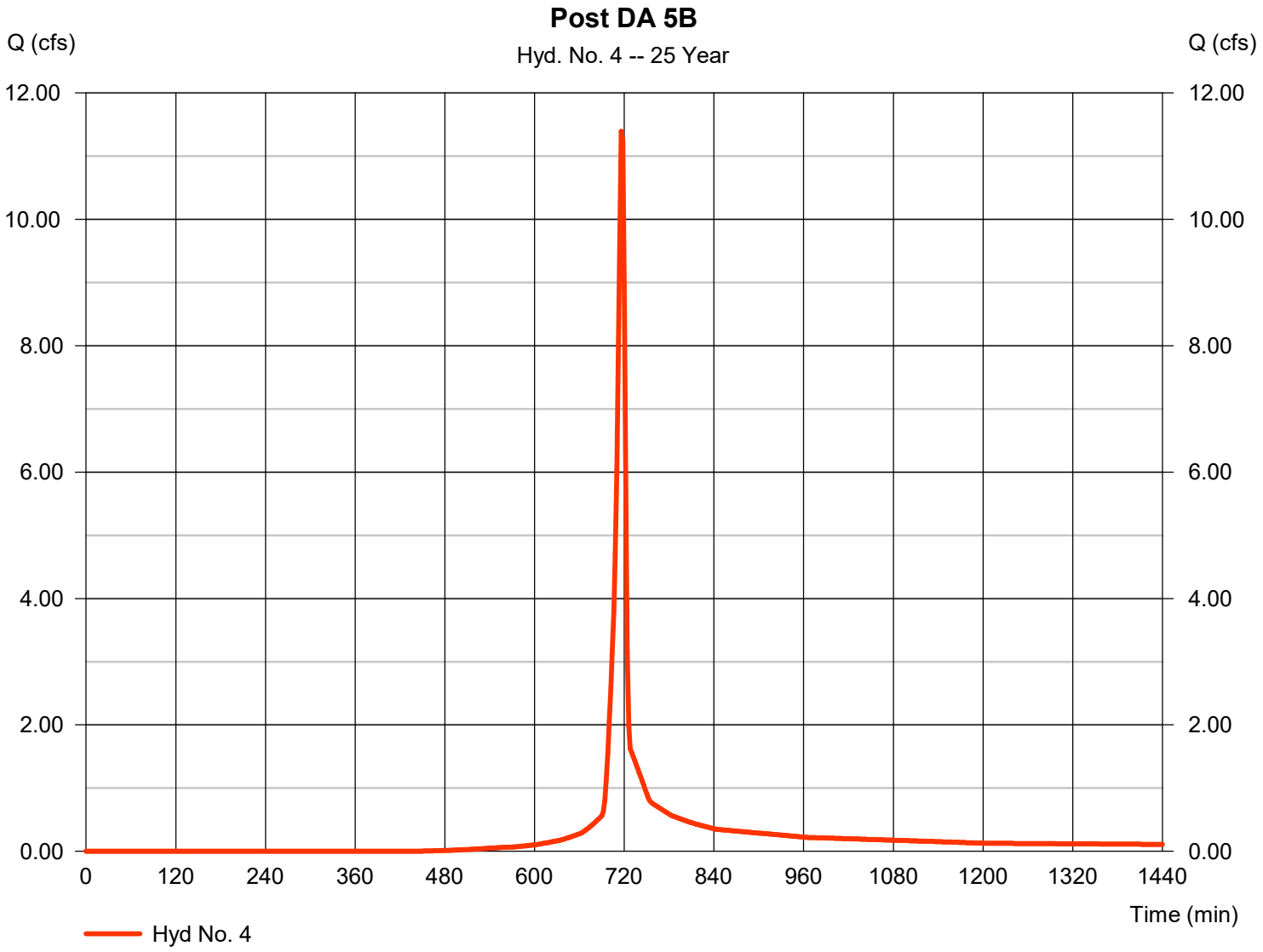
Hydrograph Report

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

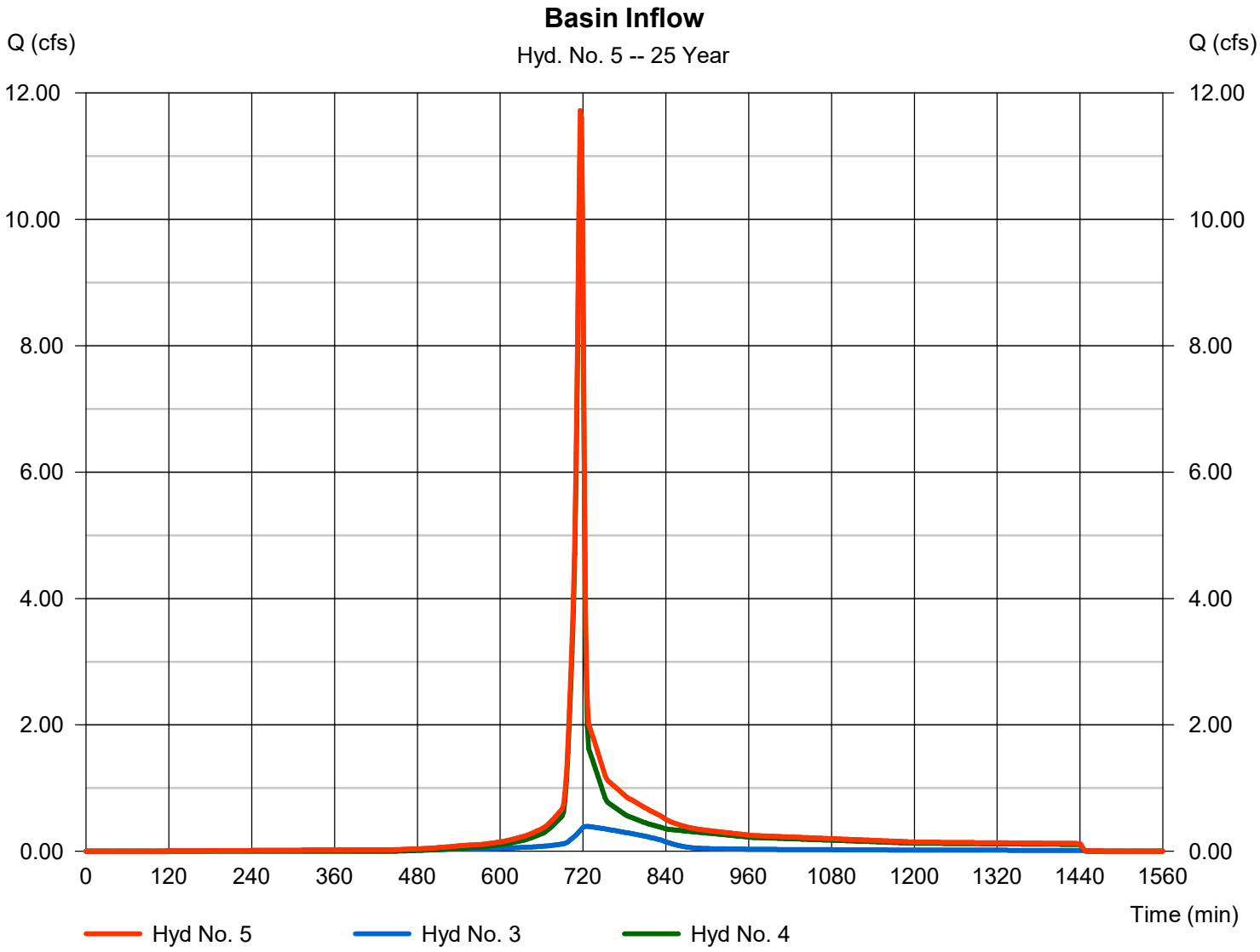


Hydrograph Report

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



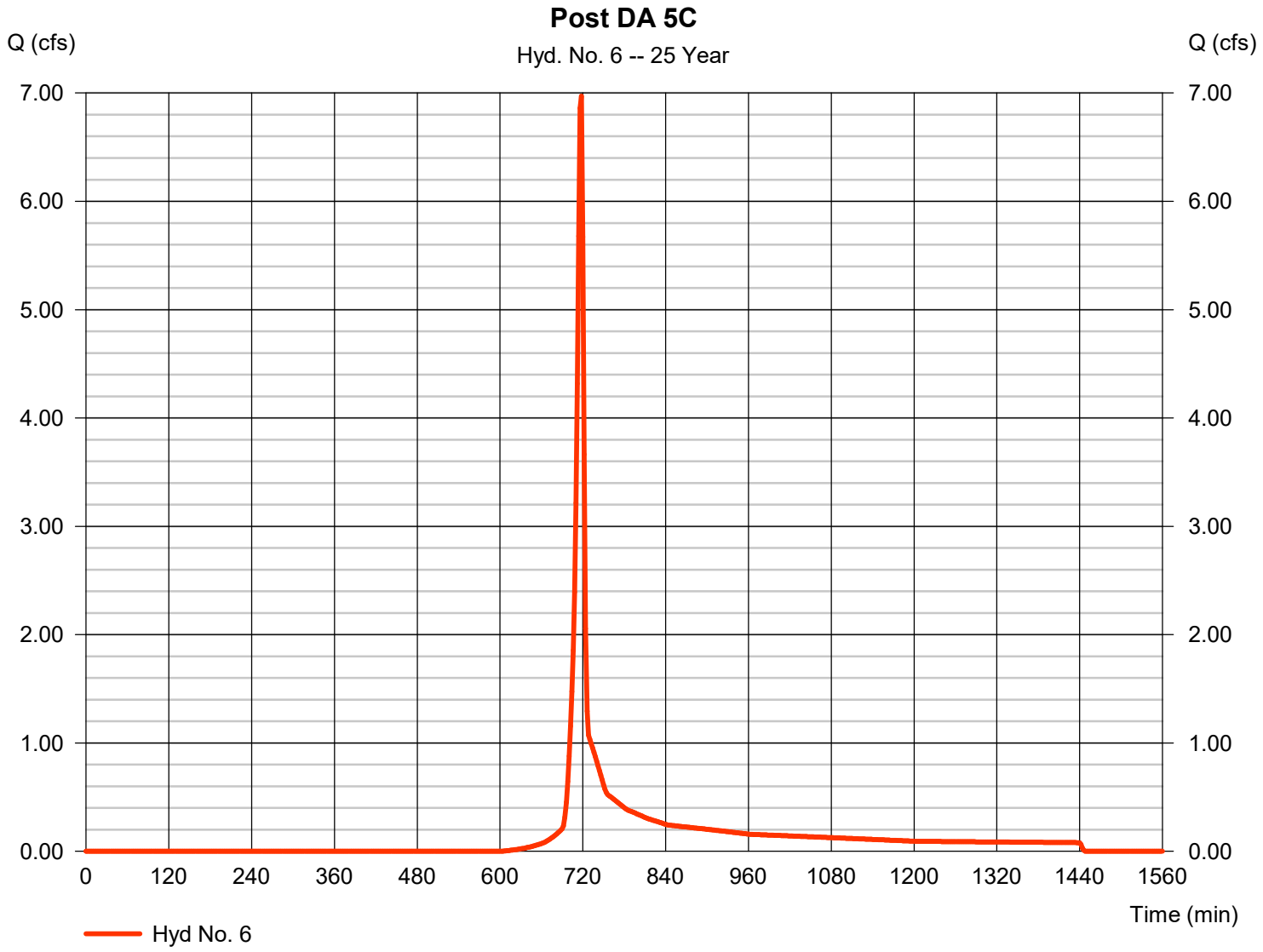
Hydrograph Report

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



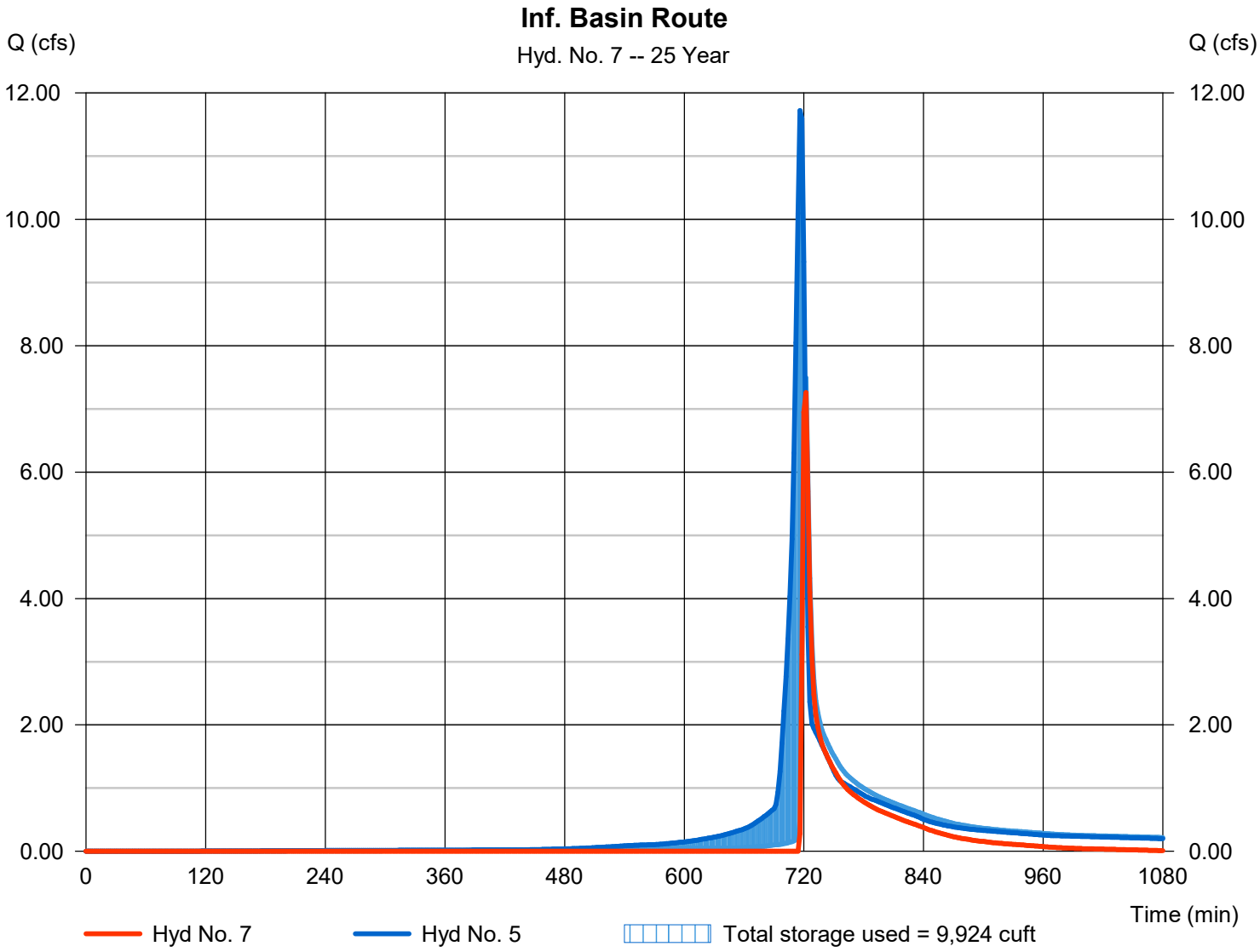
Hydrograph Report

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.

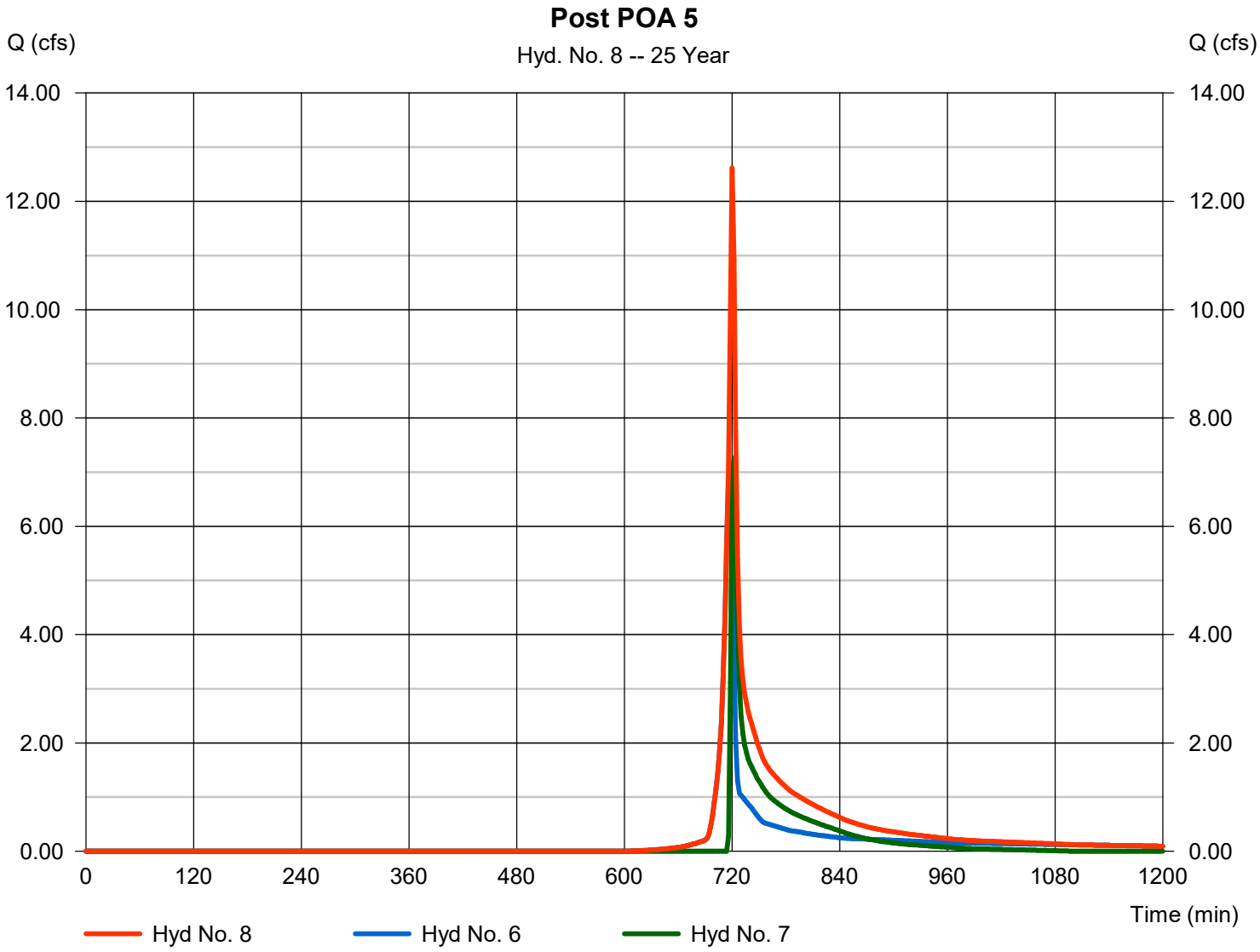


Hydrograph Report

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

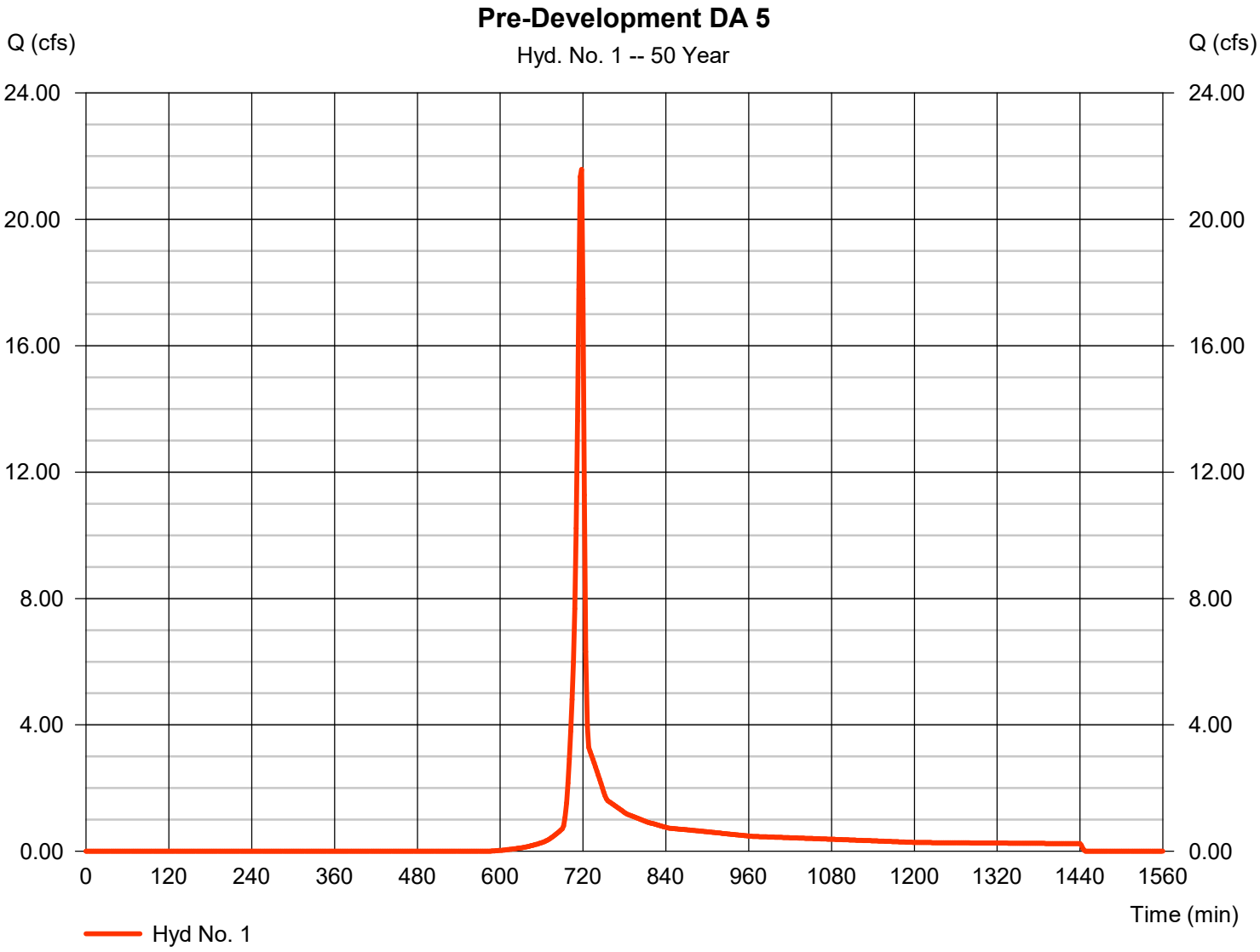
Hydrograph Report

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



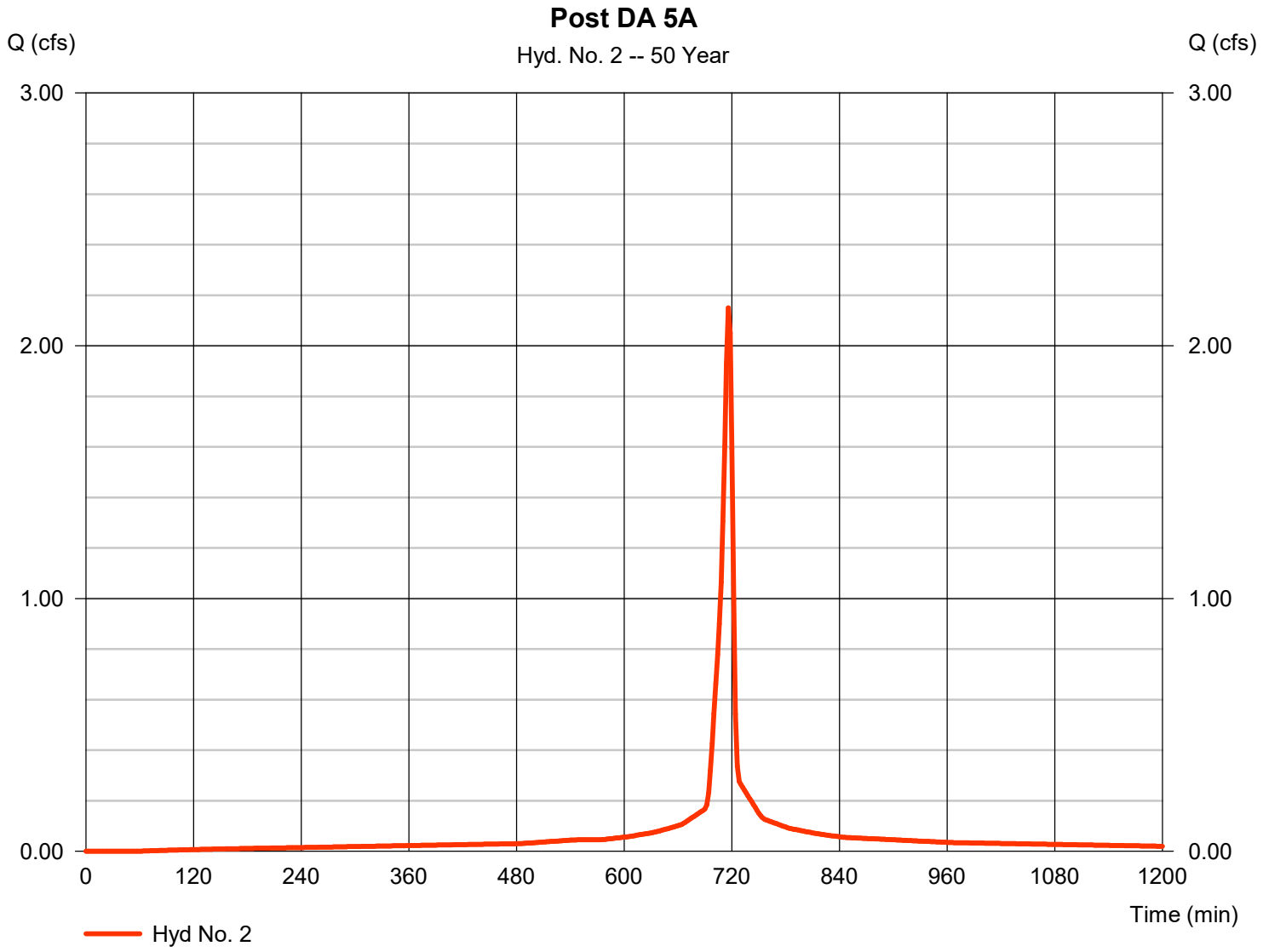
Hydrograph Report

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



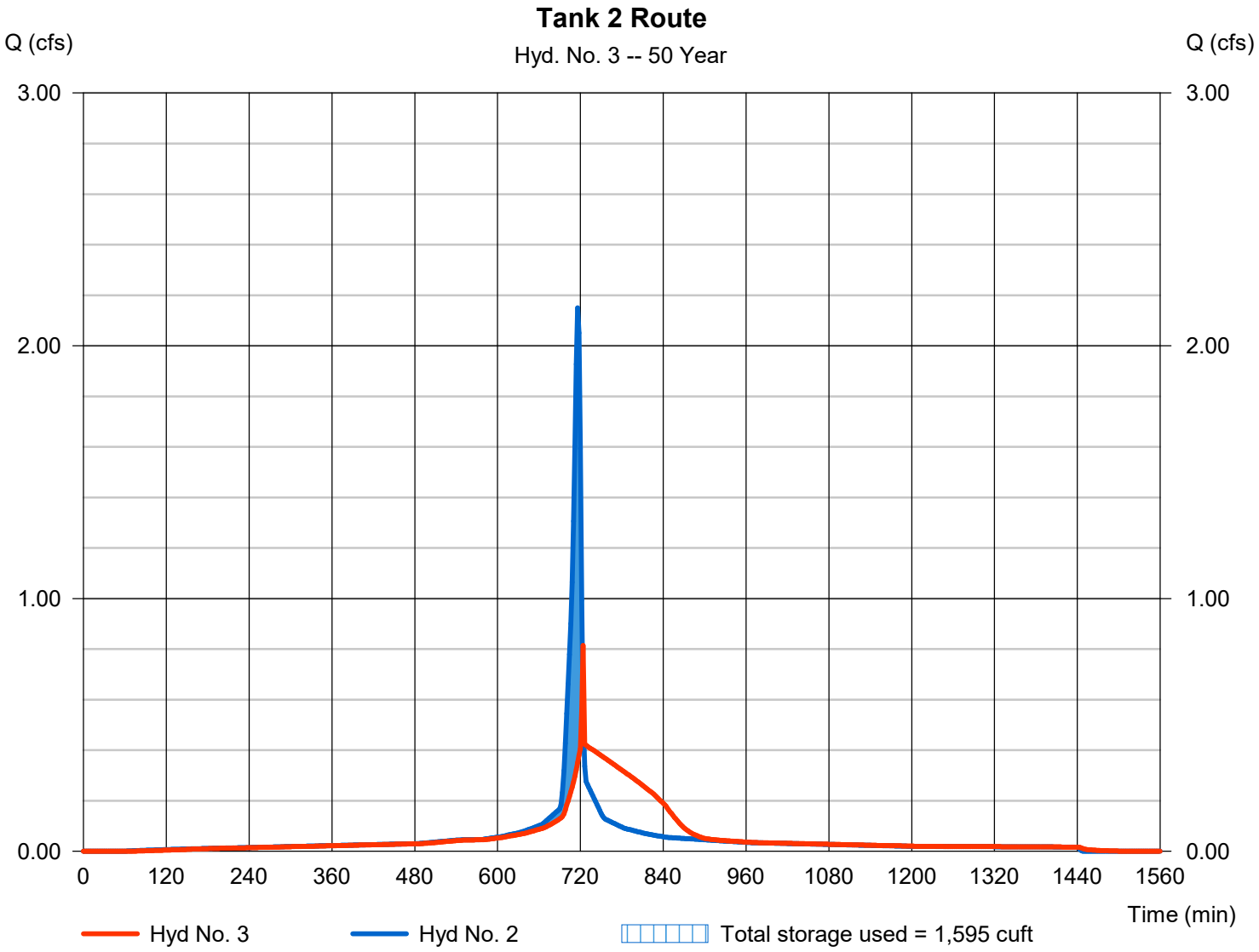
Hydrograph Report

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.



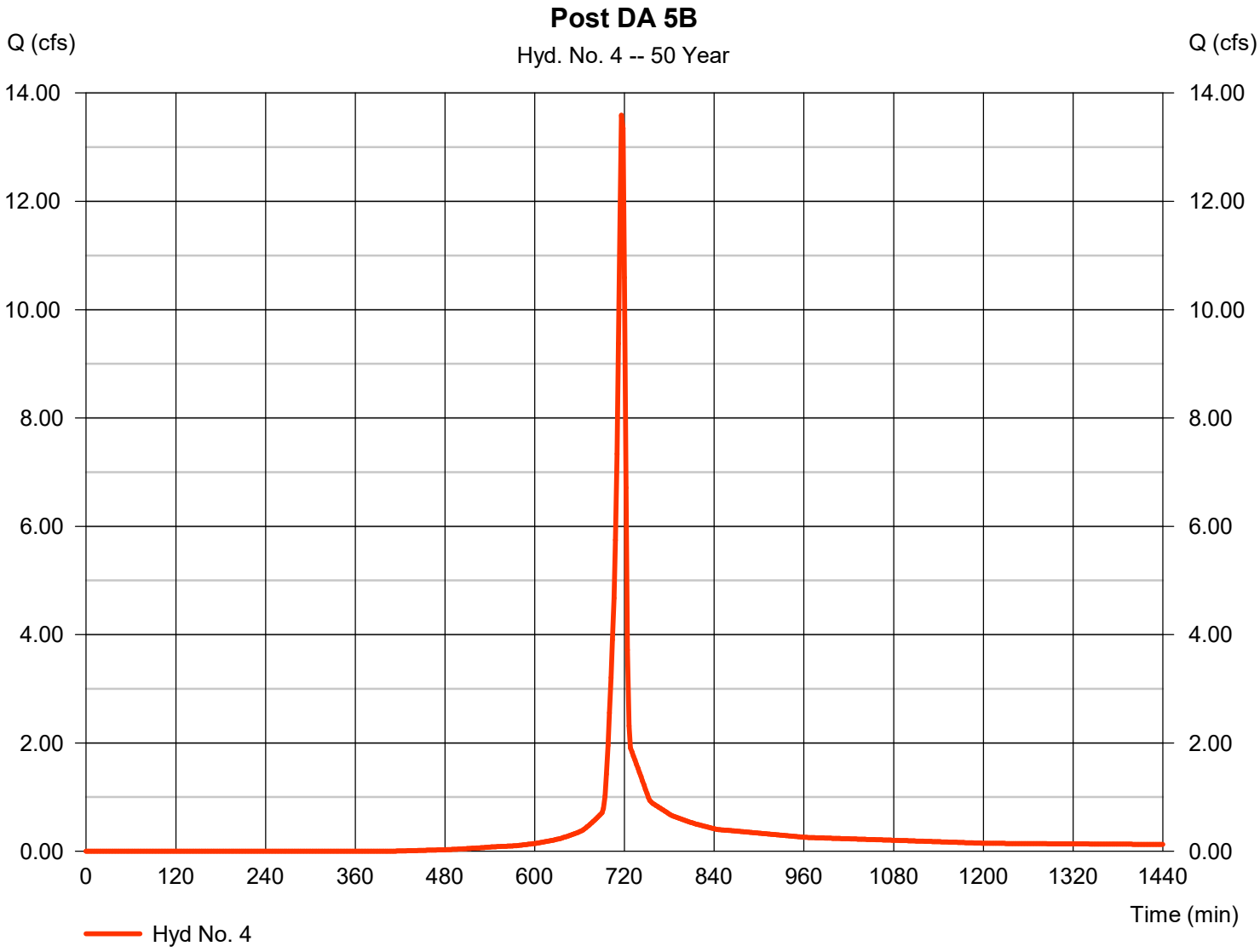
Hydrograph Report

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

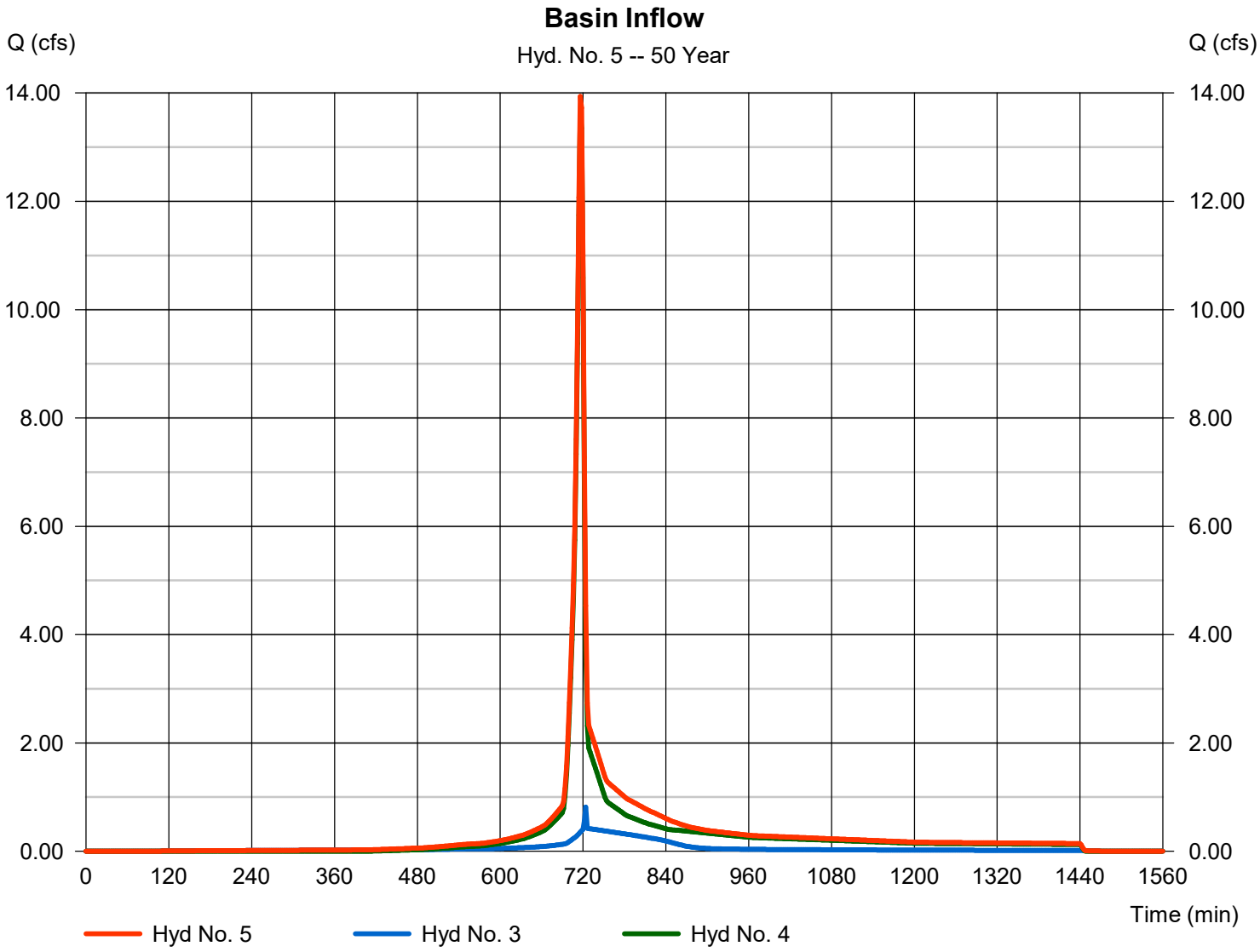


Hydrograph Report

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



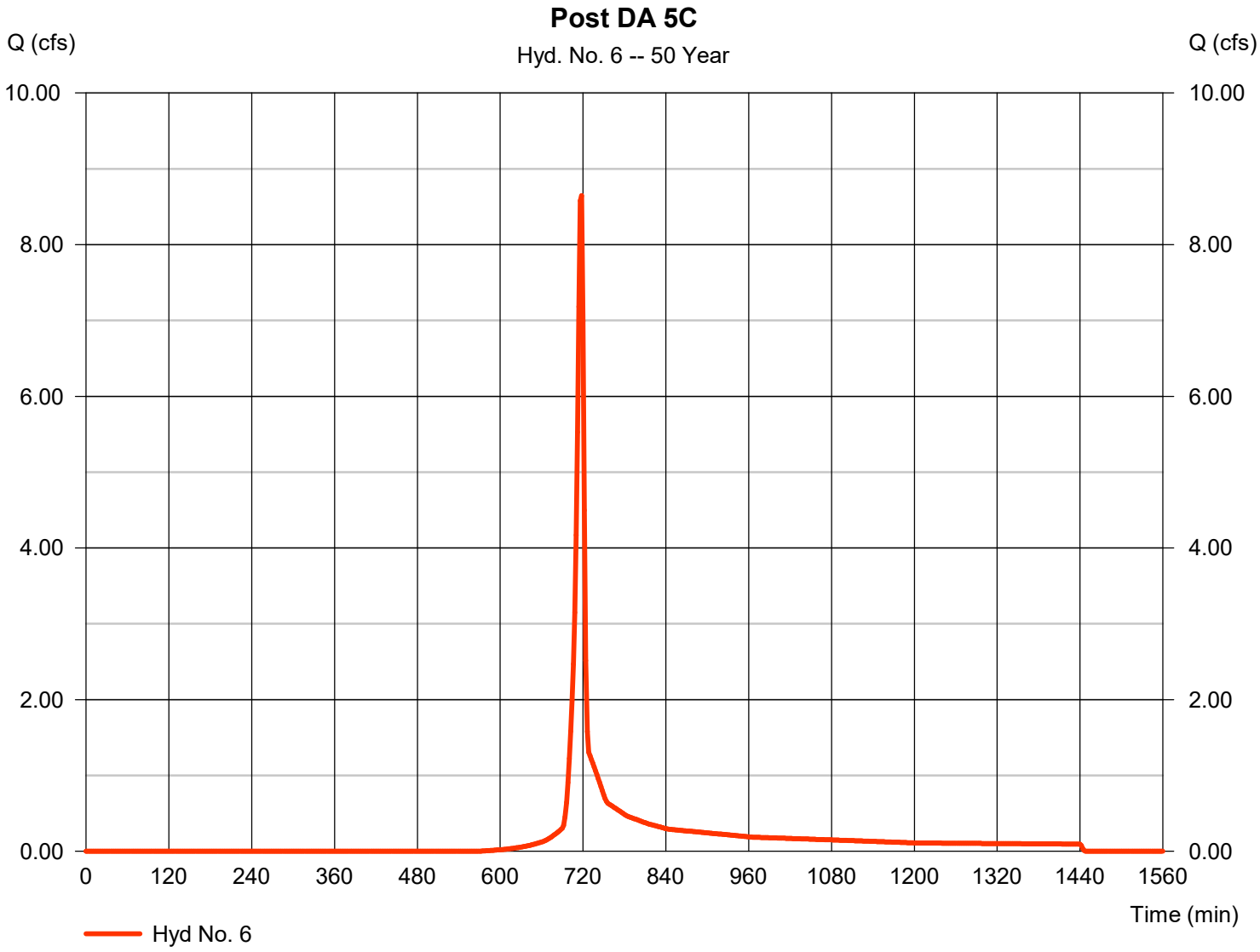
Hydrograph Report

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



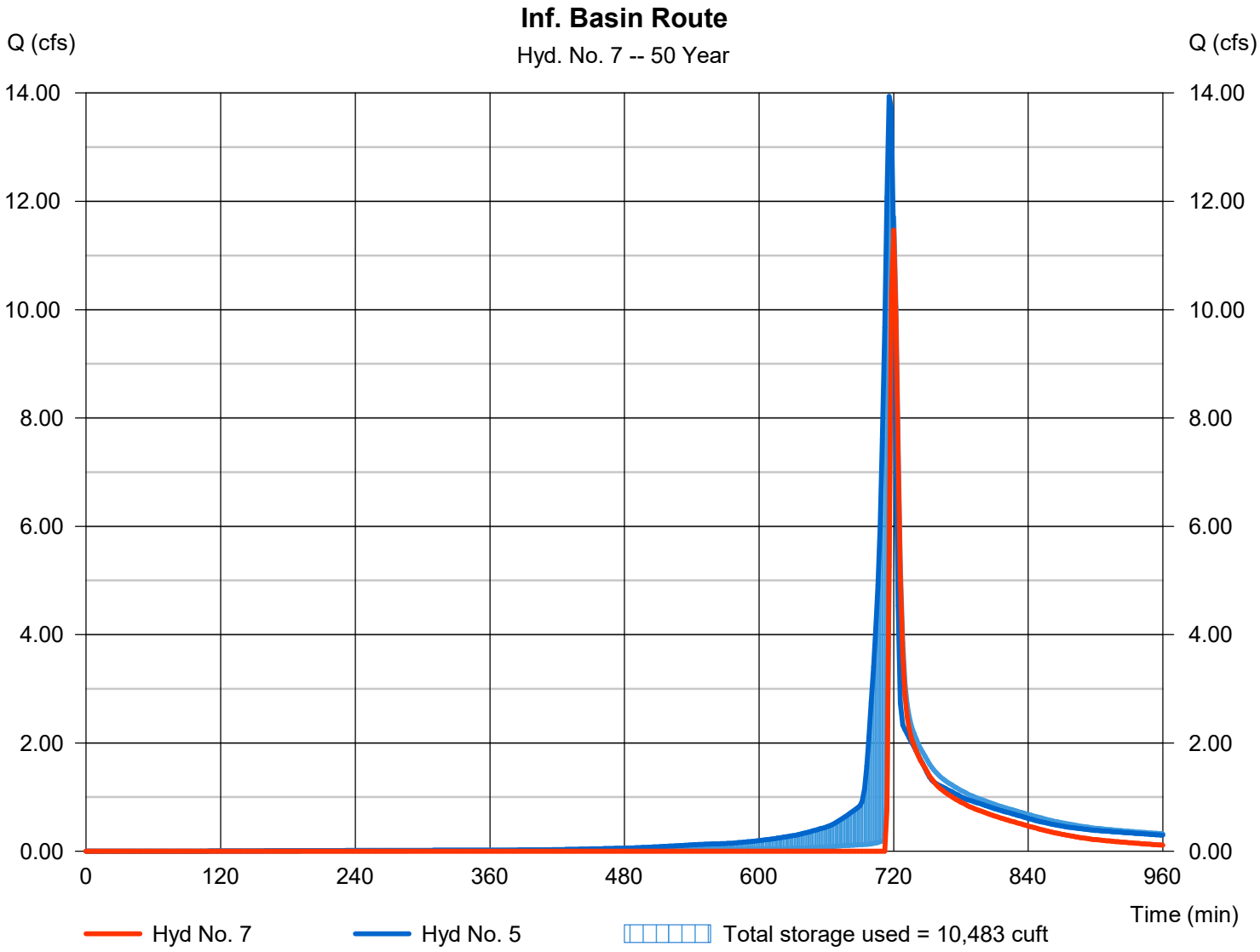
Hydrograph Report

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.

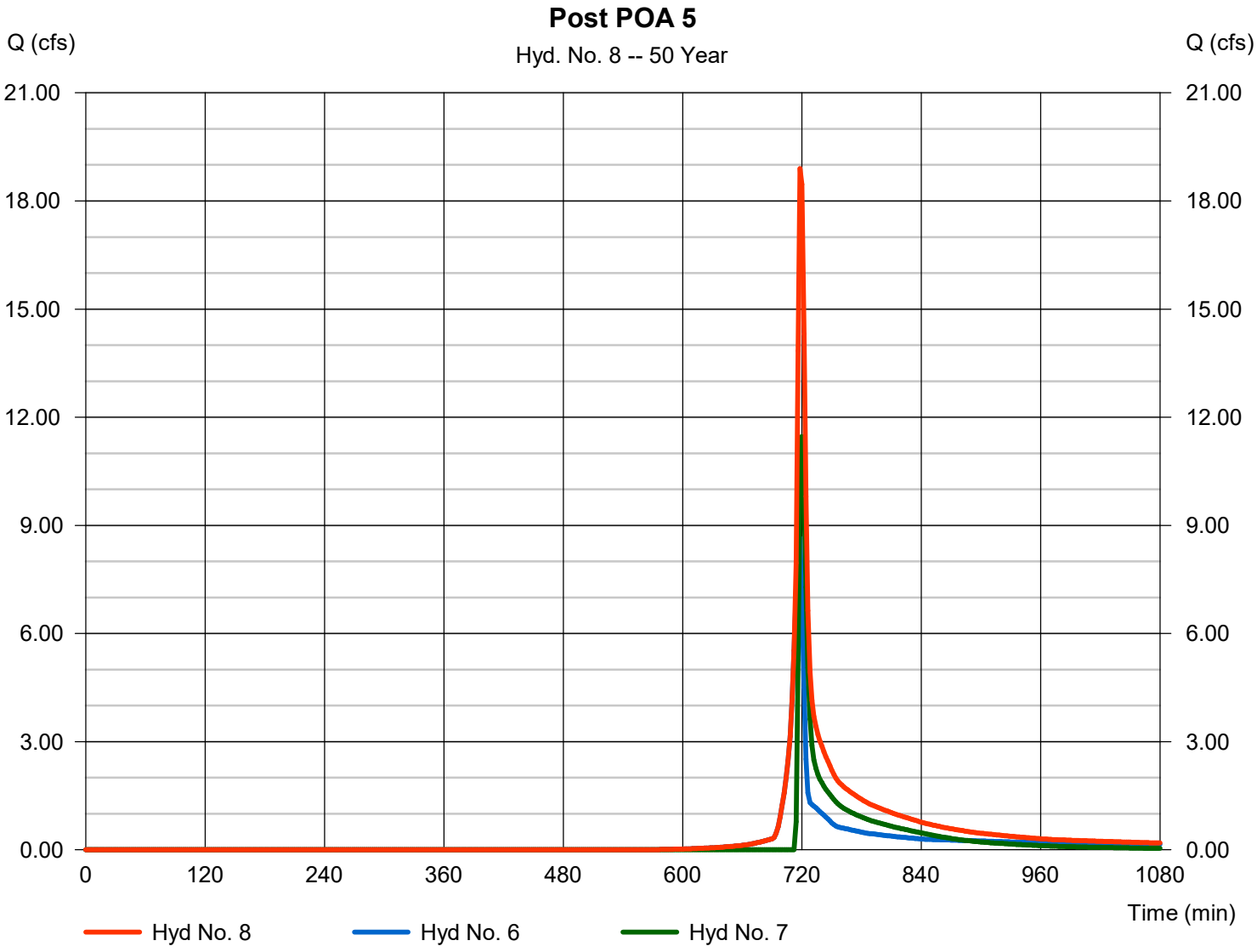


Hydrograph Report

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

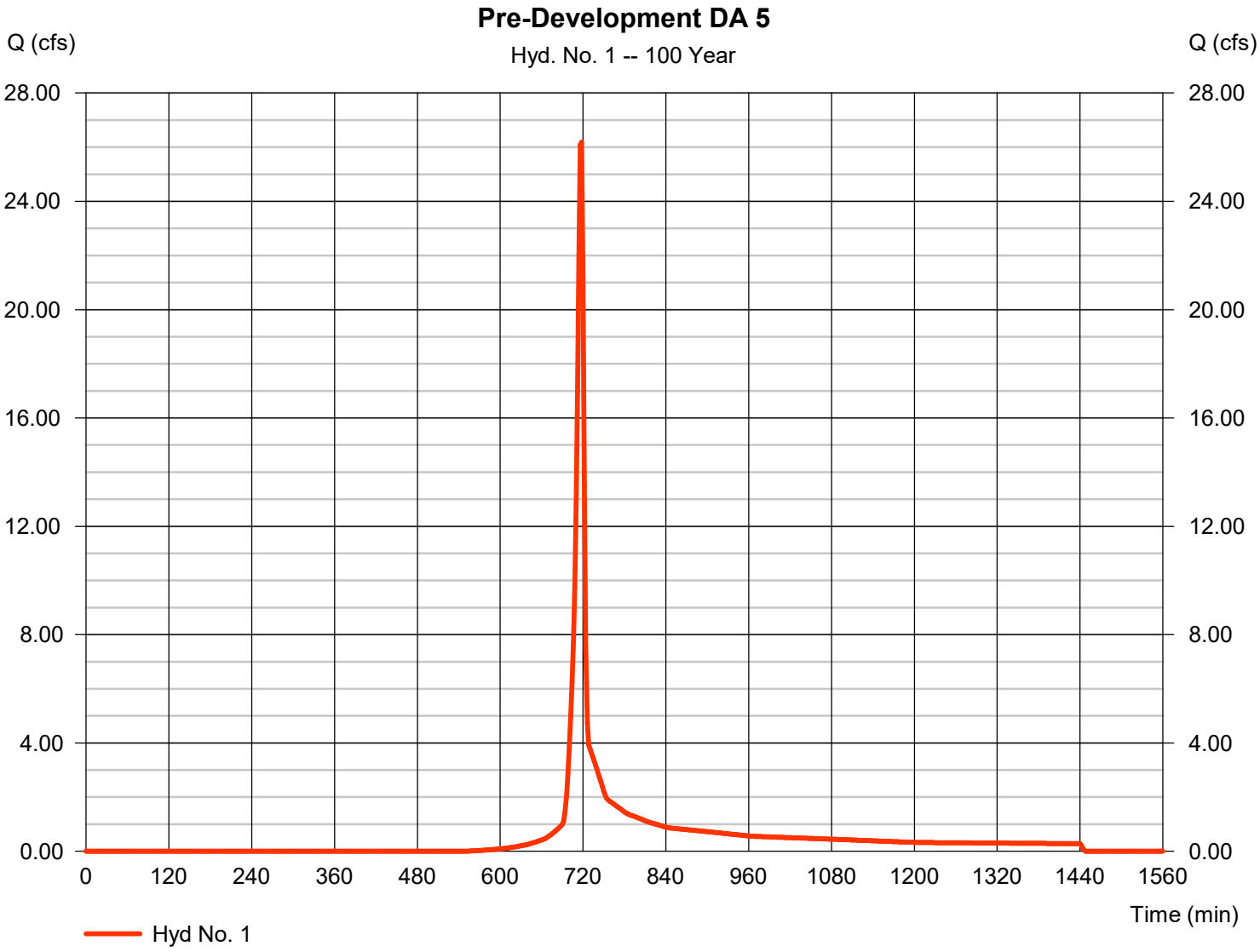
Hydrograph Report

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



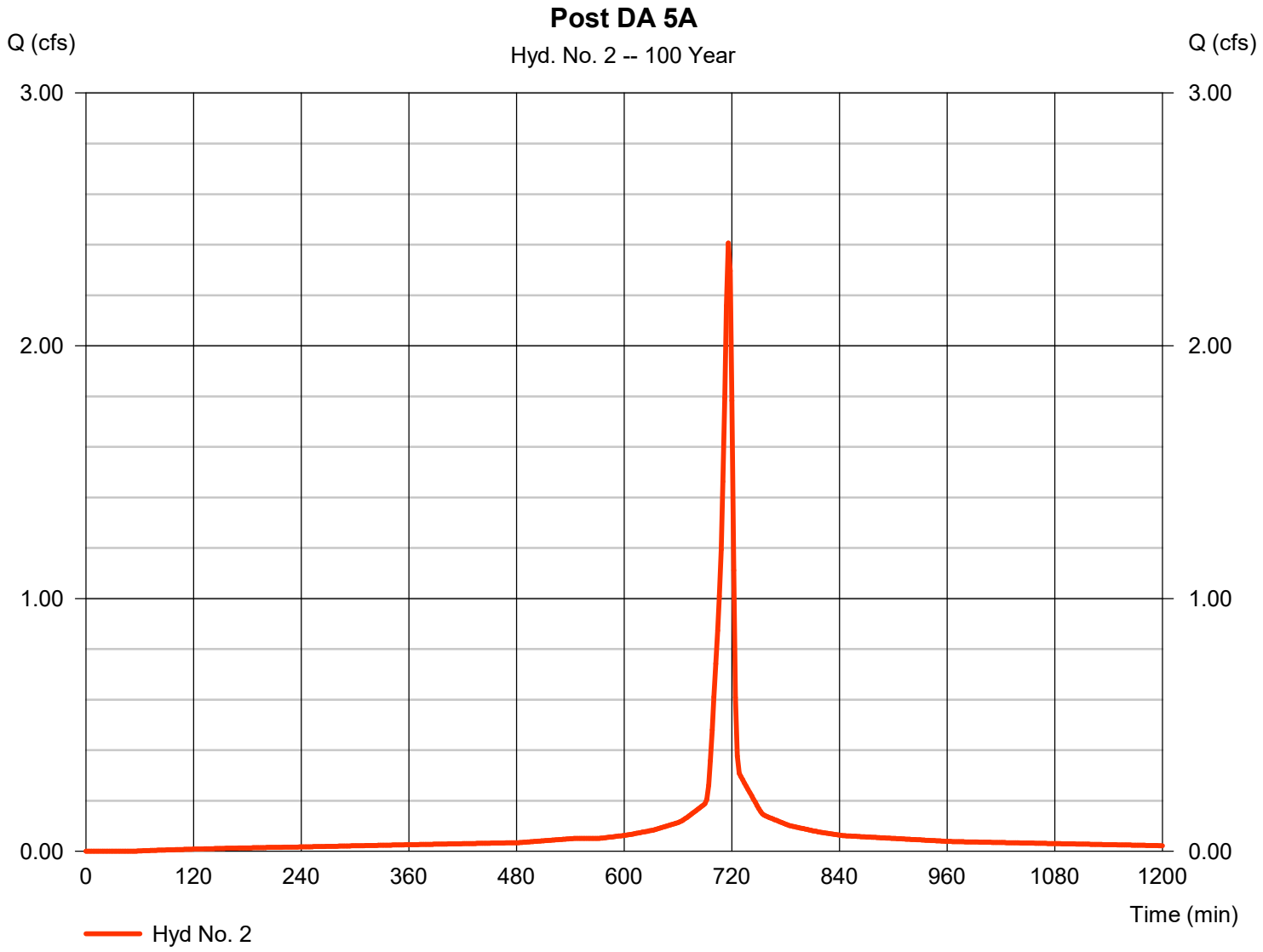
Hydrograph Report

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



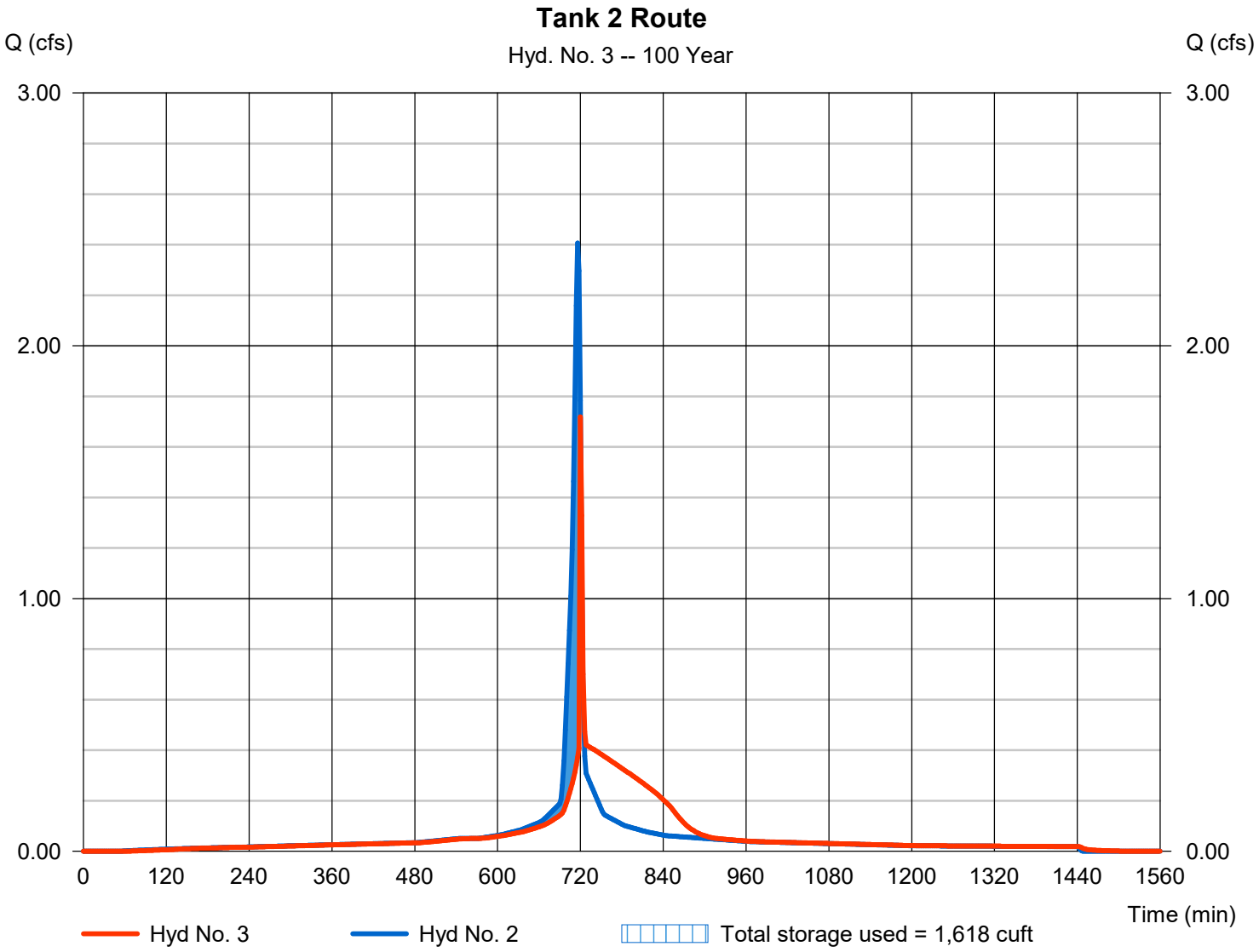
Hydrograph Report

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.



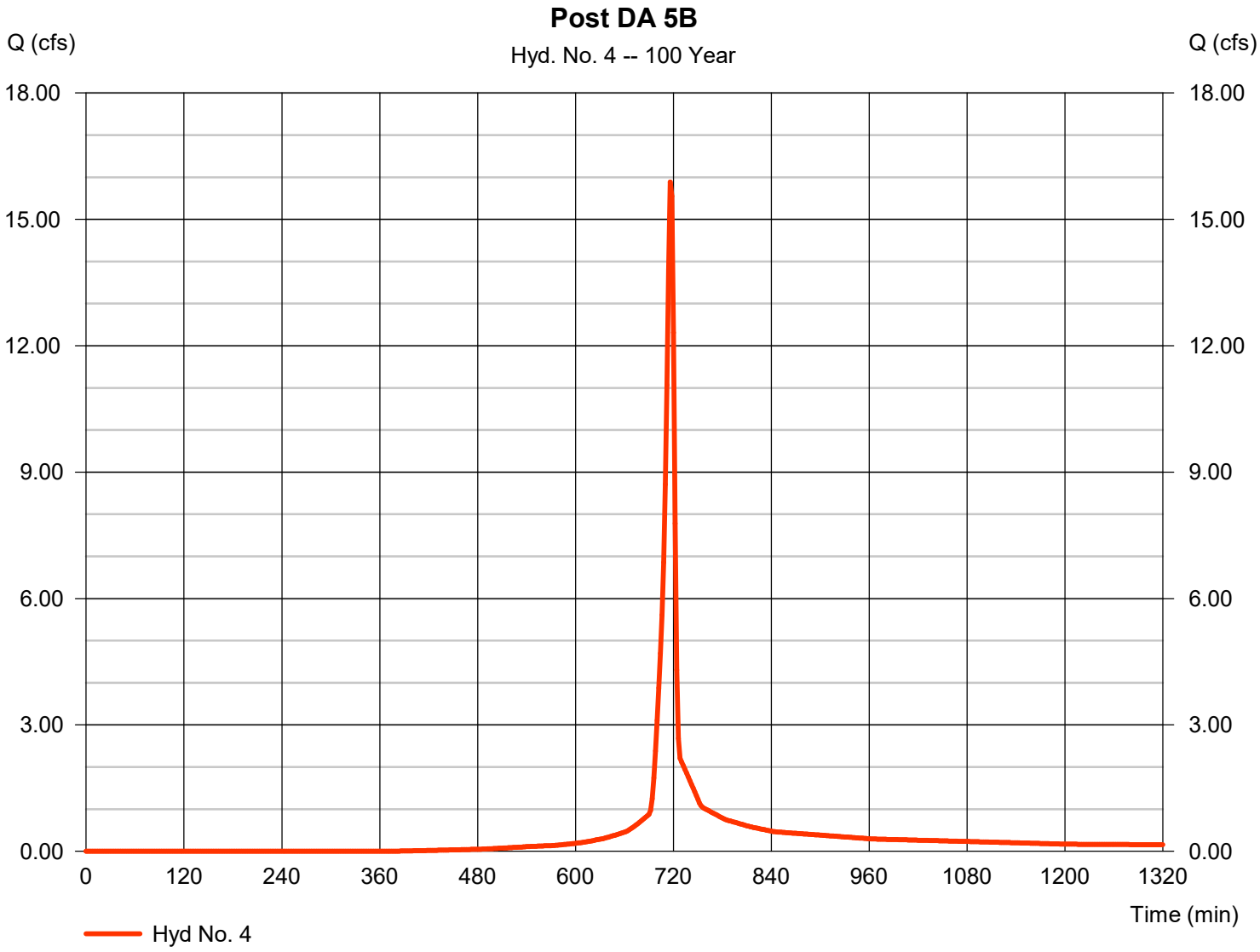
Hydrograph Report

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

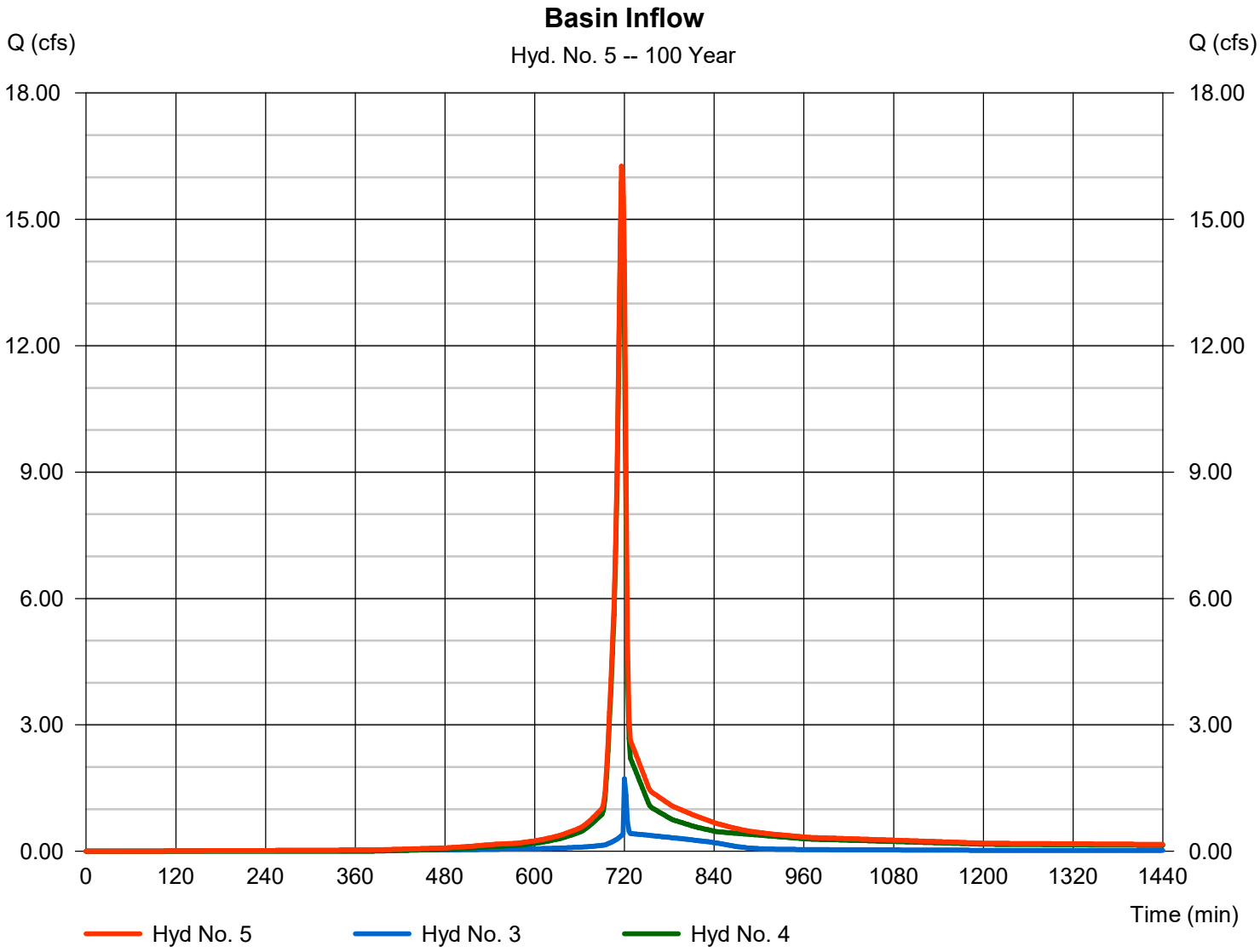


Hydrograph Report

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



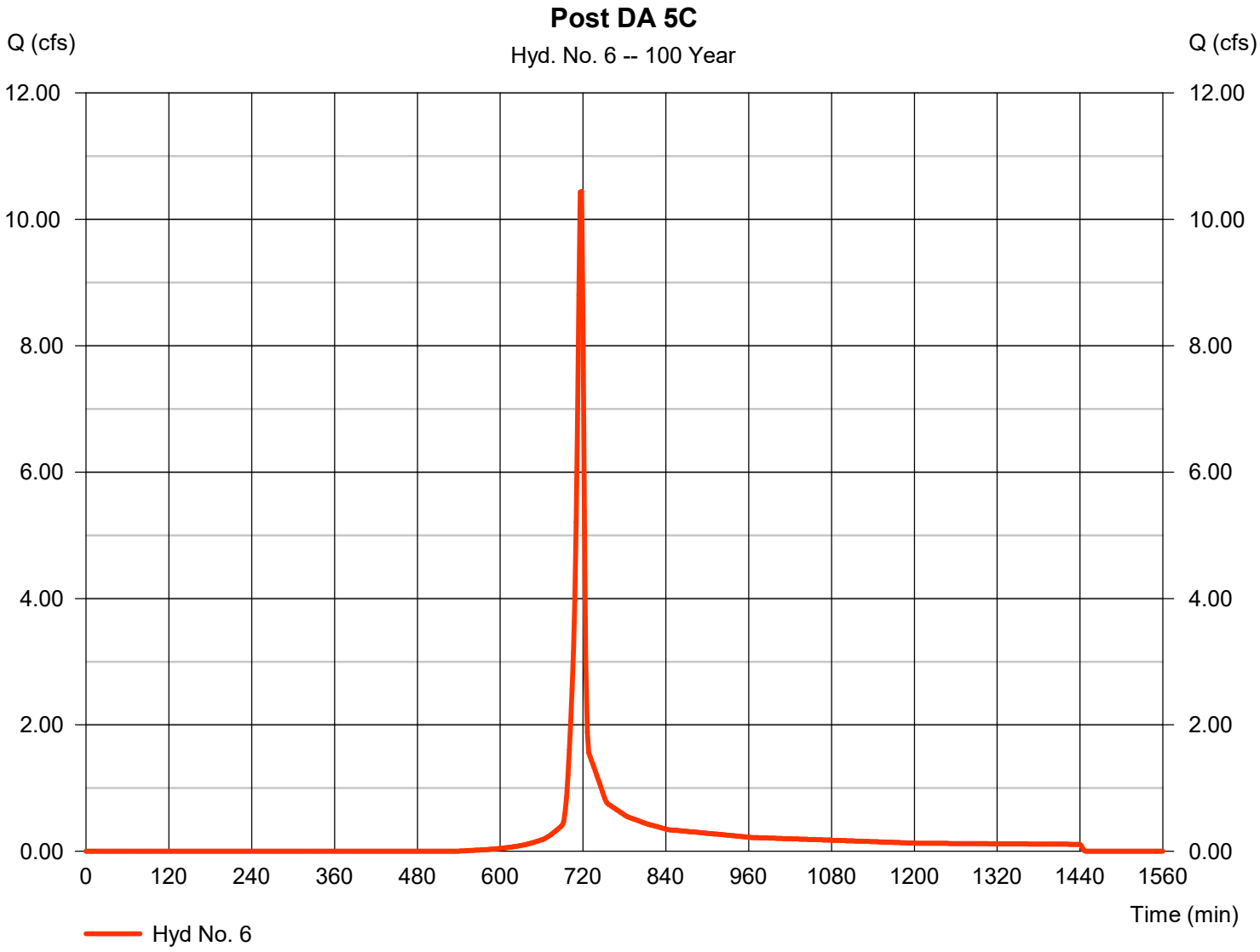
Hydrograph Report

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



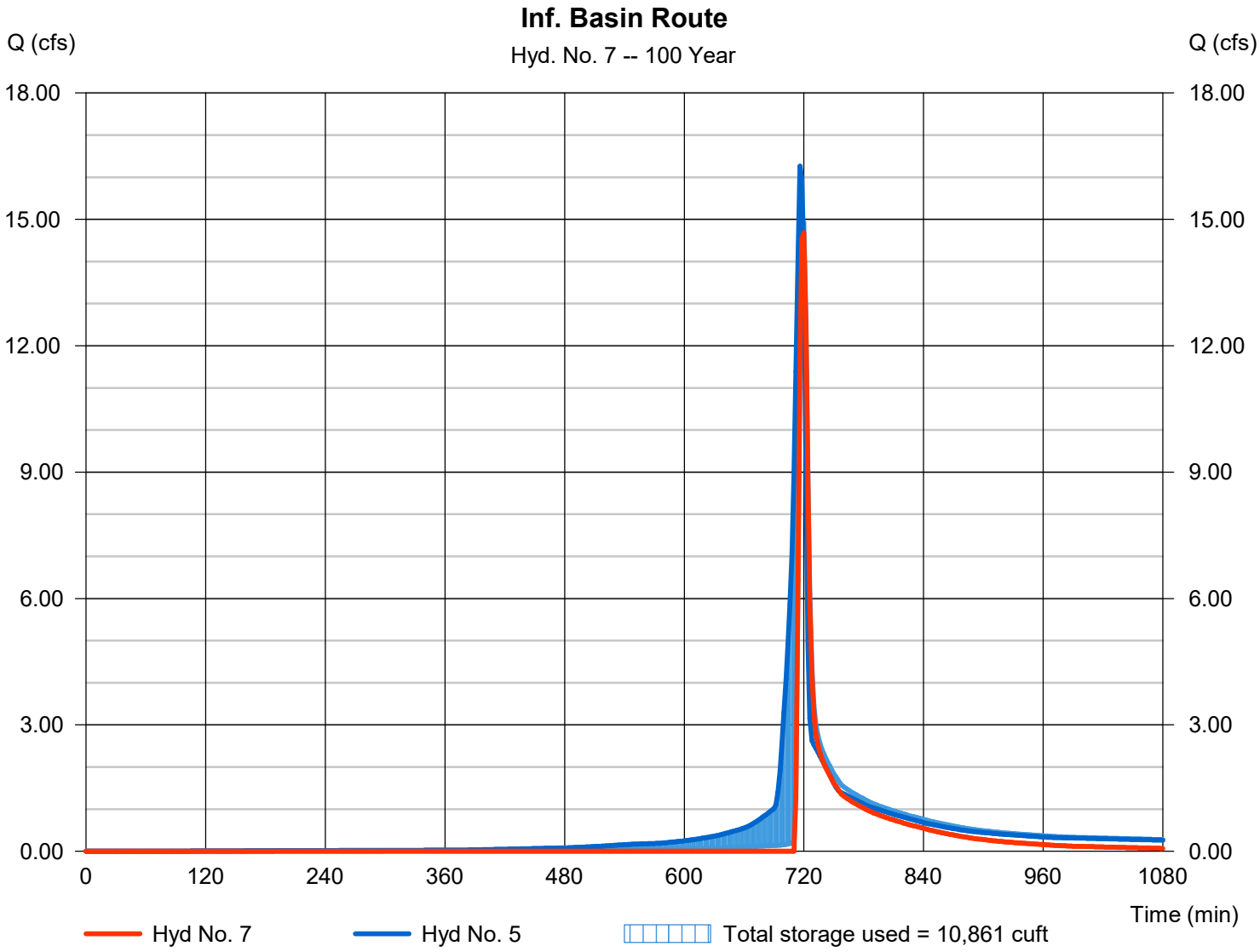
Hydrograph Report

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.

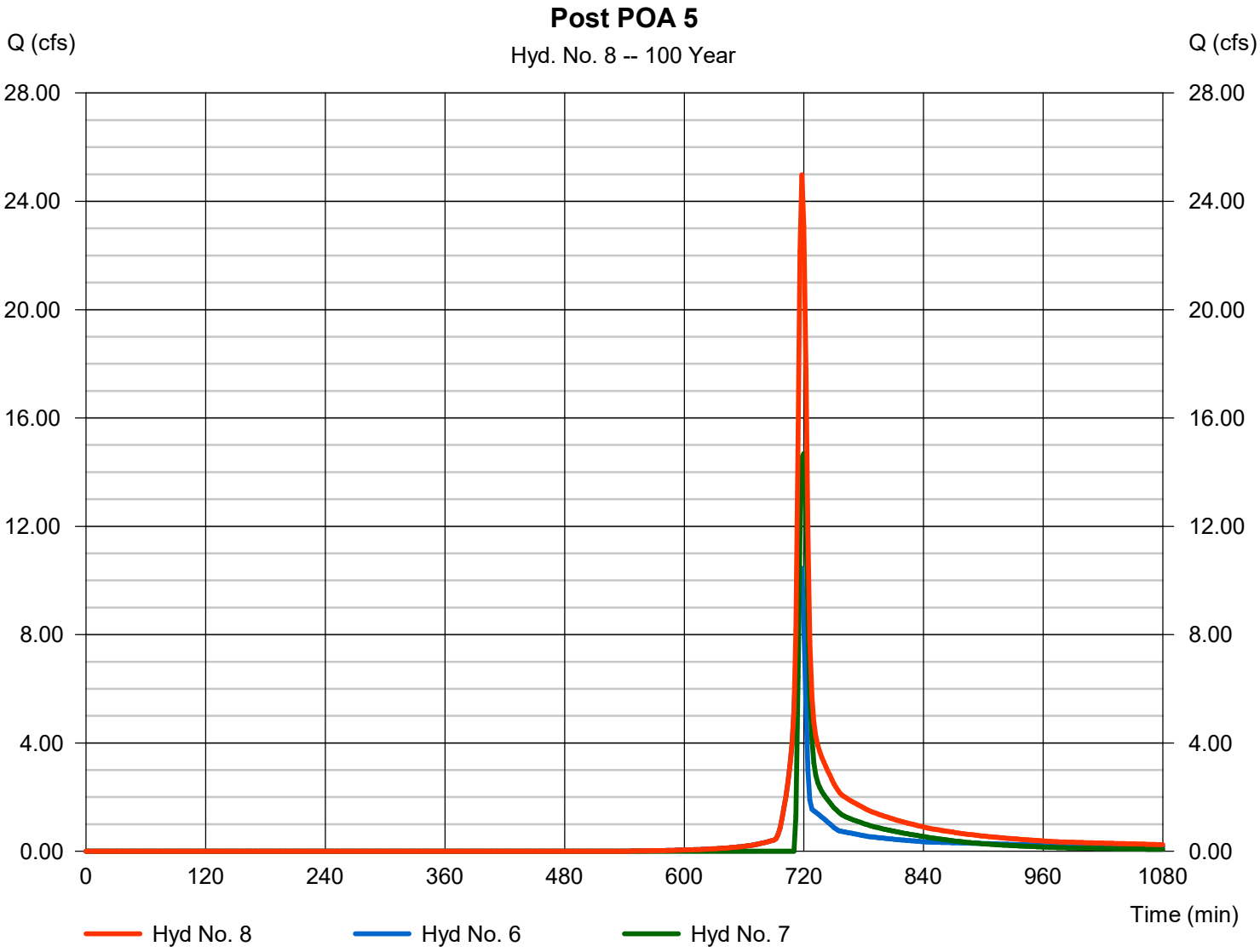


Hydrograph Report

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

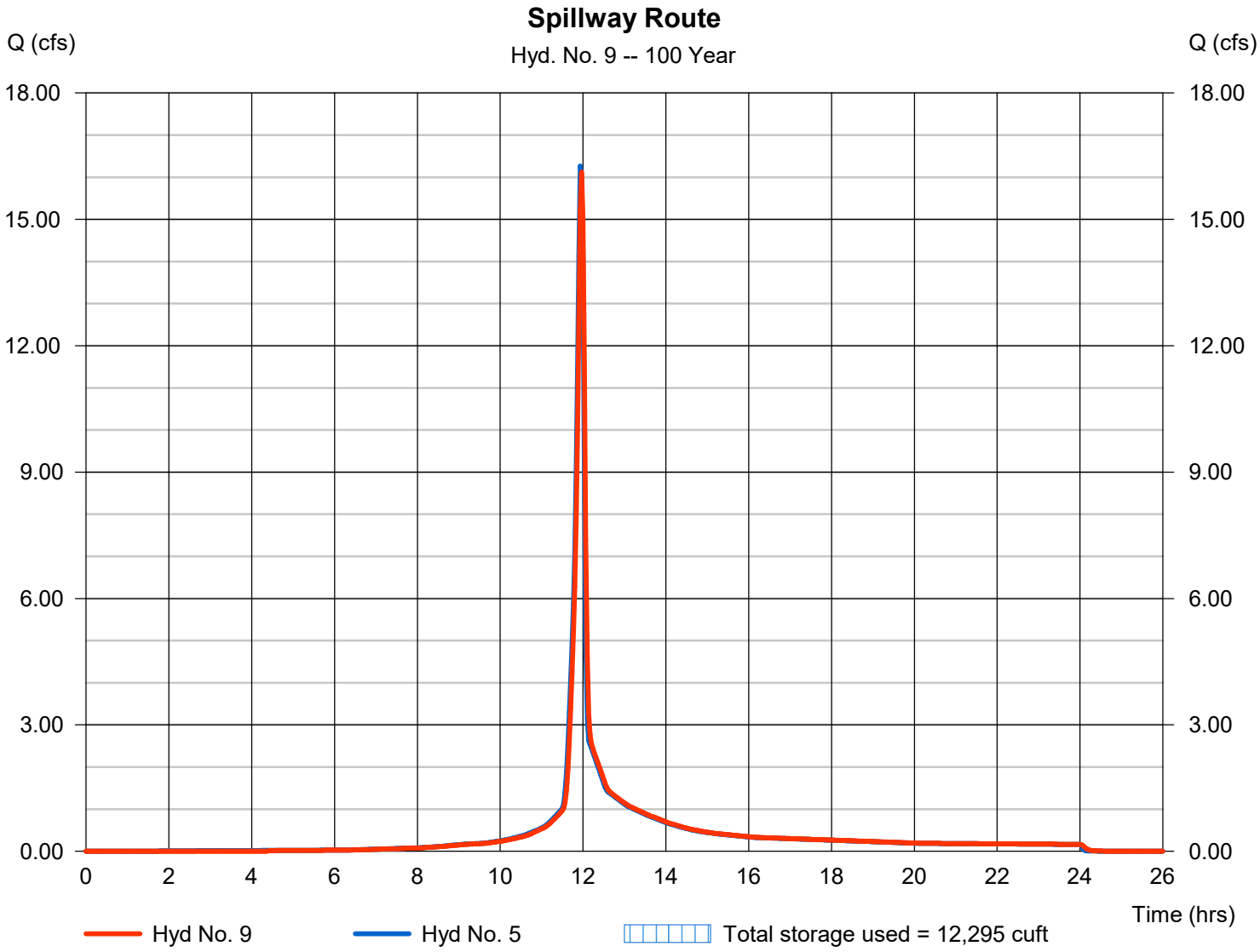
Hyd. No. 9

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

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
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

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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
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

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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.

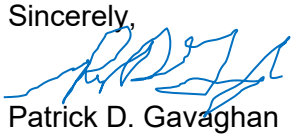
2. Each Infiltrometer was monitored one time per 10 minutes for a minimum of 4 readings or until a stabilized rate of drop is obtained (defined as a difference of ¼ inch or less of drop between the highest and the lowest readings of four consecutive readings). During each monitoring, the drop in water 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).

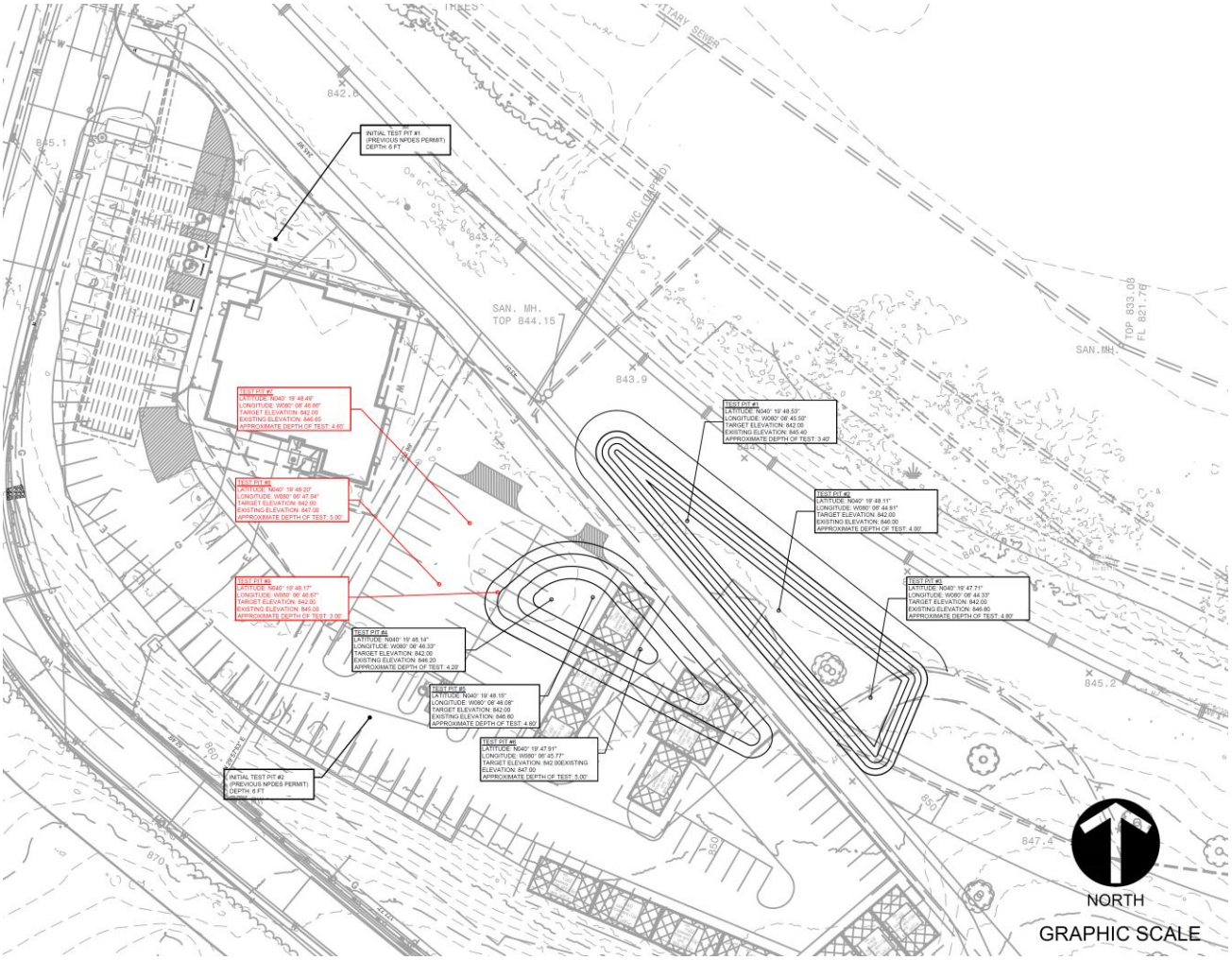


Figure 1 – Infiltration Testing Plan – OTB Alternate Area

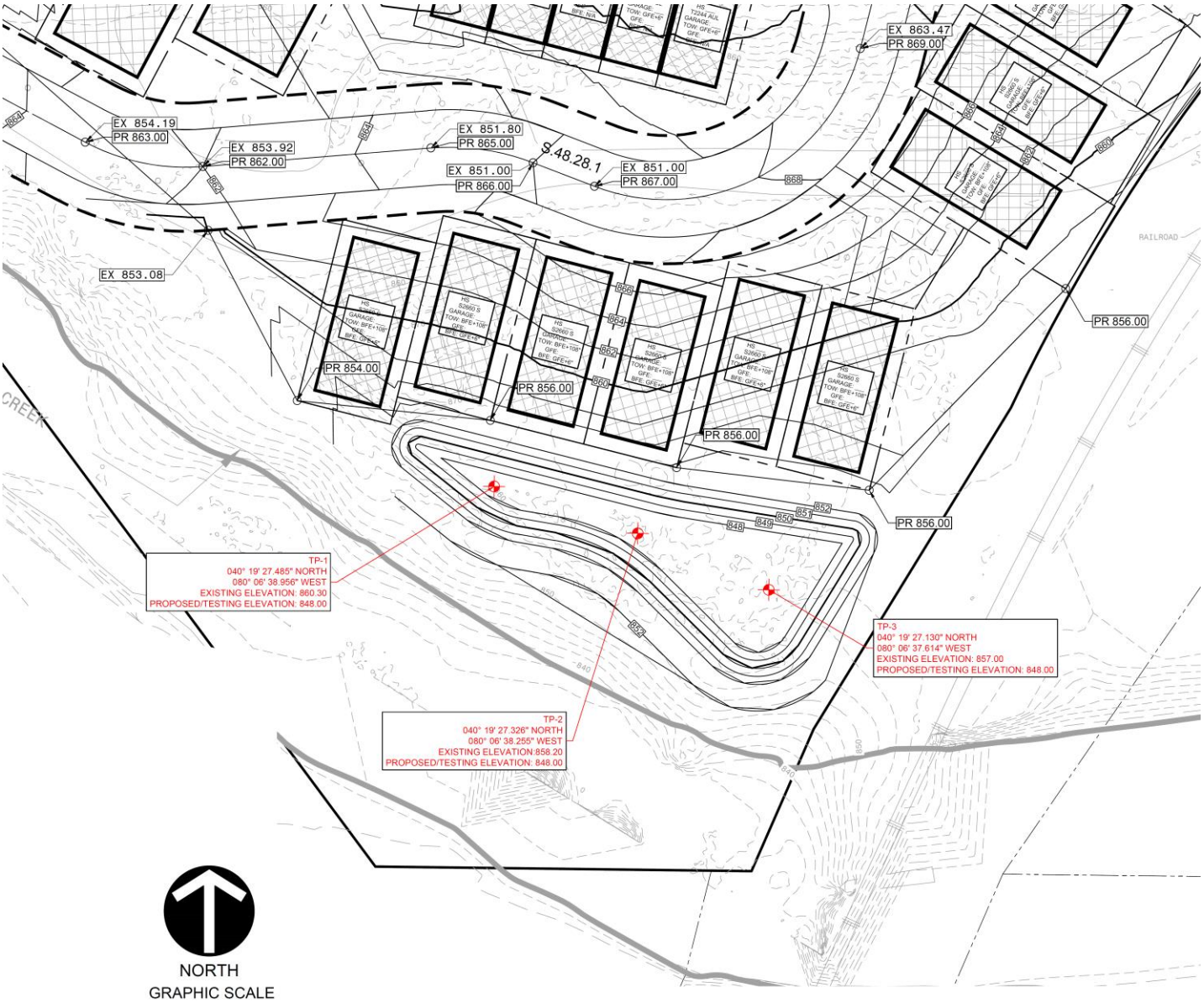


Figure 2 – Infiltration Testing Plan – Phase 1.9.3 / 1.9.4 Area

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

811
Know what's below.
Call before you dig.
1-800-242-1776
Serial No. -

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

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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:\Rem. & Filenames-O\Projects\18900\18927 Mayview\-0096 Phase 5\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

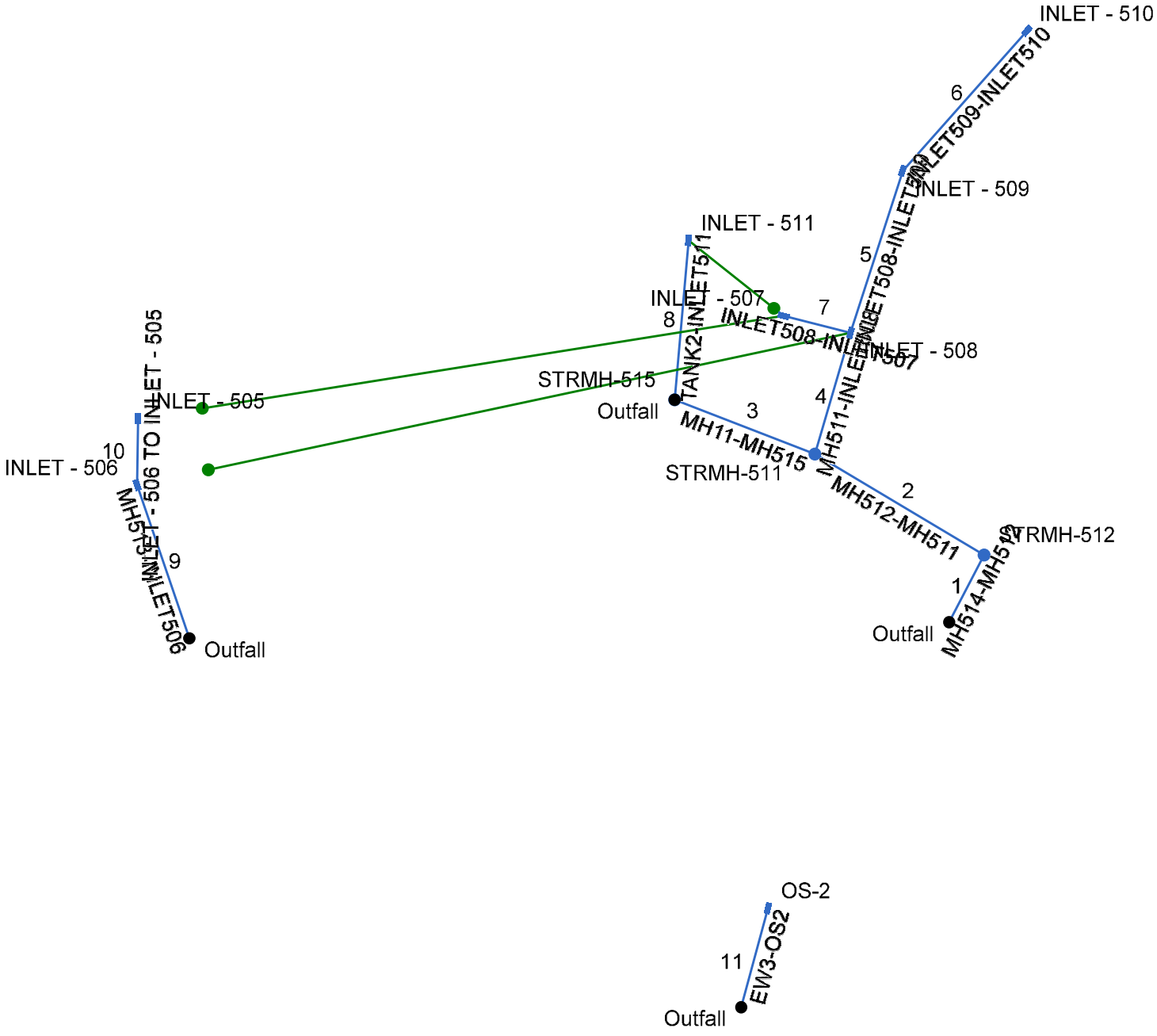
Date: 2026-02-04
Project: Hastings Phase 5
Project No: C-18927-0096
By: BL

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			

Project File: storm sewers.stm | Number of Structures: 11 | Run Date: 2/9/2026

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

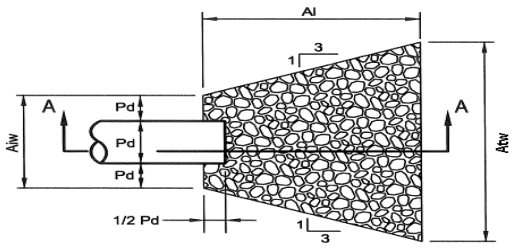
Project File: storm sewers.stm | Number of lines: 11 | Run Date: 2/9/2026

Notes: * Normal depth assumed; ** Critical depth.; j-Line contains hyd. jump ; c = cir e = ellip b = box

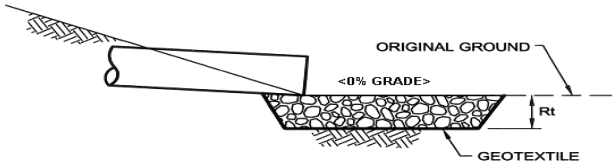
GATEWAY
On Call. On Time. On Target.

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

On Call. On Time. On Target.

TIS ADDENDUM

TRANSPORTATION IMPACT STUDY

C-18927-2512

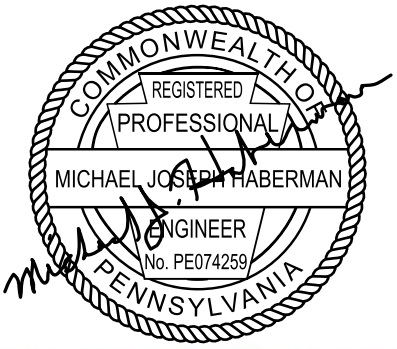
February 2026

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

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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
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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
MICHAEL J. HABERMAN
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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

www.TSTData.com
Tri-State Traffic Data, Inc

Delmont, PA, Pennsylvania, United States 15626
610-517-0990 TSTData@aol.com
Serving Transportiation Professionals Since 1995

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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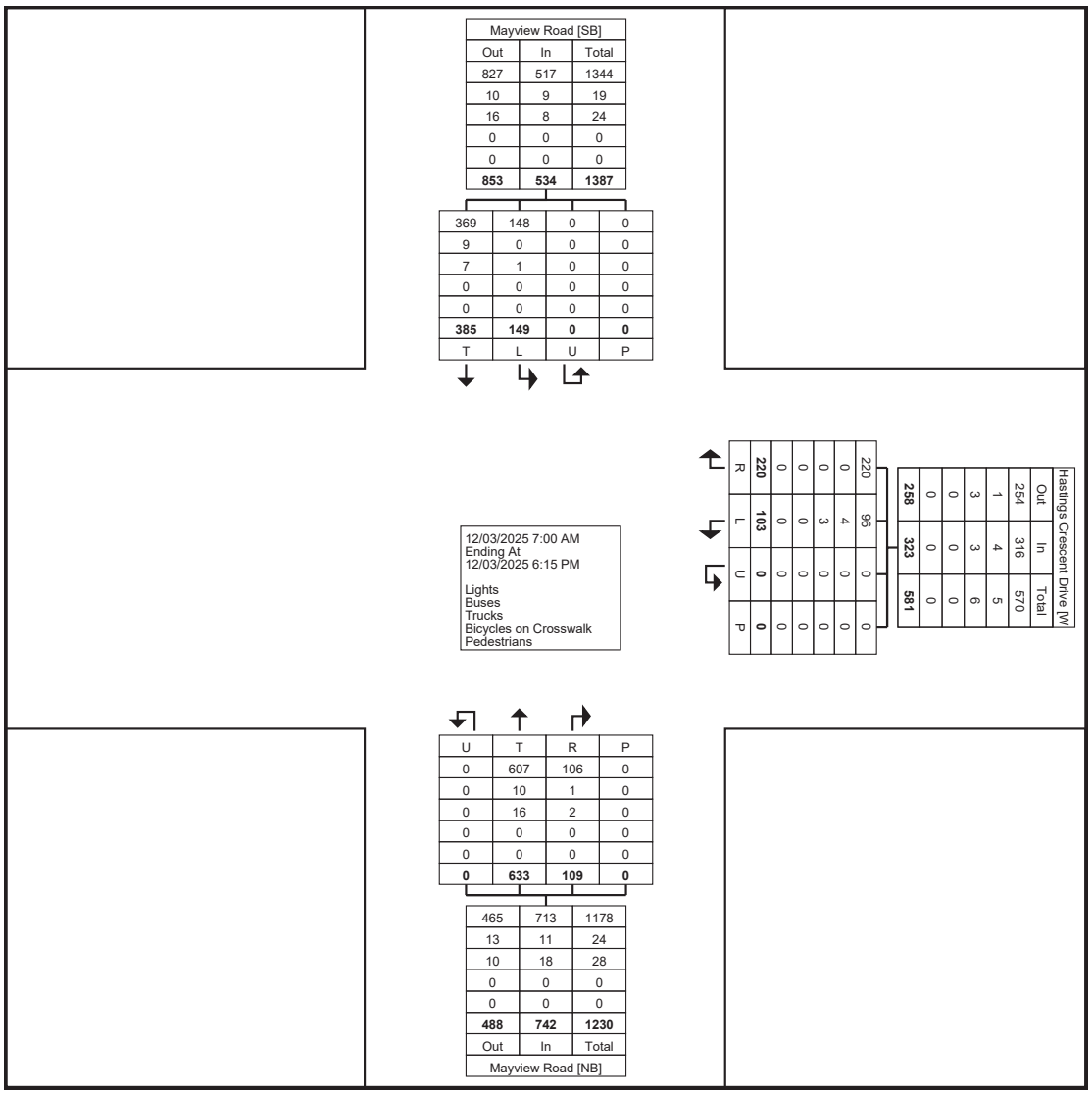

Turning Movement Data Plot

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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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

South Fayette, PA
Mayview Rd & Hastings Crescent Dr
Wednesday, December 3, 2025
Location: 40.328302, -80.111539

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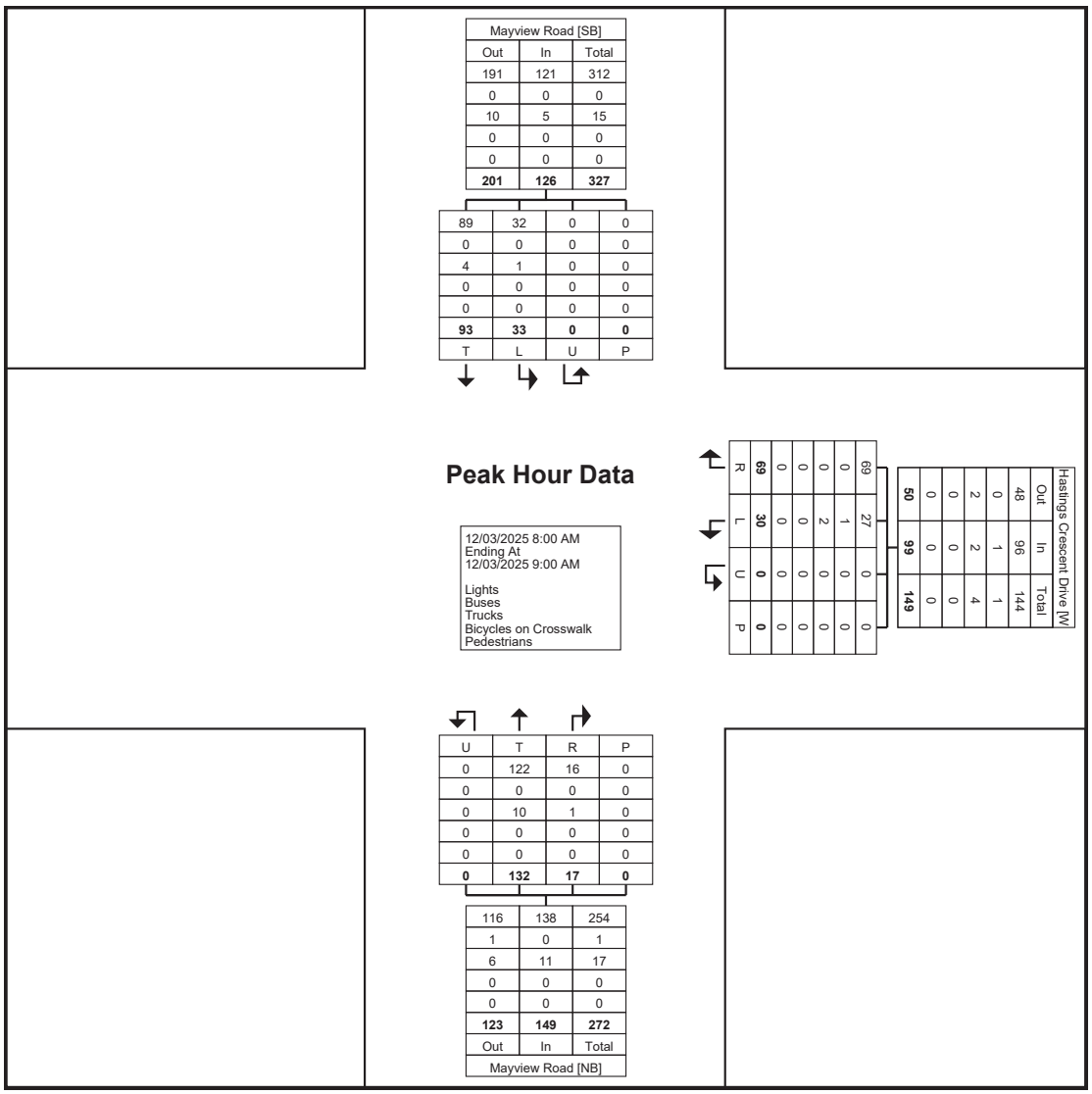
Count Name: Mayview Road and Hastings Crescent Drive
Site Code:
Start Date: 12/03/2025



Turning Movement Peak Hour Data Plot (8:00 AM)

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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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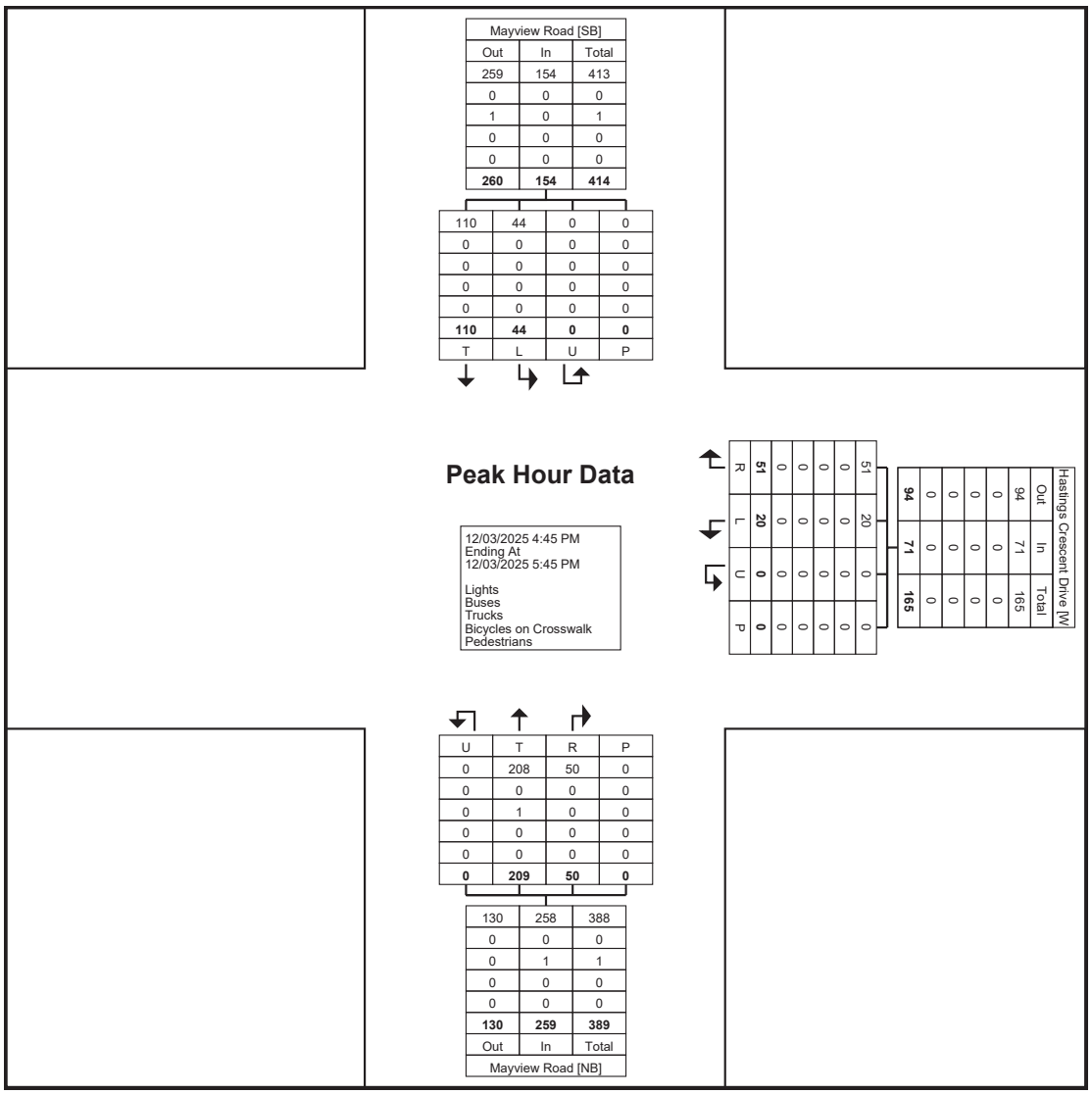

Turning Movement Peak Hour Data Plot (4:45 PM)

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South Fayette, PA
Mayview Rd & Hastings Park Dr
Wednesday, December 3, 2025
Location: 40.326553, -80.111021

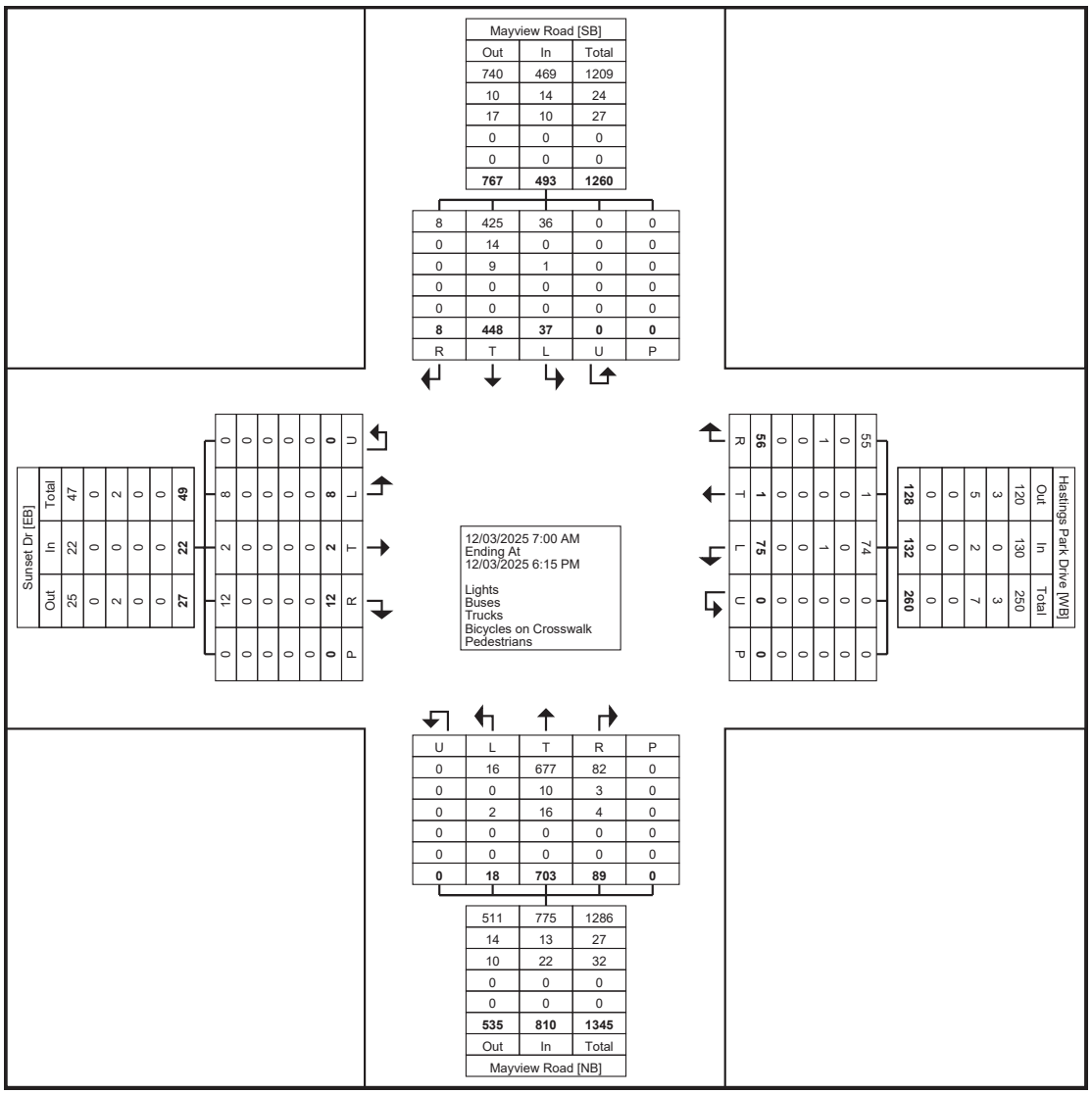
Count Name: Mayview Road and Hastings Park Drive
Site Code:
Start Date: 12/03/2025

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



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South Fayette, PA
Mayview Rd & Hastings Park Dr
Wednesday, December 3, 2025
Location: 40.326553, -80.111021

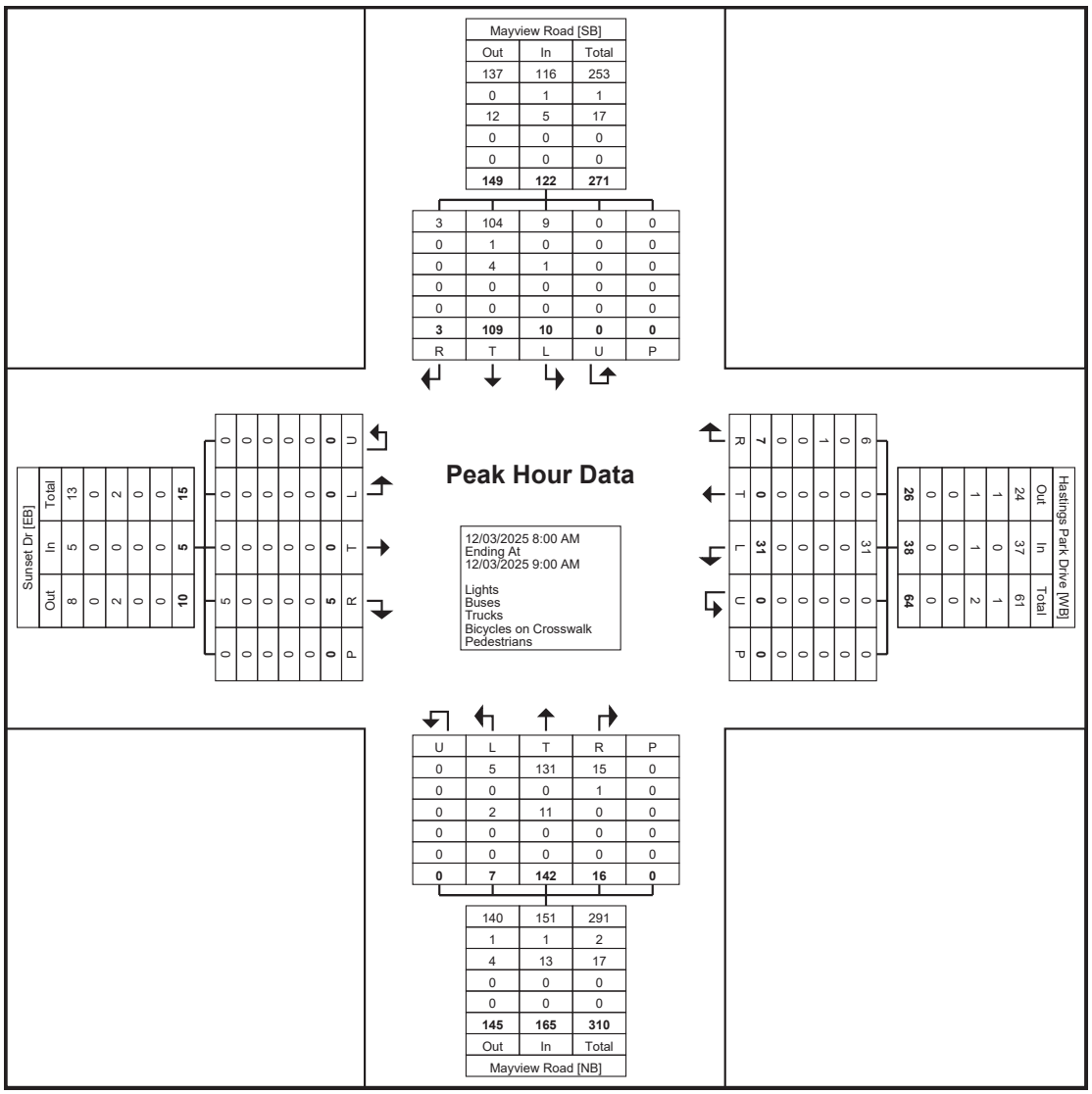
Count Name: Mayview Road and Hastings Park Drive
Site Code:
Start Date: 12/03/2025

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

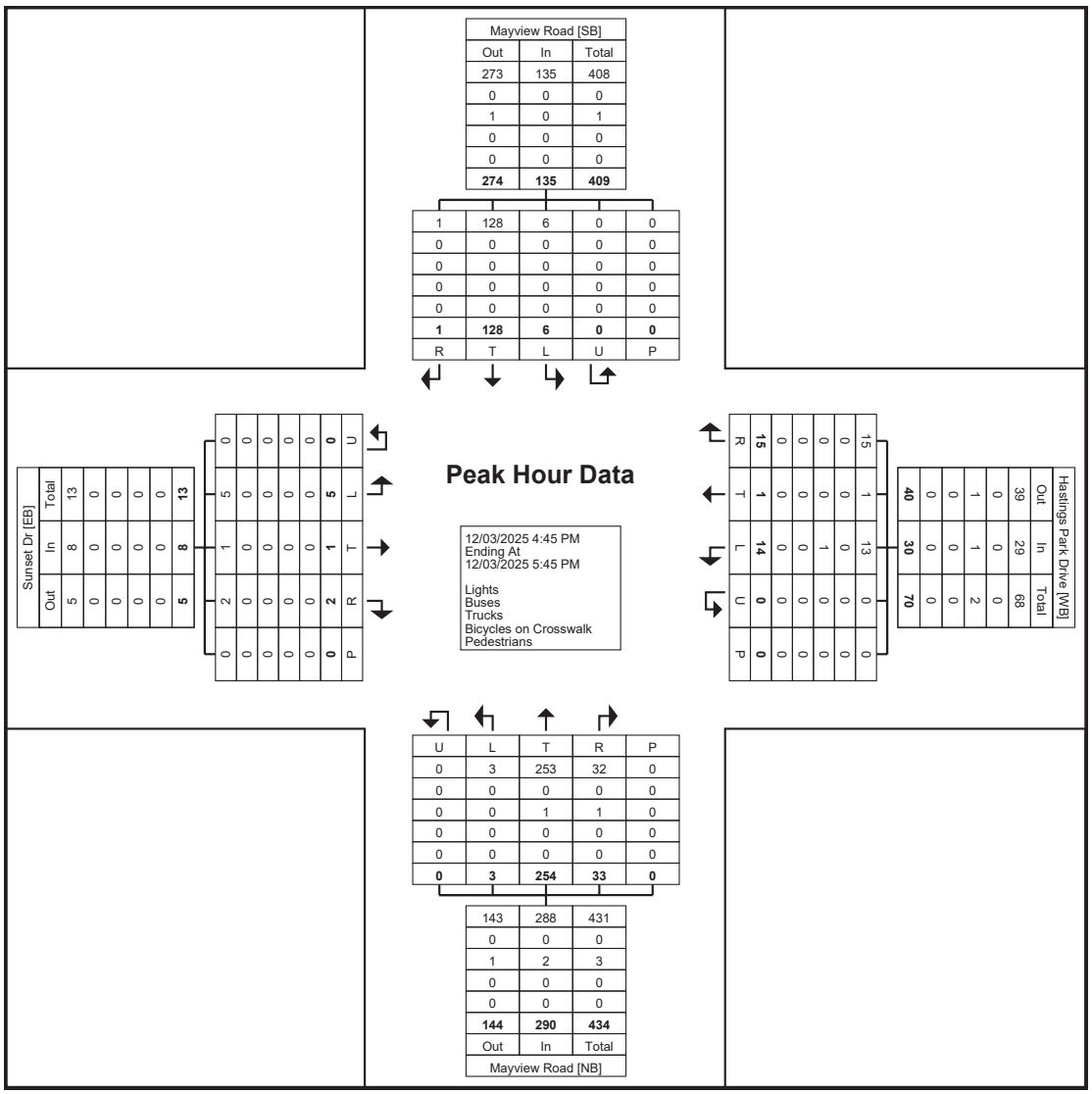
Count Name: Mayview Road and Hastings Park Drive
Site Code:
Start Date: 12/03/2025

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



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South Fayette, PA
Mayview Rd & Over the Bar Driveway
Wednesday, December 3, 2025
Location: 40.330755, -80.113739

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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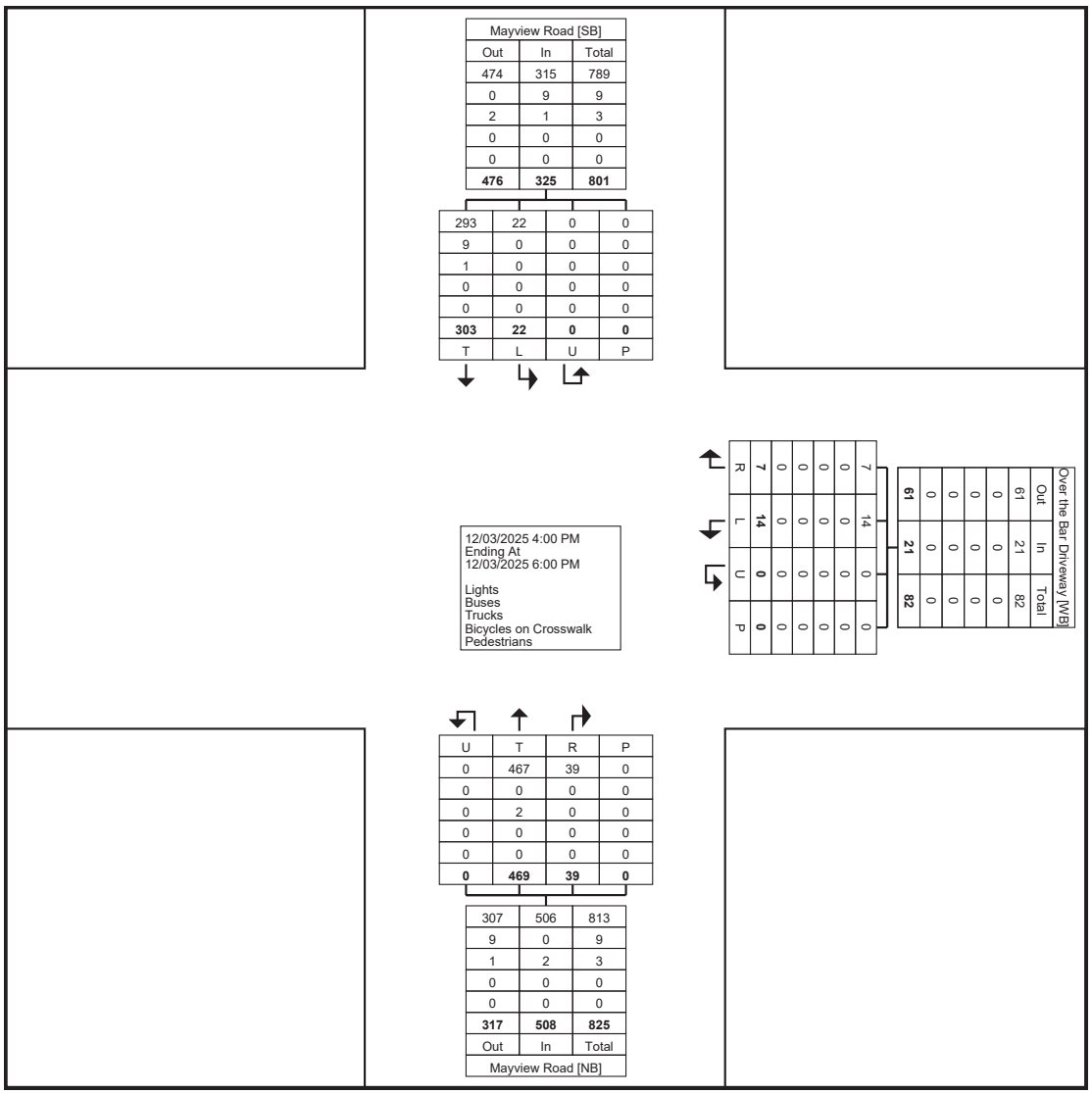

Turning Movement Data Plot

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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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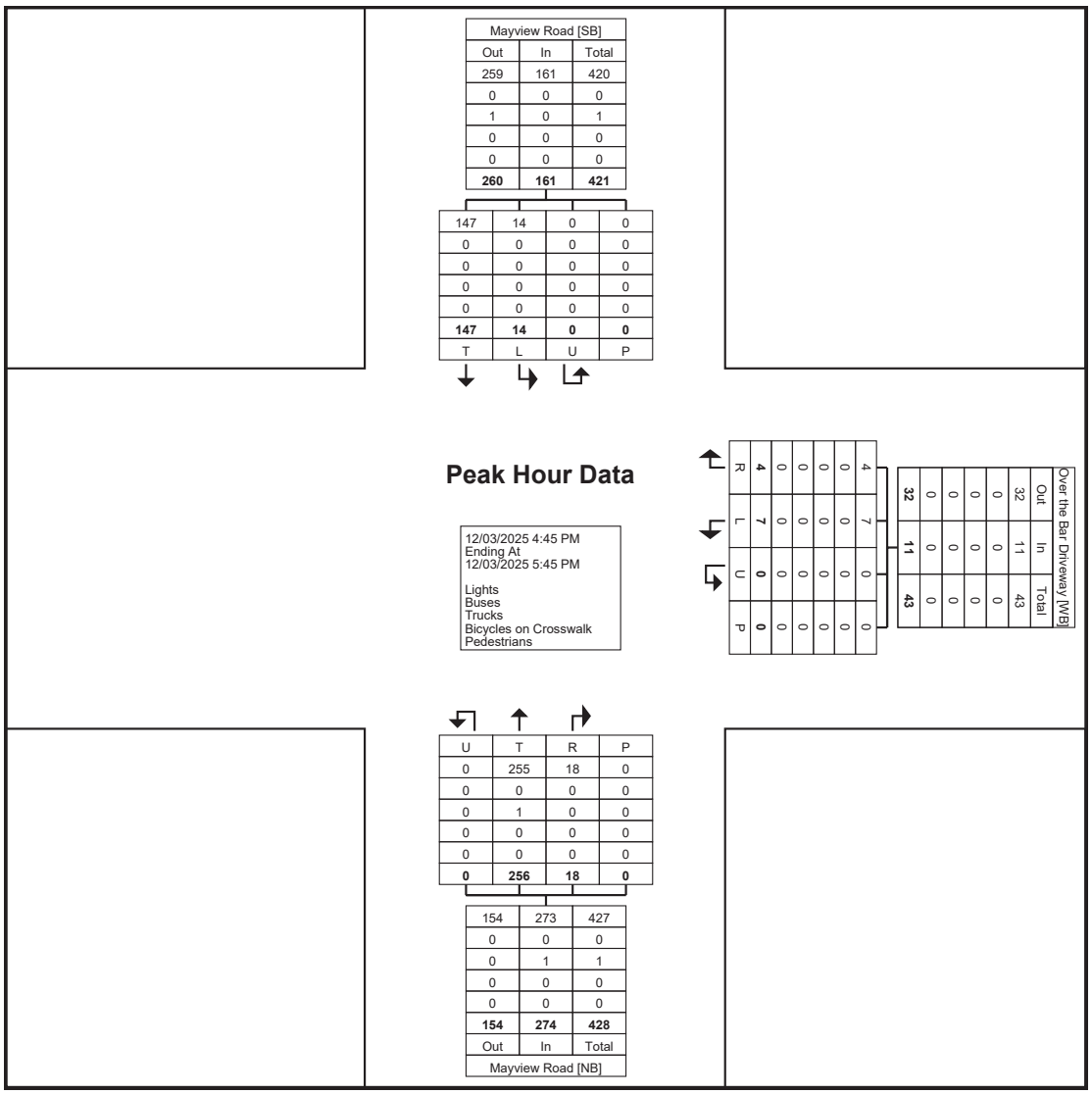

Turning Movement Peak Hour Data Plot (4:45 PM)

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.

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COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL ENGINEER — No. PE085157 — DANIEL M. HOLLAND

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 Homes & Neighborhoods

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

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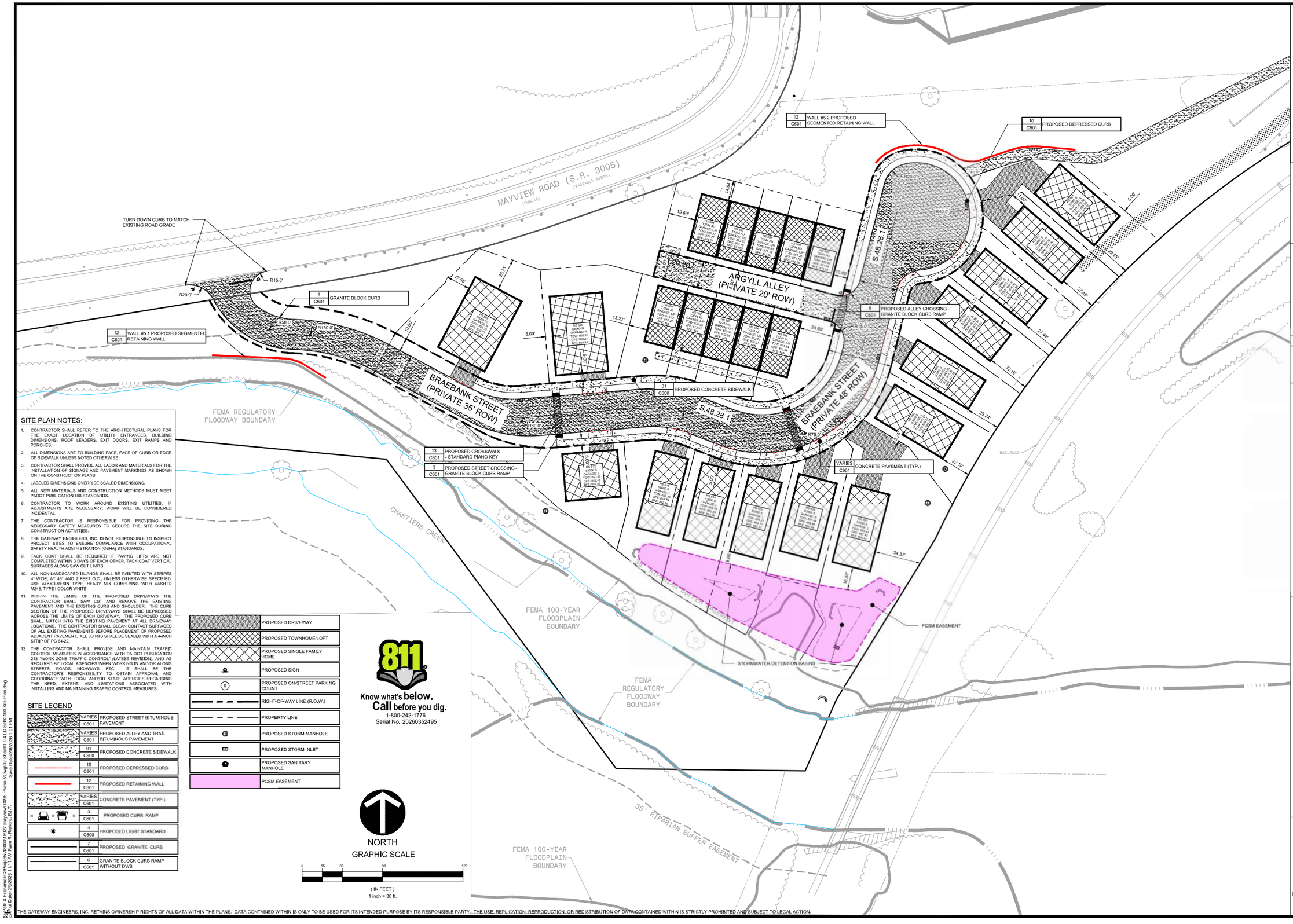
22



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

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NORTH

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

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Save Date=2/6/2026 1:01 PM

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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 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

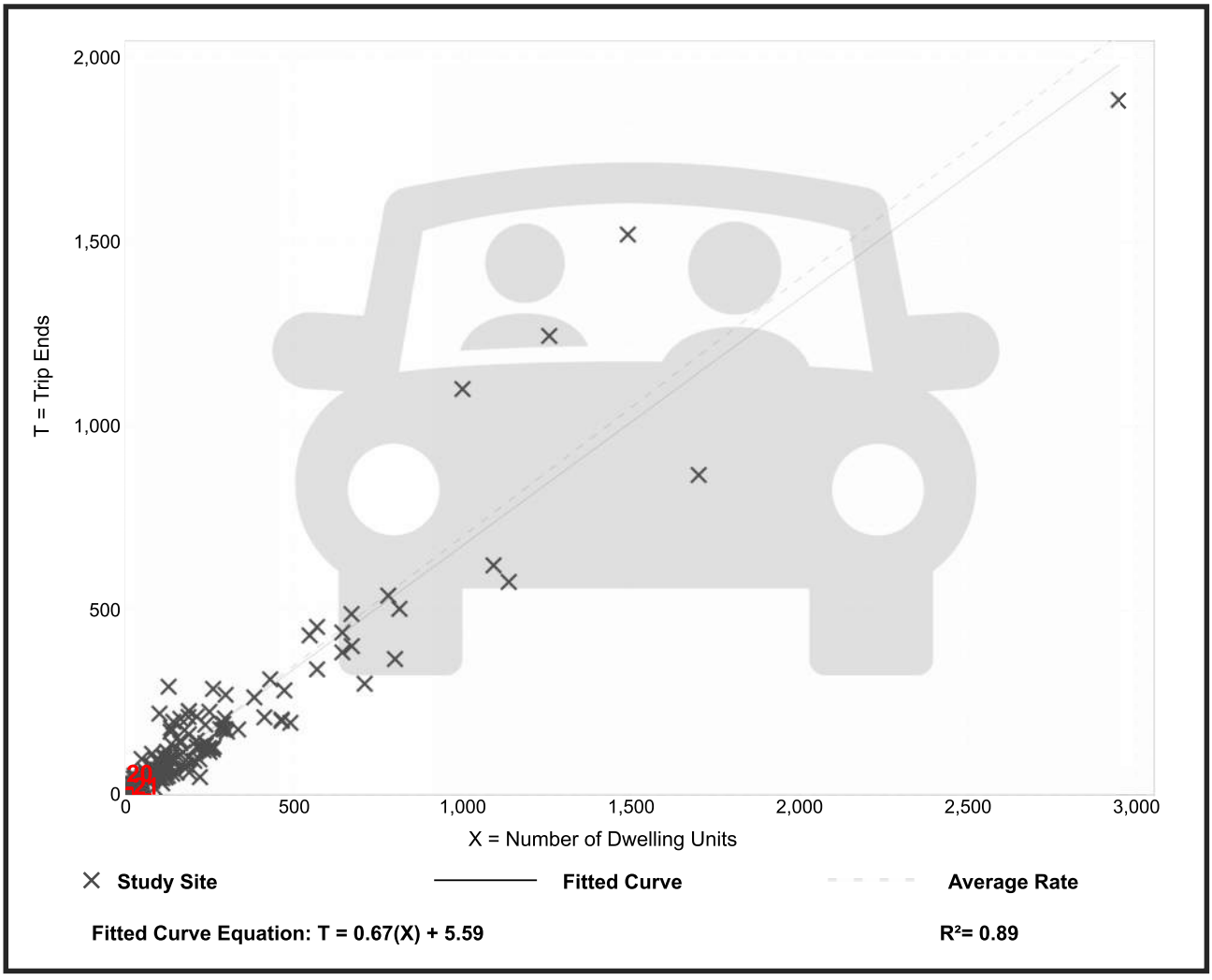
Single-Family Detached Housing
(210)

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



Trip Gen Manual, 12th Edition ● Institute of Transportation Engineers

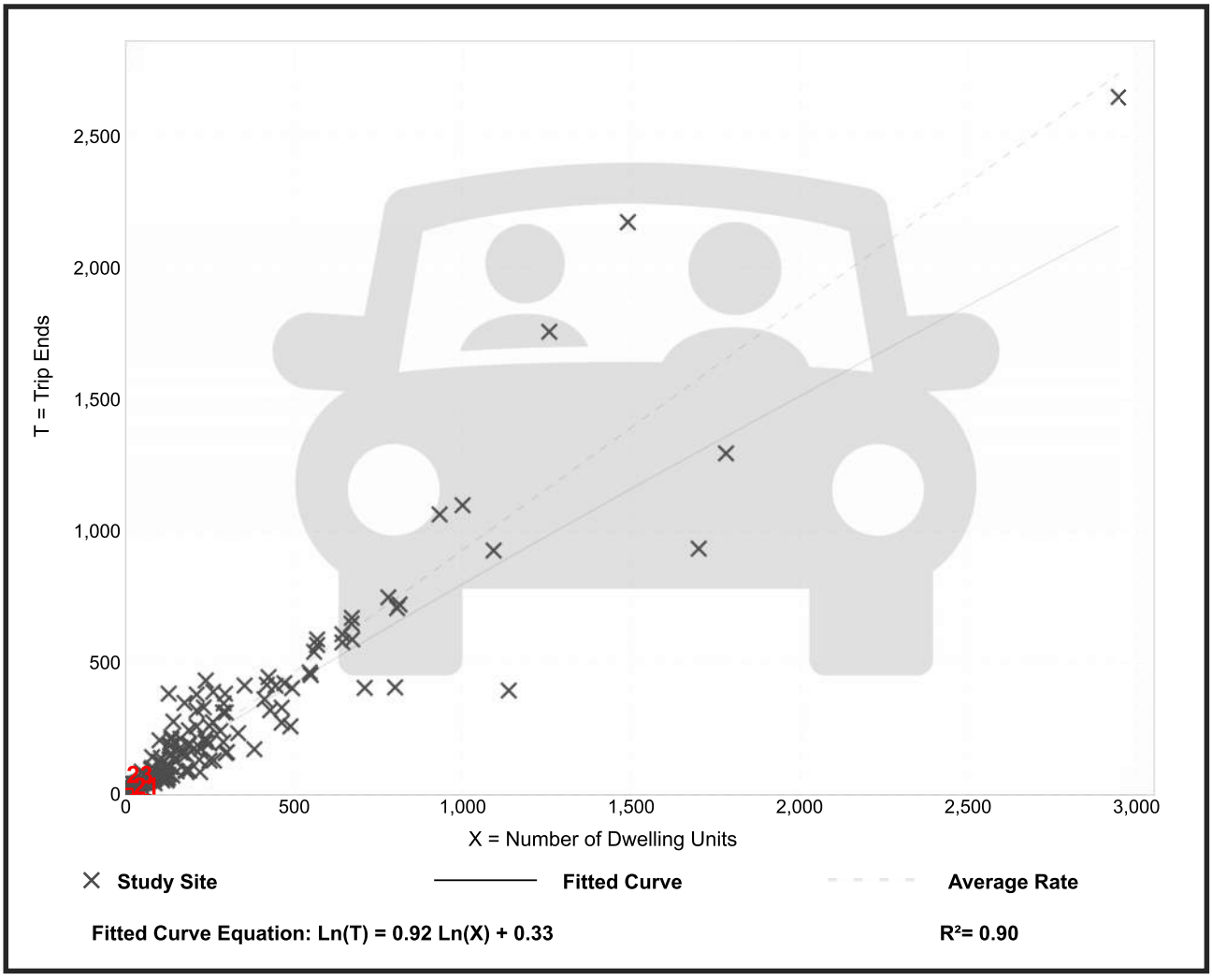
Single-Family Detached Housing
(210)

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

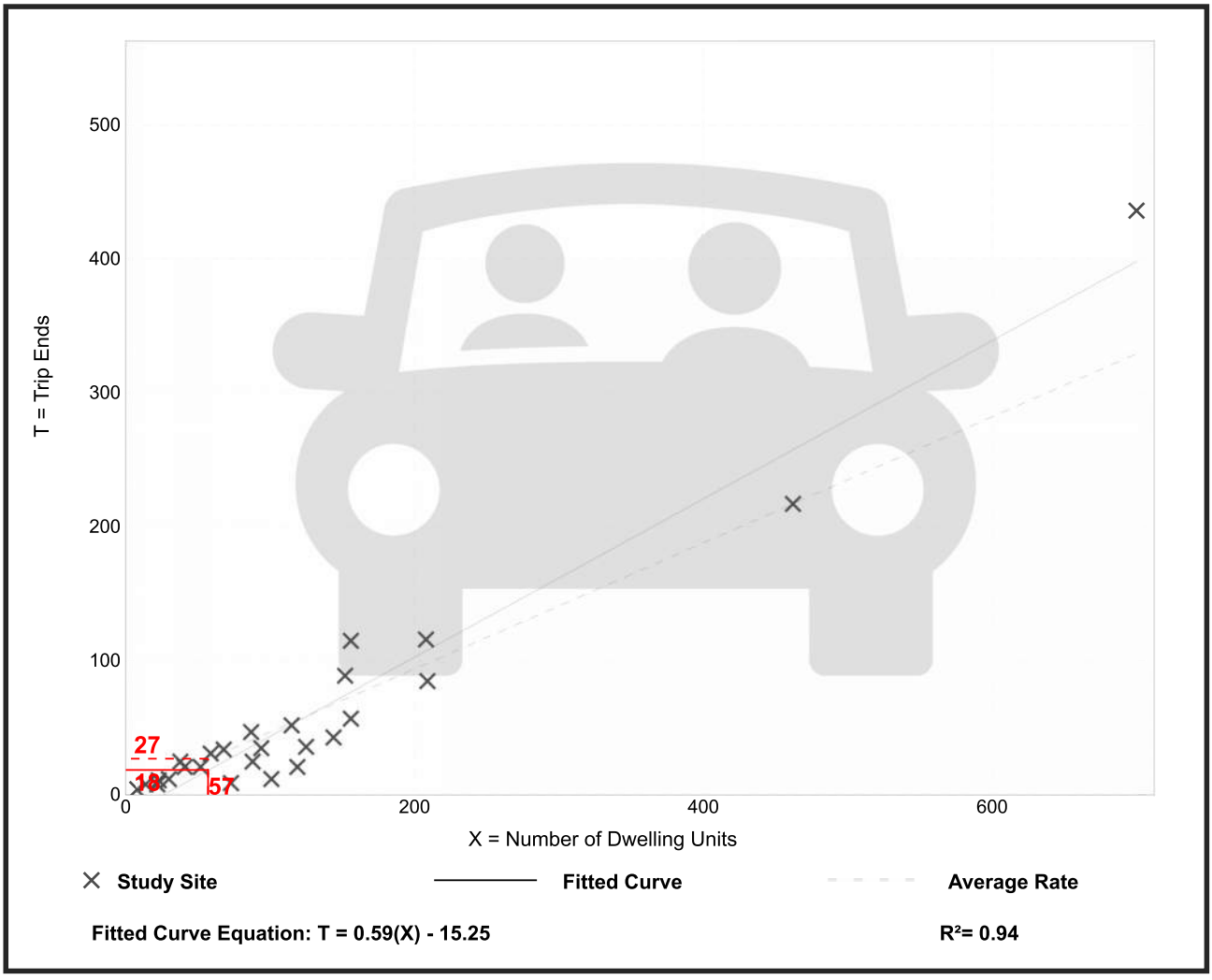
Single-Family Attached Housing
(215)

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



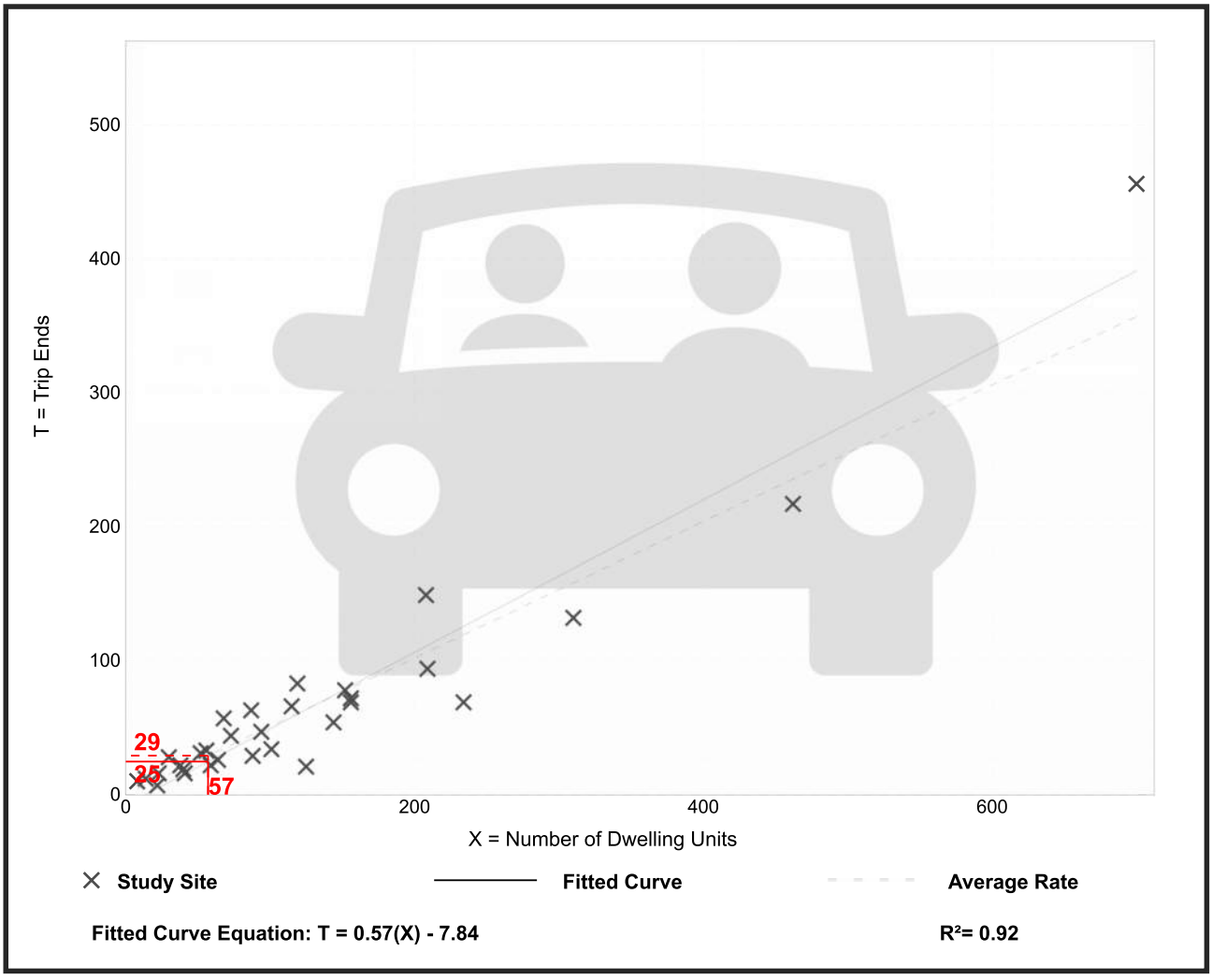
Single-Family Attached Housing
(215)

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

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:

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

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

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 D. 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)

TOWNSHIP OF SOUTH FAYETTE

APPLICATION FOR SUBDIVISION / LAND DEVELOPMENT

Plan Name:	Janocha Plan No. 2	File No.	S-03-2026
Plan Location:	740 Hickory Ridge Road	Tax I.D. #	400-F-10
Project Description	Subdivision of 2 Residential Lots and division of R-1 property		
	From Industrial portion across SR 50.		

Check Appropriate Box(s)

Land Development Plan:		Subdivision Plan:	X	Conditional Use Plan:	

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

Zoning District(s)	R-1, I-P	Property Acreage	50.472	No. Lots/Units	4

Applicant's Name:	John & Lynn Janocha	Phone No.	412-605-2888
Applicant's Address:	740 Hickory Grade Road Bridgeville 15017	Fax No.	
Applicant's E-Mail:	jjanocha713@gmail.com		
Engr's Firm/Name;	Wind Ridge Engineering Co.	Phone No.	724-428-5268
Engineer's Address:	285 Finch Road Wind Ridge PA 15380	Fax No.	724-428-3153
Contact Person:	Michael P. Salai	E-Mail Address	mike@windridgeengineering.com

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	X		
2) Copies of Maps and Plans (Plus pdf of drawings)		X		
• Sets Full Size Plans (24" x 36")	5	X		
• Sets Half Size Plans (11" x 17")	5	X		
3) Agent Authorization Form				X
4) Application Fee	1	X		
5) Escrow – Engineer, Solicitor, Inspection	1	X		
6) Stormwater Management Plan & Calculations	1	X		
7) Erosion & Sedimentation Control Plan				X
8) Deed, Sales Agreement or Other Ownership	1	X		

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

Signature of Applicant: _____ **Date:** March-9-2026

If applicant is not the property owner, Agents Authorization Form must be attached

PARCEL B
774,064 sf
17.770 Ac.
I-P ZONING
(INDUSTRIAL PARK)

PARCEL A-R
1,250,235
28.701 Ac.
R-1 ZONING
(RURAL RESIDENTIAL)

LOT 1
2.000 Ac.
87,120 sf

LOT 2
2.000 Ac.
87,120 sf

NOTE:
SR 50 IS A LIMITED ACCESS HIGHWAY. NO ACCESS IS AVAILABLE TO THE ADJACENT PROPERTIES.

772,767 sf = 17.740 Ac.

SEE SHEET 2 ENLARGEMENT

THIS PLAN SEPARATES PARCEL A IN THE JANOCHA CONSOLIDATION PLAN of LOTS RECORDED IN PLAN BOOK 313 PAGE 26 INTO TWO TRACTS AS PRESENTLY DIVIDED BY THE LIMITED ACCESS HIGHWAY (S.R. 50).
LOTS 1 and 2 ARE FURTHER SUBDIVIDED FROM PARCEL A.

LINE	BEARING	DISTANCE
L1	S 26°03'24" W	10.94'
L2	S 03°20'38" W	82.68'

CURVE	RADIUS	ARC L	CHORD BEARING	CHORD L
C1	188.32'	183.18'	S 53°55'20" W	176.04'
C2	364.01'	144.30'	S 14°42'01" W	143.36'

0 100 200

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WIND RIDGE ENGINEERING CO.
285 FINCH ROAD
WIND RIDGE, PA 15380
724.428.5268
civil engineers • surveyors • landscape architects

JANOCHA PLAN No. 2

SITUATE
SOUTH FAYETTE TOWNSHIP
ALLEGHENY COUNTY - PENNSYLVANIA
PREPARED FOR
JOHN and LYNN A. JANOCHA

SCALE: 1"=100'
DATE: Feb. 2026
F.B.:
DWG. BY: MPS
CAD FILE: \JANOCHA\ 25-32Rec.DWG
JOB No.: 25-32
REVISIONS:

SHEET
1 / 2

WE, JOHN JANOCHA and LYNN A. JANOCHA, OWNERS OF THE LAND SHOWN ON THE JANOCHA PLAN No. 3 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 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 _____, 2026.

_____ NOTARY PUBLIC

_____ JOHN JANOCHA

_____ LYNN A. JANOCHA

BEFORE ME, THE UNDERSIGNED NOTARY PUBLIC IN AND FOR THE COMMONWEALTH OF PENNSYLVANIA AND COUNTY OF ALLEGHENY, PERSONALLY APPEARED JOHN JANOCHA and LYNN A. JANOCHA WHO ACKNOWLEDGED THE FOREGOING ADOPTION AND DEDICATION TO BE THEIR ACT.

WITNESS MY HAND AND NOTARIAL SEAL THIS _____ DAY OF _____, 2026.

MY COMMISSION EXPIRES ON _____ DAY OF _____, 20___.

SEAL

_____ NOTARY PUBLIC

WE, JOHN JANOCHA and LYNN A. JANOCHA, HEREBY CERTIFY THAT THE TITLE TO PROPERTY CONTAINED IN THE JANOCHA PLAN No. 3, IS IN THE NAME OF JOHN JANOCHA and LYNN A. JANOCHA AND IS RECORDED IN DEED BOOK VOLUME 19014, PAGE 425. WE FURTHER CERTIFY THAT THERE IS NO MORTGAGE, LIEN OR OTHER ENCUMBRANCE AGAINST THIS PROPERTY.

_____ WITNESS

_____ JOHN JANOCHA

_____ LYNN A. JANOCHA

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

3-6-2026
DATE

MICHAEL P. SALAI, P.E., P.L.S.
No. 31857-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

_____ TOWNSHIP ENGINEER
Reg. No._____

(SEAL)

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

_____ CHAIRMAN

REVIEWED BY THE SOUTH FAYETTE TOWNSHIP PLANNING COMMISSON THIS _____ DAY OF _____, 2026.

_____ SECRETARY

_____ CHAIRMAN

APPROVED BY THE BOARD OF COMMISSIONERS OF THE TOWNSHIP OF SOUTH FAYETTE BY RESOLUTON AND ALL CONDITIONS OF APPROVAL HAVE BEEN REVIEWED, AND THE PLAN SIGNED AND NOTED AS APPROVED, THIS _____ DAY OF _____, 2026.

_____ SECRETARY

_____ CHAIRMAN

REVIEWED BY THE ALLEGHENY COUNTY DEPARTMENT OF ECONOMIC DEVELOPMENT ON THIS _____ DAY OF _____, 2026.

_____ DIRECTOR

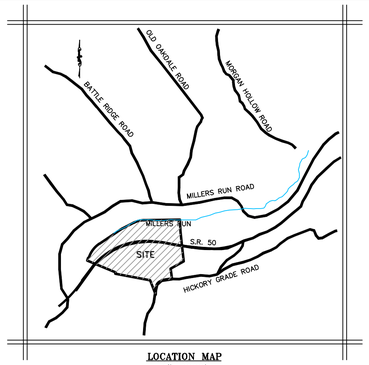
THIS PLAT WAS DELIVERED TO JOHN JANOCHA, BY THE TOWNSHIP OF SOUTH FAYETTE THIS _____ DAY OF _____ 2026.

_____ TOWNSHIP MANAGER

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____.

_____ Manager, Department of Real Estate

*** ALL SIGNATURES/DATES MUST BE MADE WITH NAVY BLUE INK OR FELT TIP MARKER ***



LOCATION MAP
1"=2000'

NOTES:

THE EXISTING DWELLING AT 740 HICKORY GRADE ROAD IS SERVED BY PUBLIC WATER AND AN ON LOT SANITARY SEWER SYSTEM.

A PORTION OF THIS PROPERTY IS AFFECTED BY FLOOD ZONE AE AS SHOWN ON FIRM 42003C0431H (Eff 9/26/2014)

NO BUILDING SHALL TAKE PLACE ON LOT 1 or 2 AND SOUTH FAYETTE TOWNSHIP WILL NOT ISSUE BUILDING PERMITS, UNTIL SUCH TIME AS THE "PLANNING MODULE FOR LAND DEVELOPMENT" HAS BEEN REVIEWED AND APPROVED IN ACCORDANCE WITH THE PROVISIONS OF THE RULES AND REGULATIONS OF THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.

EXISTING UTILITIES

WATER: PA-AMERICAN WATER CO.
ELECTRIC: WEST PENN POWER CO.
SANITARY: MUNICIPAL AUTHORITY TOWNSHIP OF SOUTH FAYETTE
TELEPHONE: VERIZON

MODIFICATIONS

ON _____, MODIFICATIONS ARE GRANTED BY THE SOUTH FAYETTE TOWNSHIP BOARD OF COMMISSIONERS TO THE FOLLOWING SECTIONS OF THE SUBDIVISION AND LAND DEVELOPMENT ORDINANCE #215, AS FOLLOWS:

ARTICLE VII, SECTION 63 SUBSECTION A

SURVEY MONUMENTS. 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.

APPLICANT REQUESTS TO ALLOW IRON PINS MARKING PROPERTY CORNERS TO BE SET IN LIEU OF CONCRETE MONUMENTS.

ARTICLE VII, SECTION 77 SUBSECTION B

FRONTAGE. ALL LOTS CREATED BY A SUBDIVISION SHALL HAVE FRONTAGE ALONG THE RIGHT-OF-WAY OF A PUBLIC STREET.

APPLICANT REQUESTS TO PERMIT 2 LOTS BE DEVELOPED ON A PRIVATE DRIVE.

ARTICLE VII, SECTION 65 SUBSECTION A

PUBLIC STREET FRONTAGE REQUIRED. EACH LOT SHALL HAVE FRONTAGE ON A PUBLIC STREET AS DEFINED BY THIS CHAPTER UNLESS AN EXCEPTION OR MODIFICATION TO THIS REQUIREMENT IS GRANTED IN ACCORDANCE WITH THE PROVSONS OF ARTICLE IX OF THIS CHAPTER.

APPLICANT REQUESTS TO PERMIT 2 LOTS BE DEVELOPED ON A PRIVATE DRIVE.

ARTICLE VII, SECTION 65 SUBSECTION B(7)

THE CARTWAY FOR A PRIVATE STREET SHALL BE IMPROVED TO MEET THE TOWNSHIP CONSTRUCTION STANDARDS FOR A PUBLIC STREET, UNLES A MODIFICATION TO ONE OR MORE OF THOSE REQUIREMENTS IS GRANTED IN ACCORDANCE WITH THE PROVSONS OF ARTICLE IX OF THIS CHAPTER.

APPLICANT REQUESTS A REDUCTION IN PAVEMENT TO A DEPTH AS SPECIFIED ON THE CONSTRUCTION DETAIL AND DELETION OF CURBING AND UNDERDRAIN.

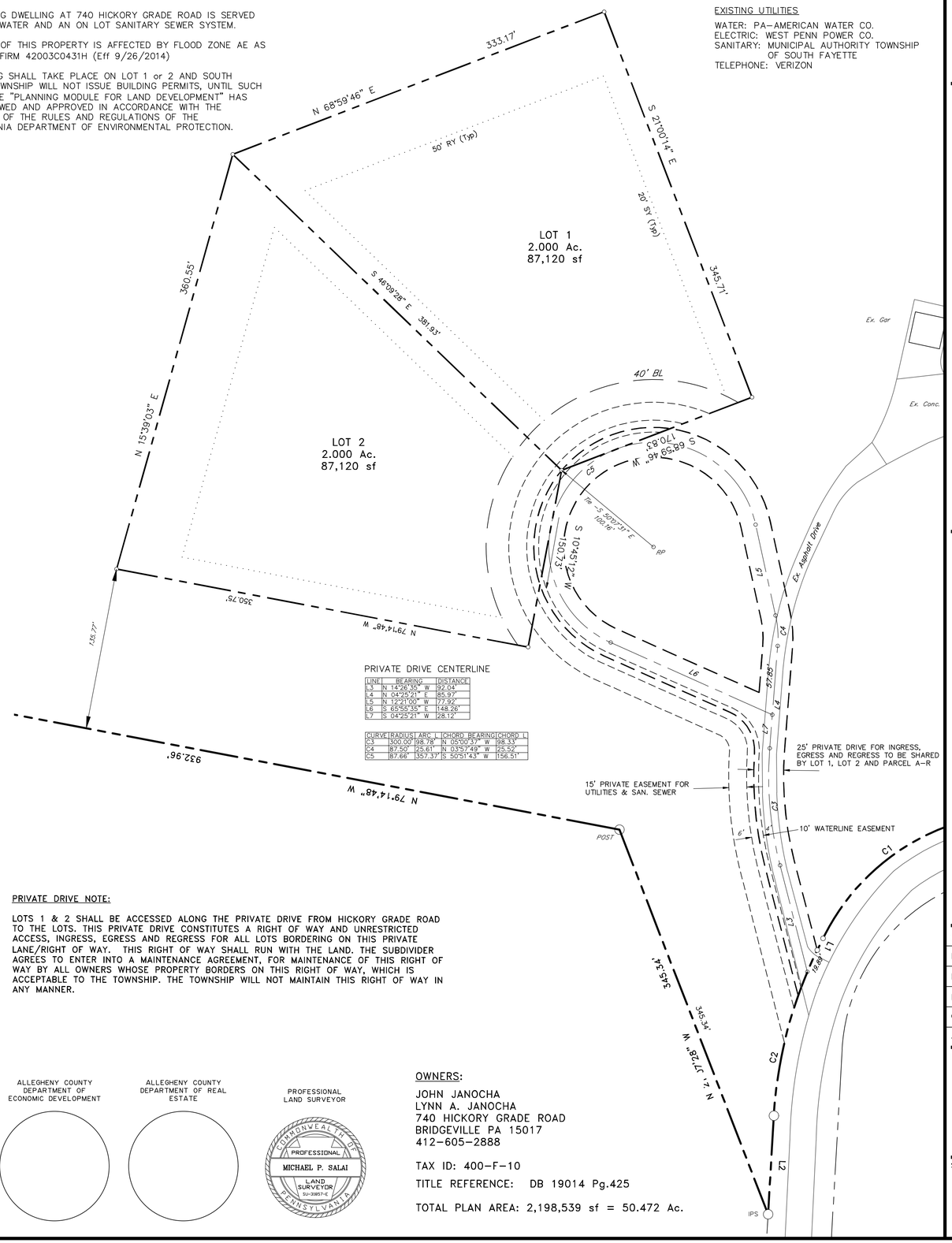
ZONING TABLE (I-P INDUSTRIAL PARK)-NORTH OF SR 50

	REQUIRED	PROPOSED
MIN. LOT SIZE	30,000 sf	774,064 sf
MIN. LOT WIDTH	150'	229'
FRONT YARD SETBACK	50'	50'
REAR YARD SETBACK	50'	50'
SIDE YARD SETBACK	30'	30'
MAX. BUILDING HEIGHT	60'	≤60'
MAX. IMPERVIOUS SURFACE COVERAGE	65%	≤65%

ZONING TABLE (R-1) - SOUTH OF SR 50
(RURAL RESIDENTIAL W/ SEWERS)

	REQUIRED	PROVIDED
LOT SIZE	22,000 sf	87,120 sf
LOT WIDTH	110'	174'
LOT COVERAGE	15%	10%
FRONT YARD	40'	40'
SIDE YARD	20'	20'
REAR YARD	50'	50'
MAX. BLDG HT	2 ½ Stories or 35' 1 Sty (20' max) Accessory structures	

Accessory structure setbacks shall comply with South Fayette Township Zoning Section 240-99C.



PRIVATE DRIVE CENTERLINE

LINE	BEARING	DISTANCE
L3	N 14°26'35" W	92.04'
L4	N 04°25'21" E	85.97'
L5	N 12°21'00" W	77.92'
L6	S 65°55'35" E	148.26'
L7	S 04°25'21" W	28.12'

CURVE	RADIUS	ARC L	CHORD BEARING	CHORD L
C3	300.00'	98.78'	N 05°00'37" W	98.33'
C4	87.50'	75.61'	N 03°57'49" W	25.52'
C5	87.66'	357.37'	S 50°51'43" W	156.51'

PRIVATE DRIVE NOTE:

LOTS 1 & 2 SHALL BE ACCESSED ALONG THE PRIVATE DRIVE FROM HICKORY GRADE ROAD TO THE LOTS. THIS PRIVATE DRIVE CONSTITUTES A RIGHT OF WAY AND UNRESTRICTED ACCESS, INGRESS, EGRESS AND REGRESS FOR ALL LOTS BORDERING ON THIS PRIVATE LANE/RIGHT OF WAY. THIS RIGHT OF WAY SHALL RUN WITH THE LAND. THE SUBDIVIDER AGREES TO ENTER INTO A MAINTENANCE AGREEMENT, FOR MAINTENANCE OF THIS RIGHT OF WAY BY ALL OWNERS WHOSE PROPERTY BORDERS ON THIS RIGHT OF WAY, WHICH IS ACCEPTABLE TO THE TOWNSHIP. THE TOWNSHIP WILL NOT MAINTAIN THIS RIGHT OF WAY IN ANY MANNER.

SOUTH FAYETTE TOWNSHIP ENGINEER

SOUTH FAYETTE TOWNSHIP PLANNING COMMISSION

SOUTH FAYETTE TOWNSHIP COMMISSIONERS

ALLEGHENY COUNTY DEPARTMENT OF ECONOMIC DEVELOPMENT

ALLEGHENY COUNTY DEPARTMENT OF REAL ESTATE

PROFESSIONAL LAND SURVEYOR

COMMONWEALTH OF PENNSYLVANIA
PROFESSIONAL
MICHAEL P. SALAI
LAND SURVEYOR
SU-31857-E
PENNSYLVANIA

OWNERS:

JOHN JANOCHA
LYNN A. JANOCHA
740 HICKORY GRADE ROAD
BRIDGEVILLE PA 15017
412-605-2888

TAX ID: 400-F-10

TITLE REFERENCE: DB 19014 Pg.425

TOTAL PLAN AREA: 2,198,539 sf = 50.472 Ac.

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EMBOSSED SEAL

WIND RIDGE ENGINEERING CO.
285 FINCH ROAD
WIND RIDGE, PA 15380
724.428.5268
civil engineers • surveyors • landscape architects

JANOCHA PLAN No. 2

SITUATE
SOUTH FAYETTE TOWNSHIP
ALLEGHENY COUNTY - PENNSYLVANIA
PREPARED FOR
JOHN and LYNN A. JANOCHA

SCALE: 1"=50'
DATE: Feb. 2026
F.B.:
DWG. BY: MPS
CAD FILE: \JANOCHA\ 25-32Rec.DWG
JOB No.: 25-32
REVISIONS:

SHEET
2 / 2

SOUTH FAYETTE TOWNSHIP
A Community Growing Together

Review Referral

www.southfayettepa.com

Plan Name: **Janocha Plan No. 2**	Plan File Number: **S-03-2026**
Location: **740 Hickory Grade**	Application Type: **Minor Subdivision**
Zoning**: R-1, I-P**	Applicant: **John & Lynn Janocha**

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.

_____ 03/10/2026__
Gary Hartz, Planning Director — Date

Agency Comments: MATSF- No comments.

Nick Goettman — 3-12-26

_____ _____
Agency Signature — Date

`

STORMWATER MANAGEMENT REPORT

JANOCHA PRIVATE DRIVE CONSTRUCTION

Situate

South Fayette Township
Allegheny County, Pennsylvania

March 2026

Prepared For:

John & Lynn A. Janocha
740 Hickory Grade Rd.
Bridgeville PA 15017
Phone: 412-605-2888

WRE Job # 25-32

Prepared By:

WIND RIDGE ENGINEERING CO.
285 Finch Road
Wind Ridge PA 15380
(724) 428-5268
Michael P. Salai PE,PLS.

INTRODUCTION

This report is prepared and submitted in compliance with the South Fayette Township stormwater management requirements.

The Janocha home project is situated on a 50.47 acre lying between Hickory Grade Road and S.R. 50. The project proposes constructing an extension of an existing driveway to serve 2 building lots for the owners' daughters. The site is presently grass and woodland.

Drainage from the site flows southeasterly across the site to a low point in the existing drive and rock outflow and then northwesterly through a wooded area above Parkes Farm Plan of Lots. Runoff ultimately flows to Millers Run (WWF Ch. 93).

Soils on the developed portion of the site are Guernsey Silt Loam (GuB) with slopes of 2-8% with a soil group C. The remainder of the site on the northerly sloped portion are largely comprised of Culleoka Silt Loam (CuD) and Gilpin, Weikert, Culleoka Shaly Silt Loams (GSF). No development will take place in these steeper soils. Minimal disturbance will take place in construction for the driveway.

METHODOLOGY

Stormwater runoff calculations for the site are prepared using the South Fayette Township requirements for small projects by providing stormwater management for the first 2 inches of runoff from impervious areas. Total area of impervious development for the private drive extension will be 9370 square feet.

At the time of house construction, calculations will be provided for each lot to determine additional storage required for roof runoff.

RUNOFF

Based on 2" of runoff, total storage required will be 1561 cubic feet
(9370 sf x 2" x 12 in/ft =1561 cf)

STORMWATER MANAGEMENT

It is proposed to provide stormwater storage for the private drive in a rock sump at the existing low point. All runoff flows naturally to this point and will require no collection apparatus. The sump is proposed to be 20'wide X 50'long X 4' deep filled with #57 aggregate creating a total volume of 1600 cf. The sump will have fabric on the bottom and sides and open on the top to gather runoff.

OPERATION AND MAINTENANCE GUIDELINES

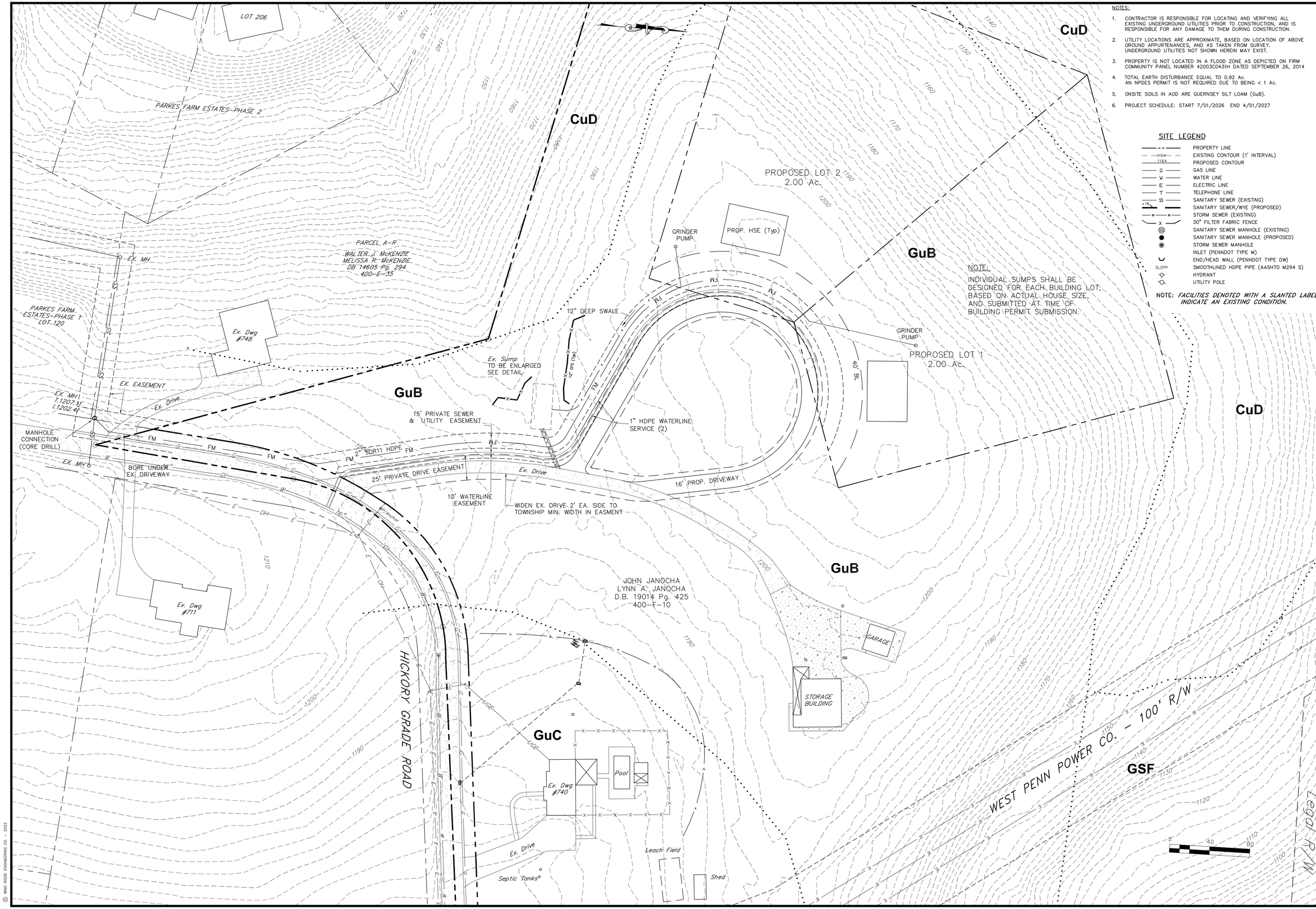
Upon completion of the sump, it will be necessary to provide for the safe operation of the structure during its life. The sumps proposed are to be the responsibility of the Owner to maintain the structure.

Operation and maintenance of the structures shall be according to the following guidelines:

1. Inspections must be made every year by observing the sump and checking for erosion
2.

EROSION CONROL

Silt sock (12”) will be provided downslope of work.



NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND VERIFYING ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION, AND IS RESPONSIBLE FOR ANY DAMAGE TO THEM DURING CONSTRUCTION.
2. UTILITY LOCATIONS ARE APPROXIMATE, BASED ON LOCATION OF ABOVE GROUND APPURTENANCES, AND AS TAKEN FROM SURVEY. UNDERGROUND UTILITIES NOT SHOWN HEREIN MAY EXIST.
3. PROPERTY IS NOT LOCATED IN A FLOOD ZONE AS DEPICTED ON FIRM COMMUNITY PANEL NUMBER 42003C0431H DATED SEPTEMBER 26, 2014
4. TOTAL EARTH DISTURBANCE EQUAL TO 0.92 Ac. AN NPDES PERMIT IS NOT REQUIRED DUE TO BEING < 1 Ac.
5. ONSITE SOILS IN AOD ARE GUERNSEY SILT LOAM (GuB).
6. PROJECT SCHEDULE: START 7/01/2026 END 4/01/2027

SITE LEGEND

	PROPERTY LINE
1164	EXISTING CONTOUR (1' INTERVAL)
1164	PROPOSED CONTOUR
G	GAS LINE
W	WATER LINE
E	ELECTRIC LINE
T	TELEPHONE LINE
SS	SANITARY SEWER (EXISTING)
+78	SANITARY SEWER/WYE (PROPOSED)
SL	STORM SEWER (EXISTING)
X	30" FILTER FABRIC FENCE
SS	SANITARY SEWER MANHOLE (EXISTING)
	SANITARY SEWER MANHOLE (PROPOSED)
	STORM SEWER MANHOLE
	INLET (PENNDOT TYPE M)
	END/HEAD WALL (PENNDOT TYPE DW)
SLCPP	SMOOTHLINED HDPE PIPE (AASHTO M294 S)
	HYDRANT
	UTILITY POLE

NOTE: *FACILITIES DENOTED WITH A SLANTED LABEL INDICATE AN EXISTING CONDITION.*

COMMONWEALTH OF PENNSYLVANIA
PROFESSIONAL ENGINEER
MICHAEL P. SALAI
PE-38078-E

WIND RIDGE ENGINEERING CO.
285 FINCH ROAD
WIND RIDGE, PA 15380
724.428.5268
civil engineers • surveyors • landscape architects

JANOCHA DEVELOPMENT PLAN

SITUATE
SOUTH FAYETTE TOWNSHIP
ALLEGHENY COUNTY – PENNSYLVANIA
PREPARED FOR
JOHN and LYNN A. JANOCHA

SCALE: 1"=40'
DATE: Feb. 2026
F.B.:
DWG. BY: MPS
CAD FILE: \JANOCHA\25-32.DWG
JOB No.: 25-32
REVISIONS:

SHEET
1 / 2

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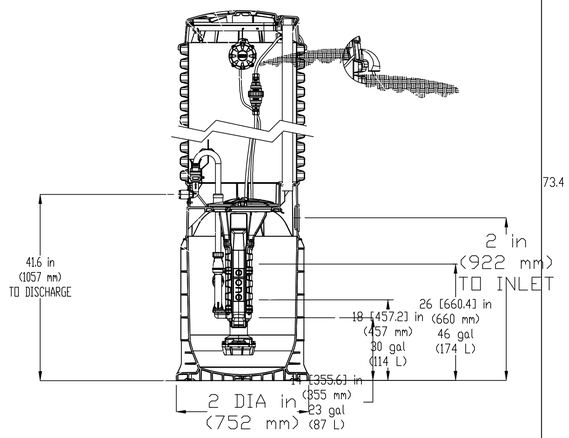

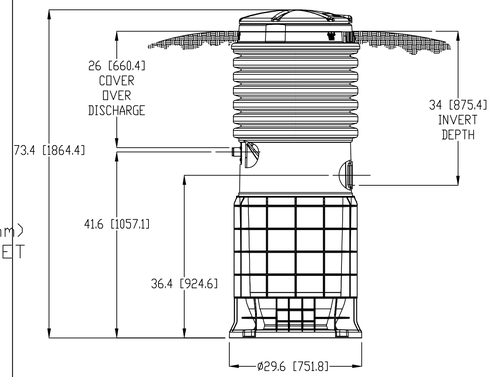

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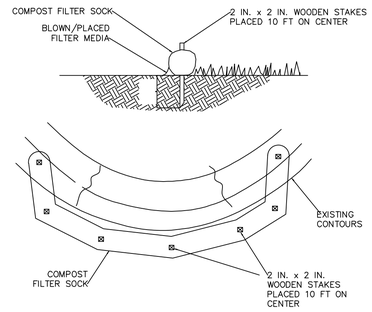


NOTES:

SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.

TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.

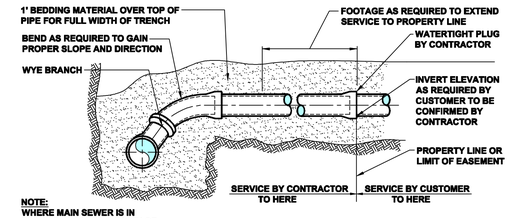
ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.

COMPOST FILTER 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.

BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

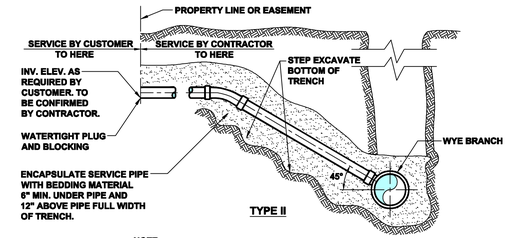
UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

STANDARD CONSTRUCTION DETAIL #4-1
COMPOST FILTER SOCK



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

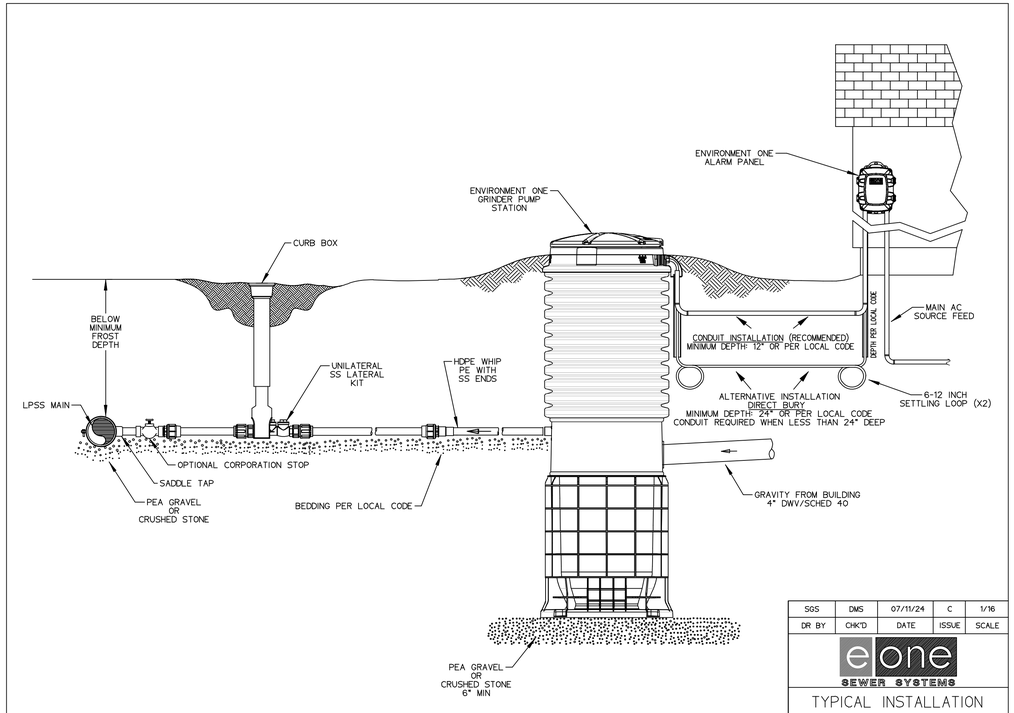
TYPE I



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	March 2014	Standard Detail SD-023



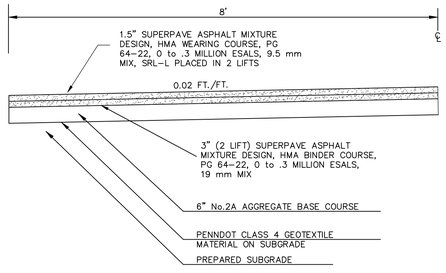
SGS	DMS	07/11/24	C	1/16
DR BY	CHK'D	DATE	ISSUE	SCALE

e one SEWER SYSTEMS

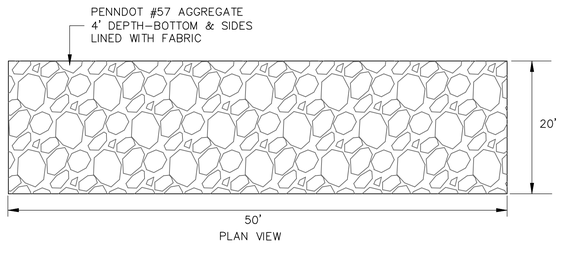
TYPICAL INSTALLATION

LM000114

NOTE: ALL SEWAGE CONNECTIONS, PUMPS AND FORCEMAIN SHALL COMPLY WITH ALLEGHENY COUNTY HEALTH DEPARTMENT REGULATIONS.



TYPICAL BITUMINOUS PRIVATE DRIVE SECTION



PRIVATE ROAD SUMP

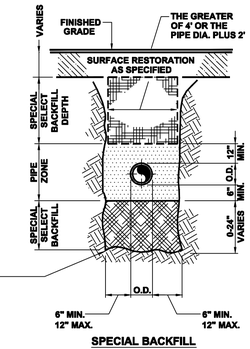
VOLUME=50' X 20' X 4' X 0.4 VOIDS = 1600 CF

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"

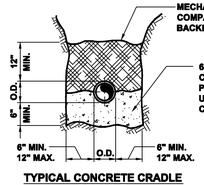
2B CRUSHED STONE OR CRUSHED GRAVEL.

CLASS "C" CONCRETE OR BETTER

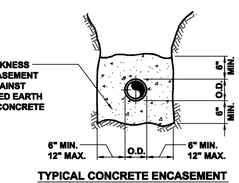


WHERE EXCAVATION EXPOSES THE BOTTOM OF PROPOSED TRENCHES WHERE VERY SOFT OR OTHER UNSTABLE PIPE FOUNDATION MATERIALS EXIST, THE CONTRACTOR WILL BE DIRECTED TO OVERCUT OR STABILIZE / OVERCUT AND REPLACE WITH R4 RIP RAP CHOCKED WITH AASHTO #57 STONE. THE CONTRACTOR SHALL BE COMPENSATED FOR THE ADDITIONAL 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 900 Presto Sygan Road Bridgeville, Pa 15017		PIPE BEDDING DETAILS
Not to scale	March 2014	Standard Detail SD-002

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724.428.5268
civil engineers • surveyors • landscape architects

JANOCHA DEVELOPMENT PLAN
SITUATE
SOUTH FAYETTE TOWNSHIP
ALLEGHENY COUNTY – PENNSYLVANIA
PREPARED FOR
JOHN and LYNN A. JANOCHA

SCALE: 1"=50'
DATE: Jan. 2022
F.B.:
DWG. BY: DMT
CAD FILE: \JANOCHA\21-53.DWG
JOB No.: 21-53
REVISIONS:

SHEET
2 / 2

KLH ENGINEERS, INC

March 19, 2026
Ref. No. 217-03-072

Mr. Michael Salai
Wind Ridge Engineering Co.
285 Finch Rd
Wind Ridge, PA 15017

Dear Mr. Salai:

Municipal Authority of the Township of South Fayette
Janocha Plan No. 2
Planning Module Review

On behalf of the Municipal Authority of the Township of South Fayette (MATSF), KLH Engineers, Inc. (KLH) has reviewed the Planning Module Component 3 for the Janocha Plan No. 2. The proposed project is located at 740 Hickory Grade Rd in South Fayette Township, Allegheny County, Pennsylvania. The project involves a 2 lot (2 ac. each) subdivision from a 50.47-acre tract.

You have provided detailed calculations as part of your narrative as to the projected net increase in wastewater generation, being 800 gallons per day (gpd) or 2 Equivalent Dwelling Units (EDU) based on 400 gpd/EDU. MATSF does not object to your projected future net wastewater flow for the purpose of the Planning Module approval. Wastewater will be conveyed to the Millers Run Interceptor and will be pumped via MATSF's Chartiers Creek Pump Station to ALCOSAN's Chartiers Creek Interceptor at POC C54-16. Ultimately, the flow will be treated at ALCOSAN's Woods Run regional treatment facility.

MATSF has sufficient capacity within its sanitary sewer collection/conveyance system. Refer to the completed Planning Module Component 3 attached along with supporting documentation to accompany the Chapter 94 Consistency Determination table in Section J.2 on Page 6 of the Planning Module Component 3. Section J.3 on Pages 6 and 7 of the Planning Module Component 3 has also been completed. ALCOSAN will need to complete sections of the Planning Module Component 3 relating to treatment.

It is important to note that the projected 5-year average day flow (1,807,652 gpd) is below the average day design capacity of the Chartiers Creek Pump Station (2,400,000 gpd) as shown on the Table on Page 6 of the Planning Module. This projected flow includes all planned development tributary to the pump station and there is adequate capacity to handle peak flows up to 7.6 MGD. MATSF has sufficient capacity within its sanitary sewer collection system and at the Chartiers Creek Pump Station for all conditions except extremely unusual precipitation events. The pump station occasionally receives peak hourly flow during storm events greater than 1" that does not result in a sewer system overflow (SSO) event but is in excess of the design capacity of the pump station (6.0 MGD). During these periods, the 3rd pump at the facility automatically comes online and allows for a peak discharge rate of up to 7.6 MGD. All instances of pump station design exceedance are detailed in MATSF's annual Wasteload Management (Chapter 94) Reports. SSO events are reported to Allegheny County Health Department (ACHD).

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

It should also be noted that MATSF, in 2012, completed a project that provided an emergency siphon connection to the ALCOSAN system just upstream of the Chartiers Creek Pump Station. This was accomplished via a cross connection between the MATSF Chartiers Creek trunk sewer and the siphon pipe under Chartiers Creek that conveyed wastewater to ALCOSAN from the former Reichold industrial facility. That emergency siphon is able to convey up to 2 MGD between the MATSF sewer and the ALCOSAN system in the event of a major malfunction to the Chartiers Creek Pump Station or during severe storm events. Since wet weather capacity related events are infrequent and since MATSF takes steps to minimize the frequency and impact of the system back-ups as detailed below, the proposed flow from Janocha Plan No. 2 can be reasonably managed by MATSF.

MATSF executed ACHD Administrative Consent Orders (ACO) in January 2004, and subsequently, in December 2015, executed a Phase I Consent Order and Agreement (COA). The most recent Phase II COA was executed with ACHD on February 18, 2022. In doing so, MATSF has been granted a certain level of internal control with respect to adding customers to the system. Even so, new subdivisions and development projects still must go through the PADEP Planning Module approval process. MATSF has historically aggressively complied with all terms called out in the 2004 ACO and the 2015 Phase I COA and has undertaken several initiatives necessary to preserve collection system capacity. Similarly, MATSF intends to continue affirmative action in this regard with respect to the 2022 COA. MATSF has been and will continue to be actively involved in regional efforts with ALCOSAN, ACHD and PADEP as coordinated by 3 Rivers Wet Weather Inc.

Historically, MATSF maintains a database of on-going efforts for collection system operation and maintenance (O&M) and quantification of infiltration/inflow. Some of the most significant events that have had a beneficial impact on preserving system capacity and reducing the frequency of SSOs include mandatory time of sale inspection of private lateral sewers, rehabilitation of the public portion of sanitary sewer service laterals, ongoing flow monitoring within the MATSF Chartiers Creek system, flow reduction projects, completion of a source reduction study, construction of parallel sewers, sewer replacement projects, sewer lining, lateral grouting, and other rehabilitation projects. Additional details can be provided upon request.

As previously mentioned, MATSF maintains a comprehensive flow monitoring program and provides significant detail with respect to infiltration/inflow tracking within the annual Chapter 94 Wasteload Management Report. All MATSF flow data is also provided to ALCOSAN on an annual basis.

As part of the Planning Module approval process, a resolution revising the Township's official sewage plan must be executed by South Fayette Township. You must also submit a copy of the Planning Module Components along with this letter to ALCOSAN in order to obtain a letter for their conveyance and treatment capacity. Comments are also required from ACHD. The completed package must be submitted to PADEP for final approval. This procedure is not considered complete until PADEP has provided written approval. Also, PADEP and MATSF do not consider taps guaranteed until the appropriate connection charge is paid to MATSF

Please do not hesitate to contact our office or MATSF should you have any questions regarding this information and review.

Very truly yours,

KLH ENGINEERS, INC.

Samuel R. Gibson, P.E.
Vice President

Enclosures

CC: Nick Goettman, Operations Manager, MATSF
South Fayette Township

☐ J. CHAPTER 94 CONSISTENCY DETERMINATION (See Section J of instructions)

Projects that propose the use of existing municipal collection, conveyance or wastewater treatment facilities, or the construction of collection and conveyance facilities to be served by existing municipal wastewater treatment facilities must be consistent with the requirements of Title 25, Chapter 94 (relating to Municipal Wasteload Management). If not previously included in Section F, include a general map showing the path of the sewage to the treatment facility. If more than one municipality or authority will be affected by the project, please obtain the information required in this section for each. Additional sheets may be attached for this purpose.

1. Project Flows 800 gpd
2. Total Sewage Flows to Facilities (pathway from point of origin through treatment plant)

   When providing "treatment facilties" sewage flows, use Annual Average Daily Flow for "average" and Maximum Monthly Average Daily Flow for "peak" in all cases. For "peak flows" in "collection" and "conveyance" facilities, indicate whether these flows are "peak hourly flow" or "peak instantaneous flow" and how this figure was derived (i.e., metered, measured, estimated, etc.).

   a. Enter average and peak sewage flows for each proposed or existing facility as designed or permitted.

   b. Enter the average and peak sewage flows for the most restrictive sections of the existing sewage facilities.

   c. Enter the average and peak sewage flows, projected for 5 years (2 years for pump stations) through the most restrictive sections of the existing sewage facilities. Include existing, proposed (this project) and future project (other approved projects) flows.

   To complete the table, refer to the instructions, Section J.

	a. Design and/or Permitted Capacity (gpd)		b. Present Flows (gpd)		c. Projected Flows in 5 years (gpd) (2 years for P.S.)	
	Average	**Peak**	**Average**	**Peak**	**Average**	**Peak**
Collection	319,200	798,000	2,300	5,750	3,100	7,750
Conveyance	2,400,000	6,000,000	1,667,892	7,600,000	1,807,652	7,600,000
Treatment	----	----	----	----	----	----

3. Collection and Conveyance Facilities *See attached background information

   The questions below are to be answered by the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities. These questions should be answered in coordination with the latest Chapter 94 annual report and the above table. The individual(s) signing below must be legally authorized to make representation for the organization.

   YES NO

   a. ☐ ☒ This project proposes sewer extensions or tap-ins. Will these actions create a hydraulic overload within five years on any existing collection or conveyance facilities that are part of the system?

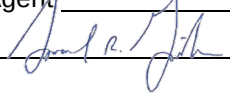
   If yes, this sewage facilities planning module will not be accepted for review by the municipality, delegated local agency and/or DEP until all inconsistencies with Chapter 94 are resolved or unless there is an approved Corrective Action Plan (CAP) granting an allocation for this project. A letter granting allocations to this project under the CAP must be attached to the module package.

   If no, a representative of the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities must sign below to indicate that the collection and conveyance facilities have adequate capacity and are able to provide service to the proposed development in accordance with both §71.53(d)(3) and Chapter 94 requirements and that this proposal will not affect that status.

   b. Collection System

   Name of Agency, Authority, Municipality Municipal Authority-Township of South Fayette (MATSF)

   Name of Responsible Agent Samuel R. Gibson, P.E., KLH Engineers, Inc.

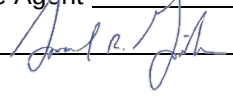
   Agent Signature  Date 03/19/26

☐ J. CHAPTER 94 CONSISTENCY DETERMINATION (See Section J of instructions)

c. Conveyance System

Name of Agency, Authority, Municipality Municipal Authority of the Township of South Fayette (MATSF)

Name of Responsible Agent Samuel R. Gibson, P.E., KLH Engineers, Inc.

Agent Signature 

Date 03/19/26

4. Treatment Facility

The questions below are to be answered by a representative of the facility permittee in coordination with the information in the table and the latest Chapter 94 report. The individual signing below must be legally authorized to make representation for the organization.

	YES	NO	
a.	☐	☐	This project proposes the use of an existing wastewater treatment plant for the disposal of sewage. Will this action create a hydraulic or organic overload within 5 years at that facility?

If yes, this planning module for sewage facilities will not be reviewed by the municipality, delegated local agency and/or DEP until this inconsistency with Chapter 94 is resolved or unless there is an approved CAP granting an allocation for this project. A letter granting allocations to this project under the CAP must be attached to the planning module.

If no, the treatment facility permittee must sign below to indicate that this facility has adequate treatment capacity and is able to provide wastewater treatment services for the proposed development in accordance with both §71.53(d)(3) and Chapter 94 requirements and that this proposal will not impact that status.

b. Name of Agency, Authority, Municipality ALCOSAN

Name of Responsible Agent _____

Agent Signature _____

Date _____

☐ K. TREATMENT AND DISPOSAL OPTIONS (See Section K of instructions)

This section is for land development projects that propose construction of wastewater treatment facilities. Please note that, since these projects require permits issued by DEP, these projects may **NOT** receive final planning approval from a delegated local agency. Delegated local agencies must send these projects to DEP for final planning approval.

Check the appropriate box indicating the selected treatment and disposal option.

☐ 1. Spray irrigation (other than individual residential spray systems (IRSIS)) or other land application is proposed, and the information requested in Section K.1. of the planning module instructions are attached.

☐ 2. Recycle and reuse is proposed and the information requested in Section K-2 of the planning module instructions is attached.

☐ 3. A discharge to a dry stream channel is proposed, and the information requested in Section K.3. of the planning module instructions are attached.

☐ 4 A discharge to a perennial surface water body is proposed, and the information requested in Section K.4. of the planning module instructions are attached.

☐ L. PERMEABILITY TESTING (See Section L of instructions)

☐ The information required in Section L of the instructions is attached.

☐ M. PRELIMINARY HYDROGEOLOGIC STUDY (See Section M of instructions)

☐ The information required in Section M of the instructions is attached.

Municipal Authority of the Township of South Fayette
Chapter 94 Consistency Determination

Janocha Plan No. 2
800 gpd (2 EDUs)

	a. Design and/or Permitted Capacity (gpd)		b. Present Flows (gpd)		c. Projected Flows in 5 years (gpd)	
	Average	**Peak**	**Average**	**Peak**	**Average**	**Peak**
Collection	319,200[a]	798,000[a]	2,300[c]	5,750[c]	3,100[e]	7,750[e]
Conveyance	2,400,000[b]	6,000,000[b]	1,667,892[d]	7,600,000[d]	1,807,652[f]	7,600,000[f]
Treatment[g]	---	---	---	---	---	---

Notes:

[a] Peak flow capacity based on limiting section of 8" collection sewer at a slope of 1.04%. Average flow capacity based on peak flow capacity divided by 2.5.

[b] The permitted peak capacity of the Chartiers Creek Pump Station is 6.0 MGD. Average capacity of the Chartiers Creek Pump Station is calculated by dividing the permitted peak capacity of 6.0 MGD by 2.5.

[c] The present average daily flow in the limiting section of 8" collection sewer with 1.04% slope is estimated. The present peak flow in the limiting section of 8" collection sewer is calculated by multiplying the present average daily flow by 2.5.

[d] Average present flow at the Chartiers Creek Pump Station is 1,667,892 gpd. MATSF has sufficient capacity within its sanitary sewer collection system and at the Chartiers Creek Pump Station for all conditions except extremely unusual precipitation events. The pump station occasionally receives peak hourly flow during storm events greater than 1" that does not result in a sanitary sewer overflow (SSO) event but is in excess of the design capacity of the pump station (6.0 MGD). During these periods, the 3rd pump at the facility automatically comes online and allows for a peak discharge rate of up to 7.6 MGD.

[e] Projected collection system average flows based on existing flow (2,300 gpd) plus 800 gpd from the proposed Janocha Plan No. 2. Projected collection system peak flows based on projected average flow multiplied by 2.5.

[f] Projected conveyance system average flows based on average present flow at the Chartiers Creek Pump Station (1,667,892 gpd) plus projected flow from all planned development tributary to the pump station plus 800 gpd from the proposed Janocha Plan No. 2. Peak discharge rate of the Chartiers Creek Pump Station is 7.6 MGD.

[g] To be completed by ALCOSAN.

3850-FM-BCW0353 Rev. 2/2025
Form

Pennsylvania
Department of
Environmental Protection

Code No.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

SEWAGE FACILITIES PLANNING MODULE

Component 3. Sewage Collection and Treatment Facilities

(Return completed module package to appropriate municipality)

DEP USE ONLY				
DEP CODE #	**CLIENT ID #**	**SITE ID #**	**APS ID #**	**AUTH ID #**

This planning module component is used to fulfill the planning requirements of Act 537 for the following types of projects: (1) a subdivision to be served by sewage collection, conveyance or treatment facilities, (2) a tap-in to an existing collection system with flows on a lot of 2 EDU's or more, or (3) the construction of, or modification to, wastewater collection, conveyance or treatment facilities that will require DEP to issue or modify a Clean Streams Law permit. Planning for any project that will require DEP to issue or modify a permit cannot be processed by a delegated agency. Delegated agencies must send their projects to DEP for final planning approval.

This component, along with any other documents specified in the cover letter, must be completed and submitted to the municipality with jurisdiction over the project site for review and approval. All required documentation must be attached for the Sewage Facilities Planning Module to be complete. Refer to the instructions for help in completing this component.

REVIEW FEES: Amendments to the Sewage Facilities Act established fees to be paid by the developer for review of planning modules for land development. These fees may vary depending on the approving agency for the project (DEP or delegated local agency). Please see section R and the instructions for more information on these fees.

NOTE: All projects must complete Sections A through I, and Sections O through R. Complete Sections J, K, L, M and/or N if applicable or marked ☒.

A. PROJECT INFORMATION (See Section A of instructions)

1. Project Name Janocha Plan No. 2

2. Brief Project Description 2 lots (2 ac. each) subdivision from 50.47 acre tract for owners' family members.

B. CLIENT (MUNICIPALITY) INFORMATION (See Section B of instructions)

Municipality Name	County	City	Boro	Twp
South Fayette	Allegehny	☐	☐	☒

Municipality Contact Individual - Last Name	First Name	MI	Suffix	Title
Hartz	Gary			Planning Director
Additional Individual Last Name	First Name	MI	Suffix	Title

Municipality Mailing Address Line 1	Mailing Address Line 2
100 Township Drive	

Address Last Line -- City	State	ZIP+4
Bridgeville	PA	15017

Area Code + Phone + Ext.	FAX (optional)	Email (optional)
412-221-8700		ghartz@sftwp.com

C. SITE INFORMATION (See Section C of instructions)

Site (Land Development or Project) Name

Janocha Plan No. 2

Site Location Line 1	Site Location Line 2
740 Hickory Grade Rd	

Site Location Last Line -- City	State	ZIP+4	Latitude	Longitude
Bridgeville	PA	15017		

Detailed Written Directions to Site I-79 South to Bridgeville exit - West on SR 50 2.3 miles to left on Alpine Rd. - 0.3 miles to right on Hickory Grade Rd. - 0.7 miles to site on right

Description of Site Mostly wooded site with residential structures fronting Hickory Grade Rd

Site Contact (Developer/Owner)

Last Name	First Name	MI	Suffix	Phone	Ext.
Janocha	John			412-605-2888	

Site Contact Title	Site Contact Firm (if none, leave blank)
Owner	

FAX	Email
	jjanocha713@gmail.com

Mailing Address Line 1	Mailing Address Line 2
740 Hickory Grade Rd	

Mailing Address Last Line -- City	State	ZIP+4
Bridgeville	PA	15017

D. PROJECT CONSULTANT INFORMATION (See Section D of instructions)

Last Name	First Name	MI	Suffix
Salai	Michale	P	

Title	Consulting Firm Name
Vice Prs.	Wind Ridge Engineering Co.

Mailing Address Line 1	Mailing Address Line 2
285 Finch Rd	

Address Last Line – City	State	ZIP+4	Country
Wind Ridge	PA	15017	USA

Email	Area Code + Phone	Ext.	Area Code + FAX
mike@windridgeengineering.com	724-428-5268		

E. AVAILABILITY OF DRINKING WATER SUPPLY

The project will be provided with drinking water from the following source: (Check appropriate box)

☐ Individual wells or cisterns.

☐ A proposed public water supply.

☒ An existing public water supply.

If existing public water supply is to be used, provide the name of the water company and attach documentation from the water company stating that it will serve the project.

Name of water company: PA-American Water Co.

F. PROJECT NARRATIVE (See Section F of instructions)

☒ A narrative has been prepared as described in Section F of the instructions and is attached.

The applicant may choose to include additional information beyond that required by Section F of the instructions.

G. PROPOSED WASTEWATER DISPOSAL FACILITIES (See Section G of instructions)

Check all boxes that apply, and provide information on collection, conveyance and treatment facilities and EDU's served. This information will be used to determine consistency with Chapter 93 (relating to wastewater treatment requirements).

1. **COLLECTION SYSTEM**

a. Check appropriate box concerning collection system

☐ New collection system ☐ Pump Station ☐ Force Main

☒ Grinder pump(s) ☐ Extension to existing collection system ☐ Expansion of existing facility

Clean Streams Law Permit Number _____

b. Answer questions below on collection system

Number of EDU's and proposed connections to be served by collection system. EDU's 2

Connections _____

Name of:

existing collection or conveyance system Millers Run

owner Municipal Authority-Township of South Fayette (MATSF)

existing interceptor Chartiers Creek interceptor

owner Allegheny County Sanitary Authority (ALCOSAN)

2. **WASTEWATER TREATMENT FACILITY**

Check all boxes that apply, and provide information on collection, conveyance and treatment facilities and EDU's served. This information will be used to determine consistency with Chapter(s) 91 (relating to general provisions), 92 (relating to national Pollution Discharge Elimination System permitting, monitoring and compliance) and 93 (relating to water quality standards).

a. Check appropriate box and provide requested information concerning the treatment facility

☐ New facility ☒ Existing facility ☐ Upgrade of existing facility ☐ Expansion of existing facility

Name of existing facility ALCOSAN Woods Run WWTP

NPDES Permit Number for existing facility 25984

Clean Streams Law Permit Number _____

Location of discharge point for a new facility. Latitude _____ Longitude _____

b. The following certification statement must be completed and signed by the wastewater treatment facility permitee or their representative.

As an authorized representative of the permittee, I confirm that the ALCOSAN Woods Run (Name from above) sewage treatment facilities can accept sewage flows from this project without adversely affecting the facility's ability to achieve all applicable technology and water quality based effluent limits (see Section I) and conditions contained in the NPDES permit identified above.

Name of Permittee Agency, Authority, Municipality ALCOSAN

Name of Responsible Agent _____

Agent Signature _____ Date _____

(Also see Section I. 4.)

G. PROPOSED WASTEWATER DISPOSAL FACILITIES (Continued)

3. PLOT PLAN

The following information is to be submitted on a plot plan of the proposed subdivision.

a. Existing and proposed buildings.
b. Lot lines and lot sizes.
c. Adjacent lots.
d. Remainder of tract.
e. Existing and proposed sewerage facilities. Plot location of discharge point, land application field, spray field, COLDS, or LVCOLDS if a new facility is proposed.
f. Show tap-in or extension to the point of connection to existing collection system (if applicable).
g. Existing and proposed water supplies and surface water (wells, springs, ponds, streams, etc.)
h. Existing and proposed rights-of-way.
i. Existing and proposed buildings, streets, roadways, access roads, etc.
j. Any designated recreational or open space area.
k. Wetlands - from National Wetland Inventory Mapping and USGS Hydric Soils Mapping.
l. Flood plains or Flood prone areas, floodways, (Federal Flood Insurance Mapping)
m. Prime Agricultural Land.
n. Any other facilities (pipelines, power lines, etc.)
o. Orientation to north.
p. Locations of all site testing activities (soil profile test pits, slope measurements, permeability test sites, background sampling, etc. (if applicable).
q. Soils types and boundaries when a land based system is proposed.
r. Topographic lines with elevations when a land based system is proposed

4. WETLAND PROTECTION

	YES	NO	
a.	☐	☒	Are there wetlands in the project area? If yes, ensure these areas appear on the plot plan as shown in the mapping or through on-site delineation.
b.	☐	☒	Are there any construction activities (encroachments, or obstructions) proposed in, along, or through the wetlands? If yes, Identify any proposed encroachments on wetlands and identify whether a General Permit or a full encroachment permit will be required. If a full permit is required, address time and cost impacts on the project. Note that wetland encroachments should be avoided where feasible. Also note that a feasible alternative **MUST BE SELECTED** to an identified encroachment on an exceptional value wetland as defined in Chapter 105. Identify any project impacts on streams classified as HQ or EV and address impacts of the permitting requirements of said encroachments on the project.

5. PRIME AGRICULTURAL LAND PROTECTION

YES	NO	
☐	☒	Will the project involve the disturbance of prime agricultural lands? If yes, coordinate with local officials to resolve any conflicts with the local prime agricultural land protection program. The project must be consistent with such municipal programs before the sewage facilities planning module package may be submitted to DEP. If no, prime agricultural land protection is not a factor to this project.
☐	☐	Have prime agricultural land protection issues been settled?

6. HISTORIC PRESERVATION ACT

☒ Applicants shall coordinate with the State Historic and Preservation Office (SHPO) and the Pennsylvania Historic and Museum Commission (PHMC) using the PA-SHARE online consultation tool at https://www.pa.gov/agencies/phmc/pa-share.html. The planning submittal must include the response received by the applicant from PA-SHARE.

7. **PROTECTION OF RARE, ENDANGERED OR THREATENED SPECIES**

Check one:

☒ The "Pennsylvania Natural Diversity Inventory (PNDI) Project Environmental Review Receipt" resulting from my search of the PNDI database and all supporting documentation from jurisdictional agencies (when necessary) is/are attached.

☐ A Manual Project Submission Form was submitted to each jurisdictional agency and their responses are attached.

☐ A concurrent review has been requested. I realize that all supporting documentation from each jurisdictional agency must be submitted to the DEP before the end of the technical review due date or my planning module may be denied.

Applicant or Consultant Initials _____.

H. ALTERNATIVE SEWAGE FACILITIES ANALYSIS (See Section H of instructions)

☒ An alternative sewage facilities analysis has been prepared as described in Section H of the attached instructions and is attached to this component.

The applicant may choose to include additional information beyond that required by Section H of the attached instructions.

I. COMPLIANCE WITH WATER QUALITY STANDARDS AND EFFLUENT LIMITATIONS (See Section I of instructions) (Check and complete all that apply.)

1. **Waters designated for Special Protection**

☐ The proposed project will result in a new or increased discharge into special protection waters as identified in Title 25, Pennsylvania Code, Chapter 93. The Social or Economic Justification (SEJ) required by Section 93.4c. is attached.

2. **Pennsylvania Waters Designated As Impaired**

☐ The proposed project will result in a new or increased discharge of a pollutant into waters that DEP has identified as being impaired by that pollutant. A pre-planning meeting was held with the appropriate DEP regional office staff to discuss water quality based discharge limitations.

3. **Interstate and International Waters**

☐ The proposed project will result in a new or increased discharge into interstate or international waters. A pre-planning meeting was held with the appropriate DEP regional office staff to discuss effluent limitations necessary to meet the requirements of the interstate or international compact.

4 **Tributaries To The Chesapeake Bay**

☐ The proposed project result in a new or increased discharge of sewage into a tributary to the Chesapeake Bay. This proposal for a new sewage treatment facility or new flows to an existing facility includes total nitrogen and total phosphorus in the following amounts: _____ pounds of TN per year, and _____ pounds of TP per year. Based on the process design and effluent limits, the total nitrogen treatment capacity of the wastewater treatment facility is _____ pounds per year and the total phosphorus capacity is _____ pounds per year as determined by the wastewater treatment facility permitee. The permitee has determined that the additional TN and TP to be contributed by this project (as modified by credits and/or offsets to be provided) will not cause the discharge to exceed the annual total mass limits for these parameters. Documentation of compliance with nutrient allocations is attached.

Name of Permittee Agency, Authority, Municipality _____

Initials of Responsible Agent (See Section G 2.b) _____

See *Special Instructions* (Form 3800-FM-BPNPSM0353-1) for additional information on Chesapeake Bay watershed requirements.

☐ J. CHAPTER 94 CONSISTENCY DETERMINATION (See Section J of instructions)

Projects that propose the use of existing municipal collection, conveyance or wastewater treatment facilities, or the construction of collection and conveyance facilities to be served by existing municipal wastewater treatment facilities must be consistent with the requirements of Title 25, Chapter 94 (relating to Municipal Wasteload Management). If not previously included in Section F, include a general map showing the path of the sewage to the treatment facility. If more than one municipality or authority will be affected by the project, please obtain the information required in this section for each. Additional sheets may be attached for this purpose.

1. Project Flows 800 gpd
2. Total Sewage Flows to Facilities (pathway from point of origin through treatment plant)

   When providing "treatment facilties" sewage flows, use Annual Average Daily Flow for "average" and Maximum Monthly Average Daily Flow for "peak" in all cases. For "peak flows" in "collection" and "conveyance" facilities, indicate whether these flows are "peak hourly flow" or "peak instantaneous flow" and how this figure was derived (i.e., metered, measured, estimated, etc.).

   a. Enter average and peak sewage flows for each proposed or existing facility as designed or permitted.

   b. Enter the average and peak sewage flows for the most restrictive sections of the existing sewage facilities.

   c. Enter the average and peak sewage flows, projected for 5 years (2 years for pump stations) through the most restrictive sections of the existing sewage facilities. Include existing, proposed (this project) and future project (other approved projects) flows.

   To complete the table, refer to the instructions, Section J.

	a. Design and/or Permitted Capacity (gpd)		b. Present Flows (gpd)		c. Projected Flows in 5 years (gpd) (2 years for P.S.)	
	Average	**Peak**	**Average**	**Peak**	**Average**	**Peak**
Collection						
Conveyance						
Treatment						

3. Collection and Conveyance Facilities

   The questions below are to be answered by the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities. These questions should be answered in coordination with the latest Chapter 94 annual report and the above table. The individual(s) signing below must be legally authorized to make representation for the organization.

   YES NO

   a. ☐ ☐ This project proposes sewer extensions or tap-ins. Will these actions create a hydraulic overload within five years on any existing collection or conveyance facilities that are part of the system?

   If yes, this sewage facilities planning module will not be accepted for review by the municipality, delegated local agency and/or DEP until all inconsistencies with Chapter 94 are resolved or unless there is an approved Corrective Action Plan (CAP) granting an allocation for this project. A letter granting allocations to this project under the CAP must be attached to the module package.

   If no, a representative of the sewer authority, municipality, or agency responsible for completing the Chapter 94 report for the collection and conveyance facilities must sign below to indicate that the collection and conveyance facilities have adequate capacity and are able to provide service to the proposed development in accordance with both §71.53(d)(3) and Chapter 94 requirements and that this proposal will not affect that status.

   b. Collection System

   Name of Agency, Authority, Municipality Municipal Authority-Township of South Fayette (MATSF)

   Name of Responsible Agent _____

   Agent Signature _____ Date _____

☐ J. CHAPTER 94 CONSISTENCY DETERMINATION (See Section J of instructions)

c. Conveyance System

Name of Agency, Authority, Municipality ALCOSAN

Name of Responsible Agent _____

Agent Signature _____

Date _____

4. Treatment Facility

The questions below are to be answered by a representative of the facility permittee in coordination with the information in the table and the latest Chapter 94 report. The individual signing below must be legally authorized to make representation for the organization.

YES NO

a. ☐ ☐ This project proposes the use of an existing wastewater treatment plant for the disposal of sewage. Will this action create a hydraulic or organic overload within 5 years at that facility?

If yes, this planning module for sewage facilities will not be reviewed by the municipality, delegated local agency and/or DEP until this inconsistency with Chapter 94 is resolved or unless there is an approved CAP granting an allocation for this project. A letter granting allocations to this project under the CAP must be attached to the planning module.

If no, the treatment facility permittee must sign below to indicate that this facility has adequate treatment capacity and is able to provide wastewater treatment services for the proposed development in accordance with both §71.53(d)(3) and Chapter 94 requirements and that this proposal will not impact that status.

b. Name of Agency, Authority, Municipality ALCOSAN

Name of Responsible Agent _____

Agent Signature _____

Date _____

☐ K. TREATMENT AND DISPOSAL OPTIONS (See Section K of instructions)

This section is for land development projects that propose construction of wastewater treatment facilities. Please note that, since these projects require permits issued by DEP, these projects may **NOT** receive final planning approval from a delegated local agency. Delegated local agencies must send these projects to DEP for final planning approval.

Check the appropriate box indicating the selected treatment and disposal option.

☐ 1. Spray irrigation (other than individual residential spray systems (IRSIS)) or other land application is proposed, and the information requested in Section K.1. of the planning module instructions are attached.

☐ 2. Recycle and reuse is proposed and the information requested in Section K-2 of the planning module instructions is attached.

☐ 3. A discharge to a dry stream channel is proposed, and the information requested in Section K.3. of the planning module instructions are attached.

☐ 4 A discharge to a perennial surface water body is proposed, and the information requested in Section K.4. of the planning module instructions are attached.

☐ L. PERMEABILITY TESTING (See Section L of instructions)

☐ The information required in Section L of the instructions is attached.

☐ M. PRELIMINARY HYDROGEOLOGIC STUDY (See Section M of instructions)

☐ The information required in Section M of the instructions is attached.

☐ N. DETAILED HYDROGEOLOGIC STUDY (See Section N of instructions)

☐ The detailed hydrogeologic information required in Section N. of the instructions is attached.

O. SEWAGE MANAGEMENT (See Section O of instructions)

(1-3 for completion by the developer(project sponser), 4-5 for completion by the non-municipal facility agent and 6 for completion by the municipality)

	Yes	No	
1.	☐	☐	Is connection to, or construction of, a DEP permitted, non-municipal sewage facility or a local agency permitted, community onlot sewage facility proposed.

If Yes, respond to the following questions, attach the supporting analysis, and an evaluation of the options available to assure long-term proper operation and maintenance of the proposed non-municipal facilities. If No, skip the remainder of Section O.

2. Project Flows _____ gpd

	Yes	No	
3.	☐	☐	Is the use of nutrient credits or offsets a part of this project?

If yes, attach a letter of intent to puchase the necessary credits and describe the assurance that these credits and offsets will be available for the remaining design life of the non-municipal sewage facility;

(For completion by non-municipal facility agent)

4. Collection and Conveyance Facilities

The questions below are to be answered by the organization/individual responsible for the non-municipal collection and conveyance facilities. The individual(s) signing below must be legally authorized to make representation for the organization.

	Yes	No	
a.	☐	☐	If this project proposes sewer extensions or tap-ins, will these actions create a hydraulic overload on any existing collection or conveyance facilities that are part of the system?

If yes, this sewage facilities planning module will not be accepted for review by the municipality, delegated local agency and/or DEP until this issue is resolved.

If no, a representative of the organization responsible for the collection and conveyance facilities must sign below to indicate that the collection and conveyance facilities have adequate capacity and are able to provide service to the proposed development in accordance with Chapter 71 §71.53(d)(3) and that this proposal will not affect that status.

b. Collection System
Name of Responsible Organization _____
Name of Responsible Agent _____
Agent Signature _____
Date _____

c. Conveyance System
Name of Responsible Organization _____
Name of Responsible Agent _____
Agent Signature _____
Date _____

5. Treatment Facility

The questions below are to be answered by a representative of the facility permittee. The individual signing below must be legally authorized to make representation for the organization.

	Yes	No	
a.	☐	☐	If this project proposes the use of an existing non-municipal wastewater treatment plant for the disposal of sewage, will this action create a hydraulic or organic overload at that facility?

If yes, this planning module for sewage facilities will not be reviewed by the municipality, delegated local agency and/or DEP until this issue is resolved.

If no, the treatment facility permittee must sign below to indicate that this facility has adequate treatment capacity and is able to provide wastewater treatment services for the proposed development in accordance with §71.53(d)(3) and that this proposal will not impact that status.

b. Name of Facility _____

Name of Responsible Agent _____

Agent Signature _____

Date _____

(For completion by the municipality)

6. ☐ The **SELECTED OPTION** necessary to assure long-term proper operation and maintenance of the proposed non-municipal facilities is clearly identified with documentation attached in the planning module package.

P. PUBLIC NOTIFICATION REQUIREMENT (See Section P of instructions)

This section must be completed to determine if the applicant will be required to publish facts about the project in a newspaper of general circulation to provide a chance for the general public to comment on proposed new land development projects. This notice may be provided by the applicant or the applicant's agent, the municipality or the local agency by publication in a newspaper of general circulation within the municipality affected. Where an applicant or an applicant's agent provides the required notice for publication, the applicant or applicant's agent shall notify the municipality or local agency and the municipality and local agency will be relieved of the obligation to publish. The required content of the publication notice is found in Section P of the instructions.

To complete this section, each of the following questions must be answered with a "yes" or "no". Newspaper publication is required if any of the following are answered "yes".

	Yes	**No**	
1.	☐	☒	Does the project propose the construction of a sewage treatment facility ?
2.	☐	☒	Will the project change the flow at an existing sewage treatment facility by more than 50,000 gallons per day?
3.	☐	☒	Will the project result in a public expenditure for the sewage facilities portion of the project in excess of $100,000?
4.	☐	☒	Will the project lead to a major modification of the existing municipal administrative organizations within the municipal government?
5.	☐	☒	Will the project require the establishment of *new* municipal administrative organizations within the municipal government?
6.	☐	☒	Will the project result in a subdivision of 50 lots or more? (onlot sewage disposal only)
7.	☐	☒	Does the project involve a major change in established growth projections?
8.	☐	☒	Does the project involve a different land use pattern than that established in the municipality's Official Sewage Plan?

P. PUBLIC NOTIFICATION REQUIREMENT cont'd. (See Section P of instructions)

9. ☐ ☒ Does the project involve the use of large volume onlot sewage disposal systems (Flow > 10,000 gpd)?
10. ☐ ☒ Does the project require resolution of a conflict between the proposed alternative and consistency requirements contained in §71.21(a)(5)(i), (ii), (iii)?
11. ☐ ☒ Will sewage facilities discharge into high quality or exceptional value waters?

☐ Attached is a copy of:
- ☐ the public notice,
- ☐ all comments received as a result of the notice,
- ☐ the municipal response to these comments.

☐ No comments were received. A copy of the public notice is attached.

Q. FALSE SWEARING STATEMENT (See Section Q of instructions)

I verify that the statements made in this component are true and correct to the best of my knowledge, information and belief. I understand that false statements in this component are made subject to the penalties of 18 PA C.S.A. §4904 relating to unsworn falsification to authorities.

John Janocha	
Name (Print)	Signature
Owner	
Title	Date
740 Hickory Grade Rd Bridgeville PA 15017	4126052888
Address	Telephone Number

R. REVIEW FEE (See Section R of instructions)

The Sewage Facilities Act establishes a fee for the DEP planning module review. DEP will calculate the review fee for the project and invoice the project sponsor **OR** the project sponsor may attach a self-calculated fee payment to the planning module prior to submission of the planning package to DEP. (Since the fee and fee collection procedures may vary if a "delegated local agency" is conducting the review, the project sponsor should contact the "delegated local agency" to determine these details.) Check the appropriate box.

☐ I request DEP calculate the review fee for my project and send me an invoice for the correct amount. I understand DEP's review of my project will not begin until DEP receives the correct review fee from me for the project.

☒ I have calculated the review fee for my project using the formula found below and the review fee guidance in the instructions. I have attached a check or money order in the amount of $_____ payable to "Commonwealth of PA, DEP". Include DEP code number on check. I understand DEP will not begin review of my project unless it receives the fee and determines the fee is correct. If the fee is incorrect, DEP will return my check or money order, send me an invoice for the correct amount. I understand DEP review will NOT begin until I have submitted the correct fee.

☐ I request to be exempt from the DEP planning module review fee because this planning module creates **only** one new lot and is the **only** lot subdivided from a parcel of land as that land existed on December 14, 1995. I realize that subdivision of a second lot from this parcel of land shall disqualify me from this review fee exemption. I am furnishing the following deed reference information in support of my fee exemption.

County Recorder of Deeds for _____ County, Pennsylvania

Deed Volume _____ Book Number _____

Page Number _____ Date Recorded _____

R. REVIEW FEE (continued)

Formula:

1. For a new collection system (with or without a Clean Streams Law Permit), a collection system extension, or individual tap-ins to an existing collection system use this formula.

   #2 Lots (or EDUs) X $50.00 = $ 100

   The fee is based upon:

   - The number of lots created or number of EDUs whichever is higher.
   - For community sewer system projects, one EDU is equal to a sewage flow of 400 gallons per day.

2. For a surface or subsurface discharge system, use the appropriate one of these formulae.

   A. A new surface discharge greater than 2000 gpd will use a flat fee:

   $ 1,500 per submittal (non-municipal)
   $ 500 per submittal (municipal)

   B. An increase in an existing surface discharge will use:

   #_____ Lots (or EDUs) X $35.00 = $ _____

   to a maximum of $ 1,500 per submittal (non-municipal) or $ 500 per submittal (municipal)

   The fee is based upon:

   - The number of lots created or number of EDUs whichever is higher.
   - For community sewage system projects one EDU is equal to a sewage flow of 400 gallons per day.
   - For non-single family residential projects, EDUs are calculated using projected population figures

   C. A sub-surface discharge system that requires a permit under The Clean Streams Law will use a flat fee:

   $ 1,500 per submittal (non-municipal)
   $ 500 per submittal (municipal)

Janocha Plan No. 2
South Fayette Township, Allegheny County

Section F: Project Narrative

The Janocha Plan No. 2 is a proposed single family residential subdivision located in South Fayette Township, Allegheny County PA. It consists of two new residential lots on 2 acres each with the existing house to be retained on 28.70 acres which is presently served by a functioning on lot sewage system. The new lots will be sewered by individual grinder pumps discharging to an manhole along Hickory Grade Road in front of house #748. No public sewer extension is proposed.

The attached module is for providing sanitary sewer service for 2 EDU with planned sewage flows at 800 gallons/day.

The proposed sewage disposal method is public sewerage through the Parkes Plan of Lots, crossing S.R. 50 to the Millers Run interceptor which flows to ALCOSAN's Chartiers Creek trunkline and then downstream to the Allegheny County Sanitary Authority (ALCOSAN) Woods Run WWTP at the Ohio River.

The population served is estimated at 6 persons, based on the 2000 census that indicated an average of 2.61 persons/household.

Janocha Plan No. 2
South Fayette Township, Allegheny County

Section H: Alternatives Analysis

1. **Chosen Disposal Method:** The chosen sewage disposal method is public sewerage via existing South Fayette sewer that flows to the ALCOSAN WWTP.

2. **Land Use:** The property adjacent to the site is zoned residential. All adjacent properties to the south with dwellings currently utilize the public sewer system. Properties to the north that do not have access to gravity sewers at this time utilize on lot sewage systems

3. **Sewage Facilities Status:** The sewage facilities of the adjacent land uses are not presently in need of improvement. Those propertis presently utilizing on lot sewage systems are functioning normally.

4. **Official Sewage Facilities Plan Disposal Method:** The Official Sewage Facilities Plan proposes public sewerage.

5. **Sewage Management Program:** Not applicable.

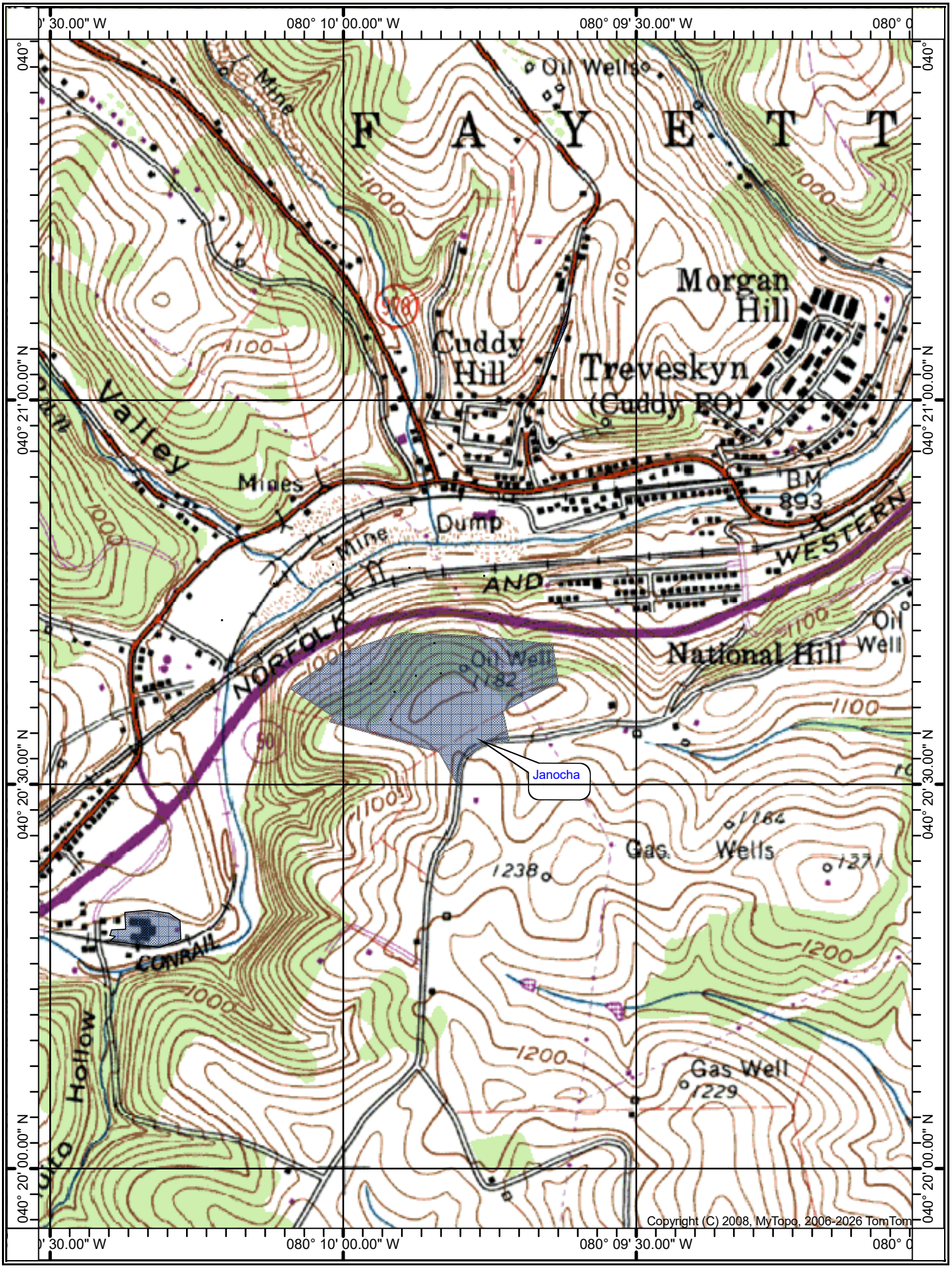
6. **Potential Alternative Sewage Disposal Methods:**

   Potential alternatives include:

   a) On-lot disposal systems: A portion of the property being considered for development lies adjacent to a residential neighborhood already served by public sewers. Since existing sewer lines are accessible via pumping, on lot sewage facilities would be less desirable than utilizing a pressure sewer system.

7. **Facility Owner:** The owner of the connecting sewer is the South Fayette Township Municipal Authority and they are responsible for the operation and maintenance of the receiving gravity syste. The individual property owners will be responsible for their own grinder pumps and common pressure main .

8. **Other information:** None.



Canonsburg Quad

PENNSYLVANIA
AMERICAN WATER

February 6, 2026

RE: Water Availability for the subdivision of 740 Hickory Grade Road
South Fayette Township, Allegheny County

To Whom It May Concern:

This letter is to advise that Pennsylvania American Water, McMurray Operations, has a 16" ductile iron water line on Hickory Grade Road. Water will be provided under our Rules and Regulations as approved by the Pennsylvania Public Utility Commission. A utilities easement will need to be obtained by each ratepayer and recorded to the deeds. This easement grants utility access through the address of 740 Hickory Grade Road.

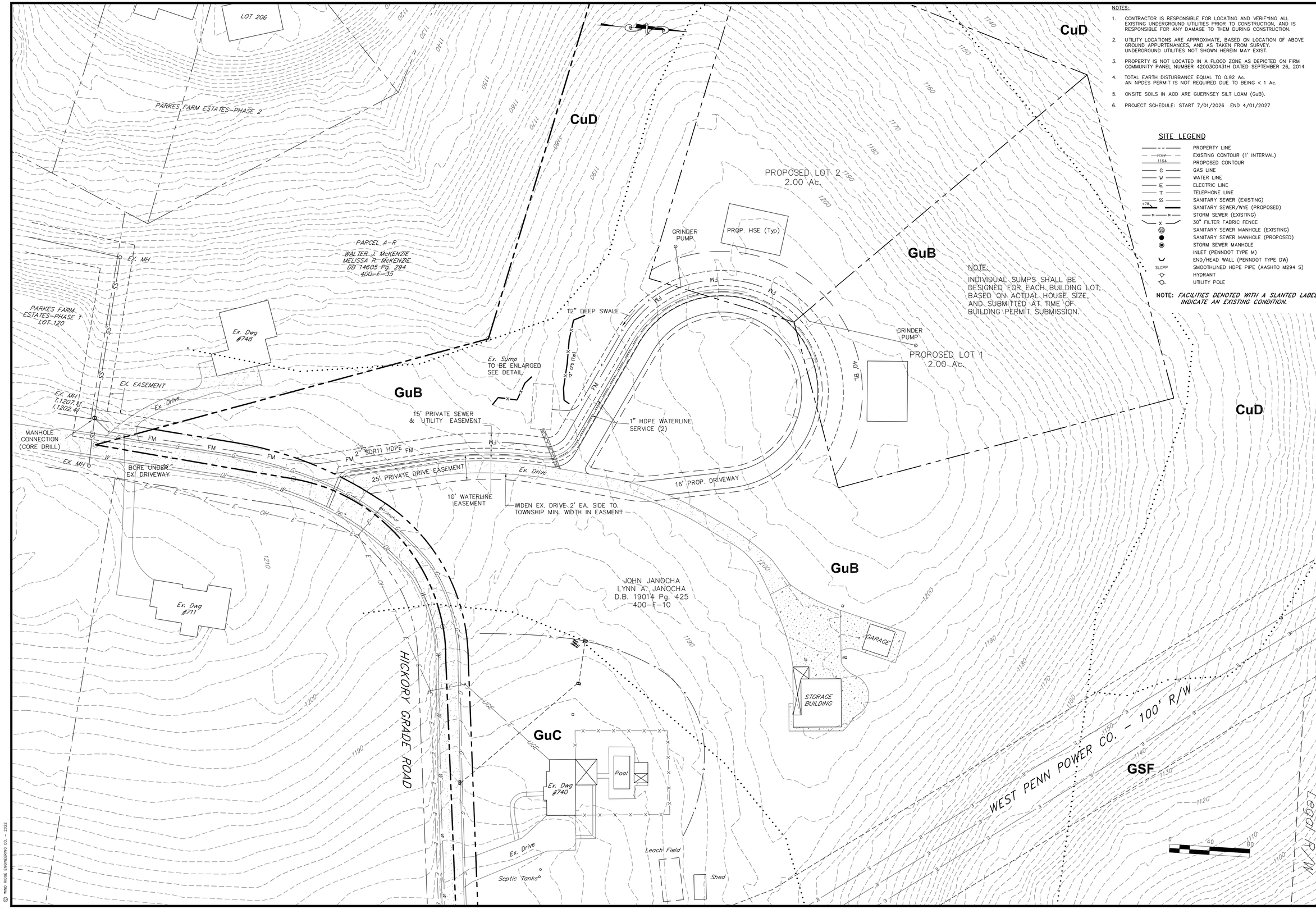
A meeting at the site is required to verify the water line locations and meter pit placements. A water service application and demand sheet will need to be completed by each ratepayer. The customers will need to run their water service lines out and install the meter pits inside the property line. Once the connections at the main line are made by Pennsylvania American Water, the meter sets will be scheduled, and the water service turned on to each location.

Please contact me for any questions or additional information at 724-743-3130.

Sincerely,

Michael S. Ricciuti

Michael S. Ricciuti
Field Operations Supervisor
300 Galley Road
McMurray, PA 15317
michael.ricciuti@amwater.com



NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND VERIFYING ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION, AND IS RESPONSIBLE FOR ANY DAMAGE TO THEM DURING CONSTRUCTION.
2. UTILITY LOCATIONS ARE APPROXIMATE, BASED ON LOCATION OF ABOVE GROUND APPURTENANCES, AND AS TAKEN FROM SURVEY. UNDERGROUND UTILITIES NOT SHOWN HEREIN MAY EXIST.
3. PROPERTY IS NOT LOCATED IN A FLOOD ZONE AS DEPICTED ON FIRM COMMUNITY PANEL NUMBER 42003C0431H DATED SEPTEMBER 26, 2014
4. TOTAL EARTH DISTURBANCE EQUAL TO 0.92 Ac. AN NPDES PERMIT IS NOT REQUIRED DUE TO BEING < 1 Ac.
5. ONSITE SOILS IN AOD ARE GUERNSEY SILT LOAM (GuB).
6. PROJECT SCHEDULE: START 7/01/2026 END 4/01/2027

SITE LEGEND

	PROPERTY LINE
1164	EXISTING CONTOUR (1' INTERVAL)
1164	PROPOSED CONTOUR
G	GAS LINE
W	WATER LINE
E	ELECTRIC LINE
T	TELEPHONE LINE
SS	SANITARY SEWER (EXISTING)
+78	SANITARY SEWER/WYE (PROPOSED)
SL	STORM SEWER (EXISTING)
X	30" FILTER FABRIC FENCE
SS	SANITARY SEWER MANHOLE (EXISTING)
	SANITARY SEWER MANHOLE (PROPOSED)
	STORM SEWER MANHOLE
	INLET (PENNDOT TYPE M)
	END/HEAD WALL (PENNDOT TYPE DW)
SLCPP	SMOOTHLINED HDPE PIPE (AASHTO M294 S)
	HYDRANT
	UTILITY POLE

NOTE: *FACILITIES DENOTED WITH A SLANTED LABEL INDICATE AN EXISTING CONDITION.*

COMMONWEALTH OF PENNSYLVANIA
PROFESSIONAL ENGINEER
MICHAEL P. SALAI
PE-38078-E

WIND RIDGE ENGINEERING CO.
285 FINCH ROAD
WIND RIDGE, PA 15380
724.428.5268
civil engineers • surveyors • landscape architects

JANOCHA DEVELOPMENT PLAN

SITUATE
SOUTH FAYETTE TOWNSHIP
ALLEGHENY COUNTY – PENNSYLVANIA
PREPARED FOR
JOHN and LYNN A. JANOCHA

SCALE: 1"=40'
DATE: Feb. 2026
F.B.:
DWG. BY: MPS
CAD FILE: \JANOCHA\25-32.DWG
JOB No.: 25-32
REVISIONS:

SHEET
1 / 2

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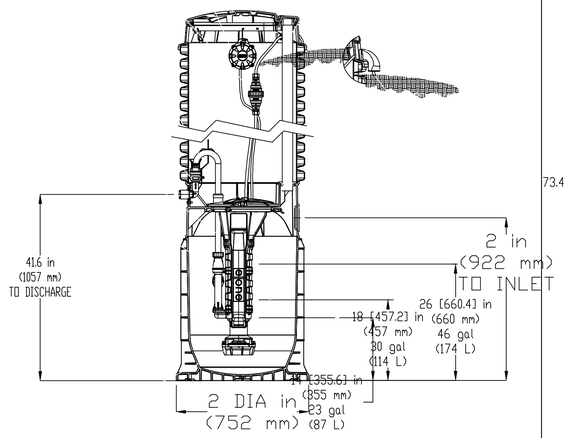

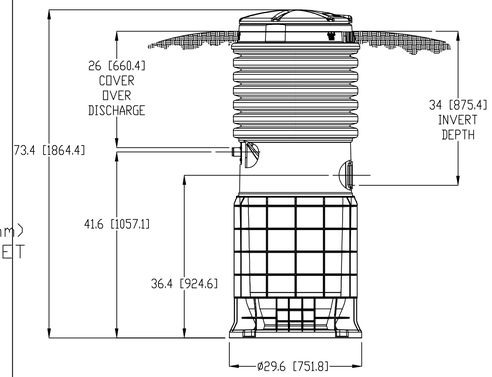

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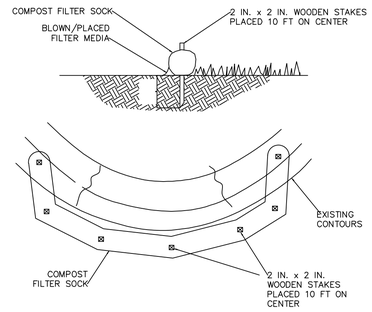


NOTES:

SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.

TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.

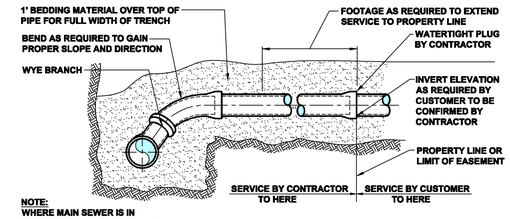
ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.

COMPOST FILTER 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.

BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

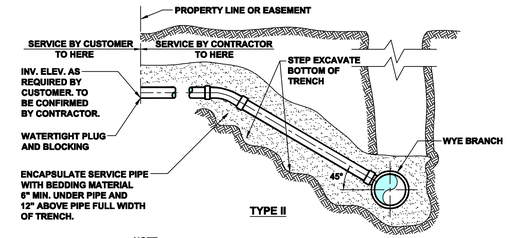
UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

STANDARD CONSTRUCTION DETAIL #4-1
COMPOST FILTER SOCK



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

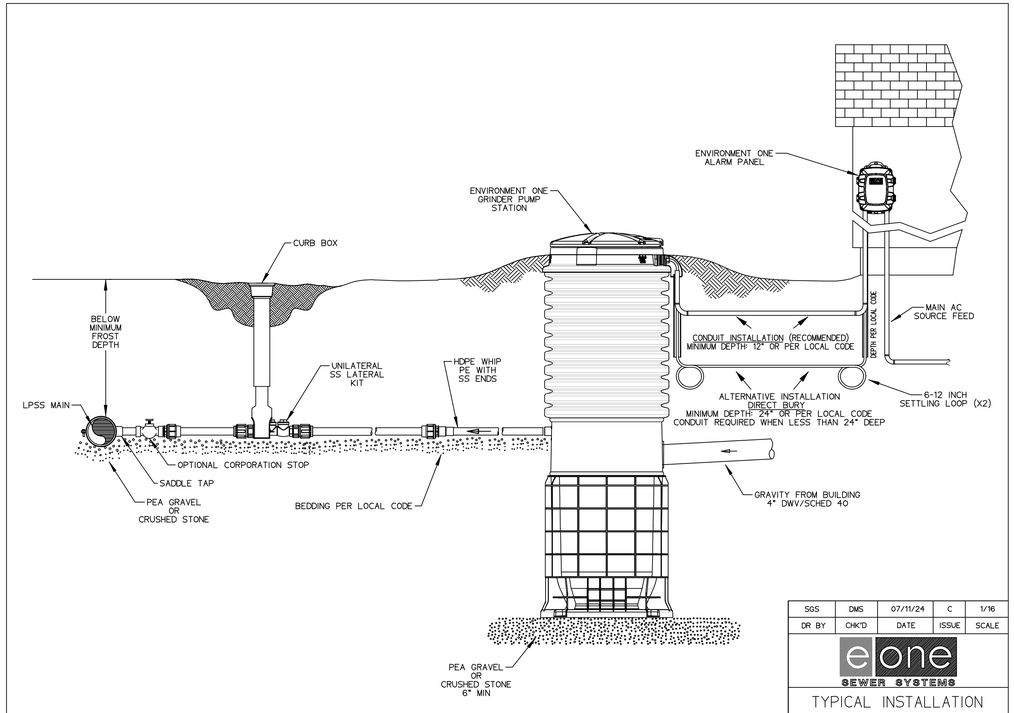
TYPE I



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	March 2014	Standard Detail SD-023



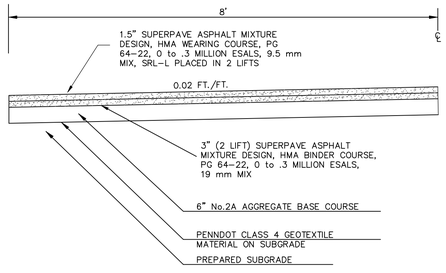
SGS	DMS	07/11/24	C	1/16
DR BY	CHK'D	DATE	ISSUE	SCALE

e one SEWER SYSTEMS

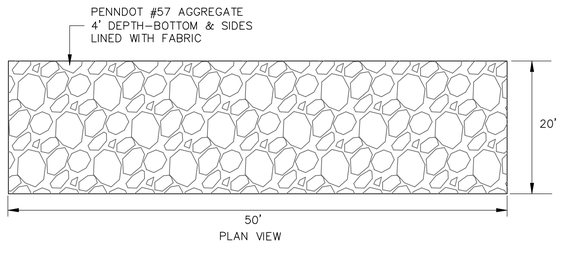
TYPICAL INSTALLATION

LM000114

NOTE: ALL SEWAGE CONNECTIONS, PUMPS AND FORCEMAIN SHALL COMPLY WITH ALLEGHENY COUNTY HEALTH DEPARTMENT REGULATIONS.



TYPICAL BITUMINOUS PRIVATE DRIVE SECTION



PRIVATE ROAD SUMP

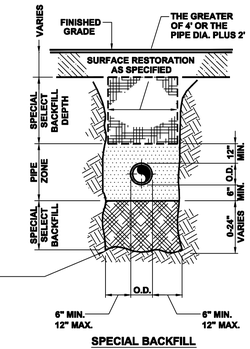
VOLUME=50' X 20' X 4' X 0.4 VOIDS = 1600 CF

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"

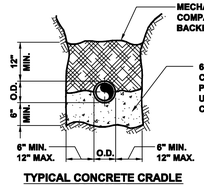
2B CRUSHED STONE OR CRUSHED GRAVEL.

CLASS "C" CONCRETE OR BETTER

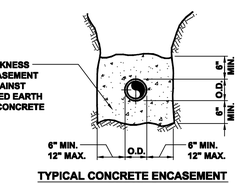


WHERE EXCAVATION EXPOSES THE BOTTOM OF PROPOSED TRENCHES WHERE VERY SOFT OR OTHER UNSTABLE PIPE FOUNDATION MATERIALS EXIST, THE CONTRACTOR WILL BE DIRECTED TO OVERCUT OR STABILIZE / OVERCUT AND REPLACE WITH R4 RIP RAP CHOCKED WITH AASHTO #57 STONE. THE CONTRACTOR SHALL BE COMPENSATED FOR THE ADDITIONAL 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 900 Presto Sygan Road Bridgeville, Pa 15017		PIPE BEDDING DETAILS
Not to scale	March 2014	Standard Detail SD-002

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WIND RIDGE, PA 15380
724.428.5268
civil engineers • surveyors • landscape architects

JANOCHA DEVELOPMENT PLAN
SITUATE
SOUTH FAYETTE TOWNSHIP
ALLEGHENY COUNTY – PENNSYLVANIA
PREPARED FOR
JOHN and LYNN A. JANOCHA

SCALE: 1"=50'
DATE: Jan. 2022
F.B.:
DWG. BY: DMT
CAD FILE: \JANOCHA\21-53.DWG
JOB No.: 21-53
REVISIONS:

SHEET
2 / 2

60 2022 00025923

Allegheny County
Jessica Garofolo
Department of Real Estate
Pittsburgh, PA 15219

Instrument Number: 2022-25923 BK-DE VL-19014 PG-425

Recorded On: August 12, 2022 As-Deed

Parties: JANOCHA JOHN

To JANOCHA JOHN # of Pages: 7

Comment: CONSOLIDATION

********** THIS IS NOT A BILL **********

Deed	181.75
	0
	0
Total:	181.75

Realty Transfer Stamp

Affidavit Attached-No Stamp Num-T193652
SOUTH FAYETTE TP EXEMPT
Ward-99-NO WARD
Value 0.00

Commonwealth of Pennsylvania	0.00
Munic-South Fayette Twp	0.00
School District-South Fayette	0.00
Munic-Penalty	0.00
Munic-Interest	0.00
School-Penalty	0.00
School-Interest	0.00
	0.00

Department of Real Estate Stamp

Certified By-S W
On 08 31, 2022 12:52p
0400F00010000000

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: 2022-25923
Receipt Number: 4155237
Recorded Date/Time: August 12, 2022 10:19:58A
Book-Vol/Pg: BK-DE VL-19014 PG-425
User / Station: L Manuel - CASH 03

Record and Return To:

THOMAS G MICHALEK
2042 SWALLOW HILL COURT
PITTSBURGH PA 15220

Jessica Garofolo

Jessica Garofolo, Director
Rich Fitzgerald, County Executive

6

517851 DRE Certified
12-Aug-2022 10:16A\Int By: Angela Gans

From

John Janocha and Lynn A. Janocha, aka Lynn Janocha & aka Lynn Ann Janocha, his Wife, Hereinafter, the "Grantors"

To

John Janocha and Lynn A. Janocha, his Wife, Hereinafter, the "Grantees"

Mail Recorded Deed to:

Thomas G. Michalek
2042 Swallow Hill Court
Pittsburgh, PA 15220

Consolidation Deed

This Consolidation Deed, made this 18 day July, 2022

Between John Janocha and Lynn A. Janocha, aka Lynn Janocha & aka Lynn Ann Janocha, his Wife, Hereinafter, the "Grantors"

AND

John Janocha and Lynn A. Janocha, his Wife Hereinafter, the "Grantees"

Whereas, the purpose of this Consolidation Deed is to comply with the filing requirements associated with the recording of the Janocha Consolidation Plan, filed in the Recorder's Office of Allegheny County @ PBV 313, Page 26 on May 20, 2022.

Witnesseth, that Grantors, in consideration, of One Dollar and other valuable consideration, do hereby grant, convey, and warrant unto Grantees, their heirs and assigns, the real estate more fully described in attached Exhibits A & B. The entire Consolidation Plan is bisected by PA State Route 50 and the attached legal descriptions reflect the portions of the property located to the South of Route 50 and that located to the North of Route 50.

Being a consolidation of the following parcels of land conveyed to the Grantor(s) as identified on the Janocha Consolidation Plan as follows:

Parcel 1 – Lynn Ann Janocha @ DBV 18204; Page 285;
Being known as Blk & Lot 325 – L – 16

Parcel 2 – John Janocha and Lynn A. Janocha @ DBV 8898; Page 156;
Being known as Block & Lot # 400 – F – 10

Parcel 3. – Lynn Janocha @ DBV 14146, Page 330;
Being known as BLK & Lot # 400 – E – 5

The Consolidated parcel is intended to be assigned the Parcel # 400 – F – 10, which is the Parcel # of the existing residence of the Grantors/Grantees.

This deed is exempt from real estate transfer tax under 72 P.S. Section 1102-C.3.(6) being a transfer from husband and wife to husband and wife.

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 (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 has hereunto set their hand the day and year first above written.*

Thomas G. Michalek
Witness
(as to Both)

John Janocha

Witness

Lynn A. Janocha, aka Lynn Janocha &
aka Lynn Ann Janocha

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 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:

Thomas D. Michalek

(as to Both)

John Janocha

Lynn A. Janocha

Lynn A. Janocha

Commonwealth of Pennsylvania
County of Allegheny

On this the 18th day of July, 2022, before me the undersigned officer, personally appeared John Janocha and Lynn A. Janocha, known to me (or satisfactorily proven) to be the persons whose names 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.

My commission expires

Yvonne T. Michalek
Notary

Commonwealth Of Pennsylvania - Notary Seal
Yvonne T Michalek, Notary Public
Allegheny County
My Commission Expires August 8, 2025
Commission Number 1318672

Certificate of Residence

I do hereby certify that the **Tax billing address** of the within named Grantee/s is

John Janocha

740 Hickory Grade Rd

Bridgeville, PA 15017

I do hereby certify that the **Owner's Mailing address** is:

John Janocha

740 Hickory Grade Rd

Bridgeville, PA 15017

Date 7/18/22

John Janocha

Commonwealth Of Pennsylvania - Notary Seal
Yvonne T Midiaris, Notary Public
Allegheny County
My Commission Expires August 8, 2025
Commission Number 1139512

LEGAL DESCRIPTIONS

JANOCHA PROPERTY SOUTH

ALL That certain parcel of land shown as the portion of Parcel A on the southerly side of S.R. 0050 on the Janocha Consolidation Plan, recorded in the Allegheny County Department of Real Estate in Plan Book 313 Page 26, situate in South Fayette Township, Allegheny County, Pennsylvania, more particularly bounded and described as follows, to wit:

BEGINNING at a point on the northerly line of Hickory Grade Road at a corner common to Parcel A-R in the Parkes Farm Estates Phase No. 2 as recorded in Plan Book 242 Page 204; thence along line of Parcel A-R, North 21°-07'-28" West a distance of 345.34 feet to a post; thence by the same, North 79°-14'-48" West a distance of 932.96 feet to an iron pin set on line of Lot 102 in the Wright Plan of Lots recorded in Plan Book 242 Page 95; thence along line of Lot 102, North 15°-23'-23" East a distance of 36.19 feet to a railroad rail; thence by the same, North 67°-27'-50" West a distance of 353.99 feet to an iron pin set on the southerly right of way line of State Route 50; thence along said southern right of way line the following courses and distances: North 24°-01'-06" East a distance of 93.51 feet; by an arc of a circle (non-radial) curving to the right, having a radius of 1457.02 feet an arc distance of 445.02 feet (Chord= North 51°-02'-59" East a distance of 443.29 feet); North 56°-56'-26" East a distance of 180.23 feet; North 69°-56'-50" East a distance of 271.40 feet; North 88°-50'-58" East a distance of 315.54 feet; South 81°-01'-37" East a distance of 255.87 feet; North 66°-22'-50" East a distance of 104.20 feet; South 39°-14'-57" East a distance of 81.39 feet; North 87°-32'-20" East a distance of 323.12 feet; South 80°-07'-23" East a distance of 263.99 feet to an iron pin set at a corner common to lands of Nicholas Papakie; thence along line of said Papakie, South 06°-28'-14" East a distance of 198.20 feet to an iron pin set at a corner common to John Mackey; thence along line of said Mackey, South 06°-30'-00" East a distance of 117.47 feet to a point; thence continuing along Mackey and lands of Scott Dolgos, South 60°-37'-30" West a distance of 394.12 feet to an iron pin set; thence continuing along said Dolgos, South 08°-18'-30" East a distance of 258.08 feet to a point on the northerly line of the aforesaid Hickory Grade Road; thence along said northerly line the following courses and distances: South 81°-47'-15" West a distance of 272.49 feet; by an arc of a circle curving to the left, having a radius of 188.32 feet an arc distance of 183.18 feet; South 26°-03'-24" West a distance of 10.94 feet; by an arc of a circle curving to the left, having a radius of 364.01 feet an arc distance of 144.30 feet; South 03°-20'-38" West a distance of 82.68 feet to a point at the place of BEGINNING.

Containing an area of 32.701 acres.

Exhibit A

JANOCHA PROPERTY NORTH

ALL That certain parcel of land shown as the portion of Parcel A on the northerly side of S.R. 0050 on the Janocha Consolidation Plan, recorded in the Allegheny County Department of Real Estate in Plan Book 313 Page 26, situate in South Fayette Township, Allegheny County, Pennsylvania, more particularly bounded and described as follows, to wit:

BEGINNING at a point on the northerly right of way line of State Route 50 at a point on the westerly line of West Street (unimproved) as shown on the Robb Hill Plan recorded in Plan Book 37 Page 184; thence along said northern right of way line the following courses and distances: North 57°-32'-25" West a distance of 271.59 feet; South 71°-40'-31" West a distance of 223.61 feet; North 81°-45'-35" West a distance of 251.70 feet; by an arc of a circle curving to the left, having a radius of 1757.02 feet an arc distance of 234.72 feet; North 81°-24'-51" West a distance of 275.67 feet; by an arc of a circle (non-radial) curving to the left, having a radius of 2516.64 feet an arc distance of 897.85 feet (Chord= South 63°-57'-31" West a distance of 893.10 feet); South 53°-06'-53" West a distance of 283.83 feet; South 43°-05'-58" West a distance of 266.96 feet to a point on line of lands of Cuddy Partners; thence along said Cuddy Partners, North 67°-27'-50" West a distance of 79.08 feet to a point in the Norfolk & Western Railroad right of way; thence in said right of way, North 15°-45'-07" East a distance of 73.58 feet to a point on northerly line of said railroad right of way; thence along the northerly line, North 53°-00'-14" East a distance of 39.07 feet; thence leaving said right of way and along line of the Nicholson Plan of Lots recorded in Plan Book 105 Page 125 the following courses and distances: by an arc of a circle curving to the right, having a radius of 695.31 feet an arc distance of 452.80 feet (Chord= North 37°-42'-14" East a distance of 444.84 feet); North 56°-21'-34" East a distance of 710.00 feet; North 62°-33'-34" East a distance of 364.00 feet; by an arc of a circle curving to the right, having a radius of 573.69 feet an arc distance of 269.67 feet (Chord= North 75°-54'-59" East a distance of 267.19 feet); North 89°-16'-24" East a distance of 947.67 feet to a point on line of lands of John Kosky Jr.; thence along line of said John Kosky Jr., South 03°-38'-35" East a distance of 300.34 feet to a point at the intersection of the northern line of Allegheny Avenue with the westerly line of the aforesaid West Street in the aforesaid Robb Hill Plan; thence along West Street, South 04°-35'-10" East a distance of 229.29 feet to a point at the place of BEGINNING.

Containing an area of 17.770 acres.

Exhibit B

SOUTH FAYETTE TOWNSHIP

A Community Growing Together

Subdivision-Land Development Application

www.southfayettepa.com

Plan Name:	Walkers Mill Townhouse - Phase 2	File No.	F-02-2026
Plan Location:	Seminary Ave	Tax I.D. #	407-J-5
Project Description	Final Plans - Phase 2 for a R-3 Open Space Design Option for Townhouse Use		

Check Appropriate Box(es)

Land Development Plan		Subdivision Plan		Conditional Use Plan	

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

Zoning District(s)	R-3	Property Acreage	4.70	No. Lots/Units	33

Applicant's Name:	J:T Oakdale Properties, LLC	Phone No.	412-221-6008
Applicant's Address:	1321-G McLaughlin Rd, Pitts Pa 15241	Fax No.	
Applicant's E-Mail:	Tar108@comcast.net		
Engineer Firm/Name	Victor Wetzel Assoc	Phone No.	412-741-2290
Engineer's Address:	409 Broad St. Suite 270 Sewickley Pa 15143	Fax No.	
Contact Person:	Michael Wetzel	E-Mail Address	mwetzel@vwla.net

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	X		
2) ACED Subdivision/Land Development Application	1	X		
3) Maps and Plans • Plus PDF of drawings	1	X		
• Sets Full-Size Plans (24" x 36")	5	X		
• Sets Half-Size Plans (11" x 17")	5	X		
4) Agent Authorization Form	1	X		
5) Application Fee	1	X		
6) Escrow – Engineer, Solicitor, Inspection	1	X		
7) Stormwater Management Plan & Calculations (plus PDF)	2	X		
8) Erosion & Sedimentation Control Plan (plus PDF)	2	X		
9) Deed, Sales Agreement or Other Ownership	1	X		

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: Michael J. Wetzel - (agent) **Date:** 3/9/26

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: J & T Ozkozk Properties, LLC

Property Tax Map Number: 9946-X-50583

Property/Project(s): Walkers Mill Townhouses

☐ **This application/phase only**

☒ **All related applications and phases**

The above named property owner hereby appoints: Victor Wetzel Associates

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:

Jill Estes

Commonwealth of Pennsylvania - Notary Seal
Jill Estes, Notary Public
Washington County
My commission expires March 2, 2025
Commission number 1247538
Member, Pennsylvania Association of Notaries

Owner(s) Signature: _____ (SEAL)

APPROVED SOUTH FAYETTE TOWNSHIP MODIFICATIONS

(During the Conditional Use Approval on July 10, 2024)

Walkers Mill Townhouses

South Fayette Township & Oakdale Borough

SOUTH FAYETTE TOWNSHIP - MODIFICATION REQUEST - APPROVED

Walkers Mill Townhouses - South Fayette Township

Article XIV - Open Space Design Option

1. 240-86 - Eligibility

Required: Minimum Site Area for R-3 Site: 25 acres

Proposed: 4.70 acres - (S. Fayette Township)
8.09 acres - (Overall Site Area)

2. 240-87(A) - General Regulations

Required: No Townhouse Units Permitted in the R-3 Zoning District

Proposed: To allow Townhouse Units

3. 240-88(A)(1) - Permitted Density Calculation & Minimum Restricted Open Space-R-3 Zoning

Required: Maximum "Other Unit Factor - 25%" for Townhouses

Proposed: To allow 100% use of townhouse units

4. 240-88(A)(1) - Permitted Density Calculation & Minimum Restricted Open Space-R-3 Zoning

Required: Maximum 1.30 du/ac in the R-3 Zoning District

Proposed: To allow 7.0 du/ac in the R-3 Zoning District

(Note: Based on the Open Space Provided (40%) the PED Denisty Factor would be 14 du/ac)

5. 240-88(B)(1) - Minimum Side to Side Seperation Between Buildings

Required: 35' Side to Side Seperation between buildings

Proposed: To allow 20' Side to Side Seperation between buildings

(Note: The plan conforms to all other building seperation requirements)

6. 240-88(B)(5) - Minimum Building Setback from Edge of Road

Required: 25' Minimum Building Setback from edge of cartway

Proposed: To provide a 22' Minimum Building Setback from the edge of the cartway along the private street. LOTS 204, 205 The private street width is shown at 18' wide where 16' is pemitted.

NOTE: THIE REQUESTED MODIFICATION WAS APPROVED BY THE SOUTH FAYETTE TOWNSHIP BOARD OF COMMISSIONERS ON JULY 10, 2024

7. 240-88(B)(6) - Perimeter Property Line Setback - Revised

Required: Provide a 50' Perimeter Boundary Building Setback

Proposed: To allow a minimum 25' Perimeter Setback at Unit 302(B). The units along the northern property line (Panhandle Trail Side) are the units that are requesting this modification. Below is the Perimeter Setback Distance for each lot:

Lot 201:	**Minimum 31' Perimeter Setback - Modification Required**
Lot 202:	**Minimum 30' Perimeter Setback - Modification Required**
Lot 203:	**Minimum 30' Perimeter Setback - Modification Required**
LOT 406:	**Minimum 97' Perimeter Setback - (No Modification Required)**
LOT 407:	**Minimum 93' Perimeter Setback - (No Modification Required)**
LOT 404:	**Minimum 33' Perimeter Setback - Modification Required**
LOT 405:	**Minimum 25' Perimeter Setback - Modification Required**

8. 240-89(A)(4)(b) - Buffer Yard Reqirements - Revised

Required: Provide a Buffer Yard Area C along all other property lines on the perimeter of the property.

Proposed: To provide an Alternate Bufferyard Planting along the Panhandle Trail & Robinson Run

Required: 69 Evergreen Trees Planted at 15' on center
Proposed: 24 Deciduous Trees & 90 Shrubs
This is to allow views to the existing trail and Robinson Run on the Oakdale Borough Property.

(Note: All other buffer yards meet the townhip requirements with existing vegiation)

9. 240-90(A)(2) - Open Space Designation

Required: A portion of the required Open Space shall have no less tha 10% of the gross tract area (4.7 ac) located outside desinated wetlands and slopes in excess of 25% slopes
Required Area: 0.47 ac (10%)

Proposed: To allow 8% of the gross tract area in restricted Open Space
Proposed Area: 0.37 ac (8%)

10. Section 215-67(A) - Sidewalks

Required: To provide a sidewalk along the full frontage of all lots.

Proposed: To allow a sidewalk along one side of the street along the Public Street and no sidewalks along the Private Streets.

11. Section 215-74(D) - Streets and Right-of-ways

Required: **To provide a 50' Right-of-way for Public Streets**

Proposed: **To allow a 33' Right-of-way for Public Streets**

NOTE: ALL PROPOSED STREETS WILL BE OWNED AND MAINTAINED BY THE HOME OWNERS ASSOCIATION

12. Section 215-65(A) - Streets

Required: **Each lot shall have frontage on a public street, unless a modification to this requirement is granted to use a Private Street per Section 215-65(B) - Private Streets**

Proposed: **To request a modification for a Private Street as permitted by Section 215-65(B)(1-12)**

13. Section 215-65(B)(2) - Streets (Private Streets) - Revised

Required: **No more than five lots shall front on a Private Street**

Proposed: **The Conditional Use Plans show (2) Townhouse Lots on the Private Street for Phase 3.**
Lots 204, 205 | **The Modification request is to allow (10) Townhouse Units on the proposed Private Street**

(By adding the turn-around area, one unit was removed from the Private Drive)

WALKERS MILL TOWNHOUSE DEVELOPMENT

FINAL PHASE 2 PLANS
FOR A
R-3 OPEN SPACE DESIGN OPTION

Oakdale Borough
&
South Fayette Township

PROJECT NARRATIVE

owner/ applicant:

Thomas A. Robinson Family Ltd. Partnership
108 Frosty Valley Drive
Canonsburg, PA 15317

KDH Engineering Consultants, LLC
593 Rugh Lane
Greensburg, PA 15601

builder:

Scarmazzi Homes
127 Adams Avenue
Canonsburg, PA 15317

Keystone Surveying & Mapping, Inc.
608 E. McMurray Road
McMurray, PA 15317

Victor-Wetzel Associates
409 Broad Street, Suite 270
Sewickley, PA 15143

March 9, 2026

Walkers Mill Townhouse
Project Narrative
R-3 Open Space

Existing Site

The Walkers Mill Townhouse site is an 8.09-acre property located along Seminary Avenue and is located in both Oakdale Borough and South Fayette Township:

Oakdale Property Area:	3.39 Acres (R-2 Zoning District)
South Fayette Township Area:	4.7 Acres (R-3 Zoning District) – R-3 Open Space Design Option

The owner and developer of the property, J & T Oakdale Properties owns three (3) parcels in Oakdale Borough and two (2) parcels in South Fayette Township.

Currently, the site is undeveloped but, in the past, the site was and Industrial Site for Joy Dog Foods that had five (5) buildings on the site at one time in 2005. Since that time, the property owner has razed all the existing buildings and rezoned the property from I-1 Industrial to R-2 Residential.

The majority of the site is flat except for an area along Seminary Road that has existing 2:1 wooded slopes. This slope area ranges from a 20' high slope to a 60' high slope that limits our access into the site at the existing paved access just west of the Seminary Retail area. The existing site also has frontage along the Panhandle Trail along the northern property area. This frontage is 1,670 LF and located in both Oakdale Borough and South Fayette Township. Along the property frontage of the Panhandle Trail and Union Avenue, J & T Oakdale Properties provides an existing parking area for trail users.

Proposed Plan

The Walkers Mill Townhouse site is a proposed 69-unit Townhouse Community that would be developed by Scarmazzi Homes. Both Oakdale Borough and South Fayette Township has approved the Conditional Use Plans and Oakdale Borough has approved the Final Plans for Phase 1 in December 2025. The breakdown of the Township Units on the property is:

		Phase 1	Phase 2
Oakdale Borough:	36 Townhouse Units	36 Units	0 Units
South Fayette Township:	33 Townhouse Units	0 Units	33 Units
	69 Total Units	36 Total Units	33 Total Units

The proposed residents will belong to the development's HOA where residents will not be encumbered with the burdens of grass cutting, snow removal or exterior maintenance to the units. All of these items will be the responsibility of the Homeowners Association (HOA). Typical townhouse elevations and photos of these units are attached to the narrative. The HOA will own and maintain all proposed private drives. The proposed Panhandle Court roadway will also be a private street from the intersection with Seminary Avenue to the temporary cul-de-sac. The Temporary cul-de-sac will be removed when the street is extended.

All utilities will be extended into the site underground. Stormwater Management for the proposed improvements will take place in underground detention facilities that will be owned and maintained by the HOA.

During the South Fayette Conditional Use Application, the Walkers Mill Development was granted (10) Modifications. (See attached exhibit)

Below is the Phase 2 Site Data Chart for both Oakdale Borough and S. Fayette Township:

PHASE TWO - OAKDALE BOROUGH

SITE DATA BY PHASE	PHASE TWO
GROSS SITE AREA	0.07 ac
NET SITE AREA	0.06 ac
TOWNHOUSE UNITS	0 du
DENSITY	0.0 du/ac
OPEN SPACE	0.04 ac
% OPEN SPACE	60 %

PHASE TWO - SOUTH FAYETTE TWP

SITE DATA BY PHASE	PHASE TWO
GROSS SITE AREA	4.68 ac
NET SITE AREA	4.60 ac
TOWNHOUSE UNITS	33 du
DENSITY	7.1 du/ac
OPEN SPACE	1.90 ac
% OPEN SPACE	41 %

PHASE TWO - OVERALL SITE DATA

(BOTH OAKDALE BOROUGH & SOUTH FAYETTE TOWNSHIP)

SITE DATA BY PHASE	PHASE TWO
GROSS SITE AREA	4.75 ac
NET SITE AREA	4.66 ac
TOWNHOUSE UNITS	33 du
DENSITY	6.9 du/ac
OPEN SPACE	1.94 ac
% OPEN SPACE	41 %

Attached Exhibits

The following exhibits are attached with this Project Narrative:

a. Oakdale Borough Approved Modification
b. Site Plan Exhibits
c. Proposed Townhouse Architectural Photos & Elevations
d. Landscape Easement Agreement Exhibit w/Seminary Inc.

WALKERS MILL TOWNHOUSES - SOUTH FAYETTE TOWNSHIP

ZONING COMPARISON CHART - R-3 OPEN SPACE DESIGN OPTION

	R-3	R-3 OPEN SPACE DESIGN	WALKERS MILL TOWNHOUSES OPEN SPACE DESIGN	
permitted uses	SINGLE FAMILY DWELLINGS			
special exceptions	R-3 OPEN SPACE DESIGN OPTION	SINGLE FAMILY, TWO FAMILY, TRI-PLEX, FOUR PLEX & PATIO HOME	33 TOWNHOUSE UNITS 69 TOWNHOUSE UNITS OVERALL (TO ALLOW TOWNHOUSE UNITS IN R-3 IN THE OPEN SPACE DESIGN OPTION)	MODIFICATION APPROVED
minImum site area	NA	25 acres	4.7 ac - S. Fayette Twp. 8.09 ac Overall Site Area	MODIFICATION APPROVED
min lot size	10,500 sq.ft.	N/A	N/A	
site density	NA	1.15 du/ac (5 Units)	34 Units - 7.2/du ac	MODIFICATION APPROVED
min lot width	80'	N/A	N/A	
min front yard	30'	N/A	N/A	
min rear yard	35'	N/A	N/A	
min side yard	10' ea side	N/A	N/A	
side to side seperation	N/A	35'	20' Bldg to Bldg	MODIFICATION APPROVED
side to front seperation	N/A	50'	N/A	
side to rear seperation	N/A	50'	N/A	
front to front seperation	N/A	65'	74'	
front to rear seperation	N/A	85'	N/A	
rear to rear seperation	N/A	65'	N/A	
bldg setback from cartway	N/A	25'	25' From the Public Street 22 ' From Private Streets	MODIFICATION APPROVED FOR 22'
maximun building length	N/A	240'	121'	
max bldg. height	45'	45'	Under 45'	
parking	2.5/du	2.5/du	4/du	
vistor parking	NA	NA	25 Spaces	
4' sidewalk	Along All Lots	Along All Lots	one side along public street no sidewalk along private street	MODIFICATION APPROVED
open space	NA	40% (1.87 ac)	1.87 ac (40%)	
perimeter setback	NA	50'	Min. 26' from Perimeter	MODIFICATION APPROVED
open space designation (in areas less than 25% slopes)	NA	10% of Grose Track Area - 0.47ac	0.37 ac (8%)	MODIFICATION APPROVED

NOTE: THIS ZONING CHART WAS APPROVED BY THE SOUTH FAYETTE TOWNSHIP BOARD OF COMMISSIONERS ON JULY 10, 2024

APPROVED SOUTH FAYETTE TOWNSHIP MODIFICATIONS

(During the Conditional Use Approval on July 10, 2024)

Walkers Mill Townhouses

South Fayette Township & Oakdale Borough

SOUTH FAYETTE TOWNSHIP - MODIFICATION REQUEST - APPROVED

Walkers Mill Townhouses - South Fayette Township

Article XIV - Open Space Design Option

1. 240-86 - Eligibility

Required: Minimum Site Area for R-3 Site: 25 acres

Proposed: 4.70 acres - (S. Fayette Township)
8.09 acres - (Overall Site Area)

2. 240-87(A) - General Regulations

Required: No Townhouse Units Permitted in the R-3 Zoning District

Proposed: To allow Townhouse Units

3. 240-88(A)(1) - Permitted Density Calculation & Minimum Restricted Open Space-R-3 Zoning

Required: Maximum "Other Unit Factor - 25%" for Townhouses

Proposed: To allow 100% use of townhouse units

4. 240-88(A)(1) - Permitted Density Calculation & Minimum Restricted Open Space-R-3 Zoning

Required: Maximum 1.30 du/ac in the R-3 Zoning District

Proposed: To allow 7.0 du/ac in the R-3 Zoning District

(Note: Based on the Open Space Provided (40%) the PED Denisty Factor would be 14 du/ac)

5. 240-88(B)(1) - Minimum Side to Side Seperation Between Buildings

Required: 35' Side to Side Seperation between buildings

Proposed: To allow 20' Side to Side Seperation between buildings

(Note: The plan conforms to all other building seperation requirements)

6. 240-88(B)(5) - Minimum Building Setback from Edge of Road

Required: 25' Minimum Building Setback from edge of cartway

Proposed: To provide a 22' Minimum Building Setback from the edge of the cartway along the private street. LOTS 204, 205 The private street width is shown at 18' wide where 16' is pemitted.

NOTE: THIE REQUESTED MODIFICATION WAS APPROVED BY THE SOUTH FAYETTE TOWNSHIP BOARD OF COMMISSIONERS ON JULY 10, 2024

7. 240-88(B)(6) - Perimeter Property Line Setback - Revised

Required: Provide a 50' Perimeter Boundary Building Setback

Proposed: To allow a minimum 25' Perimeter Setback at Unit 302(B). The units along the northern property line (Panhandle Trail Side) are the units that are requesting this modification. Below is the Perimeter Setback Distance for each lot:

Lot 201:	**Minimum 31' Perimeter Setback - Modification Required**
Lot 202:	**Minimum 30' Perimeter Setback - Modification Required**
Lot 203:	**Minimum 30' Perimeter Setback - Modification Required**
LOT 406:	**Minimum 97' Perimeter Setback - (No Modification Required)**
LOT 407:	**Minimum 93' Perimeter Setback - (No Modification Required)**
LOT 404:	**Minimum 33' Perimeter Setback - Modification Required**
LOT 405:	**Minimum 25' Perimeter Setback - Modification Required**

8. 240-89(A)(4)(b) - Buffer Yard Reqirements - Revised

Required: Provide a Buffer Yard Area C along all other property lines on the perimeter of the property.

Proposed: To provide an Alternate Bufferyard Planting along the Panhandle Trail & Robinson Run

Required: 69 Evergreen Trees Planted at 15' on center
Proposed: 24 Deciduous Trees & 90 Shrubs
This is to allow views to the existing trail and Robinson Run on the Oakdale Borough Property.

(Note: All other buffer yards meet the townhip requirements with existing vegiation)

9. 240-90(A)(2) - Open Space Designation

Required: A portion of the required Open Space shall have no less tha 10% of the gross tract area (4.7 ac) located outside desinated wetlands and slopes in excess of 25% slopes
Required Area: 0.47 ac (10%)

Proposed: To allow 8% of the gross tract area in restricted Open Space
Proposed Area: 0.37 ac (8%)

10. Section 215-67(A) - Sidewalks

Required: To provide a sidewalk along the full frontage of all lots.

Proposed: To allow a sidewalk along one side of the street along the Public Street and no sidewalks along the Private Streets.

11. Section 215-74(D) - Streets and Right-of-ways

Required: To provide a 50' Right-of-way for Public Streets

Proposed: To allow a 33' Right-of-way for Public Streets

NOTE: ALL PROPOSED STREETS WILL BE OWNED AND MAINTAINED BY THE HOME OWNERS ASSOCIATION

12. Section 215-65(A) - Streets

Required: Each lot shall have frontage on a public street, unless a modification to this requirement is granted to use a Private Street per Section 215-65(B) - Private Streets

Proposed: To request a modification for a Private Street as permitted by Section 215-65(B)(1-12)

13. Section 215-65(B)(2) - Streets (Private Streets) - Revised

Required: No more than five lots shall front on a Private Street

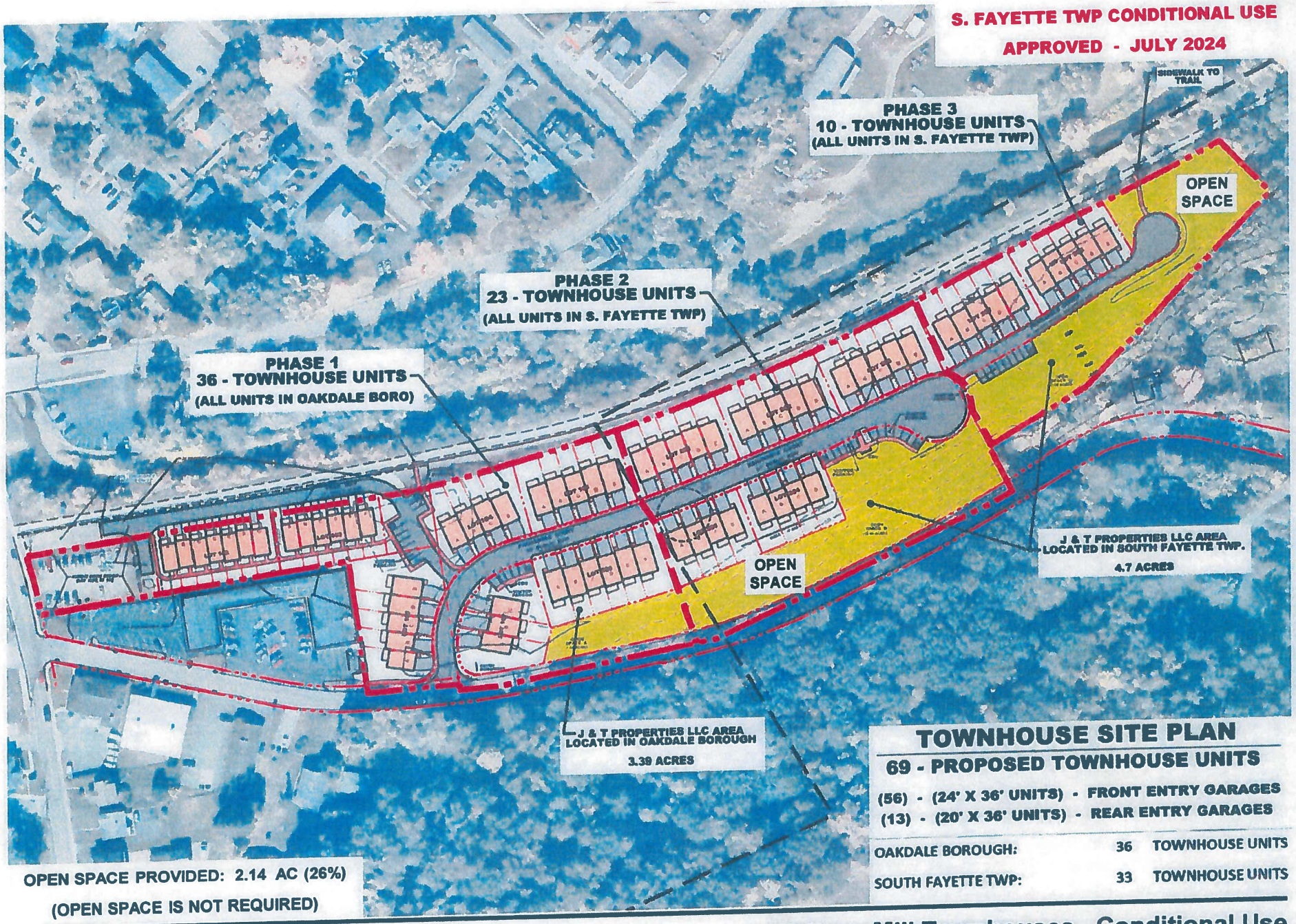
Proposed: The Conditional Use Plans show (2) Townhouse Lots on the Private Street for Phase 3. Lots 204, 205) The Modification request is to allow (10) Townhouse Units on the proposed Private Street

(By adding the turn-around area, one unit was removed from the Private Drive)

SITE PLAN EXHIBITS

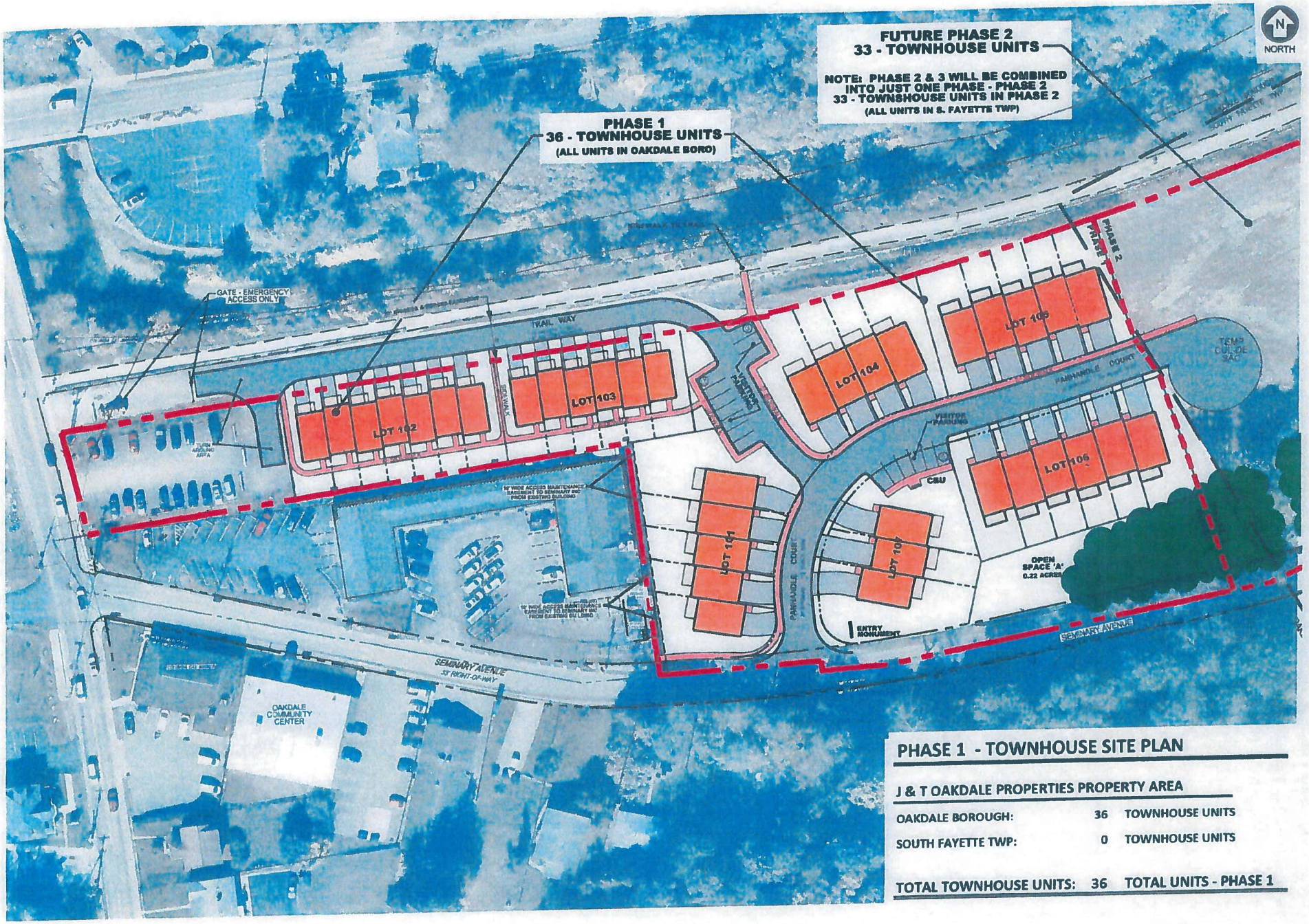
Walkers Mill Townhouses

Oakdale Borough & South Fayette Township



Conditional Use Site Plan – Overall Site

Walkers Mill Townhouses - Conditional Use



PHASE 1 - TOWNHOUSE SITE PLAN

J & T OAKDALE PROPERTIES PROPERTY AREA

OAKDALE BOROUGH:	36	TOWNHOUSE UNITS
SOUTH FAYETTE TWP:	0	TOWNHOUSE UNITS
TOTAL TOWNHOUSE UNITS:	36	TOTAL UNITS - PHASE 1

WALKERS MILL TOWNHOUSES - OAKDALE BOROUGH

ZONING COMPARISON CHART - R-2 MULTI-FAMILY CONDITIONAL USE
(SECTIONS 375-12-1 AND SECTION 375-42)

	R-2 MULTI-FAMILY DWELLING	WALKERS MILL TOWNHOUSES	
Conditional Uses - (Sec 375-40)	[illegible]	[illegible]	
Minimum site area	5 acres	3.39 ac - Oakdale; 8.09 ac - Overall Site Area	APPROVED MODIFICATION
Maximum number of units	10 du/ac	8.5 du/ac	
Min. lot area - attached - two-sides	2,000 sq ft	1,540 sq ft; 20 ft Townhouse Units	APPROVED MODIFICATION LOTS 102 & 103
		All lots conform for the 24' wide Townhouse Units	
Min. lot area - attached - one-side	3,000 sq ft	2,343 sq ft; 20 ft Townhouse Units	APPROVED MODIFICATION LOTS 102 & 103
		All lots conform for the 24' wide Townhouse Units	
Min. front building setback	20 ft	15 ft, 20 ft & 20.5 ft	APPROVED MODIFICATION LOTS 101-A
Min. lot frontage at street ROW	20 ft	20 ft & 24 ft	
Min. side yard - attached	0 ft.	0 ft.	
Min. side yard - end unit	10 ft.	10 ft.	
Min. distance between principal bldgs	20 ft	20 ft.	
Min. lot width	20 ft	20 ft & 24 ft.	
Parking Requirement - Multi-Family	2 per unit	24 ft.- 4 spaces per unit; 20 ft. - 3 spaces per unit	
Visitor Parking Spaces	0.5 spaces per unit; Oakdale Boro 36 units; S. Fayette Twp 33 units	18 spaces required; 16 spaces required; 35 spaces required; 38 spaces provided	
Sidewalks	5' width	5' width	
Front yard on-lot landscaping	15%	35%	
Bufferyard adjacent to non-residential	15 ft. bufferyard	15 ft. bufferyard	
Open space	Not Required	0.29 ac (7%)	

WALKERS MILL TOWNHOUSES - SOUTH FAYETTE TOWNSHIP

ZONING COMPARISON CHART - R-3 OPEN SPACE DESIGN OPTION

	R-3	R-3 OPEN SPACE DESIGN	WALKERS MILL TOWNHOUSES OPEN SPACE DESIGN	
permitted uses	[illegible]			
special exceptions	[illegible]	[illegible]	[illegible]	MODIFICATION REQUEST
minimum site area	N/A	25 acres	4.7 ac - S. Fayette Twp; 8.09 ac Overall Site Area	MODIFICATION REQUEST
min lot size	10,500 sq ft	N/A	N/A	
site density	N/A	1.15 du/ac (5 Units)	34 Units - 7.2 du/ac	MODIFICATION REQUEST
min lot width	80'	N/A	N/A	
min front yard	30'	N/A	N/A	
min rear yard	30'	N/A	N/A	
min side yard	10' [illegible]	N/A	N/A	
side to side separation	N/A	30'	20' Bldg to Bldg	MODIFICATION REQUEST
side to front separation	N/A	50'	N/A	
side to rear separation	N/A	[illegible]	N/A	
front to front separation	N/A	[illegible]	74'	
front to rear separation	N/A	85'	N/A	
rear to rear separation	N/A	65'	N/A	
bldg setback from cartway	N/A	25'	29' From the Public Street; 22' From Private Streets	MODIFICATION REQUEST PER 22'
maximum building length	N/A	240'	121'	
max bldg height	45'	45'	Under 45'	
parking	2 Stalls	2.5 du	4 du	
visitor parking	N/A	N/A	25 Spaces	
4' sidewalk	Along All Lots	Along All Lots	[illegible]	MODIFICATION REQUEST
open space	N/A	40% (1.87 ac)	1.87 ac (41%)	
perimeter setback	N/A	50'	[illegible] 24' from Perimeter	MODIFICATION REQUEST
open space designation in areas less than 25% slopes	N/A	10% of Gross Tract Area 0.47 ac	0.37 ac [illegible]	MODIFICATION REQUEST

NOTE: THIS ZONING CHART WAS APPROVED BY THE SOUTH FAYETTE TOWNSHIP BOARD OF COMMISSIONERS ON JULY 10, 2024

SOUTH FAYETTE TOWNSHIP - MODIFICATION REQUEST — APPROVED

Walkers Mill Townhouses - South Fayette Township

Article XIV - Open Space Design Option

[illegible]

NOTE: THE REQUESTED MODIFICATION WAS APPROVED BY THE SOUTH FAYETTE TOWNSHIP BOARD OF COMMISSIONERS ON JULY 10, 2024

OAKDALE BOROUGH - APPROVED MODIFICATIONS

(THESE MODIFICATIONS WERE APPROVED MARCH 6, 2025 COUNCIL MTG WITH THE CONDITIONAL USE PLANS)

Walkers Mill Townhouses - Oakdale Borough

1. 375-12.1(A)(1) - Min Lot Area - (Dwellings attached by two sides)
Required: 2,000 sq ft Lot Area - (unit area)
Proposed: To allow 1,540 sq ft Lot Area for the 20' wide townhouse units
Lot 102 - B, C, D, E & F
Lot 103 - B, C, D, & E

2. 375-12.1(A)(2) - Min Lot Area - (Dwellings attached by one side)
Required: 3,000 sq ft Lot Area - (unit area)
Proposed: To allow 2,350 sq ft Lot Area for the 20' wide townhouse units
Lot 102 - A & G
Lot 103 - A & F

3. 375-12.1(A)(3) - Min Front Yard Setback
Required: 20' Front Yard Setback
Proposed: [illegible]

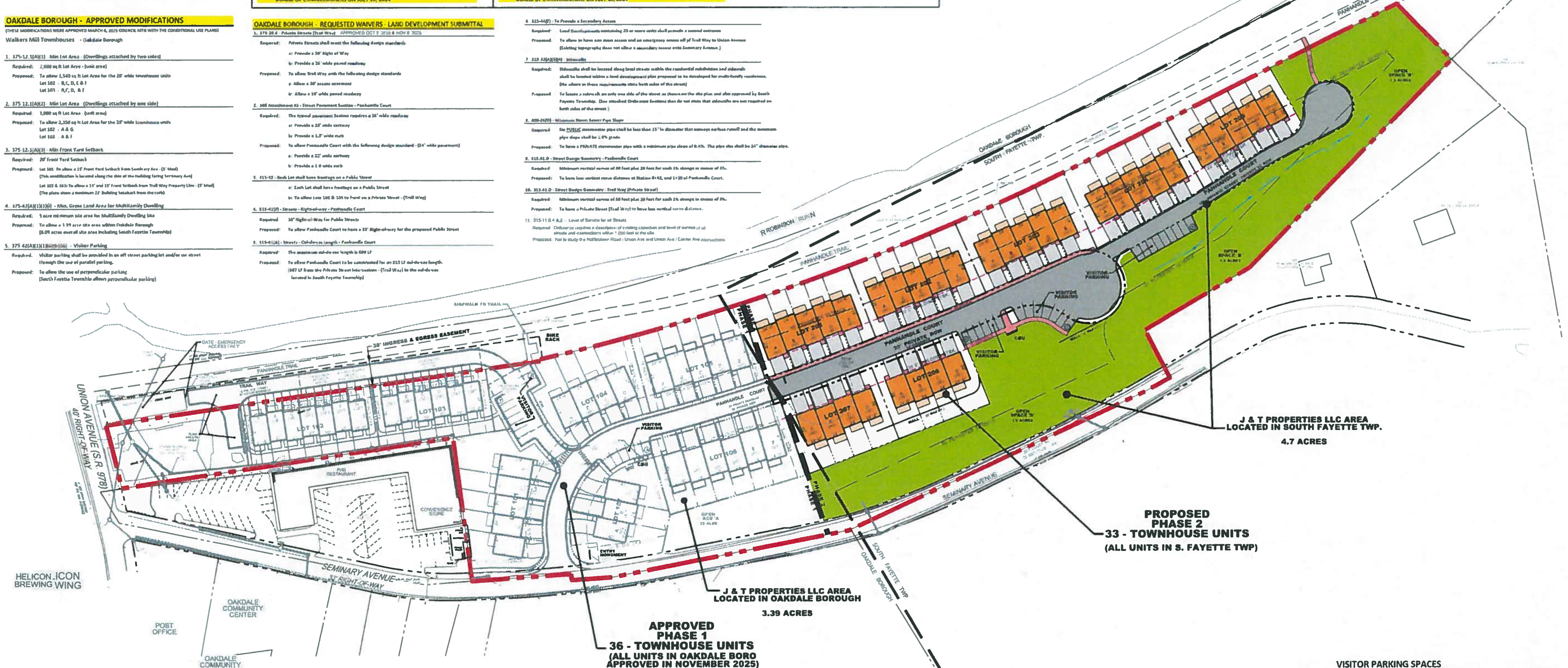
4. 375-42(A)(1)(6) - Min. Gross Land Area for Multifamily Dwelling
Required: 5 acre minimum site area for Multifamily Dwelling Site
Proposed: To allow a 3.39 acre site area within Oakdale Borough (8.09 acres overall site area including South Fayette Township)

5. 375-42(A)(1)(...) - Visitor Parking
Required: Visitor parking shall be provided in an off street parking lot and/or on street through the use of parallel parking.
Proposed: To allow the use of perpendicular parking (South Fayette Township allows perpendicular parking)

OAKDALE BOROUGH - REQUESTED WAIVERS - LAND DEVELOPMENT SUBMITTAL

1. 375-28.E - Private Streets (Trail Way) - APPROVED OCT 2 2025 & NOV 6 2025
Required: Private Streets shall meet the following design standards
a: Provide a 50' Right of Way
b: Provide a 26' wide paved roadway
Proposed: [illegible]

[illegible]



NOTES:

J & T PROPERTIES LLC AREA LOCATED IN OAKDALE BOROUGH
3.39 ACRES - R-2 ZONING DISTRICT (REZONED IN NOVEMBER 2024)

J & T PROPERTIES LLC AREA LOCATED IN SOUTH FAYETTE TOWNSHIP
4.7 ACRES - R-3 ZONING DISTRICT

OAKDALE BOROUGH PROPERTY: 3.39 ACRES - R-2 ZONING DISTRICT (R-2 CONDITIONAL USE)
SOUTH FAYETTE PROPERTY: 4.7 ACRES - R-3 ZONING DISTRICT (OPEN SPACE OVERLAY OPTION)
TOTAL SITE DEVELOPMENT AREA: 8.09 ACRES

1. ALL STREETS SHALL BE PRIVATE AND OWNED AND MAINTAINED BY THE HOA.

NORTH

APPROVED PHASE ONE - OAKDALE BOROUGH

SITE DATA BY PHASE	PHASE ONE
GROSS SITE AREA	3.32 ac
NET SITE AREA	3.17 ac
TOWNHOUSE UNITS	36 du
DENSITY	10.8 du/ac
OPEN SPACE	0.22 ac
% OPEN SPACE	7 %

APPROVED PHASE ONE - SOUTH FAYETTE TWP

SITE DATA BY PHASE	PHASE ONE
GROSS SITE AREA	0.02 ac
NET SITE AREA	0.02 ac
TOWNHOUSE UNITS	0 du
DENSITY	0.0 du/ac
OPEN SPACE	0.00 ac
% OPEN SPACE	0 %

APPROVED PHASE ONE - OVERALL PHASE 1 SITE
(BOTH OAKDALE BOROUGH & SOUTH FAYETTE TOWNSHIP)

SITE DATA BY PHASE	PHASE ONE
GROSS SITE AREA	3.34 ac
NET SITE AREA	3.19 ac
TOWNHOUSE UNITS	36 du
DENSITY	10.8 du/ac
OPEN SPACE	0.22 ac
% OPEN SPACE	7 %

PHASE TWO - OAKDALE BOROUGH

SITE DATA BY PHASE	PHASE TWO
GROSS SITE AREA	0.07 ac
NET SITE AREA	0.06 ac
TOWNHOUSE UNITS	0 du
DENSITY	0.0 du/ac
OPEN SPACE	0.04 ac
% OPEN SPACE	60 %

PHASE TWO - SOUTH FAYETTE TWP

SITE DATA BY PHASE	PHASE TWO
GROSS SITE AREA	4.68 ac
NET SITE AREA	4.60 ac
TOWNHOUSE UNITS	33 du
DENSITY	7.1 du/ac
OPEN SPACE	1.90 ac
% OPEN SPACE	41 %

PHASE TWO - OVERALL SITE DATA
(BOTH OAKDALE BOROUGH & SOUTH FAYETTE TOWNSHIP)

SITE DATA BY PHASE	PHASE TWO
GROSS SITE AREA	4.75 ac
NET SITE AREA	4.66 ac
TOWNHOUSE UNITS	33 du
DENSITY	6.9 du/ac
OPEN SPACE	1.94 ac
% OPEN SPACE	41 %

VISITOR PARKING SPACES

OAKDALE BOROUGH SPACES: (PHASE 1)	15 SPACES
SOUTH FAYETTE TOWNSHIP SPACES: (PHASE 2)	22 SPACES
	37 TOTAL SPACES

TOTAL TOWNHOUSE UNITS

OAKDALE BOROUGH TOWNHOUSE UNITS: (PHASE 1)	36 UNITS
SOUTH FAYETTE TOWNSHIP TOWNHOUSE UNITS: (PHASE 2)	33 UNITS
	69 TOTAL UNITS

REVISIONS:

Victor-Wetzel Associates Landscape Architects
409 Broad Street, Suite 270, Sewickley, PA 15143
[Office] 412-741-2280 [Fax] 412 741 0506 [E-mail] vwa@vwla.net

PENNSYLVANIA REGISTERED LANDSCAPE ARCHITECT

BOROUGH OF OAKDALE - R-2 MULTI-FAMILY DWELLING ZONING
SOUTH FAYETTE TOWNSHIP - R-3 - OPEN SPACE DESIGN OPTION

WALKERS MILL - TOWNHOUSES

PHASE 2 - FINAL LAND DEVELOPMENT PLANS - S FAYETTE TOWNSHIP
BOROUGH OF OAKDALE & SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY PA

PREPARED FOR:
J&T OAKDALE PROPERTIES, LLC
1321-C McLAUGHLIN ROAD
PITTSBURGH, PA 15241

SITE PLAN - OVERALL

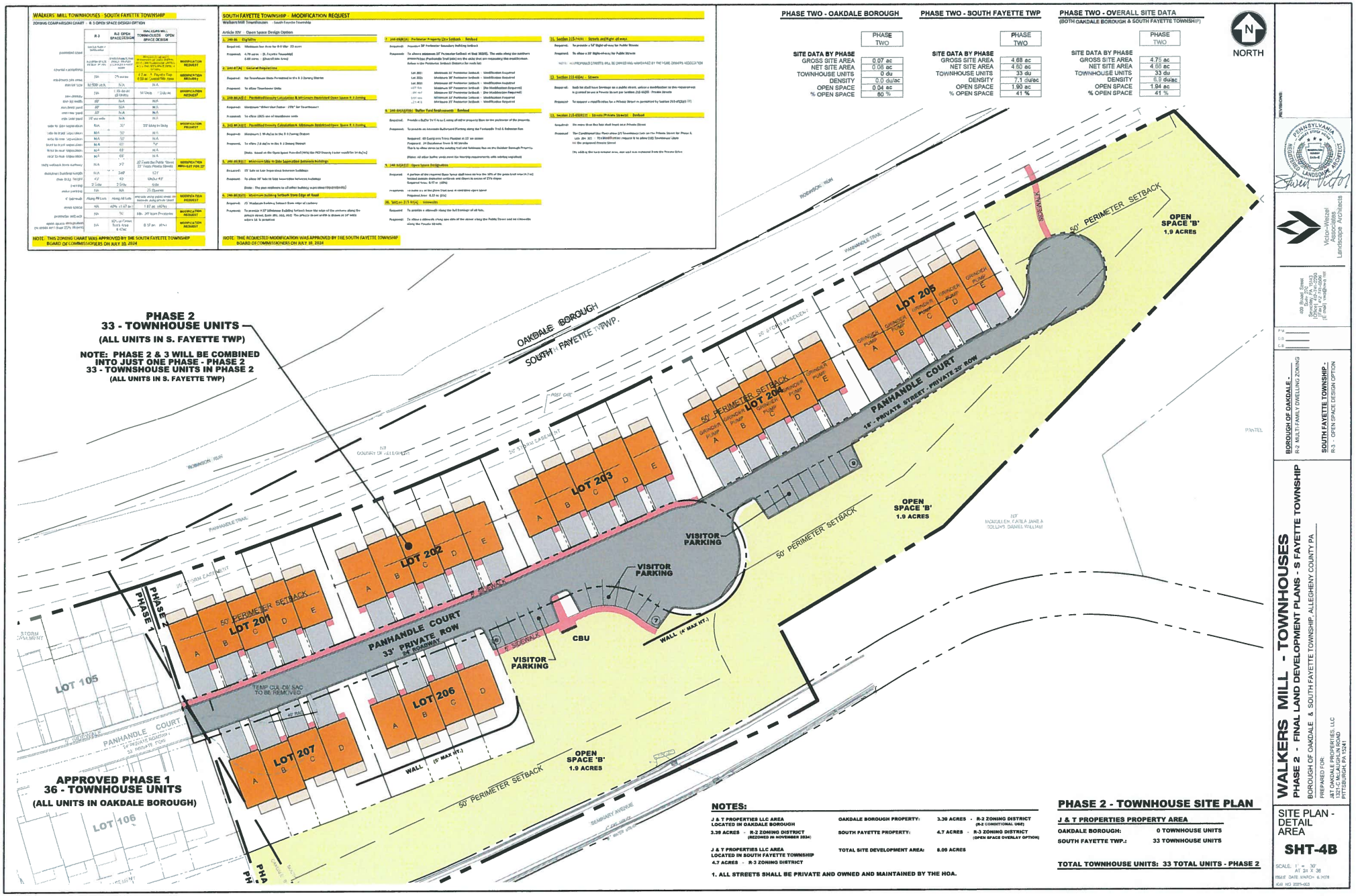
SHT-4A

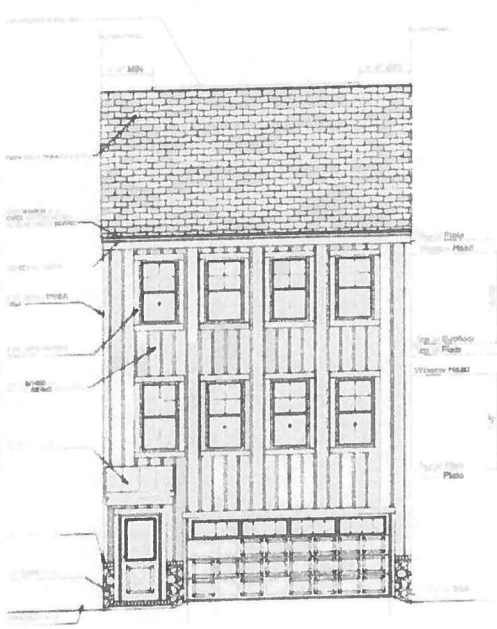
SCALE 1" = 60' AT 24 X 36
ISSUE DATE: MARCH 6, 2026
JOB NO 2023-053

TOWNHOUSE ARCHITECTURAL PHOTO & ELEVATIONS

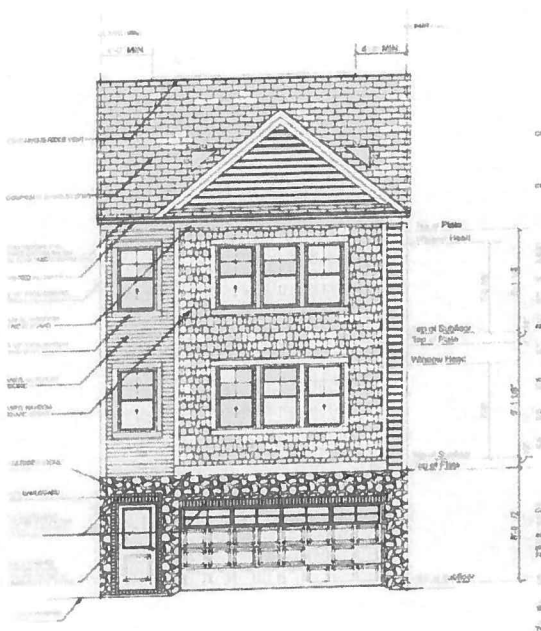
Walkers Mill Townhouses

Oakdale Borough & South Fayette Township

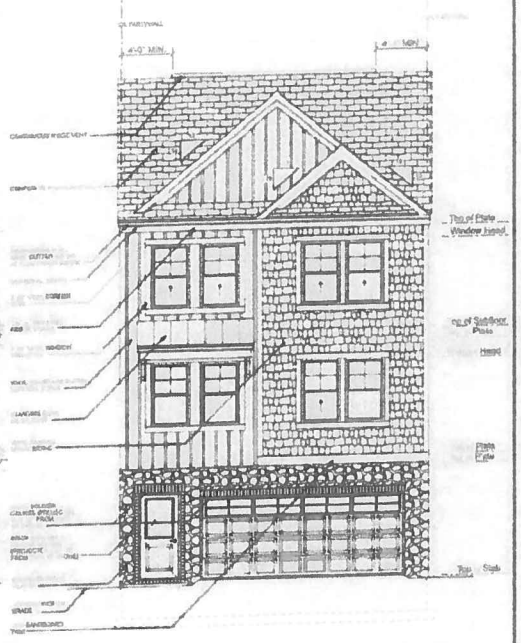

WALKERS MILL TOWNHOUSES - SOUTH FAYETTE TOWNSHIP
SOUTH FAYETTE TOWNSHIP - MODIFICATION REQUEST
PHASE TWO - OAKDALE BOROUGH
PHASE TWO - SOUTH FAYETTE TWP
PHASE TWO - OVERALL SITE DATA
(BOTH OAKDALE BOROUGH & SOUTH FAYETTE TOWNSHIP)
NORTH
PHASE 2
33 - TOWNHOUSE UNITS
(ALL UNITS IN S. FAYETTE TWP)
NOTE: PHASE 2 & 3 WILL BE COMBINED INTO JUST ONE PHASE - PHASE 2
33 - TOWNSHOUSE UNITS IN PHASE 2
(ALL UNITS IN S. FAYETTE TWP)
APPROVED PHASE 1
36 - TOWNHOUSE UNITS
(ALL UNITS IN OAKDALE BOROUGH)
OAKDALE BOROUGH
SOUTH FAYETTE TWP.
PANHANDLE COURT
15' - PRIVATE STREET - PRIVATE 20' ROW
PANHANDLE COURT
33' PRIVATE ROW
22' ROADWAY
50' PERIMETER SETBACK
OPEN SPACE 'B'
1.9 ACRES
VISITOR PARKING
CBU
WALL (4' MAX HT.)
WALL (5' MAX HT.)
LOT 201
LOT 202
LOT 203
LOT 204
LOT 205
LOT 206
LOT 207
LOT 105
LOT 106
PHASE 1
PHASE 2
PHASE 3
TEMP CUL-DE-SAC TO BE REMOVED
ROBINSON RUN
PANHANDLE TRAIL
SEMINARY AVENUE
NOTES:
PHASE 2 - TOWNHOUSE SITE PLAN
WALKERS MILL - TOWNHOUSES
PHASE 2 - FINAL LAND DEVELOPMENT PLANS - S FAYETTE TOWNSHIP
BOROUGH OF OAKDALE & SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY PA
SITE PLAN - DETAIL AREA
SHT-4B



FRONT ELEVATION #1



FRONT ELEVATION #2



FRONT ELEVATION #3

REV NO	DATE	REMARKS
1	11-4-20	WORK SHEET

SCARMAZZI HOMES
Luxury Patio Homes

PRINT DATE:
1/27/2021

HOUSE NAME
Scarmazzi Homes

PROJECT CODE
Arden Farms

DRAWING TITLE
FRONT ELEVS 1, 2 & 3

SHEET NUMBER
2

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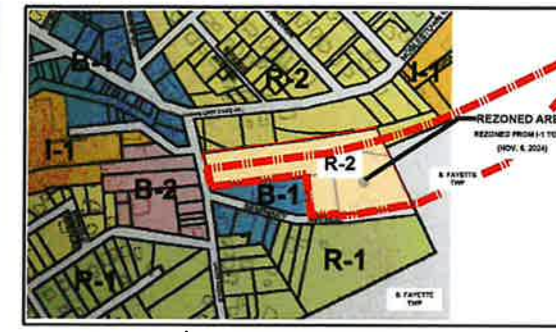
WALKERS MILL TOWNHOUSE DEVELOPMENT

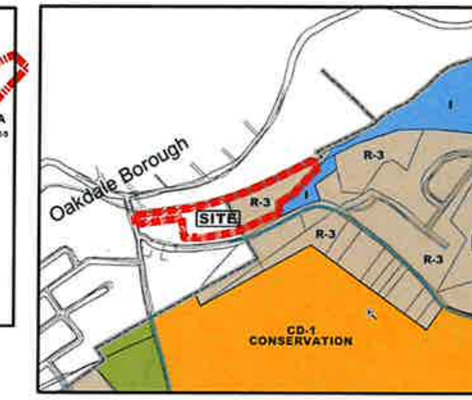
PHASE 2 - FINAL LAND DEVELOPMENT PLAN
R-3 - OPEN SPACE DESIGN

BOROUGH OF OAKDALE & SOUTH FAYETTE TOWNSHIP
ALLEGHENY COUNTY, PENNSYLVANIA

DATE: MARCH 9, 2026



LOCATION MAP
(OAKDALE BOROUGH)
NOT TO SCALE
N



LOCATION MAP
(SOUTH FAYETTE TWP)
NOT TO SCALE
N

OWNER / APPLICANT:

J&T OAKDALE PROPERTIES, LLC
1321-C McLAUGHLIN ROAD
PITTSBURGH, PA 15241

LANDSCAPE ARCHITECT:

VICTOR-WETZEL ASSOCIATES
409 BROAD STREET, SUITE 270
SEWICKLEY, PA. 15143
PHONE# (412) 741-2290

PENNSYLVANIA REGISTERED LANDSCAPE ARCHITECT

BUILDER:

SCARMAZZI HOMES
127 ADAMS AVE.
CANONSBURG, PA 15317

CIVIL ENGINEER/STORMWATER:

KDH CONSULTING ENGINEERS, INC.
593 RUGH ST.
GREENSBURG, PA 15601
PHONE: (878) 295-8914

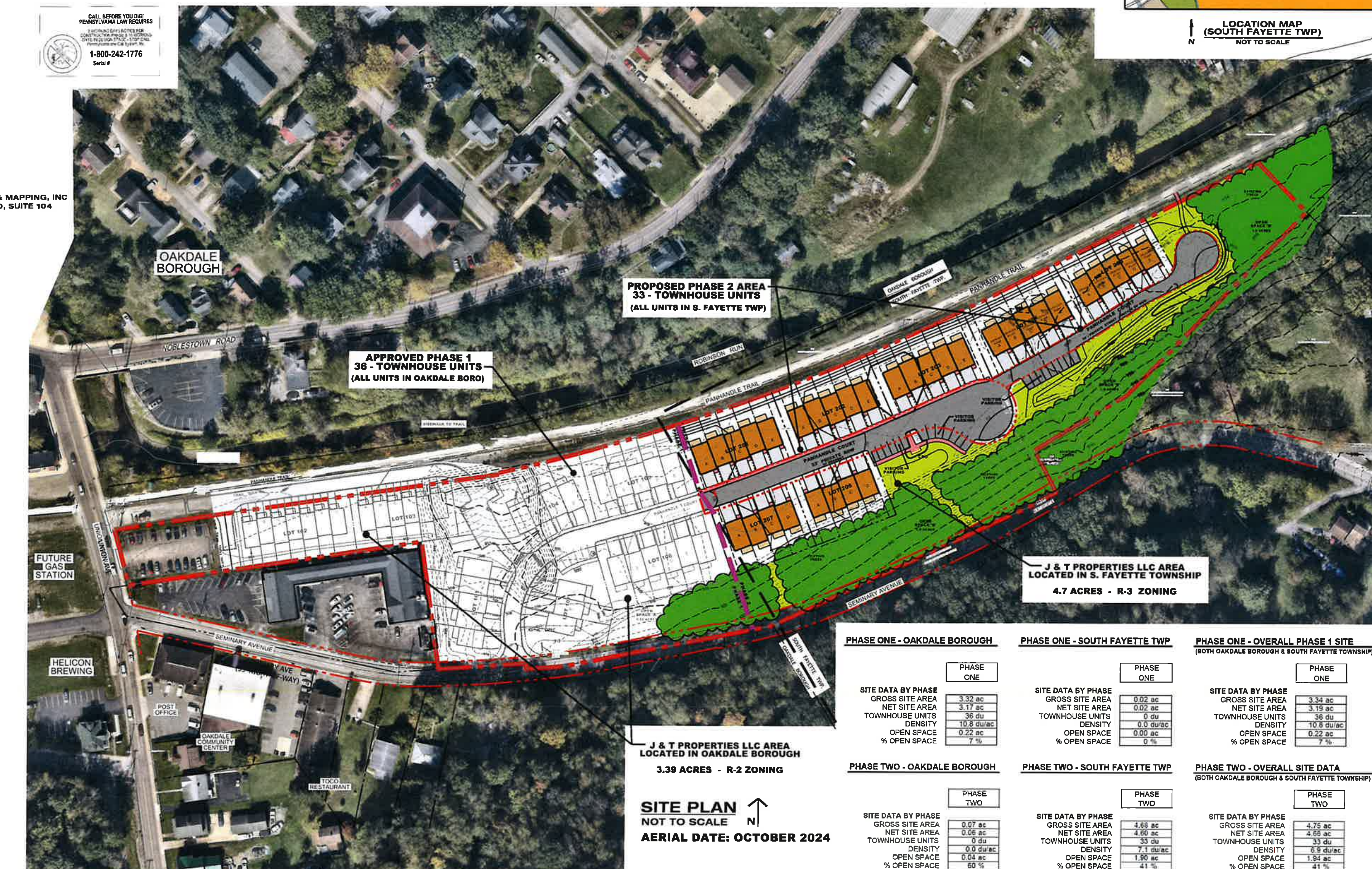
SURVEYORS:

KEYSTONE SURVEYING & MAPPING, INC
608 E. McMURRAY ROAD, SUITE 104
McMURRAY, PA 15317
PHONE: 724-514-7949

CALL BEFORE YOU DIG!
PENNSYLVANIA LAW REQUIRES
1-800-242-1776
Serial #

DRAWING SCHEDULE

SHT 1	COVER SHEET
SHT 2	EXISTING CONDITIONS PLAN
SHT 3	APPROVED CONDITIONAL USE PLAN
SHT 4A	SITE PLAN - OVERALL
SHT 4B	SITE PLAN - DETAIL
SHT 5A	LANDSCAPE PLAN - OVERALL
SHT 5B	LANDSCAPE PLAN - DETAIL
SHT 6	ARCHITECTURAL PLANS & ELEVATIONS
SHT 7	LIGHTING PLAN
SHT 8	SITE SIGNAGE PLAN
D0.1	GENERAL NOTES AND LEGENDS
D3.0	CONSTRUCTION DETAILS
D4.0	OVERALL GRADING PLAN
D4.1	GRADING PLAN
D5.0	OVERALL UTILITY PLAN
D5.1	UTILITY PLAN
D6.0	STORM SEWER PLANS
D6.1	ENLARGED STORM SEWER PLAN
D6.2	ENLARGED STORM SEWER PLAN
D7.0	SANITARY SEWER PLAN
D7.1	SANITARY SEWER DETAILS
D8.0	PCSM COVER SHEET
D8.1	OVERALL PCSM PLAN
D8.2	SCM-3 DETAILS
D8.3	SCM-4 DETAILS
D9.0	E&S COVER SHEET
D9.1	OVERALL E&S PLAN
D9.2	E&S DETAILS / NOTES
D9.6	E&S DETAILS / NOTES



SITE PLAN
NOT TO SCALE
N
AERIAL DATE: OCTOBER 2024

PHASE ONE - OAKDALE BOROUGH

SITE DATA BY PHASE	PHASE ONE
GROSS SITE AREA	3.32 ac
NET SITE AREA	3.17 ac
TOWNHOUSE UNITS	36 du
DENSITY	10.8 du/ac
OPEN SPACE	0.22 ac
% OPEN SPACE	7 %

PHASE ONE - SOUTH FAYETTE TWP

SITE DATA BY PHASE	PHASE ONE
GROSS SITE AREA	0.02 ac
NET SITE AREA	0.02 ac
TOWNHOUSE UNITS	0 du
DENSITY	0.0 du/ac
OPEN SPACE	0.00 ac
% OPEN SPACE	0 %

PHASE ONE - OVERALL PHASE 1 SITE
(BOTH OAKDALE BOROUGH & SOUTH FAYETTE TOWNSHIP)

SITE DATA BY PHASE	PHASE ONE
GROSS SITE AREA	3.34 ac
NET SITE AREA	3.19 ac
TOWNHOUSE UNITS	36 du
DENSITY	10.8 du/ac
OPEN SPACE	0.22 ac
% OPEN SPACE	7 %

PHASE TWO - OAKDALE BOROUGH

SITE DATA BY PHASE	PHASE TWO
GROSS SITE AREA	0.07 ac
NET SITE AREA	0.06 ac
TOWNHOUSE UNITS	0 du
DENSITY	0.0 du/ac
OPEN SPACE	0.04 ac
% OPEN SPACE	60 %

PHASE TWO - SOUTH FAYETTE TWP

SITE DATA BY PHASE	PHASE TWO
GROSS SITE AREA	4.68 ac
NET SITE AREA	4.60 ac
TOWNHOUSE UNITS	33 du
DENSITY	7.1 du/ac
OPEN SPACE	1.90 ac
% OPEN SPACE	41 %

PHASE TWO - OVERALL SITE DATA
(BOTH OAKDALE BOROUGH & SOUTH FAYETTE TOWNSHIP)

SITE DATA BY PHASE	PHASE TWO
GROSS SITE AREA	4.75 ac
NET SITE AREA	4.66 ac
TOWNHOUSE UNITS	33 du
DENSITY	6.9 du/ac
OPEN SPACE	1.94 ac
% OPEN SPACE	41 %

NORTH

OAKDALE BOROUGH

NOBLESTOWN ROAD

UNION AVENUE (S.R. 978)
40' RIGHT-OF-WAY

ROBINSON RUN

PANHANDLE TRAIL

OAKDALE BOROUGH / FAYETTE TWP.

N/F
J & T OAKDALE PROPERTIES, LLC
TP# 492-M-312
DBV-12088 PG-527
AREA=41,185 SQ. FT.
OR 0.945 ACRES

EXIST. PARKING LOT

PUB RESTAURANT

CONVENIENCE STORE

N/F
J & T OAKDALE PROPERTIES, LLC
TP# 407-N-392
DBV-12095 PG-240
PARCEL 2
AREA=21,789 SQ. FT.
OR 0.500 ACRES

N/F
J & T OAKDALE PROPERTIES, LLC
TP# 407-N-389
DBV-12095 PG-240
PARCEL 1

N/F
J&T OAKDALE PROPERTIES, LLC
TP# 407-L-5
DBV-7570 PG-422
AREA=79,881 SQ. FT.
OR 1.834 ACRES

TOTAL AREA OF
TP# 407-N-389 & TP# 9946-X-50583
209,616 SQ. FT.
OR 4.812 ACRES

SEMINARY AVENUE

SOUTH FAYETTE TWP.
OAKDALE BOROUGH

NO ACCESS TO S. FAYETTE TWP. PARCELS
DUE TO THE STEEPNESS OF EXISTING SLOPES

HELICON BREWING

POST OFFICE

OAKDALE COMMUNITY CENTER

TOCO RESTAURANT

FP ELEV 905

LEGEND

- FEMA FLOODWAY (NOT LOCATED ON SITE)
- FEMA FLOODPLAIN

NOTES:

J & T PROPERTIES LLC AREA LOCATED IN OAKDALE BOROUGH

3.39 ACRES - R-2 ZONING DISTRICT
(REZONED IN OCTOBER 2023)

J & T PROPERTIES LLC AREA LOCATED IN SOUTH FAYETTE TOWNSHIP

4.7 ACRES - R-3 ZONING DISTRICT

8.09 ACRES - TOTAL SITE DEVELOPMENT AREA

REVISIONS:

COMMONWEALTH OF PENNSYLVANIA REGISTERED LANDSCAPE ARCHITECT Steven Victor

Victor-Welzel Associates
Landscape Architects
409 Broad Street
Suite 270, 15213
Sewickley, PA 15143
[T] 412.741.1707
[F] 412.741.0526
[E-mail] vwla@verizon.net

BOROUGH OF OAKDALE -
R-2 MULTI-FAMILY DWELLING ZONING

SOUTH FAYETTE TOWNSHIP -
R-3 - OPEN SPACE DESIGN OPTION

WALKERS MILL - TOWNHOUSES R-3 - OPEN SPACE DESIGN
PHASE 2 - FINAL LAND DEVELOPMENT PLANS - S FAYETTE TOWNSHIP

BOROUGH OF OAKDALE & SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY PA

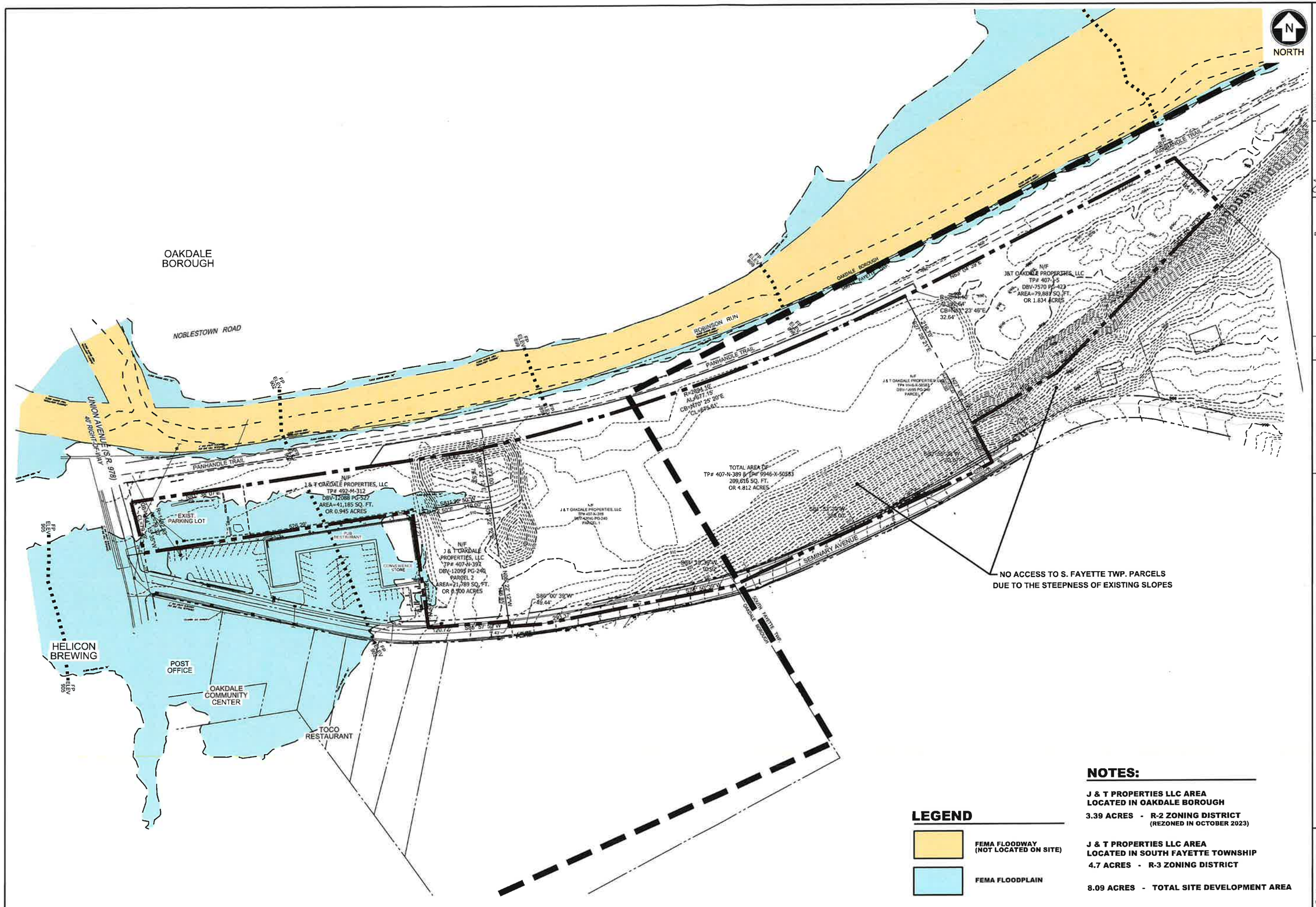
PREPARED FOR:
J&T OAKDALE PROPERTIES, LLC
132 I-C McLAUGHLIN ROAD
PITTSBURGH, PA 15241

EXISTING CONDITIONS PLAN

SHT-2

SCALE 1" = 60'
ARCH D 24 X 36
REDUCED PLOT SCALE= 1" = 120'

JOB NO 2023-055



LEGEND

- FEMA FLOODWAY (NOT LOCATED ON SITE)
- FEMA FLOODPLAIN

NOTES:

J & T PROPERTIES LLC AREA LOCATED IN OAKDALE BOROUGH

3.39 ACRES - R-2 ZONING DISTRICT (REZONED IN OCTOBER 2023)

J & T PROPERTIES LLC AREA LOCATED IN SOUTH FAYETTE TOWNSHIP

4.7 ACRES - R-3 ZONING DISTRICT

8.09 ACRES - TOTAL SITE DEVELOPMENT AREA

REVISIONS:

REGISTERED PENNSYLVANIA LANDSCAPE ARCHITECT

Victor-Wetzel Associates Landscape Architects
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Sewickley, PA 15143
(412) 741-0590
(Fax) 412-741-0595
(E-Mail) Vlwa@nreia.net

BOROUGH OF OAKDALE - R-2 MULTI-FAMILY DWELLING ZONING

SOUTH FAYETTE TOWNSHIP - R-3 - OPEN SPACE DESIGN OPTION

WALKERS MILL - TOWNHOUSES

PHASE 2 - FINAL LAND DEVELOPMENT PLANS - S FAYETTE TOWNSHIP

BOROUGH OF OAKDALE & SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY PA

PREPARED FOR:
J&T OAKDALE PROPERTIES, LLC
1321-C McLAUGHLIN ROAD
PITTSBURGH, PA 15241

EXISTING CONDITIONS PLAN - AERIAL

SHT-2

SCALE: 1" = 80' AT 24 X 36
ISSUE DATE: MARCH 6, 2024
JOB NO. 2023-055

WALKERS MILL TOWNHOUSES - OAKDALE BOROUGH

ZONING COMPARISON CHART - R-2 MULTI-FAMILY CONDITIONAL USE
(SECTIONS 375-12.1 AND SECTION 375-42)

	R-2 MULTI-FAMILY DWELLING	WALKERS MILL TOWNHOUSES	
Conditional Uses - (Sec 375-40)	MULTI-FAMILY DWELLINGS TOWNHOUSES & TWO-FAMILY	36 TOWNHOUSE UNITS 69 TOWNHOUSE UNITS OVERALL	
Minimum site area	3 acres	3.39 ac - Oakdale 8.09 ac - Overall Site Area	MODIFICATION
Maximum number of units	10 du/ac	8.5 du/ac	
Min. lot area - attached - two-sides	2,000 sq ft	1,560 sq ft 20 ft Townhouse Units	MODIFICATION LOTS 102 & 103
		All lots conform for the 24' wide Townhouse Units	
Min. lot area - attached - one-side	3,000 sq ft	2,340 sq ft 20 ft Townhouse Units	MODIFICATION LOTS 102 & 103
		All lots conform for the 24' wide Townhouse Units	
Min. front building setback	20 ft.	13 ft., 15 ft., 20 ft. & 20.5 ft.	MODIFICATION LOTS 101-A LOTS 102 & 103
		[illegible]	
Min. lot frontage at street ROW	20 ft.	20 ft. & 24 ft.	
Min. side yard - attached	0 ft.	0 ft.	
Min. side yard - end unit	10 ft.	10 ft.	
Min. distance between principal bldgs	20 ft.	20 ft.	
Min. lot width	20 ft.	20 ft. & 24 ft.	
Parking Requirement - Multi-Family	2 per unit	24 ft. - 4 spaces per unit 20 ft. - 3 spaces per unit	
Visitor Parking Spaces	0.5 spaces per unit Oakdale Boro. 36 units S. Fayette Twp 33 units	18 spaces required 16 spaces required 35 spaces required 38 spaces provided	
Sidewalks	5' width	5' width	
Front yard on-lot landscaping	10%	38%	
Bufferyard adjacent to non-residential	15 ft. bufferyard	15 ft. bufferyard	
Open space	Not Required	0.25 ac (7%)	

OAKDALE BOROUGH - MODIFICATION REQUEST

Walkers Mill Townhouses - Oakdale Borough

~~[illegible]~~ NOT APPROVED WITH CONDITIONAL USE PLAN

Required: 50' Right-of-way for public streets
Proposed: To allow for a 33' Right-of-way for the proposed public street

~~[illegible]~~ NOT APPROVED WITH CONDITIONAL USE PLAN

Required: Maximum cul-de-sac length of 600 LF
Proposed: To allow for a 813 LF cul-de-sac length (667 LF from the Private Street intersection to the cul-de-sac located in S. Fayette Twp.)

~~[illegible]~~ NOT APPROVED WITH CONDITIONAL USE PLAN

Required: Land Developments containing 25 or more units shall provide a second entrance
Proposed: To allow to have one main access and a emergency access off a Private Street to Union Ave. (Existing topography does not allow a secondary access onto Seminary Ave)

4. 375-12.1(A)(1) - Min Lot Area - (Dwellings attached by two sides)
Required: 2,000 sq ft Lot Area - (unit area)
Proposed: To allow 1,560 sq ft Lot Area for the 20' wide townhouse units
Lot 102 - B,C,D,E & F
Lot 103 - B,C,D, & E

5. 375-12.1(A)(2) - Min Lot Area - (Dwellings attached by one side)
Required: 3,000 sq ft Lot Area - (unit area)
Proposed: To allow 2,350 sq ft Lot Area for the 20' wide townhouse units
Lot 102 - A & G
Lot 103 - A & F

6. 375-12.1(A)(3) - Min Front Yard Setback
Required: 20' Front Yard Setback
Proposed: Lot 101: To allow a 15' Front Yard Setback from Seminary Ave - (5' Mod) (This modification is located along the side of the building facing Seminary Ave)
Lot 102 & 103: To allow a 13' and 15' Front Setback from Trail Way Property Line - (5' Mod) (The plans show a minimum 22' Building Setback from the curb)

7. 375-42(A)(1)(1)(f) - Min. Gross Land Area for Multifamily Dwelling
Required: 3 acre minimum site area for Multifamily Dwelling Site
Proposed: To allow a 3.39 acre site area within Oakdale Borough (8.09 acres overall site area including South Fayette Township)

8. 375-42(A)(1)(1)(B)(b)(iii) - Visitor Parking
Required: Visitor parking shall be provided in an off-street parking lot and/or on-street through the use of parallel parking
Proposed: To allow the use of perpendicular parking (South Fayette Township allows perpendicular parking)

9. 375-46.D(9) - Traffic Study
Required: Provide Traffic Study with Conditional Use Application
Proposed: Provide Traffic Study with Final Plans

WALKERS MILL TOWNHOUSES - SOUTH FAYETTE TOWNSHIP

ZONING COMPARISON CHART - R-3 OPEN SPACE DESIGN OPTION

	R-3	R-3 OPEN SPACE DESIGN	WALKERS MILL TOWNHOUSES OPEN SPACE DESIGN	
permitted uses	SINGLE FAMILY DWELLINGS			
special exceptions	R-3 OPEN SPACE DESIGN OPTION	SINGLE FAMILY, TWO FAMILY, TRIPLEX, FOUR PLEX & PATIO HOME	33 TOWNHOUSE UNITS 69 TOWNHOUSE UNITS OVERALL (TO ALLOW TOWNHOUSE UNITS IN R-3 IN THE OPEN SPACE DESIGN OPTION)	MODIFICATION REQUEST
minimum site area	NA	25 acres	4.7 ac - S. Fayette Twp. 8.09 ac Overall Site Area	MODIFICATION REQUEST
min lot size	10,500 sq ft	N/A	N/A	
site density	NA	1.15 du/ac (5 Units)	34 Units - 7.2 du/ac	MODIFICATION REQUEST
min lot width	80'	N/A	N/A	
min front yard	30'	N/A	N/A	
min rear yard	35'	N/A	N/A	
min side yard	10' ea side	N/A	N/A	
side to side seperation	N/A	35'	20' Bldg to Bldg	MODIFICATION REQUEST
side to front seperation	N/A	50'	N/A	
side to rear seperation	N/A	50'	N/A	
front to front seperation	N/A	65'	74'	
front to rear seperation	N/A	65'	N/A	
rear to rear seperation	N/A	65'	N/A	
bldg setback from cartway	N/A	25'	25' From the Public Street 22' From Private Streets	MODIFICATION REQUEST FOR 22'
maximum building length	N/A	240'	121'	
max bldg. height	45'	45'	Under 45'	
parking	2.5/du	2.5/du	4/du	
visitor parking	NA	NA	25 Spaces	
4' sidewalk	Along All Lots	Along All Lots	one side along public street no sidewalk along private street	MODIFICATION REQUEST
open space	NA	40% (1.87 ac)	1.87 ac (40%)	
perimeter setback	NA	50'	Min. 20' from Perimeter	MODIFICATION REQUEST
open space designation (in areas less than 25% slopes)	NA	10% of Gross Track Area - 0.47ac	0.37 ac (8%)	MODIFICATION REQUEST

NOTE: THIS ZONING CHART WAS APPROVED BY THE SOUTH FAYETTE TOWNSHIP BOARD OF COMMISSIONERS ON JULY 10, 2024

SOUTH FAYETTE TOWNSHIP - MODIFICATION REQUEST

Walkers Mill Townhouses - South Fayette Township

Article XIV - Open Space Design Option

1. 240-86 - Eligibility
Required: Minimum Site Area for R-3 Site: 25 acres
Proposed: 4.70 acres - (S. Fayette Township)
8.08 acres - (Overall Site Area)

2. 240-87(A) - General Regulations
Required: No Townhouse Units Permitted in the R-3 Zoning District
Proposed: To allow Townhouse Units

3. 240-88(A)(1) - Permitted Density Calculation & Minimum Restricted Open Space-R-3 Zoning
Required: Maximum "Other Unit Factor - 25%" for Townhouses
Proposed: To allow 100% use of townhouse units

4. 240-88(A)(1) - Permitted Density Calculation & Minimum Restricted Open Space-R-3 Zoning
Required: Maximum 1.30 du/ac in the R-3 Zoning District
Proposed: To allow 7.0 du/ac in the R-3 Zoning District
(Note: Based on the Open Space Provided (40%) the PCD Density Factor would be 14 du/ac)

5. 240-88(B)(1) - Minimum Side to Side Seperation Between Buildings
Required: 35' Side to Side Seperation between buildings
Proposed: To allow 20' Side to Side Seperation between buildings
(Note: The plan conforms to all other building seperation requirements)

6. 240-88(B)(5) - Minimum Building Setback from Edge of Road
Required: 25' Minimum Building Setback from edge of cartway
Proposed: To provide a 22' Minimum Building Setback from the edge of the cartway along the private street. (Lots 301, 302, 303) The private street width is shown at 18' wide where 18' is permitted.

7. 240-88(B)(6) - Perimeter Property Line Setback - Revised
Required: Provide a 50' Perimeter Boundary Building Setback
Proposed: To allow a minimum 23' Perimeter Setback at Unit 302(E). The units along the northern property line (Panhandle Trail Side) are the units that are requesting this modification. Below is the Perimeter Setback Distance for each lot:
Lot 201: Minimum 31' Perimeter Setback - Modification Required
Lot 202: Minimum 30' Perimeter Setback - Modification Required
Lot 203: Minimum 30' Perimeter Setback - Modification Required
Lot 204: Minimum 87' Perimeter Setback - (No Modification Required)
Lot 205: Minimum 68' Perimeter Setback - (No Modification Required)
Lot 301: Minimum 33' Perimeter Setback - Modification Required
Lot 302: Minimum 25' Perimeter Setback - Modification Required

8. 240-89(A)(4)(b) - Buffer Yard Requirements - Revised
Required: Provide a Buffer Yard Area C along all other property lines on the perimeter of the property.
Proposed: To provide an Alternate Bufferyard Planting along the Panhandle Trail & Robinson Run
Required: 60 Evergreen Trees Planted at 15' on center
Proposed: 24 Deciduous Trees & 90 Shrubs
This is to allow views to the existing trail and Robinson Run on the Oakdale Borough Property.
(Note: All other buffer yards meet the township requirements with existing vegetation)

9. 240-90(A)(7) - Open Space Designation
Required: A portion of the required Open Space shall have no less the 10% of the gross tract area (4.7 ac) located outside designated wetlands and slopes in excess of 25% slopes
Required Area: 0.47 ac (10%)
Proposed: [illegible] of the gross tract area in restricted open space
Proposed Area: 0.37 ac (8%)

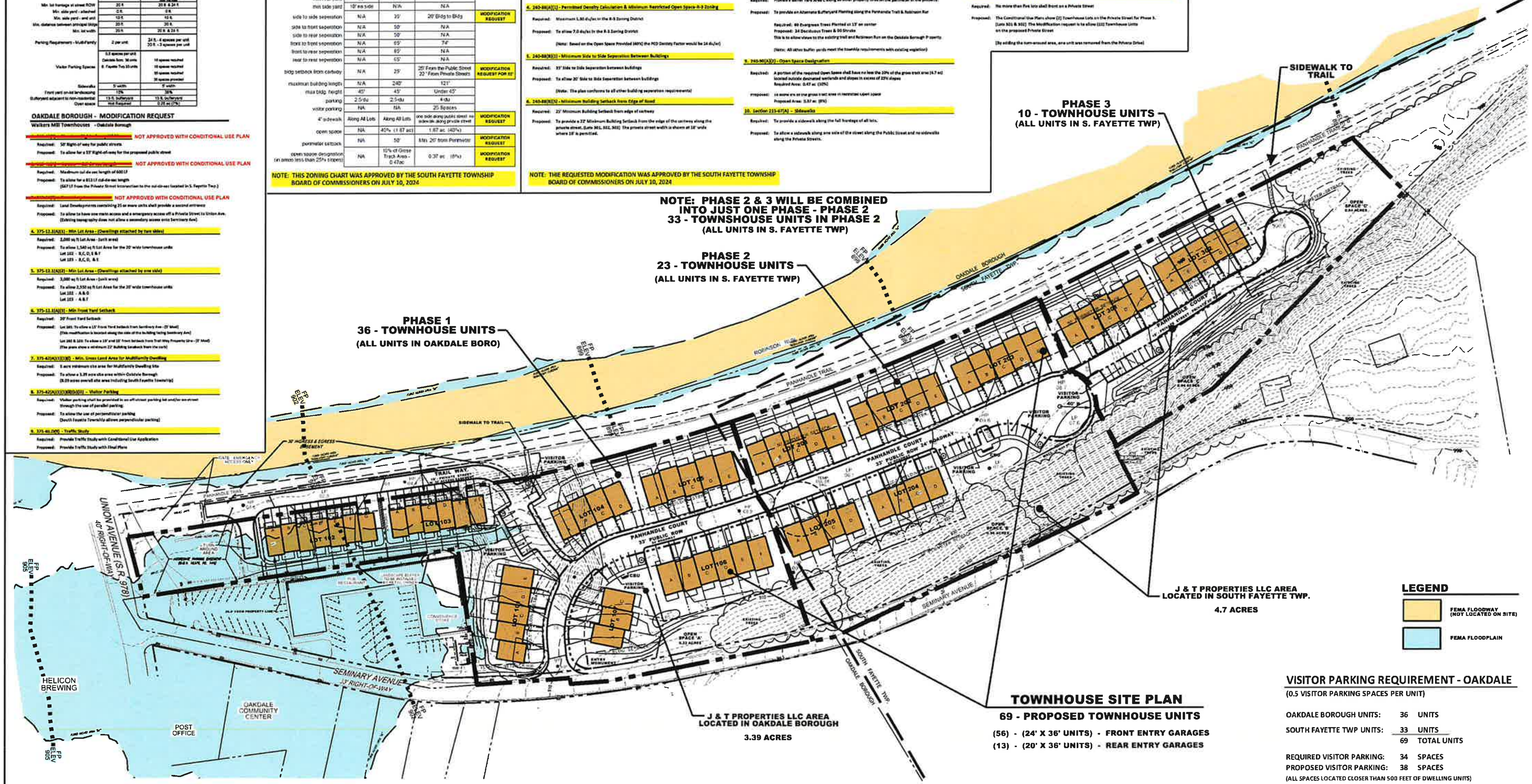
10. Section 215-67(A) - Sidewalks
Required: To provide a sidewalk along the full frontage of all lots.
Proposed: To allow a sidewalk along one side of the street along the Public Street and no sidewalks along the Private Streets.

11. Section 215-74(D) - Streets and Right-of-ways
Required: To provide a 50' Right of way for Public Streets
Proposed: To allow a 33' Right-of-way for Public Streets
(Note: The Public Streets will be maintained by Oakdale Boro. The Private Streets will be maintained by the HOA)

12. Section 215-65(A) - Streets
Required: Each lot shall have frontage on a public street, unless a modification to this requirement is granted to use a Private Street per Section 215-65(B) - Private Streets
Proposed: To request a modification for a Private Street as permitted by Section 215-65(B)(1-13)

13. Section 215-65(B)(2) - Streets (Private Streets) - Revised
Required: No more than five lots shall front on a Private Street
Proposed: The Conditional Use Plans show (2) Townhouse Lots on the Private Street for Phase 3. (Lots 301 & 302) The Modification request is to allow (10) Townhouse Units on the proposed Private Street
(By adding the turn-around area, one unit was removed from the Private Drive)

NOTE: THE REQUESTED MODIFICATION WAS APPROVED BY THE SOUTH FAYETTE TOWNSHIP BOARD OF COMMISSIONERS ON JULY 10, 2024



LEGEND

FEMA FLOODWAY (NOT LOCATED ON SITE)

FEMA FLOODPLAIN

TOWNHOUSE SITE PLAN

69 - PROPOSED TOWNHOUSE UNITS

(56) - (24' X 36' UNITS) - FRONT ENTRY GARAGES

(13) - (20' X 36' UNITS) - REAR ENTRY GARAGES

VISITOR PARKING REQUIREMENT - OAKDALE

(0.5 VISITOR PARKING SPACES PER UNIT)

OAKDALE BOROUGH UNITS:	36	UNITS
SOUTH FAYETTE TWP UNITS:	33	UNITS
	69	TOTAL UNITS
REQUIRED VISITOR PARKING:	34	SPACES
PROPOSED VISITOR PARKING:	38	SPACES

(ALL SPACES LOCATED CLOSER THAN 500 FEET OF DWELLING UNITS)

PHASING CHART - OAKDALE BOROUGH

SITE DATA BY PHASE	PHASE ONE	PHASE TWO	PHASE THREE	TOTAL
GROSS SITE AREA	3.32 ac	0.07 ac	0.00 ac	3.39 ac
NET SITE AREA	3.17 ac	0.06 ac	0.00 ac	3.23 ac
TOWNHOUSE UNITS	36 du	0 du	0 du	36 du
DENSITY	10.8 du/ac	0.0 du/ac	0.0 du/ac	10.6 du/ac
OPEN SPACE	0.22 ac	0.03 ac	0.00 ac	0.25 ac
% OPEN SPACE	7 %	43 %	0 %	7 %
APPROXIMATE DATE OF FINAL PLAN SUBMITTAL	SUMMER 2025	SUMMER 2027	SPRING 2028	

PHASING CHART - SOUTH FAYETTE TOWNSHIP

SITE DATA BY PHASE	PHASE ONE	PHASE TWO	PHASE THREE	TOTAL
GROSS SITE AREA	0.00 ac	2.87 ac	1.83 ac	4.70 ac
NET SITE AREA	0.00 ac	2.77 ac	1.83 ac	4.60 ac
TOWNHOUSE UNITS	0 du	23 du	10 du	33 du
DENSITY	0.0 du/ac	8.0 du/ac	5.5 du/ac	7.0 du/ac
OPEN SPACE	0.00 ac	0.93 ac	0.96 ac	1.89 ac
% OPEN SPACE	0 %	32 %	52 %	40 %
APPROXIMATE DATE OF FINAL PLAN SUBMITTAL	SUMMER 2025	SUMMER 2027	SPRING 2028	

PHASING CHART - OVERALL SITE

(BOTH OAKDALE BOROUGH & SOUTH FAYETTE TOWNSHIP)

SITE DATA BY PHASE	PHASE ONE	PHASE TWO	PHASE THREE	TOTAL
GROSS SITE AREA	3.32 ac	2.94 ac	1.83 ac	8.09 ac
NET SITE AREA	3.17 ac	2.83 ac	1.83 ac	7.83 ac
TOWNHOUSE UNITS	36 du	23 du	10 du	69 du
DENSITY	10.8 du/ac	7.8 du/ac	5.5 du/ac	8.5 du/ac
OPEN SPACE	0.22 ac	0.96 ac	0.96 ac	2.14 ac
% OPEN SPACE	7 %	33 %	52 %	26 %
APPROXIMATE DATE OF FINAL PLAN SUBMITTAL	SUMMER 2025	SUMMER 2027	SPRING 2028	

NOTES:

J & T PROPERTIES LLC AREA LOCATED IN OAKDALE BOROUGH
3.39 ACRES - R-2 ZONING DISTRICT (REZONED IN NOVEMBER 2024)

J & T PROPERTIES LLC AREA LOCATED IN SOUTH FAYETTE TOWNSHIP
4.7 ACRES - R-3 ZONING DISTRICT

OAKDALE BOROUGH PROPERTY: 3.39 ACRES - R-2 ZONING DISTRICT (R-2 CONDITIONAL USE)

SOUTH FAYETTE PROPERTY: 4.7 ACRES - R-3 ZONING DISTRICT (OPEN SPACE OVERLAY OPTION)

TOTAL SITE DEVELOPMENT AREA: 8.09 ACRES

TOWNHOUSE SITE PLAN

J & T OAKDALE PROPERTIES PROPERTY AREA

OAKDALE BOROUGH:	36	TOWNHOUSE UNITS - (10.6 DU/AC)
SOUTH FAYETTE TWP:	33	TOWNHOUSE UNITS - (7.0 DU/AC)
TOTAL TOWNHOUSE UNITS:	69	TOTAL UNITS

REVISIONS:
2-4-25 - PER ENGINEER'S COMMENTS
2-26-25 - PER ENGINEER'S COMMENTS
9-3-25 - PER ENGINEER'S COMMENTS

PENNSYLVANIA REGISTERED LANDSCAPE ARCHITECT (seal, signed)

Victor-Welzel Associates Landscape Architects
400 Broad Street Suite 200
Sewickley, PA 15143
[Office] 412-741-2290
[Fax] 412-741-0506
[E-mail] vwa@vwa.net

BOROUGH OF OAKDALE - R-2 CONDITIONAL USE PLANS

SOUTH FAYETTE TOWNSHIP - R-3 - OPEN SPACE DESIGN OPTION

WALKERS MILL - TOWNHOUSES

R-2 - CONDITIONAL USE PLANS

BOROUGH OF OAKDALE & SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY PA

PREPARED FOR:
J&T OAKDALE PROPERTIES, LLC
1321-C McLAUGHLIN ROAD
PITTSBURGH, PA 15241

APPROVED CONDITIONAL USE PLANS

SHT-3

SCALE 1" = 60' AT 24 X 36
ISSUE DATE DECEMBER 5 2024
JOB NO 2024-056

WALKERS MILL TOWNHOUSES - OAKDALE BOROUGH

ZONING COMPARISON CHART - R-2 MULTI-FAMILY CONDITIONAL USE
(SECTIONS 375-12.1 AND SECTION 375-42)

	R-2 MULTI-FAMILY DWELLING	WALKERS MILL TOWNHOUSES	
Conditional Uses - (Sec 375-40)	MULTI-FAMILY DWELLING TOWNHOUSES & TWO-FAMILY	36 TOWNHOUSE UNITS & TWO-FAMILY	
Minimum site area	5 acres	3.39 ac - Oakdale 8.09 ac - Overall Site Area	APPROVED MODIFICATION
Maximum number of units	10 du/ac	9.5 du/ac	
Min. lot area - attached - bnr-sides	2,000 sq ft	1,540 sq ft 20 ft Townhouse Units All lots conform to the 20' wide Townhouse Units	APPROVED MODIFICATION LOTS 102 & 103
Min. lot area - attached - one-side	3,000 sq ft	2,340 sq ft 20 ft Townhouse Units All lots conform to the 20' wide Townhouse Units	APPROVED MODIFICATION LOTS 102 & 103
Min. front building setback	20 ft	15 ft. 20 ft. & 20.5 ft	APPROVED MODIFICATION LOTS 101-A
Min. lot frontage at street ROW	20 ft	20 ft & 24 ft	
Min. side yard - attached	0 ft	0 ft	
Min. side yard - end unit	10 ft	10 ft	
Min. distance between principal bldgs	20 ft	20 ft	
Min. lot width	20 ft	20 ft & 24 ft	
Parking Requirement - Multi-Family	2 per unit	24 ft - 2 spaces per unit 20 ft - 3 spaces per unit	
Visitor Parking Spaces	0.5 spaces per unit Oakdale Boro: 36 units S. Fayette Twp: 33 units	15 spaces required 15 spaces provided 22 spaces required 38 spaces provided	
Sidewalks	5' width	5' width	
Front yard on lot landscaping	15%	38%	
Buffer yard adjacent to non-residential	15 ft. buffer yard	15 ft. buffer yard	
Open space	Not Required	0.23 ac (7%)	

OAKDALE BOROUGH - APPROVED MODIFICATIONS

(THESE MODIFICATIONS WERE APPROVED MARCH 6, 2025 COUNCIL MTG WITH THE CONDITIONAL USE PLANS)

Walkers Mill Townhouses - Oakdale Borough

1. 375-12.1(A)(1) - Min Lot Area - (Dwellings attached by two sides)
   - Required: 2,000 sq ft Lot Area - (unit area)
   - Proposed: To allow 1,540 sq ft Lot Area for the 20' wide townhouse units
     Lot 102 - B,C, D, E & F
     Lot 103 - B,C, D, & E
2. 375-12.1(A)(2) - Min Lot Area - (Dwellings attached by one side)
   - Required: 3,000 sq ft Lot Area - (unit area)
   - Proposed: To allow 2,350 sq ft Lot Area for the 20' wide townhouse units
     Lot 102 - A & G
     Lot 103 - A & F
3. 375 12.1(A)(3) - Min Front Yard Setback
   - Required: 20' Front Yard Setback
   - Proposed: Lot 101: To allow a 25' Front Yard Setback from Seminary Ave - (5' Mod)
     (This modification is located along the side of the building facing Seminary Ave)
     Lot 102 & 103: To allow a 15' and 15' Front Setback from Trail Way Property line (5' Mod)
     (The plans show a minimum 22' Building Setaback from the curb)
4. 375-42(A)(1)(1)(III) - Min. Gross Land Area for Multifamily Dwelling
   - Required: 5 acre minimum site area for Multifamily Dwelling Site
   - Proposed: To allow a 3.39 acre site area within Oakdale Borough
     (8.09 acres overall site area including South Fayette Township)
5. 375-42(A)(1)(1)(III)(III) - Visitor Parking
   - Required: Visitor parking shall be provided in an off-street parking lot and/or on-street through the use of parallel parking.
   - Proposed: To allow the use of perpendicular parking
     (South Fayette Township allows perpendicular parking)

SOUTH FAYETTE TOWNSHIP - MODIFICATION REQUEST - APPROVED

Walkers Mill Townhouses - South Fayette Township

Article XIV Open Space Design Option

1. 240-84 - Eligibility
   - Required: Minimum Site Area for R-3 Dist - 25 acres
   - Proposed: 4.70 acres - (S. Fayette Township)
     8.09 acres - (Overall Site Area)
2. 240-87(A) - General Regulations
   - Required: No Townhouse Units Permitted in the R-2 Zoning District
   - Proposed: To allow Townhouse Units
3. 240-88(A)(1) - Permitted Density Calculation & Minimum Restricted Open Space-R-3 Zoning
   - Required: Maximum "Other Unit Factor - 25%" for Townhouses
   - Proposed: To Allow 100% use of townhouse units
4. 240-88(A)(2) - Permitted Density Calculation & Minimum Restricted Open Space-R-3 Zoning
   - Required: Maximum 1.50 du/ac in the R-3 Zoning District
   - Proposed: To allow 7.5 du/ac in the R-3 Zoning District
     (Note: Based on the Open Space Provided (40% the PED Density Factor would be 14 du/ac)
5. 240-88(B)(1) - Minimum Side to Side Separation Between Buildings
   - Required: 30' Side to Side Separation between buildings
   - Proposed: To allow 30' Side to Side Separation between buildings
     (Note: The plan conforms to all other building separation requirements)
6. 240-88(B)(2) - Minimum Building Setback from Edge of Road
   - Required: 25' Minimum Building Setback from edge of curbcut
   - Proposed: To provide a 22' Minimum Building Setback from the edge of the curbcut along the private street. LOTS 204, 205 The private street width is shown at 18' wide where 18' is permitted.
7. 240-88(B)(4) - Perimeter Property Line Setback - Revised
   - Required: Provide a 50' Perimeter Boundary Building Setback
   - Proposed: To allow a minimum 25' Perimeter Setback at Lots 202&203. The units along the northern property line (Panhandle Trail) balance the units that are requesting this modification. Below is the Perimeter Setback Distance for each lot:

Lot 201:	Minimum 81' Perimeter Setback - Mod Ruston Required
Lot 202:	Minimum 30' Perimeter Setback - Modification Required
Lot 203:	Minimum 30' Perimeter Setback - Modification Required
Lot 204:	Minimum 97' Perimeter Setback - (no Modification Required)
Lot 205:	Minimum 94' Perimeter Setback - (no Modification Required)
Lot 206:	Minimum 59' Perimeter Setback - Modification Required
Lot 207:	Minimum 25' Perimeter Setback - Modification Required

8. 240-89(A)(4)(b) - Buffer Yard Requirements - Revised
   - Required: Provide a Buffer Yard B (see D along all of the property lines on the perimeter of the property.
   - Proposed: To provide an Alternate Buffeyard Planting along the Panhandle Trail & Robinson Run.
     Required: 69 Evergreen Trees Planted at 25 on center
     Proposed: 38 Deciduous Trees & 92 Shrubs
     This is to allow views to the existing trail and Robinson Run on the Oakdale Borough's Property.
     (Note: All other buffer yards meet the bonding requirements with existing vegetation)
9. 240-90(A)(3) - Open Space Designation
   - Required: A portion of the required Open Space shall have no less than 10% of the gross tract area (4.7 ac) located outside designated wetlands and slopes in excess of 25% slopes. Required Area: 0.47 ac (10%)
   - Proposed: To allow 0% of the gross tract area in restricted open space. Proposed Area: 0.07 ac (0%)
10. Section 215-67(A) - Sidewalks
    - Required: To provide a sidewalk along the full frontage of all lots.
    - Proposed: To allow a sidewalk along one side of the street along the Public Street and no sidewalks along the Private Streets.
11. Section 215-74(D) - Streets and Right-of-ways
    - Required: To provide a 50' Right-of-way for Public Streets
    - Proposed: To allow a 22' Right-of-way for Public Streets
      NOTE: ALL PROPOSED STREETS SHALL BE OWNED AND MAINTAINED BY THE HOME OWNERS ASSOCIATION
12. Section 225-69(A) - Streets
    - Required: Each lot shall have frontage on a public street, unless a modification to this requirement is granted to use a private street per Section 225-69(B) - Private Streets
    - Proposed: To request a mod/ification for a Private Street as per Section 225-69(B)(1)-(4)
13. Section 225-69(B)(3) - Streets (Private Streets) - Revised
    - Required: No more than five lots shall front on a Private Street
    - Proposed: The Conditional Use Plans show (5) Townhouse Lots on the Private Street for Phase 2 Lots 204 - 208. The Modification request is to allow (10) Townhouse Units on the proposed Private Street
      (By adding the turn-around area, one unit was removed from the Private Street)

OAKDALE BOROUGH - REQUESTED WAIVERS - LAND DEVELOPMENT SUBMITTAL

1. 373-20 B - Private Streets (Trail Way) - APPROVED OCT 2, 2025 & NOV 6, 2025
   - Required: Private Streets shall meet the following design standards
     a. Provide a 50' Right of Way
     b. Provide a 26' wide paved roadway
   - Proposed: To allow Trail Way with the following design standards
     a. Allow a 30' access easement
     b. Allow a 28' wide paved roadway
2. 208 Attachment #1 - Street Pavement Section - Panhandle Court
   - Required: The typical pavement Section requires a 26' wide roadway
     a: Provide a 26' wide curbline
     b: Provide a 1.5' wide curb
   - Proposed: To allow Panhandle Court with the following design standard - (24' wide pavement)
     a: Provide a 22' wide curbway
     b: Provide a 1.0 wide curb
3. 315-62 - Each Lot shall have Frontage on a Public Street
   - Required: a: Each Lot shall have frontage on a Public Street
     b: To allow Lots 102 & 103 to Front on a Private Street - (Trail Way)
4. 315-41(F) - Streets - Right-of-way - Panhandle Court
   - Required: 50' Right-of-Way for Public Streets
   - Proposed: To allow Panhandle Court to have a 48' Right-of-way for the proposed Public Street
5. 315-41(A) - Streets - Cul-de-sac Length - Panhandle Court
   - Required: The maximum cul-de-sac length is 600 LF
   - Proposed: To allow Panhandle Court to be constructed for an 815 LF cul-de-sac length. (687 LF from the Private Street Intersection - (Trail Way) to the cul-de-sac located in South Fayette Township)
6. 315-44(F) - To Provide a Secondary Access
   - Required: Land Developments containing 25 or more units shall provide a second entrance
   - Proposed: To allow to have one main access and an emergency access off of Trail Way to Union Avenue (Existing topography does not allow a secondary access onto Seminary Avenue.)
7. 315-63(A)(1)(a) - Sidewalks
   - Required: Sidewalks shall be located along local streets within the residential subdivision and sidewalk shall be located within a land development plan proposed to be developed for multi-family residences. (the others as these requirements state both sides of the street)
   - Proposed: To locate a sidewalk on only one side of the street as shown on the site plan and also approved by South Fayette Township. (See attached Ordinance Sections that do not state that sidewalks are not required on both sides of the street.)
8. 300-29(D) - Minimum Storm Sewer Pipe Slope
   - Required: For PUBLIC stormwater pipe shall be less than 15" in diameter that conveys surface runoff and the minimum pipe slope shall be 1.0% grade.
   - Proposed: To have a PRIVATE stormwater pipe with a minimum pipe slope of 0.4%. The pipe size shall be 24" diameter pipe
9. 315-41.D - Street Design Geometry - Panhandle Court
   - Required: Minimum vertical curves of 50 feet plus 20 feet for each 1% change in excess of 3%.
   - Proposed: To have less vertical curve distance at Station 0+82, and 1+28 of Panhandle Court.
10. 315-41.D - Street Design Geometry - Trail Way (Private Street)
    - Required: Minimum vertical curves of 50 feet plus 20 feet for each 1% change in excess of 5%
    - Proposed: To have a Private Street (Trail Way) to have less vertical curve distance.
11. 315-11.B & A.2 - Level of Service for all Streets
    - Require: Ordinance requires a description of existing capacities and level of service of all streets and intersections within 1 000 feet of the site.
    - Proposed: Not to study the Noblestown Road / Union Ave and Ulver Ave / Cedar Ave intersections

NOTES:

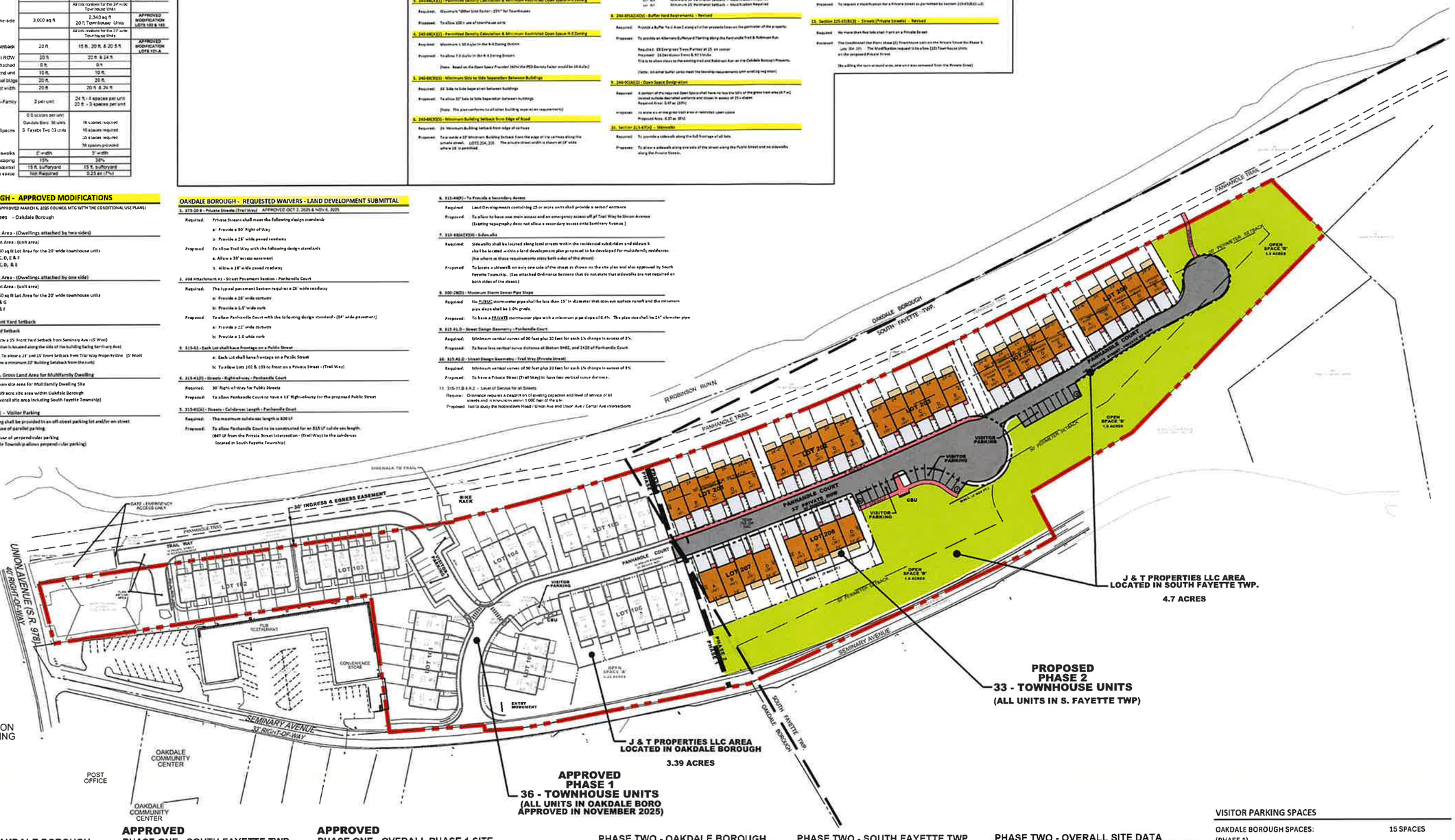
J & T PROPERTIES LLC AREA LOCATED IN OAKDALE BOROUGH
3.39 ACRES - R-2 ZONING DISTRICT (REZONED IN NOVEMBER 2024)

J & T PROPERTIES LLC AREA LOCATED IN SOUTH FAYETTE TOWNSHIP
4.7 ACRES - R-3 ZONING DISTRICT

OAKDALE BOROUGH PROPERTY: 3.39 ACRES - R-2 ZONING DISTRICT (R-2 CONDITIONAL USE)
SOUTH FAYETTE PROPERTY: 4.7 ACRES - R-3 ZONING DISTRICT (OPEN SPACE OVERLAY OPTION)
TOTAL SITE DEVELOPMENT AREA: 8.09 ACRES

1. ALL STREETS SHALL BE PRIVATE AND OWNED AND MAINTAINED BY THE HOA.

NORTH



APPROVED PHASE ONE - OAKDALE BOROUGH

SITE DATA BY PHASE	PHASE ONE
GROSS SITE AREA	3.32 ac
NET SITE AREA	3.17 ac
TOWNHOUSE UNITS	36 du
DENSITY	10.8 du/ac
OPEN SPACE	0.22 ac
% OPEN SPACE	7 %

APPROVED PHASE ONE - SOUTH FAYETTE TWP

SITE DATA BY PHASE	PHASE ONE
GROSS SITE AREA	0.02 ac
NET SITE AREA	0.02 ac
TOWNHOUSE UNITS	0 du
DENSITY	0.0 du/ac
OPEN SPACE	0.00 ac
% OPEN SPACE	0 %

APPROVED PHASE ONE - OVERALL PHASE 1 SITE (BOTH OAKDALE BOROUGH & SOUTH FAYETTE TOWNSHIP)

SITE DATA BY PHASE	PHASE ONE
GROSS SITE AREA	3.34 ac
NET SITE AREA	3.19 ac
TOWNHOUSE UNITS	36 du
DENSITY	10.8 du/ac
OPEN SPACE	0.22 ac
% OPEN SPACE	7 %

PHASE TWO - OAKDALE BOROUGH

SITE DATA BY PHASE	PHASE TWO
GROSS SITE AREA	0.07 ac
NET SITE AREA	0.06 ac
TOWNHOUSE UNITS	0 du
DENSITY	0.0 du/ac
OPEN SPACE	0.04 ac
% OPEN SPACE	60 %

PHASE TWO - SOUTH FAYETTE TWP

SITE DATA BY PHASE	PHASE TWO
GROSS SITE AREA	4.68 ac
NET SITE AREA	4.60 ac
TOWNHOUSE UNITS	33 du
DENSITY	7.1 du/ac
OPEN SPACE	1.90 ac
% OPEN SPACE	41 %

PHASE TWO - OVERALL SITE DATA (BOTH OAKDALE BOROUGH & SOUTH FAYETTE TOWNSHIP)

SITE DATA BY PHASE	PHASE TWO
GROSS SITE AREA	4.75 ac
NET SITE AREA	4.66 ac
TOWNHOUSE UNITS	33 du
DENSITY	6.9 du/ac
OPEN SPACE	1.94 ac
% OPEN SPACE	41 %

VISITOR PARKING SPACES

OAKDALE BOROUGH SPACES: (PHASE 1)	15 SPACES
SOUTH FAYETTE TOWNSHIP SPACES: (PHASE 2)	22 SPACES
	37 TOTAL SPACES

TOTAL TOWNHOUSE UNITS

OAKDALE BOROUGH TOWNHOUSE UNITS: (PHASE 1)	36 UNITS
SOUTH FAYETTE TOWNSHIP TOWNHOUSE UNITS: (PHASE 2)	33 UNITS
	69 TOTAL UNITS

REVISIONS:

PENNSYLVANIA — REGISTERED LANDSCAPE ARCHITECT — Jason Victor

Victor-Werzel Associates
Landscape Architects
400 Rouser Street
Suite 210
Coraopolis, PA 15108
(412) 741-0606
(Fax) 412-741-0066
(E mail) vwa@verizon.net

PM
DB
CH

BOROUGH OF OAKDALE - R-2 MULTI-FAMILY DWELLING ZONING

SOUTH FAYETTE TOWNSHIP - R-3 - OPEN SPACE DESIGN OPTION

WALKERS MILL - TOWNHOUSES R-3 - OPEN SPACE DESIGN
PHASE 2 - FINAL LAND DEVELOPMENT PLANS - S FAYETTE TOWNSHIP

BOROUGH OF OAKDALE & SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY PA

PREPARED FOR:
J&T OAKDALE PROPERTIES, LLC
1321 C McLAUGHLIN ROAD
PITTSBURGH, PA 15241

SITE PLAN - OVERALL

SHT-4A

SCALE 1" = 60'
AT 24 X 36
ISSUE DATE: MARCH 9, 2026
JOB NO. 2023-055

WALKERS MILL TOWNHOUSES - OAKDALE BOROUGH

ZONING COMPARISON CHART - R-2 MULTI-FAMILY CONDITIONAL USE

(SECTIONS 375-12.1 AND SECTION 375-42)

	R-2 MULTI-FAMILY DWELLING	WALKERS MILL TOWNHOUSES	
Conditional Uses - (Sec 375-40)	MULTI-FAMILY DWELLINGS TOWNHOUSES & [illegible]	36 TOWNHOUSE UNITS [illegible]	
Minimum site area	5 acres	3.39 ac - Oakdale 8.09 ac - Overall Site Area	APPROVED MODIFICATION
Maximum number of units	10 du/ac	8.5 du/ac	
Min. lot area - attached - two sides	2,000 sq ft	1,540 sq ft 20 ft Townhouse Units	APPROVED MODIFICATION LOTS 102 & 103
		All lots conform for the 24' wide Townhouse Units	
Min. lot area - attached - one side	3,000 sq ft	2,340 sq ft 20 ft Townhouse Units	APPROVED MODIFICATION LOTS 102 & 103
		All lots conform for the 24' wide Townhouse Units	
Min. front building setback	20 ft	15 ft, 20 ft & 20.5 ft	APPROVED MODIFICATION LOTS 101-A
Min. lot frontage at street ROW	20 ft	20 ft & 24 ft	
Min. side yard - attached	0 ft	0 ft	
Min. side yard - end unit	10 ft	10 ft	
Min. distance between principal bldgs	20 ft	20 ft	
Min. lot width	20 ft	20 ft & 24 ft	
Parking Requirement - Multi-Family	2 per unit	24 ft - 4 spaces per unit 20 ft - 3 spaces per unit	
Visitor Parking Spaces	0.5 spaces per unit Oakdale Boro. 36 units S. Fayette Twp 33 units	18 spaces required 16 spaces required 35 spaces required 36 spaces provided	
Sidewalks	5' width	5' width	
Front yard on lot landscaping	15%	38%	
Bufferyard adjacent to nonresidential	15 ft bufferyard	15 ft bufferyard	
Open space	Not Required	0.25 ac (Plus)	

WALKERS MILL TOWNHOUSES - SOUTH FAYETTE TOWNSHIP

ZONING COMPARISON CHART - R-3 OPEN SPACE DESIGN OPTION

	R-3	R-3 OPEN SPACE DESIGN	WALKERS MILL TOWNHOUSES OPEN SPACE DESIGN	
permitted uses	SINGLE FAMILY DWELLINGS			
special exceptions	R-3 OPEN SPACE DESIGN OPTION	[illegible]	33 TOWNHOUSE UNITS [illegible] IN THE OPEN SPACE DESIGN OPTION	MODIFICATION REQUEST
minimum site area	N/A	25 acres	4.7 ac - S. Fayette Twp 8.09 ac Overall Site Area	MODIFICATION REQUEST
min lot size	10,500 sq ft	N/A	N/A	
site density	N/A	1.35 du/ac (5 units)	34 Units - 7.2 du/ac	MODIFICATION REQUEST
min lot width	80'	N/A	N/A	
min front yard	30'	N/A	N/A	
min rear yard	35'	N/A	N/A	
min side yard	10' [illegible]	N/A	N/A	
side to side separation	N/A	20'	20' Bldg to Bldg	MODIFICATION REQUEST
side to front separation	N/A	30'	N/A	
side to rear separation	N/A	30'	N/A	
front to front separation	N/A	60'	74'	
front to rear separation	N/A	45'	N/A	
rear to rear separation	N/A	45'	N/A	
bldg setback from cartway	N/A	27'	25' From the Public Street 22' From Private Streets	MODIFICATION REQUEST FOR 22'
maximum building length	N/A	240'	121'	
max bldg height	45'	45'	Under 45'	
parking	2.5 du	2.5 du	4 du	
visitor parking	NA	NA	25 Spaces	
4' sidewalk	Along All Lots	Along All Lots	[illegible]	MODIFICATION REQUEST
open space	NA	40% (1.87 ac)	1.87 ac (40%)	
perimeter setback	NA	50'	Min. 20' from Perimeter	MODIFICATION REQUEST
open space designation in areas less than 25% slopes	NA	10% of Gross Tract Area 0.47 ac	0.37 ac (8%)	MODIFICATION REQUEST

NOTE: THIS ZONING CHART WAS APPROVED BY THE SOUTH FAYETTE TOWNSHIP BOARD OF COMMISSIONERS ON JULY 10, 2024

SOUTH FAYETTE TOWNSHIP - MODIFICATION REQUEST APPROVED

Walkers Mill Townhouses - South Fayette Township

Article XIV - Open Space Design Option

1. 240-86 - Eligibility

Required: Minimum Site Area for R-3 Site: 25 acres

Proposed: 4.70 acres - (S. Fayette Township)
8.09 acres - (Overall Site Area)

2. 240-87(A) - General Regulations

Required: No Townhouse Units Permitted in the R-3 Zoning District

Proposed: To allow Townhouse Units

3. 240-88(A)(1) - Permitted Density Calculation & Minimum Restricted Open Space R-3 Zoning

Required: Maximum "Other Unit Factor - 25%" for Townhouses

Proposed: To allow 100% use of townhouse units

4. 240-88(A)(7) - Permitted Density Calculation & Minimum Restricted Open Space R-3 Zoning

Required: Maximum 1.35 du/ac in the R-3 Zoning District

Proposed: To allow 7.2 du/ac in the R-3 Zoning District

(Note: Based on the Open Space Provided (40%) the PRD Density Factor would be 14 du/ac)

5. 240-88(B)(1) - Minimum Side to Side Separation Between Buildings

Required: 33' Side to Side Separation between buildings

Proposed: To allow 20' Side to Side Separation between buildings

(Note: The plan conforms to all other building separation requirements)

6. 240-88(B)(1) - Minimum Building Setback from Edge of Road

Required: 25' Minimum Building Setback from edge of cartway

Proposed: To provide a 22' Minimum Building Setback from the edge of the cartway along the private street. (375-204, 205) The private street width is shown at 18' wide where 16' is permitted.

7. 240-88(B)(4) - Perimeter Property Line Setback - Revised

Required: Provide a 50' Perimeter Boundary Building Setback

Proposed: To allow a minimum 23' Perimeter Setback at Unit 302(B). The units along the northern property line (Panhandle Trail Side) are the units that are requesting this modification. Below is the Perimeter Setback Distance for each lot:

Lot 201: Minimum 31' Perimeter Setback - Modification Required
Lot 202: Minimum 30' Perimeter Setback - Modification Required
Lot 203: Minimum 30' Perimeter Setback - Modification Required
Lot 206: Minimum 57' Perimeter Setback - (No Modification Required)
Lot 207: Minimum 52' Perimeter Setback - (No Modification Required)
Lot 208: Minimum 30' Perimeter Setback - Modification Required
Lot 209: Minimum 25' Perimeter Setback - Modification Required

8. 240-89(A)(4)(D) - Buffer Yard Requirements - Revised

Required: Provide a Buffer Yard Area C along all other property lines on the perimeter of the property

Proposed: To provide an Alternate Bufferyard Planting along the Panhandle Trail & Robinson Run

Required: 88 Evergreen Trees Planted at 15' on center
Proposed: 24 Deciduous Trees & 80 Shrubs
This is to allow views to the existing trail and Robinson Run on the Oakdale Borough Property

(Note: All other buffer yards meet the township requirements with existing vegetation)

9. 240-90(A)(2) - Open Space Designation

Required: A portion of the required Open Space shall have no less the 10% of the gross tract area (4.7 ac) located outside designated wetlands and slopes in excess of 25% slopes
Required Area: 0.47 ac (10%)

Proposed: [illegible] of the gross tract area in restricted open space
Proposed Area: 0.37 ac (8%)

10. Section 215-67(A) - Sidewalks

Required: To provide a sidewalk along the full frontage of all lots.

Proposed: To allow a sidewalk along one side of the street along the Public Street and no sidewalks along the Private Streets.

11. Section 215-74(D) - Streets and Right-of-ways

Required: To provide a 50' Right-of-way for Public Streets

Proposed: To allow a 33' Right-of-way for Public Streets

NOTE: ALL PROPOSED STREETS WILL BE OWNED AND MAINTAINED BY THE HOME OWNERS ASSOCIATION

12. Section 215-65(A) - Streets

Required: Each lot shall have frontage on a public street, unless a modification to this requirement is granted to use a Private Street per Section 215-65(B) - Private Streets

Proposed: To request a modification for a Private Street as permitted by Section 215-65(B)(1-12)

13. Section 215-65(B)(3) - Streets (Private Streets) - Revised

Required: No more than five lots shall front on a Private Street

Proposed: The Conditional Use Plans show (22) Townhouse Lots on the Private Street for Phase 2 ... 205 ... The Modification request is to allow (18) Townhouse Units on the proposed Private Street

(By adding the turn around area, one unit was removed from the Private Drive)

NOTE: THE REQUESTED MODIFICATION WAS APPROVED BY THE SOUTH FAYETTE TOWNSHIP BOARD OF COMMISSIONERS ON JULY 10, 2024

NOTES:

J & T PROPERTIES LLC AREA LOCATED IN OAKDALE BOROUGH

3.39 ACRES - R-2 ZONING DISTRICT (REZONED IN NOVEMBER 2024)

J & T PROPERTIES LLC AREA LOCATED IN SOUTH FAYETTE TOWNSHIP

4.7 ACRES - R-3 ZONING DISTRICT

OAKDALE BOROUGH PROPERTY: 3.39 ACRES - R-2 ZONING DISTRICT (R-2 CONDITIONAL USE)

SOUTH FAYETTE PROPERTY: 4.7 ACRES - R-3 ZONING DISTRICT (OPEN SPACE OVERLAY OPTION)

TOTAL SITE DEVELOPMENT AREA: 8.09 ACRES

1. ALL STREETS SHALL BE PRIVATE AND OWNED AND MAINTAINED BY THE HOA.

NORTH

OAKDALE BOROUGH - APPROVED MODIFICATIONS

(THESE MODIFICATIONS WERE APPROVED MARCH 6, 2025 COUNCIL MTG WITH THE CONDITIONAL USE PLANS)

Walkers Mill Townhouses - Oakdale Borough

1. 375-12.1(A)(1) - Min Lot Area - (Dwellings attached by two sides)

Required: 2,000 sq ft Lot Area - (unit area)

Proposed: To allow 1,540 sq ft Lot Area for the 20' wide townhouse units
Lot 102 - B,C, D, E & F
Lot 103 - B,C, D, & E

2. 375-12.1(A)(2) - Min Lot Area - (Dwellings attached by one side)

Required: 3,000 sq ft Lot Area - (unit area)

Proposed: To allow 2,350 sq ft Lot Area for the 20' wide townhouse units
Lot 102 - A & G
Lot 103 - A & F

3. 375-12.1(A)(3) - Min Front Yard Setback

Required: 20' Front Yard Setback

Proposed: Lot 101: To allow a 15' Front Yard Setback from Seminary Ave - (5' Mod)
(This modification is located along the side of the building facing Seminary Ave)

Lot 102 & 103: To allow a 11' and 15' Front Setback from Trail Way Property Line - (5' Mod)
(The plans show a minimum 22' Building Setback from the curb)

4. 375-42(A)(1)(1)(i) - Min. Gross Land Area for Multifamily Dwelling

Required: 5 acre minimum site area for Multifamily Dwelling Site

Proposed: To allow a 3.39 acre site area within Oakdale Borough
(8.09 acres overall site area including South Fayette Township)

5. 375-42(A)(1)(1)(ii)(b)(iii) - Visitor Parking

Required: Visitor parking shall be provided in an off street parking lot and/or on street through the use of parallel parking.

Proposed: To allow the use of perpendicular parking
(South Fayette Township allows perpendicular parking)

OAKDALE BOROUGH - REQUESTED WAIVERS - LAND DEVELOPMENT SUBMITTAL

1. 375-20.3 - Private Streets (Trail Way) APPROVED OCT 2, 2025 & NOV 6, 2025

Required: Private Streets shall meet the following design standards
a: Provide a 50' Right of Way
b: Provide a 26' wide paved roadway

Proposed: To allow Trail Way with the following design standards
a: Allow a 30' access easement
b: Allow a 18' wide paved roadway

2. 309 Attachment #1 - Street Pavement Section - Panhandle Court

Required: The typical pavement Section requires a 28' wide roadway
a: Provide a 23' wide cartway
b: Provide a 1.5' wide curb

Proposed: To allow Panhandle Court with the following design standard - (24' wide pavement)
a: Provide a 22' wide cartway
b: Provide a 1.0 wide curb

3. 315-12 - Each Lot shall have Frontage on a Public Street

a: Each Lot shall have frontage on a Public Street
b: To allow Lots 102 & 103 to front on a Private Street - (Trail Way)

4. 315-41(F) - Streets - Rightofway - Panhandle Court

Required: 50' Right-of-Way for Public Streets

Proposed: To allow Panhandle Court to have a 33' Right-of-way for the proposed Public Street

5. 315-41(A) - Streets - Culdesac Length - Panhandle Court

Required: The maximum cul-de-sac length is 600 LF

Proposed: To allow Panhandle Court to be constructed for an 815 LF culdesac length (667 LF from the Private Street Intersection - (Trail Way) to the culdesac located in South Fayette Township)

6. 315-44(F) - To Provide a Secondary Access

Required: Land Developments containing 25 or more units shall provide a second entrance

Proposed: To allow to have one main access and an emergency access off of Trail Way to Union Avenue
(Existing topography does not allow a secondary access onto Seminary Avenue.)

7. 315-43(A)(4)(d) - Sidewalks

Required: Sidewalks shall be located along local streets within the residential subdivision and sidewalk shall be located within a land development plan proposed to be developed for multi-family residences
(Be where in those requirements state both sides of the street)

Proposed: To locate a sidewalk on only one side of the street as shown on the site plan and also approved by South Fayette Township. (See attached Ordinance Sections that do not state that sidewalks are not required on both sides of the street.)

8. 300-26(D) - Minimum Storm Sewer Pipe Slope

Required: No PUBLIC stormwater pipe shall be less than 15" in diameter that conveys surface runoff and the minimum pipe slope shall be 1.0% grade

Proposed: To have a PRIVATE stormwater pipe with a minimum pipe slope of 0.4%. The pipe size shall be 24" diameter pipe.

9. 315-41.D - Street Design Geometry - Panhandle Court

Required: Minimum vertical curves of 50 feet plus 20 feet for each 1% change in excess of 1%

Proposed: To have less vertical curve distance at Station 0+42, and 1+20 of Panhandle Court

10. 315-41.D - Street Design Geometry - Trail Way (Private Street)

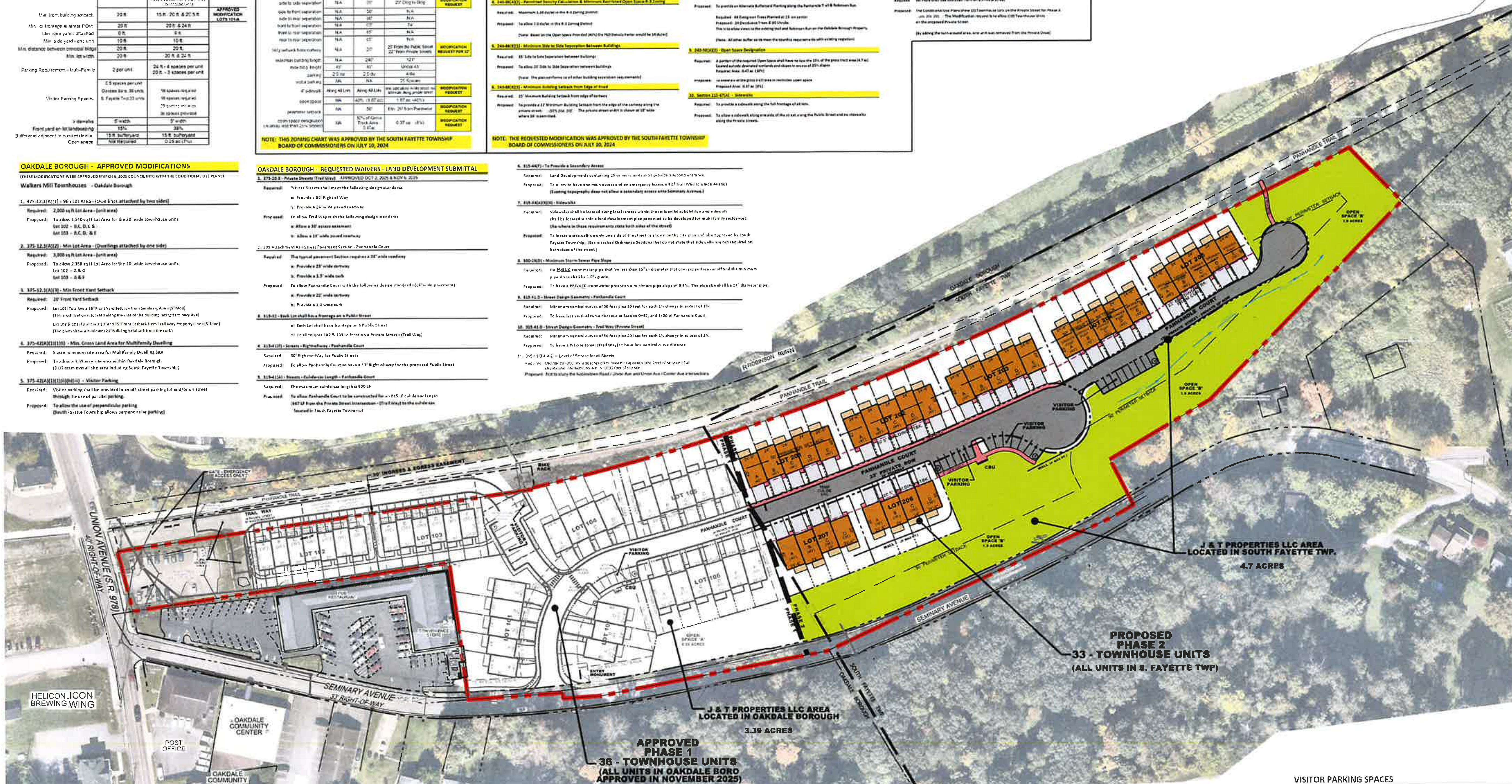
Required: Minimum vertical curves of 50 feet plus 20 feet for each 1% change in excess of 1%

Proposed: To have a Private Street (Trail Way) to have less vertical curve distance

11. 315-11 B 4 A 2 - Level of Service for all Streets

Required: Ordinance requires a description of existing capacities and level of service of all streets and intersections within 1,000 feet of the site

Proposed: Not to study the Hollenbeck Road / Union Ave and Union Ave / Center Ave intersections



APPROVED PHASE ONE - OAKDALE BOROUGH

SITE DATA BY PHASE	PHASE ONE
GROSS SITE AREA	3.32 ac
NET SITE AREA	3.17 ac
TOWNHOUSE UNITS	36 du
DENSITY	10.8 du/ac
OPEN SPACE	0.22 ac
% OPEN SPACE	7 %

APPROVED PHASE ONE - SOUTH FAYETTE TWP

SITE DATA BY PHASE	PHASE ONE
GROSS SITE AREA	0.02 ac
NET SITE AREA	0.02 ac
TOWNHOUSE UNITS	0 du
DENSITY	0.0 du/ac
OPEN SPACE	0.00 ac
% OPEN SPACE	0 %

APPROVED PHASE ONE - OVERALL PHASE 1 SITE

(BOTH OAKDALE BOROUGH & SOUTH FAYETTE TOWNSHIP)

SITE DATA BY PHASE	PHASE ONE
GROSS SITE AREA	3.34 ac
NET SITE AREA	3.19 ac
TOWNHOUSE UNITS	36 du
DENSITY	10.8 du/ac
OPEN SPACE	0.22 ac
% OPEN SPACE	7 %

PHASE TWO - OAKDALE BOROUGH

SITE DATA BY PHASE	PHASE TWO
GROSS SITE AREA	0.07 ac
NET SITE AREA	0.06 ac
TOWNHOUSE UNITS	0 du
DENSITY	0.0 du/ac
OPEN SPACE	0.04 ac
% OPEN SPACE	60 %

PHASE TWO - SOUTH FAYETTE TWP

SITE DATA BY PHASE	PHASE TWO
GROSS SITE AREA	4.68 ac
NET SITE AREA	4.60 ac
TOWNHOUSE UNITS	33 du
DENSITY	7.1 du/ac
OPEN SPACE	1.90 ac
% OPEN SPACE	41 %

PHASE TWO - OVERALL SITE DATA

(BOTH OAKDALE BOROUGH & SOUTH FAYETTE TOWNSHIP)

SITE DATA BY PHASE	PHASE TWO
GROSS SITE AREA	4.75 ac
NET SITE AREA	4.66 ac
TOWNHOUSE UNITS	33 du
DENSITY	6.9 du/ac
OPEN SPACE	1.94 ac
% OPEN SPACE	41 %

VISITOR PARKING SPACES

OAKDALE BOROUGH SPACES: (PHASE 1)	15 SPACES
SOUTH FAYETTE TOWNSHIP SPACES: (PHASE 2)	22 SPACES
	37 TOTAL SPACES

TOTAL TOWNHOUSE UNITS

OAKDALE BOROUGH TOWNHOUSE UNITS: (PHASE 1)	36 UNITS
SOUTH FAYETTE TOWNSHIP TOWNHOUSE UNITS: (PHASE 2)	33 UNITS
	69 TOTAL UNITS

REVISIONS:

PENNSYLVANIA REGISTERED LANDSCAPE ARCHITECT

Victor-Weizel Associates Landscape Architects

409 Broad Street
Suite 270
Sewickley, PA 15143
(Office) 412-741-2290
(Fax) 412-741-0506
(E-mail) vwa@vwla.net

PM: DR: CK:

BOROUGH OF OAKDALE - R-2 MULTI-FAMILY DWELLING ZONING

SOUTH FAYETTE TOWNSHIP - R-3 - OPEN SPACE DESIGN OPTION

WALKERS MILL - TOWNHOUSES

PHASE 2 - FINAL LAND DEVELOPMENT PLANS - S FAYETTE TOWNSHIP

BOROUGH OF OAKDALE & SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY PA

PREPARED FOR:
J&T OAKDALE PROPERTIES, LLC
1321-C McLAUGHLIN ROAD
PITTSBURGH, PA 15241

SITE PLAN - OVERALL

SHT-4A

SCALE 1" = 60' AT 24 X 36

ISSUE DATE MARCH 6, 2026

JOB NO 2023-055

WALKERS MILL TOWNHOUSES - SOUTH FAYETTE TOWNSHIP

ZONING COMPARISON CHART - R-3 OPEN SPACE DESIGN OPTION

	R-3	R-3 OPEN SPACE DESIGN	WALKERS MILL TOWNHOUSES - OPEN SPACE DESIGN	
permitted uses	Single Family Detached			
special exceptions	Multi-Family Dwellings, Public Recreation, Churches and related uses, Nursing Homes, Personal Care Boarding Homes, Hospitals, Clinics, Cemeteries, Golf Courses, Municipal Uses, Day Care Facilities, Schools, Utility Substations, Conversion Apartments, Bed and Breakfast Establishments, Group Homes, Home Occupations, Agriculture, Forestry, Mineral Extraction, Wireless Communications Facilities			MODIFICATION REQUEST
minimum site area	NA	25 acres	4.7 ac - S. Fayette Twp 8.39 ac Overall Site Area	MODIFICATION REQUEST
min lot size	80,500 sq ft	N/A	N/A	
site density	NA	1.93 du/ac (3 Units)	34 Units - 7.3 du/ac	MODIFICATION REQUEST
min lot width	80'	N/A	N/A	
min front yard	30'	N/A	N/A	
min rear yard	35'	N/A	N/A	
min side yard	10' ea side	N/A	N/A	
side to side separation	N/A	20'	20' Bldg to Bldg	MODIFICATION REQUEST
side to front separation	N/A	30'	N/A	
side to rear separation	N/A	30'	N/A	
front to front separation	N/A	60'	74'	
front to rear separation	N/A	60'	N/A	
rear to rear separation	N/A	60'	N/A	
bldg setback from roadway	N/A	25'	22' From the Public Street 22' from Private Streets	MODIFICATION REQUEST FOR 22'
maximum building length	N/A	240'	124'	
max bldg height	45'	40'	Under 45'	
parking	2.5 /du	2.5 /du	4 /du	
more parking	NA	NA	25 Spaces	
4' sidewalk	Along All Lots	Along All Lots	One side along public street; no sidewalk along private street	MODIFICATION REQUEST
open space	NA	40% (8.67 ac)	1.97 ac (42%)	
perimeter setback	NA	50'	Min. 50' from Perimeter	MODIFICATION REQUEST
open space designated on developments over 20% slopes	NA	10% of Gross Track Area = 0.87 ac	0.92 ac (11%)	MODIFICATION REQUEST

NOTE: THIS ZONING CHART WAS APPROVED BY THE SOUTH FAYETTE TOWNSHIP BOARD OF COMMISSIONERS ON JULY 10, 2024

SOUTH FAYETTE TOWNSHIP - MODIFICATION REQUEST

Walkers Mill Townhouses - South Fayette Township

Article XIV - Open Space Design Option

1. 240-86 - Eligibility
Required: Minimum tract size for R-3 Dist. 25 acres
Proposed: 4.70 acres - (S. Fayette Township)
8.09 acres - (Due to Site Area)

2. 240-87(A) - General Regulations
Required: No Townhouse units Permitted in the R-3 Zoning District
Proposed: To allow Townhouse Units

3. 240-88(A)(1) - Permitted Density Calculation & Minimum Restricted Open Space-R-3 Zoning
Required: Maximum * Other limit factor - 25%* for Townhouses
Proposed: To allow 100% use of townhouse units

4. 240-88(A)(3) - Permitted Density Calculation & Minimum Restricted Open Space-R-3 Zoning
Required: Maximum 6.93 du/ac in the R-3 Zoning District
Proposed: To allow 7.3 du/ac in the R-3 Zoning District
(Note: Based on the Open Space Provided (40%) the PED Density Factor would be 14 du/ac)

5. 240-88(B)(1) - Minimum Side to Side Separation Between Buildings
Required: 35' Side to Side Separation between Buildings
Proposed: To allow 20' Side to Side Separation between buildings
(Note: The plan conforms to all other building separation requirements)

6. 240-88(D)(5) - Minimum Building Setback from Edge of Road
Required: 25' Minimum Building Setback from edge of roadway
Proposed: To provide a 22' Minimum Building Setback from the edge of the roadway along the private street (Lots 201, 202, 203) The private street width is shown at 24' wide where 28' is permitted.

7. 240-89(B)(1b) - Perimeter Property Line Setback - Revised
Required: Provide a 50' Perimeter Boundary Building Setback
Proposed: To allow a min-mum 20' Perimeter Setback at Unit 202B1. The units along the northern property line (Panhandle Trail Side) are the units that are requesting this modification. Below is the Perimeter Setback Distance for each lot:

Lot 201:	Minimum 21' Perimeter Setback - Modification Required
Lot 202:	Minimum 20' Perimeter Setback - Modification Required
Lot 203:	Minimum 30' Perimeter Setback - Modification Required
Lot 204:	Minimum 87' Perimeter Setback - (No Modification Required)
Lot 205:	Minimum 83' Perimeter Setback - (No Modification Required)
Lot 206:	Minimum 52' Perimeter Setback - Modification Required
Lot 207:	Minimum 25' Perimeter Setback - Modification Required

8. 240-89(A)(4)(b) - Buffer Yard Requirements - Revised
Required: A visible a Buffer Yard A-xx C along all other property lines on the perimeter of the property.
Proposed: To provide an Alternate Bufferyard Planting along the Fernwalk Trail & Robinson Run
Required: 69 Evergreen Trees Planted at 15' on-center
Proposed: 24 Deciduous Trees & 90 Shrubs
This is to allow views to the existing trail and Robinson Run on the Oakdale Borough Property.
(Note: All other buffer yards meet the landscape requirements with existing vegetation)

9. 240-90(A)(2) - Open Space Designation
Required: A portion of the required Open Space shall have to see the 50% of the gross tract area (8.7 ac) located outside designated wetlands and slopes in excess of 25% slope
Required Area: 8.47 ac (50%)
Proposed: 10 Acres or 60% of the gross tract area or restricted open space
Proposed Area: 5.97 ac (35%)

10. Section 215-87(A) - Sidewalks
Required: To provide a sidewalk along the full frontage of all lots.
Proposed: To allow a sidewalk along one side of the street along the Public Street and no sidewalks along the Private Streets.

11. Section 215-74(D) - Streets and Right-of-ways
Required: To provide a 50' Right-of-way for Public Streets
Proposed: To allow a 22' right-of-way for Public Streets
NOTE: ALL PRIVATE STREETS SHALL BE OWNED AND MAINTAINED BY THE HOME OWNERS ASSOCIATION

12. Section 215-65(A) - Streets
Required: Each lot shall have frontage on a public street, unless a modification to this requirement is granted to use a Private Street per Section 215-65(B) - Private Streets
Proposed: To request a modification for a Private Street as permitted by Section 215-65(B)(1-13)

13. Section 215-65(B)(2) - Streets (Private Streets) - Revised
Required: No more than five lots shall front on a Private Street
Proposed: The Conditional Use Plans show (3) Townhouse Lots on the Private Street for Phase 1; Lots 204-206. The Modification request is to allow (33) Townhouse Units on the proposed Private Street.
(By adding the turn-a-round area, one unit was removed from the Private Drive)

NOTE: THIS REQUESTED MODIFICATION WAS APPROVED BY THE SOUTH FAYETTE TOWNSHIP BOARD OF COMMISSIONERS ON JULY 10, 2024

PHASE TWO - OAKDALE BOROUGH

SITE DATA BY PHASE	PHASE TWO
GROSS SITE AREA	0.07 ac
NET SITE AREA	0.06 ac
TOWNHOUSE UNITS	0 du
DENSITY	0.0 du/ac
OPEN SPACE	0.04 ac
% OPEN SPACE	60 %

PHASE TWO - SOUTH FAYETTE TWP

SITE DATA BY PHASE	PHASE TWO
GROSS SITE AREA	4.68 ac
NET SITE AREA	4.60 ac
TOWNHOUSE UNITS	33 du
DENSITY	7.1 du/ac
OPEN SPACE	1.90 ac
% OPEN SPACE	41 %

PHASE TWO - OVERALL SITE DATA

(BOTH OAKDALE BOROUGH & SOUTH FAYETTE TOWNSHIP)

SITE DATA BY PHASE	PHASE TWO
GROSS SITE AREA	4.75 ac
NET SITE AREA	4.66 ac
TOWNHOUSE UNITS	33 du
DENSITY	6.9 du/ac
OPEN SPACE	1.94 ac
% OPEN SPACE	41 %

NORTH

PHASE 2
33 - TOWNHOUSE UNITS
(ALL UNITS IN S. FAYETTE TWP)

NOTE: PHASE 2 & 3 WILL BE COMBINED INTO JUST ONE PHASE - PHASE 2
33 - TOWNSHOUSE UNITS IN PHASE 2
(ALL UNITS IN S. FAYETTE TWP)

APPROVED PHASE 1
36 - TOWNHOUSE UNITS
(ALL UNITS IN OAKDALE BOROUGH)

OAKDALE BOROUGH
SOUTH FAYETTE TWP.
ROBINSON RUN
PANHANDLE TRAIL
PANHANDLE COURT
PRIVATE ROW
24' ROADWAY
LOT 201
LOT 202
LOT 203
LOT 204
LOT 205
LOT 206
LOT 207
LOT 105
LOT 106
PHASE 1
PHASE 2
50' PERIMETER SETBACK
OPEN SPACE 'B'
1.9 ACRES
VISITOR PARKING
CBU
WALL (5' MAX HT.)
UTILITY EASEMENT
10' SIDE STBK.
20.5' BUILDING STBK.
5' SIDEWALK
TEMP CUL-DE-SAC TO BE REMOVED
SEMINARY AVENUE
OPEN SPACE 'B'
1.9 ACRES

NOTES:

J & T PROPERTIES LLC AREA LOCATED IN OAKDALE BOROUGH	OAKDALE BOROUGH PROPERTY:	3.39 ACRES - R-2 ZONING DISTRICT (R-2 CONDITIONAL USE)
3.39 ACRES - R-2 ZONING DISTRICT (REZONED IN NOVEMBER 2024)	SOUTH FAYETTE PROPERTY:	4.7 ACRES - R-3 ZONING DISTRICT (OPEN SPACE OVERLAY OPTION)
J & T PROPERTIES LLC AREA LOCATED IN SOUTH FAYETTE TOWNSHIP	TOTAL SITE DEVELOPMENT AREA:	8.09 ACRES
4.7 ACRES - R-3 ZONING DISTRICT		

1. ALL STREETS SHALL BE PRIVATE AND OWNED AND MAINTAINED BY THE HOA.

PHASE 2 - TOWNHOUSE SITE PLAN

J & T PROPERTIES PROPERTY AREA

OAKDALE BOROUGH:	0 TOWNHOUSE UNITS
SOUTH FAYETTE TWP.:	33 TOWNHOUSE UNITS

TOTAL TOWNHOUSE UNITS: 33 TOTAL UNITS - PHASE 2

REVISIONS:

COMMONWEALTH OF PENNSYLVANIA — REGISTERED LANDSCAPE ARCHITECT — Steven Victor

Victor-Wetzel Associates Landscape Architects

409 Broad Street
Sewickley, PA 15143
(412) 741-0006
Fax: 412-741-0006
E mail: vwla@verizon.net

PM: ____
DR: ____
CK: ____

BOROUGH OF OAKDALE - R-2 MULTI-FAMILY DWELLING ZONING

SOUTH FAYETTE TOWNSHIP - R-3 - OPEN SPACE DESIGN OPTION

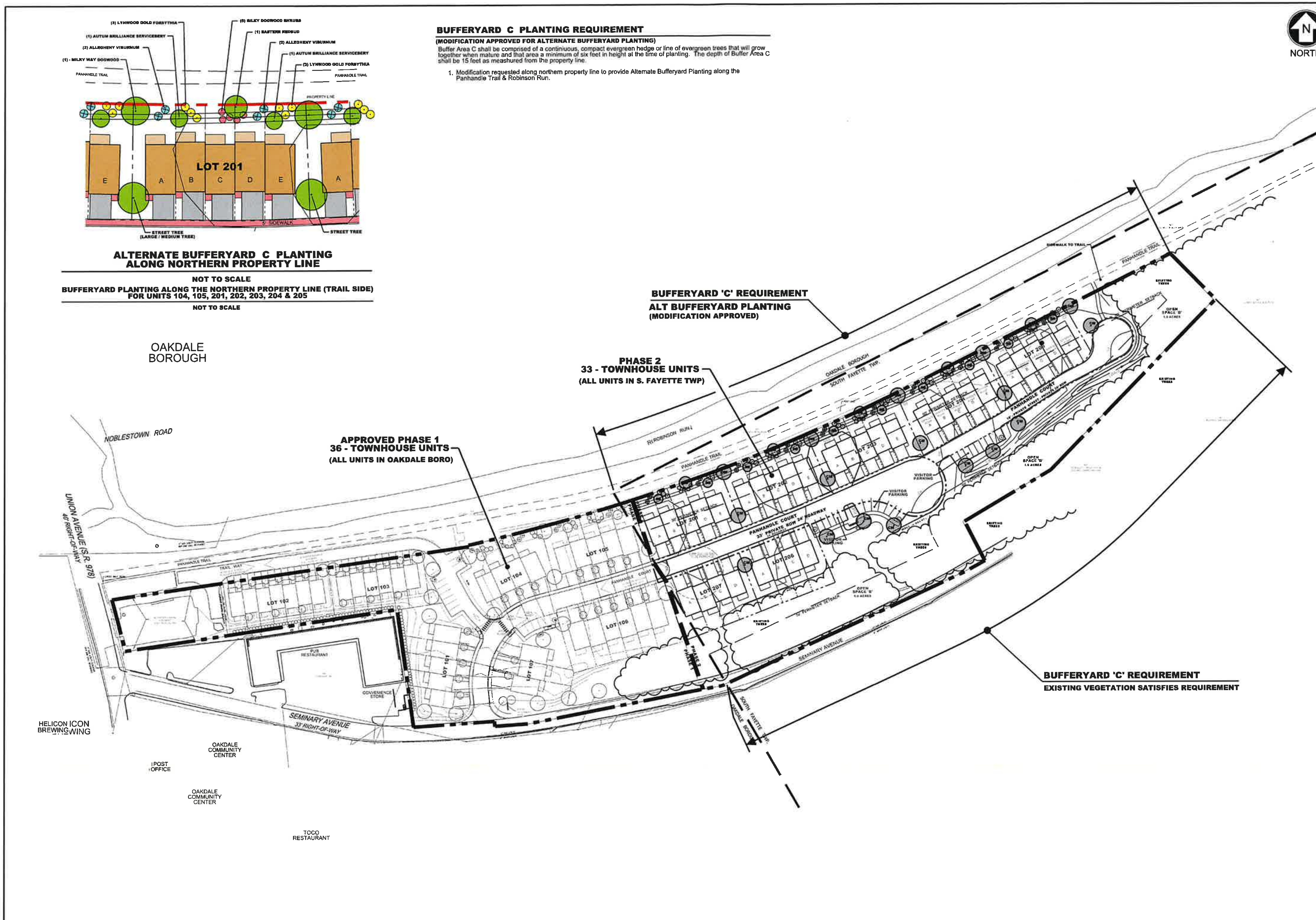
WALKERS MILL - TOWNHOUSES R-3 - OPEN SPACE DESIGN
PHASE 2 - FINAL LAND DEVELOPMENT PLANS - S FAYETTE TOWNSHIP
BOROUGH OF OAKDALE & SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY PA

PREPARED FOR:
J&T OAKDALE PROPERTIES, LLC
1527 LAMA MOUNTAIN ROAD
PITTSBURGH, PA 15241

SITE PLAN - DETAIL AREA

SHT-4B

SCALE 1" = 30'
AT 24 X 36
ISSUE DATE MARCH 9 2026
JOB NO 2023-055



REVISIONS:

PENNSYLVANIA REGISTERED LANDSCAPE ARCHITECT

Victor-Wetzel Associates Landscape Architects

409 Broad Street Suite 270 Sewickley, PA 15143 [Office] 412-741-2290 [Fax] 412-741-0506 [E-mail] vwa@vwa.net

PM ____
DB ____
CB ____

BOROUGH OF OAKDALE -
R-2 MULTI-FAMILY DWELLING ZONING

SOUTH FAYETTE TOWNSHIP -
R-3 - OPEN SPACE DESIGN OPTION

WALKERS MILL - TOWNHOUSES R-3 - OPEN SPACE DESIGN
PHASE 2 - FINAL LAND DEVELOPMENT PLANS - S FAYETTE TOWNSHIP
BOROUGH OF OAKDALE & SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY PA

PREPARED FOR:
J&T OAKDALE PROPERTIES, LLC
1321-C McLAUGHLIN ROAD
PITTSBURGH, PA 15241

LANDSCAPE PLAN - OVERALL

SHT-5A

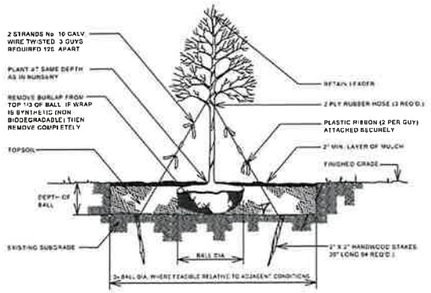
SCALE 1" = 60 AT 24 X 36
ISSUE DATE MARCH 9 2026
JOB NO 2023-055

CLUSTER BOX UNIT:

- SUPPLIER: SELECT COMMERCIAL MAILBOXES
- MODEL: FLORENCE 1570-12 - 12 UNIT +1 PACKAGE LOCKER
- COLOR: BLACK
- TOTAL CBU STRUCTURES (3) (36 UNITS & 3 PACKAGE LOCKERS

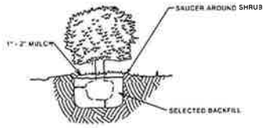
CLUSTER BOX UNIT DESIGN

NOT TO SCALE



TREE PLANTING DETAIL

NOT TO SCALE



SHRUB PLANTING

NOT TO SCALE

LIGHTING LEGEND

- POST LIGHT FIXTURE (LOCATED AT CBU)
- RESIDENTIAL BUILDING MOUNT FIXTURE (LOCATED UPPER RIGHT OF ENTRY DOOR & CENTER ABOVE GARAGE DOOR)
- UPLIGHTING (BOTH SIDES OF DOUBLE SIDED MONUMENT SIGN)

NORTH

OAKDALE BOROUGH
SOUTH FAYETTE TWP.
ROBINSON RUN
N/F COUNTY OF ALLEGHENY
PANHANDLE TRAIL
POST CAP
LOT 203
LOT 202
LOT 201
LOT 204
LOT 205
LOT 206
LOT 207
LOT 105
LOT 106
PANHANDLE COURT
18' - PRIVATE STREET - PRIVATE 20' ROW
PANHANDLE COURT
33' PRIVATE ROW
24' ROADWAY
50' PERIMETER SETBACK
OPEN SPACE 'B'
1.9 ACRES
EXISTING TREES
SWALE
VISITOR PARKING
CBU
WALL (4' MAX HT.)
TEMP CUL-DE SAC TO BE REMOVED
PHASE 1
PHASE 2
STORM EASEMENT
20' STORM EASEMENT
N/F MCMULLEN, CARLA JANE & COLLINS, DANIEL WILLIAM
PANTE

PHASE 2
33 - TOWNHOUSE UNITS
(ALL UNITS IN S. FAYETTE TWP)

APPROVED PHASE 1
OAKDALE BORO

PHASE 2 - PLANT LIST

SYM.	QTY.	COMMON NAME	BOTANICAL NAME	SIZE	REMARKS
LARGE / MEDIUM TREES					
CM	12	Celebration Maple	ACER x freemanii 'Celebration'	2-1/2" cal.	B & B
DW	5	Milky Way Dogwood	CORNUS kousa var. chinensis 'Milky Way'	2-1/2" cal.	B & B
SMALL TREES					
SB	10	Autumn Brilliance Serviceberry	AMELANCHIER x grandiflora 'Autumn Brilliance'	1-3/4" cal.	B & B
RB	5	Appalachian Red Red Bud	CERCIS canadensis 'Appalachian Red'	1-3/4" cal.	B & B
SHRUBS					
-	25	Silky Dogwood	CORNUS amomum	30" spd	#5 CONT.
-	30	Lynwood Gold Forsythia	FORSYTHIA x i. 'Lynwood Gold'	30" spd	#5 CONT.
-	20	Allegheny Viburnum	Viburnum x rhytidophylloides 'Allegheny'	30" spd	#5 CONT.

NOTES:

1. PRIOR TO ANY PLANTING, ROTOTILL IN 2" LAYER OF COMPOST INTO TOP 12" OF EXISTING TOPSOIL.
2. EACH PLANT MUST BE FREE FROM DISEASE, INSECT INFESTATION, AND MECHANICAL INJURIES IN ALL RESPECTS, BE READY FOR FIELD PLANTING
3. ALL PLANTINGS WILL BE GUARANTEED FROM THE PERIOD OF INSTALLATION FOR A PERIOD OF ONE YEAR FROM THE DATE OF INSTALLATION
4. ALL PLANTS MUST CONFORM TO THE AMERICAN STANDARDS FOR NURSERYMEN STOCK IN REGARDS TO SIZING GROWING AND B&B SPECIFICATIONS
5. IF DECIDUOUS TREES ARE PLANTED IN THE FALL THEN THEY SHALL BE STAKED FOR ONE SEASON. IF PLANTING OCCURS IN THE SPRING, THEN NO STAKING IS REQUIRED.
6. ALL TREES AND SHRUBS TO HAVE 3' DIAMETER MULCH CIRCLE AROUND TRUNK FOR MOISTURE RETENTION.
7. ALL DISTURBED / UNPAVED AREAS SHALL BE TOPSOIL AND SEEDED, UNLESS OTHERWISE NOTED. REFER TO E&S PLANS FOR SEED MIXTURE

REVISIONS:

COMMONWEALTH OF PENNSYLVANIA — REGISTERED LANDSCAPE ARCHITECT — Steven Victor

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E-mail vwla@msn.com

PM
DB
CB

BOROUGH OF OAKDALE - R-2 MULTI-FAMILY DWELLING ZONING

SOUTH FAYETTE TOWNSHIP - R-3 - OPEN SPACE DESIGN OPTION

WALKERS MILL - TOWNHOUSES R-3 - OPEN SPACE DESIGN

PHASE 2 - FINAL LAND DEVELOPMENT PLANS - S FAYETTE TOWNSHIP

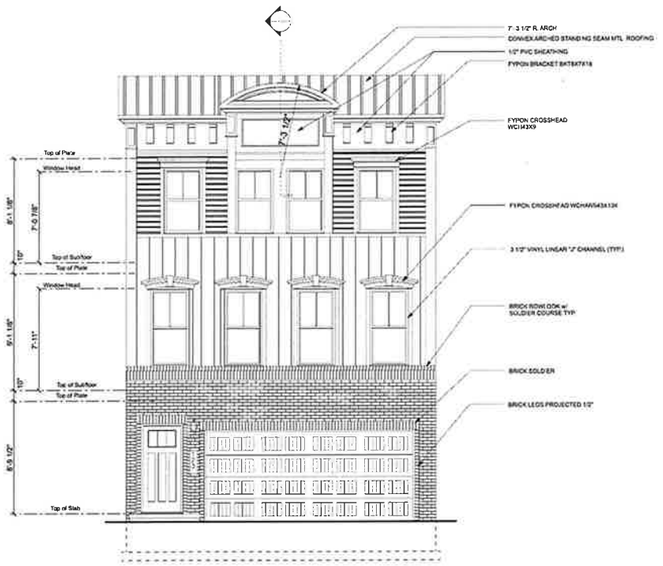
BOROUGH OF OAKDALE & SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY PA

PREPARED FOR:
J&T OAKDALE PROPERTIES, LLC
1371 CAMP HORNE ROAD
PITTSBURGH, PA 15241

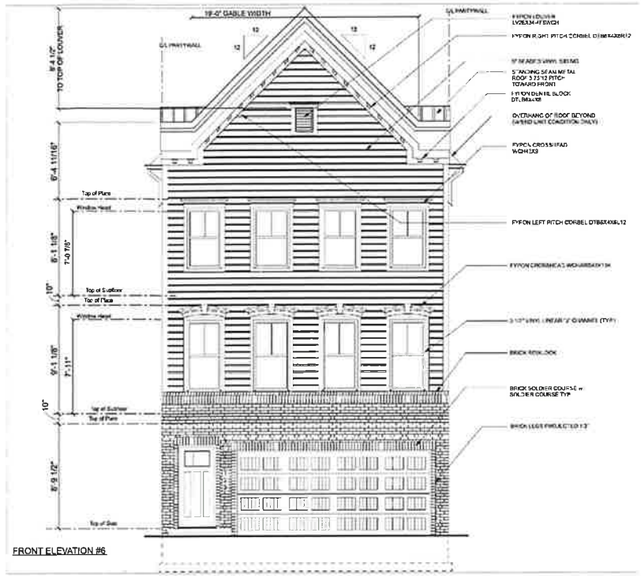
LANDSCAPE PLAN - DETAIL

SHT-5B

SCALE 1" = 30'
AT 24 X 36
ISSUE DATE MARCH 9 2026
JOB NO 2023 055

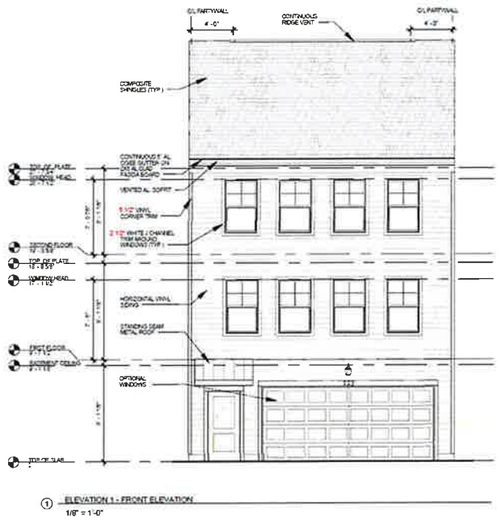


OPTION - 1



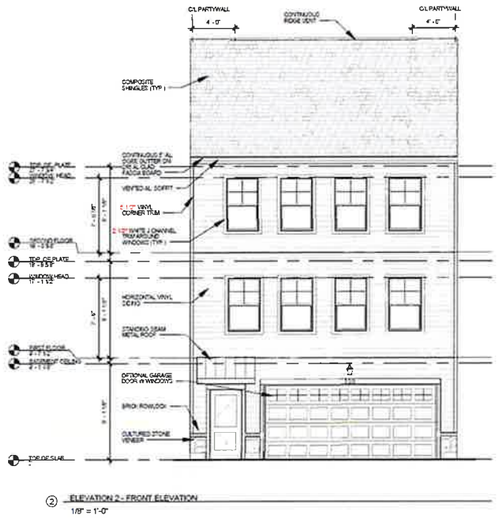
FRONT ELEVATION #6

OPTION - 2



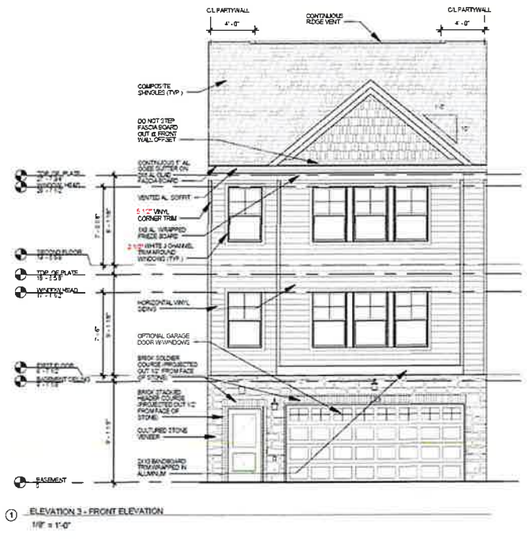
① ELEVATION 1 - FRONT ELEVATION
1/8" = 1'-0"

OPTION - 3A



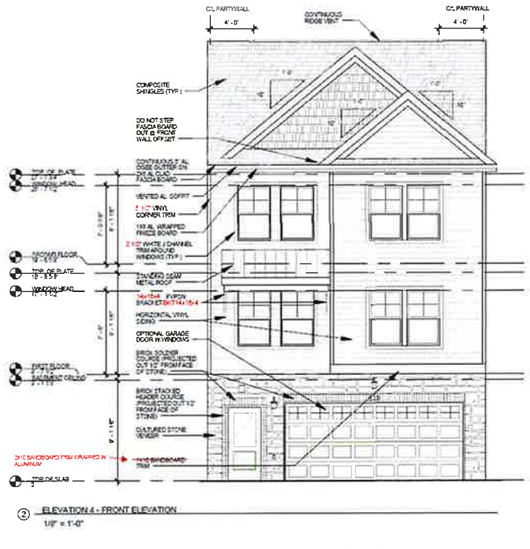
② ELEVATION 2 - FRONT ELEVATION
1/8" = 1'-0"

OPTION - 3B



① ELEVATION 3 - FRONT ELEVATION
1/8" = 1'-0"

OPTION - 4



② ELEVATION 4 - FRONT ELEVATION
1/8" = 1'-0"

OPTION - 5

FRONT ELEVATION OPTIONS

N.T.S.

REVISIONS:

SCARMAZZI HOMES
Luxury Patio Homes

P.M. ____
D.B. ____
C.G. ____

BOROUGH OF OAKDALE -
R-2 MULTI-FAMILY DWELLING ZONING

SOUTH FAYETTE TOWNSHIP -
R-3 - OPEN SPACE DESIGN OPTION

WALKERS MILL - TOWNHOUSES
PHASE 1 - FINAL LAND DEVELOPMENT PLANS
BOROUGH OF OAKDALE & SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY PA

PREPARED FOR:
J&T OAKDALE PROPERTIES, LLC
1300 OLD CLAIRTON ROAD
PITTSBURGH, PA 15241

ARCH. ELEVATIONS

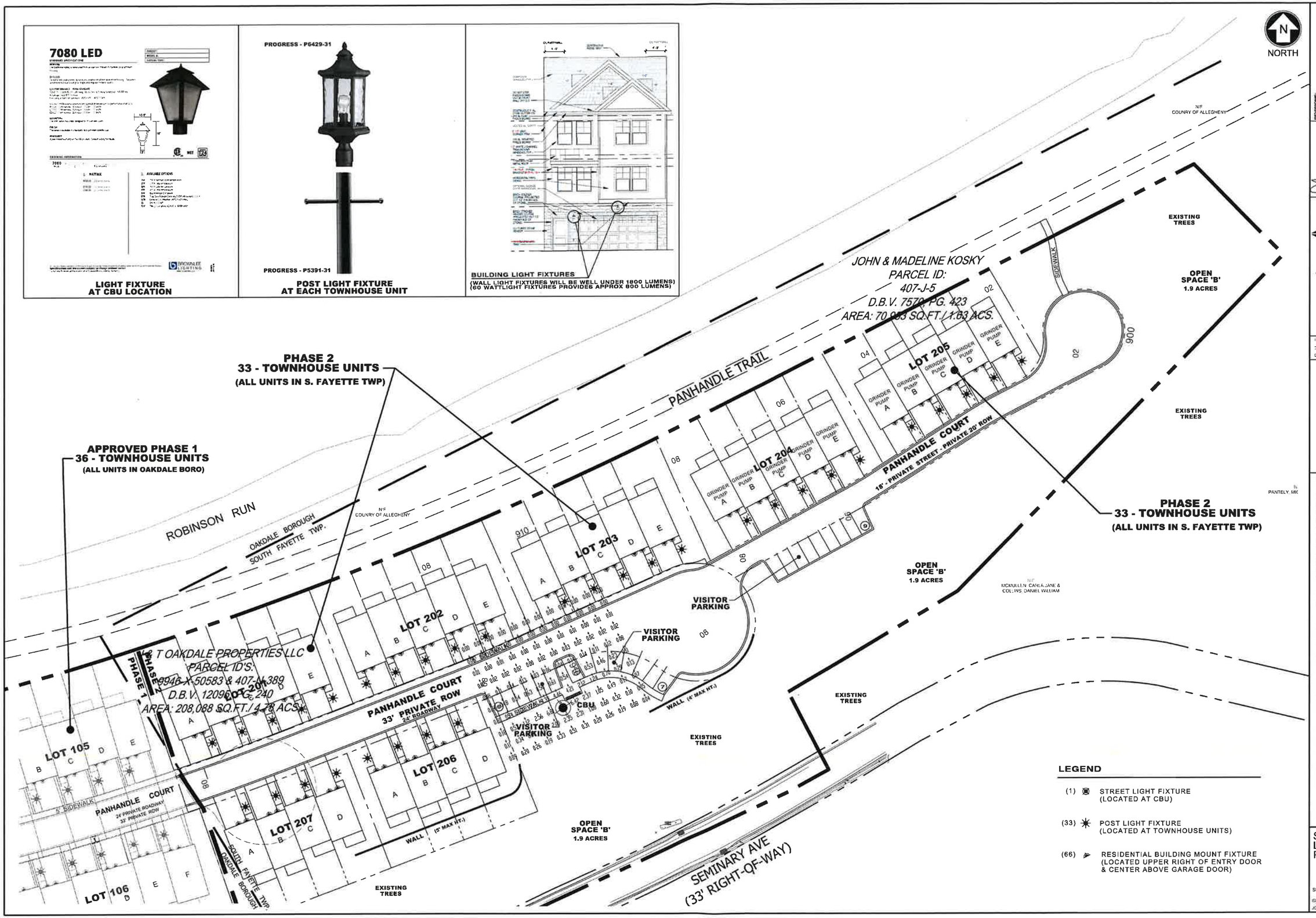
SHT- 6

SCALE 1" = 60'
AT 24 X 36
ISSUE DATE: MARCH 6, 2026
JOB NO. 2023-055

LIGHT FIXTURE
AT CBU LOCATION

POST LIGHT FIXTURE
AT EACH TOWNHOUSE UNIT

BUILDING LIGHT FIXTURES
(WALL LIGHT FIXTURES WILL BE WELL UNDER 1800 LUMENS)
(60 WATTLIGHT FIXTURES PROVIDES APPROX 800 LUMENS)



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FM
DB
CH

BOROUGH OF OAKDALE - R-2 MULTI-FAMILY DWELLING ZONING

SOUTH FAYETTE TOWNSHIP - R-3 - OPEN SPACE DESIGN OPTION

WALKERS MILL - TOWNHOUSES R-3 - OPEN SPACE DESIGN

PHASE 2 - FINAL LAND DEVELOPMENT PLANS - S FAYETTE TOWNSHIP

BOROUGH OF OAKDALE & SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY PA

PREPARED FOR:
J&T OAKDALE PROPERTIES, LLC
1321-C McLAUGHLIN ROAD
PITTSBURGH, PA 15241

SITE LIGHTING PLAN

SHT-7

SCALE 1" = 30'
AT 24 X 36
ISSUE DATE MARCH 9 2026
JOB NO 2023-065

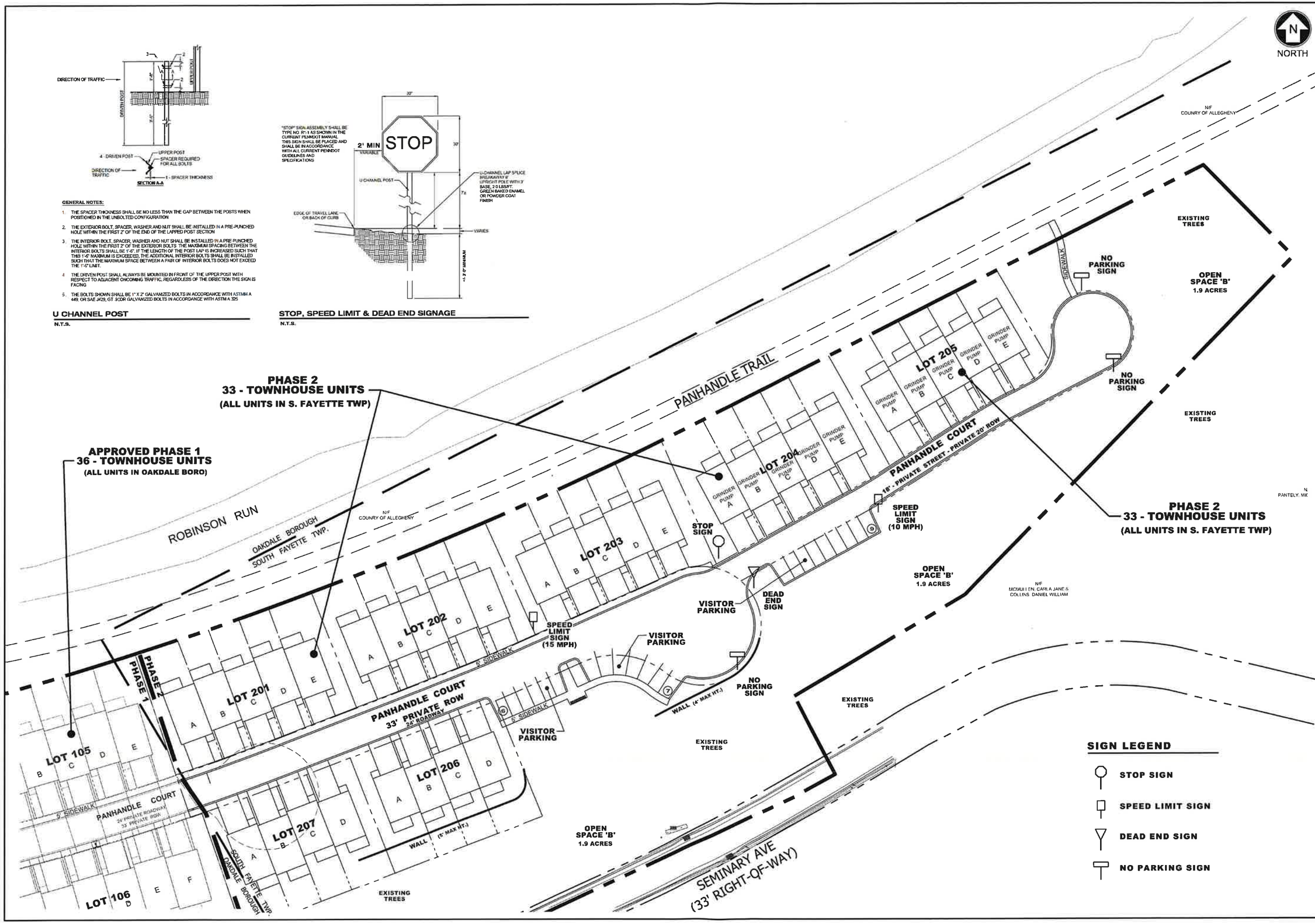
SECTION A-A

GENERAL NOTES:

1. THE SPACER THICKNESS SHALL BE NO LESS THAN THE GAP BETWEEN THE POSTS WHEN POSITIONED IN THE UNSLOTED 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 ASTM A 449, OR SAE J429, GT .5 OR GALVANIZED BOLTS IN ACCORDANCE WITH ASTM A 325

U CHANNEL POST
N.T.S.

STOP, SPEED LIMIT & DEAD END SIGNAGE
N.T.S.



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PM
DB
CW

BOROUGH OF OAKDALE - R-2 MULTI-FAMILY DWELLING ZONING

SOUTH FAYETTE TOWNSHIP - R-3 - OPEN SPACE DESIGN OPTION

WALKERS MILL - TOWNHOUSES R-3 - OPEN SPACE DESIGN
PHASE 2 - FINAL LAND DEVELOPMENT PLANS - S FAYETTE TOWNSHIP

BOROUGH OF OAKDALE & SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY PA

PREPARED FOR:
J&T OAKDALE PROPERTIES, LLC
1534 LOWRIES RUN ROAD
PITTSBURGH, PA 15241

SITE SIGNAGE PLAN
SHT-8

SCALE 1" = 30' AT 24 X 36
ISSUE DATE MARCH 9 2026
JOB NO 2023-055

STANDARD GENERAL NOTES:

1 THE CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE REQUIRED TO ASSUME SOLE RESPONSIBILITY FOR JOB SAFETY OF ALL PERSONS AND PROPERTY.

2 IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN PERMITS NECESSARY TO PERFORM THE WORK SHOWN IN THESE PLANS FROM THE APPROPRIATE AGENCIES

3 CONTRACTOR IS REQUIRED TO COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, RESOLUTIONS, POLICIES, AND PROCEDURES, IN GENERAL

4 CONTRACTOR SHALL COMPLY WITH OSHA REGULATIONS

5 CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAGGERS OR OTHER DEVICES NECESSARY TO PROVIDE SAFETY

6 THE CONTRACTOR SHALL RESTORE ALL PUBLIC OR PRIVATE PROPERTY DAMAGED OR REMOVED TO IT'S ORIGINAL CONDITION, AS DETERMINED BY THE OWNER OR OWNER'S REPRESENTATIVE

7 THE CONTRACTOR SHALL REMOVE ANY SUBSURFACE OBSTRUCTIONS OR ABANDONED UTILITY LINES WITHIN THE DEMOLITION AREA AS PART OF THIS PROJECT

8 WARNING: THE PLANS SHOW SOME KNOWN SUBSURFACE STRUCTURES, ABOVE GROUND STRUCTURES AND/OR UTILITIES BELIEVED TO EXIST IN THE LOCATIONS INDICATED. THE CONTRACTOR IS RESPONSIBLE TO VERIFY THE EXACT LOCATIONS OF SUCH PIPELINES, SUBSURFACE STRUCTURES AND/OR UTILITIES, AND TO PROCEED WITH GREAT CARE IN EXECUTING ANY WORK. 72 HOURS BEFORE YOU DIG, DRILL OR BLAST

9 THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING A NEAT AND ORDERLY SITE, YARD AND GROUNDS. REMOVE AND PROPERLY DISPOSE, OFF SITE, ALL RUBBISH, WASTE MATERIALS, LITTER, AND ALL OTHER FOREIGN SUBSTANCES. REMOVE PETROCHEMICAL SPILLS, STAINS AND OTHER FOREIGN DEPOSITS. RAKE GROUNDS TO A SMOOTH EVEN-TEXTURED SURFACE

10 IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE ALL PLAN SHEETS AND SPECIFICATIONS AND COORDINATE HIS WORK WITH ALL OTHER CONTRACTORS TO ENSURE THAT WORK PROGRESSION IS NOT INTERRUPTED

11 THE CONTRACTOR IS INSTRUCTED TO COOPERATE WITH ANY AND ALL OTHER CONTRACTORS PERFORMING WORK ON THE JOB SITE DURING THE PERFORMANCE OF THIS CONTRACT.

12 THE CONTRACTOR IS REQUIRED TO HAVE COPIES OF ALL PERMITS AND PLANS ON SITE AT ALL TIMES

13 CONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME

14 THE OWNER OR THE OWNER'S REPRESENTATIVE SHALL BE NOTIFIED IN WRITING OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN ON THE PLANS. THE CONTRACTOR'S WORK SHALL NOT VARY FROM THE PLANS WITHOUT THE EXPRESSED WRITTEN APPROVAL OF THE OWNER OR THE OWNER'S REPRESENTATIVE

15 THE CONTRACTOR SHALL PROTECT EXISTING PROPERTY LINE MONUMENTATION. ANY MONUMENTATION DISTURBED OR DESTROYED, AS JUDGED BY THE OWNER OR THE OWNER'S REPRESENTATIVE, SHALL BE REPLACED AT THE CONTRACTORS EXPENSE UNDER THE SUPERVISION OF A LICENSED LAND SURVEYOR

16 THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING AND THE MAINTENANCE OF SURFACE DRAINAGE DURING THE COURSE OF WORK

17 THE CONTRACTOR SHALL TAKE EFFECTIVE ACTION TO PREVENT THE FORMATION OF AN AIRBORNE DUST NUISANCE AND SHALL BE RESPONSIBLE FOR ANY DAMAGE RESULTING FROM FAILURE TO DO SO

18 EXCAVATIONS SHALL BE ADEQUATELY SHORED, BRACED, AND SHEETED SO THAT THE EARTH WILL NOT SLIDE OR SETTLE AND SO THAT ALL EXISTING IMPROVEMENTS OF ANY KIND WILL BE PROTECTED FROM DAMAGE. WHERE THE EXCAVATION FOR A CONDUIT TRENCH AND/OR STRUCTURE IS FOUR FEET OR MORE IN DEPTH, ADEQUATE METHODS FOR PROTECTION OF WORKERS IS REQUIRED

19 STATIONING HEREIN IS ALONG STREET CENTERLINE UNLESS OTHERWISE SHOWN OR INDICATED

20 ALL RETURN RADII AND CURB DATA ARE TO BACK OF WEDGE CURB, AND TO THE FRONT FACE OF CONCRETE CURB UNLESS OTHERWISE NOTED

21 ALL UTILITY WORK INVOLVING CONNECTIONS TO EXISTING SYSTEMS SHALL BE COORDINATED WITH THE OWNER OR THE OWNER'S REPRESENTATIVE AND THE UTILITY OWNER. NOTIFY THE OWNER OR THE OWNER'S REPRESENTATIVE AND THE UTILITY OWNER BEFORE EACH AND EVERY CONNECTION TO THE EXISTING SYSTEM IS MADE.

22 ALL EXISTING UTILITIES AND IMPROVEMENTS THAT BECOME DAMAGED DURING CONSTRUCTION SHALL BE COMPLETELY RESTORED TO THE SATISFACTION OF THE PROJECT ENGINEER, AT THE CONTRACTOR'S SOLE EXPENSE

23 LENGTHS AND PERCENT SLOPE OF SANITARY SEWERS AND STORM DRAINS, AS WELL AS ALL POTENTIAL CONFLICTS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTING SUCH ENTITIES

24 IF ARCHEOLOGICAL MATERIALS ARE UNCOVERED DURING GRADING, TRENCHING OR OTHER EXCAVATION, EARTHWORK SHALL BE STOPPED UNTIL A PROFESSIONAL ARCHEOLOGIST HAS HAD AN OPPORTUNITY TO EVALUATE THE SIGNIFICANCE OF THE FIND AND SUGGEST APPROPRIATE MITIGATION MEASURES, IF THEY ARE DEEMED NECESSARY.

25 CONTRACTOR SHALL PROVIDE TRAFFIC MAINTENANCE AND PROTECTION AS PER PADOT PUBLICATION 203

26 TOPOGRAPHIC BOUNDARY SURVEY, INCLUDING PROPERTY LINES, LEGAL DESCRIPTION, EXISTING UTILITIES, SITE TOPOGRAPHY WITH SPOT ELEVATIONS, OUTSTANDING PHYSICAL FEATURES AND EXISTING STRUCTURE LOCATIONS WAS PROVIDED BY OTHERS

27 ALL PHASES OF SITE WORK FOR THIS PROJECT SHALL MEET OR EXCEED THE OWNER/DEVELOPER SITE WORK SPECIFICATIONS

28 CONTRACTOR SHALL BE RESPONSIBLE FOR RAZING AND REMOVAL OF THE EXISTING STRUCTURES, RELATED UTILITIES, PAVING, UNDERGROUND STORAGE TANKS AND ANY OTHER EXISTING IMPROVEMENTS AS NOTED

29 CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM PREVIOUS AND CURRENT DEMOLITION OPERATIONS. DISPOSAL WILL BE IN ACCORDANCE WITH ALL LOCAL, STATE AND/OR FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS

30 THE GENERAL CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR AND SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT

31 SAFETY NOTICE TO CONTRACTOR: IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. ANY CONSTRUCTION OBSERVATION BY THE ENGINEER OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON OR NEAR THE CONSTRUCTION SITE

32 ALL CONSTRUCTION IN STATE HIGHWAY DEPARTMENT RIGHT-OF-WAY SHALL BE COORDINATED WITH THE LOCAL PENNSYLVANIA D.O.T. OFFICE

33 LENGTHS AND PERCENT SLOPE OF SANITARY SEWERS AND STORM DRAINS, AS WELL AS ALL POTENTIAL CONFLICTS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTING SUCH ENTITIES

34 ALL UTILITIES SHALL BE INSTALLED, DISCONNECTED, AND/OR RELOCATED IN ACCORDANCE WITH THE CODES AND SPECIFICATIONS OF THAT UTILITY AUTHORITY.

35 CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES ASSOCIATED WITH INSTALLATION AND INSPECTION OF UTILITY UNLESS OTHER ARRANGEMENTS ARE MADE WITH OWNER

36 CONTRACTOR SHALL COORDINATE WITH APPROPRIATE UTILITY COMPANIES PRIOR TO LOCATION, RELOCATION, REMOVAL AND/OR INSTALLATION OF SITE UTILITIES

37 PLUMBING CONTRACTOR SHALL CONTACT LOCAL HEALTH DEPARTMENT CONCERNING FILING OF UTILITY PLAN, AND PAYMENT OF FEES RELATED TO WATER AND SANITARY SEWER LINE CONSTRUCTION

38 CONTRACTOR SHALL ADJUST ANY FRAMES AND GRATES FOR EXISTING INLETS, MANHOLES, AND VALVES TO REMAIN

39 ALL UTILITY LINES REQUIRING TESTING SHALL BE TESTED IN ACCORDANCE WITH THE UTILITY COMPANY CODES AND SPECIFICATIONS

40 CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION

41 ALL UTILITY WORK INVOLVING CONNECTIONS TO EXISTING SYSTEMS SHALL BE COORDINATED WITH THE OWNER OR THE OWNER'S REPRESENTATIVE AND THE UTILITY OWNER. NOTIFY THE OWNER OR THE OWNER'S REPRESENTATIVE AND THE UTILITY OWNER BEFORE EACH AND EVERY CONNECTION TO THE EXISTING SYSTEM IS MADE

42 ALL EXISTING UTILITIES AND IMPROVEMENTS THAT BECOME DAMAGED DURING CONSTRUCTION SHALL BE COMPLETELY RESTORED TO THE SATISFACTION OF THE PROJECT ENGINEER, AT THE CONTRACTOR'S SOLE EXPENSE

CONSTRUCTION SEQUENCE

STAGE 1 - E&S BMP INSTALLATION

ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED AND IMMEDIATELY STABILIZED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING, GRUBBING AND TOPSOIL STRIPPING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE.

IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, AND CONTACT THE ENGINEER

A WRITTEN REPORT MUST BE KEPT BY THE CONTRACTOR DOCUMENTING INSPECTIONS AND REPAIRS TO ALL BMPS. THE CONTRACTOR SHALL INSPECT AND LOG ALL ACTIVITIES ONTO DEP FORM 3150-FM-BWEW0083 (DATED 2/2012) AND KEPT ON SITE AT ALL TIMES

1. AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE EROSION AND SEDIMENT CONTROL PLAN PREPARER, AND A REPRESENTATIVE OF THE COUNTY CONSERVATION DISTRICT TO AN ON-SITE PRE-CONSTRUCTION MEETING
2. AT LEAST 3 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INCORPORATED AT 1- 800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES
3. THE LIMIT OF EARTH DISTURBANCE SHALL BE LOCATED IN THE FIELD BY FLAGGED SURVEY STAKES. ALL PROPOSED INFILTRATION AREAS SHOULD BE FIELD MARKED TO AVOID COMPACTION
4. INSTALL ROCK CONSTRUCTION ENTRANCE #1
5. INSTALL ALL SILT SOCK

AT THIS POINT ALL PERIMETER E&S BMPS ARE INSTALLED AND FUNCTIONING PROPERLY. DO NOT CONTINUE ON TO PHASE 2 UNTIL ALL STEPS IN THE PHASE ARE COMPLETED

STAGE 2 - SITE EARTHWORK AND CONSTRUCTION:

AT THIS POINT ALL E&S BMPs FROM STAGE 1 ARE INSTALLED AND FUNCTIONING PROPERLY.

1. CLEAR AND GRUB ONLY AREAS TO BE DISTURBED
2. STRIP TOP SOIL AND STOCKPILE AS SHOWN ON PLANS
3. BEGIN MAJOR EARTHWORK OPERATIONS
4. UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY, OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED
5. ALL FILL SHALL BE SEEDED AND BLANKETED IN 15 FOOT VERTICAL INCREMENTS. ALL SLOPES 3:1 OR GREATER SHALL RECEIVE EROSION CONTROL BLANKETING
6. INSTALL CONCRETE WASHOUT.
7. INSTALL ALL UTILITIES. THE TOTAL LENGTH OF EXCAVATED TRENCH OPEN AT ANY ONE TIME SHOULD NOT BE GREATER THAN THE TOTAL LENGTH OF PIPELINE/UTILITY LINE THAT CAN BE PLACED IN THE TRENCH AND BACKFILLED IN ONE WORKING DAY. NO MORE THAN 50 LINEAL FEET OF OPEN TRENCH SHOULD EXIST WHEN PIPELINE/UTILITY LINE INSTALLATION CEASES AT THE END OF THE WORKDAY. SOIL SUPPLEMENTS, SEED AND MULCH SHOULD BE APPLIED WITHIN SEVEN DAYS AFTER THE PIPELINE/UTILITY LINE IS INSTALLED. ANY TRENCH STEEPER THAN 5% SHALL INCORPORATE TRENCH PLUGS
8. BEGIN CONSTRUCTION THE BUILDING PAD, AND POST CONSTRUCTION STORMWATER MANAGEMENT FACILITIES
9. INSTALL INLET PROTECTION AS INLETS ARE INSTALLED
10. FINE GRADE THE SITE. IMMEDIATELY UPON REACHING FINAL GRADE ANY AREA SHALL RECEIVE STABILIZATION. PAVED AREAS SHALL BE IMMEDIATELY STONED, AND VEGETATED AREAS SHALL IMMEDIATELY BE SEEDED. NO MORE THAN 15,000 SQ FT OF DISTURBED AREA SHALL REACH FINAL GRADE BEFORE INITIATING SEEDING AND MULCHING OPERATIONS. MULCH ALL DISTURBED AREAS AND SEED AREAS WITH HAY OR STRAW. MINIMIZE SOIL COMPACTION OF THE TOP SOIL AFTER APPLICATION
11. FINISH CONSTRUCTION OF THE STORMWATER MANAGEMENT CONTROL SYSTEM AND ENSURE THAT THEY ARE WORKING PROPERLY. COMPLETE PAVING OPERATIONS

STAGE 3 - SITE STABILIZATION, BMP REMOVAL:

1. UPON PERMANENT STABILIZATION (AREA WILL ONLY BE CONSIDERED STABILIZED WHEN A MINIMUM UNIFORM 70% VEGETATIVE COVER OF EROSION RESISTANT PERENNIAL SPECIES HAS BEEN ACHIEVED) OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATORS SHALL CONTACT THE CONSERVATION DISTRICT FOR A FINAL INSPECTION
2. ALL TEMPORARY E&S BMP'S SHALL BE REMOVED. ALL AREAS DISTURBED DURING THIS PROCESS SHALL BE STABILIZED IMMEDIATELY PER THE PERMANENT SEEDING AND MULCHING SPECIFICATION

DISPOSAL DIRECTIONS FOR SEDIMENT:

1. SEDIMENT REMOVED FROM BMP'S SHALL BE SPREAD IN AN AREA PROTECTED BY EXISTING BMP'S (PRIOR TO FINAL STABILIZATION) OR REMOVED TO AN APPROVED WASTE SITE

SOIL LIMITATIONS & RESOLUTIONS:

SYMBOL	CUTBANKS CAVE	CORROSIVE TO CONCRETE/STEEL	DROUGHTY	EASILY ERODIBLE	FLOODING	DEPTH TO SATURATED ZONE (SEASONAL HIGH WATER TABLE)	HYDRIC / HYDRIC INCLUSIONS	LOW STRENGTH / LANDSLIDE PRONE	SLOW PERCOLATION PIPING	POOR SOURCE OF TOPSOIL	FROST ACTION	SHRINK - SWELL	POTENTIAL SINKHOLE	PONDING	WETNESS
DoB	X	C/S		X		X		X	X	X	X	X	X		X
GSF	X	C	X	X				X	X	X	X	X			
Ne	X	S		X	X	X		X	X	X	X		X		
SnD	X	C/S						X		X					
UB															
UCD															

NOTE: DUE TO SOIL LIMITATION ALL EARTHWORK SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF A GEOTECHNICAL ENGINEER.

RESOLUTIONS TO SOIL LIMITATIONS:

CUTBANKS CAVE
REMEDIAL ACTIONS
- PREVENT SATURATION OF SLOPES
- PROVIDE ANCHORING OR RETAINING SYSTEMS
- PROVIDE BENCHING TO CATCH FALLING DEBRIS
- PROVIDE TRENCH BOXES FOR UTILITY INSTALLATIONS

CORROSIVE TO CONCRETE/STEEL
REMEDIAL ACTIONS:
- MINIMIZE THE AMOUNT OF SOIL DISTURBANCE
- PROVIDE PROTECTIVE COATING TO CONCRETE AND STEEL
- PROVIDE EXTRA CONCRETE AND STEEL THICKNESS

DROUGHTY OR EASILY ERODIBLE
REMEDIAL ACTIONS
- LIMIT TIME OF EXPOSURE
- USE EROSION CONTROL BLANKETS
- SELECTION OF SEED MIXTURES WITH RAPIDLY GERMINATING SPECIES
-

SEASONAL HIGH WATER TABLES, PIPING, SEEPING, SLOW PERCOLATION
REMEDIAL ACTIONS:
- PROVIDE PUMPED WATER SEDIMENT REMOVAL FACILITIES
- USE CLAY EMBANKMENT CORES
- UTILIZE ANTI-SEEP COLLARS OR GRAVEL PACKS

LOW STRENGTH, LANDSLIDE PRONE
REMEDIAL ACTIONS:
- PREVENT SATURATION OF SLOPES
- PROVIDE ANCHORING OR RETAINING SYSTEMS
- PROVIDE BENCHING TO CATCH FALLING DEBRIS
- PERFORM SOIL TESTING AND FOLLOW GEOTECHNICAL RECOMMENDATIONS

FROST ACTION
REMEDIAL ACTIONS
- MINIMIZE THE AMOUNT OF SOIL DISTURBANCE
- PROVIDE EFFECTIVE DRAINAGE
- CONTROL DEPTH OF FROST PENETRATION
- REPLACE AND/OR MODIFY FROST-SUSCEPTIBLE SOILS

POOR SOURCE OF TOPSOIL
REMEDIAL ACTIONS:
- PERFORM SOIL TESTING TO DETERMINE PROPER APPLICATION OF SOIL AMENDMENTS AND PROPER MOISTURE CONTENT FOR PROPER VEGETATION COVER
- IMPORT TOPSOIL AS NEEDED

WETNESS, HYDRIC INCLUSIONS
REMEDIAL ACTIONS
- ENSURE THAT THE SOILS ARE WELL DRAINED AND PREVENT SATURATION OF SOILS
- CONDITIONS MAY REQUIRE SOILS TO BE EXTENSIVELY AIR DRIED, MIXED WITH DRIER MATERIALS, AND/OR DISKED TO MODIFY MOISTURE CONTENT FOR PROPER COMPACTION
- IN SEVERE SITUATIONS, SUBSTITUTE APPROPRIATE FILL MATERIAL
- PROVIDE PUMPED WATER SEDIMENT REMOVAL FACILITIES

LAND USE:
PAST USE LAND USES FOR PAST 50-YEARS: VACANT/WOODED
PRESENT USE FOR PAST 5-YEARS : WASTE SITE
PROPOSED USE: RESIDENTIAL TOWNHOUSES

MUNICIPAL ACCESS:
THE OWNER WILL GRANT ACCESS TO THE MUNICIPALITY FOR PERIODIC INSPECTIONS

FLOOD PLAIN NOTE:
THE SITE IS LOCATED IN ZONE AE AND ZONE X PER FIRM MAP NUMBER 42003C0318H WITH AN EFFECTIVE DATE OF SEPTEMBER 26, 2014

WATERSHED AND RUNOFF:
THE SITE IS LOCATED WITHIN THE ROBINSON RUN WATERSHED, HAVING A CHAPTER 93 WATERSHED CLASSIFICATION OF WARM WATER FISHERY (WWF). ROBINSON RUN IS AN IMPAIRED WATERSHED. ALL SCM'S ARE TO FOLLOW ABACT DETAILS AND NOTES

WETLANDS:
THERE ARE NO WETLANDS DELINEATED WITHIN THE PROJECT BOUNDARIES.

PROJECT AREA SUMMARY	
LIMIT OF DISTURBANCE	4.4 ACRES (PHASE 1)
NPDES PERMIT BOUNDARY	6.423 ACRES

LEGEND

- EXISTING CONTOUR LINE
- PROPERTY LINE
- YARD SETBACK
- EXISTING SANITARY MANHOLE
- PROPOSED SANITARY MANHOLE
- EXISTING CATCH BASIN
- PROPOSED CATCH BASIN
- EXISTING VALVE
- ELECTRIC SERVICE LINE
- WATERLINE
- GASLINE
- PROPOSED STORM SEWER
- PROPOSED SANITARY LINE
- EXISTING TELEPHONE LINE
- EXISTING UTILITY EASEMENT
- PROPOSED CONTOUR
- LIMITS OF DISTURBANCE
- EXISTING EDGE OF PAVEMENT
- PROPOSED EDGE OF PAVEMENT

DEVELOPER:
J&T OAKDALE PROPERTIES, LLC
1321-C McLAUGHLIN ROAD
PITTSBURGH, PA 15241

PROJECT ENGINEER:
KDH CONSULTING ENGINEERS, INC.
593 RUGH STREET, LOWER LEVEL
GREENSBURG, PA 15601
(878) 295-8914
CONTACT: CHRISTOPHER W. HAMM, P.E.

SURVEYOR:
KEYSTONE SURVEYING & MAPPING INC.
333 TECHNOLOGY DRIVE, SUITE 110
CANONSBURG, PA 15317
(724) 514-7949

KDH CONSULTING ENGINEERS, INC
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www.kdhengineers.com

REGISTERED PROFESSIONAL CHRISTOPHER W. HAMM ENGINEER PE-090408

REVISIONS:	REV	DATE	DESCRIPTION

CLIENT:

WALKERS MILL TOWNHOUSES PHASE 2

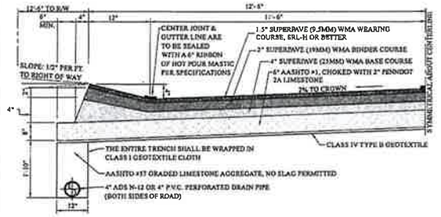
OAKDALE BOROUGH AND SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY, PA

PROJ NO: 211-009-238
DATE: 03/09/2026
DRAWN BY: RAM
CHECKED BY: CWH

SHEET TITLE:
GENERAL NOTES AND LEGENDS

SHEET NO.
D0.1

C:\USERS\RMONGELL\DESKTOP\WALKERS MILL PHASE 2\211-009-238-BASE PHASE 2-260309.DWG

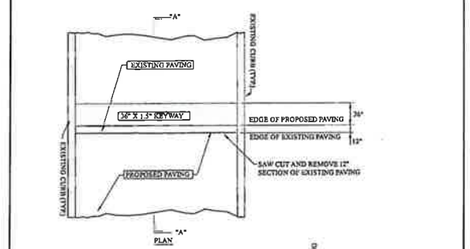


TYPICAL PAVEMENT SECTION

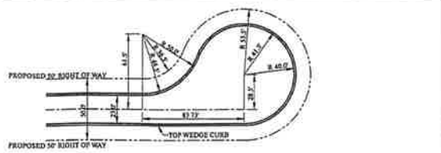
NOTES:

- CONTRACTOR SHALL COMPACT SUBGRADE TO 100% OF THE DETERMINED DRY MASS DENSITY. PROOF ROLL REGARD PRIOR TO PLACEMENT OF GEOTEXTILE
- STORM INLETS SHALL BE SET TO FINISH GRADE OF FINAL WEARING COURSE.
- FINAL WEARING COURSE SHALL BE PLACED 1 YEAR AFTER BINDER COURSE ON NEW DEVELOPMENTS, OR WHEN MAJORITY OF CONSTRUCTION HAS BEEN COMPLETED AND AS DIRECTED BY THE TOWNSHIP ENGINEER.
- ALL DEPTHS SHOWN ARE COMPACTED DEPTHS, ALL MATERIALS SHALL CONFORM TO PENNDOT PUBLICATION 408.
- COMPANIES PLACING ASPHALT MUST HAVE CURRENT PENNDOT PREQUALIFICATION
- CENTER JOINT AND GUTTER LINE ARE TO BE SEALED WITH A 6" RIBBON OF HOT POUR MASTIC PER SPECIFICATION
- 4" SUPERPAVE (25MM) BINDER COURSE TO EXTEND TO BACK OF CURB LINE, MECHANICALLY COMPACTED PER SPECIFICATION
- 4" REVEAL CURB TO BE CONSTRUCTED OF SUPERPAVE 19MM BINDER COURSE AND 9.5MM WEARING COURSE.
- NO SLAG WILL BE PERMITTED

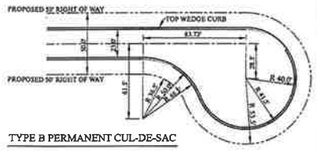
SOUTH FAYETTE TOWNSHIP	TYPICAL PAVING DETAIL		
CIMINI-TRIGILIA ENGINEERING CO.	Not to Scale	Adopted: JULY 2022	SFT-SD-001



SOUTH FAYETTE TOWNSHIP	PAVEMENT KEYWAY		
CIMINI-TRIGILIA ENGINEERING CO.	Not to Scale	Adopted: JULY 2022	SFT-SD-005



TYPE A PERMANENT CUL-DE-SAC



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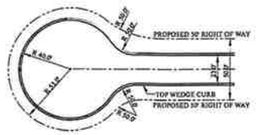
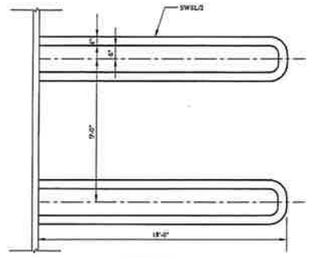
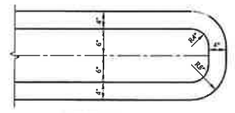


TYPE C PERMANENT CUL-DE-SAC

SOUTH FAYETTE TOWNSHIP	PERMANENT CUL-DE-SAC DETAIL		
CIMINI-TRIGILIA ENGINEERING CO.	Not to Scale	Adopted: JULY 2022	SFT-SD-007



PAINTED LINES



PAINTED LINES DETAIL

SOUTH FAYETTE TOWNSHIP	TYPICAL PARKING SPACE PAINT LINE DETAIL		
CIMINI-TRIGILIA ENGINEERING CO.	Not to Scale	Adopted: JULY 2022	SFT-SD-032

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COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL CHRISTOPHER W. HAHN ENGINEER PE-090435

REVISIONS:

REV	DATE	DESCRIPTION

CLIENT:

WALKERS MILL TOWNHOUSES PHASE 2

OAKDALE BOROUGH AND SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY, PA

PROJ NO: 211-009-23B
DATE: 03/09/2026
DRAWN BY: RAM
CHECKED BY: CWH

SHEET TITLE:
CONSTRUCTION DETAILS

SHEET NO.
D3.0

C:\USERS\RMONGELL\DESKTOP\WALKERS MILL PHASE 2\211-009-23B-BASE PHASE 2-260309.DWG

GRADING NOTES:

1. GENERAL CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES HAVING UNDERGROUND UTILITIES ON SITE OR IN RIGHT-OF-WAY PRIOR TO EXCAVATION. CONTRACTOR SHALL CONTACT UTILITY LOCATING COMPANY AND LOCATE ALL UTILITIES PRIOR TO GRADING START.
2. SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED
3. ALL ELEVATIONS ARE TO FINISHED GRADE
4. A SITE FOR EXCESS MATERIAL WILL BE DETERMINED AND THE APPROPRIATE PAPERWORK SHALL BE FILED WITH THE MUNICIPALITY PRIOR TO THE COMMENCEMENT OF EARTHWORK ACTIVITIES. NO WORK SHALL BE COMPLETED PRIOR TO APPROVAL OF AN EROSION AND SEDIMENTATION CONTROL PLAN THROUGH THE COUNTY CONSERVATION DISTRICT
5. IMMEDIATELY APPLY & COMPACT STONE BASE FOR BUILDING PAD TO +/- 1/2" PRIOR TO EXCAVATING INTERIOR & PERIMETER FOOTINGS
6. THE CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND DIMENSIONS OF ENTRANCES, VESTIBULES, STAIRS, RETAINING WALLS, RAMPS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING ENTRANCE LOCATIONS.
7. ALL SITE WORK SHALL BE DONE IN ACCORDANCE WITH THE PLANS PREPARED, LOCAL MUNICIPAL REQUIREMENTS, APPLICABLE SECTIONS OF PADOT PUBLICATION 408 STANDARD SPECIFICATIONS AND STANDARDS FOR ROADWAY CONSTRUCTION, LATEST ADDITION AND ALL OTHER PERTINENT FEDERAL AND STATE LAWS
8. 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
9. BEFORE EXCAVATION, ALL UNDERGROUND UTILITIES SHALL BE LOCATED IN THE FIELD BY THE PROPER AUTHORITIES. THE CONTRACTOR SHALL NOTIFY PENNSYLVANIA ONE CALL AT 800-242-1776. THE LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES SHOWN ARE APPROXIMATE AND THOSE SHOWN ARE NOT NECESSARILY ALL OF THE EXISTING UTILITIES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE, LOCATION AND SIZE OF ALL UTILITIES & UNDERGROUND STRUCTURES AND REPORT DISCREPANCIES TO NATIONAL SURVEY AND ENGINEERING PRIOR TO THE COMMENCEMENT OF WORK.
10. ALL ORGANIC TOPSOIL SHALL BE STRIPPED AND REMOVED FROM NEW CONSTRUCTION AREAS UNLESS OTHERWISE NOTED

GRADING NOTES: (cont.)

11. ALL SLOPES SHALL BE 2:1 (HORIZONTAL:VERTICAL) MAXIMUM UNLESS NOTED OTHERWISE.
12. PAVEMENT SLOPES ACROSS HANDICAP PARKING STALLS AND ADJOINING ACCESS AISLES SHALL BE MAXIMUM 2% OR IN ACCORDANCE WITH THE LATEST ADA STANDARDS
13. CONTRACTOR SHALL COORDINATE WITH THE APPROPRIATE UTILITY COMPANY ON THE REMOVAL AND/OR RELOCATION OF UTILITIES. SEE UTILITY PLAN FOR ADDITIONAL NOTES AND CONDITIONS
14. PROPER CONSTRUCTION PROCEDURES SHALL BE FOLLOWED ON ALL IMPROVEMENTS WITHIN THIS PARCEL SO AS TO PREVENT THE SILTING OF ANY WATERCOURSE OR WETLAND IN ACCORDANCE WITH THE REGULATIONS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION GUIDELINES FOR SOIL EROSION AND SEDIMENT POLLUTION CONTROL. IN ADDITION, THE CONTRACTOR SHALL STRICTLY ADHERE TO THE EROSION CONTROL PLAN PREPARED FOR THIS PROJECT
15. THE CONTRACTOR SHALL PROOF ROLL THE SITE TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER AND REMOVE ANY SOFT SOIL PRIOR TO THE IMPORTING OF ANY FILL MATERIAL
16. THE CONTRACTOR SHALL COMPACT ALL FILL MATERIALS IN LIFTS NOT GREATER THAN 12" AND TO NO LESS THAN 95% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D1557 TO PROVIDE STABILITY AND PREVENT SETTLEMENT.
17. ALL AREAS NOT PAVED SHALL BE LANDSCAPED IN ACCORDANCE WITH THE PLANS, UNLESS NOTED OTHERWISE IN THE CONSTRUCTION DRAWINGS, SITE SPECIFICATIONS OR INSTRUCTED BY THE DEVELOPER
18. CLEARING LIMITS SHALL BE PHYSICALLY MARKED IN THE FIELD
19. ALL DISTURBED AREAS, WHETHER NOTED ON THE PLANS OR NOT, SHALL BE PROVIDED WITH TOPSOIL AND MULCH AFTER FINAL GRADE IS REACHED

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COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — CHRISTOPHER W. HAMM — ENGINEER — PE-060431

REVISIONS:

REV	DATE	DESCRIPTION

CLIENT:

WALKERS MILL TOWNHOUSES PHASE 2

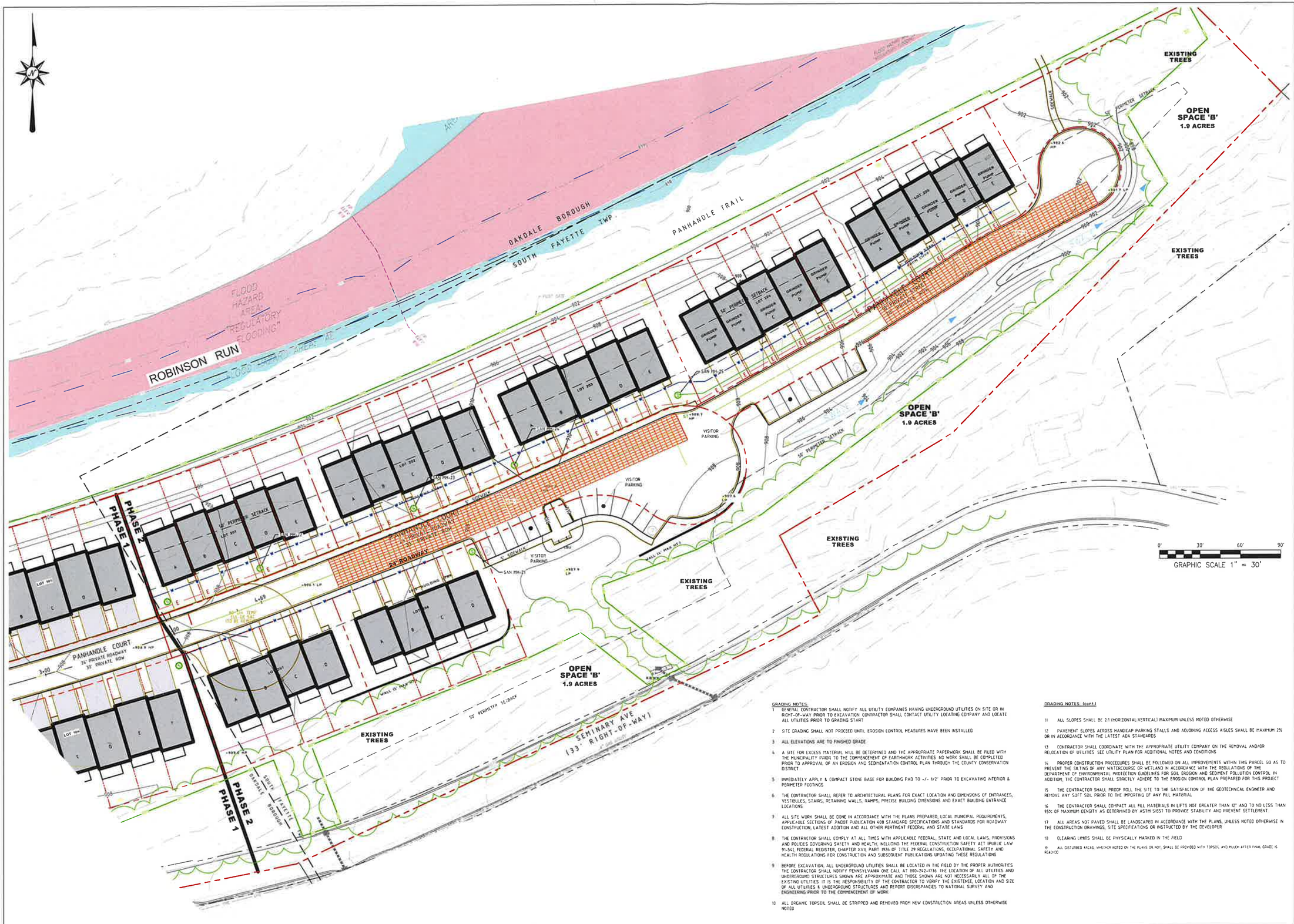
OAKDALE BOROUGH AND SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY, PA

PROJ NO: 211-009-23B
DATE: 03/09/2026
DRAWN BY: RAM
CHECKED BY: CWH

SHEET TITLE:
OVERALL GRADING PLAN

SHEET NO.
D4.0

S:\PROJECTS\211-009-23-WALKERS MILL TOWNHOUSES\DRAWINGS\211-009-23B-BASE PHASE 2-260309.DWG



GRADING NOTES:

1 GENERAL CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES HAVING UNDERGROUND UTILITIES ON SITE OR IN RIGHT-OF-WAY PRIOR TO EXCAVATION. CONTRACTOR SHALL CONTACT UTILITY LOCATING COMPANY AND LOCATE ALL UTILITIES PRIOR TO GRADING START.

2 SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED

3 ALL ELEVATIONS ARE TO FINISHED GRADE.

4 A SITE FOR EXCESS MATERIAL WILL BE DETERMINED AND THE APPROPRIATE PAPERWORK SHALL BE FILED WITH THE MUNICIPALITY PRIOR TO THE COMMENCEMENT OF EARTHWORK ACTIVITIES. NO WORK SHALL BE COMPLETED PRIOR TO APPROVAL OF AN EROSION AND SEDIMENTATION CONTROL PLAN THROUGH THE COUNTY CONSERVATION DISTRICT.

5 IMMEDIATELY APPLY & COMPACT STONE BASE FOR BUILDING PAD TO +/- 1/2" PRIOR TO EXCAVATING INTERIOR & PERIMETER FOOTINGS.

6 THE CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND DIMENSIONS OF ENTRANCES, VESTIBULES, STAIRS, RETAINING WALLS, RAMPS, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING ENTRANCE LOCATIONS.

7 ALL SITE WORK SHALL BE DONE IN ACCORDANCE WITH THE PLANS PREPARED, LOCAL MUNICIPAL REQUIREMENTS, APPLICABLE SECTIONS OF PADOT PUBLICATION 408 STANDARD SPECIFICATIONS AND STANDARDS FOR ROADWAY CONSTRUCTION, LATEST ADDITION AND ALL OTHER PERTINENT FEDERAL AND STATE LAWS.

8 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 91-541, FEDERAL REGISTER, CHAPTER XVII, PART 1926 OF TITLE 29 REGULATIONS, OCCUPATIONAL SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION AND SUBSEQUENT PUBLICATIONS UPDATING THESE REGULATIONS.

9 BEFORE EXCAVATION, ALL UNDERGROUND UTILITIES SHALL BE LOCATED IN THE FIELD BY THE PROPER AUTHORITIES. THE CONTRACTOR SHALL NOTIFY PENNSYLVANIA ONE CALL AT 800-242-1776. THE LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES SHOWN ARE APPROXIMATE AND THOSE SHOWN ARE NOT NECESSARILY ALL OF THE EXISTING UTILITIES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE, LOCATION AND SIZE OF ALL UTILITIES & UNDERGROUND STRUCTURES AND REPORT DISCREPANCIES TO NATIONAL SURVEY AND ENGINEERING PRIOR TO THE COMMENCEMENT OF WORK.

10 ALL ORGANIC TOPSOIL SHALL BE STRIPPED AND REMOVED FROM NEW CONSTRUCTION AREAS UNLESS OTHERWISE NOTED

GRADING NOTES (cont.)

11 ALL SLOPES SHALL BE 2:1 (HORIZONTAL:VERTICAL) MAXIMUM UNLESS NOTED OTHERWISE

12 PAVEMENT SLOPES ACROSS HANDICAP PARKING STALLS AND ADJOINING ACCESS AISLES SHALL BE MAXIMUM 2% OR IN ACCORDANCE WITH THE LATEST ADA STANDARDS

13 CONTRACTOR SHALL COORDINATE WITH THE APPROPRIATE UTILITY COMPANY ON THE REMOVAL AND/OR RELOCATION OF UTILITIES. SEE UTILITY PLAN FOR ADDITIONAL NOTES AND CONDITIONS

14 PROPER CONSTRUCTION PROCEDURES SHALL BE FOLLOWED ON ALL IMPROVEMENTS WITHIN THIS PARCEL SO AS TO PREVENT THE SILTING OF ANY WATERCOURSE OR WETLAND IN ACCORDANCE WITH THE REGULATIONS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION GUIDELINES FOR SOIL EROSION AND SEDIMENT POLLUTION CONTROL. IN ADDITION, THE CONTRACTOR SHALL STRICTLY ADHERE TO THE EROSION CONTROL PLAN PREPARED FOR THIS PROJECT

15 THE CONTRACTOR SHALL PROOF ROLL THE SITE TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER AND REMOVE ANY SOFT SOIL PRIOR TO THE IMPORTING OF ANY FILL MATERIAL

16 THE CONTRACTOR SHALL COMPACT ALL FILL MATERIALS IN LIFTS NOT GREATER THAN 12" AND TO NO LESS THAN 95% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D1557 TO PROVIDE STABILITY AND PREVENT SETTLEMENT

17 ALL AREAS NOT PAVED SHALL BE LANDSCAPED IN ACCORDANCE WITH THE PLANS, UNLESS NOTED OTHERWISE IN THE CONSTRUCTION DRAWINGS, SITE SPECIFICATIONS OR INSTRUCTED BY THE DEVELOPER

18 CLEARING LIMITS SHALL BE PHYSICALLY MARKED IN THE FIELD

19 ALL DISTURBED AREAS, WHETHER NOTED ON THE PLANS OR NOT, SHALL BE PROVIDED WITH TOPSOIL AND MULCH AFTER FINAL GRADE IS REACHED

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COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL CHRISTOPHER M. HAWK ENGINEER PE-080433

REVISIONS:			
REV	DATE	DESCRIPTION	

CLIENT:

WALKERS MILL TOWNHOUSES PHASE 2

OAKDALE BOROUGH AND SOUTH FAYETTE TOWNSHIP
ALLEGHENY COUNTY, PA

PROJ NO: 211-009-23B
DATE: 03/09/2026
DRAWN BY: RAM
CHECKED BY: CWH

SHEET TITLE:
ENLARGED GRADING PLAN

SHEET NO.
D4.1

S:\PROJECTS\211-009-23-WALKERS MILL TOWNHOUSES\DRAWINGS\211-009-23B-BASE PHASE 2-260309.DWG

UTILITY NOTES:

1. THE CONTRACTOR SHALL INDEMNIFY THE OWNER, THE ENGINEER AND THE MUNICIPALITY, THEIR AGENTS, ETC FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION AND TESTING OF THE WORK SHOWN
2. THE CONTRACTOR ASSUMES SOLE RESPONSIBILITY FOR SITE SAFETY
3. THE CONTRACTOR IS RESPONSIBLE FOR EXAMINING ALL SITE CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION AND SHALL COMPARE FIELD CONDITIONS WITH DRAWINGS. CONTRACTOR TO FIELD VERIFY LOCATION, HORIZONTAL AND VERTICAL, AND SIZE OF ALL EXISTING UTILITIES BEFORE BEGINNING WORK. THE CONTRACTOR SHALL PLACES A PENNSYLVANIA ONE CALL TO NOTIFY THE UTILITIES OF HIS INTENTIONS AND TO REQUEST REQUIRED FIELD STAKING OF EXISTING UTILITIES
4. THE CONTRACTOR SHALL CONSTRUCT ALL SANITARY SEWER FACILITIES IN ACCORDANCE WITH THE APPLICABLE STANDARDS AND SPECIFICATIONS OF THE MUNICIPALITY AND ANY OTHER LOCAL STATE OR FEDERAL CODES
5. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING UTILITY SERVICE CONNECTIONS WITH THE APPROPRIATE UTILITY COMPANY/OWNER, AND TO OBTAIN ALL PERMITS AND PAY ALL FEES AS REQUIRED FOR SERVICE CONNECTIONS TO UTILITY MAINS
6. TRENCH RESPONSIBILITY INCLUDES EXCAVATIONS, BACKFILL, COMPACTION AND MAINTENANCE OF THE TRENCH
7. CONTRACTOR IS RESPONSIBLE FOR INSTALLING APPROPRIATE CONSTRUCTION SAFETY SIGNAGE WHILE WORKING IN PUBLIC RIGHT-OF-WAY AND EASEMENTS
8. ANY ADJACENT PROPERTIES OR ROAD RIGHT-OF-WAYS WHICH ARE DAMAGED DURING CONSTRUCTION MUST BE RESTORED BY THE CONTRACTOR. THE COST OF RESTORATION IS CONSIDERED INCIDENTAL AND SHOULD BE INCLUDED IN THE COST OF THE IMPROVEMENTS
9. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE OWNER WITH A SET OF MARKED-UP PRINTS SHOWING ALL CHANGES MADE DURING THE CONSTRUCTION PROCESS. ANY CHANGES TO THE DRAWINGS OR ADDITIONAL ITEMS MUST BE REPORTED TO THE OWNER
10. ALL PIPE LENGTHS ARE MEASURED FROM INSIDE WALL OF STRUCTURE
11. CONTRACTOR TO EXCAVATE AT ALL UTILITY CROSSINGS PRIOR TO INSTALLATION TO CONFIRM CROSSING CAN BE INSTALLED AS SHOWN
12. ALL UTILITIES SHALL BE INSTALLED UNDERGROUND

UTILITY TRENCHING NOTES:

1. THE EXCAVATED MATERIAL FROM TRENCHING SHALL BE PLACED ON THE UPSLOPE SIDE OF THE TRENCH
2. THE TOTAL LENGTH OF EXCAVATED TRENCH OPEN AT ANY ONE TIME SHOULD NOT BE GREATER THAN THE TOTAL LENGTH OF PIPELINE/UTILITY LINE THAT CAN BE PLACED IN THE TRENCH AND BACK-FILLED IN ONE WORKING DAY.
3. NO MORE THAN 50 LINEAL FEET OF OPEN TRENCH SHOULD EXIST WHEN PIPELINE/UTILITY LINE INSTALLATION CEASES AT THE END OF THE WORKDAY
4. ANY BMP'S AFFECTED BY TRENCHING AND BACKFILLING OPERATIONS SHALL BE REPAIRED AND STABILIZED IMMEDIATELY

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COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL CHRISTOPHER W. HAMM ENGINEER PE-080435

REVISIONS:			
REV	DATE	DESCRIPTION	

CLIENT:

WALKERS MILL TOWNHOUSES PHASE 2

OAKDALE BOROUGH AND SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY, PA

PROJ NO: 211-009-23B
DATE: 03/09/2026
DRAWN BY: RAM
CHECKED BY: CWH

SHEET TITLE:
OVERALL UTILITY PLAN

SHEET NO.
D5.0

S:\PROJECTS\211-009-23-WALKERS MILL TOWNHOUSES\DRAWINGS\211-009-23B-BASE PHASE 2-260309.DWG

UTILITY TRENCHING NOTES:

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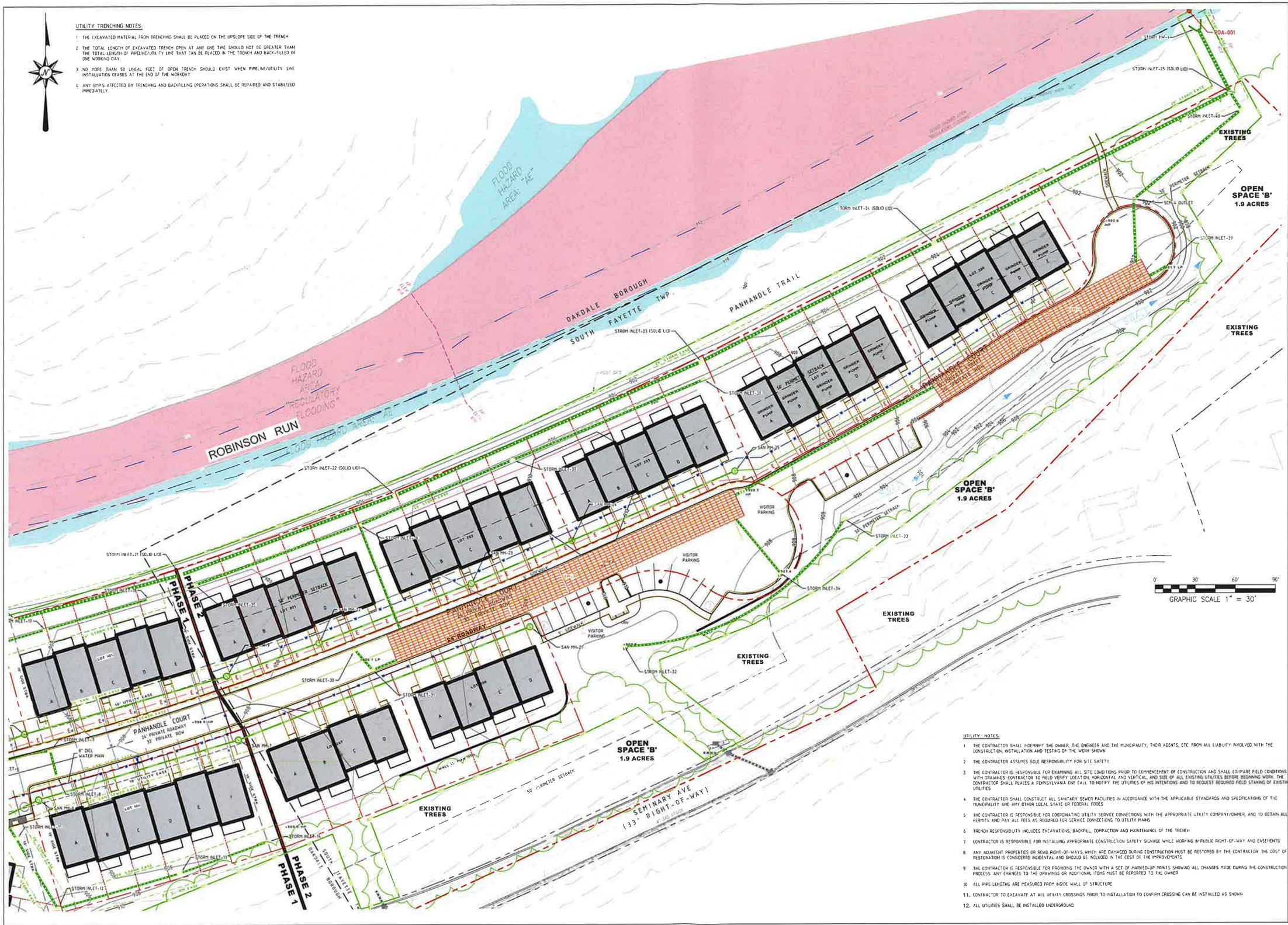

UTILITY NOTES:

1. THE CONTRACTOR SHALL INDEMNIFY THE OWNER, THE ENGINEER AND THE MUNICIPALITY, THEIR AGENTS, ETC FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION AND TESTING OF THE WORK SHOWN
2. THE CONTRACTOR ASSUMES SOLE RESPONSIBILITY FOR SITE SAFETY
3. THE CONTRACTOR IS RESPONSIBLE FOR EXAMINING ALL SITE CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION AND SHALL COMPARE FIELD CONDITIONS WITH DRAWINGS CONTRACTOR TO FIELD VERIFY LOCATION, HORIZONTAL AND VERTICAL, AND SIZE OF ALL EXISTING UTILITIES BEFORE BEGINNING WORK. THE CONTRACTOR SHALL PLACE A PENNSYLVANIA ONE CALL TO NOTIFY THE UTILITIES OF HIS INTENTIONS AND TO REQUEST REQUIRED FIELD STAKING OF EXISTING UTILITIES.
4. THE CONTRACTOR SHALL CONSTRUCT ALL SANITARY SEWER FACILITIES IN ACCORDANCE WITH THE APPLICABLE STANDARDS AND SPECIFICATIONS OF THE MUNICIPALITY AND ANY OTHER LOCAL STATE OR FEDERAL CODES
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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
CHRISTOPHER W. HAMM
ENGINEER
PE-060433

REVISIONS:

DESCRIPTION	DATE	REV

CLIENT:

WALKERS MILL TOWNHOUSES PHASE 2

OAKDALE BOROUGH AND SOUTH FAYETTE TOWNSHIP
ALLEGHENY COUNTY, PA

PROJ NO: 211-009-23B
DATE: 03/09/2026
DRAWN BY: RAM
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SHEET TITLE:
ENLARGED UTILITY PLAN

SHEET NO.
D5.1

S:\PROJECTS\211-009-23-WALKERS MILL TOWNHOUSES\DRAWINGS\211-009-23B-BASE PHASE 2-260309.DWG

UTILITY TRENCHING NOTES:

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STORMWATER FACILITY OWNERSHIP & OPERATION REQUIREMENTS:

1. THE STORM WATER MANAGEMENT FACILITIES SHOWN ON THESE PLANS SHALL BE CONSTRUCTED, MAINTAINED AND OPERATED BY THE OWNER / DEVELOPER OF THE PROPERTY, EASEMENT AND/OR LAND CONTAINING SAID FACILITIES. IT IS INTENDED THAT THE OWNERSHIP AND/OR MAINTENANCE OF THE FACILITIES INCLUDE ALL ON-SITE BMPS, BE RETAINED BY THE OWNER / DEVELOPER. THE MAINTENANCE RESPONSIBILITIES SPECIFIED HEREON SHALL BE TRANSFERRED WITH ANY FUTURE CHANGE IN OWNERSHIP. ANY DEED TRANSFER OF SAID PROPERTY CONTAINING STORMWATER FACILITIES AND/OR EASEMENTS SHALL SPECIFICALLY REFERENCE THE MAINTENANCE REQUIREMENTS ASSOCIATED WITH THIS PLAN.
2. MAINTENANCE AND OPERATION REQUIREMENTS FOR EACH FACILITY ARE SPECIFIED HEREON WHERE APPROPRIATE AS PART OF THESE PLANS.

CRITICAL STAGES OF CONSTRUCTION:

THE ENGINEER MUST CERTIFY INSTALLATION OF ALL PCSM BMPs, FOR TERMINATION OF THE NPDES PERMIT. THEREFORE, THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE ENGINEER PRIOR TO CONSTRUCTING

- UNDERGROUND DETENTION SYSTEM INSTALLATION

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12. SEE "PADOT STANDARDS FOR ROADWAY CONSTRUCTION" CURRENT EDITION FOR DETAILS PERTAINING TO TYPE C AND TYPE M INLETS AND STORM SEWER MANHOLES. MATERIALS AND SIZING OF STRUCTURES SHALL BE IN ACCORDANCE WITH THESE STANDARDS.
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COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL CHRISTOPHER W. HAMM ENGINEER PE-060438

REVISIONS:		
REV	DATE	DESCRIPTION

CLIENT:

WALKERS MILL TOWNHOUSES PHASE 2

OAKDALE BOROUGH AND SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY, PA

PROJ NO: 211-009-23B
DATE: 03/09/2026
DRAWN BY: RAM
CHECKED BY: CWH

SHEET TITLE:
OVERALL STORM SEWER PLAN

SHEET NO.
D6.0

S:\PROJECTS\211-009-23-WALKERS MILL TOWNHOUSES\DRAWINGS\211-009-23B-BASE PHASE 2-260309.DWG

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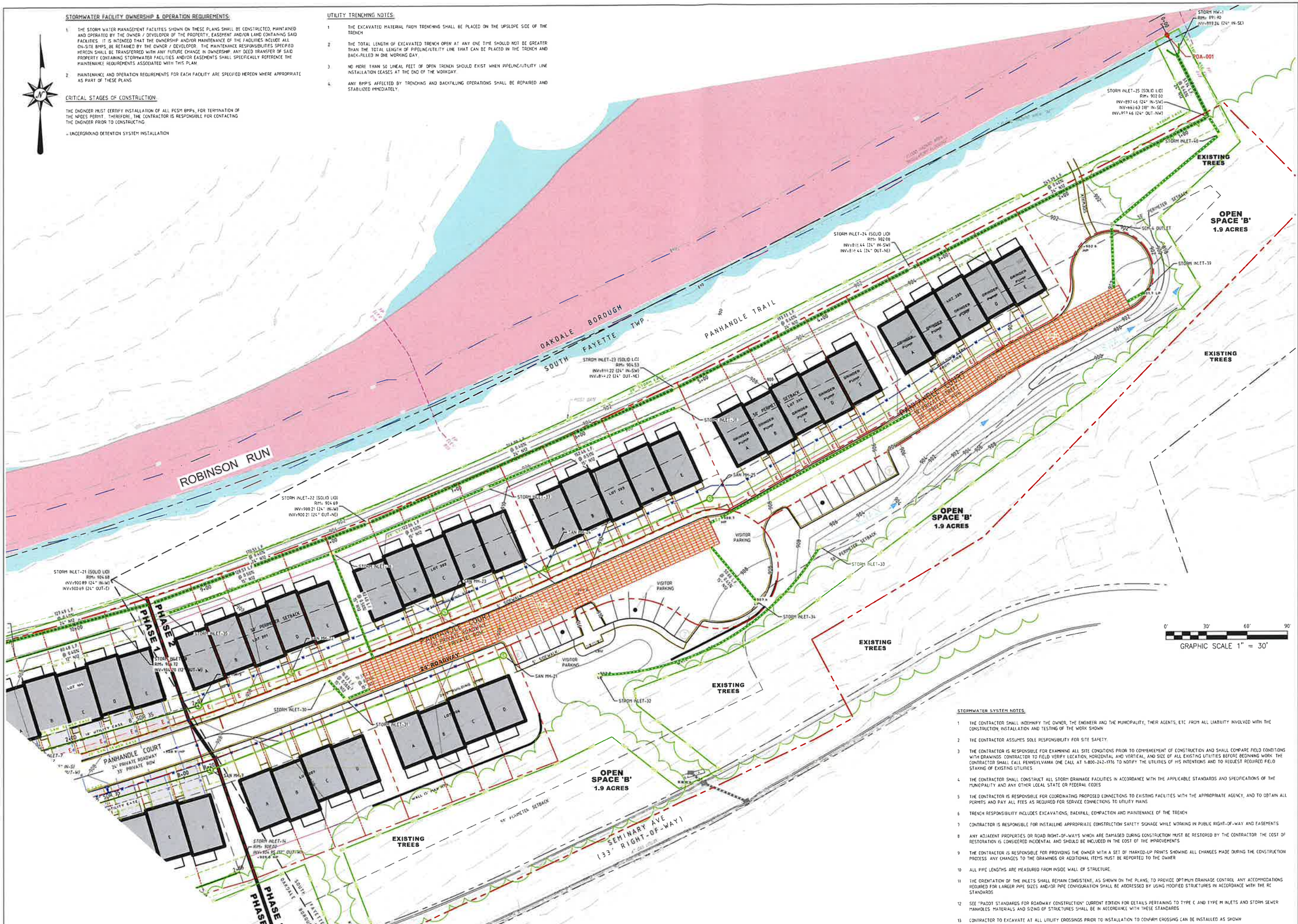

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REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER W. HAMM
PE-080435

REVISIONS:

REV	DATE	DESCRIPTION

CLIENT:

WALKERS MILL TOWNHOUSES PHASE 2

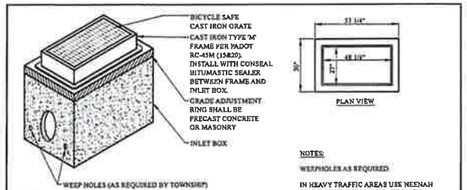
OAKDALE BOROUGH AND SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY, PA

PROJ NO: 211-009-23B
DATE: 03/09/2026
DRAWN BY: RAM
CHECKED BY: CWH

SHEET TITLE:
ENLARGED STORM SEWER PLAN

SHEET NO.
D6.1

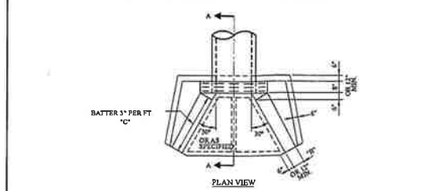
S:\PROJECTS\211-009-23-WALKERS MILL TOWNHOUSES\DRAWINGS\211-009-23B-BASE PHASE 2-260309.DWG



SOUTH FAYETTE TOWNSHIP	PA D.O.T. TYPE 'M' INLET
Not to Scale	Adopted: JULY 2022 — SFT-SD-009

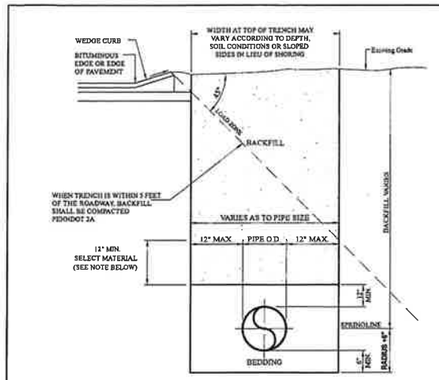
PIPE DIA	A	B	C	D	E	F
15"	2'-6"	9"	2'-0"	12"	1'-9"	9"
18"	2'-6"	9"	2'-0"	12"	2'-0"	9"
24"	3'-3"	9"	2'-0"	12"	2'-6"	9"
30"	4'-0"	12"	2'-6"	15"	3'-0"	12"

NOTE:
SHOP DRAWINGS FOR ALL PRECAST HEADWALLS/ENDWALLS OR CONCRETE END SECTION MUST BE SUBMITTED FOR APPROVAL.



NOTE:
- RIP-RAP OR SOME OTHER FORM OF ENERGY DISSIPATION WILL BE REQUIRED AT TERMINATION OF DEVICE, REFER TO PA DEP EROSION AND SEDIMENTATION AND/OR SWM BMP MANUALS
- PIPES LARGER THAN 30" TO BE DESIGNED BY AN ENGINEER - (SEE DETAIL - SFT - SD - 015) AND APPROVED BY TOWNSHIP ENGINEER.

SOUTH FAYETTE TOWNSHIP	STANDARD END WALL 15" TO 30" PIPES
Not to Scale	Adopted: JULY 2022 — SFT-SD-014

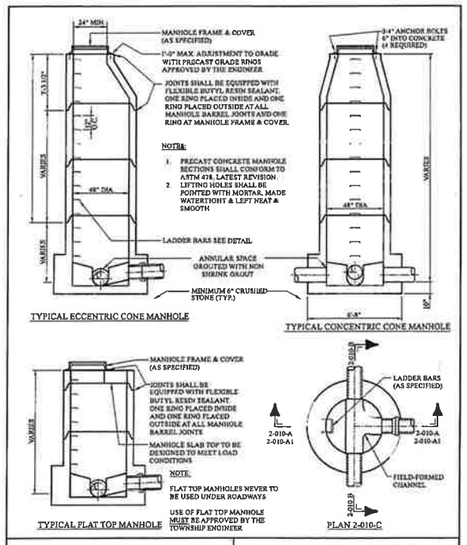


BEDDING: THE BEDDING SHALL HAVE A MINIMUM DEPTH OF SIX INCHES (6") BELOW ALL PIPES AND SHALL BE BACKFILLED WITH AASHTO #57, GRAVEL OR STONE TWELVE INCHES (12") BELOW ALL PIPE IN ROCK THEN EXTENDED UP TO 12" OVER PIPE

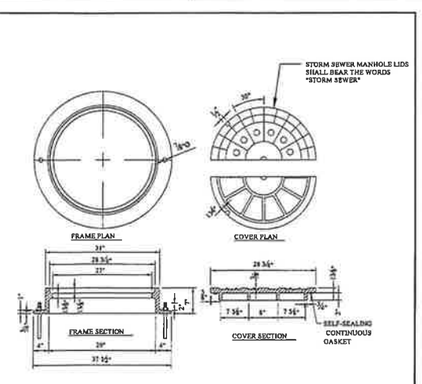
BACKFILL: ALL STREET, SIDEWALK, PARKING AREA CROSSINGS, OR AREA WITHIN 5' OF CURB LINE SHALL BE BACKFILLED AND COMPACTED TO SUBGRADE WITH COMPACTED PENNDOT 2A.

IN ALL OTHER TRENCH AREAS BACKFILL FROM (0'-6") ABOVE THE TOP OF THE PIPE, TO BE SELECTED MATERIAL (SELECTED MATERIALS IS FINELY DIVIDED MATERIAL FREE OF DEBRIS, ORGANIC MATERIAL AND STONES). COMPACTED IN EIGHT INCH (8") LAYERS.

SOUTH FAYETTE TOWNSHIP	PIPE TRENCHING AND BEDDING DETAIL
Not to Scale	Adopted: JULY 2022 — SFT-SD-016



SOUTH FAYETTE TOWNSHIP	PRECAST CONCRETE MANHOLE FOR STORM SEWERS 6" TO 21"
Not to Scale	Adopted: JULY 2022 — SFT-SD-022



NOTE:
STANDARD MANHOLE, FRAME & COVER LOCATED IN STREETS SHALL BE NEENAH FOUNDRY CO. FRAME R-1733-A AND SELF-SEALING SOLID LID OR APPROVED EQUAL.

MANHOLE COVER AND FRAME

SOUTH FAYETTE TOWNSHIP	MANHOLE COVER AND FRAME
Not to Scale	Adopted: JULY 2022 — SFT-SD-031

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REGISTERED PROFESSIONAL ENGINEER CHRISTOPHER W. HAMM PE-060430

REVISIONS:	REV	DATE	DESCRIPTION

CLIENT:

WALKERS MILL TOWNHOUSES PHASE 2

OAKDALE BOROUGH AND SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY, PA

PROJ NO: 211-009-23B
DATE: 03/09/2026
DRAWN BY: RAM
CHECKED BY: CWH

SHEET TITLE:
STORM SEWER DETAILS

SHEET NO.
D6.2

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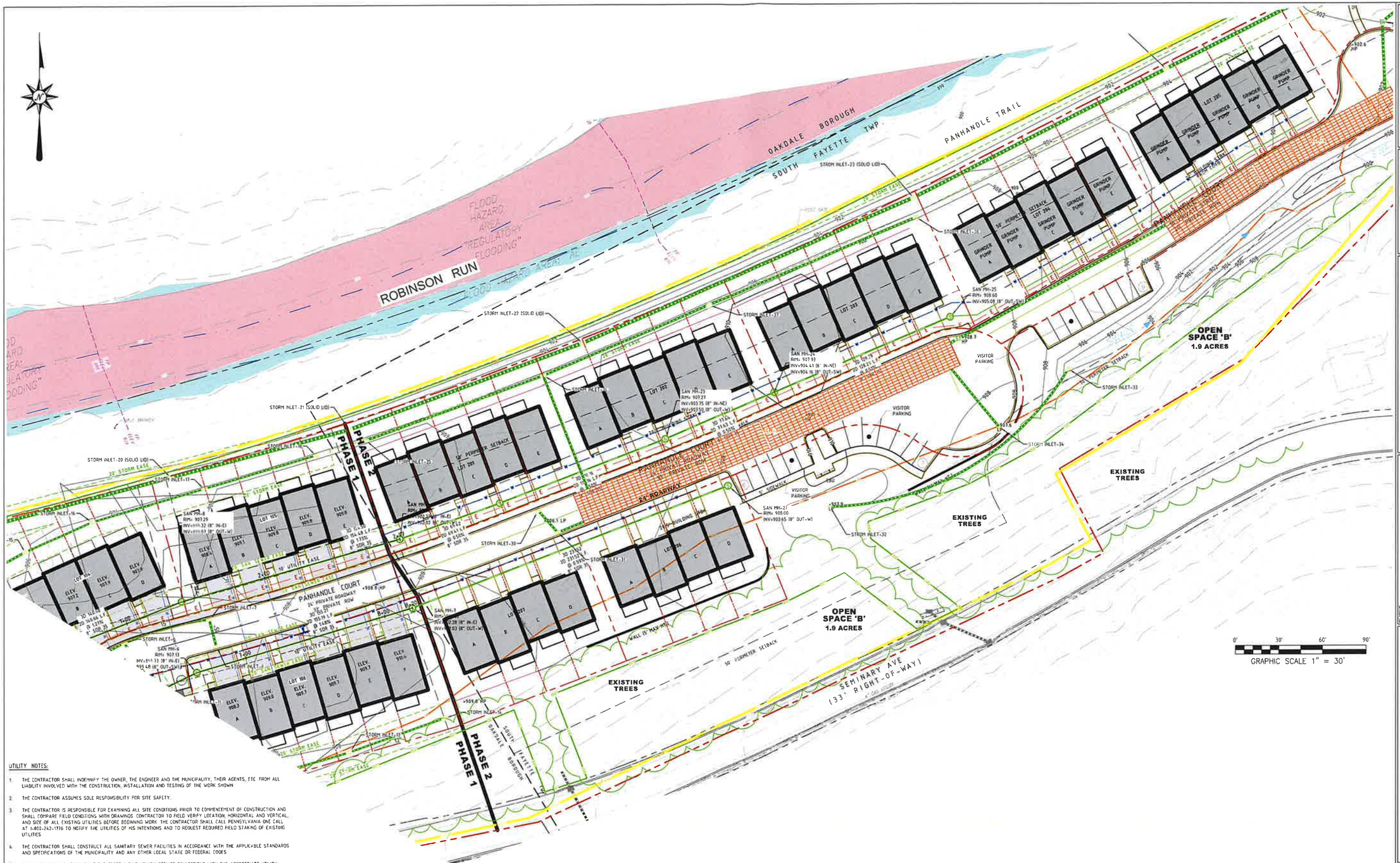

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C:\USERS\RMONDELL\DESKTOP\WALKERS MILL PHASE 2\211-009-23B-BASE PHASE 2-260309.DWG

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593 RUGH STREET
GREENSBURG, PA 15601
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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
CHRISTOPHER W. HANNA
ENGINEER
PE-080435

REVISIONS:

REV	DATE	DESCRIPTION

CLIENT:

WALKERS MILL TOWNHOUSES PHASE 2

OAKDALE BOROUGH AND SOUTH FAYETTE TOWNSHIP
ALLEGHENY COUNTY, PA

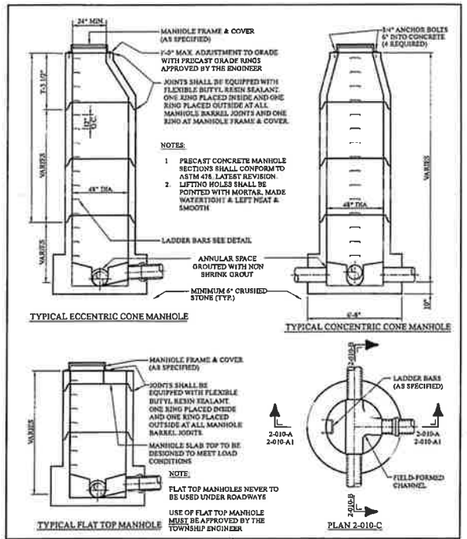
PROJ NO: 211-009-23B
DATE: 03/09/2026
DRAWN BY: RAM
CHECKED BY: CWH

SHEET TITLE:

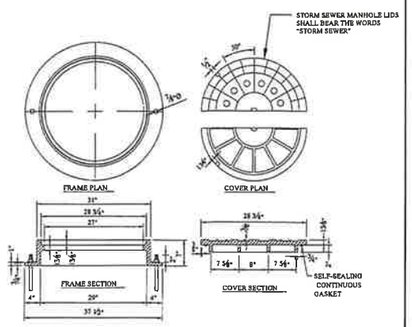
SANITARY SEWER PLAN

SHEET NO.

D7.0



SOUTH FAYETTE TOWNSHIP	PRECAST CONCRETE MANHOLE FOR STORM SEWERS 6" TO 21"		
GIBSON-THOMAS ENGINEERING CO.	Not to Scale	Adopted: JULY 2022	SFT-SD-022

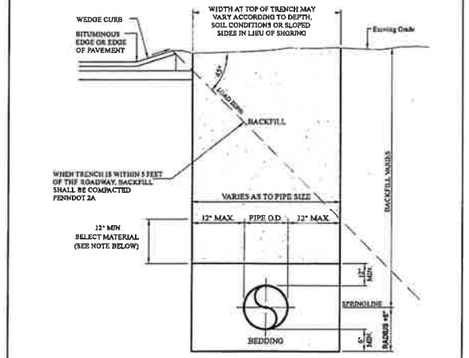


NOTE:

STANDARD MANHOLE, FRAME & COVER LOCATED IN STREETS SHALL BE NEENAH FOUNDRY CO. FRAME R-1753-A AND SELF-SEALING SOLID LID OR APPROVED EQUAL.

MANHOLE COVER AND FRAME

SOUTH FAYETTE TOWNSHIP	MANHOLE COVER AND FRAME		
GIBSON-THOMAS ENGINEERING CO.	Not to Scale	Adopted: JULY 2022	SFT-SD-031



BEDDING: THE BEDDING SHALL HAVE A MINIMUM DEPTH OF SIX INCHES (6") BELOW ALL PIPES AND SHALL BE BACKFILLED WITH AASHTO #57, GRAVEL, OR STONE TWELVE INCHES (12") BELOW ALL PIPE IN ROCK THEN EXTENDED UP TO 12" OVER PIPE

BACKFILL: ALL STREET, SIDEWALK, PARKING AREA CROSSINGS, OR AREA WITHIN 5' OF CURB LINE SHALL BE BACKFILLED AND COMPACTED TO SUBGRADE WITH COMPACTED PENNDOT 2A

IN ALL OTHER TRENCH AREAS BACKFILL FROM (0'-6") ABOVE THE TOP OF THE PIPE, TO BE SELECTED MATERIAL (SELECTED MATERIALS IS FINELY DIVIDED MATERIAL FREE OF DEBRIS, ORGANIC MATERIAL AND STONES), COMPACTED IN EIGHT INCH (8") LAYERS

SOUTH FAYETTE TOWNSHIP	PIPE TRENCHING AND BEDDING DETAIL		
GIBSON-THOMAS ENGINEERING CO.	Not to Scale	Adopted: JULY 2022	SFT-SD-016

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COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL CHRISTOPHER W. HAMM ENGINEER PE-090435

REVISIONS:

REV	DATE	DESCRIPTION

CLIENT:

WALKERS MILL TOWNHOUSES PHASE 2

OAKDALE BOROUGH AND SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY, PA

PROJ NO: 211-009-238
DATE: 03/09/2026
DRAWN BY: RAM
CHECKED BY: CWH

SHEET TITLE:

SANITARY SEWER DETAILS

SHEET NO.

D7.1

C:\USERS\RMONGELL\DESKTOP\WALKERS MILL PHASE 2\211-009-238-BASE PHASE 2-260309.DWG

POST CONSTRUCTION STORMWATER MANAGEMENT
WALKERS MILL TOWNHOUSES PHASE 2
BOROUGH OF OAKDALE & SOUTH FAYETTE TOWNSHIP,
ALLEGHENY COUNTY, PENNSYLVANIA

PREPARED FOR:

J&T OAKDALE PROPERTIES, LLC

VICINITY MAP
SCALE: 1"=500'

NOTES:
1. ALL PROPOSED GRADES, ELEVATIONS, AND SLOPES, AS WELL AS ALL ASSOCIATED ENGINEERING ASSUMPTIONS, ARE BASED SOLELY AND EXCLUSIVELY UPON LOCAL AND NATIVE SOIL CONDITIONS FOUND ARE FOR THE SPECIFIC PROJECT LOCATION, AND SUPPORTING INFORMATION FROM THE SOIL SURVEY PREPARED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE, AS WELL AS ADDITIONAL INFORMATION FROM THE NRCS'S WEB SOIL SURVEY WEBSITE

2 ANY AND ALL CONSTRUCTION WORK RELATED TO EARTH MOVING OR OTHER EXCAVATION SHALL ONLY BE PERFORMED UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL GEOTECHNICAL ENGINEER, OR OTHER APPROVED PROFESSIONAL REPRESENTATIVE, WITH EXTENSIVE KNOWLEDGE AND EXPERIENCE IN THE INTERPRETATION OF ALL ISSUES RELATED TO GEOTECHNICAL ENGINEERING AND CONSTRICTION ACTIVITIES

3 IN ADDITION, INFILTRATION CAPACITY OF NATIVE SOILS HAVE BEEN ASSUMED AND EVALUATED (BY OTHERS) BASED UPON THE ABOVE REFERENCED SOURCES DUE TO THE NATURE OF STRUCTURAL BMP'S DESIGNED FOR INSTALLATION AND UTILIZATION ON THE PROJECT SITE EXTENSIVELY MINIMAL INFILTRATION IS ANTICIPATED THE CONTRACTOR SHALL TAKE EXTREME CAUTION AND CARE WHEN PERFORMING CONSTRUCTION ACTIVITIES IN THE AREAS OF STRUCTURAL BMP IMPLEMENTATION, AND SHALL ADHERE TO THE RECOMMENDED CONSTRUCTION PROCEDURES AND AVOIDANCE MEASURES CONTAINED WITHIN THE APPROVED CONSTRUCTION DOCUMENTS

4 ALL STORM DRAIN/CATCH BASIN/INLET STRUCTURES TO BE CONSTRUCTED AND FITTED WITH BICYCLE SAFE FRAME AND GRATING, UNLESS NOTED OTHERWISE

5 THE DRAWING IS BASED ON THE PENNSYLVANIA STATE PLANE COORDINATE SYSTEM OF 1983, SOUTH ZONE, NORTH AMERICAN DATUM OF 1983 (NAND NAD)

STORMWATER MANAGEMENT NOTES:

NO PERSON, INCLUDING THE LANDOWNER, SHALL ALTER OR REMOVE THE STORMWATER MANAGEMENT FIXTURES WITHOUT PRIOR WRITTEN APPROVAL BY BOROUGH OF OAKDALE AND SOUTH FAYETTE TOWNSHIP

THE OPERATION AND MAINTENANCE (O&M) AGREEMENT FOR THE STORMWATER MANAGEMENT CONTROLS IS PART OF THE STORMWATER MANAGEMENT PLAN

RECORD DRAWINGS AND DOCUMENTATION WILL BE PROVIDED FOR ALL STORMWATER MANAGEMENT FACILITIES PRIOR TO THE RELEASE OF THE SURETY BOND AND AN ISSUANCE OF AN OCCUPANCY PERMIT

PCSM DESIGN NOTE:

THIS PLAN HAS BEEN PREPARED BY KDH ENGINEERS, WHO'S EMPLOYEES HAVE DECADES OF COMBINED EXPERIENCE PREPARING AND DESIGNING POST CONSTRUCTION STORMWATER MANAGEMENT PLANS IN PENNSYLVANIA AND SURROUNDING STATES.

THE PCSM BMP'S WILL BE INSTALLED TO PRESERVE THE INTEGRITY OF DOWNSTREAM STREAM CHANNELS AND MAINTAIN AND PROTECT THE PHYSICAL, BIOLOGICAL AND CHEMICAL QUALITIES OF THE RECEIVING STREAMS.

MINIMIZE IMPERVIOUS AREAS
KDH WORKED CLOSELY WITH THE OWNER TO MINIMIZE THE IMPERVIOUS AREA, TO THE MAXIMUM EXTENT PRACTICAL, WHILE STILL MEETING THE REQUIREMENTS OF THE PROJECT.

MINIMIZE THE EXTENT AND DURATION OF THE EARTH DISTURBANCE.
TO MINIMIZE THE EXTENT AND DURATION OF THE EARTH DISTURBANCE THE CONSTRUCTION SEQUENCE REQUIRES IMMEDIATE INSTALLATION OF THE PAVEMENT SUB BASE UPON REACHING FINAL GRADE, TO STABILIZATION THE SITE QUICKLY.

THE CONSTRUCTION SEQUENCE STATES THAT " UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY FOR 4-DAYS THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED."

MAXIMIZE PROTECTION OF EXISTING DRAINAGE FEATURES AND VEGETATION.
VEGETATION WILL ONLY BE REMOVED FROM AREAS WHICH ARE INSIDE THE LIMIT OF DISTURBANCE. PROTECTION OF THE EXISTING DRAINAGE FEATURES WILL BE PERFORMED THROUGH E&S BMP PERIMETER CONTROLS, SUCH AS SILT SOCKS.

MINIMIZE SOIL COMPACTION.
THE LOCATION OF THE PCSM INFILTRATION AREAS, WHICH WILL BE USED AS PCSM INFILTRATION DEVICE(S), IS SHOWN ON THE PLAN. THE LOCATION IS MARKED AS "AREA TO BE PROTECTED FROM EXCESSIVE COMPACTION."

PROJECT ENGINEER:
KDH CONSULTING ENGINEERS, INC.
593 RUCH STREET, LOWER LEVEL
GREENSBURG, PA 15601
(724) 493-5041
CONTACT: CHRISTOPHER W. HAMM, P.E.

DEVELOPER:
J&T OAKDALE PROPERTIES, LLC
1321-C McLAUGHLIN ROAD
PITTSBURGH, PA 15241

NOTE
THE MERIDIAN OF THE PROJECT IS THE PENNSYLVANIA STATE PLANE COORDINATE SYSTEM, NAD 1983

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REGISTERED PROFESSIONAL ENGINEER CHRISTOPHER W. HAMM PE-080438

REVISIONS:

REV	DATE	DESCRIPTION

CLIENT:

WALKERS MILL TOWNHOUSES PHASE 2
OAKDALE BOROUGH AND SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY, PA

PROJ NO: 211-009-23B
DATE: 03/09/2026
DRAWN BY: RAM
CHECKED BY: CWH

SHEET TITLE:
PCSM COVER SHEET

SHEET NO.
D8.0

C:\USERS\RMONGELL\DESKTOP\WALKERS MILL PHASE 2\211-009-23B-BASE PHASE 2-260309.DWG

NOTE:
THIS PLAN IS FOR POST CONSTRUCTION STORMWATER MANAGEMENT PURPOSES ONLY. THE CONTRACTOR SHALL REFER TO THE APPROPRIATE UTILITY PLAN FOR FINAL LOCATION AND DETAILS.

LEGEND

- LIMITS OF DISTURBANCE
- NPDES PERMIT BOUNDARY
- INFILTRATION AREA: AREA TO BE PROTECTED FROM EXCESSIVE SOIL COMPACTION

STORMWATER FACILITY OWNERSHIP & OPERATION REQUIREMENTS:

1. THE STORM WATER MANAGEMENT FACILITIES SHOWN ON THESE PLANS SHALL BE CONSTRUCTED, MAINTAINED AND OPERATED BY THE OWNER / DEVELOPER OF THE PROPERTY. EASEMENT AND/OR LAND CONTAINING SAID FACILITIES. IT IS INTENDED THAT THE OWNERSHIP AND/OR MAINTENANCE OF THE FACILITIES INCLUDE ALL ON-SITE BMPS, BE RETAINED BY THE OWNER / DEVELOPER. THE MAINTENANCE RESPONSIBILITIES SPECIFIED HEREON SHALL BE TRANSFERRED WITH ANY FUTURE CHANGE IN OWNERSHIP. ANY DEED TRANSFER OF SAID PROPERTY CONTAINING STORMWATER FACILITIES AND/OR EASEMENTS SHALL SPECIFICALLY REFERENCE THE MAINTENANCE REQUIREMENTS ASSOCIATED WITH THIS PLAN.
2. MAINTENANCE AND OPERATION REQUIREMENTS FOR EACH FACILITY ARE SPECIFIED HEREON WHERE APPROPRIATE AS PART OF THESE PLANS.

UTILITY TRENCHING NOTES:

1. THE EXCAVATED MATERIAL FROM TRENCHING SHALL BE PLACED ON THE UPSLOPE SIDE OF THE TRENCH.
2. THE TOTAL LENGTH OF EXCAVATED TRENCH OPEN AT ANY ONE TIME SHOULD NOT BE GREATER THAN THE TOTAL LENGTH OF PIPELINE/UTILITY LINE THAT CAN BE PLACED IN THE TRENCH AND BACK-FILLED IN ONE WORKING DAY.
3. NO MORE THAN 50 LINEAL FEET OF OPEN TRENCH SHOULD EXIST WHEN PIPELINE/UTILITY LINE INSTALLATION CEASES AT THE END OF THE WORKDAY.
4. ANY BMPS AFFECTED BY TRENCHING AND BACKFILLING OPERATIONS SHALL BE REPAIRED AND STABILIZED IMMEDIATELY.

CRITICAL STAGES OF CONSTRUCTION:

THE ENGINEER MUST CERTIFY INSTALLATION OF ALL PCSM BMPs, FOR TERMINATION OF THE NPDES PERMIT. THEREFORE, THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE ENGINEER PRIOR TO CONSTRUCTING:

- UNDERGROUND DETENTION SYSTEM INSTALLATION

1. ALL PROPOSED GRADES, ELEVATIONS, AND SLOPES, AS WELL AS ALL ASSOCIATED ENGINEERING ASSUMPTIONS, ARE BASED SOLELY AND EXCLUSIVELY UPON LOCAL AND NATIVE SOIL CONDITIONS FOUND ARE FOR THE SPECIFIC PROJECT LOCATION, AND SUPPORTING INFORMATION FROM THE SOIL SURVEY PREPARED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE, AS WELL AS ADDITIONAL INFORMATION FROM THE NRCS'S WEB SOIL SURVEY WEBSITE
2. ANY AND ALL CONSTRUCTION WORK RELATED TO EARTH MOVING OR OTHER EXCAVATION SHALL ONLY BE PERFORMED UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL GEOTECHNICAL ENGINEER, OR OTHER APPROVED PROFESSIONAL REPRESENTATIVE, WITH EXTENSIVE KNOWLEDGE AND EXPERIANCE IN THE INTERPRETATION OF ALL ISSUES RELATED TO GEOTECHNICAL ENGINEERING AND CONSTRUCTION ACTIVITIES.
3. IN ADDITION, INFILTRATION CAPACITY OF NATIVE SOILS HAVE BEEN ASSUMED AND EVALUATED (BY OTHERS) BASED UPON THE ABOVE REFERENCED SOURCES. DUE TO THE NATURE OF STRUCTURAL BMP'S DESIGNED FOR INSTALLATION AND UTILIZATION ON THE PROJECT SITE EXTENSIVELY MINIMAL INFILTRATION IS ANTICIPATED. THE CONTRACTOR SHALL TAKE EXTREME CAUTION AND CARE WHEN PERFORMING CONSTRUCTION ACTIVITIES IN THE AREAS OF STRUCTURAL BMP IMPLEMENTATION, AND SHALL ADHERE TO THE RECOMMENDED CONSTRUCTION PROCEDURES AND AVOIDANCE MEASURES CONTAINED WITHIN THE APPROVED CONSTRUCTION DOCUMENTS
4. ALL STORM DRAIN/CATCH BASIN/INLET STRUCTURES TO BE CONSTRUCTED AND FITTED WITH BICYCLE SAFE FRAME AND GRATING, UNLESS NOTED OTHERWISE

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REGISTERED PROFESSIONAL
CHRISTOPHER W. HAMM
ENGINEER
PE-080438
COMMONWEALTH OF PENNSYLVANIA

REVISIONS:			
REV	DATE	DESCRIPTION	

CLIENT:

WALKERS MILL TOWNHOUSES PHASE 2

OAKDALE BOROUGH AND SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY, PA

PROJ NO: 211-009-23B
DATE: 03/09/2026
DRAWN BY: RAM
CHECKED BY: CWH

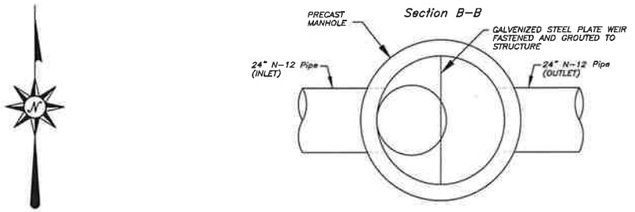
SHEET TITLE:
OVERALL PCSM PLAN

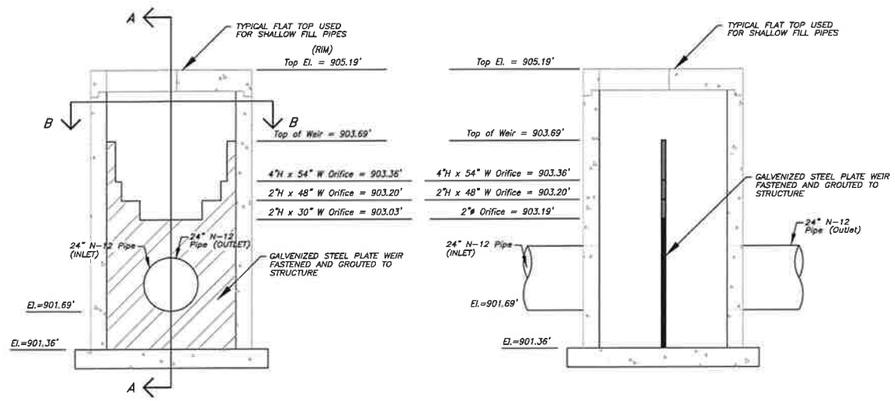
SHEET NO.
D8.1

S:\PROJECTS\211-009-23-WALKERS MILL TOWNHOUSES\DRAWINGS\211-009-23B-BASE PHASE 2-260309.DWG

UNDERGROUND STORAGE SCM-3 (DP 001)

SCALE : 1" = 20'





SCM-3 OUTLET STRUCTURE

NOT TO SCALE

1 D8.2

FILL CHART

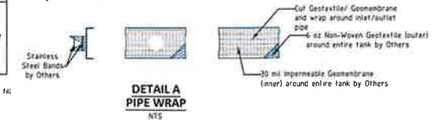
Material Location	Description	Material Classification	Compaction/Density Requirement (NOTE 3)
FINAL FILL Fill starting from the top of the embedment fill layer. (NOTE 1 and 2)	Suitable Fill Materials as noted in the Project Geotechnical Report and noted on the Site Design Engineer's Plans	See Project 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 to 95% of the Standard Proctor Maximum Dry Density - whichever is greater.
EMBEDMENT FILL Fill immediately Surrounding the sides and top of tank (NOTE 4) **BEDDING FILL** Fill immediately below the 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.

NOTE 1 This layer can include pavement subbase
NOTE 2 If open-graded aggregates are used for embedment fill, fines 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	1,500	6
Compact Track Loader (NOTE 2)	7,500	6
Rubber-Tired Skid Steer (NOTE 2)	7,500	24
Low Ground Pressure Tracked Vehicles (NOTE 4)	20,000	24
Roller - Static Mode	12,000	38
Roller - Vibratory Mode	12,000	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 = 5,150 lbs
NOTE 4 Maximum ground pressure = 3 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 stockpiled near the excavation for longer than 24 hours



DETAIL A
PIPE WRAP
NTS

COVER CHART

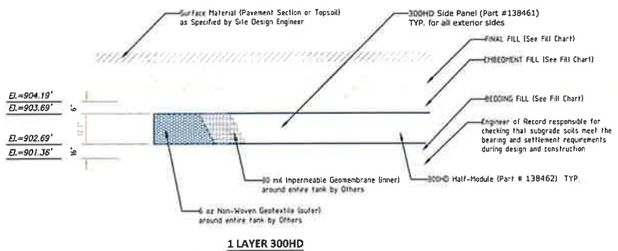
Live Loading Condition	Cover Thickness (inches) Minimum	Maximum
Non-Trafficked Areas (i.e. Landscaping)	12	134
Passenger Vehicles Parking Lot (i.e. Gross Vehicle Weight <10,000 lbs)	18	134
Passenger Vehicle Parking Lot with one weekly AASHTO HS-20 vehicle	20	134
Frequent AASHTO HS-20 Traffic	22	134
Passenger Vehicle Parking Lot with one weekly AASHTO HS-25 vehicle	24	134
Frequent AASHTO HS-25 Traffic	26	134

NOTE 1 Minimum Cover Thickness in non-trafficked areas is based on landscape surface with a 45 degree load distribution. In trafficked areas, Minimum Cover Thicknesses are based on an asphalt-surfaced pavement with a 35 degree load distribution
NOTE 2 Calculations assume backfill with a minimum 32-degree angle of internal friction and a maximum density of 120 lbs per cubic foot, and a seasonal groundwater elevation at least 2 feet below the invert of the tank

SIDE PANEL PIPE DIAMETER CHART

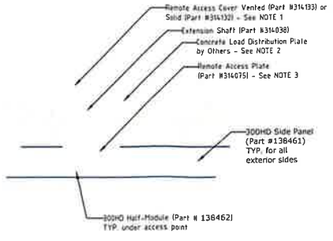
Inlet/Outlet Pipe Diameter Minimum	Maximum
4 inches	6 inches

NOTE 1 Cut inlet / outlet pipe hole prior to side panel installation
NOTE 2 Contact ACO for guidance for inlet / outlet pipes larger than 6-inch diameter



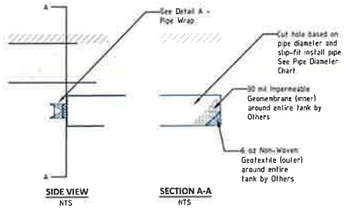
1 LAYER 300HD
DETENTION CROSS SECTION
NTS

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



1 LAYER 300HD
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



1 LAYER 300HD
PIPE INSTALLATION
NTS

KDH CONSULTING ENGINEERS, INC
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P: 878-295-8914 F:724-514-7047
www.kdhengineers.com

REGISTERED PROFESSIONAL CHRISTOPHER W. HAHN ENGINEER PE-090430

REVISIONS:

DESCRIPTION	DATE	REV

CLIENT:

WALKERS MILL TOWNHOUSES PHASE 2

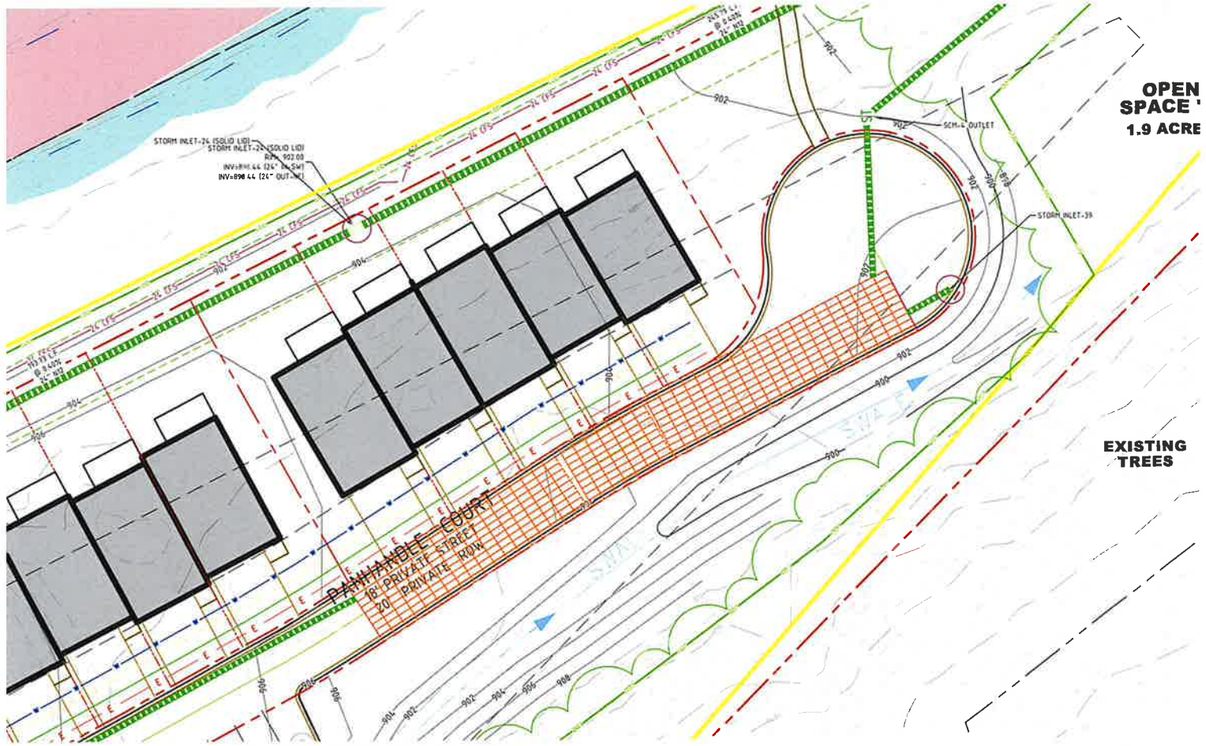
OAKDALE BOROUGH AND SOUTH FAYETTE TOWNSHIP
ALLEGHENY COUNTY, PA

PROJ NO: 211-009-23B
DATE: 03/09/2026
DRAWN BY: RAM
CHECKED BY: CWH

SHEET TITLE:
SCM-3 DETAILS

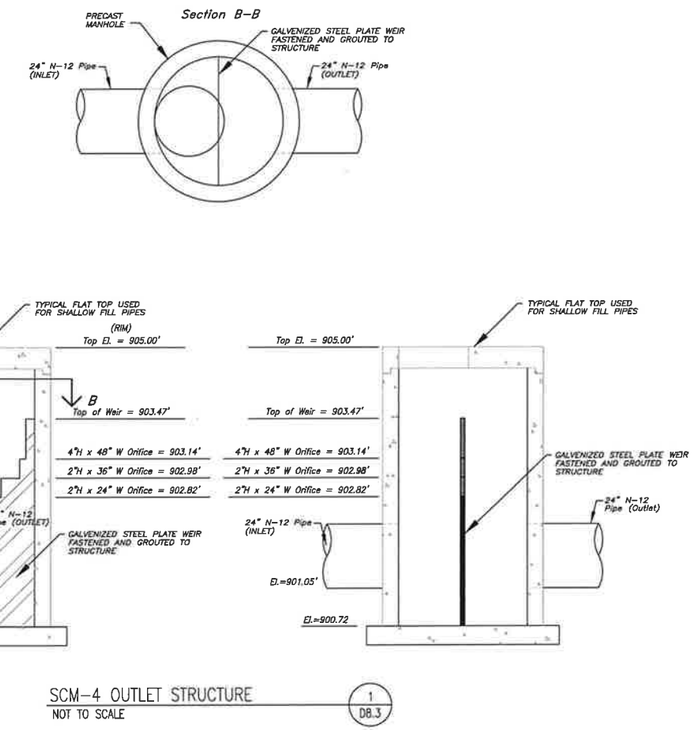
SHEET NO.
D8.2

C:\USERS\RMONGELL\DESKTOP\WALKERS MILL PHASE 2\211-009-23B-BASE PHASE 2-260309.DWG



UNDERGROUND STORAGE SCM-004 (DP 001)

SCALE : 1" = 20'



SCM-4 OUTLET STRUCTURE

NOT TO SCALE

1 D8.3

FILL CHART

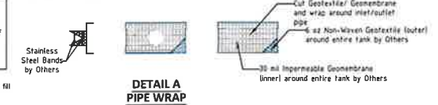
Material Location	Description	Material Classification			Compaction/Density Requirement (NOTE 3)
FINAL FILL Fill starting from the top of the embedment fill layer. (NOTE 1 and 2)	Suitable Fill Materials as noted in the Project Geotechnical Report and noted on the Site Design Engineer's Plans	See Project 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 to 95% of the Standard Proctor Maximum Dry Density - whichever is greater.
EMBEDMENT FILL Fill Immediately Surrounding the sides and top of tank (NOTE 4) BEDDING FILL Fill Immediately below the 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.

NOTE 1: This layer can include pavement subbase
NOTE 2: If open-graded aggregates are used for embedment fill, fines 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	1,500	6
Compact Track Loader (NOTE 2)	7,500	6
Rubber-Tired Skid Steer (NOTE 2)	7,500	14
Low Ground Pressure Tracked Vehicles (NOTE 4)	20,000	24
Roller - Static Mode	12,000	18
Roller - Vibratory Mode	12,000	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 = 5,250 lbs
NOTE 4: Maximum ground pressure = 7 psi
NOTE 5: Contact ACD 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 stockpiled near the excavation for longer than 24 hours



DETAIL A
PIPE WRAP
NTS

COVER CHART

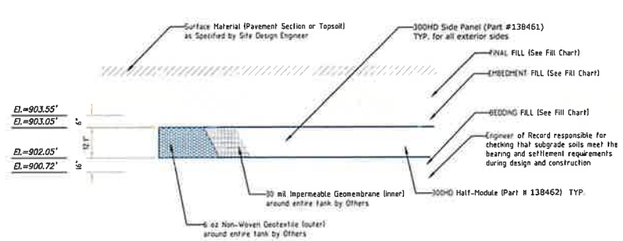
Live Loading Condition	Cover Thickness (inches)	
	Minimum	Maximum
Non-Trafficked Areas (i.e. Landscaping)	12	134
Passenger Vehicles Parking Lot (i.e. Gross Vehicle Weight <10,000 lbs)	18	134
Passenger Vehicle Parking Lot with one weekly AASHTO HS-20 vehicle	20	134
Frequent AASHTO HS-20 Traffic	22	134
Passenger Vehicle Parking Lot with one weekly AASHTO HS-25 vehicle	24	134
Frequent AASHTO HS-25 Traffic	26	134

NOTE 1: Minimum 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-surfaced pavement with a 30 degree load distribution
NOTE 2: Calculations assume backfill with a minimum 32-degree angle of internal friction and a maximum density of 119 lbs per cubic foot, and a seasonal groundwater elevation at least 2 feet below the invert of the tank

SIDE PANEL PIPE DIAMETER CHART

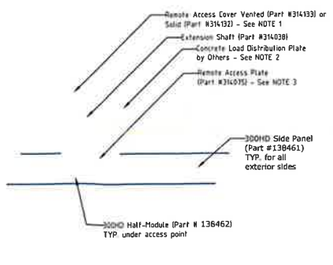
Inlet/Outlet Pipe Diameter	
Minimum	Maximum
4 inches	6 inches

NOTE 1: Cut inlet / outlet pipe hole prior to side panel installation
NOTE 2: Contact ACD for guidance for inlet / outlet pipes larger than 6-inch diameter



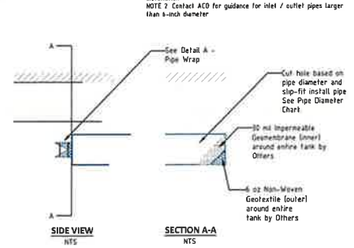
1 LAYER 300HD
DETENTION CROSS SECTION
NTS

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



1 LAYER 300HD
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



SIDE VIEW
NTS

SECTION A-A
NTS

1 LAYER 300HD
PIPE INSTALLATION
NTS

KDH CONSULTING ENGINEERS, INC
593 RUGH STREET
GREENSBURG, PA 15601
P: 878-295-8914 F:724-514-7047
www.kdhengineers.com

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL CHRISTOPHER M. HANNE ENGINEER PE-090435

REVISIONS:

REV	DATE	DESCRIPTION

CLIENT:

WALKERS MILL TOWNHOUSES PHASE 2

OAKDALE BOROUGH AND SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY, PA

PROJ NO: 211-009-23B
DATE: 03/09/2026
DRAWN BY: RAM
CHECKED BY: CWH

SHEET TITLE:

SCM-4 DETAILS

SHEET NO.

D8.3

C:\USERS\RMONGELL\DESKTOP\WALKERS MILL PHASE 2\211-009-23B-BASE PHASE 2-260309.DWG

EROSION & SEDIMENTATION CONTROL PLANS
WALKERS MILL TOWNHOUSES PHASE 2
BOROUGH OF OAKDALE & SOUTH FAYETTE TOWNSHIP,
ALLEGHENY COUNTY, PENNSYLVANIA

PREPARED FOR:

J&T OAKDALE PROPERTIES, LLC

VICINITY MAP
SCALE: 1"=500'

FILL MATERIAL NOTICE:
THE CONSTRUCTION OF THIS SITE WILL REQUIRE EXCESS FILL MATERIAL FROM AN OFFSITE FACILITY. ANY FILL MATERIAL SHALL BE FROM A SITE WITH AN APPROVED SEDIMENT AND EROSION CONTROL PLAN APPROVED AND ON FILE AT THE COUNTY CONSERVATION DISTRICT

1 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.)

2 ANY PLACEMENT OF CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE FORM FP-001 TO CERTIFY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL.

3 ENVIRONMENTAL DUE DILIGENCE MUST BE PERFORMED TO DETERMINE IF THE FILL MATERIALS ASSOCIATED WITH THE PROJECT QUALIFY AS CLEAN FILL. ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS: INVESTIGATIVE TECHNIQUES, INCLUDING, BUT 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, 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 A 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'S POLICY "MANAGEMENT OF CLEAN FILL."

EROSION & SEDIMENT CONTROL MAINTENANCE & INSPECTION SCHEDULE:
1. THE SPECIFIC INSPECTION AND MAINTENANCE REQUIREMENTS FOR EACH BMP IS LISTED WITH EACH DETAIL.
2. THE SOIL EROSION FACILITIES SHOWN ON THESE PLANS SHALL BE CONSTRUCTED AND MAINTAINED BY THE OWNER, HIS HEIRS OR ASSIGNS.
3. ADDITIONAL MAINTENANCE REQUIREMENTS ARE LOCATED WITH PLAN DETAILS AS APPLICABLE.
4. THE OWNER, THE CONTRACTOR OR ASSIGNS SHALL BE RESPONSIBLE FOR CONTINUING MAINTENANCE OF THE FACILITIES WHICH SHALL INCLUDE SUCH ITEMS AS MOWING, CLEANING AND REMOVING SEDIMENT AND/OR DEBRIS. ALL SEDIMENTS SHALL BE STOCKPILED AND SEEDED AND WILL BE USED IN FINAL GRADING. ALL DEBRIS SHALL BE RECYCLED OR DISPOSED OF IN A LANDFILL.
5. THE OWNER, CONTRACTOR OR ASSIGNS SHALL INSPECT AND/OR REPAIR THE FACILITIES WEEKLY AND AFTER EACH STORM EVENT. THE OWNER, CONTRACTOR OR ASSIGNS SHALL ALSO BE RESPONSIBLE FOR REPARATION OF ANY STRUCTURAL DAMAGES OR FAILURE WHICH MAY OCCUR AS A RESULT OF NEGLIGENCE, ACCIDENT OR MISUSE. IN THE EVENT OF STRUCTURAL DAMAGE, THE OWNER SHALL BE RESPONSIBLE TO MAKE THE NECESSARY REPAIRS AS QUICKLY AS POSSIBLE, BUT IN ANY CASE WITHIN 5 DAYS.
6. A WRITTEN REPORT MUST BE KEPT BY THE CONTRACTOR DOCUMENTING INSPECTIONS AND REPAIRS TO ALL BMPS. THE CONTRACTOR SHALL INSPECT AND LOG ALL ACTIVITIES ONTO DEP FORM 3150-FM-BWEW0083 (DATED 2/2012) AND KEPT ON SITE AT ALL TIMES.

RECYCLING AND DISPOSAL METHODS:
ALL BUILDING AND CONSTRUCTION WASTE MATERIALS MUST BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. NO BUILDING MATERIALS, WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED OR DISCHARGED AT THE SITE. BUILDING AND CONSTRUCTION WASTE INCLUDES, BUT IS NOT LIMITED TO EXCESS SOIL AND ROCK, MISC. BUILDING MATERIALS, CONCRETE AND CONCRETE WASH WATER. SANITARY WASTE AND ANY OTHER MATERIAL THAT COULD HAVE ADVERSE AFFECTS

UTILITY TRENCHING NOTES:
1. THE EXCAVATED MATERIAL FROM TRENCHING SHALL BE PLACED ON THE UPSLOPE SIDE OF THE TRENCH.
2. THE TOTAL LENGTH OF EXCAVATED TRENCH OPEN AT ANY ONE TIME SHOULD NOT BE GREATER THAN THE TOTAL LENGTH OF PIPELINE/UTILITY LINE THAT CAN BE PLACED IN THE TRENCH AND BACK-FILLED IN ONE WORKING DAY.
3. NO MORE THAN 50 LINEAL FEET OF OPEN TRENCH SHOULD EXIST WHEN PIPELINE/UTILITY LINE INSTALLATION CEASES AT THE END OF THE WORKDAY.
4. ANY BMP'S AFFECTED BY TRENCHING AND BACKFILLING OPERATIONS SHALL BE REPAIRED AND STABILIZED IMMEDIATELY.

GENERAL E&S 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 ONTO THE ROADWAY, EXCEPT FOR THE LOCATION OF THE ROCK CONSTRUCTION ENTRANCE.
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 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 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 -- 4 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.
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 LOCAL CONSERVATION DISTRICT 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 LOCAL CONSERVATION DISTRICT 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. 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.

SHEET NO.	SHEET TITLE
D9.0	E&S PLAN COVER SHEET
D0.1	GENERAL NOTES AND LEGENDS
D5.0	OVERALL UTILITY PLAN
D9.1	E&S PLAN
D9.2	E&S DETAILS/NOTES
D9.3	E&S DETAIL/NOTE

PROJECT ENGINEER:
KDH CONSULTING ENGINEERS, INC.
593 RUGH STREET, LOWER LEVEL
GREENSBURG, PA 15601
(724) 493-5041
CONTACT: CHRISTOPHER W. HAMM, P.E.

DEVELOPER:
J&T OAKDALE PROPERTIES, LLC
1321-C McLAUGHLIN ROAD
PITTSBURGH, PA 15241

NOTE
THE MERIDIAN OF THE PROJECT IS THE PENNSYLVANIA STATE PLANE COORDINATE SYSTEM, NAD 1983.

C:\USERS\RMONGELL\DESKTOP\WALKERS MILL PHASE 2\211-009-23B-BASE PHASE 2-260309.DWG

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REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER W. HAMM
PE-080435
COMMONWEALTH OF PENNSYLVANIA

REVISIONS:	REV	DATE	DESCRIPTION

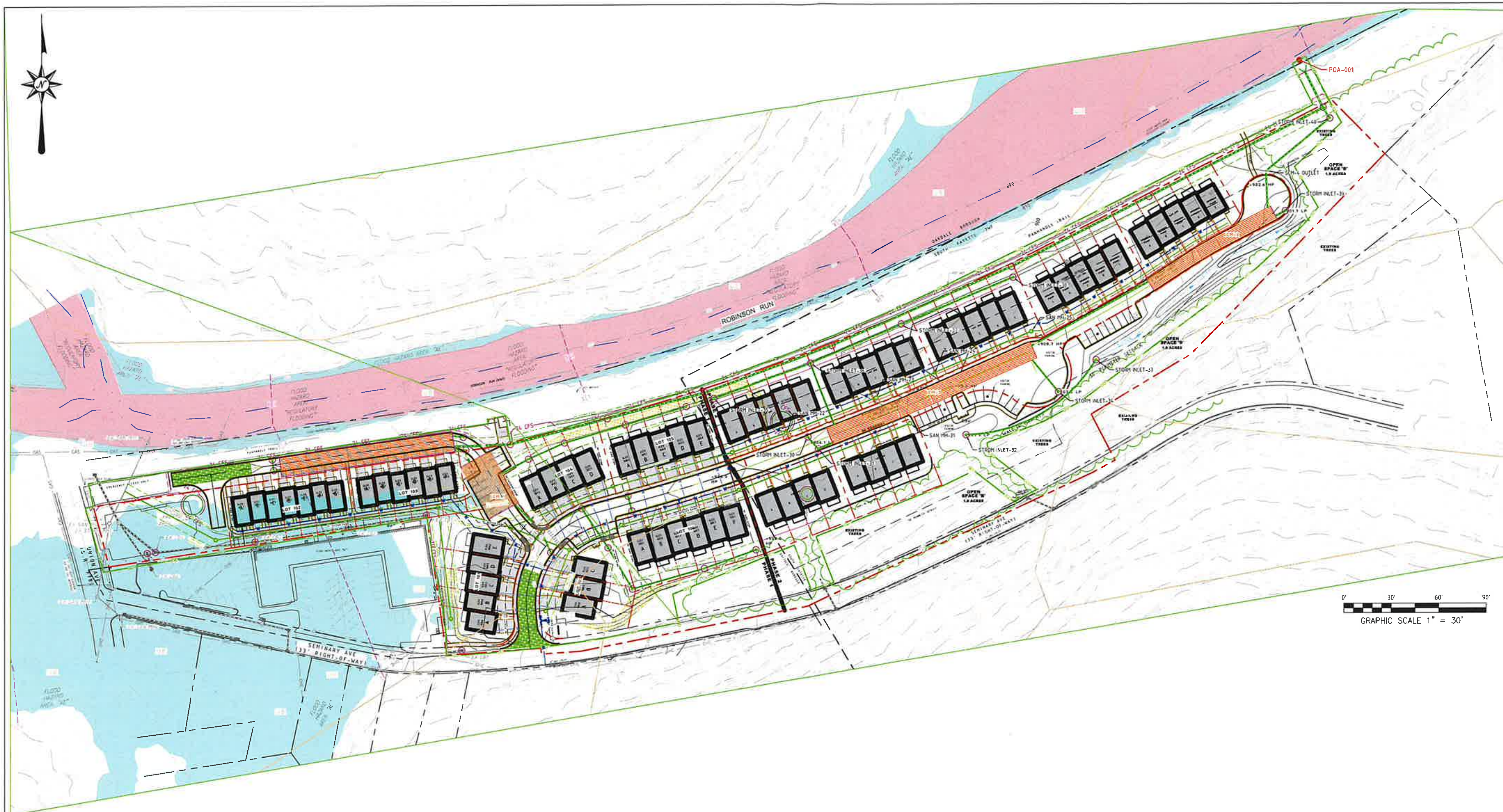
CLIENT:

WALKERS MILL TOWNHOUSES PHASE 2
OAKDALE BOROUGH AND SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY, PA

PROJ NO: 211-009-23B
DATE: 03/09/2026
DRAWN BY: RAM
CHECKED BY: CWH

SHEET TITLE:
E&S COVER SHEET

SHEET NO.
D9.0



0' 30' 60' 90'
GRAPHIC SCALE 1" = 30'

UTILITY NOTES:

1. THE CONTRACTOR SHALL INDEMNIFY THE OWNER, THE ENGINEER AND THE MUNICIPALITY, THEIR AGENTS, ETC FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION AND TESTING OF THE WORK SHOWN
2. THE CONTRACTOR ASSUMES SOLE RESPONSIBILITY FOR SITE SAFETY
3. THE CONTRACTOR IS RESPONSIBLE FOR EXAMINING ALL SITE CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION AND SHALL COMPARE FIELD CONDITIONS WITH DRAWINGS. CONTRACTOR TO FIELD VERIFY LOCATION, HORIZONTAL AND VERTICAL, AND SIZE OF ALL EXISTING UTILITIES BEFORE BEGINNING WORK. THE CONTRACTOR SHALL PLACES A PENNSYLVANIA ONE CALL TO NOTIFY THE UTILITIES OF HIS INTENTIONS AND TO REQUEST REQUIRED FIELD STAKING OF EXISTING UTILITIES
4. THE CONTRACTOR SHALL CONSTRUCT ALL SANITARY SEWER FACILITIES IN ACCORDANCE WITH THE APPLICABLE STANDARDS AND SPECIFICATIONS OF THE MUNICIPALITY AND ANY OTHER LOCAL STATE OR FEDERAL CODES
5. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING UTILITY SERVICE CONNECTIONS WITH THE APPROPRIATE UTILITY COMPANY/OWNER, AND TO OBTAIN ALL PERMITS AND PAY ALL FEES AS REQUIRED FOR SERVICE CONNECTIONS TO UTILITY MAINS
6. TRENCH RESPONSIBILITY INCLUDES EXCAVATIONS, BACKFILL, COMPACTION AND MAINTENANCE OF THE TRENCH
7. CONTRACTOR IS RESPONSIBLE FOR INSTALLING APPROPRIATE CONSTRUCTION SAFETY SIGNAGE WHILE WORKING IN PUBLIC RIGHT-OF-WAY AND EASEMENTS
8. ANY ADJACENT PROPERTIES OR ROAD RIGHT-OF-WAYS WHICH ARE DAMAGED DURING CONSTRUCTION MUST BE RESTORED BY THE CONTRACTOR. THE COST OF RESTORATION IS CONSIDERED INCIDENTAL AND SHOULD BE INCLUDED IN THE COST OF THE IMPROVEMENTS
9. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE OWNER WITH A SET OF MARKED-UP PRINTS SHOWING ALL CHANGES MADE DURING THE CONSTRUCTION PROCESS. ANY CHANGES TO THE DRAWINGS OR ADDITIONAL ITEMS MUST BE REPORTED TO THE OWNER
10. ALL PIPE LENGTHS ARE MEASURED FROM INSIDE WALL OF STRUCTURE
11. CONTRACTOR TO EXCAVATE AT ALL UTILITY CROSSINGS PRIOR TO INSTALLATION TO CONFIRM CROSSING CAN BE INSTALLED AS SHOWN
12. ALL UTILITIES SHALL BE INSTALLED UNDERGROUND

UTILITY TRENCHING NOTES:

1. THE EXCAVATED MATERIAL FROM TRENCHING SHALL BE PLACED ON THE UPSLOPE SIDE OF THE TRENCH
2. THE TOTAL LENGTH OF EXCAVATED TRENCH OPEN AT ANY ONE TIME SHOULD NOT BE GREATER THAN THE TOTAL LENGTH OF PIPELINE/UTILITY LINE THAT CAN BE PLACED IN THE TRENCH AND BACK-FILLED IN ONE WORKING DAY
3. NO MORE THAN 50 LINEAL FEET OF OPEN TRENCH SHOULD EXIST WHEN PIPELINE/UTILITY LINE INSTALLATION CEASES AT THE END OF THE WORKDAY
4. ANY BMP'S AFFECTED BY TRENCHING AND BACKFILLING OPERATIONS SHALL BE REPAIRED AND STABILIZED IMMEDIATELY

NOTE:
THIS PLAN IS FOR EROSION AND SEDIMENT CONTROL PURPOSES ONLY
THE CONTRACTOR SHALL REFER TO THE APPROPRIATE UTILITY PLAN FOR FINAL LOCATION AND DETAILS

EROSION AND SEDIMENT CONTROL NOTES:

1. ROCK CONSTRUCTION ENTRANCE
2. 24" SILT SOCK
3. INLET PROTECTION
4. TOPSOIL STOCK PILE (CAN BE RELOCATED BY CONTRACTOR, ENGINEER TO BE NOTIFIED
5. CONCRETE WASHOUT (CAN BE RELOCATED BY CONTRACTOR, ENGINEER TO BE NOTIFIED
6. EROSION CONTROL BLANKET

S: \PROJECTS\211-009-23-WALKERS MILL TOWNHOUSES\DRAWINGS\211-009-23B-BASE PHASE 2-260309.DWG

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REGISTERED PROFESSIONAL
CHRISTOPHER W. HAMM
ENGINEER
PE-080435

REVISIONS:

REV	DATE	DESCRIPTION

CLIENT:

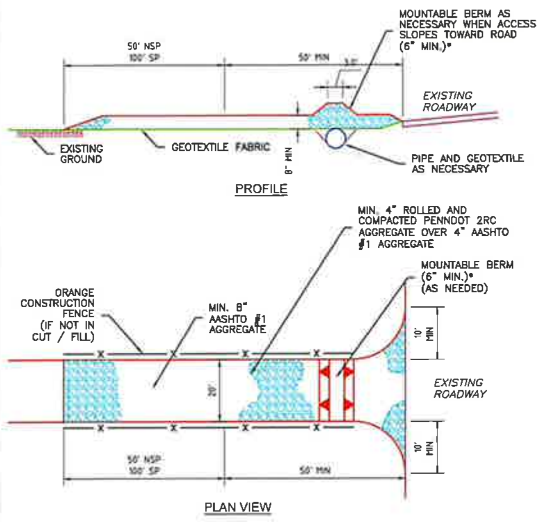
WALKERS MILL TOWNHOUSES PHASE 2

OAKDALE BOROUGH AND SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY, PA

PROJ NO: 211-009-23B
DATE: 03/09/2026
DRAWN BY: RAM
CHECKED BY: CWH

SHEET TITLE:
OVERALL E&S PLAN - PHASE 1

SHEET NO.
D9.1



*MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

NSP – NON SPECIAL PROTECTION WATERSHED
SP – SPECIAL PROTECTION WATERSHED

REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.

RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.

MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.

MAINTENANCE: 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. 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 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

ALTERNATIVE METHOD LANGUAGE

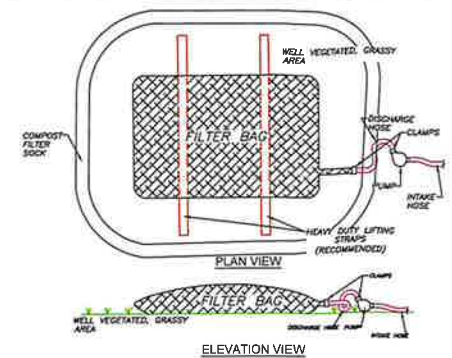
REASONABLE METHODS WHICH ARE SANCTIONED BY THE PADEP AS ALTERNATIVES TO INSTALLATION OF TIRE WASH STATIONS ON PUBLIC ROAD ACCESS POINTS FOR PROJECTS IN EV/HQ WATERSHEDS INCLUDE:

1. *FOR PAVED SURFACE PUBLIC ROADS: USE OF A VACUUM TRUCK SWEEPER OR SWEEPER WITH A CATCH BIN ATTACHMENT.*
2. *FOR DIRT OR GAVEL SURFACE PUBLIC ROADS: RIGOROUS MANUAL REMOVAL OF MUD/DIRT FROM VEHICLE/EQUIPMENT TIRES PRIOR TO EXITING CONSTRUCTION SITE, SUPPLEMENTED BY IMMEDIATE RECOVERY, BY MANUAL OR MECHANICAL MEANS, OF SOIL WHICH MAY BECOME DISCHARGED ONTO PUBLIC ROADWAYS. DUST CONTROL AND/OR COMPACTION VIA ROLLING OF THE DIRT PUBLIC ROAD SURFACE WILL BE IMPLEMENTED AS NEEDED.*

A PREDICATE FOR UTILIZING ALTERNATIVE 1 AND 2 ABOVE IS THAT THE ROCK PAD CONSTRUCTION ENTRANCE MUST BE EXTENDED TO A MINIMUM TOTAL LENGTH OF 100 FEET AND MUST BE CONSTANTLY MAINTAINED INCLUDING STRUCTURE THICKNESS TO INSURE ITS EFFECTIVENESS REMAINS INTACT AT ALL TIMES.

FREQUENCY OF MECHANICAL AND /OR MANUAL CONTROLS WILL BE DEPENDENT UPON CONSTRUCTION TRAFFIC INTENSITY, WEATHER AND SOIL MOISTURE CONDITIONS. THE CONSTRUCTION ENTRANCE SHALL HAVE CONTINUAL MAINTENANCE AND IMMEDIATE REMOVAL OF SEDIMENT TRACKED ONTO THE ROADWAY. THE VACUUM TRUCK SWEEPER OR SWEEPER WITH A CATCH BIN ATTACHMENT SHALL CLEAN THE ROAD WAY. THE REQUIREMENT IS TO NOT INTRODUCE SEDIMENT LOAD FROM CONSTRUCTION TRAFFIC ONTO PUBLIC ROAD SURFACES AND INTO ROAD DITCHES WHICH WILL FLOW INTO THE EV/HQ WATER RESOURCES WHICH ARE THE SUBJECT OF THE INCREASED PROTECTION MEASURES.

3-1 ALTERNATE ROCK CONSTRUCTION ENTRANCE (HQ)



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	60 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	80 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 ½ 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.

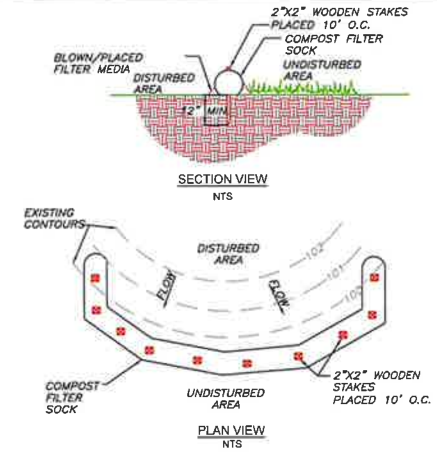
NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

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 ½ 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.

3-16 PUMPED WATER FILTER BAG (HQ)
(N.T.S.)



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

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 MAXIMUM PERMISSIBLE SLOPE LENGTH ABOVE COMPOST FILTER SOCKS. STAKES MAY BE INSTALLED IMMEDIATELY DOWNSLOPE OF THE SOCK IF SO SPECIFIED BY THE MANUFACTURER.

TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.

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.

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.

BIODEGRADABLE FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

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.

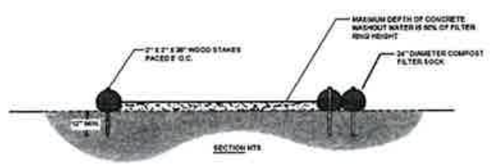
4-1 COMPOST FILTER SOCK
(N.T.S.)

TABLE 4.1
Compost Sock Fabric Minimum Specifications

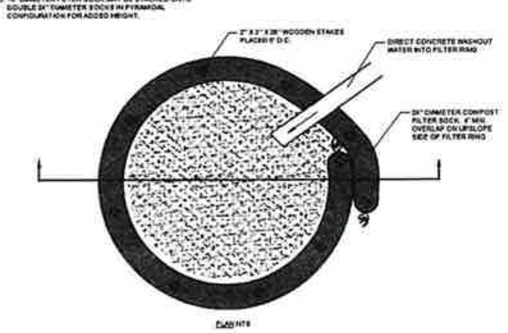
Material Type	3 mil HDPE	5 mil HDPE	5 mil HDPE	Multi-Filament Polypropylene (MFPP)	Heavy Duty Multi-Filament Polypropylene (HDMFPP)
Material Characteristics	Photo-degradable	Photo-degradable	Bio-degradable	Photo-degradable	Photo-degradable
Sock Diameters	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 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 % Original Strength (ASTM G-155)	23% at 1000 hr.	23% at 1000 hr.		100% at 1000 hr.	100% at 1000 hr.
Minimum 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	80% - 100% (dry weight basis)
Organic Portion	Fibrous and elongated
pH	5.5 - 8.0
Moisture Content	35% - 55%
Particle Size	98% pass through 1" screen
Soluble Salt Concentration	5.0 dS/m (mmhos/cm) Maximum



NOTES:
1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE
2. 18" DIAMETER FILTER SOCK MAY BE STACKED ONTO DOUBLE 24" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.



A SUITABLE IMPERVIOUS GEOMEMBRANE SHALL BE PLACED AT THE LOCATION OF THE WASHOUT PRIOR TO INSTALLING THE SOCKS.

TYPICAL COMPOST SOCK WASHOUT INSTALLATION
(N.T.S.)

TEMPORARY AND PERMANENT SEEDING SPECIFICATION

TABLE 11.2
Soil Amendment Application Rate Equivalents
Per DEP "Erosion and Sediment Pollution Control Program Manual", revised March 2012

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

Adapted from Penn State "Erosion Control and Conservation Plantings on Noncropland"

Note: **A compost blanket which meets the standards of Erosion and Sediment Pollution Control Program Manual", revised March 2012 Chapter 11 may be substituted for the soil amendments shown in Table 11.2.**

Mulching – Cellulose Fiber Mulch. Degradable green dyed wood cellulose fiber or 100% recycled long fiber pulp, free from weeds or other foreign matter toxic to seed germination and suitable to hydro mulching.

Place mulch of the kind indicated, immediately after seeding or within 48 hours after seeding is completed. Use mulch blanket rate of 2-1/2 tons per acre. Mulching should conform to specifications in table below.

TABLE 11.3
PLANT TOLERANCES OF SOIL LIMITATION FACTORS

Species	Growth Habit[1]	Tolerates: Wet Soil	Dry Site	Low Fertility	Acid Soil (pH 5.0-6.0)[2]	Minimum Seed Specifications[3]: Purity (%)	Ready Germ. (%)	Hard Seed (%)	Total Germ. (%)	Seeds/lb (1,000s)
Warm-Season Grasses										
Deertongue	bunch	yes	yes	yes	yes	95	75		75	250
Weeping lovegrass	bunch	no	yes	yes	yes	97	75		75	1,500
Switchgrass	bunch	yes	yes	yes	yes	(87 PLS)				389
Big bluestem	bunch	no	yes	yes	yes	(60 PLS)				150
Cool-Season Grasses										
Fine fescues	sod	no	no	yes	no	95	80		80	400
Perennial ryegrass	bunch	yes	no	no	no	95	85		85	227
Annual ryegrass	bunch	yes	no	yes	no	95	85		85	227
Kentucky bluegrass	sod	no	no	no	no	85	75		75	2,200
Timothy	bunch	yes	no	yes	yes	95	80		80	1,230
Smooth bromegrass	sod	no	yes	yes	no	95	80		80	136
Legumes[4]										
Flatpea	sod	no	no	yes	yes	98	55	20	75	10
Sericea lespedeza	bunch	no	yes	yes	yes	98	40	20	60	335
Cereals										
Winter wheat	bunch	no	no	no	no	98	85		85	13
Winter rye	bunch	no	no	yes	yes	98	85		85	18
Spring oats	bunch	no	no	no	no	98	85		85	13
Sudangrass	bunch	no	yes	no	no	98	85		85	55
Japanese millet	bunch	yes	no	yes	yes	98	80		80	155

[1] Growth habit refers to the ability of the species to either form a dense sod by vegetative means (stolons, rhizomes, or roots) or remain in a bunch or single plant form. If seeded heavily enough, even bunch formers can produce a very dense stand. This is sometimes called a sod, but not in the sense of a sod formed by vegetative means.

[2] Once established, plants may grow at a somewhat lower pH, but cover generally is only adequate at pH 6.0 or above.

[3] Minimum seed lots are truly minimum, and seed lots to be used for revegetation purposes should equal or exceed these standards. Thus, deertongue grass should germinate 75% or better. [illegible] hard seed is one type.

[4] Switchgrass seed is sold only on the basis of PLS.

[5] Need specific legume inoculant. Inoculant suitable for garden peas and sweetpeas usually is satisfactory for flatpea.

Penn State, "Erosion Control and Conservation Plantings on Noncropland."

TABLE 11.4
Recommended Seed Mixtures
Per DEP "Erosion and Sediment Pollution Control Program Manual", revised March 2012

Mixture Number	Species	Seeding Rate-Pure Live Seed: Most Sites	Adverse Sites
1[1]	Spring oats (spring), or Annual ryegrass (spring or fall), or Winter wheat (fall), or Winter rye (fall)	64 10 90 56	96 15 120 112
11	Deertongue, plus Birdsfoot trefoil	15 6	20 10
12[2]	Switchgrass, or Big Bluestem, plus Birdsfoot trefoil	15 15 6	20 20 10
13	Orchardgrass, or Smooth bromegrass, plus Birdsfoot trefoil	20 25 6	30 35 10

Penn State, "Erosion Control and Conservation Plantings on Noncropland"

1. If high-quality seed is used, for most sites seed spring oats at a rate of 2 bushels per acre, winter wheat at 11.5 bushels per acre and winter rye at 1 bushel per acre. If germination is below 90%, increase these suggested seeding rates by 0.5 bushels per acre.
2. Do not mow shorter than 9 to 10 inches.

TABLE 11.5
Recommended Seed Mixtures for Stabilizing Disturbed Areas
Per DEP "Erosion and Sediment Pollution Control Program Manual", revised March 2012

Site Condition	Nurse Crop	Seed Mixture (Select One Mixture)
Slopes and Banks (not mowed)		
Well-drained	1 plus	12[1]
Slopes and banks (grazed / hay)		
Well-drained	1 plus	2,3, or 13
Gullies and Eroded Areas		
Erosion Control Facilities (BMPs)		
For hay or silage on diversion channels and Occasional water flow areas	1 plus	13
Utility Right-of-Way		
Well-drained	1 plus	12[1]
Well-drained areas for grazing/hay	1 plus	13

Penn State, "Erosion Control and Conservation Plantings on Noncropland"

1. For seed mixtures 11 and 12, only use spring oats or weeping lovegrass (included in mix) as nurse crop.

TABLE 11.6
Mulch Application Rates
Per DEP "Erosion and Sediment Pollution Control Program Manual", revised March 2012

Mulch Type	Application Rate (min.): Per Acre	Per 1,000 sq. ft.	Per 1,000 sq. yd.	Notes
Straw	3 tons	140 lb.	1,240 lb.	Either wheat or oat straw, free of weeds, not chopped or finely broken
Hay	3 tons	140 lb.	1,240 lb.	Timothy, mixed clover and timothy or other native forage grasses
Wood Chips	4 – 6 tons	185 – 275 lb.	1,650 – 2,500 lb.	May prevent germination of grasses and legumes
Hydromulch	1 ton	47 lb.	415	See limitations below[1]

Notes

Straw and hay mulch should be anchored or tackified immediately after application to prevent being windblown. A tractor-drawn implement may be used to "crimp" the straw or hay into the soil — about 3 inches. This method should be limited to slopes no steeper than 3H:1V. The machinery should be operated on the contour. Note: Crimping of hay or straw by running over it with tracked machinery is not recommended.

Polymeric and gum tackifiers mixed and applied according to manufacturer's recommendations may be used to tack mulch. Avoid application during rain and on windy days. A 24-hour curing period and a soil temperature higher than 45o F are typically required. Application should generally be heaviest at edges of seeded areas and at crests of ridges and banks to prevent loss by wind. The remainder of the area should have binder applied uniformly. Binders may be applied after mulch is spread or sprayed into the mulch as it is being blown onto the soil. Applying straw and binder together is generally more effective.

Synthetic binders, or chemical binders, may be used as recommended by the manufacturer to anchor mulch provided sufficient documentation is provided to show they are non-toxic to native plant and animal species.

Mulch on slopes of 8% or steeper should be held in place with netting. Lightweight plastic, fiber, or paper nets may be stapled over the mulch according to manufacturer's recommendations.

Shredded paper hydromulch should not be used on slopes steeper than 5%. Wood fiber hydromulch may be applied on steeper slopes provided a tackifier is used. The application rate for any hydromulch should be 2,000 lb/acre at a minimum.

NOTE:
CONTRACTOR SHALL SELECT APPROPRIATE FERTILIZATION AND SEED MIXTURE BASED UPON SOIL CONDITIONS AND SEASON.

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REVISIONS: REV | DATE | DESCRIPTION

CLIENT:

WALKERS MILL TOWNHOUSES PHASE 2
OAKDALE BOROUGH AND SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY, PA

PROJ NO: 211-009-23B
DATE: 03/09/2026
DRAWN BY: RAM
CHECKED BY: CWH

SHEET TITLE:
E&S DETAILS/NOTES

SHEET NO.
D9.2

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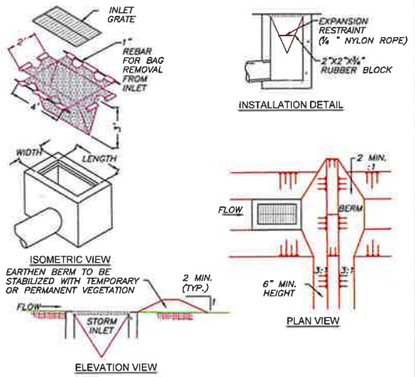


MAXIMUM DRAINAGE AREA = ½ ACRE.

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

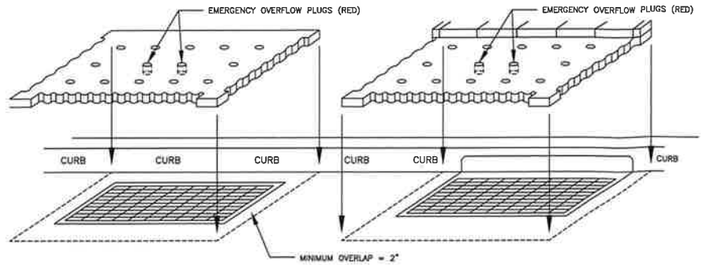
ROLLED EARTHEN BERM IN ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR REMAIN PERMANENTLY.

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 OF 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.

4-16 FILTER BAG INLET PROTECTION – TYPE M INLET (N.T.S.)



NOTES:

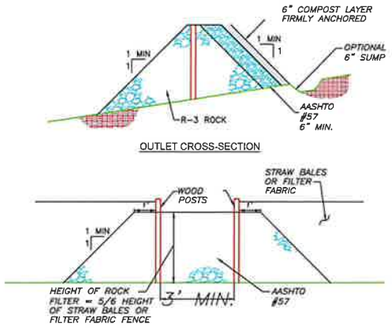
–PRIOR TO INSTALLATION, INLET GRATE SURFACE AND SURROUNDING AREA SHALL BE CLEANED AND CLEARED OF DEBRIS. INLET FILTER MAT SHALL BE INSTALLED WITH A MINIMUM 2" OVERLAP FROM EDGE OF GRATE TO EDGE OF MAT WITH STRAIGHT EDGE FLUSH TO CURB FACE. ADJUST MAT BY HAND UNTIL PLACEMENT ALLOWS FOR OPTIMAL MAGNETIC ADHESION TO GRATE SURFACE.

– PREINSTALLED RED EMERGENCY OVERFLOW PLUGS CAN BE REMOVED IN THE EVENT OF FLOODING TO ALLOW FOR RAPID DEWATERING. AFTER DEWATERING, THE INLET FILTER MAT SHALL BE LIFTED AND THOROUGHLY CLEANED OR REPLACED AND THE AND THE EMERGENCY OVERFLOW PLUGS SHALL BE REINSTALLED. IF GRATE IS AT LOWEST POINT OF STREET, REMOVAL OF ONE PLUG WILL ALLOW FOR EXPECTED DEWATERING AT ALL TIMES.

–INLET FILTER MATS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. AS NEEDED, INLET FILTER MATS SHALL BE LIFTED AND RINSED OR REPLACED. WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET OR THE INLET FILTER MAT BECOMES COMPRESSED DUE TO HEAVY TRAFFIC, REPLACEMENT IS REQUIRED.

–A SUPPLY OF SPARE INLET FILTER MATS SHALL BE MAINTAINED ON SITE. ALL NECESSARY REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED MATS ACCORDING TO THE PLAN NOTES.

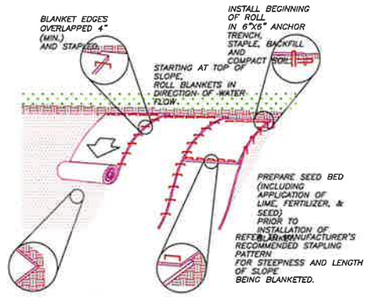
BLACKHAWK INLET FILTER SYSTEM (N.T.S.)



A ROCK FILTER OUTLET SHALL BE INSTALLED WHERE FAILURE OF A SILT FENCE OR STRAW BALE BARRIER HAS OCCURRED DUE TO CONCENTRATED FLOW. ANCHORED COMPOST LAYER SHALL BE USED ON UPSLOPE FACE IN HQ AND EV WATERSHEDS.

SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET.

4-6 ROCK FILTER OUTLET (HQ) (N.T.S.)



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.

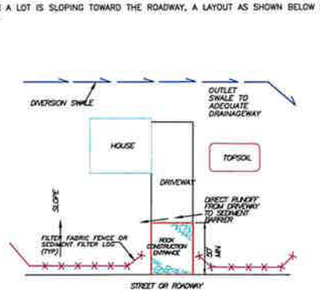
BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.

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.

11-1 EROSION CONTROL BLANKET INSTALLATION (N.T.S.)

WHEREVER A LOT IS SLOPING TOWARD THE ROADWAY, A LAYOUT AS SHOWN BELOW SHOULD BE USED.

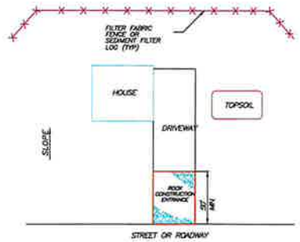


NTS

THE UPSLOPE DIVERSION CHANNEL SHOULD BE INSTALLED WHEREVER THE LOT EXTENDS MORE THAN 150 FEET ABOVE THE ROADWAY OR WHERE RUNOFF FROM AREAS ABOVE THE LOT IS NOT OTHERWISE DIVERTED AWAY FROM THE LOT. THE CHANNEL SHOULD BE PROPERLY SIZED AND PROVIDED WITH A SUITABLE PROTECTIVE LINING. THE DESIGNER MUST EXPERIENCE CAUTION TO PROTECT ALL DOWNSTREAM PROPERTY OWNERS WHEN SELECTING THE DISCHARGE POINT FOR THIS CHANNEL

TYPICAL ON-LOT BMPs FOR LOT ABOVE ROADWAY (N.T.S.)

WHEREVER A LOT IS SLOPING TOWARD THE ROADWAY, A LAYOUT AS SHOWN BELOW SHOULD BE USED.

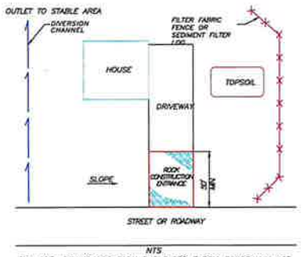


NTS

THE AREA DOWNSLOPE FROM THE FILTER FABRIC FENCE MAY NOT BE UNDER DEVELOPMENT OR OTHERWISE DISTURBED.

10-2 TYPICAL ON-LOT BMPs FOR LOT BELOW ROADWAY (N.T.S.)

WHEREVER A LOT IS SLOPING TOWARD THE ROADWAY, A LAYOUT AS SHOWN BELOW SHOULD BE USED.



NTS

THE AREA DOWNSLOPE FROM THE FILTER FABRIC FENCE MAY NOT BE UNDER DEVELOPMENT OR OTHERWISE DISTURBED.

THE UPSLOPE DIVERSION CHANNEL SHOULD BE INSTALLED WHEREVER RUNOFF FROM AREAS ABOVE THE LOT IS NOT OTHERWISE DIVERTED AWAY FROM THE LOT. THE CHANNEL SHOULD BE PROPERLY SIZED AND PROVIDED WITH A SUITABLE PROTECTIVE LINING.

IN AREAS WHERE SLOPE IS AT AN OBLIQUE ANGLE TO THE ROADWAY, BMPs SHALL BE ADJUSTED ACCORDINGLY.

DIVERSION CHANNEL MAY OUTLET TO ROADSIDE DITCH OR STORM SEWER SYSTEM, BUT NOT ONTO STREET OR ROADWAY

10-3 TYPICAL ON-LOT BMPs FOR LOT ALONG ASCENDING OR DESCENDING ROADWAY (N.T.S.)

KDH CONSULTING ENGINEERS, INC
593 RUGH STREET
GREENSBURG, PA 15601
P: 878-295-8914 F:724-514-7047
www.kdhengineers.com

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL CHRISTOPHER W. HAWK ENGINEER PE-065439

REVISIONS:

REV	DATE	DESCRIPTION

CLIENT:

WALKERS MILL TOWNHOUSES PHASE 2

OAKDALE BOROUGH AND SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY, PA

PROJ NO: 211-009-238
DATE: 03/09/2026
DRAWN BY: RAM
CHECKED BY: CWH

SHEET TITLE: E&S DETAILS/NOTES

SHEET NO. D9.6

C:\USERS\RMONGELL\DESKTOP\WALKERS MILL PHASE 2\211-009-238-BASE PHASE 2-260309.DWG

SOUTH FAYETTE TOWNSHIP

A Community Growing Together

Review Referral

www.southfayettepa.com

Plan Name: **Walkers Mill Townhouse Development Phase 2**	Plan File Number: **F-02-2026**
Location: **407-J-5 (Seminary Avenue)**	Application Type: **Subdivision/Land Development**
Zoning: **R-3**	Applicant: **J & T Oakdale Properties, LLC**

The Township of South Fayette requests your review and comment on the above-referenced 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, 100 Township Drive, South Fayette, PA, 15017 or by calling (412) 221-8700.

_____ 03/11/2026__

Gary Hartz, Planning Director — Date

Agency Comments: MATSF- Please see attached letter from KLH Engineers

Nick Goettman — 3-23-26

_____ _____

Agency Signature — Date

KLH
ENGINEERS, INC

March 23, 2026
Ref. No. 217-03-073

Michael Wetzel
Victor-Wetzel Associates
409 Broad Street, Suite 270
Sewickley, PA 15143

Dear Mr. Wetzel:

Municipal Authority of the Township of South Fayette
Walkers Mill Townhouses Phase 2
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 Walkers Mill Townhouse Development Phase 2. The plans, dated March 9, 2026, were prepared by Victor-Wetzel Associates and KDH Consulting Engineers, Inc. and received by our office on March 16, 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. Please contact MATSF to obtain a copy of the standard agreement. The Developer shall provide escrowed funds/bonding with MATSF for the construction of the proposed sanitary sewers.

3. Planning Module approval is required. MATSF and Oakdale Borough will review the planning module for collection and conveyance capacity. ALCOSAN will review the planning module for conveyance and treatment capacity. South Fayette Township will need to pass a resolution for an Act 537 Plan Revision and PADEP will ultimately need to approve the Planning Module application.

4. The Developer shall obtain and provide easements for the proposed sanitary sewers on all impacted private properties where MATSF will take ownership of the sewers. All easements shall include acceptable exhibits and shall be reviewed and approved by MATSF and its solicitor prior to recording at the Allegheny County Recorder of Deeds office.

5. 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.

6. 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.

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

7. The Developer shall follow the PA One Call law during design and construction. A Design One Call should be made by the Developer, and the plans shall include the Design One Call Serial Number. If present, all existing utilities shall be shown on the plans. All existing and proposed utilities crossing the proposed sanitary sewers need to be shown in the profiles.

8. MATSF Standard Detail Drawings need to be shown on the drawings as applicable. MATSF updated its Standard Detail Drawings in February 2025. Please contact MATSF to obtain a copy of the current Standard Detail Drawings.

9. It appears that grinder pumps are proposed for lots 204 and 205. All sanitary sewers must be designed to serve basement levels without pumping unless specifically authorized by both MATSF and Allegheny County Health Department (ACHD) Plumbing Division. Any proposed building that requires pumping for sanitary sewage must be clearly called out on design drawings during the municipal review process with justification as to why gravity flow is not reasonably feasible. The design engineer shall certify that no pumping is required. It is strongly recommended that the proposed utility plans be provided to the ACHD Plumbing Division for comments as they have primary jurisdiction for all sanitary sewers that will not be ultimately conveyed to MATSF.

10. 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.

11. PVC pipe shall be SDR-35. Should any proposed sewer exceed a depth of 15 feet, this must be approved by MATSF and will require SDR-26 pipe.

12. Minimum cover over top of the pipe shall be four feet in unpaved areas and five feet in paved areas.

13. Sanitary sewer pipes located in fill areas require at least 95% compaction density and evidence of test results per MATSF specifications. This requirement has been noted on the drawings.

14. A slope of 0.5% is indicated on the plans. Please verify that this slope meets MATSF minimum design requirements for the proposed pipe size.

15. The manhole located at Lot 201 is not labeled on the submitted drawings. Please revise the plans to clearly identify and label this manhole in accordance with MATSF standards.

16. The sanitary sewer profile is not included in the submitted plans. Please provide a complete sanitary sewer profile, including all proposed sewer lines, manholes, pipe sizes, slopes, and elevations, in accordance with MATSF requirements.

17. An access agreement is required for all proposed sanitary sewers located within private roads or private property where MATSF will require access for operation and maintenance. The Developer shall prepare and provide an executed access agreement, in a form acceptable to MATSF and its solicitor, prior to final approval. The agreement shall clearly grant MATSF the right of ingress, egress, operation, maintenance, repair, and replacement of the sanitary sewer facilities.

18. 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. This requirement has been noted on the drawings.

19. 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.

20. Show sanitary sewer flow direction arrows on utility plan drawings.

21. A final “Issued for Construction” set of plans should be provided to MATSF.

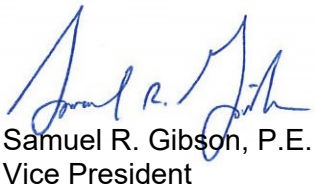
22. The Developer shall provide final as-built record drawings after completion of construction. As-built drawings should reflect actual pipe lengths and slopes installed.

Based on the foregoing, KLH recommends the above revisions prior to approval. Additional comments may follow after review of subsequent submissions. Signing of the Developer’s Agreement by both the developer and MATSF shall represent final approval by MATSF.

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

cc: Nick Goettman, Operations Manager, MATSF

STAHL SHEAFFER ENGINEERING

Stahl Sheaffer Engineering
1000 Noble Energy Drive, Suite 410
Canonsburg, PA 15317
724.960.1111
www.stahlsheaffer.com

September 2, 2025

Jill Estes
TA Robinson
1299 McLaughlin Run Road
Bridgeville, PA 15017

Re: Route 978 & Seminary Avenue Intersection Evaluation
Oakdale Townhome Development (Seminary Avenue)
Borough of Oakdale, Allegheny County, PA

Dear Ms. Estes,

Stahl Sheaffer Engineering, LLC (Stahl Sheaffer) is providing the following intersection evaluation summary, which details findings from the site generated traffic for the Oakdale Townhome Development. The purpose of this evaluation is to forecast the anticipated capacity and queuing at the existing intersection of Union Avenue (SR 0978) and Seminary Avenue/Existing Driveway following the proposed construction of the Oakdale Townhome Development.

Proposed Development

The proposed Oakdale Townhome Development consists of 69-units of multifamily townhomes; the townhomes all have direct access to a local road that will connect to Seminary Avenue.

Existing Roadway Characteristics

Roadway	Ownership	Roadway Type	Predominant Directional Orientation	Average Daily Traffic	Posted Speed Limit
Union Avenue (SR 0978)	State	Minor Arterial	North – South	5,178 vpd(1)	35 mph
Seminary Avenue	Borough	Major Collector	East – West	3,328 vpd(2)	35 mph

- Average Daily Traffic (ADT) obtained from PennDOT Traffic Information Repository (TIRe) tool, TMS Site 14533 (SR 0978/Segment 0110/ Offset 2830), date 05/09/2025.
- Average Daily Traffic (ADT) obtained from PennDOT Traffic Information Repository (TIRe) tool, TMS Site 27853, date 05/09/2025.

Trip Generation

Vehicle trip generation for the proposed Oakdale Townhome Development was based upon data published by the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition*. The following ITE Land Uses were utilized to forecast the site generated traffic associated with the proposed Oakdale Townhome Development consisting of 69 units:

Development	Trip Type	Forecasted Site Generated Trips						
		Weekday Daily Trips	Weekday AM Peak Hour			Weekday PM Peak Hour		
			Enter	Exit	Total	Enter	Exit	Total
Oakdale Townhome Development – Multifamily Housing (Low-Rise), LUC 220	Primary	518	11	33	44	32	18	50

Trip Distribution

Primary trip distribution was based on a traffic study distribution that was conducted for a proposed gas station at the intersection of Union Avenue (SR 0978) and Seminary Avenue/Existing Driveway. The traffic study for the gas station was previously approved by PennDOT District 11-0 and Oakdale Borough in March 2024.

The results of the distribution are included in the figures of this letter.

Forecasted 2030 Traffic

Turning Movement Counts were conducted in 2021 as part of a Traffic Impact Study conducted for a proposed gas station at the existing intersection of Union Avenue (SR 0978) and Seminary Avenue/Existing Driveway. These volumes were compared to volumes taken from PennDOT Traffic Information Repository (TIRe) tool at two sites counted in 2025 along each respective road. A growth factor was calculated from any volumes that increased from 2021 to 2025. To be conservative, when the growth factor resulted in less than 1, that is traffic volumes went down in the 2025 PennDOT data, the existing 2021 volumes were utilized without adjustment. The resultant adjusted base traffic volumes were then grown to 2030 using a county specific growth factor provided by PennDOT. Volumes related to the approved gas station were also added in addition to the Oakdale Townhome Development site generated trips.

Capacity and Queueing Analysis Summary

Capacity analyses were performed at the study intersections for the analysis condition and peak hour utilizing *Synchro plus Sim Traffic 12 Signal Timing and Analysis Software, Version 12.2, Build 4, Revision 32*, and reporting the level of service (LOS) and delay results based on methodologies published in the *Highway Capacity Manual 6th Edition*, by the Transportation Research Board.

The capacity analysis for 2030 build condition is summarized below in Table 1.

TABLE 1
CAPACITY ANALYSIS SUMMARY
Oakdale Townhome Development
Oakdale Borough, Allegheny County, Pennsylvania

Direction	Movement/Approach	HCM 6th Edition Level of Service (Delay in Seconds)[1]	
		Weekday AM Peak Hour	Weekday PM Peak Hour
		2030 With Development (Build) Conditions	2030 With Development (Build) Conditions
INTERSECTION	**Union Avenue (SR 0978) and Seminary Avenue/Existing Driveway**		
EASTBOUND Existing Driveway	Left Turn/Through/Right Turn	C (17.5)	E (46.5)
	Approach	C (17.5)	E (46.5)
WESTBOUND Seminary Avenue	Left Turn/Through/Right Turn	C (13.3)	D (29.8)
	Approach	C (13.3)	D (29.8)
NORTHBOUND Union Avenue (SR 0978)	Left Turn	A (8.5)	A (9.1)
	Through/Right Turn	A (0.0)	A (0.0)
	Approach	A (0.7)	A (0.7)
SOUTHBOUND Union Avenue (SR 0978)	Left Turn	A (9.2)	A (9.8)
	Through/Right Turn	A (0.0)	A (0.0)
	Approach	A (3.4)	A (3.4)
OVERALL INTERSECTION		**A (5.7)**	**B (11.3)**

(1) Level of service and vehicular delay calculated using methodologies published in Highway Capacity Manual, 6th Edition, published by the Transportation Research Board, utilizing Synchro software (Version 12.2, Build 4 Revision 32).

Source: Summary by Stahl Sheaffer Engineering.

The capacity analysis reveals that the existing Union Avenue (SR 0978) and Seminary Avenue/Existing Driveway intersection will operate at an acceptable LOS except for the eastbound approach and left turn/through/right turn movements from the existing driveway, which are both forecasted to operate at a LOS E (46.5 seconds of delay) with the additional site generated traffic of the townhome development in both AM & PM peak hours.

The queuing analysis for the 2030 build condition is summarized below in Table 2.

TABLE 2
QUEUE ANALYSIS SUMMARY
Oakdale Townhome Development
Oakdale Borough, Allegheny County, Pennsylvania

Direction	Movement/ Approach	Existing Queue Capacity (Feet)[2]		SYNCHRO 95th Percentile Queue Length (Feet)[1]	
				Weekday AM Peak	Weekday PM Peak
		To Nearest Driveway	To Nearest Roadway	2030 With Development (Build) Conditions	2030 With Development (Build) Conditions
INTERSECTION	**Union Avenue (SR 0978) and Seminary Avenue/Existing Driveway**				
EASTBOUND Existing Site Driveway	Left Turn/Through/ Right Turn	190' (Internal)	N/A	16'	58'
WESTBOUND Seminary Avenue/Thoms Run and Oakdale Road	Left Turn/Through/ Right Turn	35'	1,720'	22'	80'
NORTHBOUND Union Avenue (SR 0978)	Left Turn/Through/ Right Turn	90'	180'	2'	2'
SOUTHBOUND Union Avenue (SR 0978)	Left Turn/Through/ Right Turn	85'	135'	8'	14'

(1) 95th percentile queue lengths calculated using Synchro plus Sim Traffic 12 software (Version 12.2, Build 4 Revision 32). The Synchro 95th percentile queue length is reported.

(2) Existing queue capacity obtained utilizing Google Earth Pro 7.3.3.7786, rounded to the next 5-feet. Existing queue capacities were measured to the nearest driveway and intersection.

The queueing analysis reveals that the existing Union Avenue (SR 0978) and Seminary Avenue/Existing Driveway intersection will not experience any excessive queueing with the additional site generated traffic of the Oakdale Townhome Development during the AM & PM peak hours.

Sight Distance

Sight distance at the proposed site local road intersection with Seminary Avenue was measured and evaluated in accordance with the Pennsylvania Code, Title 67, Chapter 441 and PennDOT Publication 212, *Official Traffic Control Devices*. As summarized in Table 3, measured sight distance on Union Avenue (SR 0978) at the proposed site driveway meets and exceeds minimum formula sight distance criteria with tree and vegetation removal. Sight distance measurements are summarized below in Table 3.

TABLE 3
DRIVEWAY SIGHT DISTANCE
Oakdale Townhome Development
Oakdale Borough, Allegheny County, Pennsylvania

Condition	Posted Speed Limit (mph)	Approaching Roadway Grade (%)	Measure Sight Distance (Feet)	Minimum Desired Sight Distance (Feet)[1]
Seminary Avenue and Proposed Site Local Road				
Looking Left from Proposed Site Driveway	35 mph	-6%	426'[2]	390'
Looking Right from Proposed Site Driveway	35 mph	7%	474'[3]	390'
Left Turn from Major Road, Approach from Rear	35 mph	7%	459'	227'
Left Turn from Major Road, Approach from Opposite	35 mph	-6%	504'	285'

(1) Minimum Desired Sight Distance evaluated in accordance with the Pennsylvania Code, Title 67, Chapter 441.
(2) With Tree and Vegetation removal. 225' feet existing.
(3) With Vegetation removal. 155' feet existing.

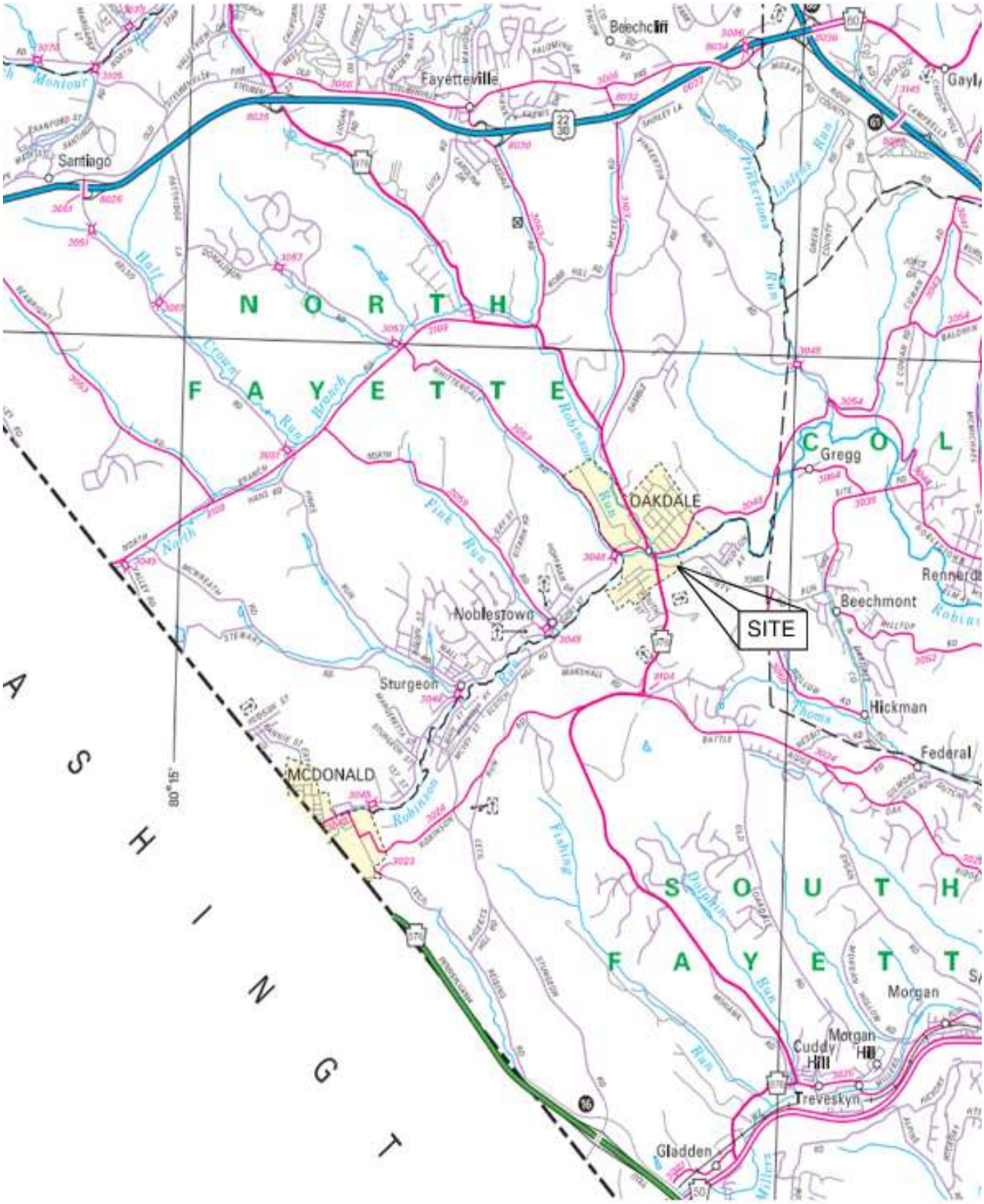
Findings and Conclusions

Based on a review of the data, the increased traffic to the intersection of Union Avenue (SR 0978) and Seminary Avenue/Existing Driveway intersection is minimal.

This concludes Stahl Sheaffer's trip generation for the proposed Oakdale Townhome Development. Please contact me at 724.960.1111 or via email at jguley@stahlsheaffer.com should you have any questions or require additional information.

Sincerely,

Joe Guley, P.E.
Senior Project Manager, Stahl Sheaffer Engineering



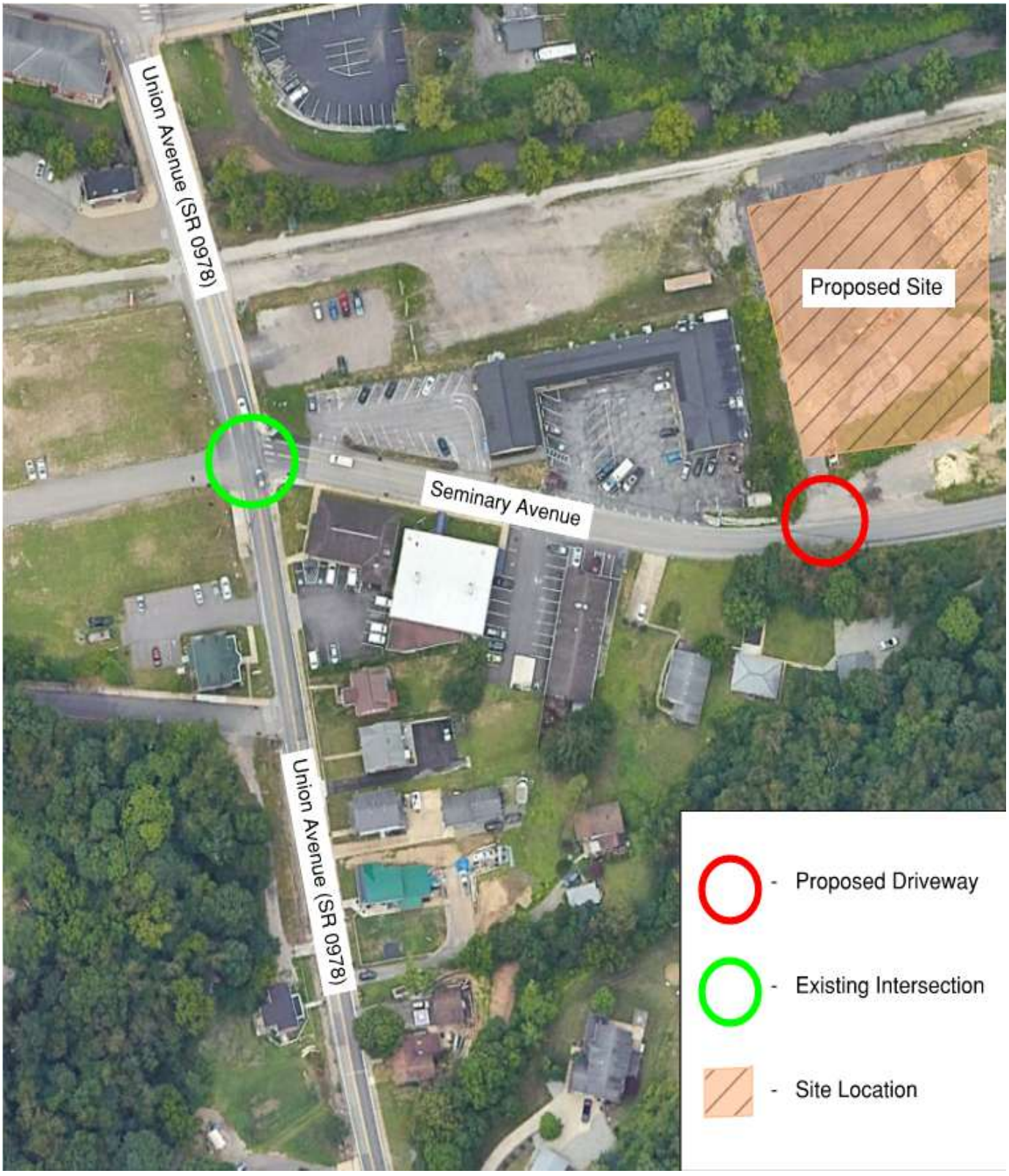
STAHL SHEAFFER ENGINEERING

6000 TOWN CENTER BLVD.
SUITE 215
CANONSBURG, PA 15317

PH: 724-960-1111
FAX: 724-960-1162
WWW.STAHLSHEAFFER.COM

PROJECT:	OAKDALE TOWNHOME DEVELOPMENT OAKDALE BOROUGH, ALLEGHENY COUNTY, PA
DRAWING:	Site Location

DATE:	AUG 2025
PROJECT NO.:	25-283
DRAWN BY:	KMM
CHECKED BY:	JTK
FIGURE:	1
SCALE:	NTS



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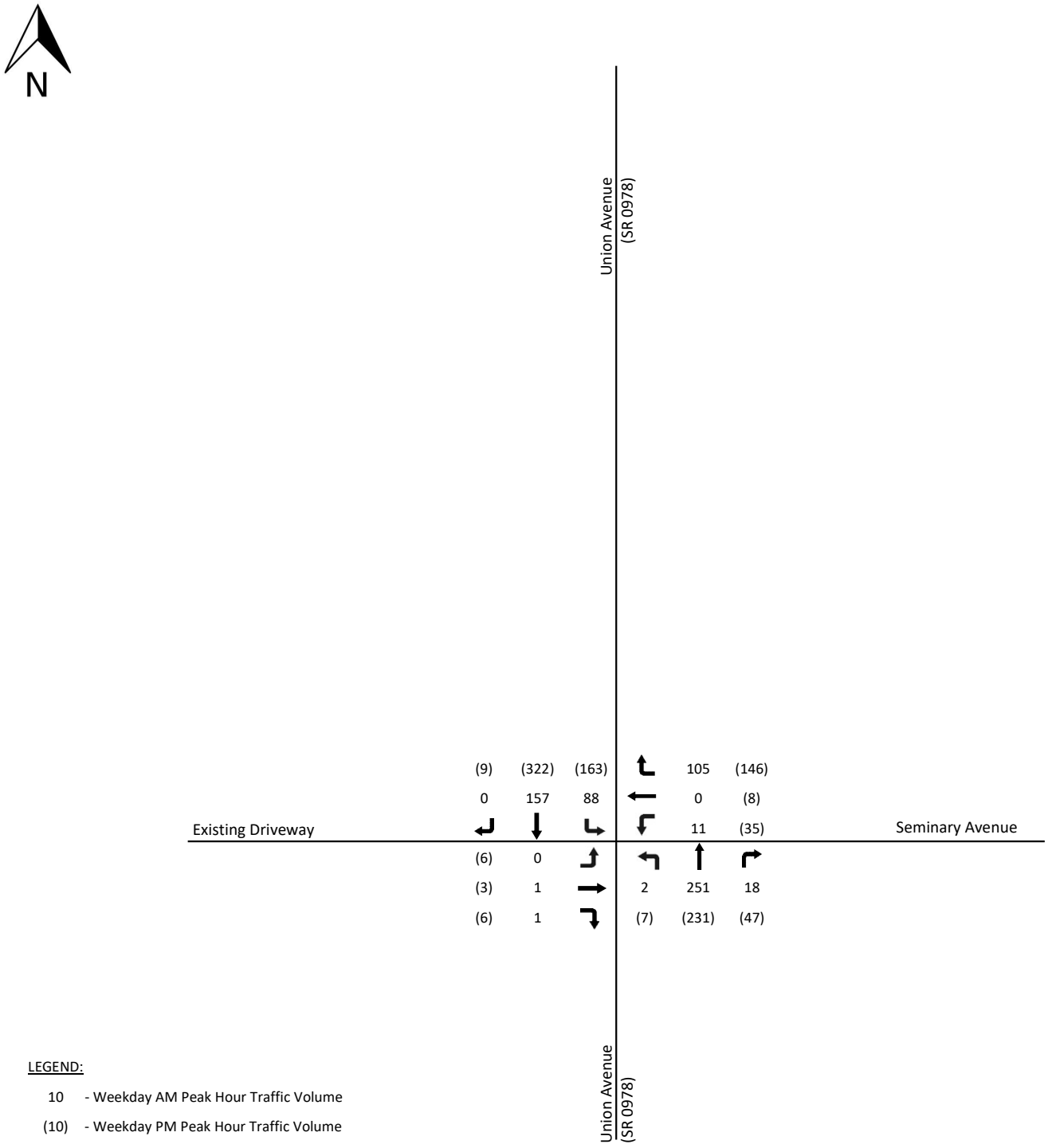
FAX: 724-960-1162
WWW.STAHLSHEAFFER.COM

PROJECT:	OAKDALE TOWNHOME DEVELOPMENT OAKDALE BOROUGH, ALLEGHENY COUNTY, PA
DRAWING:	Study Intersections

DATE:	AUG 2025
PROJECT NO.:	25-283
DRAWN BY:	KMM
CHECKED BY:	JTK
FIGURE:	3
SCALE:	NTS



LEGEND:

10 - Weekday AM Peak Hour Traffic Volume

(10) - Weekday PM Peak Hour Traffic Volume

➡ - Movement/Directional Arrow

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CANONSBURG, PA 15317

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FAX: 724-960-1162
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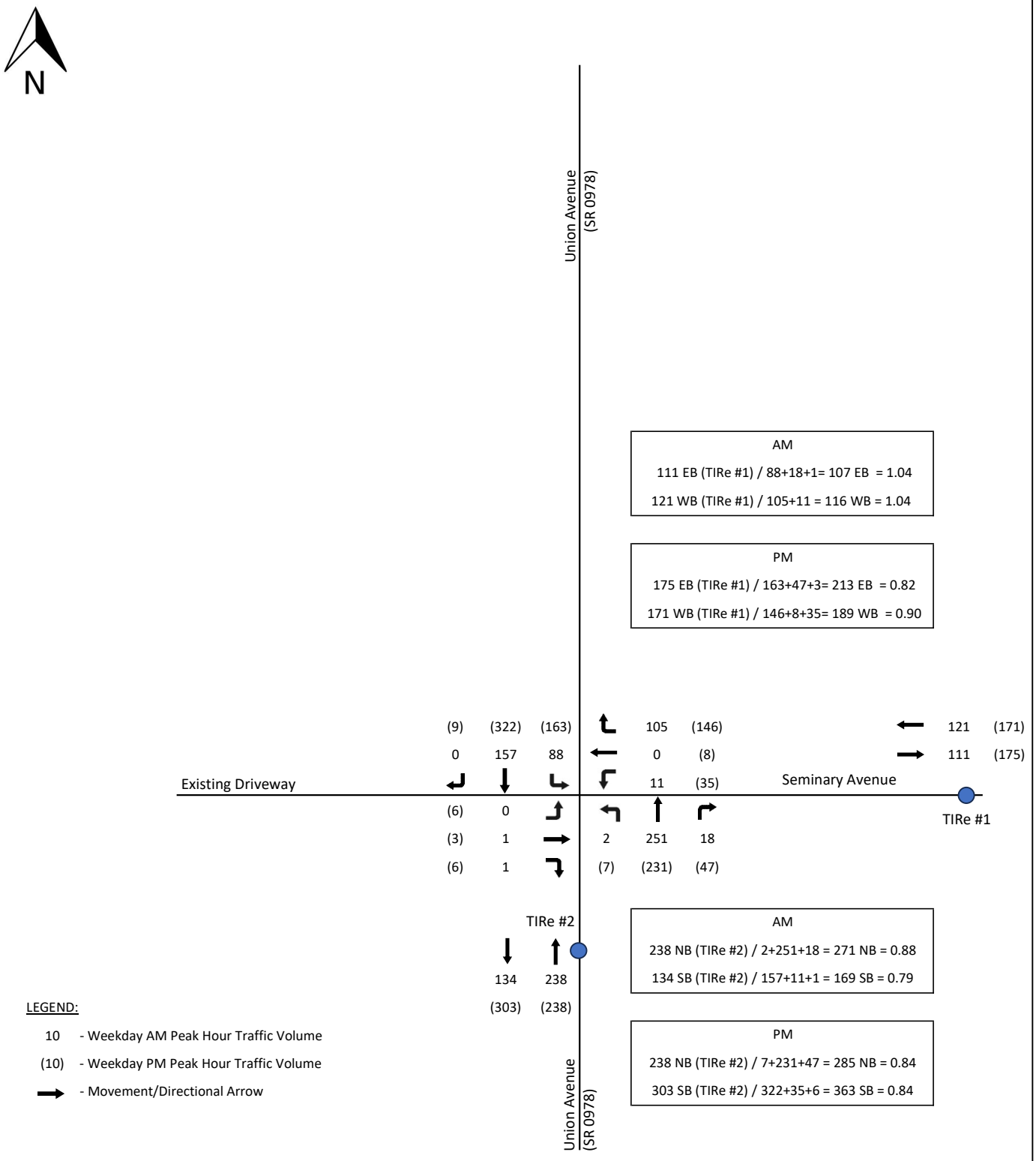
PROJECT: OAKDALE TOWNHOME DEVELOPMENT
OAKDALE BOROUGH, ALLEGHENY COUNTY, PA

DRAWING: 2021 Existing Conditions Peak Hour Traffic Volumes (Balanced)

DATE:	AUG 2025
PROJECT NO.:	25-283
DRAWN BY:	KMM
CHECKED BY:	JTK
FIGURE:	4
SCALE:	NTS



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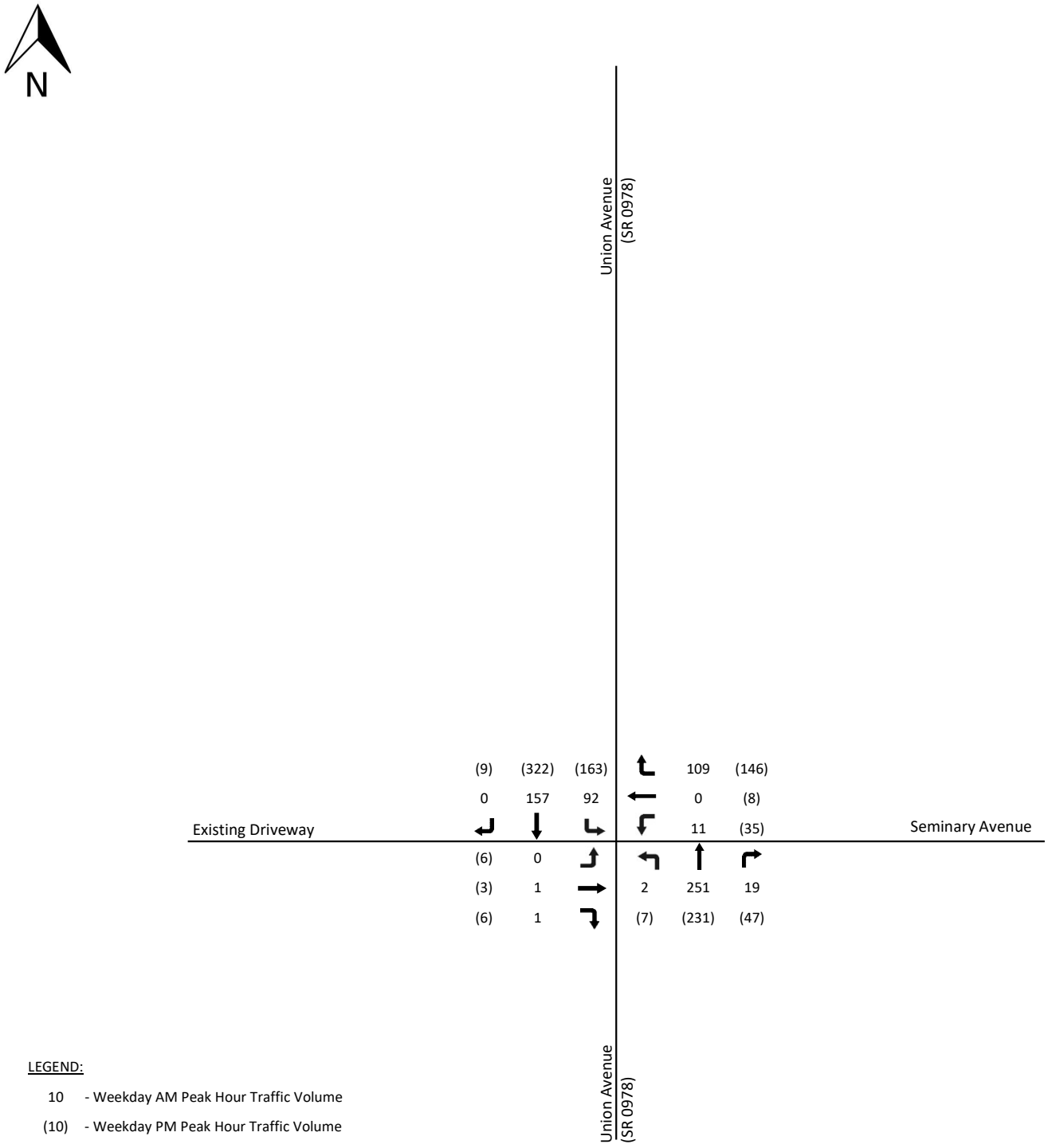
WWW.STAHLSHEAFFER.COM

PROJECT:	OAKDALE TOWNHOME DEVELOPMENT OAKDALE BOROUGH, ALLEGHENY COUNTY, PA
DRAWING:	2025 TIRe Adjustment Factor

DATE:	AUG 2025
PROJECT NO.:	25-283
DRAWN BY:	KMM
CHECKED BY:	JTK
FIGURE:	5
SCALE:	NTS



LEGEND:

10 - Weekday AM Peak Hour Traffic Volume

(10) - Weekday PM Peak Hour Traffic Volume

➡ - Movement/Directional Arrow

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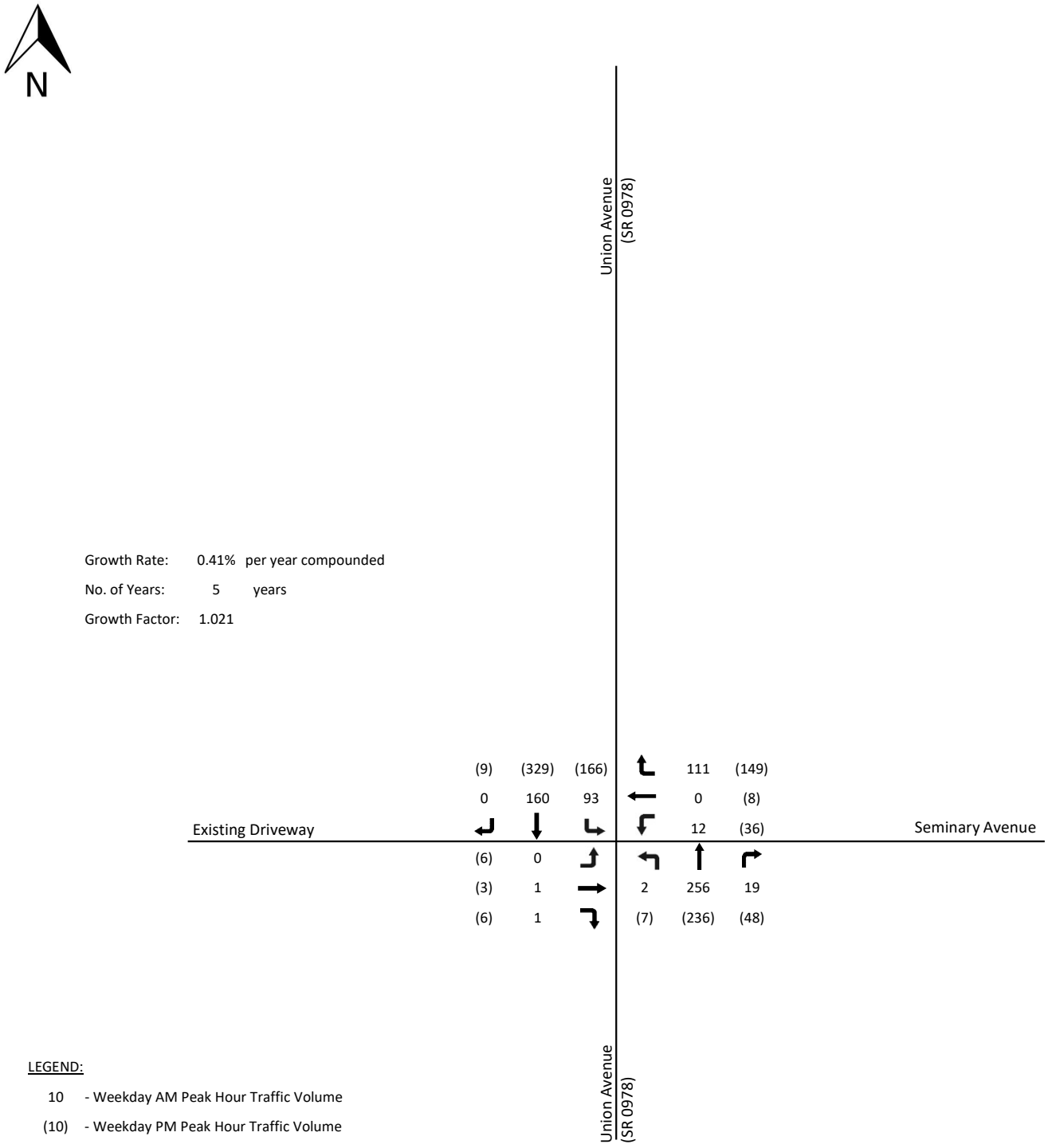
PROJECT:	OAKDALE TOWNHOME DEVELOPMENT OAKDALE BOROUGH, ALLEGHENY COUNTY, PA
DRAWING:	2025 Adjusted Peak Hour Traffic Volumes

DATE:	AUG 2025
PROJECT NO.:	25-283
DRAWN BY:	KMM
CHECKED BY:	JTK
FIGURE:	6
SCALE:	NTS



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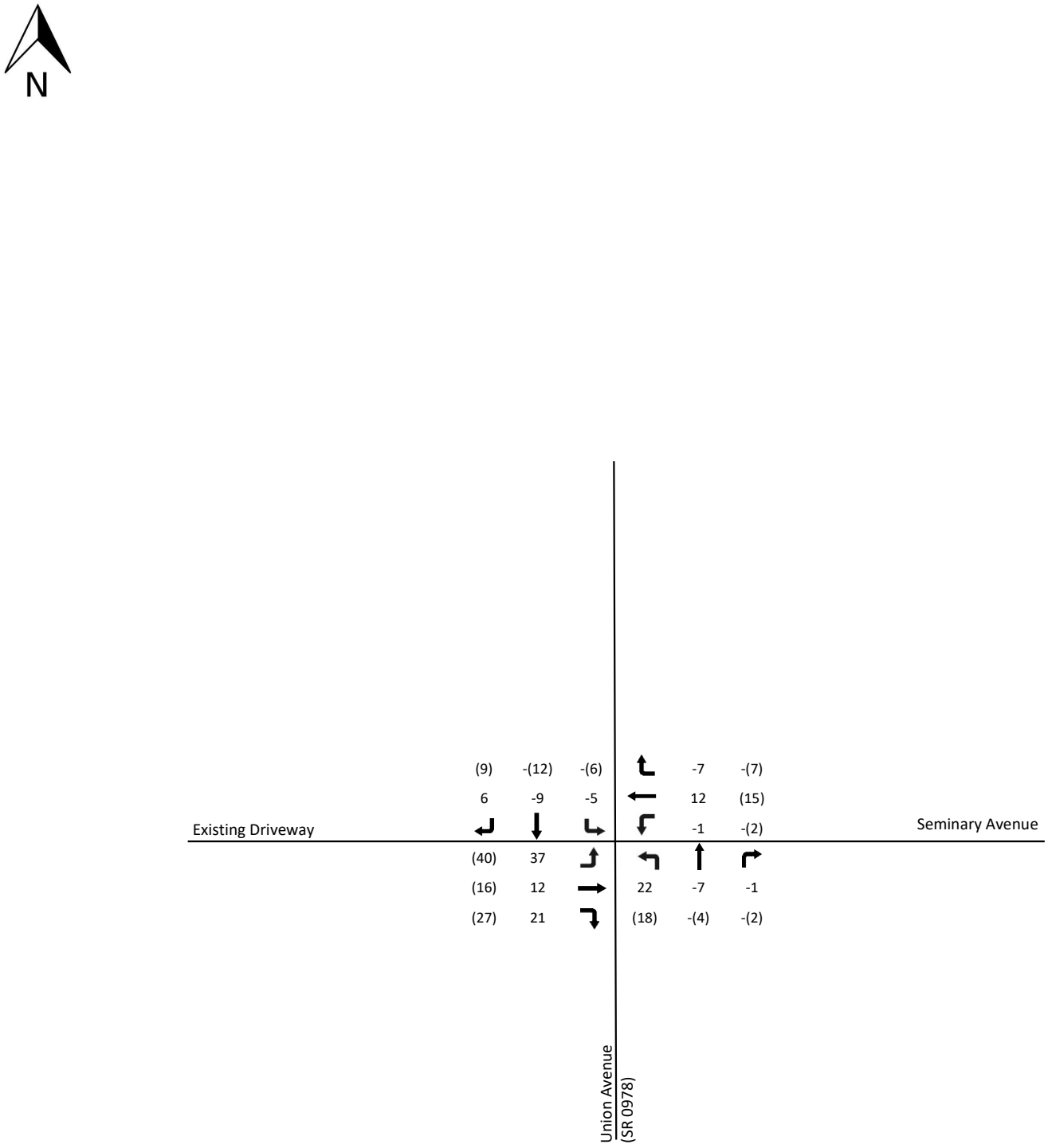
PROJECT:	OAKDALE TOWNHOME DEVELOPMENT OAKDALE BOROUGH, ALLEGHENY COUNTY, PA
DRAWING:	2030 No Build Peak Hour Traffic Volumes

DATE:	AUG 2025
PROJECT NO.:	25-283
DRAWN BY:	KMM
CHECKED BY:	JTK
FIGURE:	7
SCALE:	NTS



LEGEND:

10 - Weekday AM Peak Hour Traffic Volume

(10) - Weekday PM Peak Hour Traffic Volume

→ - Movement/Directional Arrow

STAHL SHEAFFER ENGINEERING
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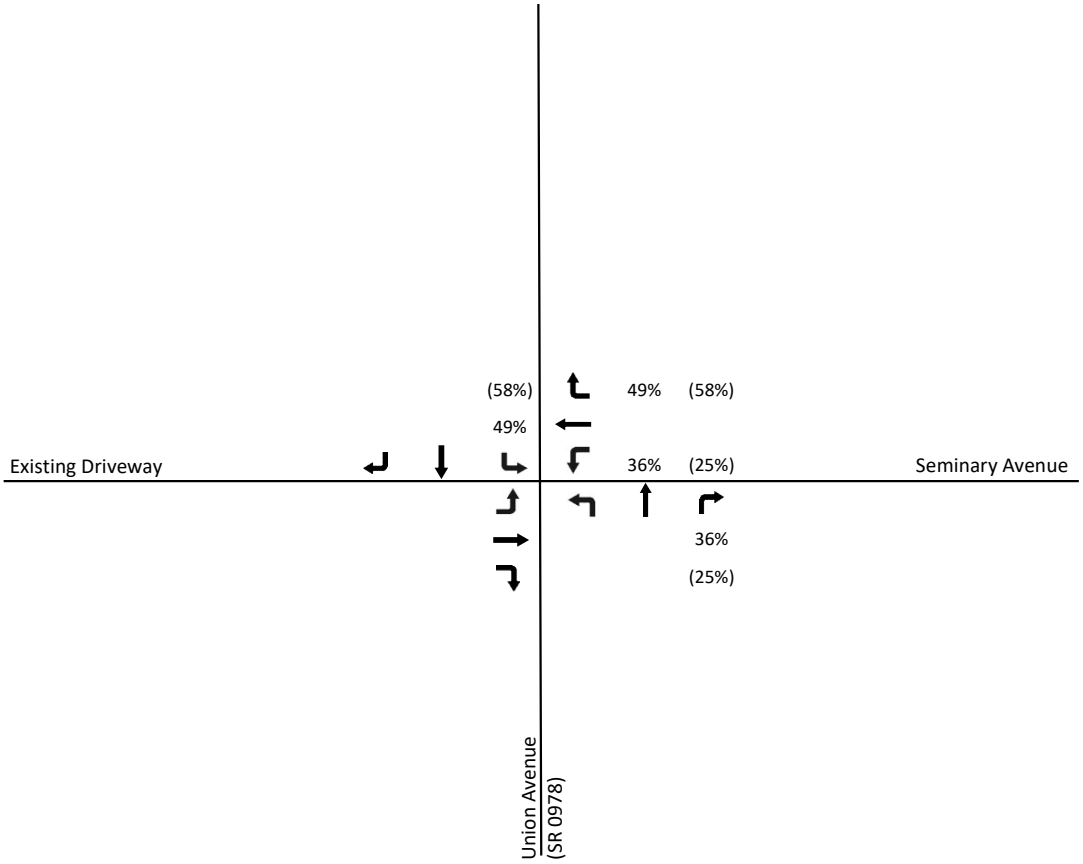
CANONSBURG, PA 15317
PH: 724-960-1111
FAX: 724-960-1162
WWW.STAHLSHEAFFER.COM

PROJECT:	OAKDALE TOWNHOME DEVELOPMENT OAKDALE BOROUGH, ALLEGHENY COUNTY, PA	DATE:	AUG 2025
		PROJECT NO.:	25-283
		DRAWN BY:	KMM
DRAWING:	Convenience Market with Gas and Car Wash Pass-By Site Generated Peak Hour Traffic Volumes (From SAI Equity LLC Traffic Study)	CHECKED BY:	JTK
		FIGURE:	8
		SCALE:	NTS



LEGEND:

10 - Weekday AM Trip Distribtuion

(10) - Weekday PM Trip Distribution

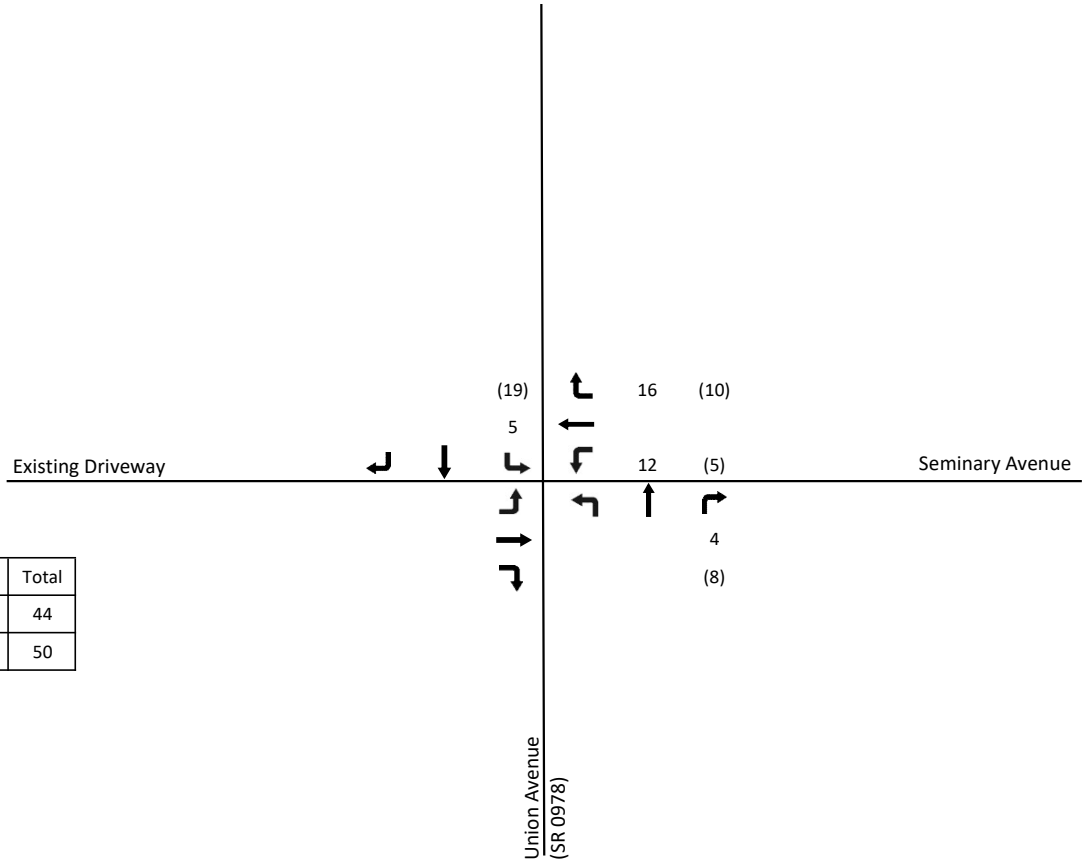
→ - Movement/Directional Arrow

STAHL SHEAFFER ENGINEERING
6000 TOWN CENTER BLVD.
SUITE 215
CANONSBURG, PA 15317
PH: 724-960-1111
FAX: 724-960-1162
WWW.STAHLSHEAFFER.COM

PROJECT: OAKDALE TOWNHOME DEVELOPMENT
OAKDALE BOROUGH, ALLEGHENY COUNTY, PA

DRAWING: Trip Distributions

DATE:	AUG 2025
PROJECT NO.:	25-283
DRAWN BY:	KMM
CHECKED BY:	JTK
FIGURE:	9
SCALE:	NTS



	Enter	Exit	Total
AM	11	33	44
PM	32	18	50

LEGEND:

10 - Weekday AM Peak Hour Traffic Volume

(10) - Weekday PM Peak Hour Traffic Volume

→ - Movement/Directional Arrow

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SUITE 215
CANONSBURG, PA 15317
PH: 724-960-1111
FAX: 724-960-1162
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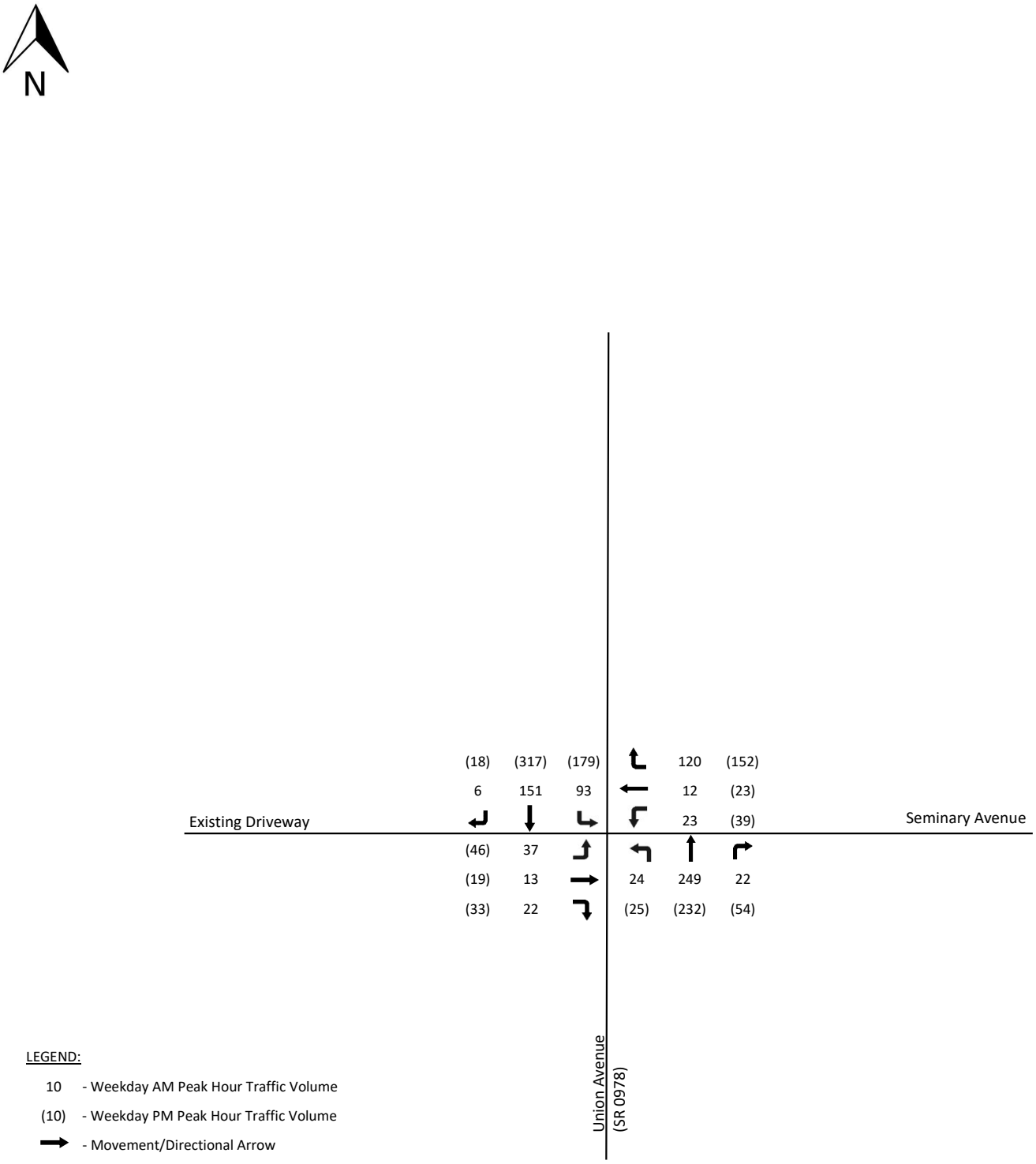
PROJECT: OAKDALE TOWNHOME DEVELOPMENT
OAKDALE BOROUGH, ALLEGHENY COUNTY, PA

DRAWING: Development Site Generated Trips

DATE:	AUG 2025
PROJECT NO.:	25-283
DRAWN BY:	KMM
CHECKED BY:	JTK
FIGURE:	10
SCALE:	NTS



LEGEND:

10 - Weekday AM Peak Hour Traffic Volume

(10) - Weekday PM Peak Hour Traffic Volume

➡ - Movement/Directional Arrow

STAHL SHEAFFER ENGINEERING
1000 NOBLE ENERGY DRIVE, SUITE 410
CANONSBURG, PA 15317
PH: 724-960-1111
FAX: 724-960-1162
WWW.STAHLSHEAFFER.COM

PROJECT:	OAKDALE TOWNHOME DEVELOPMENT OAKDALE BOROUGH, ALLEGHENY COUNTY, PA
DRAWING:	2030 Build Conditions Peak Hour Traffic Volumes

DATE:	AUG 2025
PROJECT NO.:	25-283
DRAWN BY:	KMM
CHECKED BY:	JTK
FIGURE:	11
SCALE:	NTS

STAHL SHEAFFER ENGINEERING

Appendix A. TIRe Station Counts

TMS Site 27853: Traffic Monitoring Report

Location Description: 0.15 miles west of Steen Hollow Rd. (SR 3050)

Details

Type of Count	MACHINE CLASS
Type of Site	Portable
Schedule	1 TIME/YR
Duration	24 HRS
Frequency Cycle	05
Cycle Year	02

Location

County	ALLEGHENY (02)
Route	H443
Segment	0020
Offset	3200
Latitude	40.39497
Longitude	-80.1712

Map

Traffic Data

Hour	Volume	Trucks	Truck %	Volume Graph
12:00 AM	10	0	0	
01:00 AM	3	0	0	
02:00 AM	2	0	0	
03:00 AM	4	0	0	
04:00 AM	14	0	0	
05:00 AM	32	6	18.8	
06:00 AM	110	9	8.2	
07:00 AM	232	31	13.4	
08:00 AM	188	16	8.5	
09:00 AM	146	6	4.1	
10:00 AM	144	19	13.2	
11:00 AM	170	14	8.2	
12:00 PM	190	19	10	
01:00 PM	201	19	9.5	
02:00 PM	196	19	9.7	
03:00 PM	237	11	4.6	
04:00 PM	339	8	2.4	
05:00 PM	346	9	2.6	
06:00 PM	224	8	3.6	
07:00 PM	207	8	3.9	
08:00 PM	116	3	2.6	
09:00 PM	77	6	7.8	
10:00 PM	29	1	3.4	
11:00 PM	21	2	9.5	

TMS Site 14533: Traffic Monitoring Report

Location Description: 0.65 Mile North of SR 3024.

Details

Type of Count	MACHINE CLASS
Type of Site	Portable
Schedule	1 TIME/YR
Duration	24 HRS
Frequency Cycle	03
Cycle Year	02

Location

County	ALLEGHENY (02)
Route	0978
Segment	0110
Offset	2830
Latitude	40.39312
Longitude	-80.18352

Map

Traffic Data

Hour	Volume	Trucks	Truck %	Volume Graph
12:00 AM	5	0	0	
01:00 AM	1	0	0	
02:00 AM	4	0	0	
03:00 AM	5	0	0	
04:00 AM	26	1	3.8	
05:00 AM	64	4	6.2	
06:00 AM	211	13	6.2	
07:00 AM	372	27	7.3	
08:00 AM	310	18	5.8	
09:00 AM	232	18	7.8	
10:00 AM	234	16	6.8	
11:00 AM	243	15	6.2	
12:00 PM	256	7	2.7	
01:00 PM	275	16	5.8	
02:00 PM	316	27	8.5	
03:00 PM	436	17	3.9	
04:00 PM	499	18	3.6	
05:00 PM	541	19	3.5	
06:00 PM	402	10	2.5	
07:00 PM	306	1	0.3	
08:00 PM	193	1	0.5	
09:00 PM	150	1	0.7	
10:00 PM	68	1	1.5	
11:00 PM	29	1	3.4	

Appendix B. Turning Movement Counts

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Oakdale, PA
Union Ave & Seminary Ave/Helicon Brewery
Tuesday, September 14, 2021
Location: 40.39674, -80.184689

Count Name: Union Ave & Seminary Ave/Helicon Brewery
Site Code:
Start Date: 09/14/2021

Turning Movement Data

Start Time	Helicon Brewery Eastbound						Seminary Ave Westbound						Union Ave Northbound						Union Ave Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:00 AM	0	0	0	0	0	0	4	0	22	0	0	26	0	69	2	0	0	71	18	27	0	0	0	45	142
7:15 AM	0	1	0	0	0	1	5	0	24	0	0	29	1	72	7	0	0	80	19	33	0	0	0	52	162
7:30 AM	0	0	1	0	0	1	2	0	23	0	0	25	0	70	5	0	0	75	23	41	0	0	0	64	165
7:45 AM	0	0	0	0	0	0	3	0	27	0	0	30	1	54	1	0	0	56	22	36	0	0	0	58	144
Hourly Total	0	1	1	0	0	2	14	0	96	0	0	110	2	265	15	0	0	282	82	137	0	0	0	219	613
8:00 AM	0	0	0	0	0	0	1	0	31	0	0	32	0	55	5	0	0	60	17	34	0	0	1	51	143
8:15 AM	0	0	1	0	0	1	5	0	19	0	0	24	0	51	6	0	0	57	23	21	0	0	0	44	126
8:30 AM	0	0	0	0	0	0	4	0	28	0	0	32	0	56	10	0	0	66	17	39	2	0	0	58	156
8:45 AM	0	0	0	0	0	0	4	0	16	1	0	21	0	65	4	0	0	69	20	23	0	0	0	43	133
Hourly Total	0	0	1	0	0	1	14	0	94	1	0	109	0	227	25	0	0	252	77	117	2	0	1	196	558
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
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	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
4:00 PM	0	0	0	0	0	0	4	0	27	0	0	31	3	55	9	0	0	67	27	68	1	0	5	96	194
4:15 PM	0	0	1	0	0	1	13	0	26	0	0	39	2	56	8	0	0	66	37	67	3	0	0	107	213
4:30 PM	0	0	1	0	0	1	10	2	27	1	0	40	1	67	4	1	0	73	40	81	2	2	0	125	239
4:45 PM	3	1	1	0	0	5	7	3	39	0	0	49	5	55	5	0	0	65	36	68	4	0	0	108	227
Hourly Total	3	1	3	0	0	7	34	5	119	1	0	159	11	233	26	1	0	271	140	284	10	2	5	436	873
5:00 PM	3	1	1	0	2	5	8	3	37	1	2	49	0	59	10	0	1	69	41	70	2	1	0	114	237
5:15 PM	0	1	3	0	1	4	10	0	43	0	0	53	1	50	28	0	0	79	35	80	0	0	0	115	251
5:30 PM	1	0	1	0	0	2	8	1	37	1	0	47	0	49	16	0	2	65	25	69	1	0	0	95	209
5:45 PM	1	2	1	0	1	4	12	3	34	0	0	49	1	51	13	0	1	65	35	68	1	1	2	105	223
Hourly Total	5	4	6	0	4	15	38	7	151	2	2	198	2	209	67	0	4	278	136	287	4	2	2	429	920
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	6	11	0	4	25	100	12	460	4	2	576	15	934	133	1	4	1083	435	825	16	4	8	1280	2964
Approach %	32.0	24.0	44.0	0.0	-	-	17.4	2.1	79.9	0.7	-	-	1.4	86.2	12.3	0.1	-	-	34.0	64.5	1.3	0.3	-	-	-
Total %	0.3	0.2	0.4	0.0	-	0.8	3.4	0.4	15.5	0.1	-	19.4	0.5	31.5	4.5	0.0	-	36.5	14.7	27.8	0.5	0.1	-	43.2	-
Lights	8	6	11	0	-	25	95	12	448	4	-	559	15	912	128	1	-	1056	426	808	16	4	-	1254	2894
% Lights	100.0	100.0	100.0	-	-	100.0	95.0	100.0	97.4	100.0	-	97.0	100.0	97.6	96.2	100.0	-	97.5	97.9	97.9	100.0	100.0	-	98.0	97.6
Buses	0	0	0	0	-	0	4	0	1	0	-	5	0	3	3	0	-	6	2	5	0	0	-	7	18
% Buses	0.0	0.0	0.0	-	-	0.0	4.0	0.0	0.2	0.0	-	0.9	0.0	0.3	2.3	0.0	-	0.6	0.5	0.6	0.0	0.0	-	0.5	0.6
Trucks	0	0	0	0	-	0	1	0	11	0	-	12	0	19	2	0	-	21	7	12	0	0	-	19	52
% Trucks	0.0	0.0	0.0	-	-	0.0	1.0	0.0	2.4	0.0	-	2.1	0.0	2.0	1.5	0.0	-	1.9	1.6	1.5	0.0	0.0	-	1.5	1.8
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	25.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	4	-	-	-	-	-	2	-	-	-	-	-	3	-	-	-	-	-	8	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	75.0	-	-	-	-	-	100.0	-	-

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Oakdale, PA
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Tuesday, September 14, 2021
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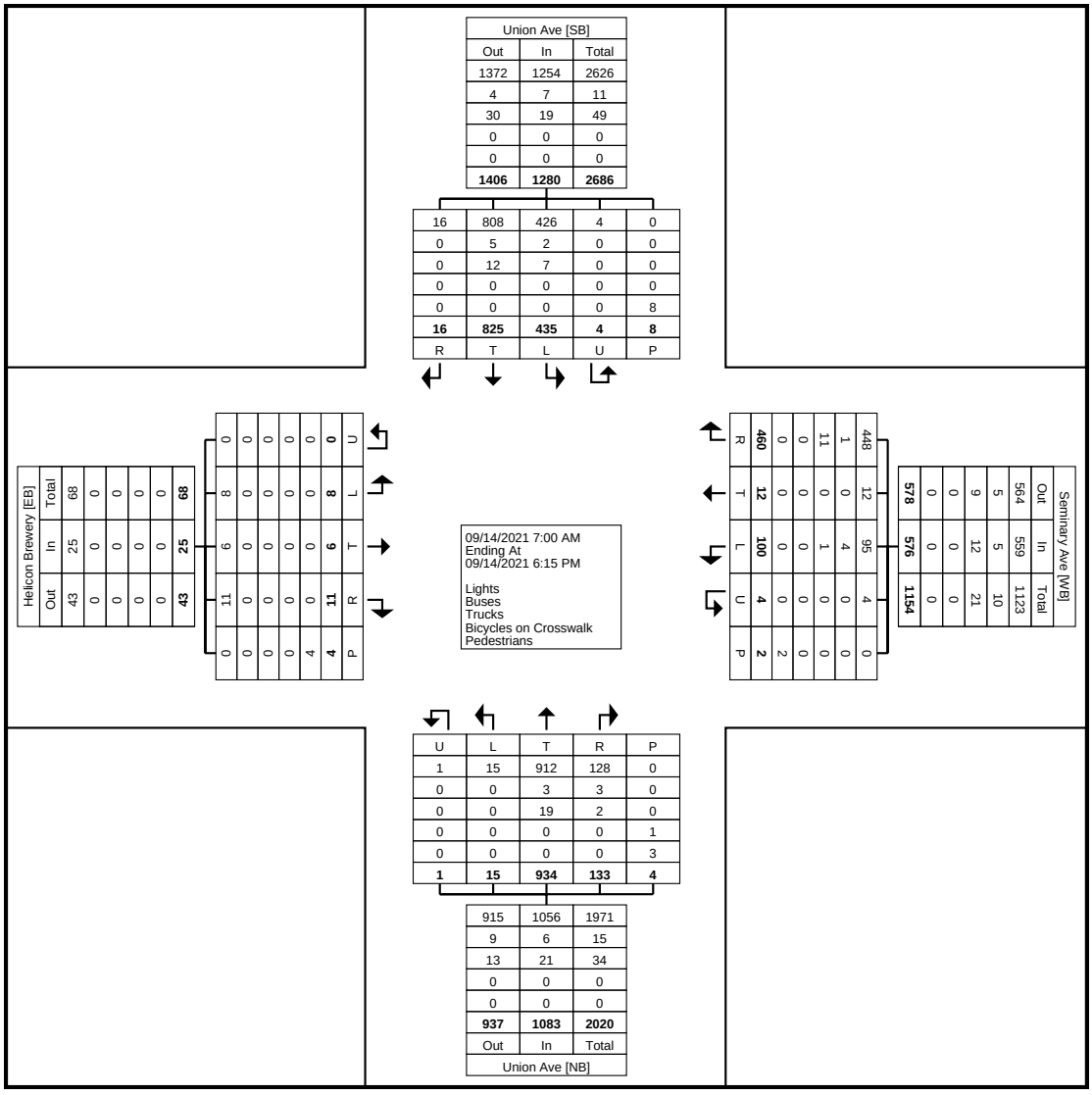
Site Code:
Start Date: 09/14/2021



Turning Movement Data Plot

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Oakdale, PA
Union Ave & Seminary Ave/Helicon Brewery
Tuesday, September 14, 2021
Location: 40.39674, -80.184689

Count Name: Union Ave & Seminary Ave/Helicon Brewery
Site Code:
Start Date: 09/14/2021

Turning Movement Peak Hour Data (7:15 AM)

Start Time	Helicon Brewery Eastbound						Seminary Ave Westbound						Union Ave Northbound						Union Ave Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:15 AM	0	1	0	0	0	1	5	0	24	0	0	29	1	72	7	0	0	80	19	33	0	0	0	52	162
7:30 AM	0	0	1	0	0	1	2	0	23	0	0	25	0	70	5	0	0	75	23	41	0	0	0	64	165
7:45 AM	0	0	0	0	0	0	3	0	27	0	0	30	1	54	1	0	0	56	22	36	0	0	0	58	144
8:00 AM	0	0	0	0	0	0	1	0	31	0	0	32	0	55	5	0	0	60	17	34	0	0	1	51	143
Total	0	1	1	0	0	2	11	0	105	0	0	116	2	251	18	0	0	271	81	144	0	0	1	225	614
Approach %	0.0	50.0	50.0	0.0	-	-	9.5	0.0	90.5	0.0	-	-	0.7	92.6	6.6	0.0	-	-	36.0	64.0	0.0	0.0	-	-	-
Total %	0.0	0.2	0.2	0.0	-	0.3	1.8	0.0	17.1	0.0	-	18.9	0.3	40.9	2.9	0.0	-	44.1	13.2	23.5	0.0	0.0	-	36.6	-
PHF	0.000	0.250	0.250	0.000	-	0.500	0.550	0.000	0.847	0.000	-	0.906	0.500	0.872	0.643	0.000	-	0.847	0.880	0.878	0.000	0.000	-	0.879	0.930
Lights	0	1	1	0	-	2	9	0	97	0	-	106	2	243	14	0	-	259	80	139	0	0	-	219	586
% Lights	-	100.0	100.0	-	-	100.0	81.8	-	92.4	-	-	91.4	100.0	96.8	77.8	-	-	95.6	98.8	96.5	-	-	-	97.3	95.4
Buses	0	0	0	0	-	0	2	0	1	0	-	3	0	2	2	0	-	4	0	2	0	0	-	2	9
% Buses	-	0.0	0.0	-	-	0.0	18.2	-	1.0	-	-	2.6	0.0	0.8	11.1	-	-	1.5	0.0	1.4	-	-	-	0.9	1.5
Trucks	0	0	0	0	-	0	0	0	7	0	-	7	0	6	2	0	-	8	1	3	0	0	-	4	19
% Trucks	-	0.0	0.0	-	-	0.0	0.0	-	6.7	-	-	6.0	0.0	2.4	11.1	-	-	3.0	1.2	2.1	-	-	-	1.8	3.1
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

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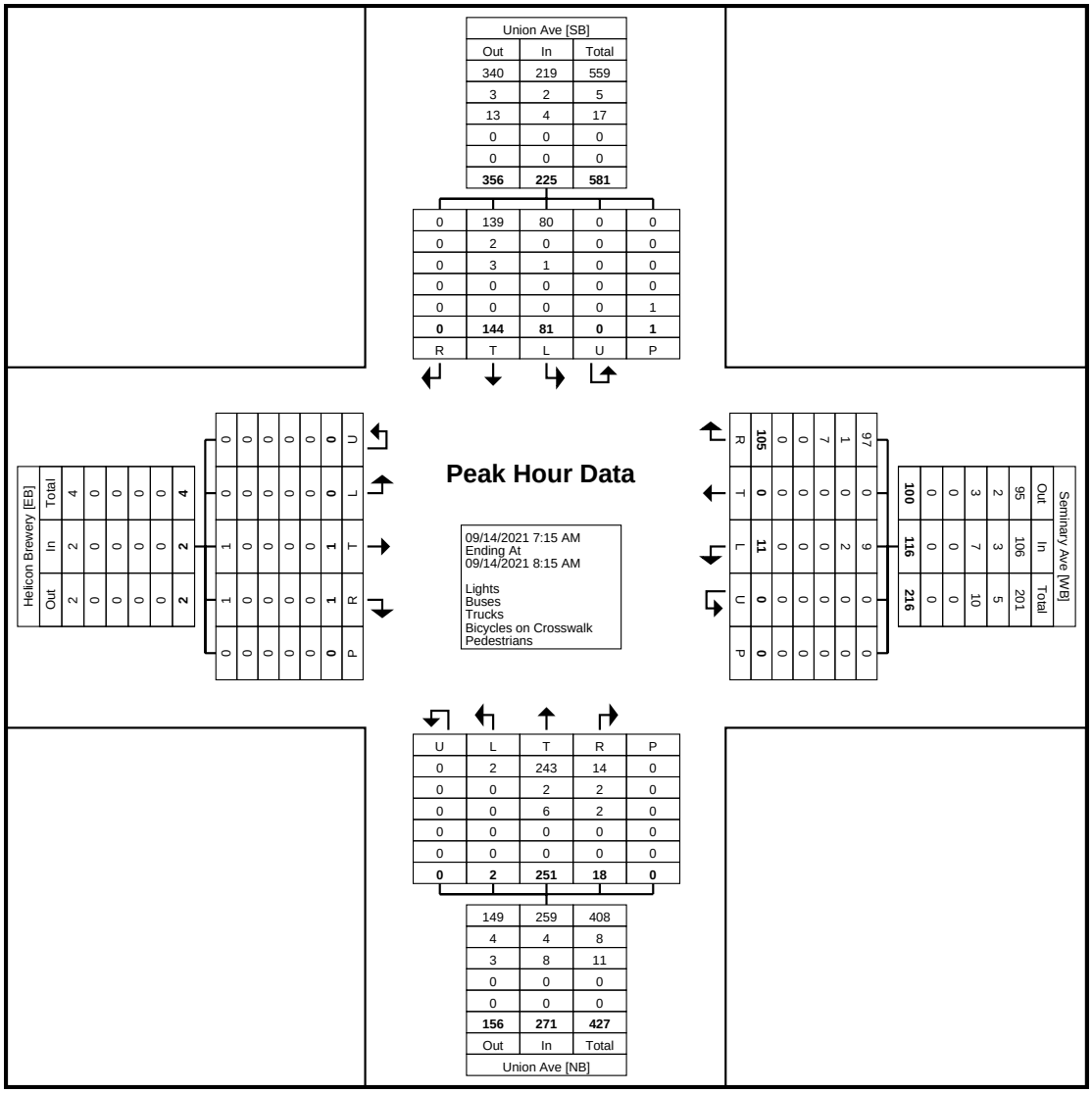

Turning Movement Peak Hour Data Plot (7:15 AM)

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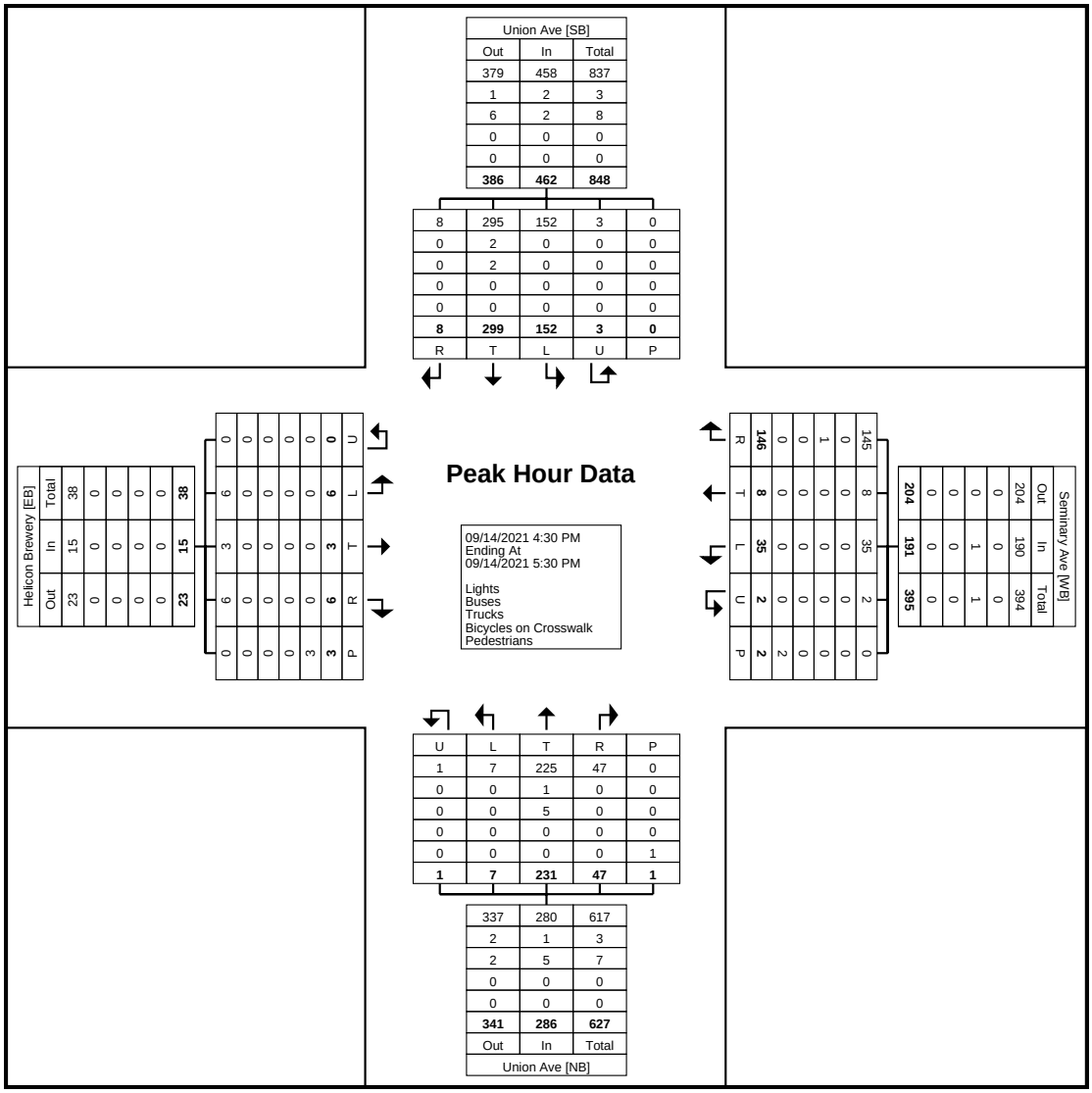
Oakdale, PA
Union Ave & Seminary Ave/Helicon Brewery
Tuesday, September 14, 2021
Location: 40.39674, -80.184689

Count Name: Union Ave & Seminary Ave/Helicon Brewery
Site Code:
Start Date: 09/14/2021

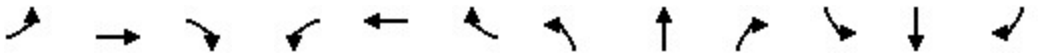
Turning Movement Peak Hour Data (4:30 PM)

Start Time	Helicon Brewery Eastbound						Seminary Ave Westbound						Union Ave Northbound						Union Ave Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
4:30 PM	0	0	1	0	0	1	10	2	27	1	0	40	1	67	4	1	0	73	40	81	2	2	0	125	239
4:45 PM	3	1	1	0	0	5	7	3	39	0	0	49	5	55	5	0	0	65	36	68	4	0	0	108	227
5:00 PM	3	1	1	0	2	5	8	3	37	1	2	49	0	59	10	0	1	69	41	70	2	1	0	114	237
5:15 PM	0	1	3	0	1	4	10	0	43	0	0	53	1	50	28	0	0	79	35	80	0	0	0	115	251
Total	6	3	6	0	3	15	35	8	146	2	2	191	7	231	47	1	1	286	152	299	8	3	0	462	954
Approach %	40.0	20.0	40.0	0.0	-	-	18.3	4.2	76.4	1.0	-	-	2.4	80.8	16.4	0.3	-	-	32.9	64.7	1.7	0.6	-	-	-
Total %	0.6	0.3	0.6	0.0	-	1.6	3.7	0.8	15.3	0.2	-	20.0	0.7	24.2	4.9	0.1	-	30.0	15.9	31.3	0.8	0.3	-	48.4	-
PHF	0.500	0.750	0.500	0.000	-	0.750	0.875	0.667	0.849	0.500	-	0.901	0.350	0.862	0.420	0.250	-	0.905	0.927	0.923	0.500	0.375	-	0.924	0.950
Lights	6	3	6	0	-	15	35	8	145	2	-	190	7	225	47	1	-	280	152	295	8	3	-	458	943
% Lights	100.0	100.0	100.0	-	-	100.0	100.0	100.0	99.3	100.0	-	99.5	100.0	97.4	100.0	100.0	-	97.9	100.0	98.7	100.0	100.0	-	99.1	98.8
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	0	2	0	0	-	2	3
% Buses	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.4	0.0	0.0	-	0.3	0.0	0.7	0.0	0.0	-	0.4	0.3
Trucks	0	0	0	0	-	0	0	0	1	0	-	1	0	5	0	0	-	5	0	2	0	0	-	2	8
% Trucks	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.7	0.0	-	0.5	0.0	2.2	0.0	0.0	-	1.7	0.0	0.7	0.0	0.0	-	0.4	0.8
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-



Turning Movement Peak Hour Data Plot (4:30 PM)

Appendix C. Synchro 2030 Build Analysis



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	13	22	23	12	120	24	249	22	93	151	6
Future Volume (vph)	37	13	22	23	12	120	24	249	22	93	151	6
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	9	9	9	12	12	12	11	11	11	11	11	11
Grade (%)		-2%			1%			-1%			-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.958			0.896			0.990			0.997	
Flt Protected		0.975			0.993			0.996			0.982	
Satd. Flow (prot)	0	1528	0	0	1512	0	0	1682	0	0	1694	0
Flt Permitted		0.975			0.993			0.996			0.982	
Satd. Flow (perm)	0	1528	0	0	1512	0	0	1682	0	0	1694	0
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		291			533			609			383	
Travel Time (s)		7.9			10.4			11.9			7.5	
Confl. Peds. (#/hr)										1		1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	0%	0%	7%	0%	2%	11%	1%	2%	0%
Adj. Flow (vph)	40	14	24	25	13	129	26	268	24	100	162	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	78	0	0	167	0	0	318	0	0	268	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		12			14			16			16	
Two way Left Turn Lane												
Headway Factor	1.21	1.21	1.21	1.08	1.08	1.08	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 52.2%		ICU Level of Service A	
Analysis Period (min) 15			

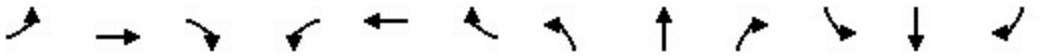
Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	37	13	22	23	12	120	24	249	22	93	151	6
Future Vol, veh/h	37	13	22	23	12	120	24	249	22	93	151	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	1	0	1
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, %	-	-2	-	-	1	-	-	-1	-	-	-2	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	7	0	2	11	1	2	0
Mvmt Flow	40	14	24	25	13	129	26	268	24	100	162	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	769	711	166	717	702	281	169	0	0	293	0	0
Stage 1	366	366	-	333	333	-	-	-	-	-	-	-
Stage 2	403	345	-	384	369	-	-	-	-	-	-	-
Critical Hdwy	6.7	6.5	6.2	7.1	6.5	6.2	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	5.7	5.1	-	6.3	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.7	5.1	-	6.3	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3	4	3.1	3	4	3.1	3	-	-	3	-	-
Pot Cap-1 Maneuver	388	361	936	388	365	806	1051	-	-	953	-	-
Stage 1	780	652	-	767	636	-	-	-	-	-	-	-
Stage 2	746	665	-	716	612	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	281	309	935	325	312	805	1050	-	-	952	-	-
Mov Cap-2 Maneuver	281	309	-	325	312	-	-	-	-	-	-	-
Stage 1	756	576	-	743	616	-	-	-	-	-	-	-
Stage 2	595	644	-	602	540	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	17.5	13.3	0.7	3.4
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1050	-	-	365	600	952	-	-
HCM Lane V/C Ratio	0.025	-	-	0.212	0.278	0.105	-	-
HCM Ctrl Dly (s/v)	8.5	0	-	17.5	13.3	9.2	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q (veh)	0.1	-	-	0.8	1.1	0.4	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	19	33	39	23	152	25	232	54	179	317	18
Future Volume (vph)	46	19	33	39	23	152	25	232	54	179	317	18
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	9	9	9	12	12	12	11	11	11	11	11	11
Grade (%)		-2%			1%			-1%			-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.954			0.904			0.976			0.995	
Flt Protected		0.977			0.991			0.996			0.983	
Satd. Flow (prot)	0	1525	0	0	1528	0	0	1675	0	0	1708	0
Flt Permitted		0.977			0.991			0.996			0.983	
Satd. Flow (perm)	0	1525	0	0	1528	0	0	1675	0	0	1708	0
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		291			533			609			383	
Travel Time (s)		7.9			10.4			11.9			7.5	
Confl. Peds. (#/hr)										1		1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	7%	0%	2%	0%	0%	1%	0%
Adj. Flow (vph)	48	20	35	41	24	160	26	244	57	188	334	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	103	0	0	225	0	0	327	0	0	541	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		12			14			16			16	
Two way Left Turn Lane												
Headway Factor	1.21	1.21	1.21	1.08	1.08	1.08	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	71.1%	ICU Level of Service	C
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	11.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	46	19	33	39	23	152	25	232	54	179	317	18
Future Vol, veh/h	46	19	33	39	23	152	25	232	54	179	317	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	1	0	1
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, %	-	-2	-	-	1	-	-	-1	-	-	-2	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	7	0	2	0	0	1	0
Mvmt Flow	48	20	35	41	24	160	26	244	57	188	334	19

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1138	1075	345	1073	1056	274	354	0	0	302	0	0
Stage 1	721	721	-	326	326	-	-	-	-	-	-	-
Stage 2	417	354	-	747	730	-	-	-	-	-	-	-
Critical Hdwy	6.7	6.5	6.2	7.1	6.5	6.2	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	5.7	5.1	-	6.3	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.7	5.1	-	6.3	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3	4	3.1	3	4	3.1	3	-	-	3	-	-
Pot Cap-1 Maneuver	223	221	741	219	227	813	908	-	-	946	-	-
Stage 1	510	471	-	775	640	-	-	-	-	-	-	-
Stage 2	734	659	-	436	414	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	126	160	740	149	164	812	907	-	-	945	-	-
Mov Cap-2 Maneuver	126	160	-	149	164	-	-	-	-	-	-	-
Stage 1	492	354	-	747	617	-	-	-	-	-	-	-
Stage 2	546	635	-	295	311	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	46.5	29.8	0.7	3.4
HCM LOS	E	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	907	-	-	185	363	945	-	-
HCM Lane V/C Ratio	0.029	-	-	0.558	0.621	0.199	-	-
HCM Ctrl Dly (s/v)	9.1	0	-	46.5	29.8	9.8	0	-
HCM Lane LOS	A	A	-	E	D	A	A	-
HCM 95th %tile Q (veh)	0.1	-	-	2.9	4	0.7	-	-

WALKERS MILL – TOWNHOUSES PHASE 2

SOUTH FAYETTE TOWNSHIP
ALLEGHENY COUNTY, PENNSYLVANIA

POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN

March 9, 2026

Prepared By:

KDH CONSULTING ENGINEERS, INC
593 RUGH STREET, LOWER LEVEL
GREENSBURG, PA 15601

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I. INTRODUCTION

The proposed project is located along the northern side of Seminary Avenue at the intersection of PA Route 878 in the Borough of Oakdale, Allegheny County, Pennsylvania. The site is currently a partly wooded vacant parcel.

The proposed project is to build 33 Townhouses in Phase 2. A USGS Location Map is located in Appendix A of this report.

The project drains to the Robinson Run Watershed having a Chapter 93 water designation of a Warm Water Fishes (WWF). Robinson Run Watershed is an impaired watershed, all BMPs are to follow ABACT details and notes.

This report has been developed in accordance with

- The Oakdale Stormwater Ordinance, Ordinance No. 2018-1.
- The Allegheny County Act 167 County-Wide Stormwater Management Plan, and
- The Pennsylvania Department of Environmental Protection's (PA DEP) NPDES requirements

Name of Plan Preparer:

KDH Consulting Engineers, Inc.
593 Rugh Street, Lower Level
Greensburg, PA 15601
(878) 295-8914

Members of KDH, have extensive experience preparing E&S and PCSM Plans in Pennsylvania and surrounding states.

II. METHODOLOGY

The site was designed to follow the South Fayette Township Stormwater Management Ordinance

Rate of Runoff Control:

The Municipal/County Ordinance requires that post-construction runoff be no greater than the pre-development rate (i.e., 100% Release Rate). The Soil Conservation Service (SCS) Methodology within the Hydrographs computer program was used to model the pre- versus post-development conditions. The Release Rate Map for Robinson Run can be found in Appendix F Calculations.

Controlling the rate of runoff for the 1, 2, 5, 10, 25, 50 and 100-year storm events was accomplished using an Underground Storage Facility. The facility has been designed to have an outlet structure capable of controlling the rate of discharge to less than the allowable rates, as well as emergency conditions.

Runoff Volume & Runoff Quality Control:

All runoff calculations for the NPDES requirements were computed using the SCS method for the 2-year, 24-hour storm event. The required volume is a function of the pre-development runoff volume as compared to the post-development runoff volume. The difference in the two runoff volumes becomes the "required structural volume" that must be treated. The required structural volume is treated by allowing the underground chambers to store that volume and infiltrate it into the ground.

Project Rainfall:

The rainfall data for the 1, 2, 5, 10, 25, 50, and 100-year storm events were obtained from the stormwater management ordinance. The data obtained used for the design is summarized below:

TABLE-1
RAINFALL DEPTHS

Storm Event	Rainfall Depth (inches)
1-year, 24-hr	1.97
2-year, 24-hr	2.35
5-year, 24-hr	2.88
10-year, 24-hr	3.30
25-year, 24-hr	3.90
50-year, 24-hr	4.40
100-year, 24-hr	4.92

Project Soils:

A Custom Soil Resource Map has been generated for this site and is available within Appendix C of this report. Additionally, the soils have been listed below:

Map Unit Symbol	Map Unit Name
DoB	Dormont silt loam, 3 to 8 percent slopes
GSF	Gilpin, Weikert,Culleoka channery silt loam, 25 to 80 percent slopes
Ne	Newark silt loam, 0 to 3 percent slopes, frequently flooded
SmD	Strip mines, 8 to 25 percent slopes
UB	Urban Land
UCD	Urban land-Culleoka complex, moderately steep

Landcover & CN Values

The site is located within soils having Hydrologic Soil Groups (HSG) of C and D. Therefore, the CN values for HSG of the soils were used for pre and post development conditions. The land cover type for pre-development conditions was determined based upon site visits, available survey information, and satellite photography.

Time of Concentration:

The time of concentration is the time for runoff to travel from the most hydraulically distant point in the watershed to the point of interest. For the first segment of the travel time path (sheet flow), a maximum length of 100 feet was used for undisturbed areas. This complies with the requirements of the Pennsylvania Department of Environmental Protection's Erosion and Sediment Pollution Control Manual, which states that the maximum length for sheet flow in unpaved areas is 100 feet. The additional flow types included in the calculations are shallow concentrated flow and channel flow. If the time was calculated to be less than 5-minutes, a 5-minute time was used.

Point of Interests:

There is one Point of Interest (POI) for this project. POI 1 is located at the northwestern property line of the property where the existing storm sewer leaves the property.

III. RUNOFF VOLUME & QUALITY CONTROL

Stormwater volume requirements were computed using the methodologies outlined in the ordinance and Hydraflow. Please see Appendix-F for the Printouts.

To account for this "required structural volume" the underground chambers will be utilized to hold the difference of the runoff volume between the pre-developed and post developed 2-year storm event. This volume was determined by using DEP Spreadsheets.

Please see Appendix-F for the DEP Spreadsheets and Hydraflow Printouts. This supplied volume is greater than the required volume. Therefore, there will be no increased discharge from the site for the 2-year storm event.

Pre DA 1 POI#1 (1S) *

ID	Area (Acres)	CN Number
C – Trees (Good)	0.328	70
C – Meadow (Good)	0.691	71
D – Meadow (Good)	2.021	78
C - Impervious	0.087	98
D - Impervious	1.036	98
C – Impervious as Meadow	0.022	71
D – Impervious as Meadow	0.259	78
Total Area	4.443	81

- Note: 20% of the impervious area in the Pre-Developed Condition was converted to Meadow

Post DA 1 POI 1 (2S) Entire Site

ID	Area (Acres)	CN Number
C - Trees (Good)	0.333	70
C - Meadow (Good)	0.108	71
C – Open Space, Lawn	0.427	74
D – Open Space, Lawn	1.447	80
C - Impervious	0.266	98
D - Impervious	1.864	98
Total Area	4.443	87

Post DA 1 POI 1 (3S) Detained SCM-1

ID	Area (Acres)	CN Number
C - Trees (Good)	0.133	70
C - Meadow (Good)	0.019	71
C – Open Space, Lawn	0.272	74
D – Open Space, Lawn	0.290	80
C - Impervious	0.194	98
D - Impervious	0.855	98
Total Area	1.763	89

Post DA 1 POI 1 (4S) Detained SCM-2

ID	Area (Acres)	CN Number
D – Open Space, Lawn	0.198	80
D - Impervious	0.622	98
Total Area	0.820	94

Post DA 1 (5S) Undetained

ID	Area (Acres)	CN Number
C - Trees (Good)	0.199	70
C – Meadow (Good)	0.088	71
C – Open Space, Lawn	0.155	74
D – Open Space, Lawn	0.959	80
C - Impervious	0.071	98
D - Impervious	0.387	98
Total Area	1.859	82

IV. PERMANENT PCSM BMP

This project will utilize two proposed infiltration ponds to store the increase in the runoff for the two-year storm volume.

Pre-Developed Conditions

ID	Drainage Area	Peak Flow Rate, Q (cfs)						
		1 Year	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
Pre-DA-1 (1S)	4.443	2.99	4.41	6.56	8.37	11.05	13.34	15.77

Post -Developed Conditions WITHOUT Controls

ID	Drainage Area	Peak Flow Rate, Q (cfs)						
		1 Year	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
Post DA-1 (2S)	4.443	7.21	9.57	12.94	15.66	19.57	22.84	26.23
Post DA-1 Detained SCM-1 (3S)	1.763	2.58	3.39	4.55	5.48	6.81	7.93	9.06
Post DA-1 Detained SCM-2 (4S)	0.820	1.86	2.32	2.96	3.46	4.17	4.76	5.37
Post DA-1 Undetained (5S)	1.859	2.17	3.06	4.33	5.41	6.99	8.33	9.74

As seen above, the post developed conditions require BMPs to release the runoff below the pre-developed runoff rate. Post DA-1 Detained will be controlled by SCM-001 and SCM-002 (Underground Storage Chambers).

Post Developed Conditions WITH Controls

ID	Drainage Area	Peak Flow Rate, Q (cfs)						
		1 Year	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
Route DA-1 Detain SCM-1 (3P)	1.763	0.03	0.58	2.13	3.45	5.36	6.81	8.86
Route DA-1 Detain SCM-2 (4P)	0.820	0.00	0.00	0.00	0.00	0.91	2.95	5.64
Post DA-1 Undetained (5S)	1.859	2.17	3.06	4.33	5.41	6.99	8.33	9.74
Combine DA-1 – (2L)	4.443	2.17	3.06	4.33	5.41	6.99	8.33	9.74

9.73

V. POST-DEVELOPMENT ALLOWABLE RELEASE RATES

Per the Municipal/County Stormwater Ordinance this site is located in a 100% release rate area. Therefore, the post development 'allowable release rate to POI-1 must be less than the pre-development rates. After the post drainage areas were routed through their BMPs, they were combined to get the overall post developed discharge at the POI. This was then compared to the predeveloped Allowable Release Rate.

Watershed Release Rates

ID	Drainage Area	Peak Flow Rate, Q (cfs)						
		1 Year	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
Pre-DA-1 (1S)	4.443	2.99	4.41	6.56	8.37	11.05	13.34	15.77
Allowable Release Rate (100% of Pre)	4.443	2.99	4.41	6.56	8.37	11.05	13.34	15.77
Combine DA #1 – (2L)	4.443	2.17	3.06	4.33	5.41	6.99	8.33	9.74

By comparison of the peak flows listed above the post-development rates are less than the allowable release rates to POI-1

VI. LAND USES

Past Use land uses for past 50-years: Vacant Field

Present Use for past 5-years: Vacant Field

Proposed Use: Residential Subdivision

VII. THERMAL IMPACTS

There are no anticipated thermal impacts to any surface waters with in the project area. The stormwater runoff from the site will be stored underground and released slowly or sheet flow over existing well vegetated cover. The system will then discharge directly to Robinson Run.

VIII. BMP MAINTENANCE AND OWNERSHIP

The proposed stormwater management facilities will owned by the property owner and it will be their responsibility for maintenance and operations.

IX. CONSTRUCTION SEQUENCE

Construction Sequence

Stage 1 - E&S BMP Installation:

All earth disturbance activities shall proceed in accordance with the following sequence. Each stage shall be completed and immediately stabilized before any following stage is initiated. Clearing, grubbing and topsoil stripping shall be limited only to those areas described in each stage.

Immediately upon discovering unforeseen circumstances posing the potential for accelerated erosion and/or sediment pollution, the operator shall implement appropriate best management practices to eliminate the potential for accelerated erosion and/or sediment pollution and contact the engineer.

A written report must be kept by the contractor documenting inspections and repairs to all BMPs. The contractor shall inspect and log all activities onto DEP Form 3150-FM-BWEW0083 (Dated 2/2012) and kept on site at all times.

1. At least 7 days before starting any earth disturbance activities, the owner and/or operator shall invite all contractors involved in those activities, the landowner, all appropriate municipal officials, the erosion and sediment control plan preparer, and a representative of the County Conservation District to an on-site pre-construction meeting.

2. At least 3 days before starting any earth disturbance activities, all contractors involved in

those activities shall notify the Pennsylvania one call system incorporated at 1- 800-242-1776 for the location of existing underground utilities.

3. The limit of earth disturbance shall be located in the field by flagged survey stakes. All proposed infiltration areas should be field marked to avoid compaction.

4. Install rock construction entrance.

5. Install all silt sock.

At this point all perimeter E&S BMPs are installed and functioning properly. Do not continue on to Phase 2 until all steps in this phase are completes

Stage 2 – Site Earthwork and Construction:

At this point all E&S BMPs from Stage 1 are installed and functioning properly.

1. Clear and grub only areas to be disturbed.

2. Strip top soil and stockpile as shown on plans.

3. Begin major earthwork operations.

4. Upon completion or temporary cessation of the earth disturbance activity, or any stage thereof, the project site shall be immediately stabilized.

5. All fill shall be seeded and blanketed in 15 foot vertical increments. All slopes 3:1 or greater shall receive erosion control blanketing.

6. Install concrete washout.

7. Install all utilities. The total length of excavated trench open at any one time should not be greater than the total length of pipeline/utility line that can be placed in the trench and backfilled in one working day. No more than 50 lineal feet of open trench should exist when pipeline/utility line installation ceases at the end of the workday. Soil supplements, seed and mulch should be applied within seven days after the pipeline/utility line is installed. Any trench steeper than 5% shall incorporate trench plugs.

8. Construct the underground stormwater detention facilities and rain garden and ensure that they are working properly.

9. Install inlet protection as inlets are installed.

10. Fine grade the site. Immediately upon reaching final grade any area shall receive stabilization. Paved areas shall be immediately stoned, and vegetated areas shall immediately be seeded. No more than 15,000 sq ft of disturbed area shall reach final grade

before initiating seeding and mulching operations. Mulch all disturbed areas and seed areas with hay or straw. Minimize soil compaction of the top soil after application.

11. Complete paving operations

Stage 3 - Site Stabilization, BMP Removal:

1. Upon permanent stabilization (area will only be considered stabilized when a minimum uniform 70% vegetative cover of erosion resistant perennial species has been achieved) of all disturbed areas, the owner and/or operators shall contact the conservation district for a final inspection.

2. All temporary E&S BMP's shall be removed. All areas disturbed during this process shall be stabilized immediately per the permanent seeding and mulching specification.

Disposal Directions for Sediment:

1. Sediment removed from BMP's shall be spread in an area protected by existing bmp's (prior to final stabilization) or removed to an approved waste site.

X. EARTH DISTURBANCE ACTIVITIES

Earth disturbance activities shall be implemented to the extent practicable in accordance with the following items:

1. Minimize the extent and duration of the earth disturbance.

The Construction Sequence states that “upon completion or temporary cessation of the earth disturbance activity, or any stage thereof, the project site shall be immediately stabilized."

XI. GEOLOGIC CONDITIONS THAT MAY HAVE THE POTENTIAL TO CAUSE POLLUTION

Based upon a review of the site and depth of the planned excavation it is not anticipated that there will be any potential pollution from geological formations such as coal or pyrite.

The moderate site slopes cause a geological condition that may have the potential to cause pollution, through the discharge of sediment. Therefore, the most effective perimeter controls, compost filter socks, will be used.

XII. MAINTENANCE PROGRAM

1. Inlet grates shall be kept free of trach and debris.
2. Inlets shall be inspected four (4) times a year and after every major rainfall / snow melt to determine if removal of debris is required.
3. Pipes shall be flushed as needed to clear the build-up of debris that may reduce the efficiency of the pipes and the system.

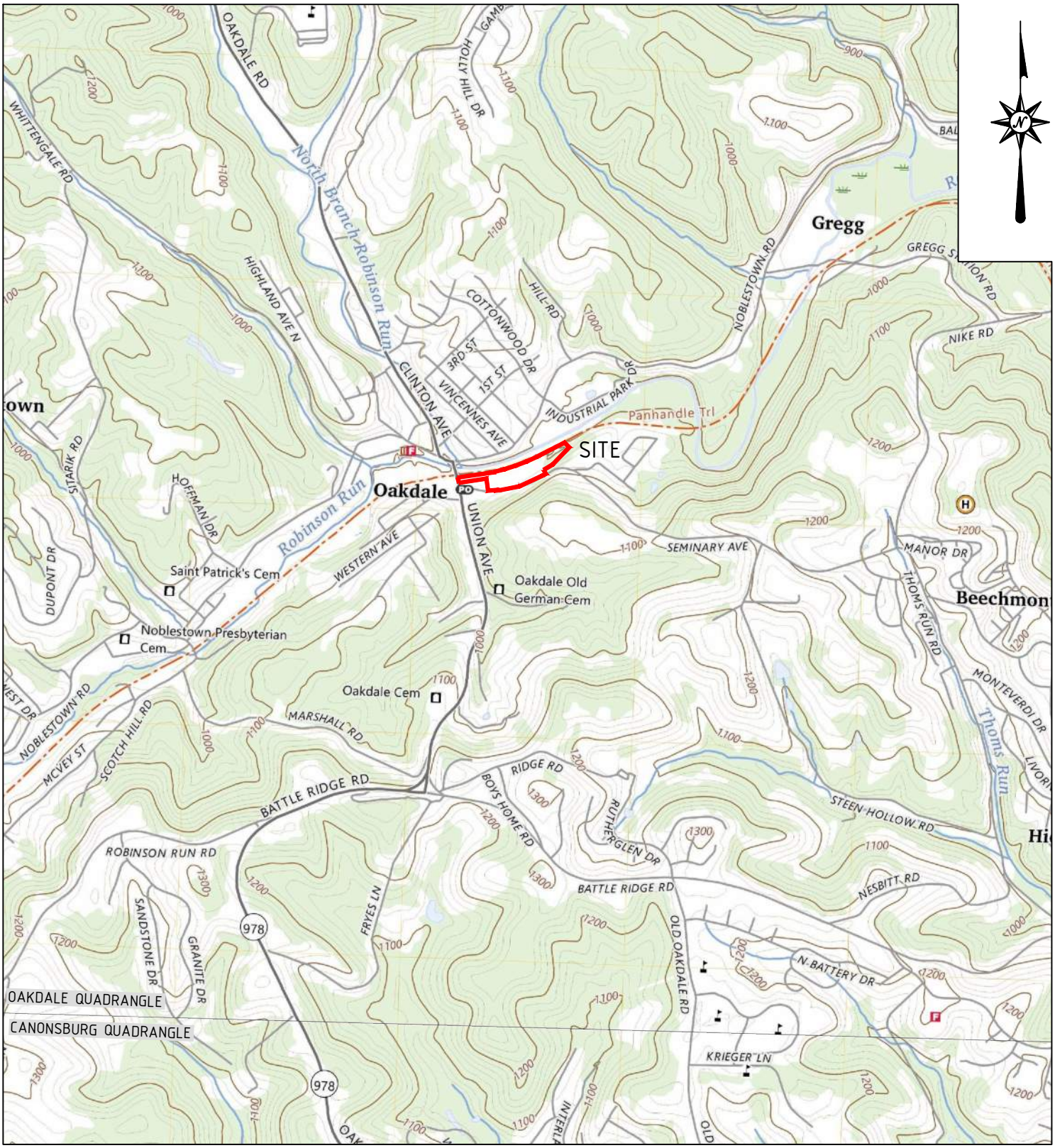
XIII. REFERENCES

1. Commonwealth of Pennsylvania, Department of Environmental Protection, Office of Water Management, Pennsylvania Stormwater Best Management Practices Manual, Harrisburg, PA, December 30, 2006.

2. U.S. Department of Agriculture, Soil Conservation Service, Soil Survey of Allegheny County, Pennsylvania, Washington D.C., December 1993

APPENDIX A

USGS Map



KDH
CONSULTING ENGINEERS, INC
593 RUGH STREET
GREENSBURG, PA 15601
P: 878-295-8914 F:724-514-7047
www.kdhengineers.com

WALKERS MILL TOWNHOUSES

SHEET TITLE:

USGS LOCATION MAP

PROJ NO: 211-009-23	
DATE: 8/15/2025	
DRAWN BY: RAM	
CHECKED BY: CWH	

BOROUGH OF OAKDALE AND SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY, PENNSYLVANIA

SHEET NO.

1 OF 1

1" = 2000'
SCALE IN FEET

0 2000' 4000'

S:\PROJECTS\211-009-23-WALKERS MILL TOWNHOUSES\DRAWINGS\211-009-23-BASE PHASE 1-251030.DWG

APPENDIX B

Rainfall Data

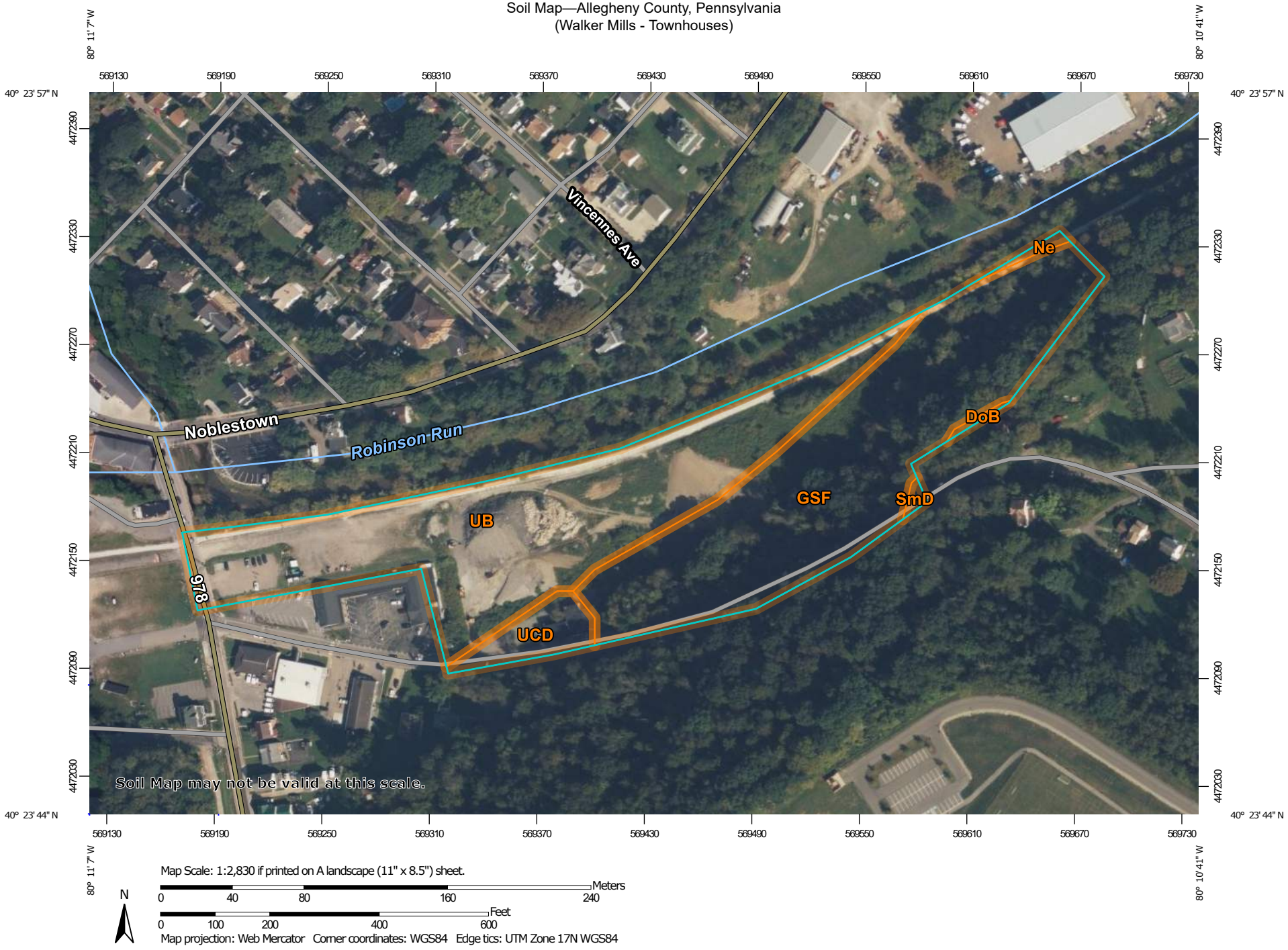
RAINFALL DATA

Storm Event	Rainfall Depth (inches)
1-year, 24-hr	1.97
2-year, 24-hr	2.35
10-year, 24-hr	2.88
25-year, 24-hr	3.30
50-year, 24-hr	3.90
100-year, 24-hr	4.40

APPENDIX C

Soils Information

Soil Map—Allegheny County, Pennsylvania
(Walker Mills - Townhouses)



Map Scale: 1:2,830 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

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 20, Sep 4, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

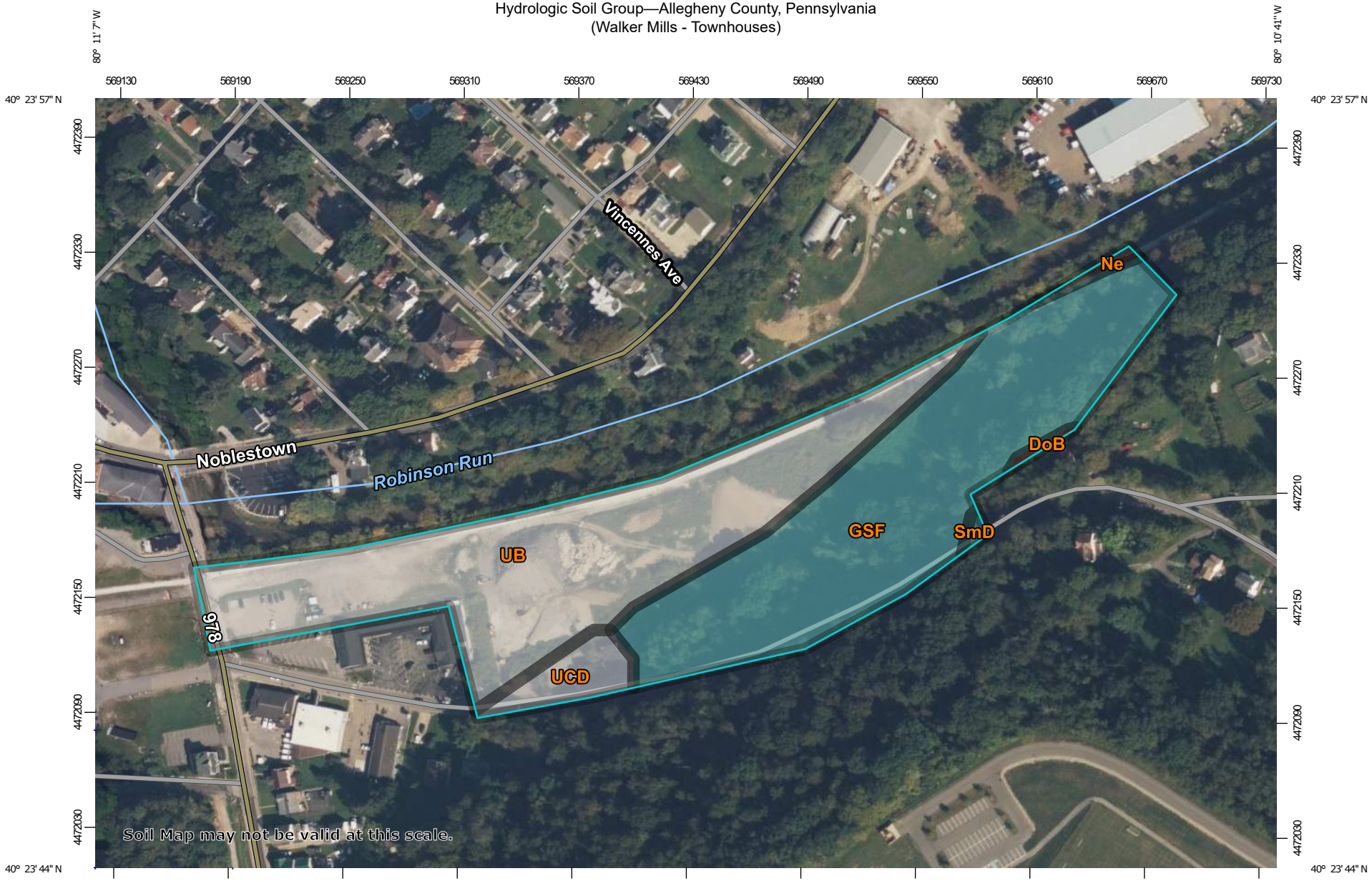
Date(s) aerial images were photographed: May 19, 2021—Sep 19, 2021

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
DoB	Dormont silt loam, 3 to 8 percent slopes	0.0	0.2%
GSF	Gilpin, Weikert, Culleoka channery silt loams and 25 to 80 percent slopes	5.0	47.4%
Ne	Newark silt loam, 0 to 3 percent slopes, frequently flooded	0.0	0.5%
SmD	Strip mines, 8 to 25 percent slopes	0.0	0.3%
UB	Urban land	4.9	47.3%
UCD	Urban land-Culleoka complex, moderately steep	0.4	4.2%
Totals for Area of Interest		**10.5**	**100.0%**

Hydrologic Soil Group—Allegheny County, Pennsylvania
(Walker Mills - Townhouses)



Map Scale: 1:2,830 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

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.

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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 20, Sep 4, 2024

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.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
DoB	Dormont silt loam, 3 to 8 percent slopes	D	0.0	0.2%
GSF	Gilpin, Weikert, Culleoka channery silt loams and 25 to 80 percent slopes	C	5.0	47.4%
Ne	Newark silt loam, 0 to 3 percent slopes, frequently flooded	B/D	0.0	0.5%
SmD	Strip mines, 8 to 25 percent slopes	C	0.0	0.3%
UB	Urban land		4.9	47.3%
UCD	Urban land-Culleoka complex, moderately steep		0.4	4.2%
Totals for Area of Interest			**10.5**	**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

Allegheny County, Pennsylvania

DoB—Dormont silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2s5gj
Elevation: 800 to 1,540 feet
Mean annual precipitation: 37 to 47 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 173 to 197 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Dormont and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dormont

Setting

Landform: Hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Linear
Across-slope shape: Concave, linear
Parent material: Fine-loamy residuum weathered from limestone, sandstone, and shale

Typical profile

Ap - 0 to 11 inches: silt loam
Bt1 - 11 to 21 inches: silt loam
Bt2 - 21 to 31 inches: silty clay loam
Bt3 - 31 to 46 inches: channery silty clay loam
Bt4 - 46 to 62 inches: channery silty clay loam
BC - 62 to 75 inches: channery silty clay loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.01 to 0.66 in/hr)
Depth to water table: About 24 to 44 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: D
Ecological site: F126XY003OH - Moist Ridge
Hydric soil rating: No

Minor Components

Culleoka
Percent of map unit: 10 percent
Landform: Hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Lowell
Percent of map unit: 10 percent
Landform: Hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Guernsey
Percent of map unit: 5 percent
Landform: Hillslopes
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Data Source Information

Soil Survey Area: Allegheny County, Pennsylvania
Survey Area Data: Version 20, Sep 4, 2024

Allegheny County, Pennsylvania

GSF—Gilpin, Weikert, Culleoka channery silt loams and 25 to 80 percent slopes

Map Unit Setting

National map unit symbol: 2wds4
Elevation: 730 to 1,380 feet
Mean annual precipitation: 37 to 41 inches
Mean annual air temperature: 50 to 52 degrees F
Frost-free period: 179 to 206 days
Farmland classification: Not prime farmland

Map Unit Composition

Gilpin and similar soils: 35 percent
Weikert and similar soils: 30 percent
Culleoka and similar soils: 25 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gilpin

Setting

Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope, nose slope, side slope
Down-slope shape: Linear
Across-slope shape: Convex, linear
Parent material: Acid fine-loamy residuum weathered from shale and siltstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 8 inches: channery silt loam
Bt - 8 to 24 inches: channery silt loam
C - 24 to 33 inches: extremely channery loam
R - 33 to 43 inches: bedrock

Properties and qualities

Slope: 25 to 80 percent
Depth to restrictive feature: 30 to 36 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: F126XY004OH - Side Slope
Hydric soil rating: No

Description of Weikert

Setting

Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope, nose slope, side slope
Down-slope shape: Linear
Across-slope shape: Convex, linear
Parent material: Acid loamy residuum weathered from shale

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 7 inches: channery silt loam
Bw - 7 to 15 inches: very channery silt loam
C - 15 to 17 inches: extremely channery silt loam
R - 17 to 26 inches: bedrock

Properties and qualities

Slope: 25 to 80 percent
Depth to restrictive feature: 14 to 19 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: F126XY004OH - Side Slope
Hydric soil rating: No

Description of Culleoka

Setting

Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope, nose slope, side slope
Down-slope shape: Linear
Across-slope shape: Convex, linear

Allegheny County, Pennsylvania

Ne—Newark silt loam, 0 to 3 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 2w1w1
Elevation: 500 to 1,440 feet
Mean annual precipitation: 37 to 45 inches
Mean annual air temperature: 49 to 55 degrees F
Frost-free period: 130 to 215 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Newark, frequently flooded, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Newark, Frequently Flooded

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Concave, linear
Across-slope shape: Linear
Parent material: Fine-silty alluvium derived from sedimentary rock

Typical profile

Ap - 0 to 9 inches: silt loam
Bw - 9 to 19 inches: silt loam
Bg - 19 to 35 inches: silt loam
Cg - 35 to 80 inches: silty clay loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 10 to 18 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D
Ecological site: F126XY005OH - Poorly Drained Floodplain
Forage suitability group: Unnamed (G124XYC-3OH)

Other vegetative classification: Unnamed (G124XYC-3OH)
Hydric soil rating: No

Minor Components

Lobdell, frequently flooded
Percent of map unit: 5 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Melvin, frequently flooded
Percent of map unit: 5 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: Yes

Nolin, frequently flooded
Percent of map unit: 5 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Data Source Information

Soil Survey Area: Allegheny County, Pennsylvania
Survey Area Data: Version 20, Sep 4, 2024

Allegheny County, Pennsylvania

SmD—Strip mines, 8 to 25 percent slopes

Map Unit Setting

National map unit symbol: l5pv
Elevation: 600 to 1,350 feet
Mean annual precipitation: 35 to 45 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 120 to 190 days
Farmland classification: Not prime farmland

Map Unit Composition

Fairpoint and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fairpoint

Setting

Landform: Hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coal extraction mine spoil

Typical profile

H1 - 0 to 8 inches: silty clay loam
H2 - 8 to 60 inches: very gravelly clay loam

Properties and qualities

Slope: 8 to 25 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Channery soils
Percent of map unit: 10 percent
Hydric soil rating: No

Severely eroded soils
Percent of map unit: 5 percent
Hydric soil rating: No

Deep reclamation
Percent of map unit: 5 percent
Hydric soil rating: No

Data Source Information

Soil Survey Area: Allegheny County, Pennsylvania
Survey Area Data: Version 20, Sep 4, 2024

Allegheny County, Pennsylvania

UB—Urban land

Map Unit Setting

National map unit symbol: l5px
Mean annual precipitation: 36 to 50 inches
Mean annual air temperature: 46 to 59 degrees F
Frost-free period: 120 to 215 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Pavement, buildings and other artifically covered areas

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: 10 inches to densic material
Runoff class: Very high

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: No

Minor Components

Udorthents, steep

Percent of map unit: 10 percent
Landform: Mountains
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Mountaintop
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Data Source Information

Soil Survey Area: Allegheny County, Pennsylvania
Survey Area Data: Version 20, Sep 4, 2024

Allegheny County, Pennsylvania

UCD—Urban land-Culleoka complex, moderately steep

Map Unit Setting

National map unit symbol: l5pz
Elevation: 700 to 1,500 feet
Mean annual precipitation: 36 to 46 inches
Mean annual air temperature: 41 to 62 degrees F
Frost-free period: 130 to 170 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 60 percent
Culleoka and similar soils: 40 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Pavement, buildings and other artifically covered areas human transported material

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: No

Description of Culleoka

Setting

Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Fine-loamy residuum weathered from sandstone and siltstone

Typical profile

Ap - 0 to 10 inches: channery silt loam
Bt - 10 to 26 inches: channery silt loam
C - 26 to 31 inches: very channery silt loam
R - 31 to 33 inches: bedrock

Properties and qualities

Slope: 8 to 25 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: F126XY004OH - Side Slope
Hydric soil rating: No

Data Source Information

Soil Survey Area: Allegheny County, Pennsylvania
Survey Area Data: Version 20, Sep 4, 2024

Parent material: Nonacid fine-loamy residuum weathered from sandstone and shale

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 10 inches: channery silt loam
Bt - 10 to 19 inches: channery silt loam
BC - 19 to 26 inches: very channery silt loam
C - 26 to 31 inches: very channery silt loam
R - 31 to 41 inches: bedrock

Properties and qualities

Slope: 25 to 80 percent
Depth to restrictive feature: 24 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: F126XY004OH - Side Slope
Hydric soil rating: No

Minor Components

Wharton

Percent of map unit: 5 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope, nose slope, side slope
Down-slope shape: Linear
Across-slope shape: Convex, linear
Hydric soil rating: No

Hazleton

Percent of map unit: 5 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope, nose slope, side slope
Down-slope shape: Linear
Across-slope shape: Convex, linear

Hydric soil rating: No

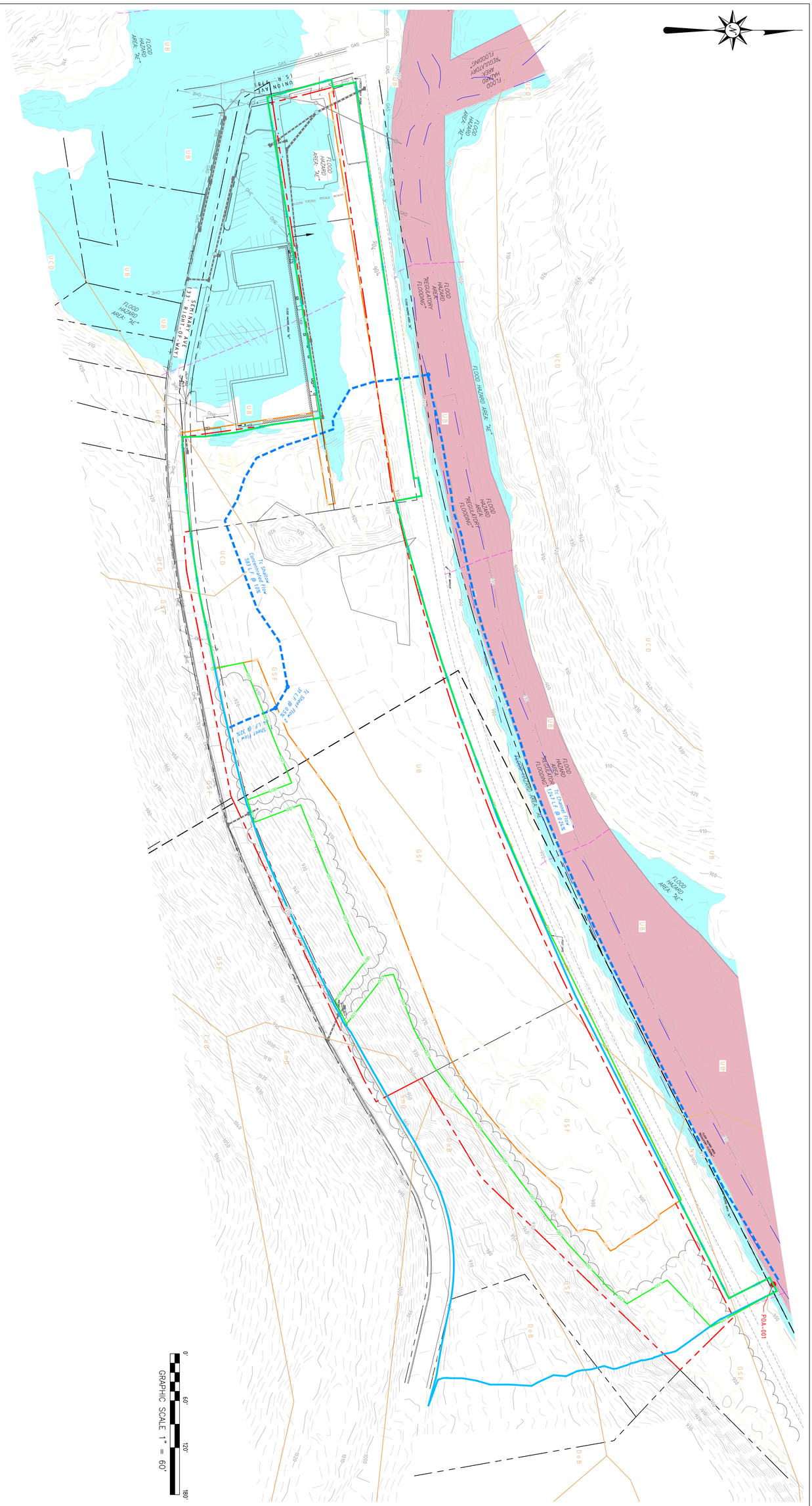
Data Source Information

Soil Survey Area: Allegheny County, Pennsylvania
Survey Area Data: Version 20, Sep 4, 2024

APPENDIX D

Pre-Developed Conditions

S:\PROJECTS\211-009-23-WALKERS MILL TOWNHOUSES\DRAWINGS\211-009-23B-BASE PHASE 2-260309.DWG



GRAPHIC SCALE 1" = 60'
0' 60' 120' 180'

WALKERS MILL TOWNHOUSES PHASE 2

OAKDALE BOROUGH AND SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY, PA

CLIENT:

REVISIONS:

REV	DATE	DESCRIPTION

PROJ. NO. 211-009-23B
DATE: 03/09/2026
DRAWN BY: RAM
CHECKED BY: CWH

SHEET TITLE:
PRE DEVELOPED DRAINAGE AREA MAP

SHEET NO.
PRE

KDH CONSULTING ENGINEERS, INC
593 RUGH STREET
GREENSBURG, PA 15601
P: 878-295-8914 F:724-514-7047
www.kdhengineers.com

APPENDIX E

Post Developed Conditions

KDH CONSULTING ENGINEERS, INC
593 RUGH STREET
GREENSBURG, PA 15601
P: 878.295.8914 F:724.514.7047
www.kdhengineers.com

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
CHRISTOPHER W. HAMM
ENGINEER
PE-060435

REVISIONS:	REV	DATE	DESCRIPTION

CLIENT:

WALKERS MILL TOWNHOUSES PHASE 2

OAKDALE BOROUGH AND SOUTH FAYETTE TOWNSHIP, ALLEGHENY COUNTY, PA

PROJ NO: 211-009-23B
DATE: 03/09/2026
DRAWN BY: RAM
CHECKED BY: CWH

SHEET TITLE:

POST DEVELOPED DRAINAGE AREA MAP

SHEET NO.

POST

S:\PROJECTS\211-009-23-WALKERS MILL TOWNHOUSES\DRAWINGS\211-009-23B-BASE PHASE 2-260309.DWG

APPENDIX F

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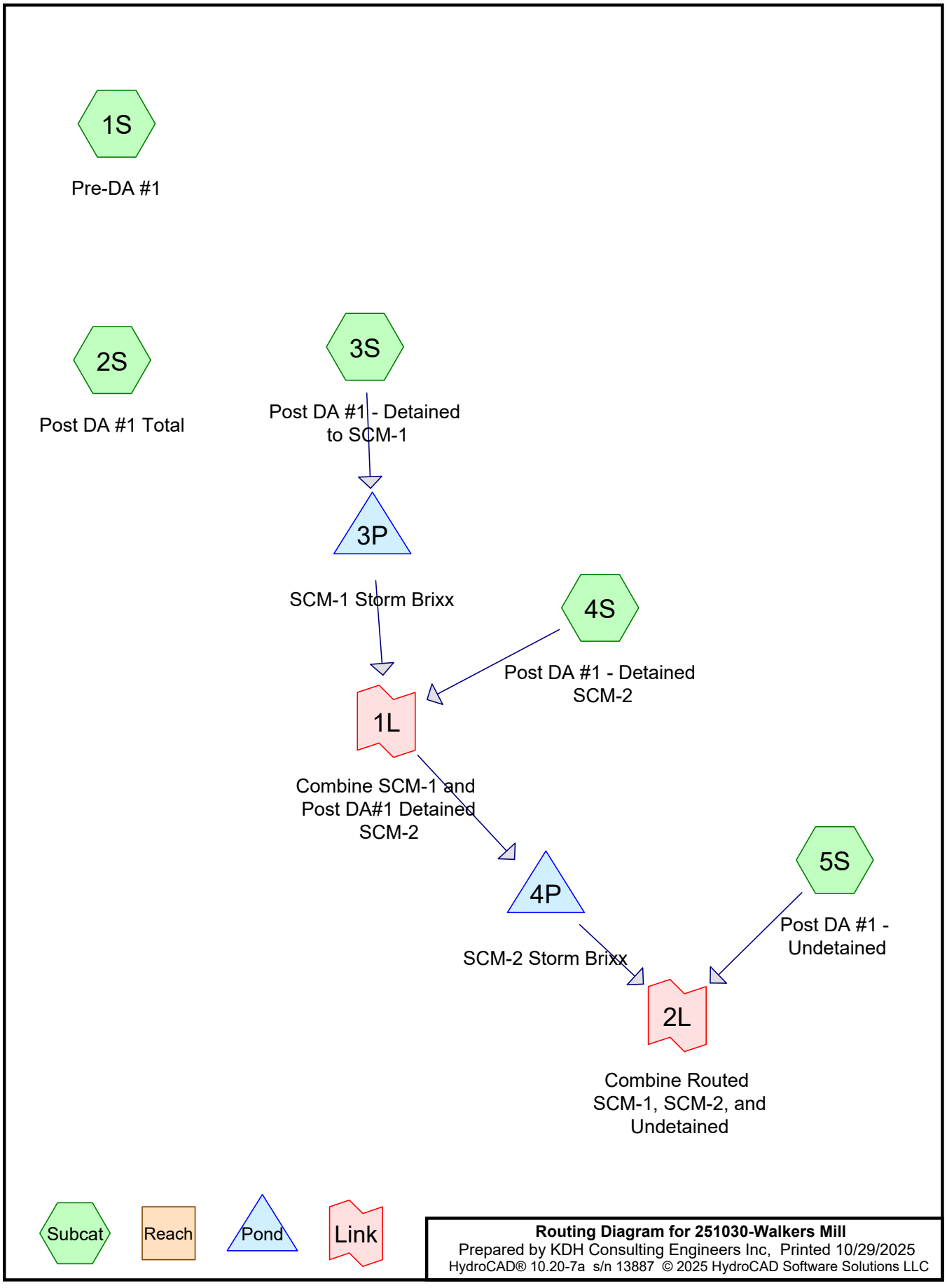


Routing Diagram for 251030-Walkers Mill
Prepared by KDH Consulting Engineers Inc, Printed 10/29/2025
HydroCAD® 10.20-7a s/n 13887 © 2025 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1 year	Type II 24-hr		Default	24.00	1	1.97	2
2	2 year	Type II 24-hr		Default	24.00	1	2.35	2
3	5 year	Type II 24-hr		Default	24.00	1	2.88	2
4	10 year	Type II 24-hr		Default	24.00	1	3.30	2
5	25 year	Type II 24-hr		Default	24.00	1	3.90	2
6	50 year	Type II 24-hr		Default	24.00	1	4.40	2
7	100 year	Type II 24-hr		Default	24.00	1	4.92	2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
37,204	74	>75% Grass cover, Good, HSG C (2S, 3S, 5S)
126,064	80	>75% Grass cover, Good, HSG D (2S, 3S, 4S, 5S)
40,438	71	Meadow, non-grazed, HSG C (1S, 2S, 3S, 5S)
99,317	78	Meadow, non-grazed, HSG D (1S)
3,790	98	Paved parking, HSG C (1S)
45,128	98	Paved parking, HSG D (1S)
47,132	98	Paved roads w/curbs & sewers, HSG C (2S, 3S, 4S)
138,374	98	Paved roads w/curbs & sewers, HSG D (2S, 3S, 5S)
20,081	70	Woods, Good, HSG C (1S, 3S)
8,685	77	Woods, Good, HSG D (5S)
14,505	77	Woods, Poor, HSG C (2S)
580,718	**85**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
163,151	HSG C	1S, 2S, 3S, 4S, 5S
417,567	HSG D	1S, 2S, 3S, 4S, 5S
0	Other	
580,718		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover
0	0	37,204	126,064	0	163,268	>75% Grass cover, Good
0	0	40,438	99,317	0	139,755	Meadow, non-grazed
0	0	3,790	45,128	0	48,918	Paved parking
0	0	47,132	138,374	0	185,506	Paved roads w/curbs & sewers
0	0	20,081	8,685	0	28,766	Woods, Good
0	0	14,505	0	0	14,505	Woods, Poor
0	**0**	**163,151**	**417,567**	**0**	**580,718**	**TOTAL AREA**

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	3S	0.00	0.00	164.0	0.0040	0.010	0.0	12.0	0.0	
2	3S	0.00	0.00	354.0	0.0040	0.010	0.0	15.0	0.0	
3	3P	901.69	901.35	8.9	0.0382	0.011	0.0	24.0	0.0	
4	4P	901.05	900.92	31.4	0.0041	0.010	0.0	24.0	0.0	

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Pre-DA#1 Runoff Area=4.444 ac 25.27% Impervious Runoff Depth=0.59"
Flow Length=869' Tc=16.7 min CN=81 Runoff=2.99 cfs 9,447 cf

Subcatchment2S: Post DA#1 Total Runoff Area=4.445 ac 47.92% Impervious Runoff Depth=0.94"
Tc=6.0 min CN=88 Runoff=7.21 cfs 15,186 cf

Subcatchment3S: Post DA#1 - Detained to Runoff Area=1.763 ac 59.50% Impervious Runoff Depth=1.00"
Flow Length=616' Tc=11.2 min CN=89 Runoff=2.58 cfs 6,420 cf

Subcatchment4S: Post DA#1 - Detained Runoff Area=0.820 ac 75.85% Impervious Runoff Depth=1.37"
Tc=6.0 min CN=94 Runoff=1.86 cfs 4,073 cf

Subcatchment5S: Post DA#1 - Undetained Runoff Area=80,998 sf 24.61% Impervious Runoff Depth=0.67"
Tc=6.0 min CN=83 Runoff=2.17 cfs 4,554 cf

Pond 3P: SCM-1 Storm Brixx Peak Elev=903.05' Storage=2,830 cf Inflow=2.58 cfs 6,420 cf
Discarded=0.17 cfs 6,361 cf Primary=0.03 cfs 59 cf Outflow=0.20 cfs 6,420 cf

Pond 4P: SCM-2 Storm Brixx Peak Elev=901.27' Storage=1,314 cf Inflow=1.86 cfs 4,131 cf
Discarded=0.28 cfs 4,131 cf Primary=0.00 cfs 0 cf Outflow=0.28 cfs 4,131 cf

Link 1L: Combine SCM-1 and Post DA#1 Detained SCM-2 Inflow=1.86 cfs 4,131 cf
Primary=1.86 cfs 4,131 cf

Link 2L: Combine Routed SCM-1, SCM-2, and Undetained Inflow=2.17 cfs 4,554 cf
Primary=2.17 cfs 4,554 cf

Total Runoff Area = 580,718 sf Runoff Volume = 39,679 cf Average Runoff Depth = 0.82"
59.63% Pervious = 346,295 sf 40.37% Impervious = 234,423 sf

Summary for Subcatchment 1S: Pre-DA #1

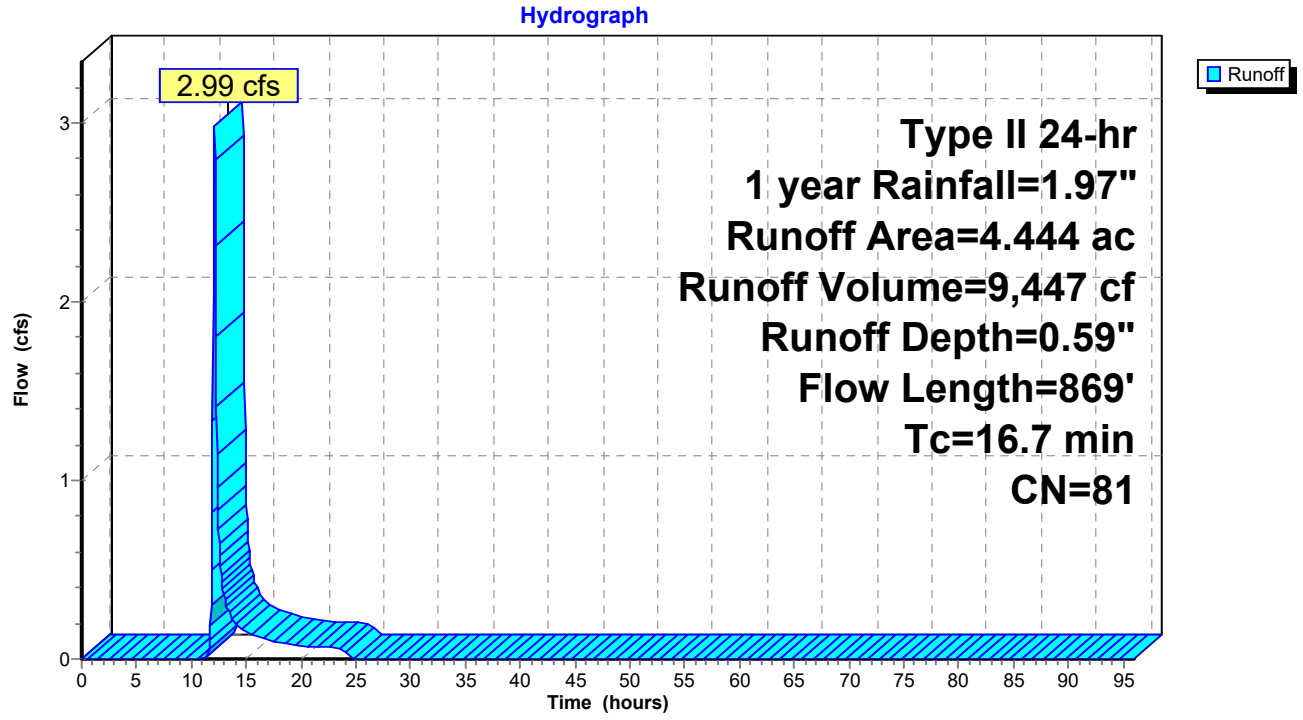
Runoff = 2.99 cfs @ 12.11 hrs, Volume= 9,447 cf, Depth= 0.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 1 year Rainfall=1.97"

Area (ac)	CN	Description
0.328	70	Woods, Good, HSG C
0.691	71	Meadow, non-grazed, HSG C
2.021	78	Meadow, non-grazed, HSG D
0.087	98	Paved parking, HSG C
1.036	98	Paved parking, HSG D
0.022	71	Meadow, non-grazed, HSG C
0.259	78	Meadow, non-grazed, HSG D
4.444	81	Weighted Average
3.321		74.73% Pervious Area
1.123		25.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.7	100	0.2800	0.19		**Sheet Flow, Sheet** Woods: Light underbrush n= 0.400 P2= 2.35"
8.0	769	0.0100	1.61		**Shallow Concentrated Flow, Shallow Conc** Unpaved Kv= 16.1 fps
16.7	869	Total			

Subcatchment 1S: Pre-DA #1



Summary for Subcatchment 2S: Post DA #1 Total

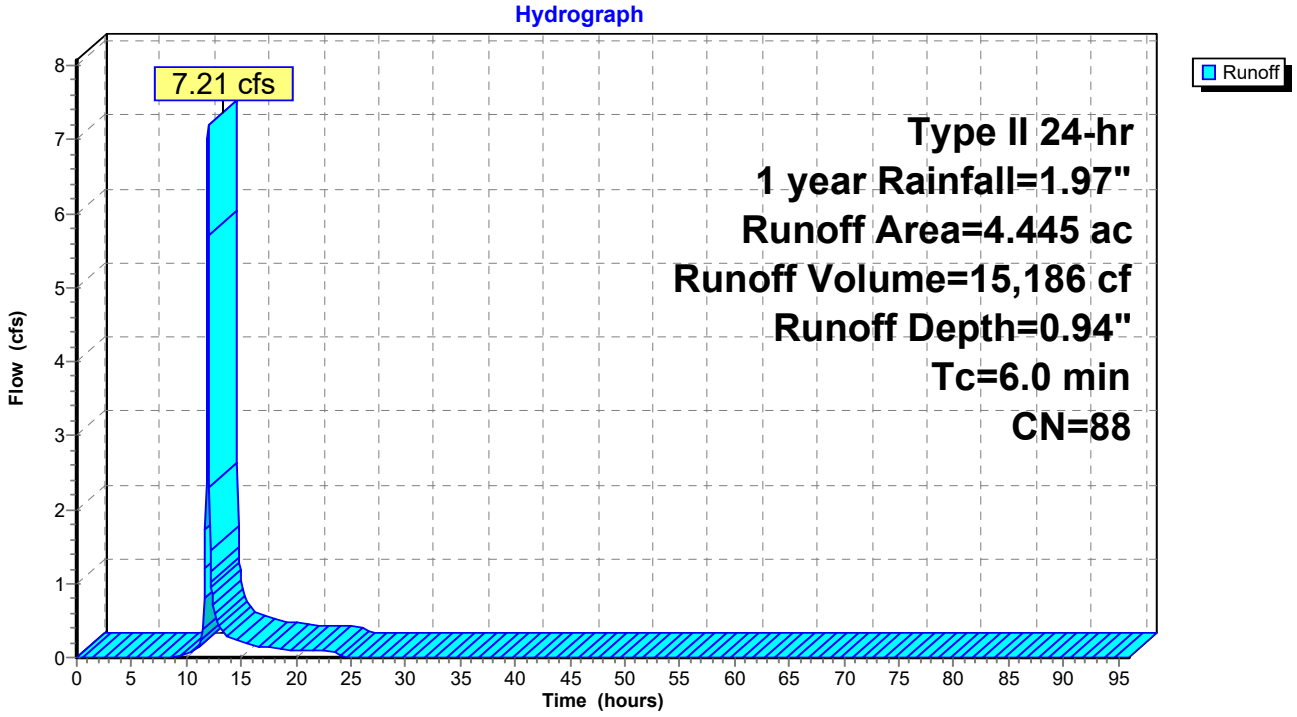
Runoff = 7.21 cfs @ 11.97 hrs, Volume= 15,186 cf, Depth= 0.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 1 year Rainfall=1.97"

Area (ac)	CN	Description
0.333	77	Woods, Poor, HSG C
0.108	71	Meadow, non-grazed, HSG C
0.427	74	>75% Grass cover, Good, HSG C
1.447	80	>75% Grass cover, Good, HSG D
0.266	98	Paved roads w/curbs & sewers, HSG C
1.864	98	Paved roads w/curbs & sewers, HSG D
4.445	88	Weighted Average
2.315		52.08% Pervious Area
2.130		47.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: Post DA #1 Total



Summary for Subcatchment 3S: Post DA #1 - Detained to SCM-1

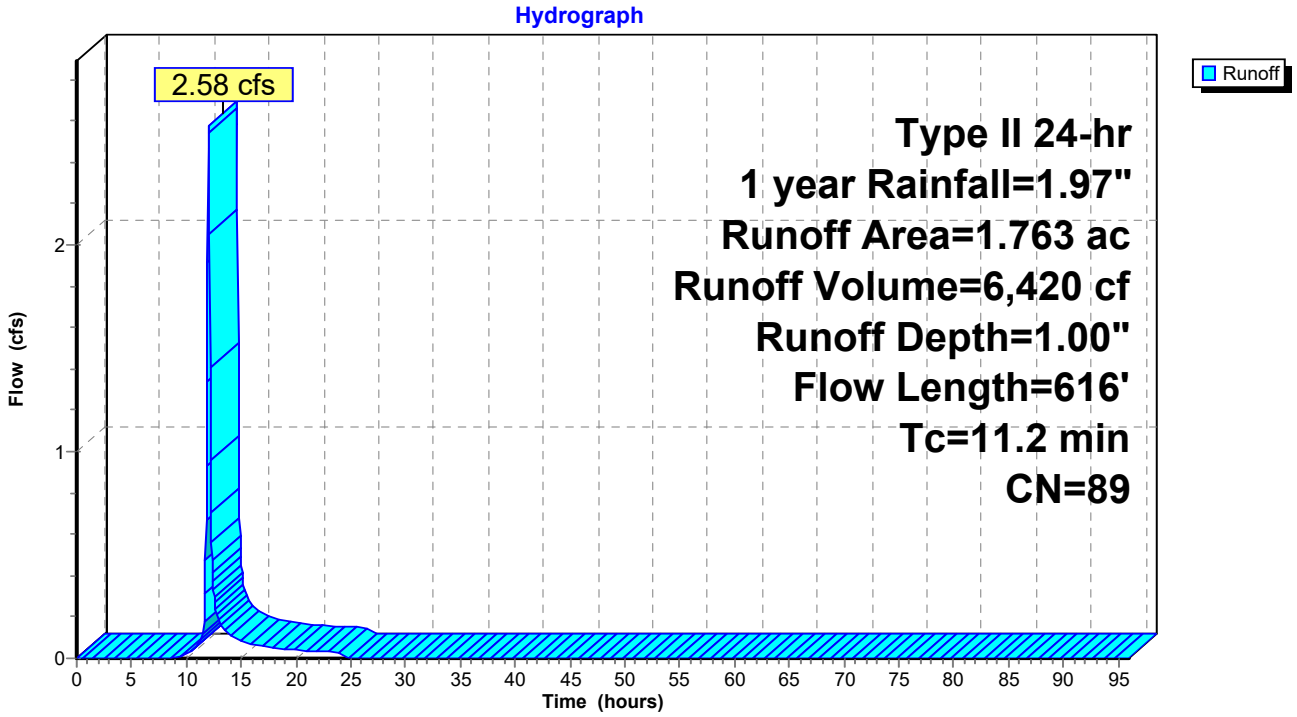
Runoff = 2.58 cfs @ 12.03 hrs, Volume= 6,420 cf, Depth= 1.00"
Routed to Pond 3P : SCM-1 Storm Brixx

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 1 year Rainfall=1.97"

Area (ac)	CN	Description
0.133	70	Woods, Good, HSG C
0.019	71	Meadow, non-grazed, HSG C
0.272	74	>75% Grass cover, Good, HSG C
0.290	80	>75% Grass cover, Good, HSG D
0.194	98	Paved roads w/curbs & sewers, HSG C
0.855	98	Paved roads w/curbs & sewers, HSG D
1.763	89	Weighted Average
0.714		40.50% Pervious Area
1.049		59.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	98	0.2400	0.18		**Sheet Flow, Sheet** Woods: Light underbrush n= 0.400 P2= 2.35"
0.7	164	0.0040	3.73	2.93	**Pipe Channel, 12" Pipe** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
1.4	354	0.0040	4.33	5.31	**Pipe Channel, 15" Pipe** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
11.2	616	Total			

Subcatchment 3S: Post DA #1 - Detained to SCM-1



Summary for Subcatchment 4S: Post DA #1 - Detained SCM-2

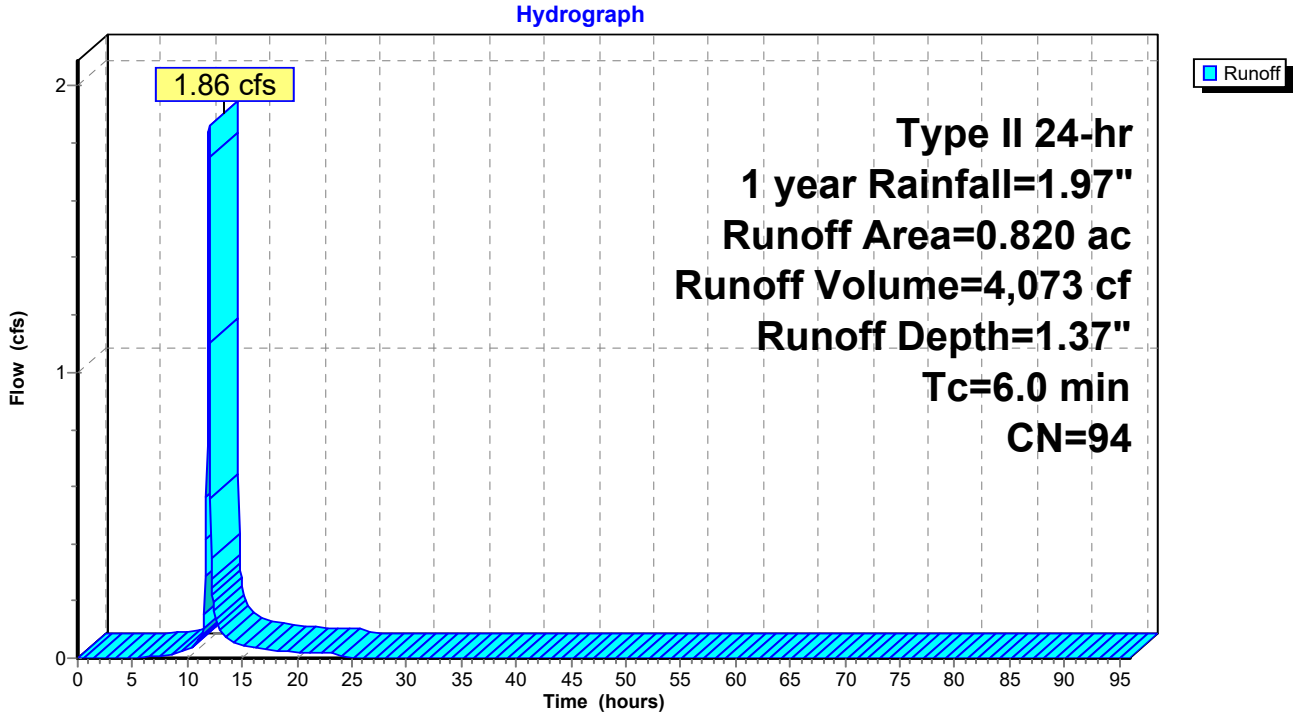
Runoff = 1.86 cfs @ 11.97 hrs, Volume= 4,073 cf, Depth= 1.37"
Routed to Link 1L : Combine SCM-1 and Post DA#1 Detained SCM-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 1 year Rainfall=1.97"

Area (ac)	CN	Description
0.198	80	>75% Grass cover, Good, HSG D
0.622	98	Paved roads w/curbs & sewers, HSG C
0.820	94	Weighted Average
0.198		24.15% Pervious Area
0.622		75.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: Post DA #1 - Detained SCM-2



Summary for Subcatchment 5S: Post DA #1 - Undetained

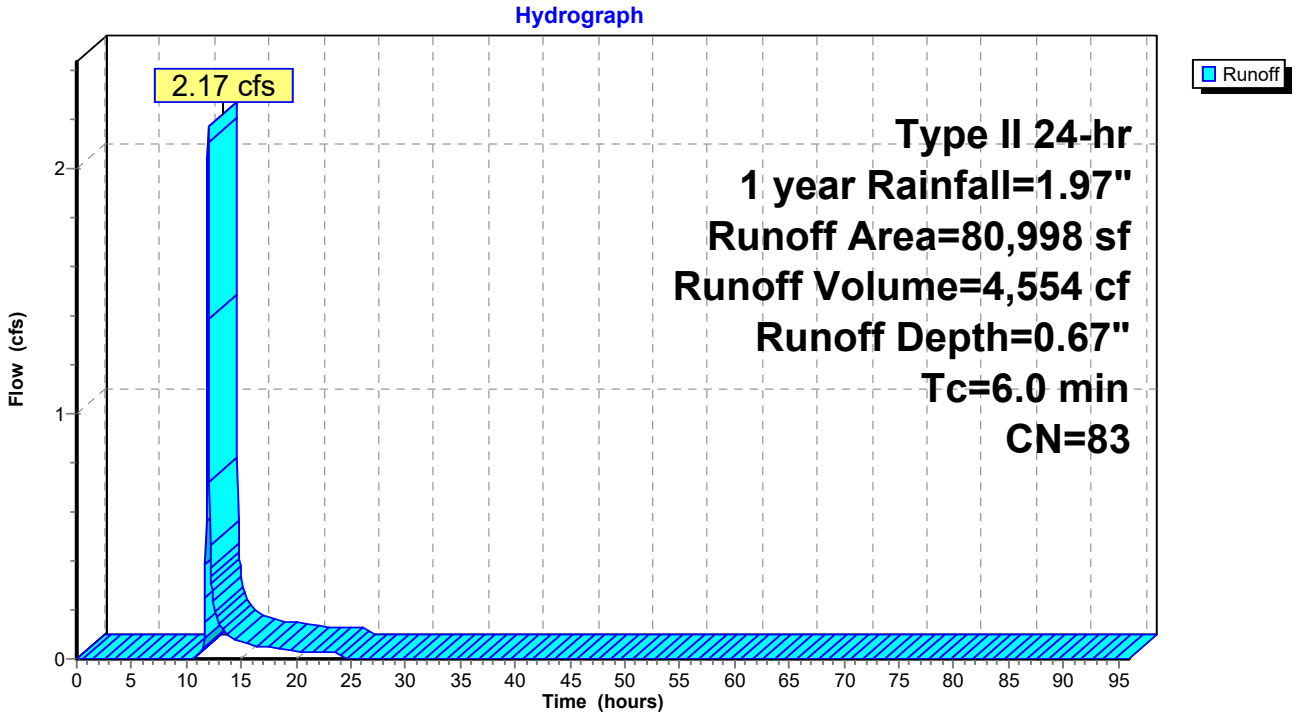
Runoff = 2.17 cfs @ 11.98 hrs, Volume= 4,554 cf, Depth= 0.67"
Routed to Link 2L : Combine Routed SCM-1, SCM-2, and Undetained

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 1 year Rainfall=1.97"

Area (sf)	CN	Description
8,685	77	Woods, Good, HSG D
3,848	71	Meadow, non-grazed, HSG C
6,756	74	>75% Grass cover, Good, HSG C
3,097	98	Paved roads w/curbs & sewers, HSG D
41,775	80	>75% Grass cover, Good, HSG D
16,837	98	Paved roads w/curbs & sewers, HSG D
80,998	83	Weighted Average
61,064		75.39% Pervious Area
19,934		24.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: Post DA #1 - Undetained



Summary for Pond 3P: SCM-1 Storm Brixx

Inflow Area = 76,796 sf, 59.50% Impervious, Inflow Depth = 1.00" for 1 year event
Inflow = 2.58 cfs @ 12.03 hrs, Volume= 6,420 cf
Outflow = 0.20 cfs @ 12.90 hrs, Volume= 6,420 cf, Atten= 92%, Lag= 52.2 min
Discarded = 0.17 cfs @ 12.90 hrs, Volume= 6,361 cf
Primary = 0.03 cfs @ 12.90 hrs, Volume= 59 cf
Routed to Link 1L : Combine SCM-1 and Post DA#1 Detained SCM-2

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 903.05' @ 12.90 hrs Surf.Area= 3,294 sf Storage= 2,830 cf

Plug-Flow detention time= 147.9 min calculated for 6,416 cf (100% of inflow)
Center-of-Mass det. time= 147.9 min (981.5 - 833.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	901.36'	2,480 cf	**42.61'W x 77.30'L x 2.84'H Stone Bedding** 9,357 cf Overall - 3,156 cf Embedded = 6,201 cf x 40.0% Voids
#2A	902.69'	2,967 cf	**ACO StormBrixx 300 HD 1** x 399 Inside #1 Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf 399 Chambers in 21 Rows
		5,447 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	901.36'	**2.000 in/hr Infiltration over Wetted area**
#2	Primary	901.69'	**24.0" Round Outlet Pipe** L= 8.9' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 901.69' / 901.35' S= 0.0382 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#3	Device 2	903.03'	**30.0" W x 2.0" H Vert. Lowest Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 2	903.20'	**48.0" W x 2.0" H Vert. Middle Orifice** C= 0.600 Limited to weir flow at low heads
#5	Device 2	903.36'	**54.0" W x 4.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#6	Device 2	903.69'	**5.0' long Weir Plate** Head (feet) 0.50 Coef. (English) 3.33

Discarded OutFlow Max=0.17 cfs @ 12.90 hrs HW=903.05' (Free Discharge)
└**1=Infiltration** (Exfiltration Controls 0.17 cfs)

Primary OutFlow Max=0.02 cfs @ 12.90 hrs HW=903.05' (Free Discharge)
└**2=Outlet Pipe** (Passes 0.02 cfs of 7.13 cfs potential flow)
├**3=Lowest Orifice** (Orifice Controls 0.02 cfs @ 0.45 fps)
├**4=Middle Orifice** (Controls 0.00 cfs)
├**5=Upper Orifice** (Controls 0.00 cfs)
└**6=Weir Plate** (Controls 0.00 cfs)

Pond 3P: SCM-1 Storm Brixx - Chamber Wizard Stone Bedding

Chamber Model = ACO StormBrixx 300 HD 1 (ACO StormBrixx® 300 HD)
Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf
Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf

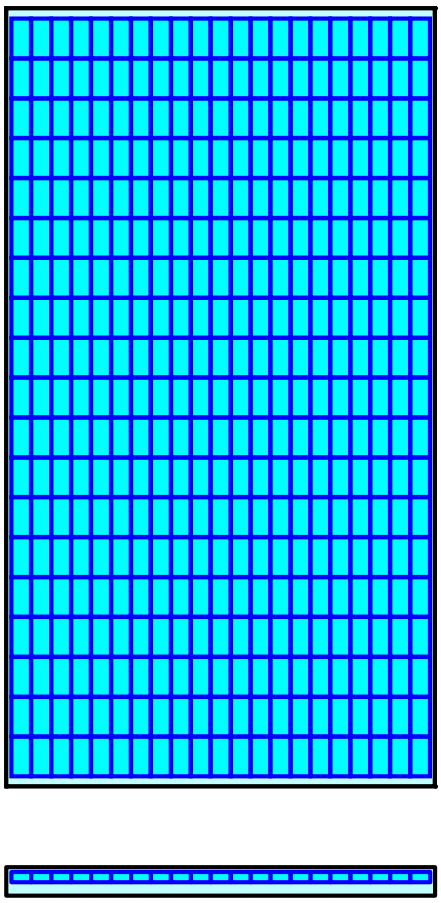
19 Chambers/Row x 3.96' Long = 75.30' Row Length +12.0" End Stone x 2 = 77.30' Base Length
21 Rows x 23.8" Wide + 6.0" Side Stone x 2 = 42.61' Base Width
16.0" Stone Base + 12.1" Chamber Height + 6.0" Stone Cover = 2.84' Field Height

399 Chambers x 7.4 cf = 2,966.9 cf Chamber Storage
399 Chambers x 7.9 cf = 3,156.2 cf Displacement

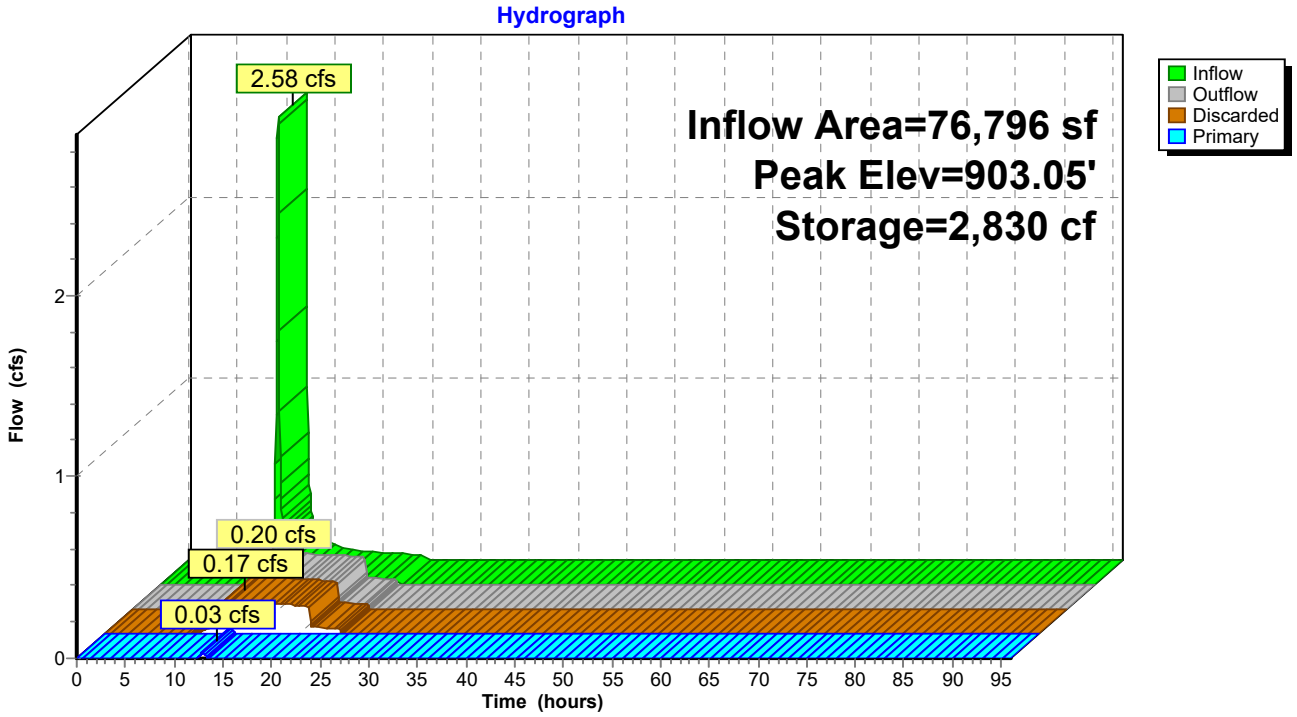
9,357.2 cf Field - 3,156.2 cf Chambers = 6,201.0 cf Stone x 40.0% Voids = 2,480.4 cf Stone Storage

Chamber Storage + Stone Storage = 5,447.3 cf = 0.125 af
Overall Storage Efficiency = 58.2%
Overall System Size = 77.30' x 42.61' x 2.84'

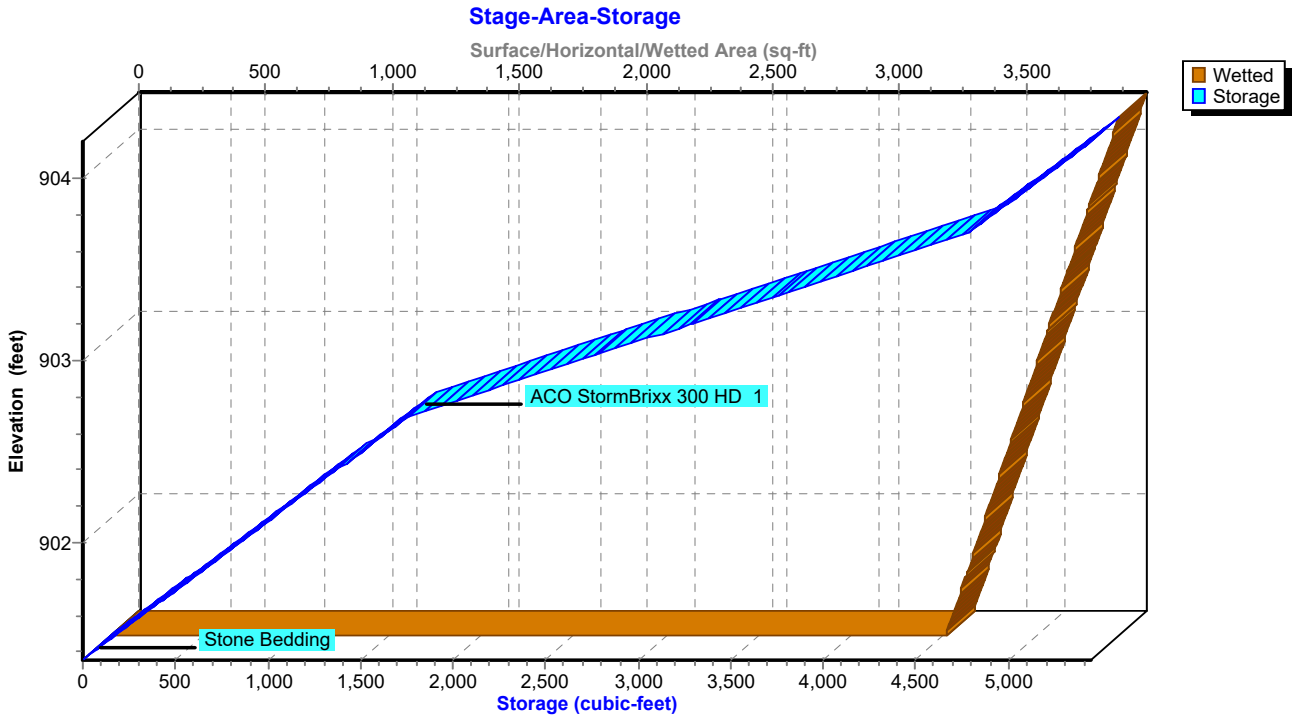
399 Chambers
346.6 cy Field
229.7 cy Stone



Pond 3P: SCM-1 Storm Brixx



Pond 3P: SCM-1 Storm Brixx



Stage-Area-Storage for Pond 3P: SCM-1 Storm Brixx

Elevation (feet)	Wetted (sq-ft)	Storage (cubic-feet)
901.36	3,294	0
901.41	3,306	66
901.46	3,318	132
901.51	3,330	198
901.56	3,342	264
901.61	3,354	329
901.66	3,366	395
901.71	3,378	461
901.76	3,390	527
901.81	3,402	593
901.86	3,414	659
901.91	3,426	725
901.96	3,438	791
902.01	3,450	856
902.06	3,462	922
902.11	3,474	988
902.16	3,486	1,054
902.21	3,498	1,120
902.26	3,510	1,186
902.31	3,522	1,252
902.36	3,534	1,318
902.41	3,546	1,384
902.46	3,558	1,449
902.51	3,570	1,515
902.56	3,582	1,581
902.61	3,594	1,647
902.66	3,606	1,713
902.71	3,618	1,807
902.76	3,630	1,958
902.81	3,642	2,108
902.86	3,654	2,259
902.91	3,666	2,409
902.96	3,678	2,560
903.01	3,690	2,710
903.06	3,702	2,860
903.11	3,714	3,011
903.16	3,726	3,161
903.21	3,738	3,312
903.26	3,750	3,462
903.31	3,762	3,613
903.36	3,774	3,763
903.41	3,786	3,914
903.46	3,798	4,064
903.51	3,810	4,215
903.56	3,822	4,365
903.61	3,834	4,516
903.66	3,846	4,666
903.71	3,858	4,801
903.76	3,870	4,867
903.81	3,882	4,933
903.86	3,894	4,999
903.91	3,906	5,064
903.96	3,918	5,130
904.01	3,930	5,196
904.06	3,942	5,262
904.11	3,954	5,328
904.16	**3,966**	**5,394**

Summary for Pond 4P: SCM-2 Storm Brixx

Inflow Area = 112,515 sf, 64.69% Impervious, Inflow Depth = 0.44" for 1 year event
Inflow = 1.86 cfs @ 11.97 hrs, Volume= 4,131 cf
Outflow = 0.28 cfs @ 11.75 hrs, Volume= 4,131 cf, Atten= 85%, Lag= 0.0 min
Discarded = 0.28 cfs @ 11.75 hrs, Volume= 4,131 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 2L : Combine Routed SCM-1, SCM-2, and Undetained

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 901.27' @ 12.21 hrs Surf.Area= 5,993 sf Storage= 1,314 cf

Plug-Flow detention time= 30.6 min calculated for 4,129 cf (100% of inflow)
Center-of-Mass det. time= 30.6 min (831.4 - 800.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	900.72'	4,506 cf	**26.76'W x 223.94'L x 2.84'H Field A** 17,023 cf Overall - 5,759 cf Embedded = 11,265 cf x 40.0% Voids
#2A	902.05'	5,413 cf	**ACO StormBrixx 300 HD 1** x 728 Inside #1 Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf 728 Chambers in 13 Rows
		9,919 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	900.72'	**2.000 in/hr Exfiltration over Surface area**
#2	Primary	901.05'	**24.0" Round Outlet Pipe** L= 31.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 901.05' / 900.92' S= 0.0041 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf
#3	Device 2	902.82'	**24.0" W x 2.0" H Vert. Lowest Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 2	902.98'	**24.0" W x 2.0" H Vert. Middle Orifice** C= 0.600 Limited to weir flow at low heads
#5	Device 2	903.14'	**48.0" W x 4.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#6	Device 2	903.47'	**5.0' long Weir** 2 End Contraction(s) 0.5' Crest Height

Discarded OutFlow Max=0.28 cfs @ 11.75 hrs HW=900.76' (Free Discharge)
└─**1=Exfiltration** (Exfiltration Controls 0.28 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=900.72' (Free Discharge)
└─**2=Outlet Pipe** (Controls 0.00 cfs)
  ├─**3=Lowest Orifice** (Controls 0.00 cfs)
  ├─**4=Middle Orifice** (Controls 0.00 cfs)
  ├─**5=Upper Orifice** (Controls 0.00 cfs)
  └─**6=Weir** (Controls 0.00 cfs)

Pond 4P: SCM-2 Storm Brixx - Chamber Wizard Field A

Chamber Model = ACO StormBrixx 300 HD 1 (ACO StormBrixx® 300 HD)
Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf
Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf

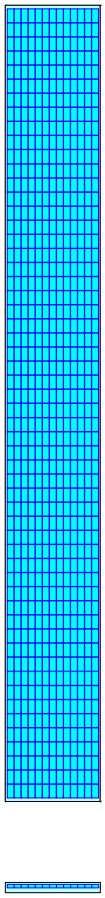
56 Chambers/Row x 3.96' Long = 221.94' Row Length +12.0" End Stone x 2 = 223.94' Base Length
13 Rows x 23.8" Wide + 6.0" Side Stone x 2 = 26.76' Base Width
16.0" Stone Base + 12.1" Chamber Height + 6.0" Stone Cover = 2.84' Field Height

728 Chambers x 7.4 cf = 5,413.2 cf Chamber Storage
728 Chambers x 7.9 cf = 5,758.8 cf Displacement

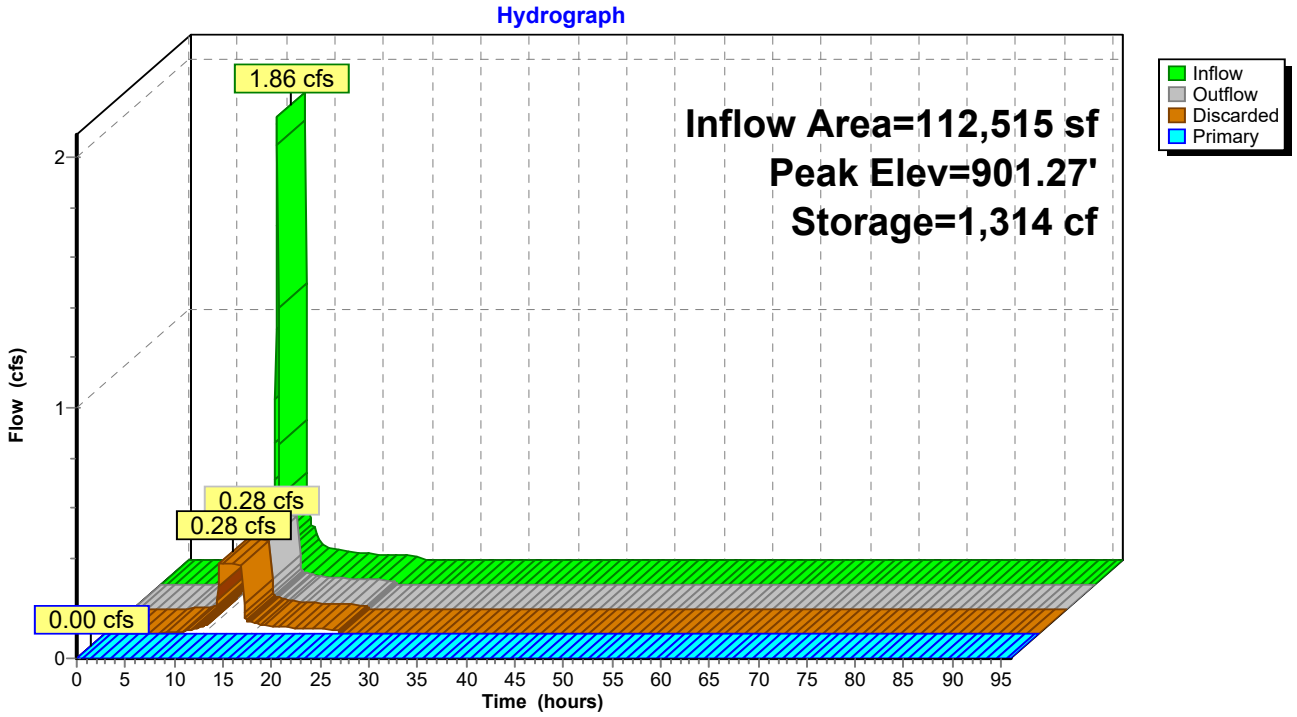
17,023.3 cf Field - 5,758.8 cf Chambers = 11,264.5 cf Stone x 40.0% Voids = 4,505.8 cf Stone Storage

Chamber Storage + Stone Storage = 9,919.0 cf = 0.228 af
Overall Storage Efficiency = 58.3%
Overall System Size = 223.94' x 26.76' x 2.84'

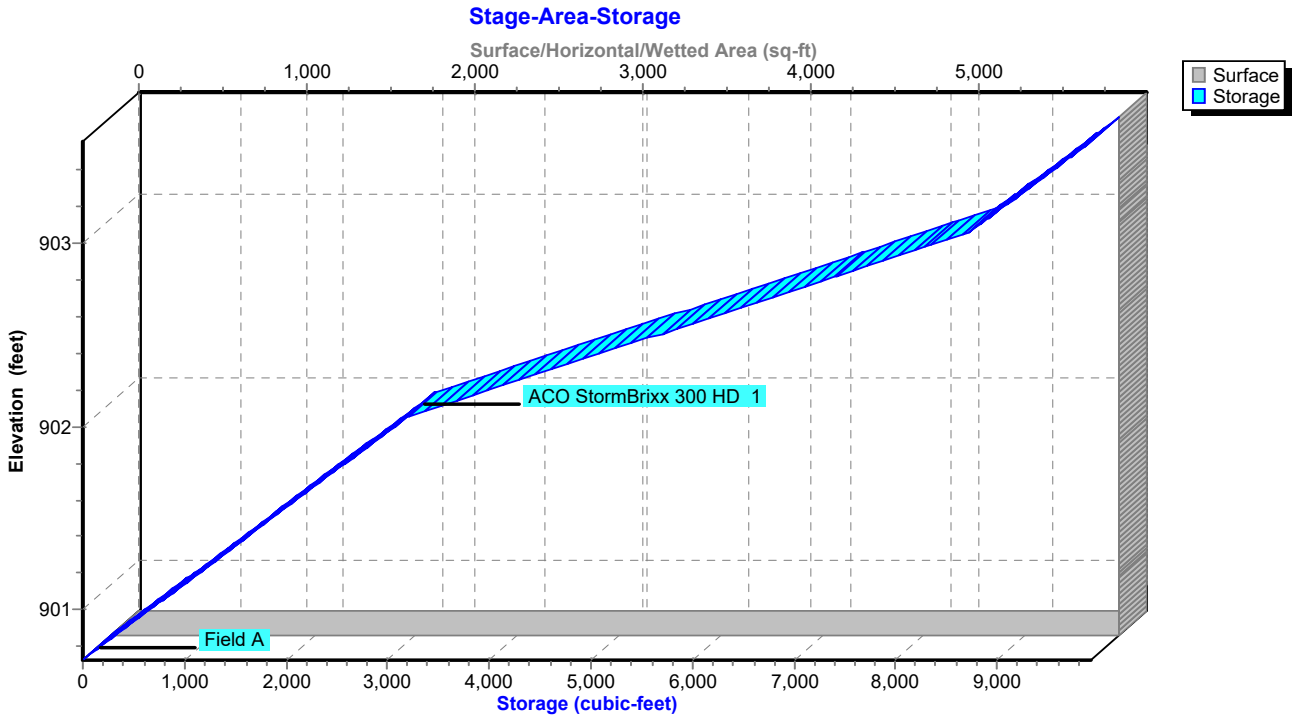
728 Chambers
630.5 cy Field
417.2 cy Stone



Pond 4P: SCM-2 Storm Brixx



Pond 4P: SCM-2 Storm Brixx



Stage-Area-Storage for Pond 4P: SCM-2 Storm Brixx

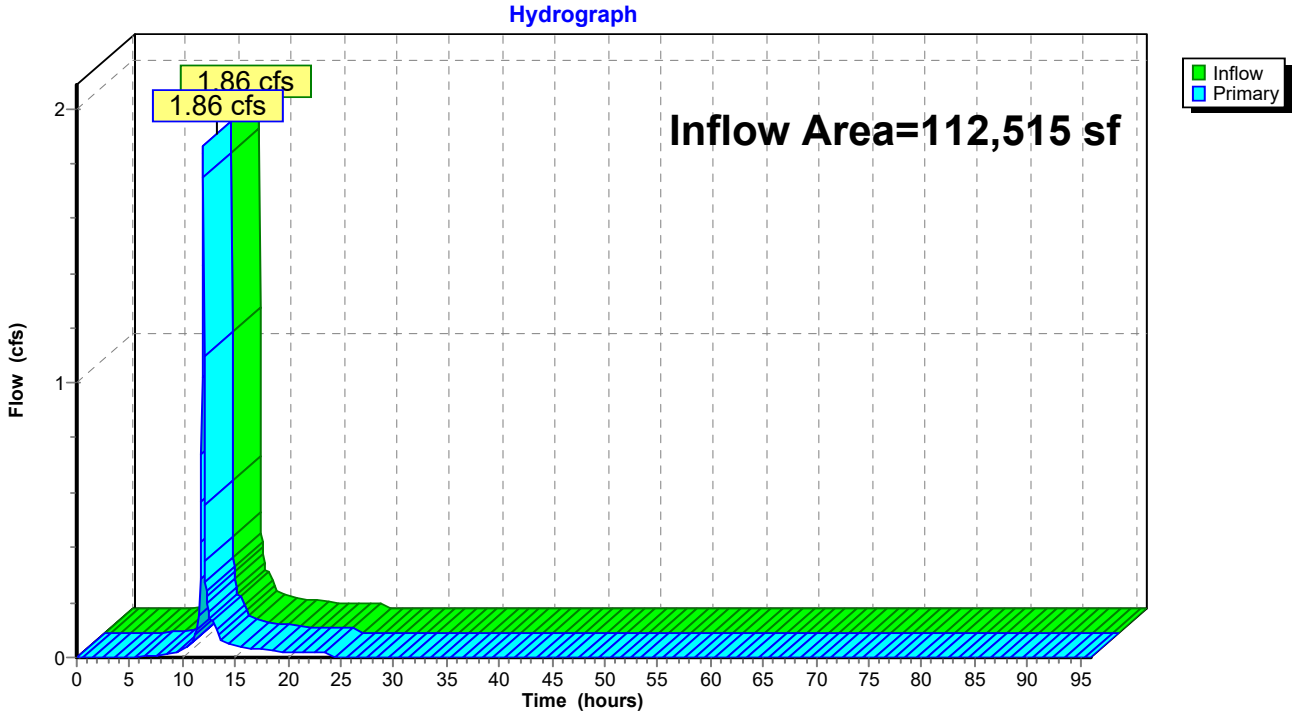
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
900.72	**5,993**	0
900.77	5,993	120
900.82	5,993	240
900.87	5,993	360
900.92	5,993	479
900.97	5,993	599
901.02	5,993	719
901.07	5,993	839
901.12	5,993	959
901.17	5,993	1,079
901.22	5,993	1,199
901.27	5,993	1,318
901.32	5,993	1,438
901.37	5,993	1,558
901.42	5,993	1,678
901.47	5,993	1,798
901.52	5,993	1,918
901.57	5,993	2,038
901.62	5,993	2,157
901.67	5,993	2,277
901.72	5,993	2,397
901.77	5,993	2,517
901.82	5,993	2,637
901.87	5,993	2,757
901.92	5,993	2,877
901.97	5,993	2,996
902.02	5,993	3,116
902.07	5,993	3,288
902.12	5,993	3,562
902.17	5,993	3,836
902.22	5,993	4,110
902.27	5,993	4,385
902.32	5,993	4,659
902.37	5,993	4,933
902.42	5,993	5,207
902.47	5,993	5,482
902.52	5,993	5,756
902.57	5,993	6,030
902.62	5,993	6,304
902.67	5,993	6,578
902.72	5,993	6,853
902.77	5,993	7,127
902.82	5,993	7,401
902.87	5,993	7,675
902.92	5,993	7,950
902.97	5,993	8,224
903.02	5,993	8,498
903.07	5,993	8,743
903.12	5,993	8,863
903.17	5,993	8,983
903.22	5,993	9,103
903.27	5,993	9,223
903.32	5,993	9,342
903.37	5,993	9,462
903.42	5,993	9,582
903.47	5,993	9,702
903.52	5,993	**9,822**

Summary for Link 1L: Combine SCM-1 and Post DA#1 Detained SCM-2

Inflow Area = 112,515 sf, 64.69% Impervious, Inflow Depth = 0.44" for 1 year event
Inflow = 1.86 cfs @ 11.97 hrs, Volume= 4,131 cf
Primary = 1.86 cfs @ 11.97 hrs, Volume= 4,131 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond 4P : SCM-2 Storm Brixx

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link 1L: Combine SCM-1 and Post DA#1 Detained SCM-2

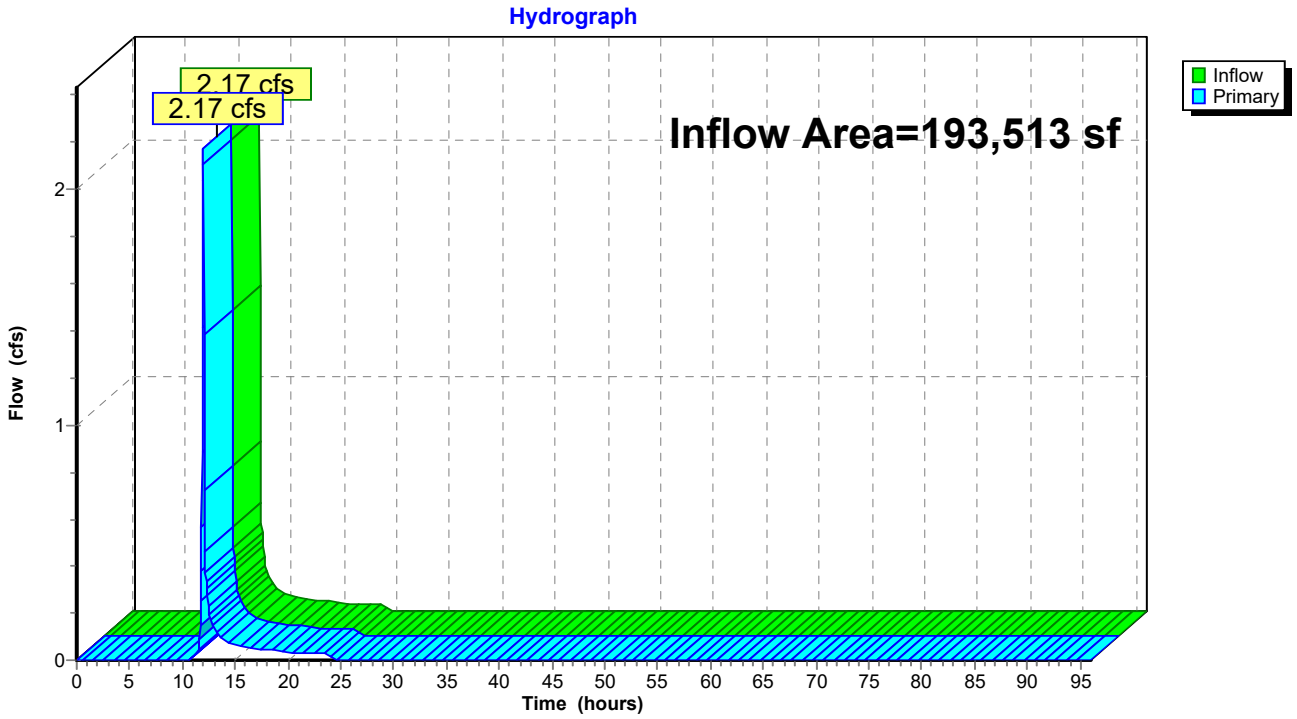


Summary for Link 2L: Combine Routed SCM-1, SCM-2, and Undetained

Inflow Area = 193,513 sf, 47.92% Impervious, Inflow Depth = 0.28" for 1 year event
Inflow = 2.17 cfs @ 11.98 hrs, Volume= 4,554 cf
Primary = 2.17 cfs @ 11.98 hrs, Volume= 4,554 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link 2L: Combine Routed SCM-1, SCM-2, and Undetained



Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Pre-DA#1 Runoff Area=4.444 ac 25.27% Impervious Runoff Depth=0.84"
Flow Length=869' Tc=16.7 min CN=81 Runoff=4.41 cfs 13,502 cf

Subcatchment2S: Post DA#1 Total Runoff Area=4.445 ac 47.92% Impervious Runoff Depth=1.25"
Tc=6.0 min CN=88 Runoff=9.57 cfs 20,234 cf

Subcatchment3S: Post DA#1 - Detained to Runoff Area=1.763 ac 59.50% Impervious Runoff Depth=1.32"
Flow Length=616' Tc=11.2 min CN=89 Runoff=3.39 cfs 8,476 cf

Subcatchment4S: Post DA#1 - Detained Runoff Area=0.820 ac 75.85% Impervious Runoff Depth=1.73"
Tc=6.0 min CN=94 Runoff=2.32 cfs 5,139 cf

Subcatchment5S: Post DA#1 - Undetained Runoff Area=80,998 sf 24.61% Impervious Runoff Depth=0.94"
Tc=6.0 min CN=83 Runoff=3.06 cfs 6,372 cf

Pond 3P: SCM-1 Storm Brixx Peak Elev=903.20' Storage=3,292 cf Inflow=3.39 cfs 8,476 cf
Discarded=0.17 cfs 7,188 cf Primary=0.58 cfs 1,288 cf Outflow=0.75 cfs 8,476 cf

Pond 4P: SCM-2 Storm Brixx Peak Elev=901.81' Storage=2,606 cf Inflow=2.32 cfs 6,427 cf
Discarded=0.28 cfs 6,427 cf Primary=0.00 cfs 0 cf Outflow=0.28 cfs 6,427 cf

Link 1L: Combine SCM-1 and Post DA#1 Detained SCM-2 Inflow=2.32 cfs 6,427 cf
Primary=2.32 cfs 6,427 cf

Link 2L: Combine Routed SCM-1, SCM-2, and Undetained Inflow=3.06 cfs 6,372 cf
Primary=3.06 cfs 6,372 cf

Total Runoff Area = 580,718 sf Runoff Volume = 53,723 cf Average Runoff Depth = 1.11"
59.63% Pervious = 346,295 sf 40.37% Impervious = 234,423 sf

Summary for Subcatchment 1S: Pre-DA #1

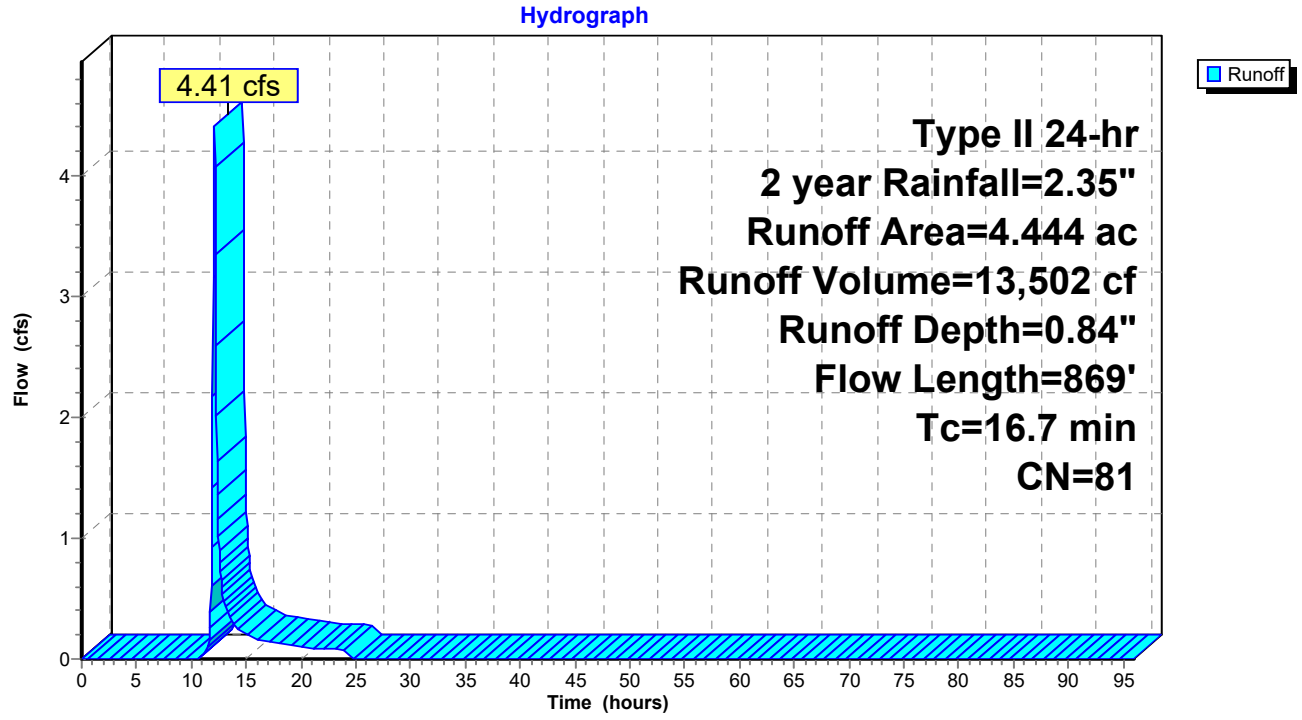
Runoff = 4.41 cfs @ 12.10 hrs, Volume= 13,502 cf, Depth= 0.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 year Rainfall=2.35"

Area (ac)	CN	Description
0.328	70	Woods, Good, HSG C
0.691	71	Meadow, non-grazed, HSG C
2.021	78	Meadow, non-grazed, HSG D
0.087	98	Paved parking, HSG C
1.036	98	Paved parking, HSG D
0.022	71	Meadow, non-grazed, HSG C
0.259	78	Meadow, non-grazed, HSG D
4.444	81	Weighted Average
3.321		74.73% Pervious Area
1.123		25.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.7	100	0.2800	0.19		**Sheet Flow, Sheet** Woods: Light underbrush n= 0.400 P2= 2.35"
8.0	769	0.0100	1.61		**Shallow Concentrated Flow, Shallow Conc** Unpaved Kv= 16.1 fps
16.7	869	Total			

Subcatchment 1S: Pre-DA #1



Summary for Subcatchment 2S: Post DA #1 Total

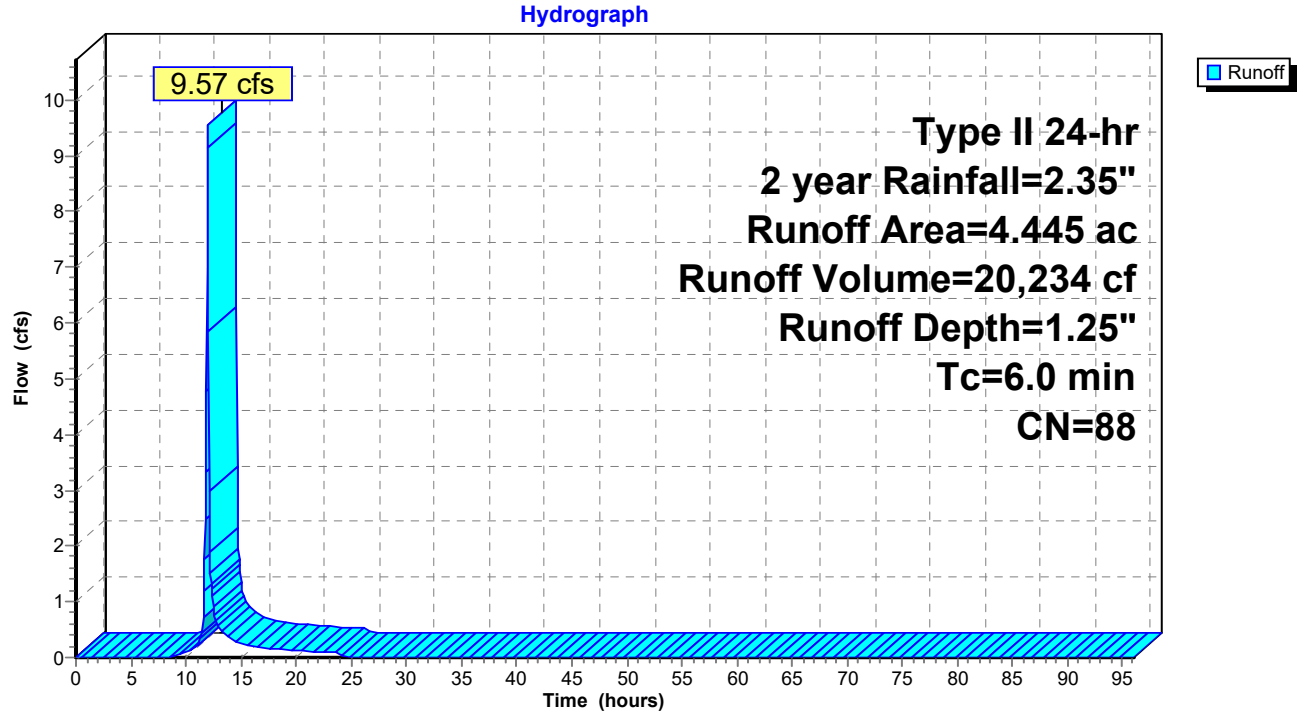
Runoff = 9.57 cfs @ 11.97 hrs, Volume= 20,234 cf, Depth= 1.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 year Rainfall=2.35"

Area (ac)	CN	Description
0.333	77	Woods, Poor, HSG C
0.108	71	Meadow, non-grazed, HSG C
0.427	74	>75% Grass cover, Good, HSG C
1.447	80	>75% Grass cover, Good, HSG D
0.266	98	Paved roads w/curbs & sewers, HSG C
1.864	98	Paved roads w/curbs & sewers, HSG D
4.445	88	Weighted Average
2.315		52.08% Pervious Area
2.130		47.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: Post DA #1 Total



Summary for Subcatchment 3S: Post DA #1 - Detained to SCM-1

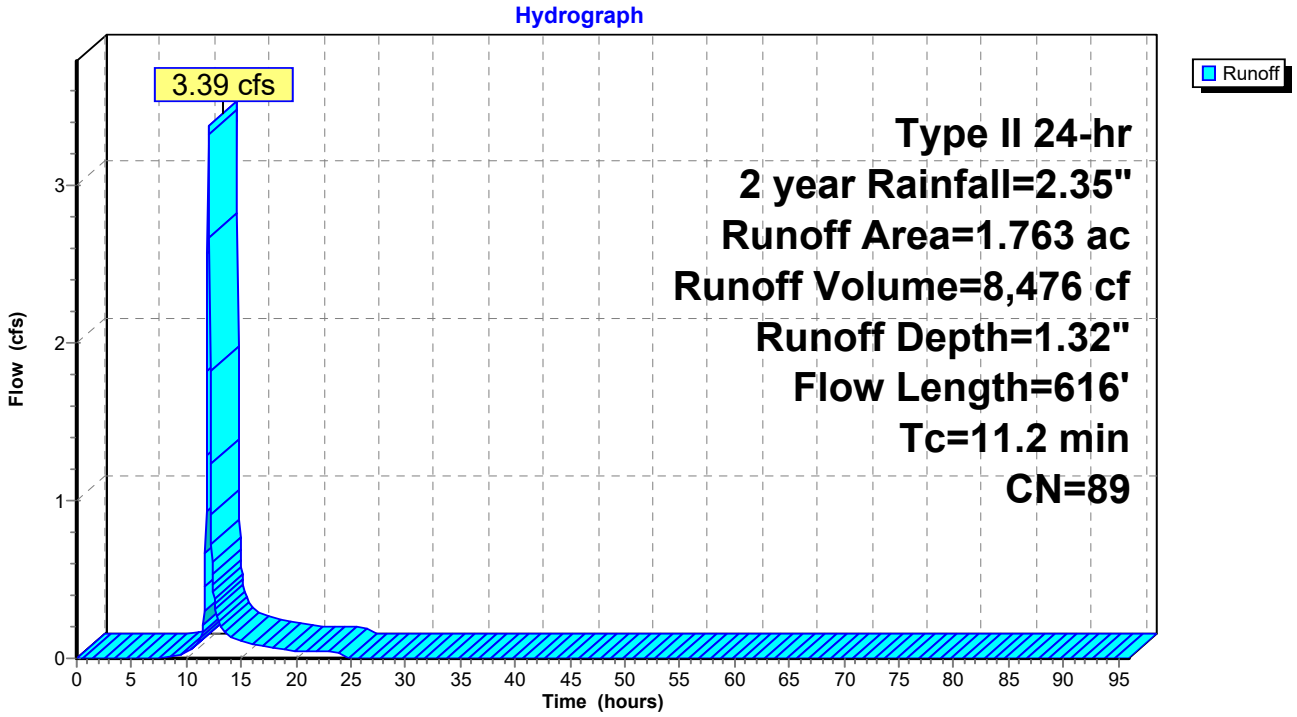
Runoff = 3.39 cfs @ 12.03 hrs, Volume= 8,476 cf, Depth= 1.32"
Routed to Pond 3P : SCM-1 Storm Brixx

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 year Rainfall=2.35"

Area (ac)	CN	Description
0.133	70	Woods, Good, HSG C
0.019	71	Meadow, non-grazed, HSG C
0.272	74	>75% Grass cover, Good, HSG C
0.290	80	>75% Grass cover, Good, HSG D
0.194	98	Paved roads w/curbs & sewers, HSG C
0.855	98	Paved roads w/curbs & sewers, HSG D
1.763	89	Weighted Average
0.714		40.50% Pervious Area
1.049		59.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	98	0.2400	0.18		**Sheet Flow, Sheet** Woods: Light underbrush n= 0.400 P2= 2.35"
0.7	164	0.0040	3.73	2.93	**Pipe Channel, 12" Pipe** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
1.4	354	0.0040	4.33	5.31	**Pipe Channel, 15" Pipe** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
11.2	616	Total			

Subcatchment 3S: Post DA #1 - Detained to SCM-1



Summary for Subcatchment 4S: Post DA #1 - Detained SCM-2

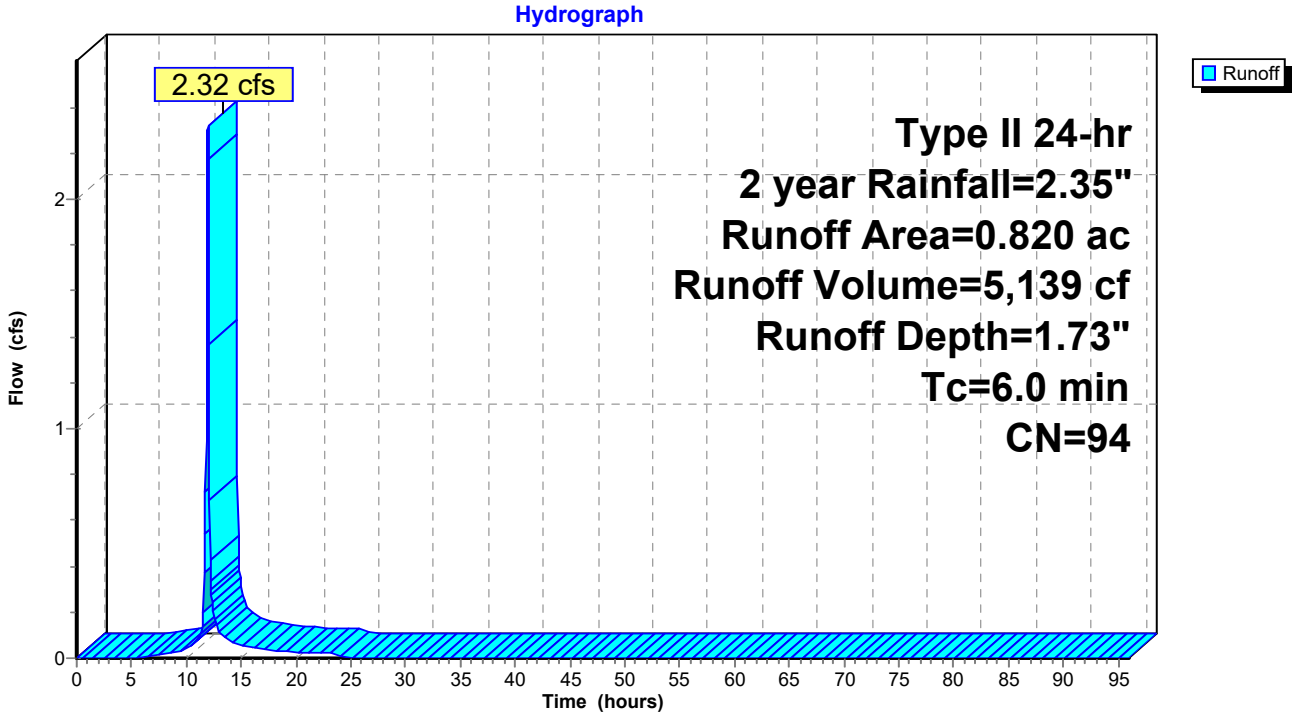
Runoff = 2.32 cfs @ 11.97 hrs, Volume= 5,139 cf, Depth= 1.73"
Routed to Link 1L : Combine SCM-1 and Post DA#1 Detained SCM-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 year Rainfall=2.35"

Area (ac)	CN	Description
0.198	80	>75% Grass cover, Good, HSG D
0.622	98	Paved roads w/curbs & sewers, HSG C
0.820	94	Weighted Average
0.198		24.15% Pervious Area
0.622		75.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: Post DA #1 - Detained SCM-2



Summary for Subcatchment 5S: Post DA #1 - Undetained

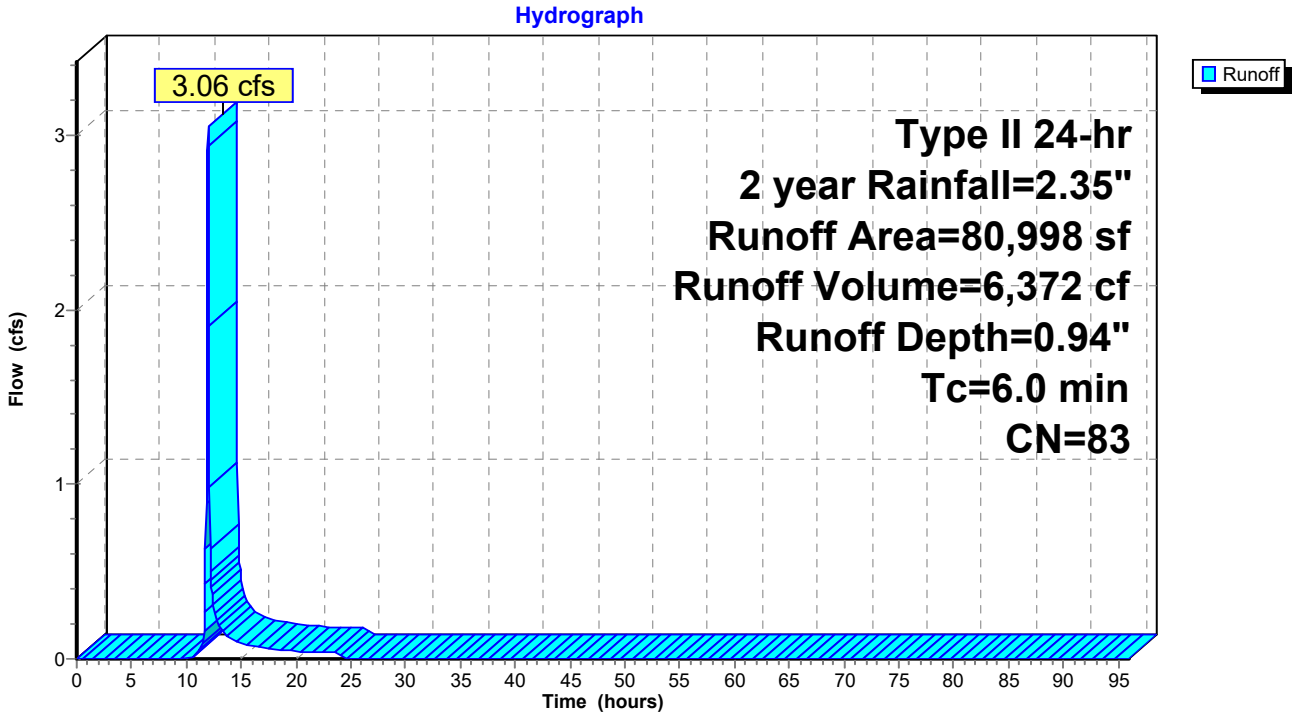
Runoff = 3.06 cfs @ 11.98 hrs, Volume= 6,372 cf, Depth= 0.94"
Routed to Link 2L : Combine Routed SCM-1, SCM-2, and Undetained

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 2 year Rainfall=2.35"

Area (sf)	CN	Description
8,685	77	Woods, Good, HSG D
3,848	71	Meadow, non-grazed, HSG C
6,756	74	>75% Grass cover, Good, HSG C
3,097	98	Paved roads w/curbs & sewers, HSG D
41,775	80	>75% Grass cover, Good, HSG D
16,837	98	Paved roads w/curbs & sewers, HSG D
80,998	83	Weighted Average
61,064		75.39% Pervious Area
19,934		24.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: Post DA #1 - Undetained



Summary for Pond 3P: SCM-1 Storm Brixx

Inflow Area = 76,796 sf, 59.50% Impervious, Inflow Depth = 1.32" for 2 year event
Inflow = 3.39 cfs @ 12.03 hrs, Volume= 8,476 cf
Outflow = 0.75 cfs @ 12.30 hrs, Volume= 8,476 cf, Atten= 78%, Lag= 16.2 min
Discarded = 0.17 cfs @ 12.30 hrs, Volume= 7,188 cf
Primary = 0.58 cfs @ 12.30 hrs, Volume= 1,288 cf
Routed to Link 1L : Combine SCM-1 and Post DA#1 Detained SCM-2

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 903.20' @ 12.30 hrs Surf.Area= 3,294 sf Storage= 3,292 cf

Plug-Flow detention time= 134.0 min calculated for 8,471 cf (100% of inflow)
Center-of-Mass det. time= 133.9 min (959.6 - 825.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	901.36'	2,480 cf	**42.61'W x 77.30'L x 2.84'H Stone Bedding** 9,357 cf Overall - 3,156 cf Embedded = 6,201 cf x 40.0% Voids
#2A	902.69'	2,967 cf	**ACO StormBrixx 300 HD 1** x 399 Inside #1 Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf 399 Chambers in 21 Rows
		5,447 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	901.36'	**2.000 in/hr Infiltration over Wetted area**
#2	Primary	901.69'	**24.0" Round Outlet Pipe** L= 8.9' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 901.69' / 901.35' S= 0.0382 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#3	Device 2	903.03'	**30.0" W x 2.0" H Vert. Lowest Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 2	903.20'	**48.0" W x 2.0" H Vert. Middle Orifice** C= 0.600 Limited to weir flow at low heads
#5	Device 2	903.36'	**54.0" W x 4.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#6	Device 2	903.69'	**5.0' long Weir Plate** Head (feet) 0.50 Coef. (English) 3.33

Discarded OutFlow Max=0.17 cfs @ 12.30 hrs HW=903.20' (Free Discharge)
└**1=Infiltration** (Exfiltration Controls 0.17 cfs)

Primary OutFlow Max=0.58 cfs @ 12.30 hrs HW=903.20' (Free Discharge)
└**2=Outlet Pipe** (Passes 0.58 cfs of 8.43 cfs potential flow)
  ├**3=Lowest Orifice** (Orifice Controls 0.57 cfs @ 1.38 fps)
  ├**4=Middle Orifice** (Orifice Controls 0.00 cfs @ 0.19 fps)
  ├**5=Upper Orifice** (Controls 0.00 cfs)
  └**6=Weir Plate** (Controls 0.00 cfs)

Pond 3P: SCM-1 Storm Brixx - Chamber Wizard Stone Bedding

Chamber Model = ACO StormBrixx 300 HD 1 (ACO StormBrixx® 300 HD)
Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf
Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf

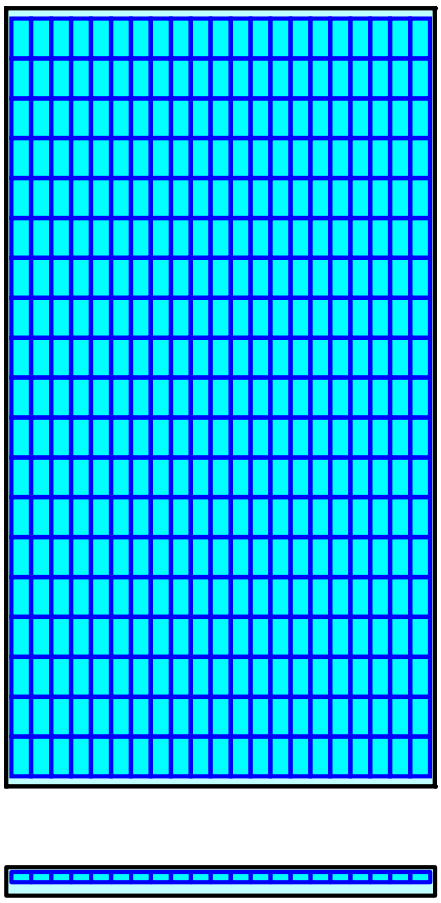
19 Chambers/Row x 3.96' Long = 75.30' Row Length +12.0" End Stone x 2 = 77.30' Base Length
21 Rows x 23.8" Wide + 6.0" Side Stone x 2 = 42.61' Base Width
16.0" Stone Base + 12.1" Chamber Height + 6.0" Stone Cover = 2.84' Field Height

399 Chambers x 7.4 cf = 2,966.9 cf Chamber Storage
399 Chambers x 7.9 cf = 3,156.2 cf Displacement

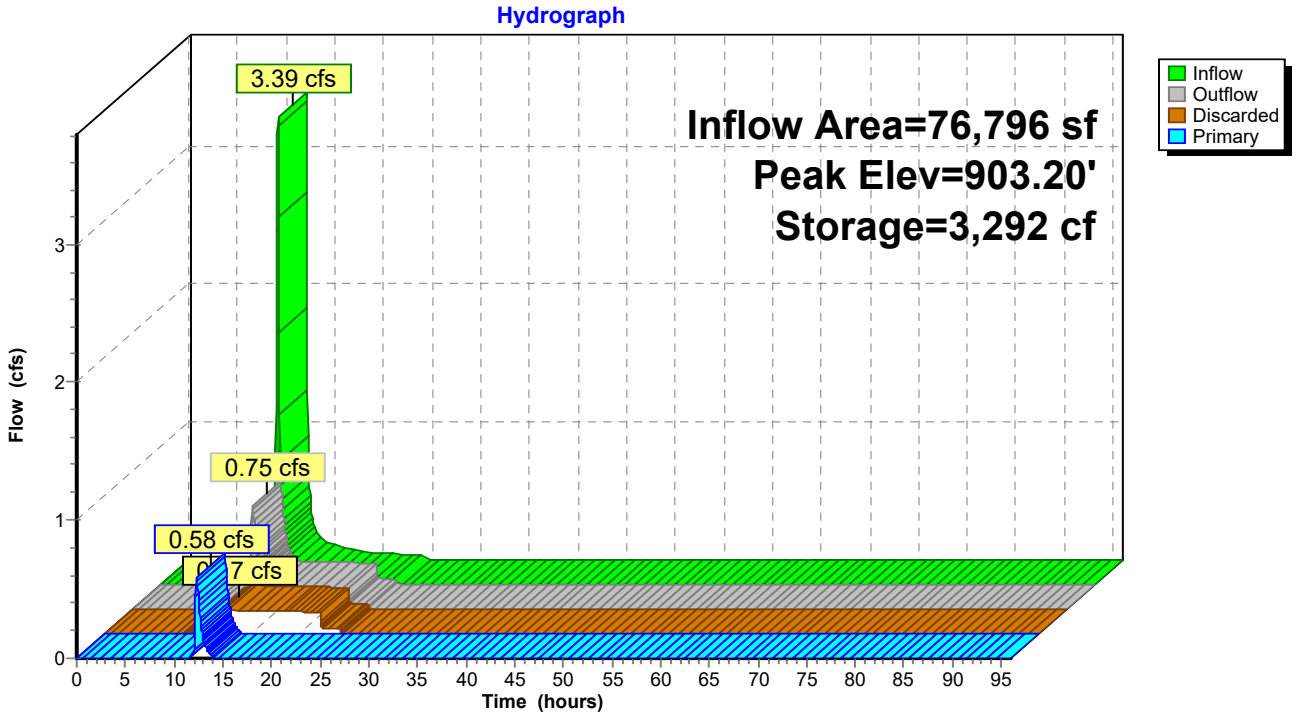
9,357.2 cf Field - 3,156.2 cf Chambers = 6,201.0 cf Stone x 40.0% Voids = 2,480.4 cf Stone Storage

Chamber Storage + Stone Storage = 5,447.3 cf = 0.125 af
Overall Storage Efficiency = 58.2%
Overall System Size = 77.30' x 42.61' x 2.84'

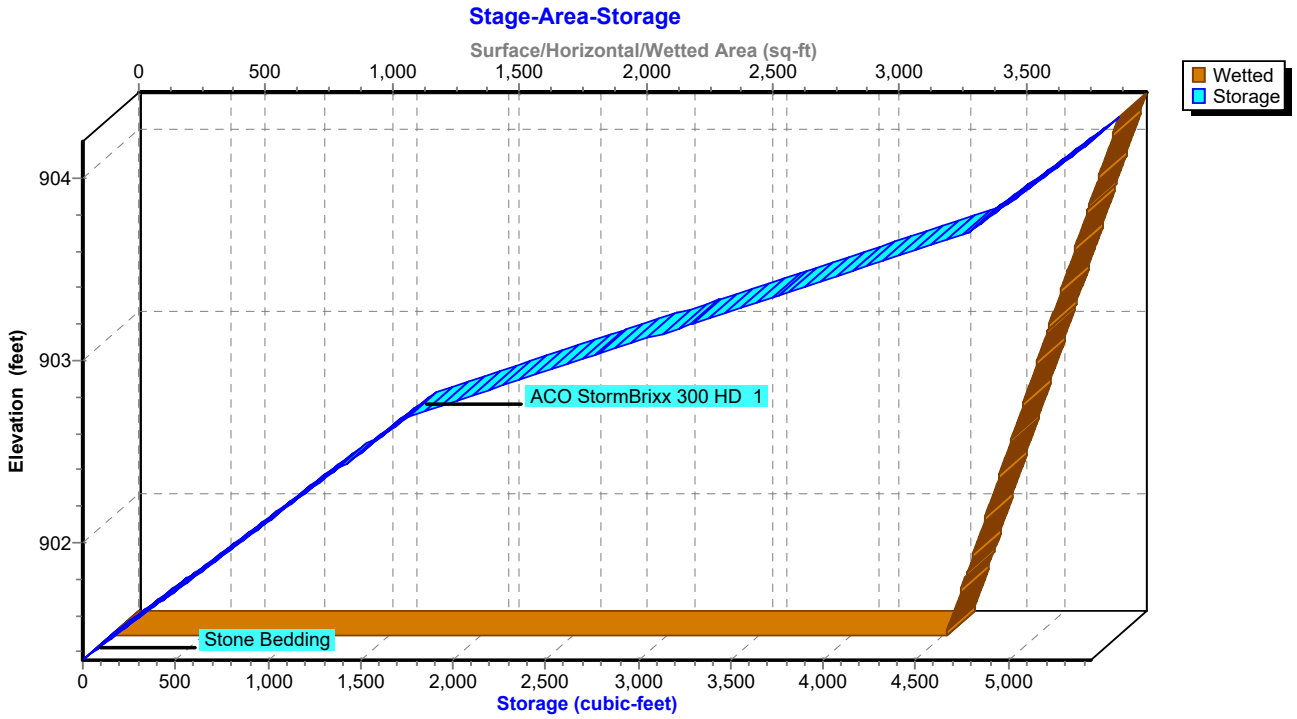
399 Chambers
346.6 cy Field
229.7 cy Stone



Pond 3P: SCM-1 Storm Brixx



Pond 3P: SCM-1 Storm Brixx



Stage-Area-Storage for Pond 3P: SCM-1 Storm Brixx

Elevation (feet)	Wetted (sq-ft)	Storage (cubic-feet)
901.36	3,294	0
901.41	3,306	66
901.46	3,318	132
901.51	3,330	198
901.56	3,342	264
901.61	3,354	329
901.66	3,366	395
901.71	3,378	461
901.76	3,390	527
901.81	3,402	593
901.86	3,414	659
901.91	3,426	725
901.96	3,438	791
902.01	3,450	856
902.06	3,462	922
902.11	3,474	988
902.16	3,486	1,054
902.21	3,498	1,120
902.26	3,510	1,186
902.31	3,522	1,252
902.36	3,534	1,318
902.41	3,546	1,384
902.46	3,558	1,449
902.51	3,570	1,515
902.56	3,582	1,581
902.61	3,594	1,647
902.66	3,606	1,713
902.71	3,618	1,807
902.76	3,630	1,958
902.81	3,642	2,108
902.86	3,654	2,259
902.91	3,666	2,409
902.96	3,678	2,560
903.01	3,690	2,710
903.06	3,702	2,860
903.11	3,714	3,011
903.16	3,726	3,161
903.21	3,738	3,312
903.26	3,750	3,462
903.31	3,762	3,613
903.36	3,774	3,763
903.41	3,786	3,914
903.46	3,798	4,064
903.51	3,810	4,215
903.56	3,822	4,365
903.61	3,834	4,516
903.66	3,846	4,666
903.71	3,858	4,801
903.76	3,870	4,867
903.81	3,882	4,933
903.86	3,894	4,999
903.91	3,906	5,064
903.96	3,918	5,130
904.01	3,930	5,196
904.06	3,942	5,262
904.11	3,954	5,328
904.16	**3,966**	**5,394**

Summary for Pond 4P: SCM-2 Storm Brixx

Inflow Area = 112,515 sf, 64.69% Impervious, Inflow Depth = 0.69" for 2 year event
Inflow = 2.32 cfs @ 11.97 hrs, Volume= 6,427 cf
Outflow = 0.28 cfs @ 11.70 hrs, Volume= 6,427 cf, Atten= 88%, Lag= 0.0 min
Discarded = 0.28 cfs @ 11.70 hrs, Volume= 6,427 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 2L : Combine Routed SCM-1, SCM-2, and Undetained

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 901.81' @ 12.94 hrs Surf.Area= 5,993 sf Storage= 2,606 cf

Plug-Flow detention time= 72.9 min calculated for 6,427 cf (100% of inflow)
Center-of-Mass det. time= 72.9 min (859.9 - 787.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	900.72'	4,506 cf	**26.76'W x 223.94'L x 2.84'H Field A** 17,023 cf Overall - 5,759 cf Embedded = 11,265 cf x 40.0% Voids
#2A	902.05'	5,413 cf	**ACO StormBrixx 300 HD 1** x 728 Inside #1 Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf 728 Chambers in 13 Rows
		9,919 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	900.72'	**2.000 in/hr Exfiltration over Surface area**
#2	Primary	901.05'	**24.0" Round Outlet Pipe** L= 31.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 901.05' / 900.92' S= 0.0041 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf
#3	Device 2	902.82'	**24.0" W x 2.0" H Vert. Lowest Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 2	902.98'	**24.0" W x 2.0" H Vert. Middle Orifice** C= 0.600 Limited to weir flow at low heads
#5	Device 2	903.14'	**48.0" W x 4.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#6	Device 2	903.47'	**5.0' long Weir** 2 End Contraction(s) 0.5' Crest Height

Discarded OutFlow Max=0.28 cfs @ 11.70 hrs HW=900.76' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.28 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=900.72' (Free Discharge)
└**2=Outlet Pipe** (Controls 0.00 cfs)
  ├**3=Lowest Orifice** (Controls 0.00 cfs)
  ├**4=Middle Orifice** (Controls 0.00 cfs)
  ├**5=Upper Orifice** (Controls 0.00 cfs)
  └**6=Weir** (Controls 0.00 cfs)

Pond 4P: SCM-2 Storm Brixx - Chamber Wizard Field A

Chamber Model = ACO StormBrixx 300 HD 1 (ACO StormBrixx® 300 HD)
Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf
Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf

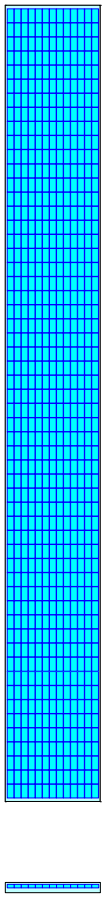
56 Chambers/Row x 3.96' Long = 221.94' Row Length +12.0" End Stone x 2 = 223.94' Base Length
13 Rows x 23.8" Wide + 6.0" Side Stone x 2 = 26.76' Base Width
16.0" Stone Base + 12.1" Chamber Height + 6.0" Stone Cover = 2.84' Field Height

728 Chambers x 7.4 cf = 5,413.2 cf Chamber Storage
728 Chambers x 7.9 cf = 5,758.8 cf Displacement

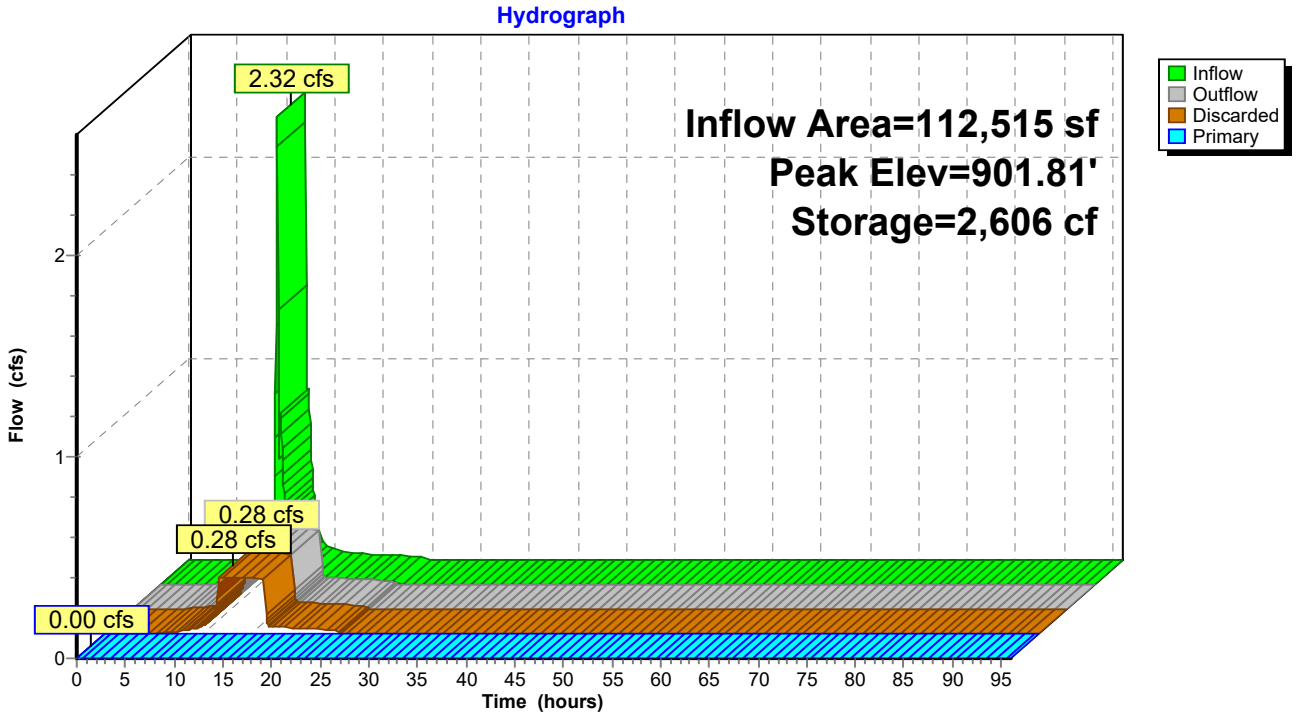
17,023.3 cf Field - 5,758.8 cf Chambers = 11,264.5 cf Stone x 40.0% Voids = 4,505.8 cf Stone Storage

Chamber Storage + Stone Storage = 9,919.0 cf = 0.228 af
Overall Storage Efficiency = 58.3%
Overall System Size = 223.94' x 26.76' x 2.84'

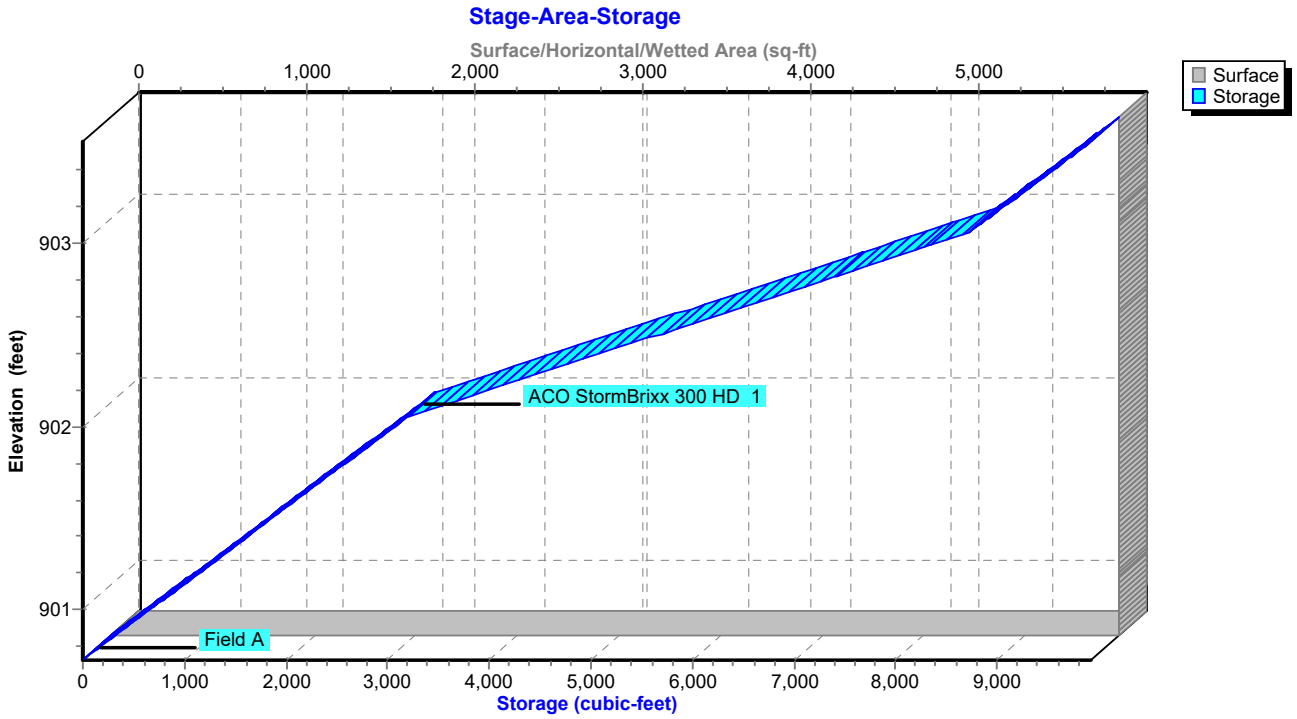
728 Chambers
630.5 cy Field
417.2 cy Stone



Pond 4P: SCM-2 Storm Brixx



Pond 4P: SCM-2 Storm Brixx



Stage-Area-Storage for Pond 4P: SCM-2 Storm Brixx

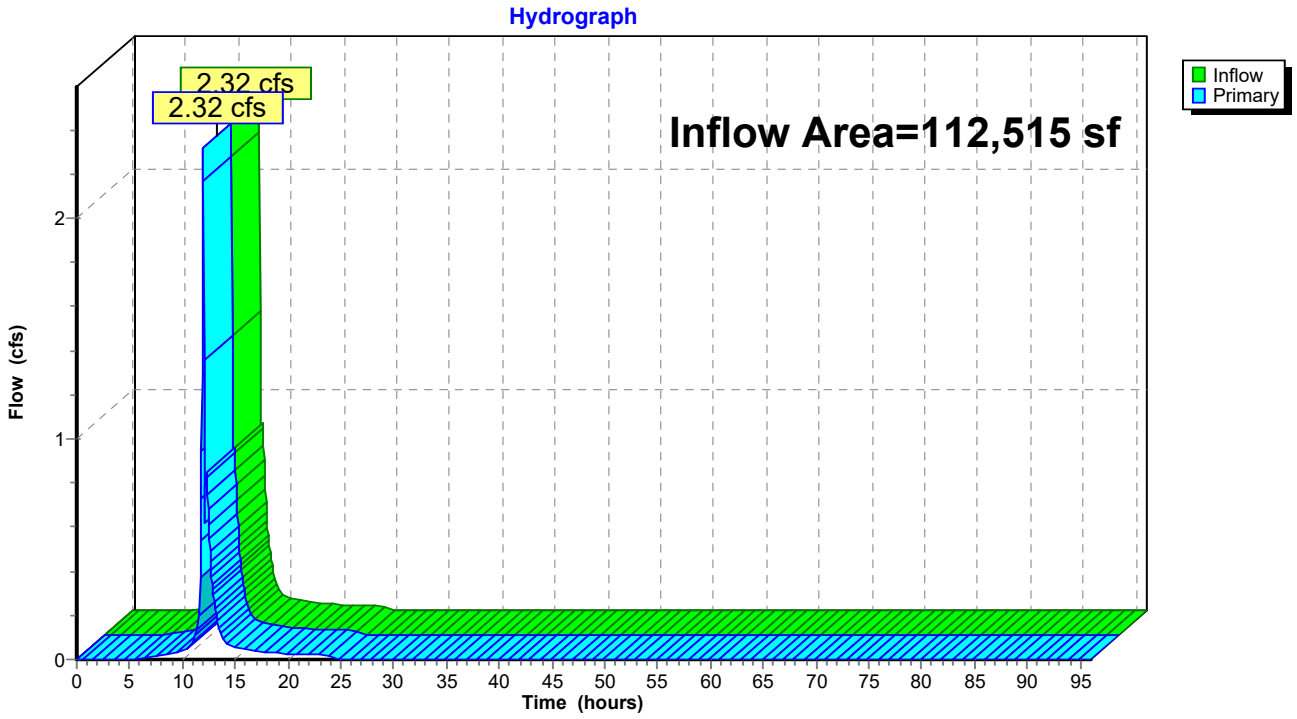
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
900.72	**5,993**	0
900.77	5,993	120
900.82	5,993	240
900.87	5,993	360
900.92	5,993	479
900.97	5,993	599
901.02	5,993	719
901.07	5,993	839
901.12	5,993	959
901.17	5,993	1,079
901.22	5,993	1,199
901.27	5,993	1,318
901.32	5,993	1,438
901.37	5,993	1,558
901.42	5,993	1,678
901.47	5,993	1,798
901.52	5,993	1,918
901.57	5,993	2,038
901.62	5,993	2,157
901.67	5,993	2,277
901.72	5,993	2,397
901.77	5,993	2,517
901.82	5,993	2,637
901.87	5,993	2,757
901.92	5,993	2,877
901.97	5,993	2,996
902.02	5,993	3,116
902.07	5,993	3,288
902.12	5,993	3,562
902.17	5,993	3,836
902.22	5,993	4,110
902.27	5,993	4,385
902.32	5,993	4,659
902.37	5,993	4,933
902.42	5,993	5,207
902.47	5,993	5,482
902.52	5,993	5,756
902.57	5,993	6,030
902.62	5,993	6,304
902.67	5,993	6,578
902.72	5,993	6,853
902.77	5,993	7,127
902.82	5,993	7,401
902.87	5,993	7,675
902.92	5,993	7,950
902.97	5,993	8,224
903.02	5,993	8,498
903.07	5,993	8,743
903.12	5,993	8,863
903.17	5,993	8,983
903.22	5,993	9,103
903.27	5,993	9,223
903.32	5,993	9,342
903.37	5,993	9,462
903.42	5,993	9,582
903.47	5,993	9,702
903.52	5,993	**9,822**

Summary for Link 1L: Combine SCM-1 and Post DA#1 Detained SCM-2

Inflow Area = 112,515 sf, 64.69% Impervious, Inflow Depth = 0.69" for 2 year event
Inflow = 2.32 cfs @ 11.97 hrs, Volume= 6,427 cf
Primary = 2.32 cfs @ 11.97 hrs, Volume= 6,427 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond 4P : SCM-2 Storm Brixx

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link 1L: Combine SCM-1 and Post DA#1 Detained SCM-2

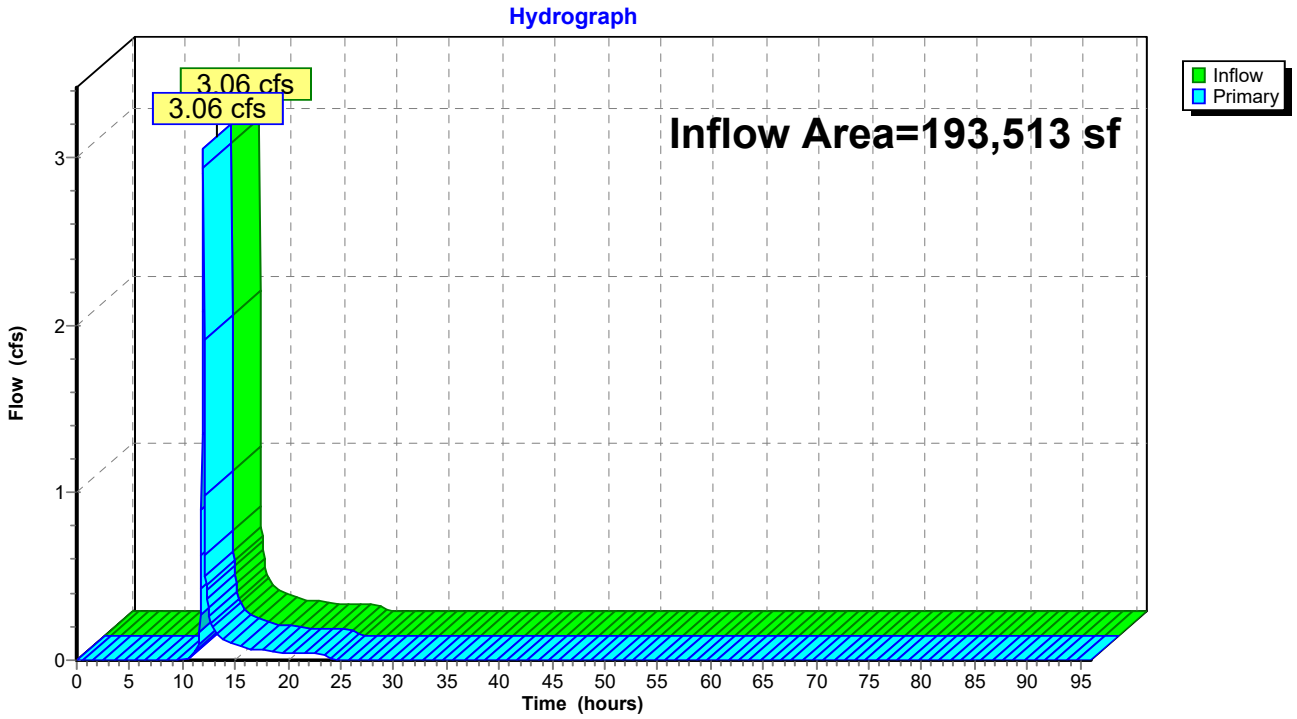


Summary for Link 2L: Combine Routed SCM-1, SCM-2, and Undetained

Inflow Area = 193,513 sf, 47.92% Impervious, Inflow Depth = 0.40" for 2 year event
Inflow = 3.06 cfs @ 11.98 hrs, Volume= 6,372 cf
Primary = 3.06 cfs @ 11.98 hrs, Volume= 6,372 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link 2L: Combine Routed SCM-1, SCM-2, and Undetained



Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Pre-DA#1 Runoff Area=4.444 ac 25.27% Impervious Runoff Depth=1.22"
Flow Length=869' Tc=16.7 min CN=81 Runoff=6.56 cfs 19,712 cf

Subcatchment2S: Post DA#1 Total Runoff Area=4.445 ac 47.92% Impervious Runoff Depth=1.71"
Tc=6.0 min CN=88 Runoff=12.94 cfs 27,622 cf

Subcatchment3S: Post DA#1 - Detained to Runoff Area=1.763 ac 59.50% Impervious Runoff Depth=1.79"
Flow Length=616' Tc=11.2 min CN=89 Runoff=4.55 cfs 11,466 cf

Subcatchment4S: Post DA#1 - Detained Runoff Area=0.820 ac 75.85% Impervious Runoff Depth=2.23"
Tc=6.0 min CN=94 Runoff=2.96 cfs 6,650 cf

Subcatchment5S: Post DA#1 - Undetained Runoff Area=80,998 sf 24.61% Impervious Runoff Depth=1.35"
Tc=6.0 min CN=83 Runoff=4.33 cfs 9,116 cf

Pond 3P: SCM-1 Storm Brixx Peak Elev=903.39' Storage=3,851 cf Inflow=4.55 cfs 11,466 cf
Discarded=0.18 cfs 8,222 cf Primary=2.13 cfs 3,245 cf Outflow=2.30 cfs 11,466 cf

Pond 4P: SCM-2 Storm Brixx Peak Elev=902.41' Storage=5,153 cf Inflow=2.96 cfs 9,895 cf
Discarded=0.28 cfs 9,895 cf Primary=0.00 cfs 0 cf Outflow=0.28 cfs 9,895 cf

Link 1L: Combine SCM-1 and Post DA#1 Detained SCM-2 Inflow=2.96 cfs 9,895 cf
Primary=2.96 cfs 9,895 cf

Link 2L: Combine Routed SCM-1, SCM-2, and Undetained Inflow=4.33 cfs 9,116 cf
Primary=4.33 cfs 9,116 cf

Total Runoff Area = 580,718 sf Runoff Volume = 74,567 cf Average Runoff Depth = 1.54"
59.63% Pervious = 346,295 sf 40.37% Impervious = 234,423 sf

Summary for Subcatchment 1S: Pre-DA #1

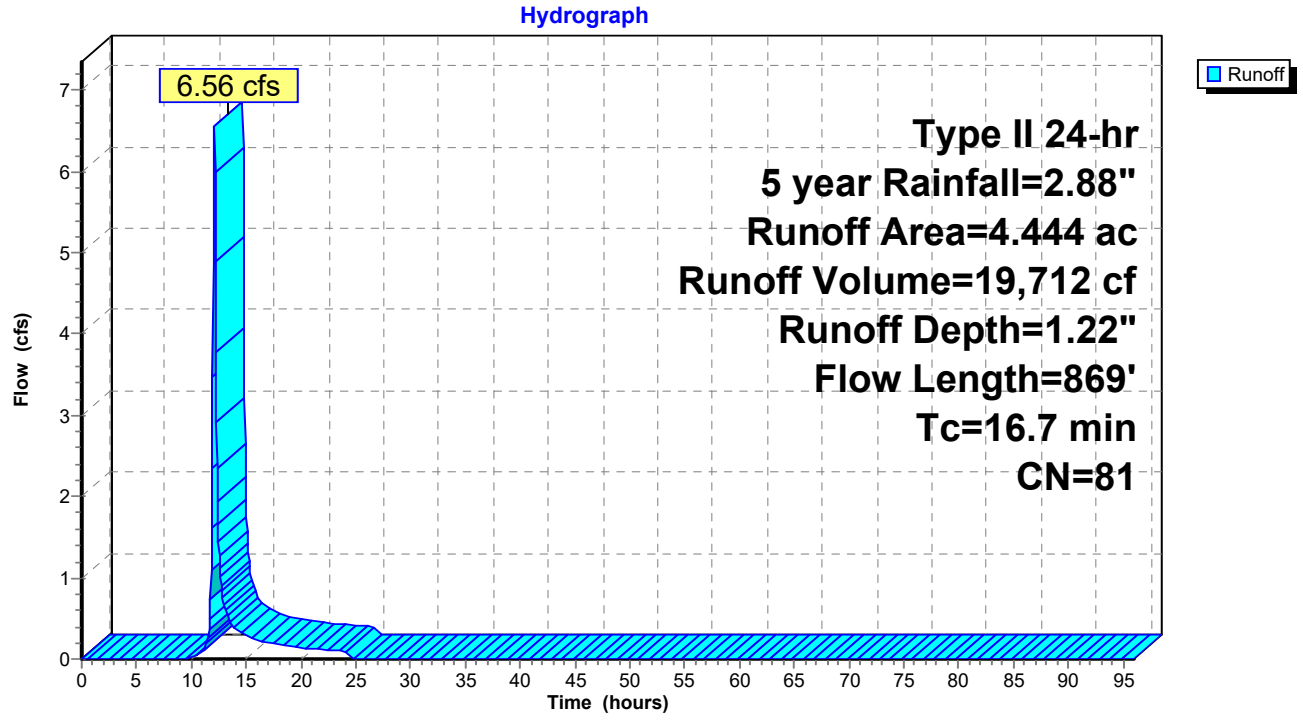
Runoff = 6.56 cfs @ 12.10 hrs, Volume= 19,712 cf, Depth= 1.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 5 year Rainfall=2.88"

Area (ac)	CN	Description
0.328	70	Woods, Good, HSG C
0.691	71	Meadow, non-grazed, HSG C
2.021	78	Meadow, non-grazed, HSG D
0.087	98	Paved parking, HSG C
1.036	98	Paved parking, HSG D
0.022	71	Meadow, non-grazed, HSG C
0.259	78	Meadow, non-grazed, HSG D
4.444	81	Weighted Average
3.321		74.73% Pervious Area
1.123		25.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.7	100	0.2800	0.19		**Sheet Flow, Sheet** Woods: Light underbrush n= 0.400 P2= 2.35"
8.0	769	0.0100	1.61		**Shallow Concentrated Flow, Shallow Conc** Unpaved Kv= 16.1 fps
16.7	869	Total			

Subcatchment 1S: Pre-DA #1



Summary for Subcatchment 2S: Post DA #1 Total

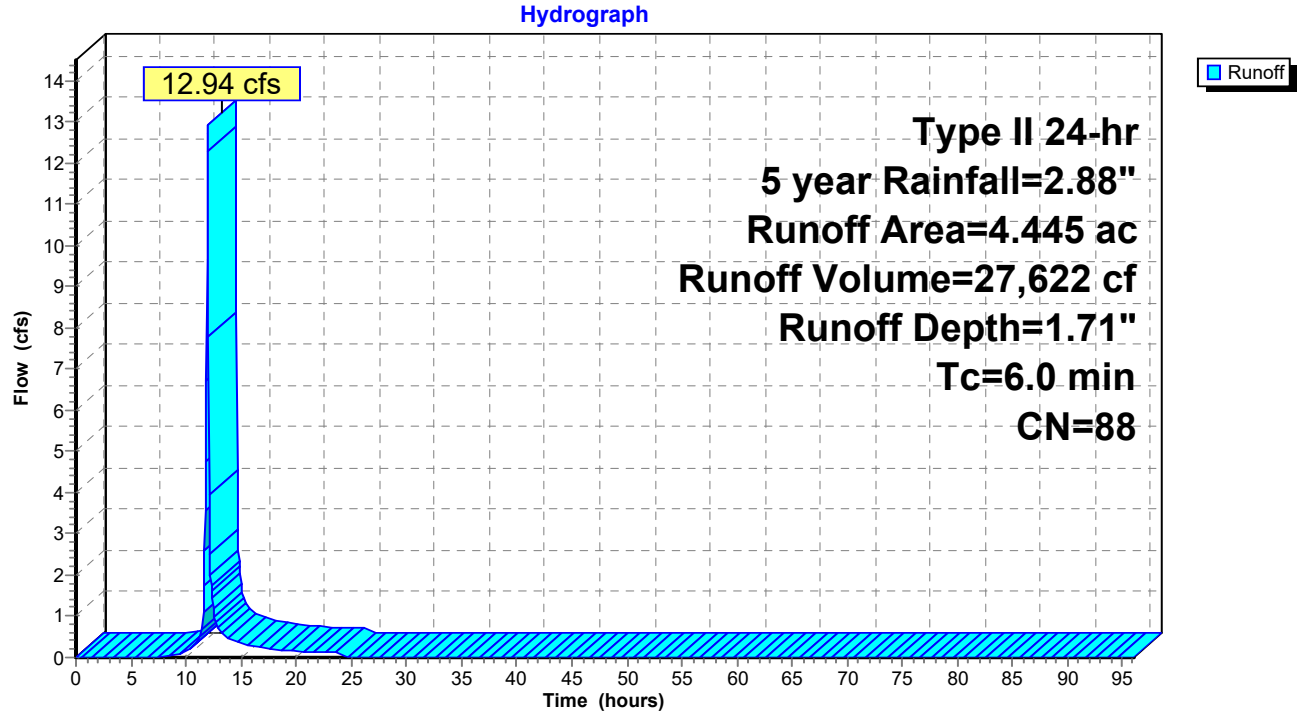
Runoff = 12.94 cfs @ 11.97 hrs, Volume= 27,622 cf, Depth= 1.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 5 year Rainfall=2.88"

Area (ac)	CN	Description
0.333	77	Woods, Poor, HSG C
0.108	71	Meadow, non-grazed, HSG C
0.427	74	>75% Grass cover, Good, HSG C
1.447	80	>75% Grass cover, Good, HSG D
0.266	98	Paved roads w/curbs & sewers, HSG C
1.864	98	Paved roads w/curbs & sewers, HSG D
4.445	88	Weighted Average
2.315		52.08% Pervious Area
2.130		47.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: Post DA #1 Total



Summary for Subcatchment 3S: Post DA #1 - Detained to SCM-1

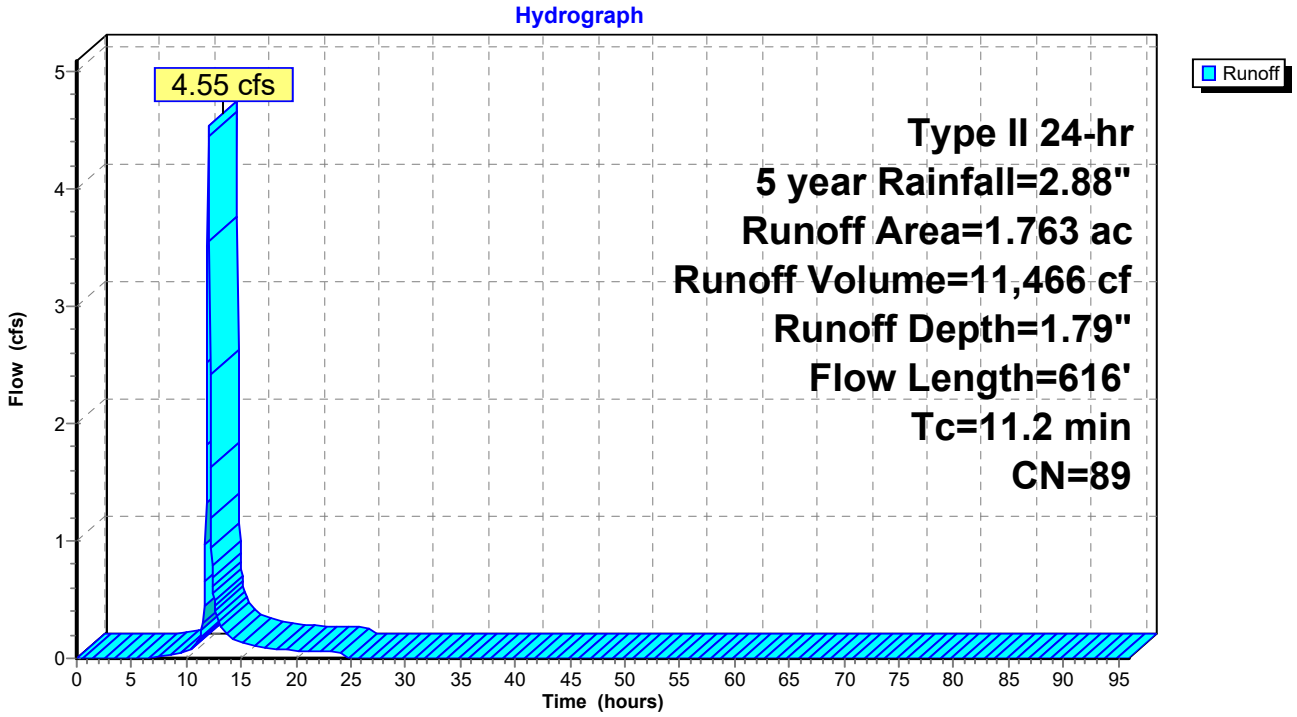
Runoff = 4.55 cfs @ 12.03 hrs, Volume= 11,466 cf, Depth= 1.79"
Routed to Pond 3P : SCM-1 Storm Brixx

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 5 year Rainfall=2.88"

Area (ac)	CN	Description
0.133	70	Woods, Good, HSG C
0.019	71	Meadow, non-grazed, HSG C
0.272	74	>75% Grass cover, Good, HSG C
0.290	80	>75% Grass cover, Good, HSG D
0.194	98	Paved roads w/curbs & sewers, HSG C
0.855	98	Paved roads w/curbs & sewers, HSG D
1.763	89	Weighted Average
0.714		40.50% Pervious Area
1.049		59.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	98	0.2400	0.18		**Sheet Flow, Sheet** Woods: Light underbrush n= 0.400 P2= 2.35"
0.7	164	0.0040	3.73	2.93	**Pipe Channel, 12" Pipe** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
1.4	354	0.0040	4.33	5.31	**Pipe Channel, 15" Pipe** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
11.2	616	Total			

Subcatchment 3S: Post DA #1 - Detained to SCM-1



Summary for Subcatchment 4S: Post DA #1 - Detained SCM-2

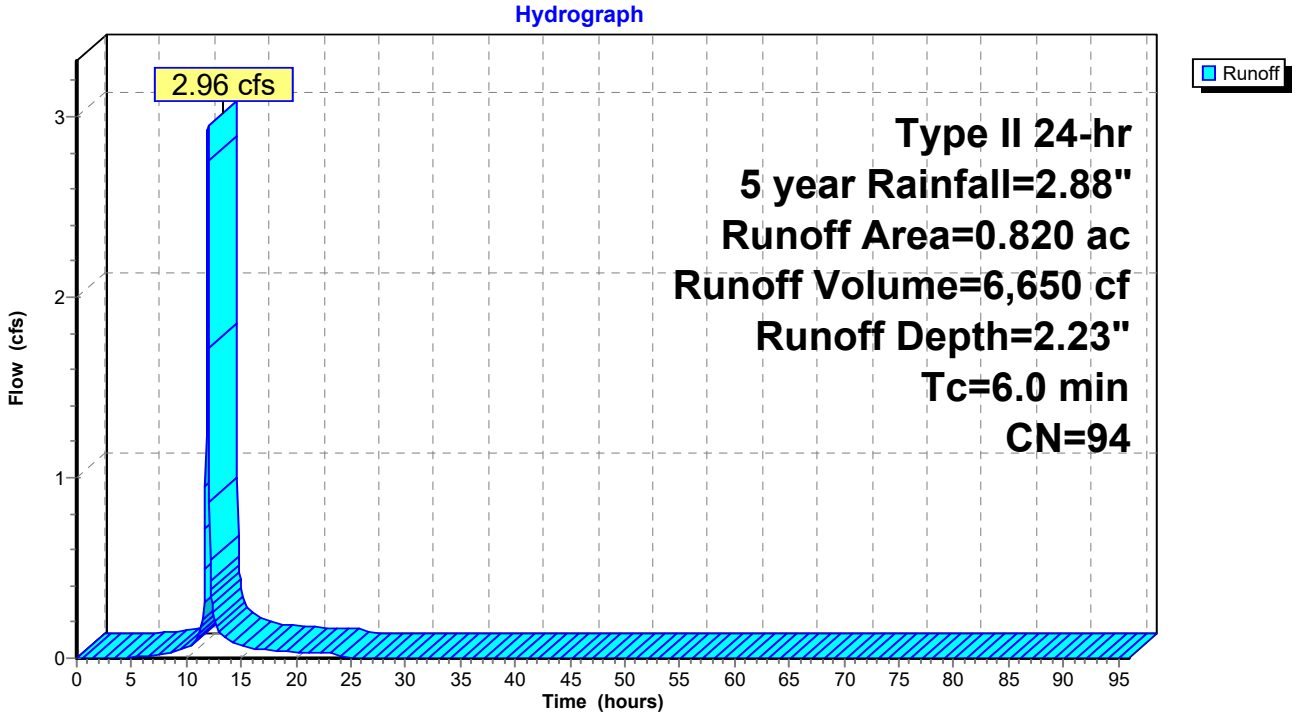
Runoff = 2.96 cfs @ 11.96 hrs, Volume= 6,650 cf, Depth= 2.23"
Routed to Link 1L : Combine SCM-1 and Post DA#1 Detained SCM-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 5 year Rainfall=2.88"

Area (ac)	CN	Description
0.198	80	>75% Grass cover, Good, HSG D
0.622	98	Paved roads w/curbs & sewers, HSG C
0.820	94	Weighted Average
0.198		24.15% Pervious Area
0.622		75.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: Post DA #1 - Detained SCM-2



Summary for Subcatchment 5S: Post DA #1 - Undetained

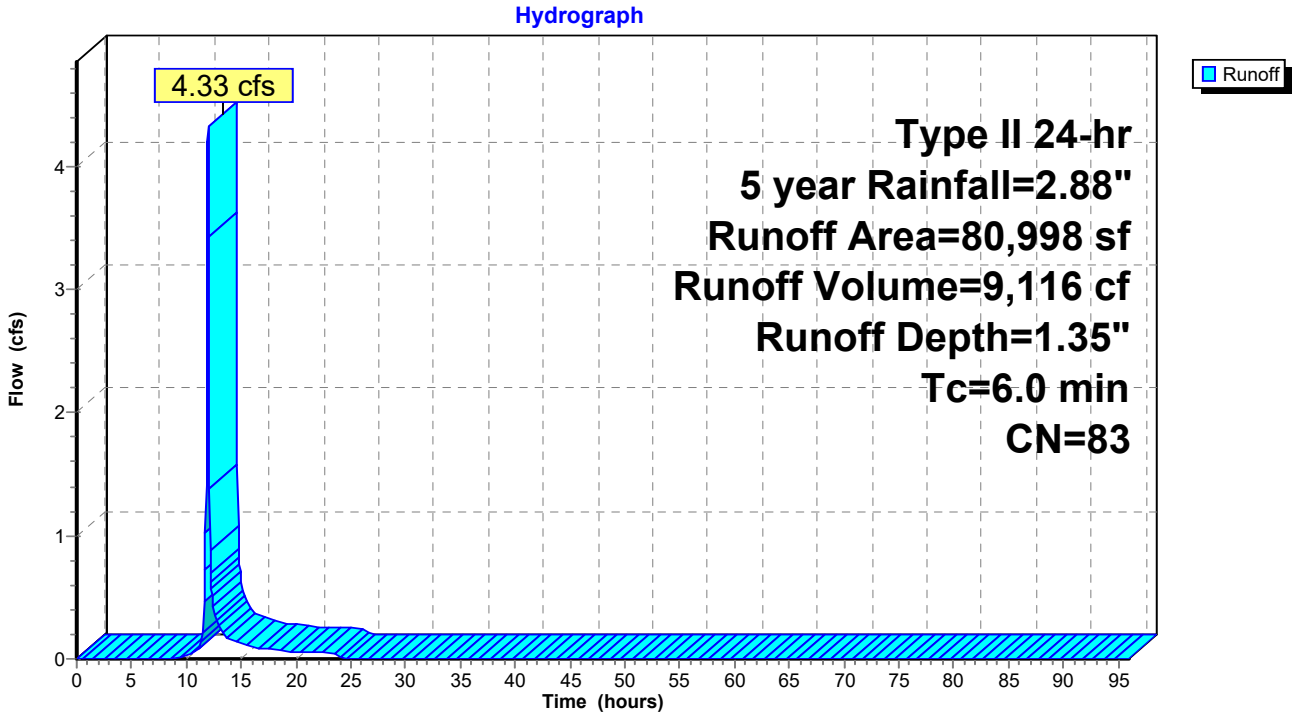
Runoff = 4.33 cfs @ 11.97 hrs, Volume= 9,116 cf, Depth= 1.35"
Routed to Link 2L : Combine Routed SCM-1, SCM-2, and Undetained

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 5 year Rainfall=2.88"

Area (sf)	CN	Description
8,685	77	Woods, Good, HSG D
3,848	71	Meadow, non-grazed, HSG C
6,756	74	>75% Grass cover, Good, HSG C
3,097	98	Paved roads w/curbs & sewers, HSG D
41,775	80	>75% Grass cover, Good, HSG D
16,837	98	Paved roads w/curbs & sewers, HSG D
80,998	83	Weighted Average
61,064		75.39% Pervious Area
19,934		24.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: Post DA #1 - Undetained



Summary for Pond 3P: SCM-1 Storm Brixx

Inflow Area = 76,796 sf, 59.50% Impervious, Inflow Depth = 1.79" for 5 year event
Inflow = 4.55 cfs @ 12.03 hrs, Volume= 11,466 cf
Outflow = 2.30 cfs @ 12.17 hrs, Volume= 11,466 cf, Atten= 49%, Lag= 8.3 min
Discarded = 0.18 cfs @ 12.17 hrs, Volume= 8,222 cf
Primary = 2.13 cfs @ 12.17 hrs, Volume= 3,245 cf
Routed to Link 1L : Combine SCM-1 and Post DA#1 Detained SCM-2

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 903.39' @ 12.17 hrs Surf.Area= 3,294 sf Storage= 3,851 cf

Plug-Flow detention time= 119.0 min calculated for 11,460 cf (100% of inflow)
Center-of-Mass det. time= 119.0 min (936.1 - 817.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	901.36'	2,480 cf	**42.61'W x 77.30'L x 2.84'H Stone Bedding** 9,357 cf Overall - 3,156 cf Embedded = 6,201 cf x 40.0% Voids
#2A	902.69'	2,967 cf	**ACO StormBrixx 300 HD 1** x 399 Inside #1 Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf 399 Chambers in 21 Rows
		5,447 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	901.36'	**2.000 in/hr Infiltration over Wetted area**
#2	Primary	901.69'	**24.0" Round Outlet Pipe** L= 8.9' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 901.69' / 901.35' S= 0.0382 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#3	Device 2	903.03'	**30.0" W x 2.0" H Vert. Lowest Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 2	903.20'	**48.0" W x 2.0" H Vert. Middle Orifice** C= 0.600 Limited to weir flow at low heads
#5	Device 2	903.36'	**54.0" W x 4.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#6	Device 2	903.69'	**5.0' long Weir Plate** Head (feet) 0.50 Coef. (English) 3.33

Discarded OutFlow Max=0.17 cfs @ 12.17 hrs HW=903.38' (Free Discharge)
└**1=Infiltration** (Exfiltration Controls 0.17 cfs)

Primary OutFlow Max=2.04 cfs @ 12.17 hrs HW=903.38' (Free Discharge)
└**2=Outlet Pipe** (Passes 2.04 cfs of 9.90 cfs potential flow)
├**3=Lowest Orifice** (Orifice Controls 1.03 cfs @ 2.48 fps)
├**4=Middle Orifice** (Orifice Controls 0.97 cfs @ 1.45 fps)
├**5=Upper Orifice** (Orifice Controls 0.04 cfs @ 0.47 fps)
└**6=Weir Plate** (Controls 0.00 cfs)

Pond 3P: SCM-1 Storm Brixx - Chamber Wizard Stone Bedding

Chamber Model = ACO StormBrixx 300 HD 1 (ACO StormBrixx® 300 HD)
Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf
Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf

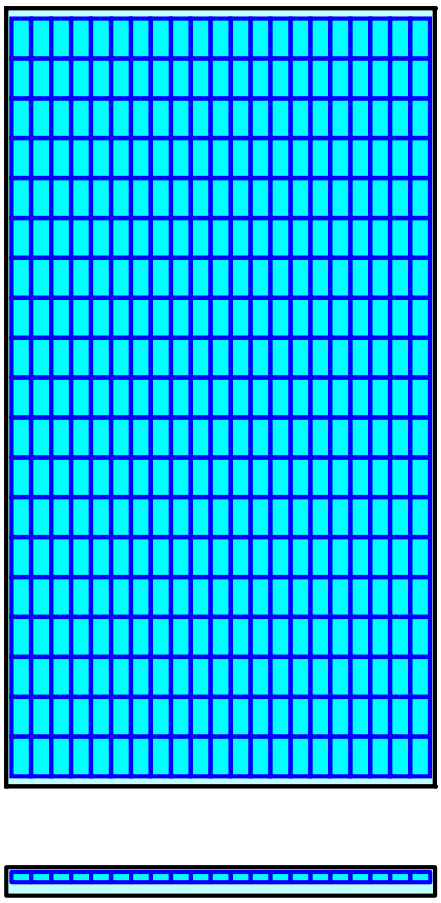
19 Chambers/Row x 3.96' Long = 75.30' Row Length +12.0" End Stone x 2 = 77.30' Base Length
21 Rows x 23.8" Wide + 6.0" Side Stone x 2 = 42.61' Base Width
16.0" Stone Base + 12.1" Chamber Height + 6.0" Stone Cover = 2.84' Field Height

399 Chambers x 7.4 cf = 2,966.9 cf Chamber Storage
399 Chambers x 7.9 cf = 3,156.2 cf Displacement

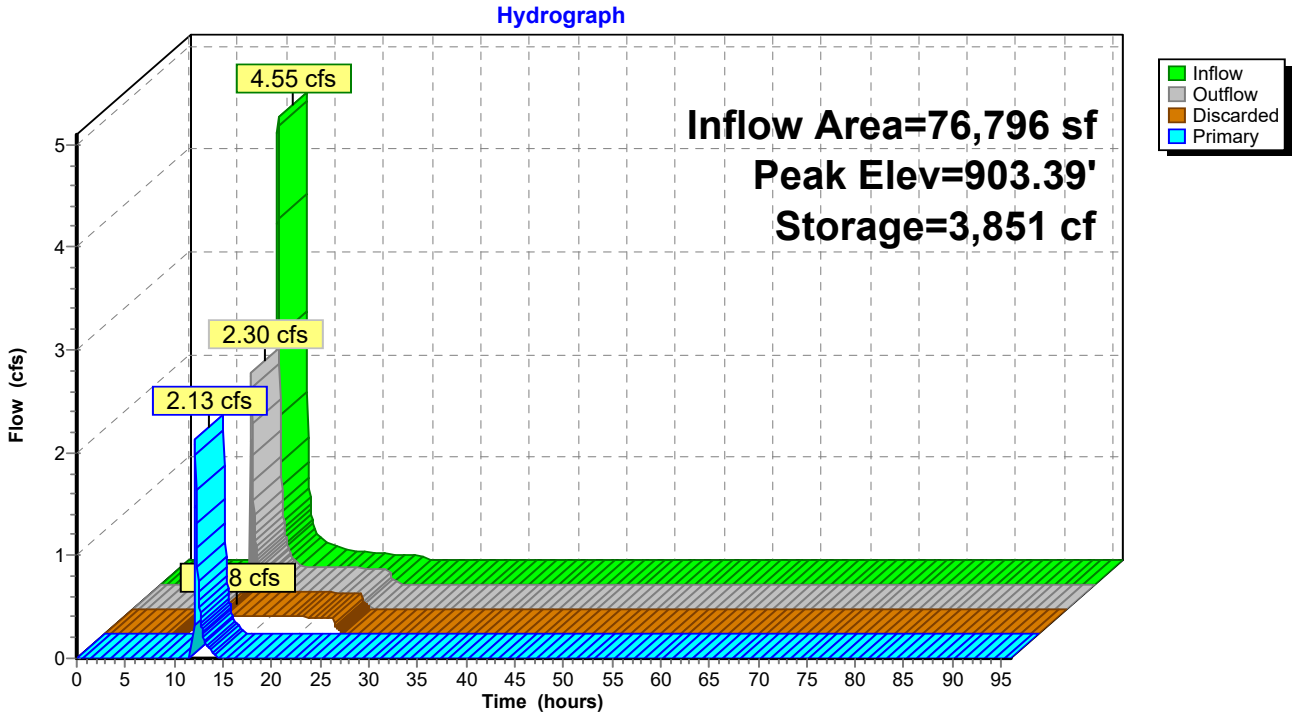
9,357.2 cf Field - 3,156.2 cf Chambers = 6,201.0 cf Stone x 40.0% Voids = 2,480.4 cf Stone Storage

Chamber Storage + Stone Storage = 5,447.3 cf = 0.125 af
Overall Storage Efficiency = 58.2%
Overall System Size = 77.30' x 42.61' x 2.84'

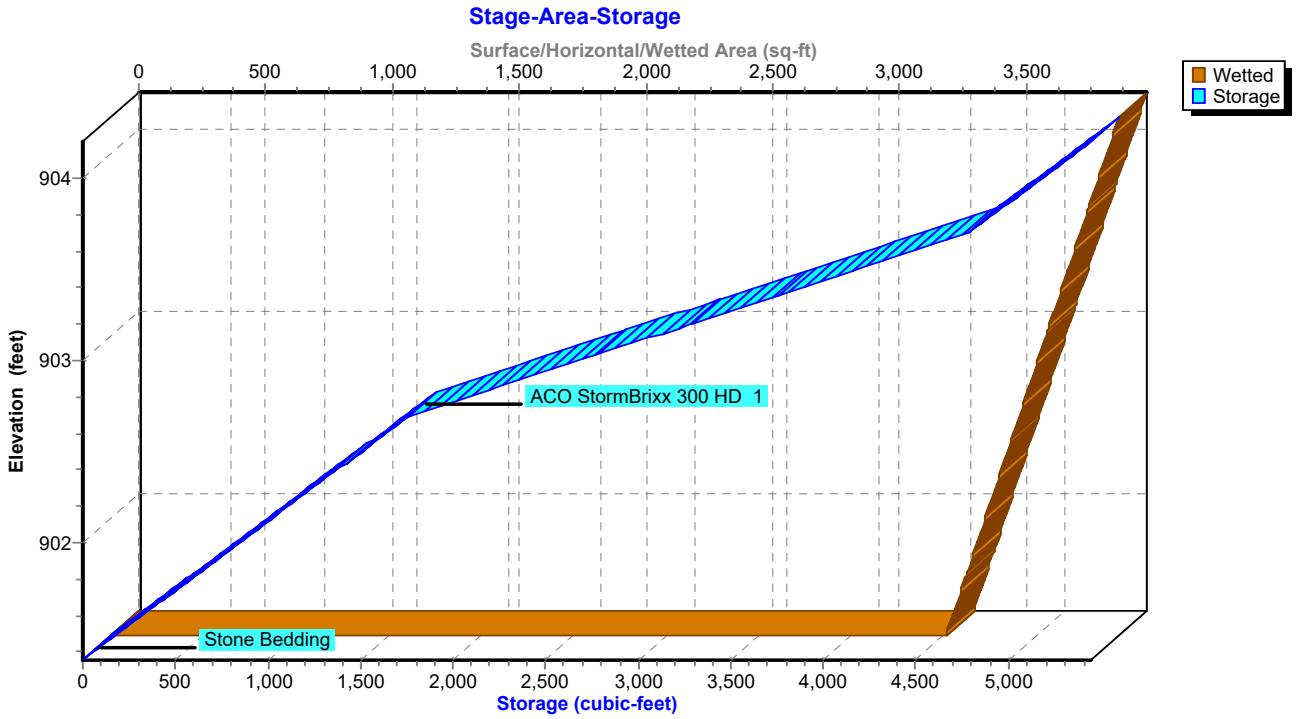
399 Chambers
346.6 cy Field
229.7 cy Stone



Pond 3P: SCM-1 Storm Brixx



Pond 3P: SCM-1 Storm Brixx



Stage-Area-Storage for Pond 3P: SCM-1 Storm Brixx

Elevation (feet)	Wetted (sq-ft)	Storage (cubic-feet)
901.36	3,294	0
901.41	3,306	66
901.46	3,318	132
901.51	3,330	198
901.56	3,342	264
901.61	3,354	329
901.66	3,366	395
901.71	3,378	461
901.76	3,390	527
901.81	3,402	593
901.86	3,414	659
901.91	3,426	725
901.96	3,438	791
902.01	3,450	856
902.06	3,462	922
902.11	3,474	988
902.16	3,486	1,054
902.21	3,498	1,120
902.26	3,510	1,186
902.31	3,522	1,252
902.36	3,534	1,318
902.41	3,546	1,384
902.46	3,558	1,449
902.51	3,570	1,515
902.56	3,582	1,581
902.61	3,594	1,647
902.66	3,606	1,713
902.71	3,618	1,807
902.76	3,630	1,958
902.81	3,642	2,108
902.86	3,654	2,259
902.91	3,666	2,409
902.96	3,678	2,560
903.01	3,690	2,710
903.06	3,702	2,860
903.11	3,714	3,011
903.16	3,726	3,161
903.21	3,738	3,312
903.26	3,750	3,462
903.31	3,762	3,613
903.36	3,774	3,763
903.41	3,786	3,914
903.46	3,798	4,064
903.51	3,810	4,215
903.56	3,822	4,365
903.61	3,834	4,516
903.66	3,846	4,666
903.71	3,858	4,801
903.76	3,870	4,867
903.81	3,882	4,933
903.86	3,894	4,999
903.91	3,906	5,064
903.96	3,918	5,130
904.01	3,930	5,196
904.06	3,942	5,262
904.11	3,954	5,328
904.16	**3,966**	**5,394**

Summary for Pond 4P: SCM-2 Storm Brixx

Inflow Area = 112,515 sf, 64.69% Impervious, Inflow Depth = 1.06" for 5 year event
Inflow = 2.96 cfs @ 11.96 hrs, Volume= 9,895 cf
Outflow = 0.28 cfs @ 11.65 hrs, Volume= 9,895 cf, Atten= 91%, Lag= 0.0 min
Discarded = 0.28 cfs @ 11.65 hrs, Volume= 9,895 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 2L : Combine Routed SCM-1, SCM-2, and Undetained

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 902.41' @ 13.23 hrs Surf.Area= 5,993 sf Storage= 5,153 cf

Plug-Flow detention time= 153.7 min calculated for 9,890 cf (100% of inflow)
Center-of-Mass det. time= 153.6 min (929.0 - 775.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	900.72'	4,506 cf	**26.76'W x 223.94'L x 2.84'H Field A** 17,023 cf Overall - 5,759 cf Embedded = 11,265 cf x 40.0% Voids
#2A	902.05'	5,413 cf	**ACO StormBrixx 300 HD 1** x 728 Inside #1 Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf 728 Chambers in 13 Rows
		9,919 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	900.72'	**2.000 in/hr Exfiltration over Surface area**
#2	Primary	901.05'	**24.0" Round Outlet Pipe** L= 31.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 901.05' / 900.92' S= 0.0041 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf
#3	Device 2	902.82'	**24.0" W x 2.0" H Vert. Lowest Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 2	902.98'	**24.0" W x 2.0" H Vert. Middle Orifice** C= 0.600 Limited to weir flow at low heads
#5	Device 2	903.14'	**48.0" W x 4.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#6	Device 2	903.47'	**5.0' long Weir** 2 End Contraction(s) 0.5' Crest Height

Discarded OutFlow Max=0.28 cfs @ 11.65 hrs HW=900.76' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.28 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=900.72' (Free Discharge)
└**2=Outlet Pipe** (Controls 0.00 cfs)
  ├**3=Lowest Orifice** (Controls 0.00 cfs)
  ├**4=Middle Orifice** (Controls 0.00 cfs)
  ├**5=Upper Orifice** (Controls 0.00 cfs)
  └**6=Weir** (Controls 0.00 cfs)

Pond 4P: SCM-2 Storm Brixx - Chamber Wizard Field A

Chamber Model = ACO StormBrixx 300 HD 1 (ACO StormBrixx® 300 HD)
Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf
Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf

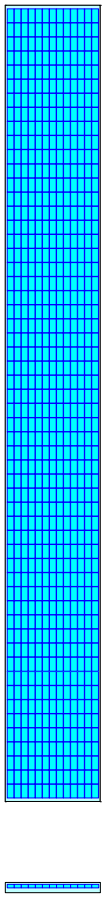
56 Chambers/Row x 3.96' Long = 221.94' Row Length +12.0" End Stone x 2 = 223.94' Base Length
13 Rows x 23.8" Wide + 6.0" Side Stone x 2 = 26.76' Base Width
16.0" Stone Base + 12.1" Chamber Height + 6.0" Stone Cover = 2.84' Field Height

728 Chambers x 7.4 cf = 5,413.2 cf Chamber Storage
728 Chambers x 7.9 cf = 5,758.8 cf Displacement

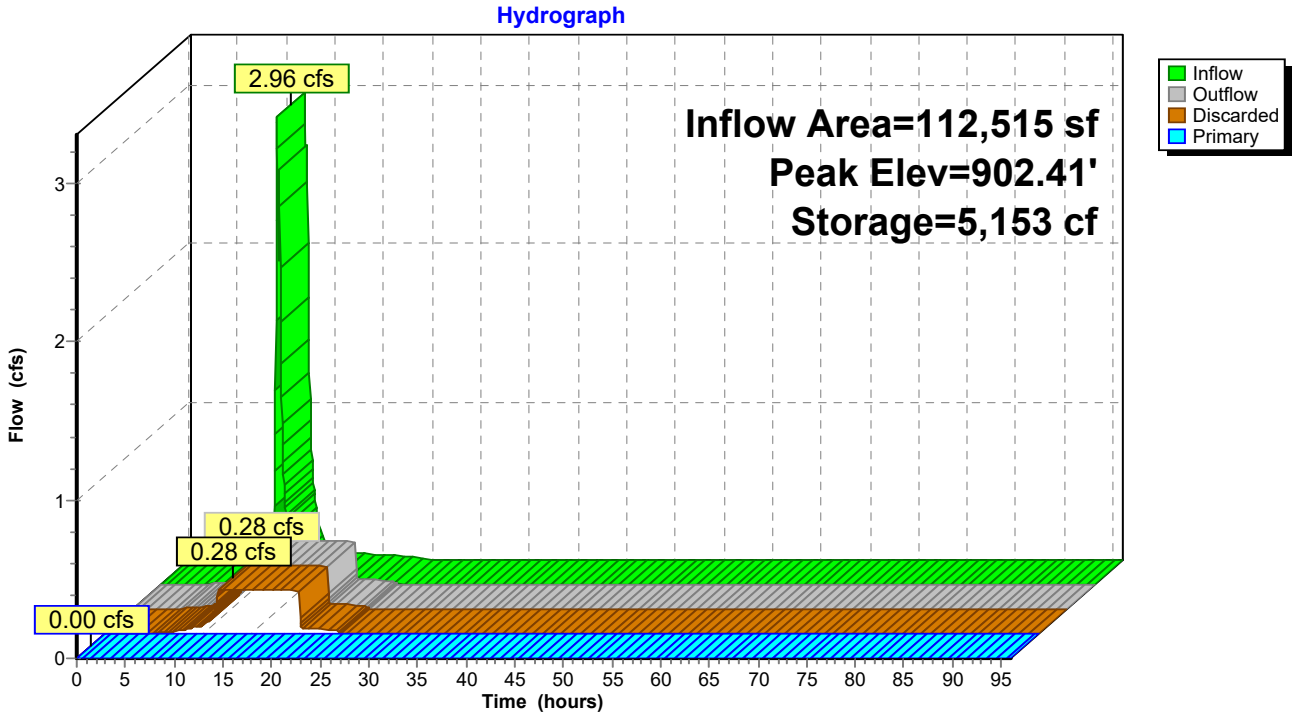
17,023.3 cf Field - 5,758.8 cf Chambers = 11,264.5 cf Stone x 40.0% Voids = 4,505.8 cf Stone Storage

Chamber Storage + Stone Storage = 9,919.0 cf = 0.228 af
Overall Storage Efficiency = 58.3%
Overall System Size = 223.94' x 26.76' x 2.84'

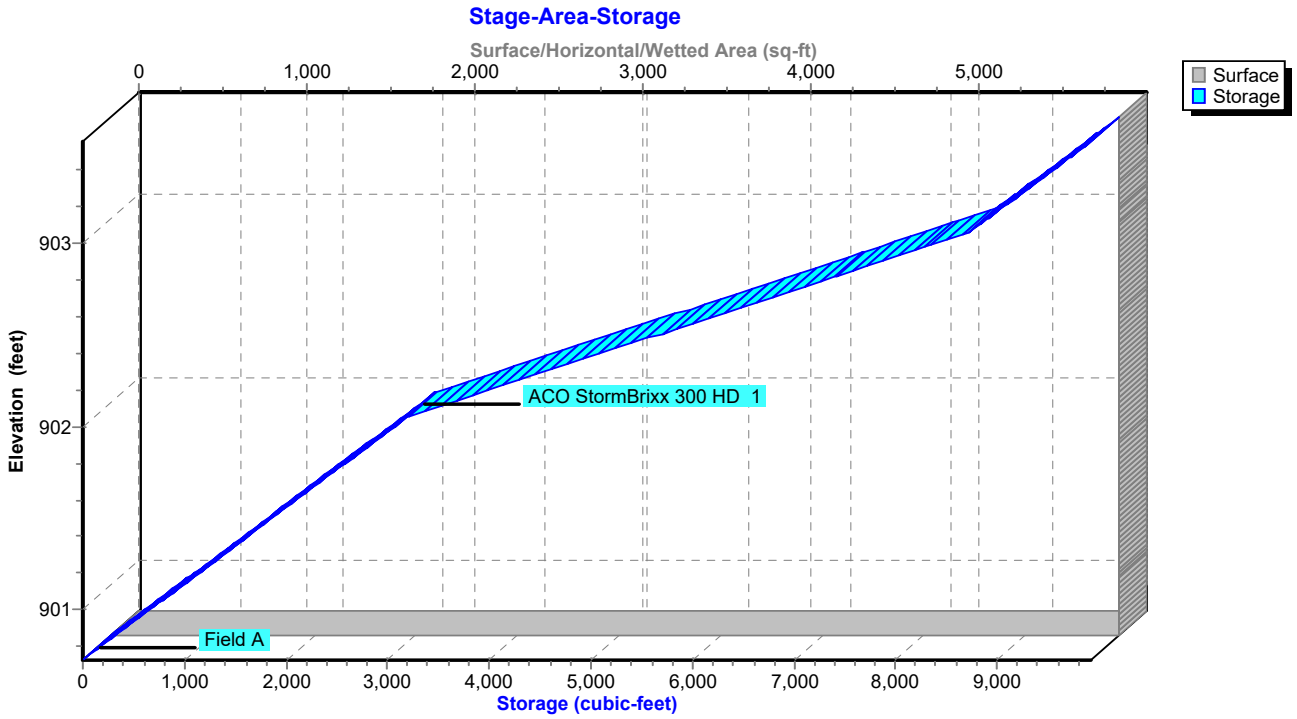
728 Chambers
630.5 cy Field
417.2 cy Stone



Pond 4P: SCM-2 Storm Brixx



Pond 4P: SCM-2 Storm Brixx



Stage-Area-Storage for Pond 4P: SCM-2 Storm Brixx

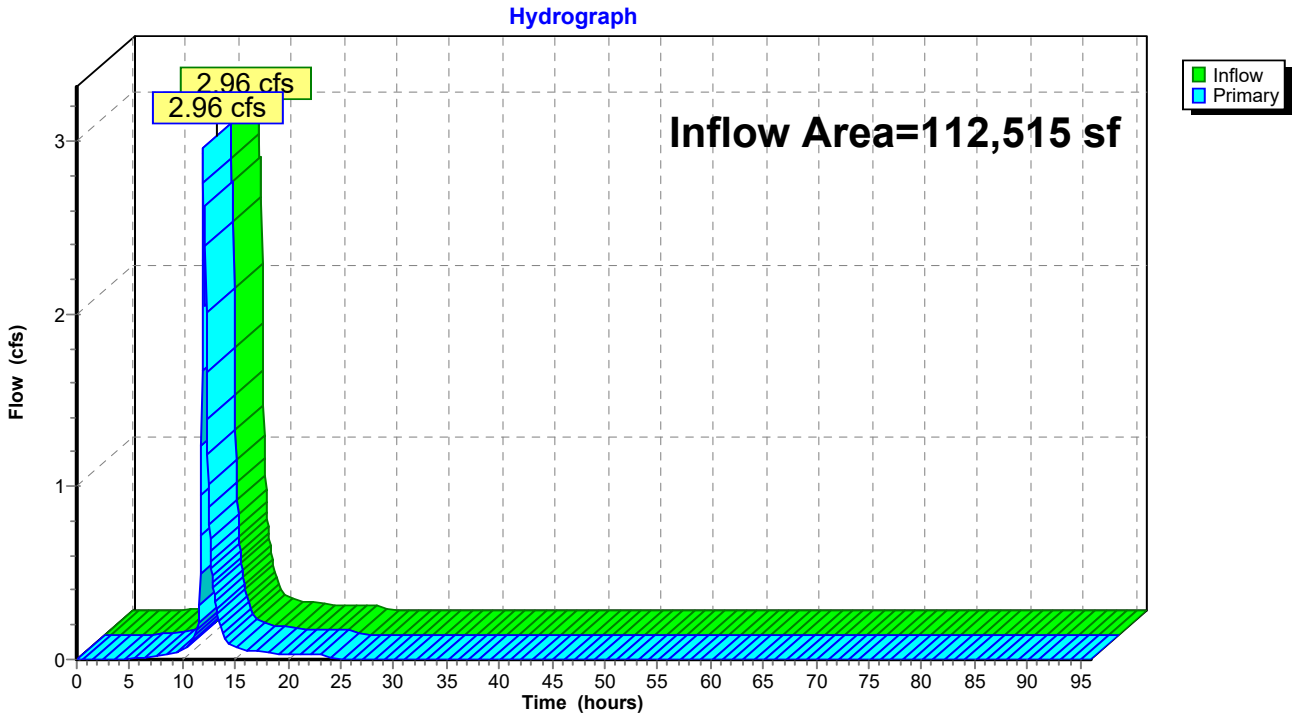
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
900.72	**5,993**	0
900.77	5,993	120
900.82	5,993	240
900.87	5,993	360
900.92	5,993	479
900.97	5,993	599
901.02	5,993	719
901.07	5,993	839
901.12	5,993	959
901.17	5,993	1,079
901.22	5,993	1,199
901.27	5,993	1,318
901.32	5,993	1,438
901.37	5,993	1,558
901.42	5,993	1,678
901.47	5,993	1,798
901.52	5,993	1,918
901.57	5,993	2,038
901.62	5,993	2,157
901.67	5,993	2,277
901.72	5,993	2,397
901.77	5,993	2,517
901.82	5,993	2,637
901.87	5,993	2,757
901.92	5,993	2,877
901.97	5,993	2,996
902.02	5,993	3,116
902.07	5,993	3,288
902.12	5,993	3,562
902.17	5,993	3,836
902.22	5,993	4,110
902.27	5,993	4,385
902.32	5,993	4,659
902.37	5,993	4,933
902.42	5,993	5,207
902.47	5,993	5,482
902.52	5,993	5,756
902.57	5,993	6,030
902.62	5,993	6,304
902.67	5,993	6,578
902.72	5,993	6,853
902.77	5,993	7,127
902.82	5,993	7,401
902.87	5,993	7,675
902.92	5,993	7,950
902.97	5,993	8,224
903.02	5,993	8,498
903.07	5,993	8,743
903.12	5,993	8,863
903.17	5,993	8,983
903.22	5,993	9,103
903.27	5,993	9,223
903.32	5,993	9,342
903.37	5,993	9,462
903.42	5,993	9,582
903.47	5,993	9,702
903.52	5,993	**9,822**

Summary for Link 1L: Combine SCM-1 and Post DA#1 Detained SCM-2

Inflow Area = 112,515 sf, 64.69% Impervious, Inflow Depth = 1.06" for 5 year event
Inflow = 2.96 cfs @ 11.96 hrs, Volume= 9,895 cf
Primary = 2.96 cfs @ 11.96 hrs, Volume= 9,895 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond 4P : SCM-2 Storm Brixx

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link 1L: Combine SCM-1 and Post DA#1 Detained SCM-2

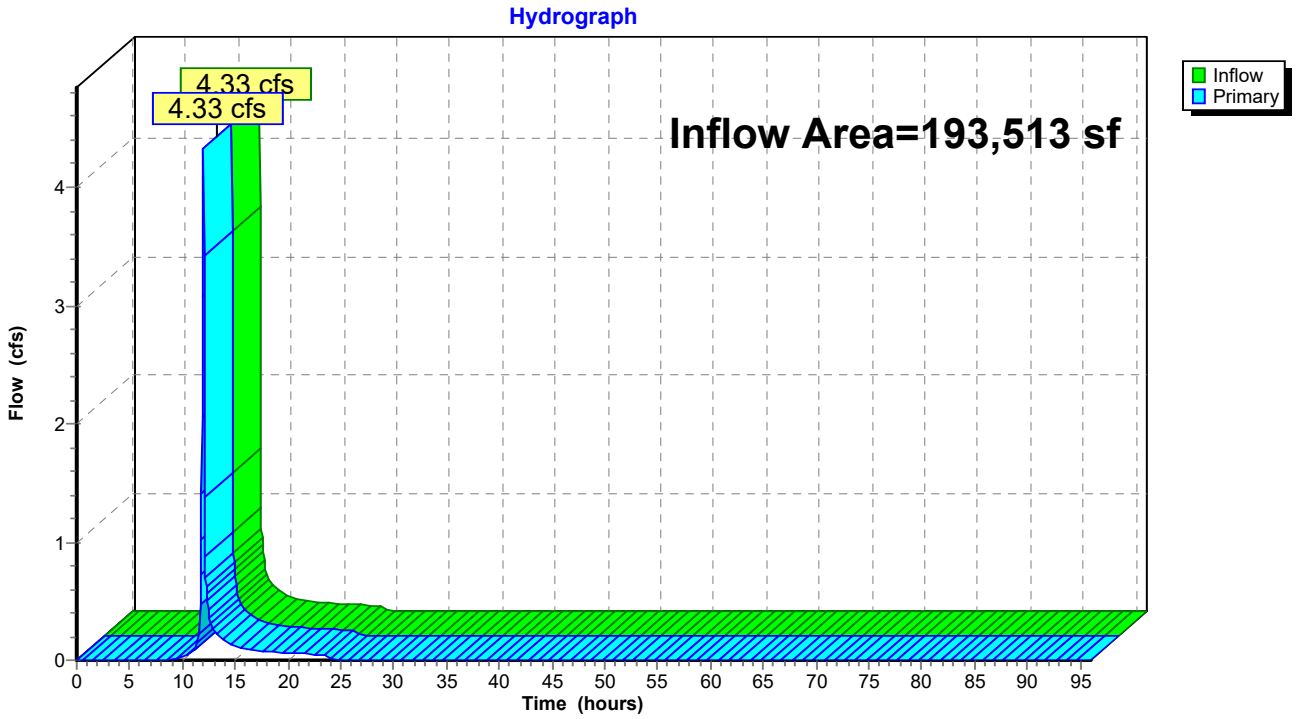


Summary for Link 2L: Combine Routed SCM-1, SCM-2, and Undetained

Inflow Area = 193,513 sf, 47.92% Impervious, Inflow Depth = 0.57" for 5 year event
Inflow = 4.33 cfs @ 11.97 hrs, Volume= 9,116 cf
Primary = 4.33 cfs @ 11.97 hrs, Volume= 9,116 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link 2L: Combine Routed SCM-1, SCM-2, and Undetained



Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Pre-DA#1 Runoff Area=4.444 ac 25.27% Impervious Runoff Depth=1.55"
Flow Length=869' Tc=16.7 min CN=81 Runoff=8.37 cfs 24,973 cf

Subcatchment2S: Post DA#1 Total Runoff Area=4.445 ac 47.92% Impervious Runoff Depth=2.09"
Tc=6.0 min CN=88 Runoff=15.66 cfs 33,677 cf

Subcatchment3S: Post DA#1 - Detained to Runoff Area=1.763 ac 59.50% Impervious Runoff Depth=2.17"
Flow Length=616' Tc=11.2 min CN=89 Runoff=5.48 cfs 13,907 cf

Subcatchment4S: Post DA#1 - Detained Runoff Area=0.820 ac 75.85% Impervious Runoff Depth=2.64"
Tc=6.0 min CN=94 Runoff=3.46 cfs 7,861 cf

Subcatchment5S: Post DA#1 - Undetained Runoff Area=80,998 sf 24.61% Impervious Runoff Depth=1.69"
Tc=6.0 min CN=83 Runoff=5.41 cfs 11,418 cf

Pond 3P: SCM-1 Storm Brixx Peak Elev=903.50' Storage=4,177 cf Inflow=5.48 cfs 13,907 cf
Discarded=0.18 cfs 8,967 cf Primary=3.45 cfs 4,940 cf Outflow=3.62 cfs 13,907 cf

Pond 4P: SCM-2 Storm Brixx Peak Elev=902.81' Storage=7,329 cf Inflow=4.36 cfs 12,801 cf
Discarded=0.28 cfs 12,801 cf Primary=0.00 cfs 0 cf Outflow=0.28 cfs 12,801 cf

Link 1L: Combine SCM-1 and Post DA#1 Detained SCM-2 Inflow=4.36 cfs 12,801 cf
Primary=4.36 cfs 12,801 cf

Link 2L: Combine Routed SCM-1, SCM-2, and Undetained Inflow=5.41 cfs 11,418 cf
Primary=5.41 cfs 11,418 cf

Total Runoff Area = 580,718 sf Runoff Volume = 91,836 cf Average Runoff Depth = 1.90"
59.63% Pervious = 346,295 sf 40.37% Impervious = 234,423 sf

Summary for Subcatchment 1S: Pre-DA #1

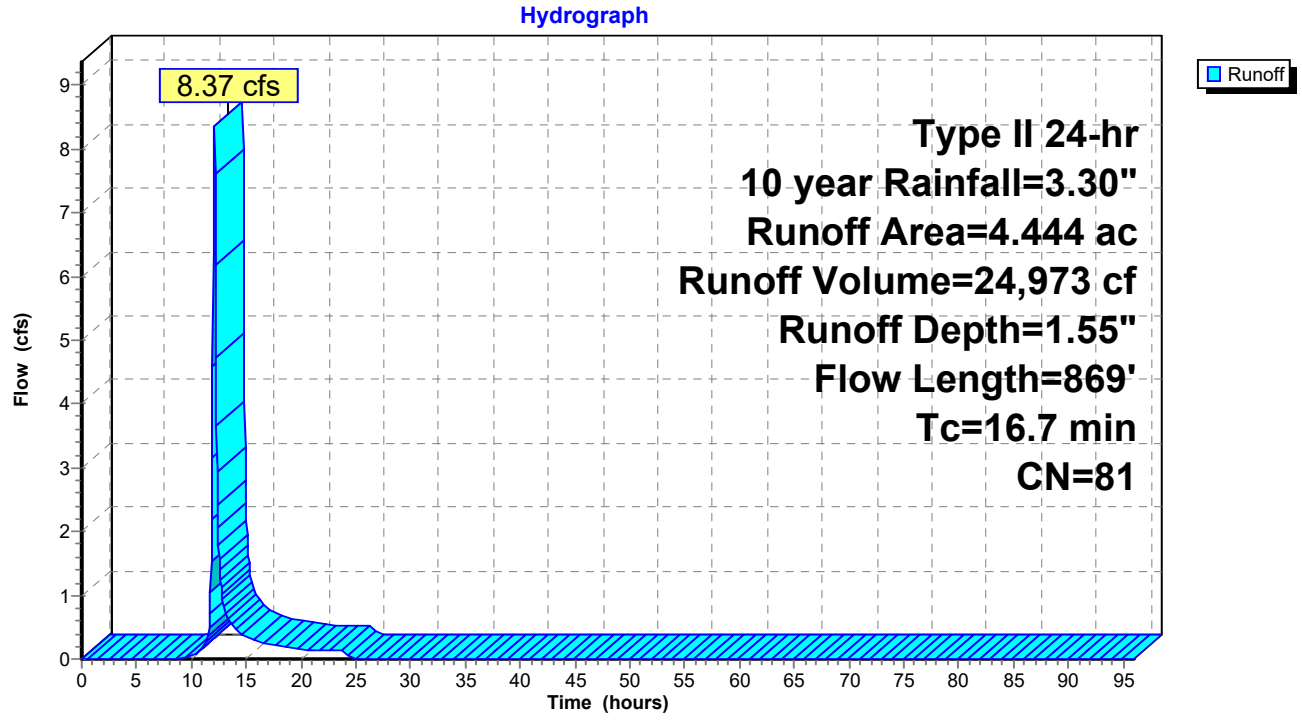
Runoff = 8.37 cfs @ 12.09 hrs, Volume= 24,973 cf, Depth= 1.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 year Rainfall=3.30"

Area (ac)	CN	Description
0.328	70	Woods, Good, HSG C
0.691	71	Meadow, non-grazed, HSG C
2.021	78	Meadow, non-grazed, HSG D
0.087	98	Paved parking, HSG C
1.036	98	Paved parking, HSG D
0.022	71	Meadow, non-grazed, HSG C
0.259	78	Meadow, non-grazed, HSG D
4.444	81	Weighted Average
3.321		74.73% Pervious Area
1.123		25.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.7	100	0.2800	0.19		**Sheet Flow, Sheet** Woods: Light underbrush n= 0.400 P2= 2.35"
8.0	769	0.0100	1.61		**Shallow Concentrated Flow, Shallow Conc** Unpaved Kv= 16.1 fps
16.7	869	Total			

Subcatchment 1S: Pre-DA #1



Summary for Subcatchment 2S: Post DA #1 Total

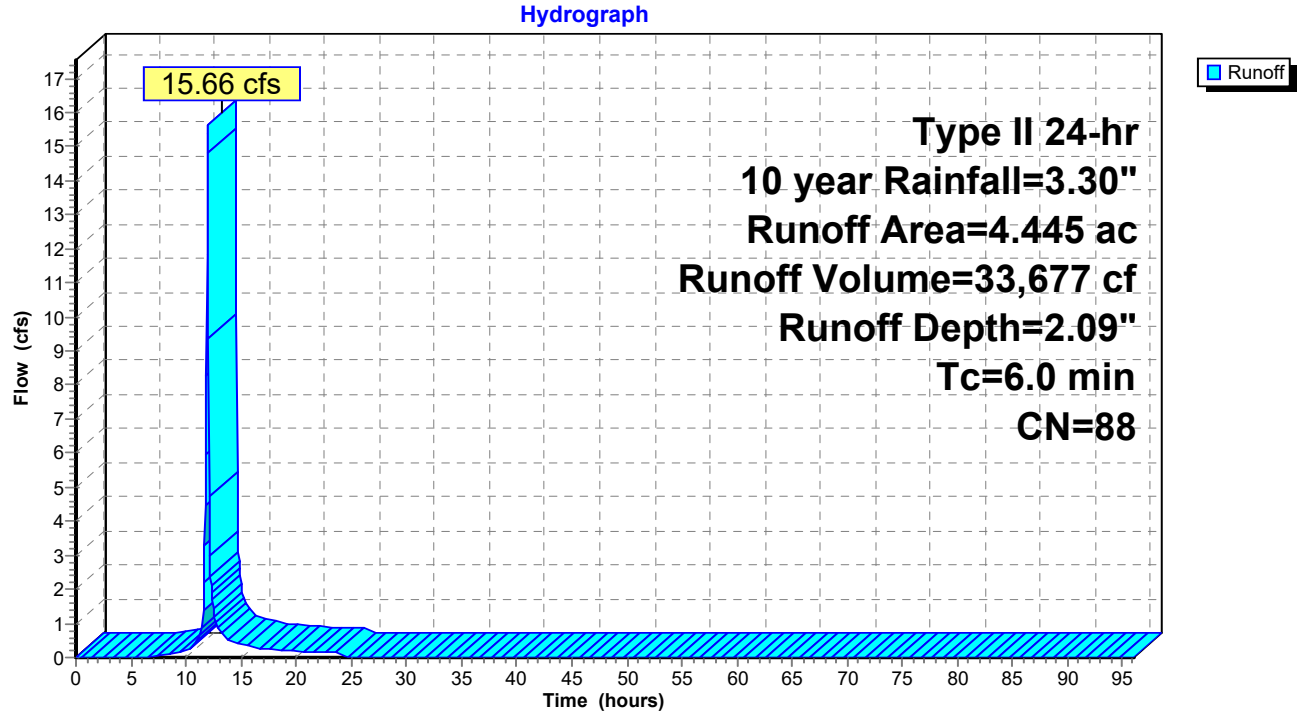
Runoff = 15.66 cfs @ 11.97 hrs, Volume= 33,677 cf, Depth= 2.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 year Rainfall=3.30"

Area (ac)	CN	Description
0.333	77	Woods, Poor, HSG C
0.108	71	Meadow, non-grazed, HSG C
0.427	74	>75% Grass cover, Good, HSG C
1.447	80	>75% Grass cover, Good, HSG D
0.266	98	Paved roads w/curbs & sewers, HSG C
1.864	98	Paved roads w/curbs & sewers, HSG D
4.445	88	Weighted Average
2.315		52.08% Pervious Area
2.130		47.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: Post DA #1 Total



Summary for Subcatchment 3S: Post DA #1 - Detained to SCM-1

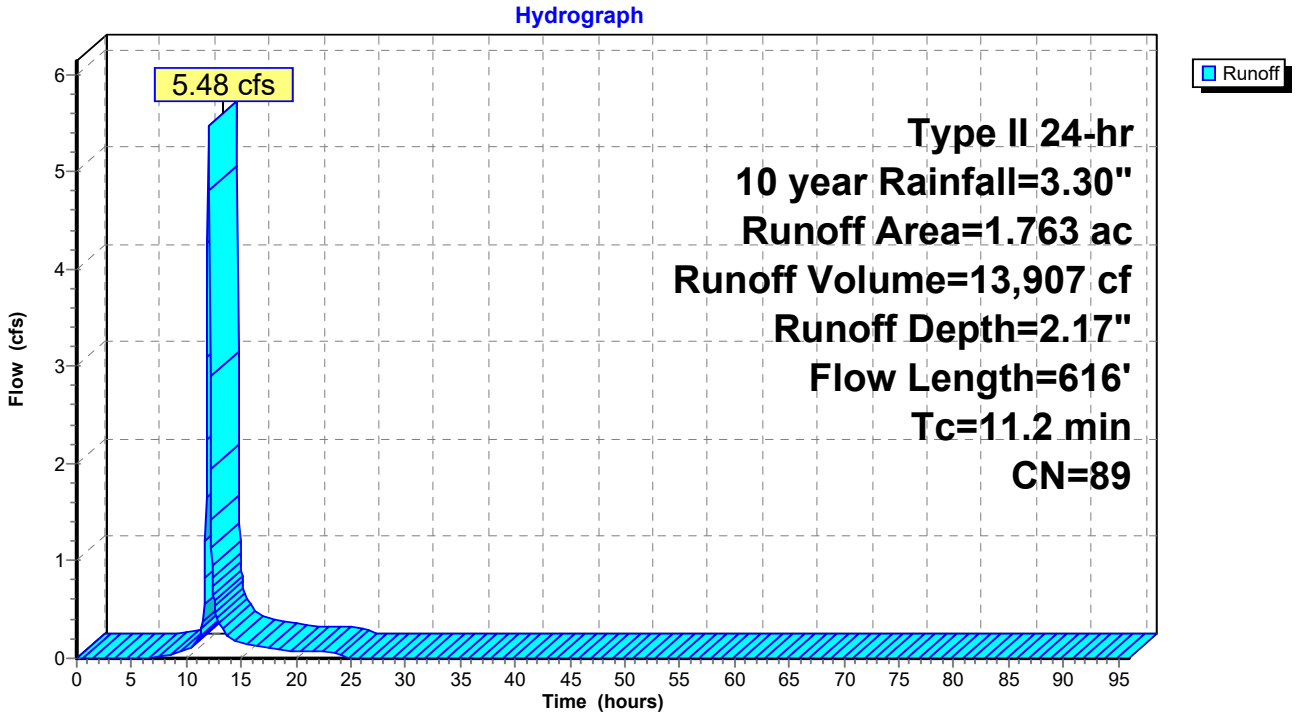
Runoff = 5.48 cfs @ 12.03 hrs, Volume= 13,907 cf, Depth= 2.17"
Routed to Pond 3P : SCM-1 Storm Brixx

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 year Rainfall=3.30"

Area (ac)	CN	Description
0.133	70	Woods, Good, HSG C
0.019	71	Meadow, non-grazed, HSG C
0.272	74	>75% Grass cover, Good, HSG C
0.290	80	>75% Grass cover, Good, HSG D
0.194	98	Paved roads w/curbs & sewers, HSG C
0.855	98	Paved roads w/curbs & sewers, HSG D
1.763	89	Weighted Average
0.714		40.50% Pervious Area
1.049		59.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	98	0.2400	0.18		**Sheet Flow, Sheet** Woods: Light underbrush n= 0.400 P2= 2.35"
0.7	164	0.0040	3.73	2.93	**Pipe Channel, 12" Pipe** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
1.4	354	0.0040	4.33	5.31	**Pipe Channel, 15" Pipe** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
11.2	616	Total			

Subcatchment 3S: Post DA #1 - Detained to SCM-1



Summary for Subcatchment 4S: Post DA #1 - Detained SCM-2

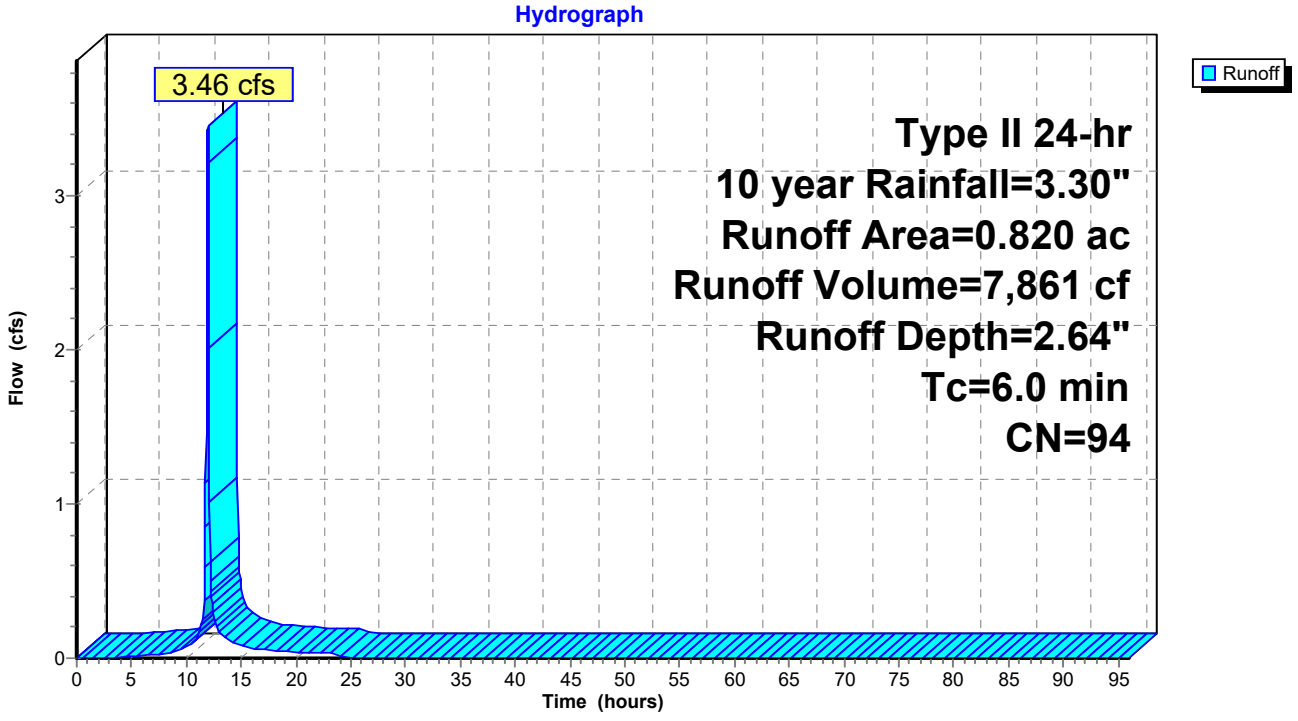
Runoff = 3.46 cfs @ 11.96 hrs, Volume= 7,861 cf, Depth= 2.64"
Routed to Link 1L : Combine SCM-1 and Post DA#1 Detained SCM-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 year Rainfall=3.30"

Area (ac)	CN	Description
0.198	80	>75% Grass cover, Good, HSG D
0.622	98	Paved roads w/curbs & sewers, HSG C
0.820	94	Weighted Average
0.198		24.15% Pervious Area
0.622		75.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: Post DA #1 - Detained SCM-2



Summary for Subcatchment 5S: Post DA #1 - Undetained

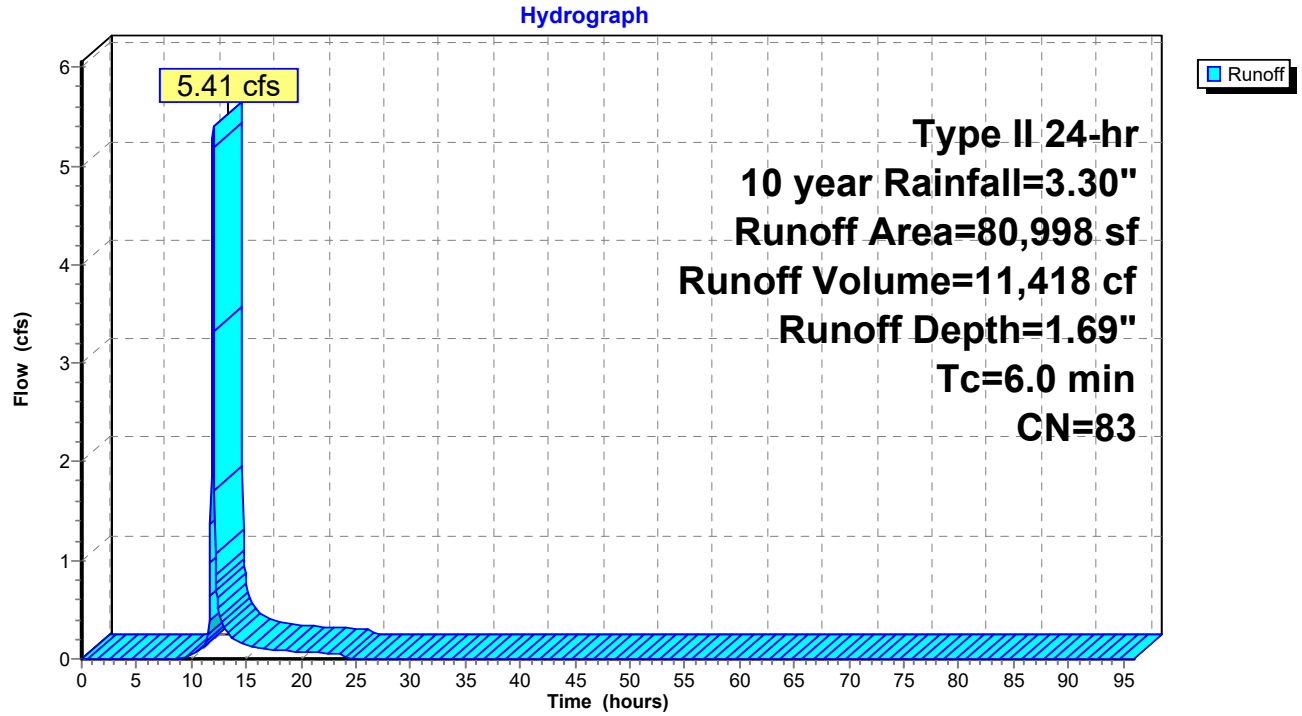
Runoff = 5.41 cfs @ 11.97 hrs, Volume= 11,418 cf, Depth= 1.69"
Routed to Link 2L : Combine Routed SCM-1, SCM-2, and Undetained

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 year Rainfall=3.30"

Area (sf)	CN	Description
8,685	77	Woods, Good, HSG D
3,848	71	Meadow, non-grazed, HSG C
6,756	74	>75% Grass cover, Good, HSG C
3,097	98	Paved roads w/curbs & sewers, HSG D
41,775	80	>75% Grass cover, Good, HSG D
16,837	98	Paved roads w/curbs & sewers, HSG D
80,998	83	Weighted Average
61,064		75.39% Pervious Area
19,934		24.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: Post DA #1 - Undetained



Summary for Pond 3P: SCM-1 Storm Brixx

Inflow Area = 76,796 sf, 59.50% Impervious, Inflow Depth = 2.17" for 10 year event
Inflow = 5.48 cfs @ 12.03 hrs, Volume= 13,907 cf
Outflow = 3.62 cfs @ 12.13 hrs, Volume= 13,907 cf, Atten= 34%, Lag= 6.0 min
Discarded = 0.18 cfs @ 12.13 hrs, Volume= 8,967 cf
Primary = 3.45 cfs @ 12.13 hrs, Volume= 4,940 cf
Routed to Link 1L : Combine SCM-1 and Post DA#1 Detained SCM-2

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 903.50' @ 12.13 hrs Surf.Area= 3,294 sf Storage= 4,177 cf

Plug-Flow detention time= 110.9 min calculated for 13,900 cf (100% of inflow)
Center-of-Mass det. time= 110.9 min (922.5 - 811.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	901.36'	2,480 cf	**42.61'W x 77.30'L x 2.84'H Stone Bedding** 9,357 cf Overall - 3,156 cf Embedded = 6,201 cf x 40.0% Voids
#2A	902.69'	2,967 cf	**ACO StormBrixx 300 HD 1** x 399 Inside #1 Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf 399 Chambers in 21 Rows
		5,447 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	901.36'	**2.000 in/hr Infiltration over Wetted area**
#2	Primary	901.69'	**24.0" Round Outlet Pipe** L= 8.9' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 901.69' / 901.35' S= 0.0382 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#3	Device 2	903.03'	**30.0" W x 2.0" H Vert. Lowest Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 2	903.20'	**48.0" W x 2.0" H Vert. Middle Orifice** C= 0.600 Limited to weir flow at low heads
#5	Device 2	903.36'	**54.0" W x 4.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#6	Device 2	903.69'	**5.0' long Weir Plate** Head (feet) 0.50 Coef. (English) 3.33

Discarded OutFlow Max=0.18 cfs @ 12.13 hrs HW=903.49' (Free Discharge)
└**1=Infiltration** (Exfiltration Controls 0.18 cfs)

Primary OutFlow Max=3.37 cfs @ 12.13 hrs HW=903.49' (Free Discharge)
└**2=Outlet Pipe** (Passes 3.37 cfs of 10.75 cfs potential flow)
  ├**3=Lowest Orifice** (Orifice Controls 1.23 cfs @ 2.95 fps)
  ├**4=Middle Orifice** (Orifice Controls 1.45 cfs @ 2.18 fps)
  ├**5=Upper Orifice** (Orifice Controls 0.68 cfs @ 1.16 fps)
  └**6=Weir Plate** (Controls 0.00 cfs)

Pond 3P: SCM-1 Storm Brixx - Chamber Wizard Stone Bedding

Chamber Model = ACO StormBrixx 300 HD 1 (ACO StormBrixx® 300 HD)
Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf
Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf

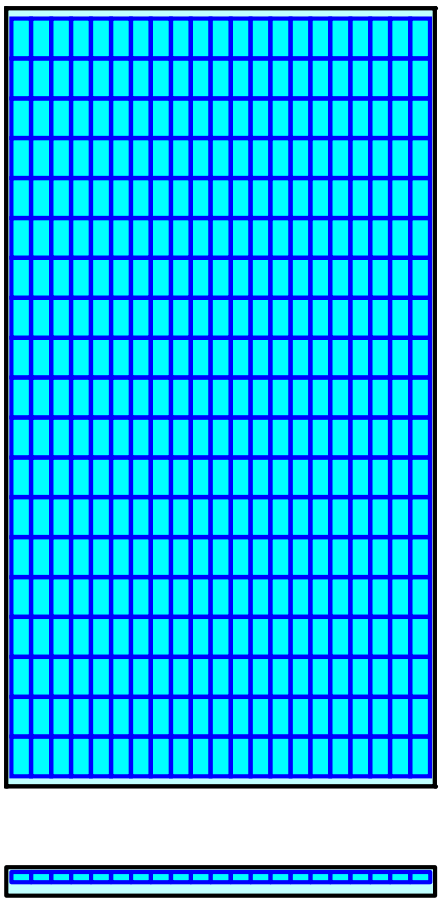
19 Chambers/Row x 3.96' Long = 75.30' Row Length +12.0" End Stone x 2 = 77.30' Base Length
21 Rows x 23.8" Wide + 6.0" Side Stone x 2 = 42.61' Base Width
16.0" Stone Base + 12.1" Chamber Height + 6.0" Stone Cover = 2.84' Field Height

399 Chambers x 7.4 cf = 2,966.9 cf Chamber Storage
399 Chambers x 7.9 cf = 3,156.2 cf Displacement

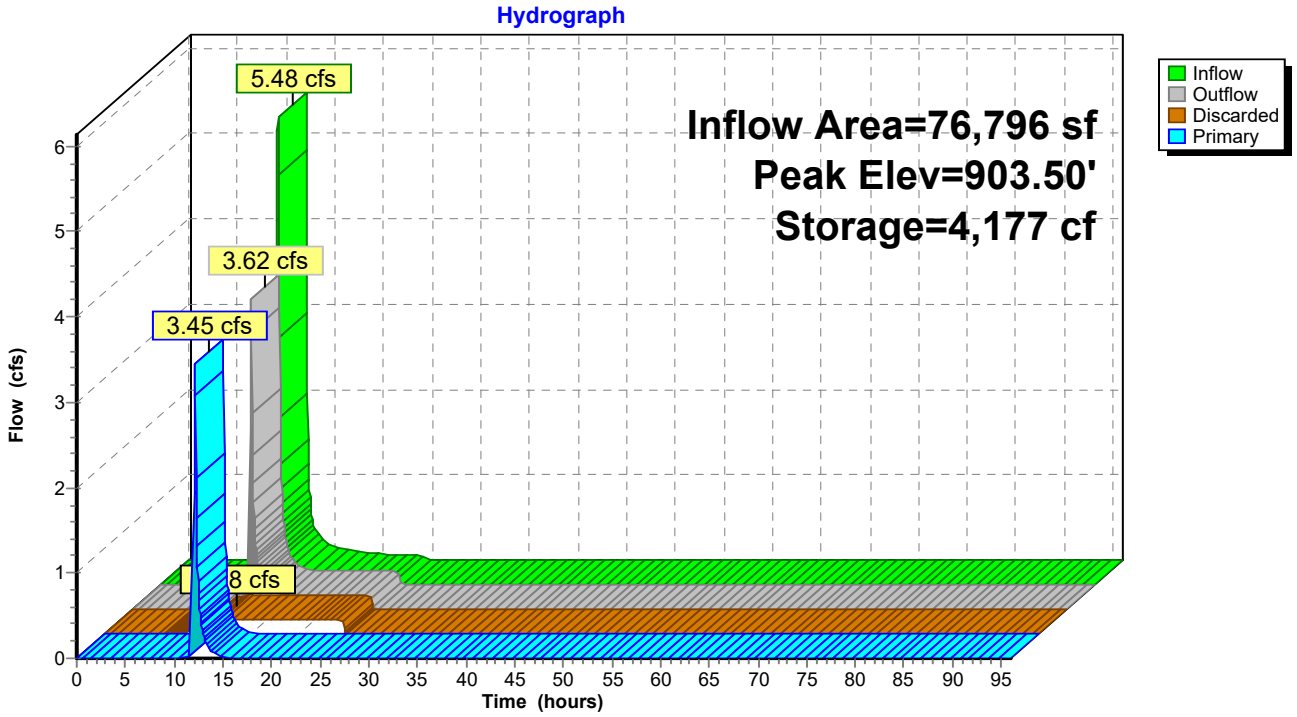
9,357.2 cf Field - 3,156.2 cf Chambers = 6,201.0 cf Stone x 40.0% Voids = 2,480.4 cf Stone Storage

Chamber Storage + Stone Storage = 5,447.3 cf = 0.125 af
Overall Storage Efficiency = 58.2%
Overall System Size = 77.30' x 42.61' x 2.84'

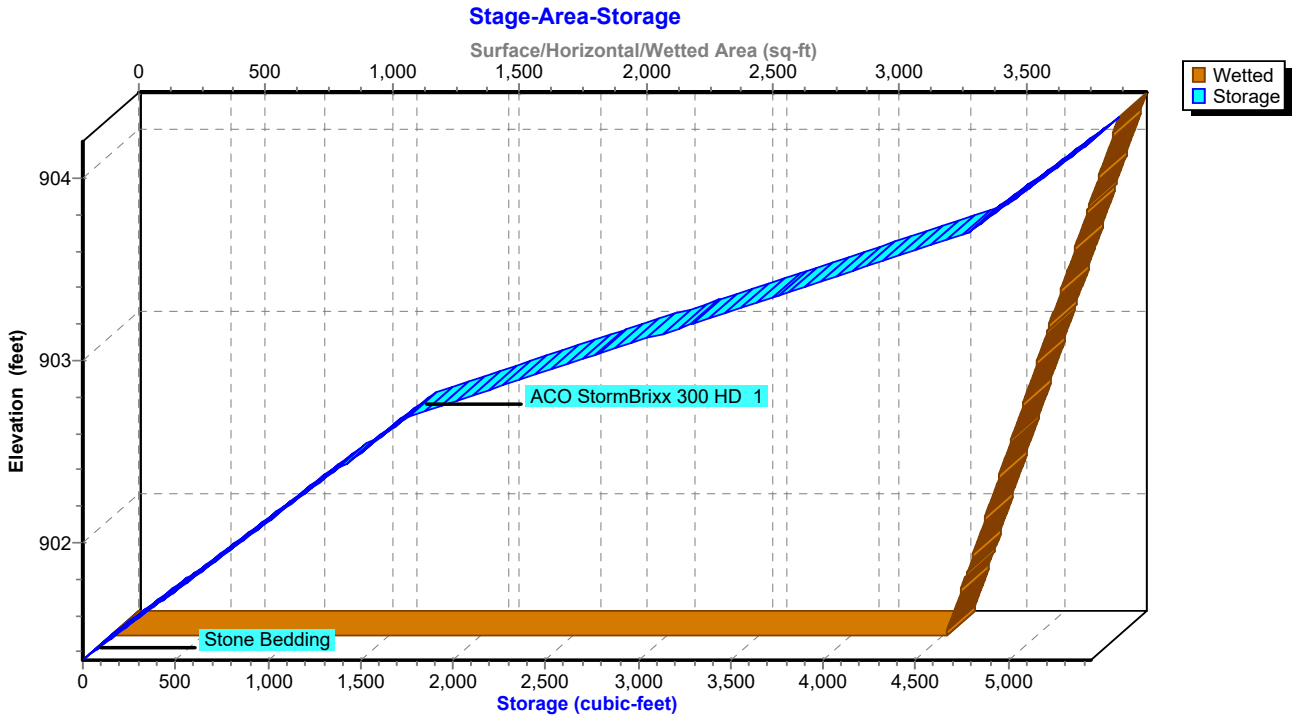
399 Chambers
346.6 cy Field
229.7 cy Stone



Pond 3P: SCM-1 Storm Brixx



Pond 3P: SCM-1 Storm Brixx



Stage-Area-Storage for Pond 3P: SCM-1 Storm Brixx

Elevation (feet)	Wetted (sq-ft)	Storage (cubic-feet)
901.36	3,294	0
901.41	3,306	66
901.46	3,318	132
901.51	3,330	198
901.56	3,342	264
901.61	3,354	329
901.66	3,366	395
901.71	3,378	461
901.76	3,390	527
901.81	3,402	593
901.86	3,414	659
901.91	3,426	725
901.96	3,438	791
902.01	3,450	856
902.06	3,462	922
902.11	3,474	988
902.16	3,486	1,054
902.21	3,498	1,120
902.26	3,510	1,186
902.31	3,522	1,252
902.36	3,534	1,318
902.41	3,546	1,384
902.46	3,558	1,449
902.51	3,570	1,515
902.56	3,582	1,581
902.61	3,594	1,647
902.66	3,606	1,713
902.71	3,618	1,807
902.76	3,630	1,958
902.81	3,642	2,108
902.86	3,654	2,259
902.91	3,666	2,409
902.96	3,678	2,560
903.01	3,690	2,710
903.06	3,702	2,860
903.11	3,714	3,011
903.16	3,726	3,161
903.21	3,738	3,312
903.26	3,750	3,462
903.31	3,762	3,613
903.36	3,774	3,763
903.41	3,786	3,914
903.46	3,798	4,064
903.51	3,810	4,215
903.56	3,822	4,365
903.61	3,834	4,516
903.66	3,846	4,666
903.71	3,858	4,801
903.76	3,870	4,867
903.81	3,882	4,933
903.86	3,894	4,999
903.91	3,906	5,064
903.96	3,918	5,130
904.01	3,930	5,196
904.06	3,942	5,262
904.11	3,954	5,328
904.16	**3,966**	**5,394**

Summary for Pond 4P: SCM-2 Storm Brixx

Inflow Area = 112,515 sf, 64.69% Impervious, Inflow Depth = 1.37" for 10 year event
Inflow = 4.36 cfs @ 12.10 hrs, Volume= 12,801 cf
Outflow = 0.28 cfs @ 11.60 hrs, Volume= 12,801 cf, Atten= 94%, Lag= 0.0 min
Discarded = 0.28 cfs @ 11.60 hrs, Volume= 12,801 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 2L : Combine Routed SCM-1, SCM-2, and Undetained

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 902.81' @ 13.48 hrs Surf.Area= 5,993 sf Storage= 7,329 cf

Plug-Flow detention time= 226.3 min calculated for 12,794 cf (100% of inflow)
Center-of-Mass det. time= 226.2 min (996.0 - 769.9)

Volume	Invert	Avail.Storage	Storage Description
#1A	900.72'	4,506 cf	**26.76'W x 223.94'L x 2.84'H Field A** 17,023 cf Overall - 5,759 cf Embedded = 11,265 cf x 40.0% Voids
#2A	902.05'	5,413 cf	**ACO StormBrixx 300 HD 1** x 728 Inside #1 Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf 728 Chambers in 13 Rows
		9,919 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	900.72'	**2.000 in/hr Exfiltration over Surface area**
#2	Primary	901.05'	**24.0" Round Outlet Pipe** L= 31.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 901.05' / 900.92' S= 0.0041 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf
#3	Device 2	902.82'	**24.0" W x 2.0" H Vert. Lowest Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 2	902.98'	**24.0" W x 2.0" H Vert. Middle Orifice** C= 0.600 Limited to weir flow at low heads
#5	Device 2	903.14'	**48.0" W x 4.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#6	Device 2	903.47'	**5.0' long Weir** 2 End Contraction(s) 0.5' Crest Height

Discarded OutFlow Max=0.28 cfs @ 11.60 hrs HW=900.75' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.28 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=900.72' (Free Discharge)
└**2=Outlet Pipe** (Controls 0.00 cfs)
  ├**3=Lowest Orifice** (Controls 0.00 cfs)
  ├**4=Middle Orifice** (Controls 0.00 cfs)
  ├**5=Upper Orifice** (Controls 0.00 cfs)
  └**6=Weir** (Controls 0.00 cfs)

Pond 4P: SCM-2 Storm Brixx - Chamber Wizard Field A

Chamber Model = ACO StormBrixx 300 HD 1 (ACO StormBrixx® 300 HD)
Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf
Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf

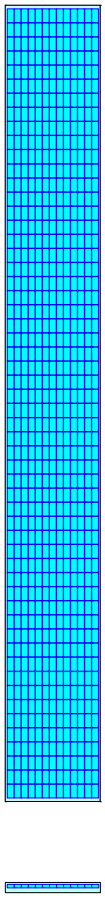
56 Chambers/Row x 3.96' Long = 221.94' Row Length +12.0" End Stone x 2 = 223.94' Base Length
13 Rows x 23.8" Wide + 6.0" Side Stone x 2 = 26.76' Base Width
16.0" Stone Base + 12.1" Chamber Height + 6.0" Stone Cover = 2.84' Field Height

728 Chambers x 7.4 cf = 5,413.2 cf Chamber Storage
728 Chambers x 7.9 cf = 5,758.8 cf Displacement

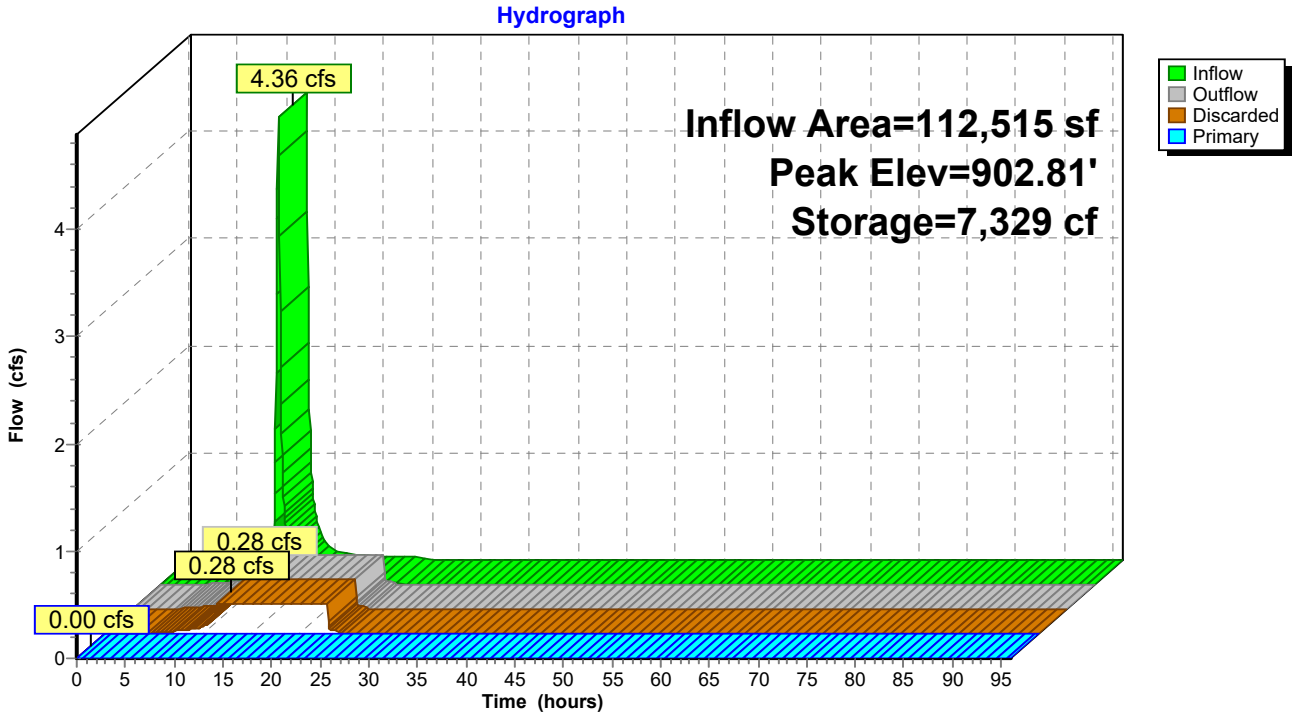
17,023.3 cf Field - 5,758.8 cf Chambers = 11,264.5 cf Stone x 40.0% Voids = 4,505.8 cf Stone Storage

Chamber Storage + Stone Storage = 9,919.0 cf = 0.228 af
Overall Storage Efficiency = 58.3%
Overall System Size = 223.94' x 26.76' x 2.84'

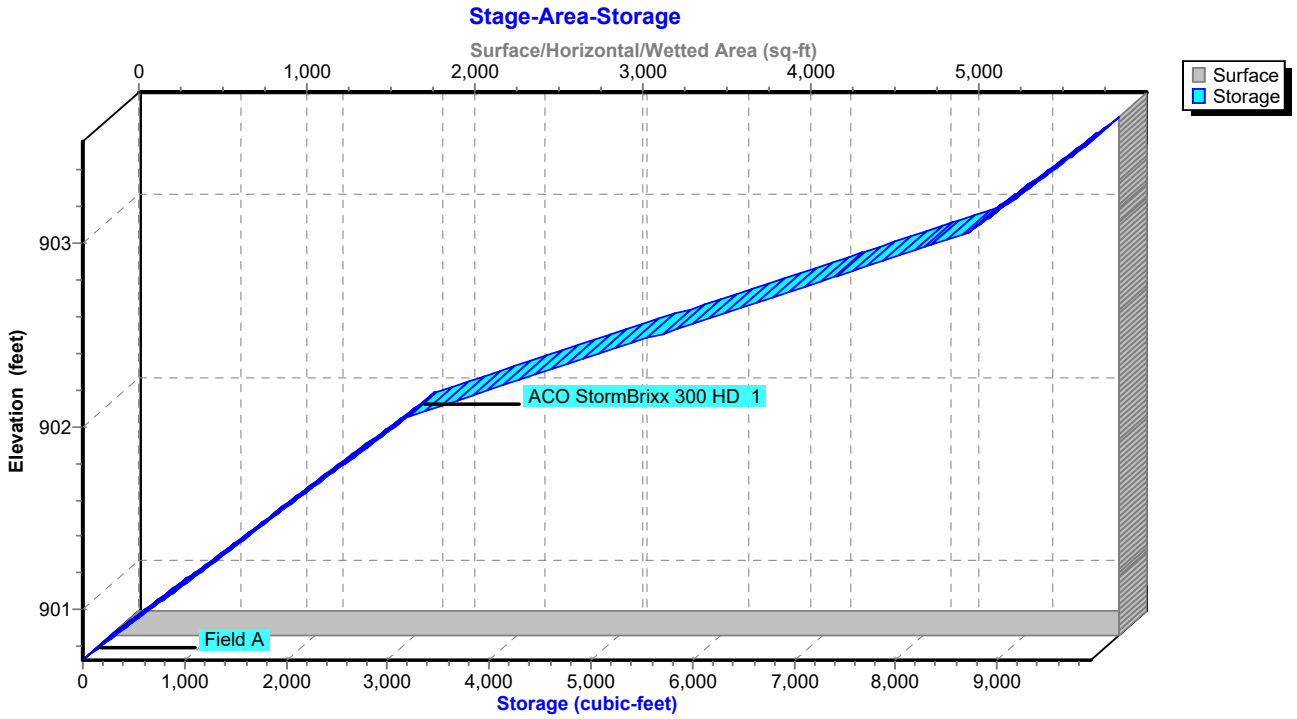
728 Chambers
630.5 cy Field
417.2 cy Stone



Pond 4P: SCM-2 Storm Brixx



Pond 4P: SCM-2 Storm Brixx



Stage-Area-Storage for Pond 4P: SCM-2 Storm Brixx

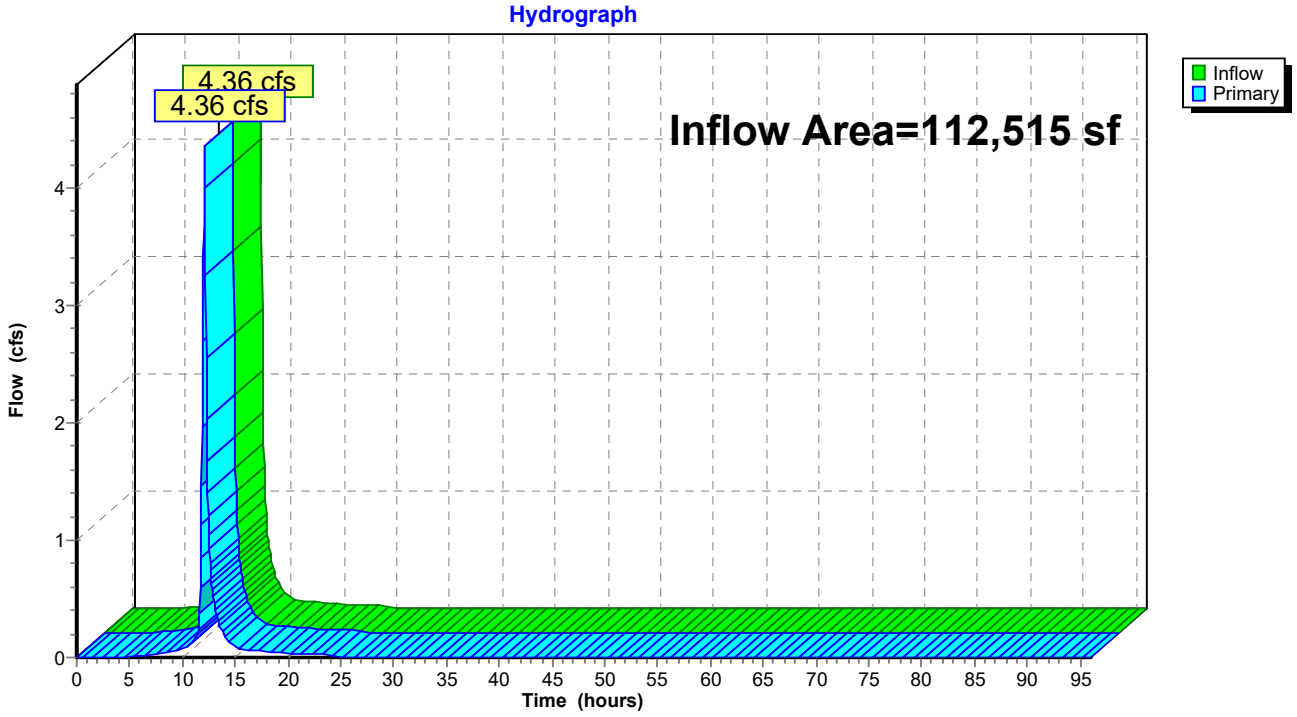
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
900.72	**5,993**	0
900.77	5,993	120
900.82	5,993	240
900.87	5,993	360
900.92	5,993	479
900.97	5,993	599
901.02	5,993	719
901.07	5,993	839
901.12	5,993	959
901.17	5,993	1,079
901.22	5,993	1,199
901.27	5,993	1,318
901.32	5,993	1,438
901.37	5,993	1,558
901.42	5,993	1,678
901.47	5,993	1,798
901.52	5,993	1,918
901.57	5,993	2,038
901.62	5,993	2,157
901.67	5,993	2,277
901.72	5,993	2,397
901.77	5,993	2,517
901.82	5,993	2,637
901.87	5,993	2,757
901.92	5,993	2,877
901.97	5,993	2,996
902.02	5,993	3,116
902.07	5,993	3,288
902.12	5,993	3,562
902.17	5,993	3,836
902.22	5,993	4,110
902.27	5,993	4,385
902.32	5,993	4,659
902.37	5,993	4,933
902.42	5,993	5,207
902.47	5,993	5,482
902.52	5,993	5,756
902.57	5,993	6,030
902.62	5,993	6,304
902.67	5,993	6,578
902.72	5,993	6,853
902.77	5,993	7,127
902.82	5,993	7,401
902.87	5,993	7,675
902.92	5,993	7,950
902.97	5,993	8,224
903.02	5,993	8,498
903.07	5,993	8,743
903.12	5,993	8,863
903.17	5,993	8,983
903.22	5,993	9,103
903.27	5,993	9,223
903.32	5,993	9,342
903.37	5,993	9,462
903.42	5,993	9,582
903.47	5,993	9,702
903.52	5,993	**9,822**

Summary for Link 1L: Combine SCM-1 and Post DA#1 Detained SCM-2

Inflow Area = 112,515 sf, 64.69% Impervious, Inflow Depth = 1.37" for 10 year event
Inflow = 4.36 cfs @ 12.10 hrs, Volume= 12,801 cf
Primary = 4.36 cfs @ 12.10 hrs, Volume= 12,801 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond 4P : SCM-2 Storm Brixx

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link 1L: Combine SCM-1 and Post DA#1 Detained SCM-2

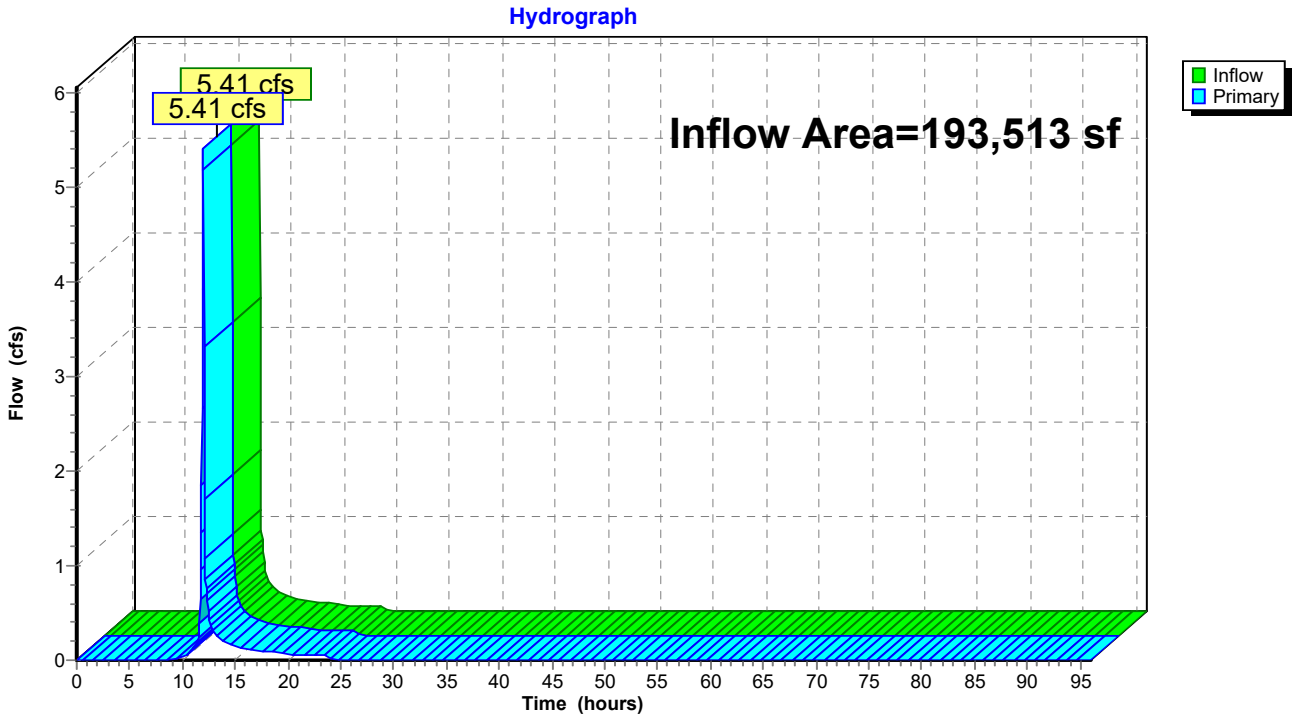


Summary for Link 2L: Combine Routed SCM-1, SCM-2, and Undetained

Inflow Area = 193,513 sf, 47.92% Impervious, Inflow Depth = 0.71" for 10 year event
Inflow = 5.41 cfs @ 11.97 hrs, Volume= 11,418 cf
Primary = 5.41 cfs @ 11.97 hrs, Volume= 11,418 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link 2L: Combine Routed SCM-1, SCM-2, and Undetained



Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Pre-DA#1 Runoff Area=4.444 ac 25.27% Impervious Runoff Depth=2.04"
Flow Length=869' Tc=16.7 min CN=81 Runoff=11.05 cfs 32,872 cf

Subcatchment2S: Post DA#1 Total Runoff Area=4.445 ac 47.92% Impervious Runoff Depth=2.64"
Tc=6.0 min CN=88 Runoff=19.57 cfs 42,536 cf

Subcatchment3S: Post DA#1 - Detained to Runoff Area=1.763 ac 59.50% Impervious Runoff Depth=2.73"
Flow Length=616' Tc=11.2 min CN=89 Runoff=6.81 cfs 17,467 cf

Subcatchment4S: Post DA#1 - Detained Runoff Area=0.820 ac 75.85% Impervious Runoff Depth=3.23"
Tc=6.0 min CN=94 Runoff=4.17 cfs 9,604 cf

Subcatchment5S: Post DA#1 - Undetained Runoff Area=80,998 sf 24.61% Impervious Runoff Depth=2.20"
Tc=6.0 min CN=83 Runoff=6.99 cfs 14,847 cf

Pond 3P: SCM-1 Storm Brixx Peak Elev=903.63' Storage=4,577 cf Inflow=6.81 cfs 17,467 cf
Discarded=0.18 cfs 9,925 cf Primary=5.36 cfs 7,542 cf Outflow=5.54 cfs 17,467 cf

Pond 4P: SCM-2 Storm Brixx Peak Elev=903.09' Storage=8,786 cf Inflow=7.09 cfs 17,145 cf
Discarded=0.28 cfs 14,162 cf Primary=0.91 cfs 2,983 cf Outflow=1.19 cfs 17,145 cf

Link 1L: Combine SCM-1 and Post DA#1 Detained SCM-2 Inflow=7.09 cfs 17,145 cf
Primary=7.09 cfs 17,145 cf

Link 2L: Combine Routed SCM-1, SCM-2, and Undetained Inflow=6.99 cfs 17,830 cf
Primary=6.99 cfs 17,830 cf

Total Runoff Area = 580,718 sf Runoff Volume = 117,325 cf Average Runoff Depth = 2.42"
59.63% Pervious = 346,295 sf 40.37% Impervious = 234,423 sf

Summary for Subcatchment 1S: Pre-DA #1

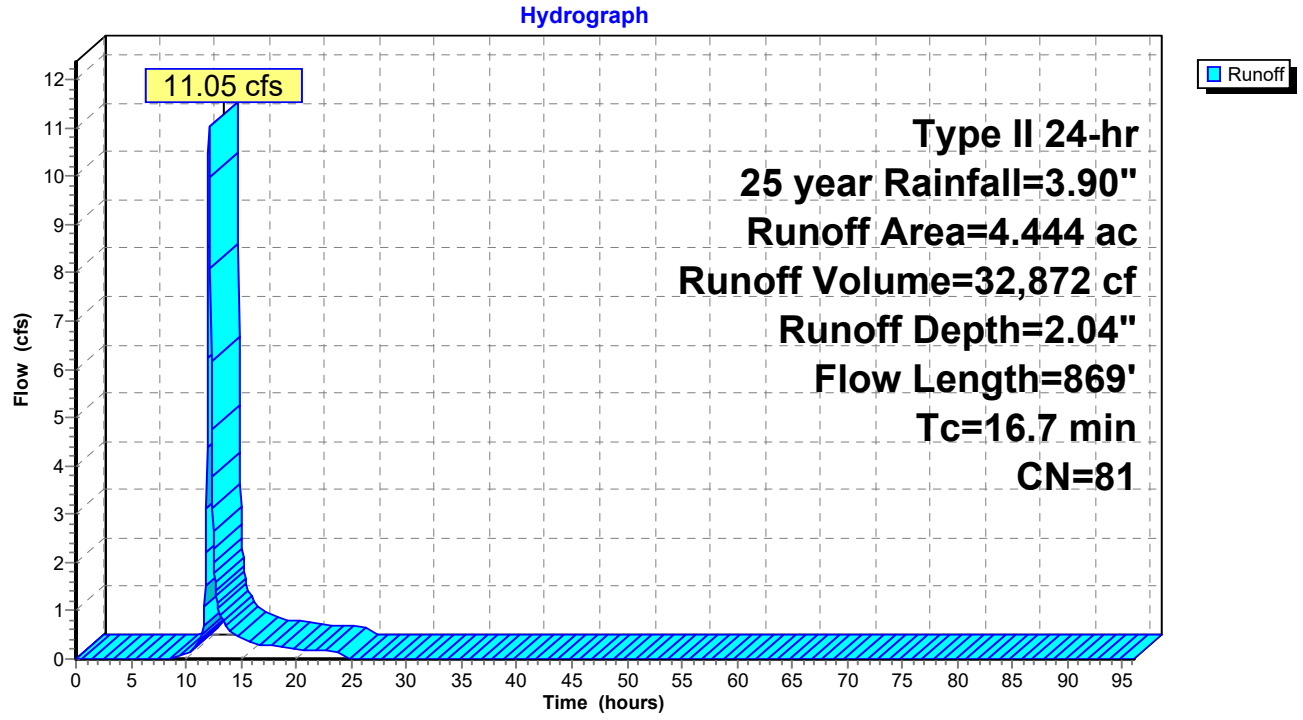
Runoff = 11.05 cfs @ 12.09 hrs, Volume= 32,872 cf, Depth= 2.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 year Rainfall=3.90"

Area (ac)	CN	Description
0.328	70	Woods, Good, HSG C
0.691	71	Meadow, non-grazed, HSG C
2.021	78	Meadow, non-grazed, HSG D
0.087	98	Paved parking, HSG C
1.036	98	Paved parking, HSG D
0.022	71	Meadow, non-grazed, HSG C
0.259	78	Meadow, non-grazed, HSG D
4.444	81	Weighted Average
3.321		74.73% Pervious Area
1.123		25.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.7	100	0.2800	0.19		**Sheet Flow, Sheet** Woods: Light underbrush n= 0.400 P2= 2.35"
8.0	769	0.0100	1.61		**Shallow Concentrated Flow, Shallow Conc** Unpaved Kv= 16.1 fps
16.7	869	Total			

Subcatchment 1S: Pre-DA #1



Summary for Subcatchment 2S: Post DA #1 Total

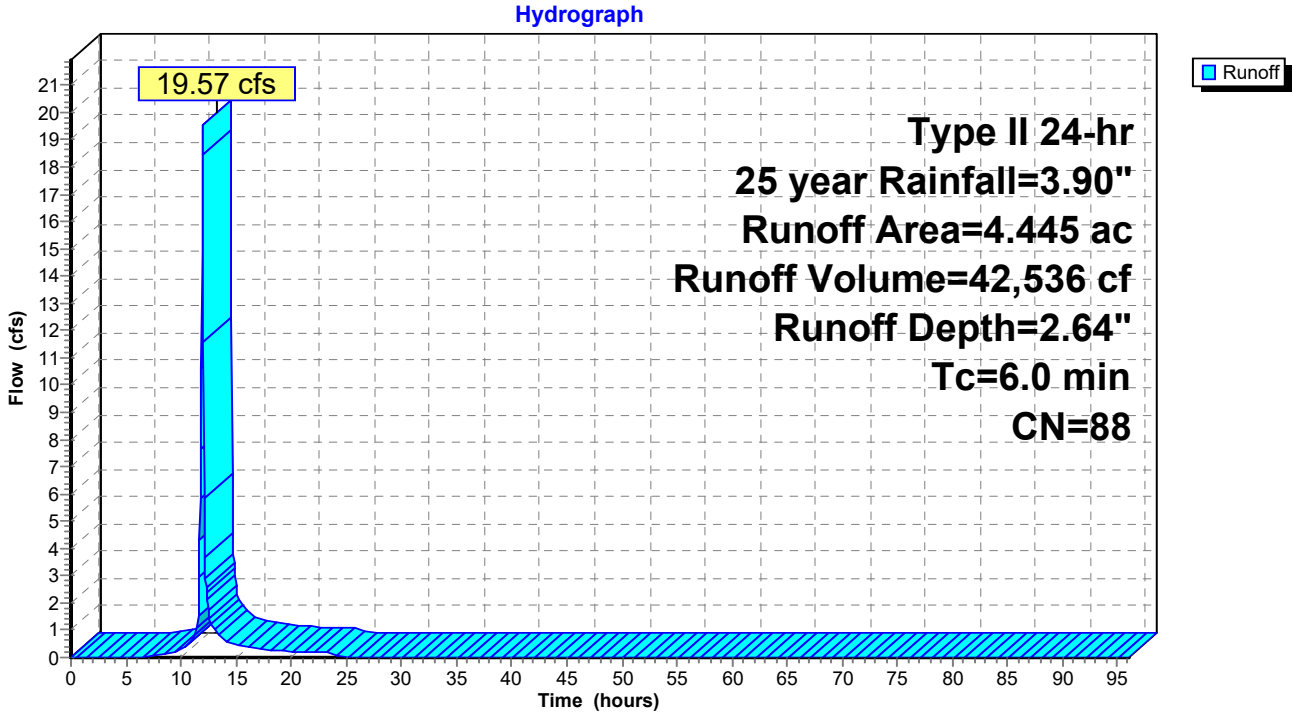
Runoff = 19.57 cfs @ 11.97 hrs, Volume= 42,536 cf, Depth= 2.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 year Rainfall=3.90"

Area (ac)	CN	Description
0.333	77	Woods, Poor, HSG C
0.108	71	Meadow, non-grazed, HSG C
0.427	74	>75% Grass cover, Good, HSG C
1.447	80	>75% Grass cover, Good, HSG D
0.266	98	Paved roads w/curbs & sewers, HSG C
1.864	98	Paved roads w/curbs & sewers, HSG D
4.445	88	Weighted Average
2.315		52.08% Pervious Area
2.130		47.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: Post DA #1 Total



Summary for Subcatchment 3S: Post DA #1 - Detained to SCM-1

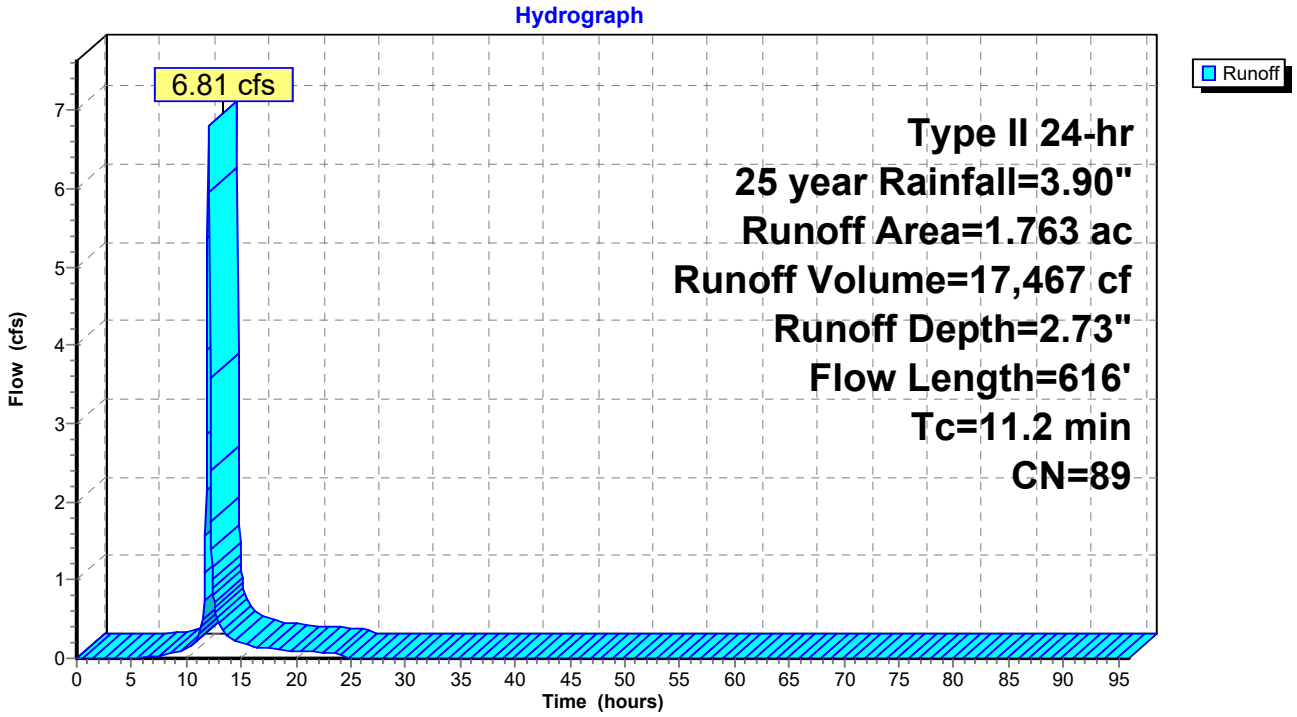
Runoff = 6.81 cfs @ 12.03 hrs, Volume= 17,467 cf, Depth= 2.73"
Routed to Pond 3P : SCM-1 Storm Brixx

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 year Rainfall=3.90"

Area (ac)	CN	Description
0.133	70	Woods, Good, HSG C
0.019	71	Meadow, non-grazed, HSG C
0.272	74	>75% Grass cover, Good, HSG C
0.290	80	>75% Grass cover, Good, HSG D
0.194	98	Paved roads w/curbs & sewers, HSG C
0.855	98	Paved roads w/curbs & sewers, HSG D
1.763	89	Weighted Average
0.714		40.50% Pervious Area
1.049		59.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	98	0.2400	0.18		**Sheet Flow, Sheet** Woods: Light underbrush n= 0.400 P2= 2.35"
0.7	164	0.0040	3.73	2.93	**Pipe Channel, 12" Pipe** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
1.4	354	0.0040	4.33	5.31	**Pipe Channel, 15" Pipe** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
11.2	616	Total			

Subcatchment 3S: Post DA #1 - Detained to SCM-1



Summary for Subcatchment 4S: Post DA #1 - Detained SCM-2

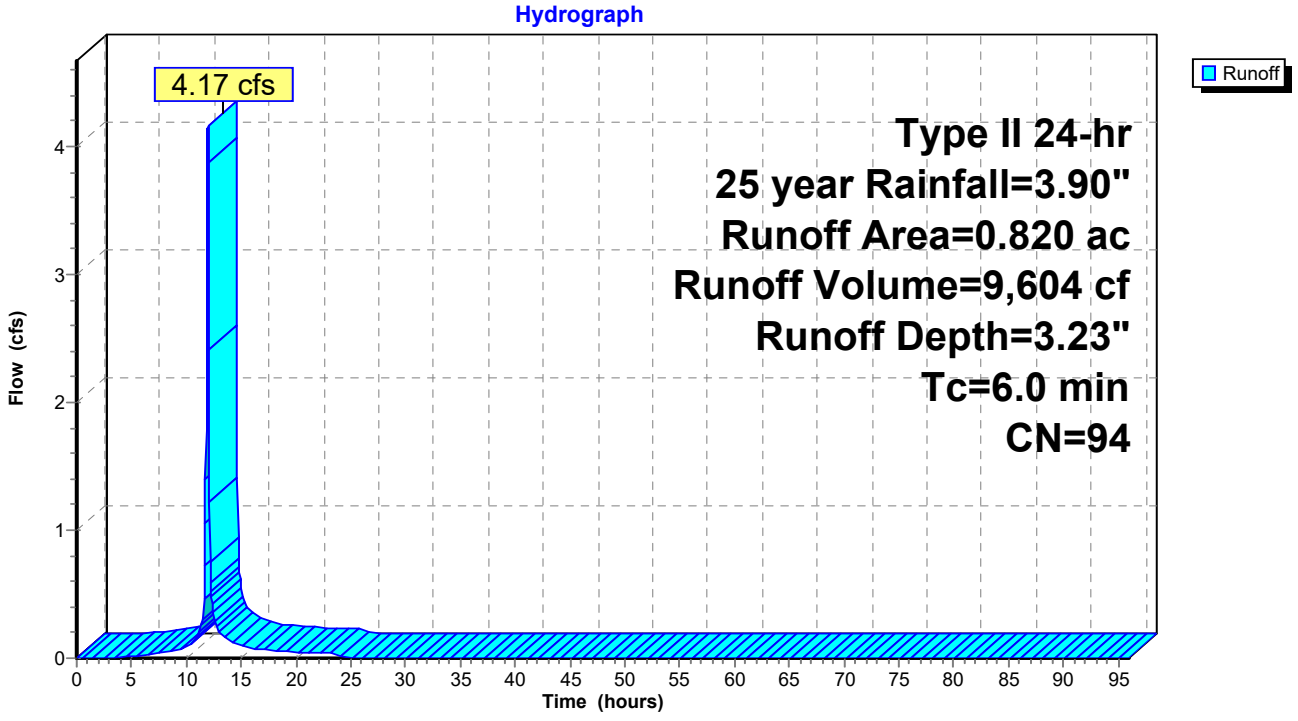
Runoff = 4.17 cfs @ 11.96 hrs, Volume= 9,604 cf, Depth= 3.23"
Routed to Link 1L : Combine SCM-1 and Post DA#1 Detained SCM-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 year Rainfall=3.90"

Area (ac)	CN	Description
0.198	80	>75% Grass cover, Good, HSG D
0.622	98	Paved roads w/curbs & sewers, HSG C
0.820	94	Weighted Average
0.198		24.15% Pervious Area
0.622		75.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: Post DA #1 - Detained SCM-2



Summary for Subcatchment 5S: Post DA #1 - Undetained

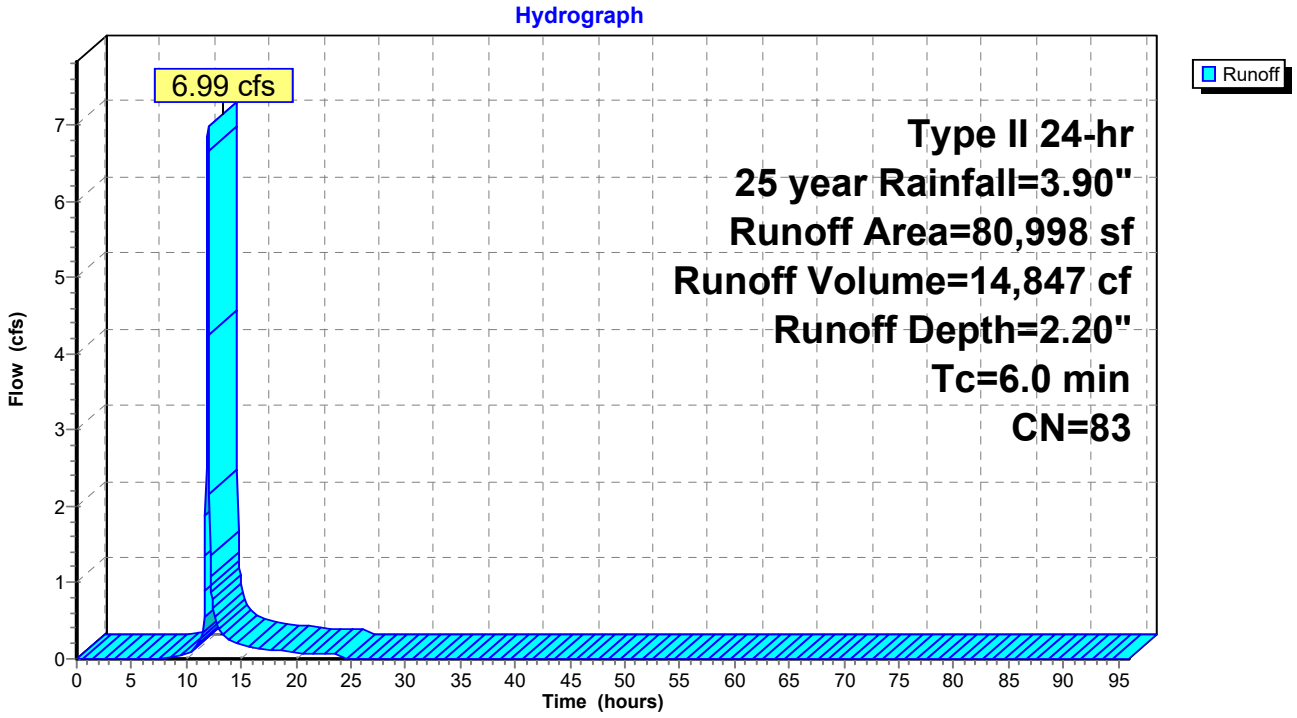
Runoff = 6.99 cfs @ 11.97 hrs, Volume= 14,847 cf, Depth= 2.20"
Routed to Link 2L : Combine Routed SCM-1, SCM-2, and Undetained

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 25 year Rainfall=3.90"

Area (sf)	CN	Description
8,685	77	Woods, Good, HSG D
3,848	71	Meadow, non-grazed, HSG C
6,756	74	>75% Grass cover, Good, HSG C
3,097	98	Paved roads w/curbs & sewers, HSG D
41,775	80	>75% Grass cover, Good, HSG D
16,837	98	Paved roads w/curbs & sewers, HSG D
80,998	83	Weighted Average
61,064		75.39% Pervious Area
19,934		24.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: Post DA #1 - Undetained



Summary for Pond 3P: SCM-1 Storm Brixx

Inflow Area = 76,796 sf, 59.50% Impervious, Inflow Depth = 2.73" for 25 year event
Inflow = 6.81 cfs @ 12.03 hrs, Volume= 17,467 cf
Outflow = 5.54 cfs @ 12.10 hrs, Volume= 17,467 cf, Atten= 19%, Lag= 4.4 min
Discarded = 0.18 cfs @ 12.10 hrs, Volume= 9,925 cf
Primary = 5.36 cfs @ 12.10 hrs, Volume= 7,542 cf
Routed to Link 1L : Combine SCM-1 and Post DA#1 Detained SCM-2

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 903.63' @ 12.10 hrs Surf.Area= 3,294 sf Storage= 4,577 cf

Plug-Flow detention time= 101.9 min calculated for 17,458 cf (100% of inflow)
Center-of-Mass det. time= 101.9 min (907.0 - 805.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	901.36'	2,480 cf	**42.61'W x 77.30'L x 2.84'H Stone Bedding** 9,357 cf Overall - 3,156 cf Embedded = 6,201 cf x 40.0% Voids
#2A	902.69'	2,967 cf	**ACO StormBrixx 300 HD 1** x 399 Inside #1 Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf 399 Chambers in 21 Rows
		5,447 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	901.36'	**2.000 in/hr Infiltration over Wetted area**
#2	Primary	901.69'	**24.0" Round Outlet Pipe** L= 8.9' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 901.69' / 901.35' S= 0.0382 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#3	Device 2	903.03'	**30.0" W x 2.0" H Vert. Lowest Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 2	903.20'	**48.0" W x 2.0" H Vert. Middle Orifice** C= 0.600 Limited to weir flow at low heads
#5	Device 2	903.36'	**54.0" W x 4.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#6	Device 2	903.69'	**5.0' long Weir Plate** Head (feet) 0.50 Coef. (English) 3.33

Discarded OutFlow Max=0.18 cfs @ 12.10 hrs HW=903.63' (Free Discharge)
└**1=Infiltration** (Exfiltration Controls 0.18 cfs)

Primary OutFlow Max=5.36 cfs @ 12.10 hrs HW=903.63' (Free Discharge)
└**2=Outlet Pipe** (Passes 5.36 cfs of 11.66 cfs potential flow)
  ├**3=Lowest Orifice** (Orifice Controls 1.44 cfs @ 3.46 fps)
  ├**4=Middle Orifice** (Orifice Controls 1.89 cfs @ 2.83 fps)
  ├**5=Upper Orifice** (Orifice Controls 2.03 cfs @ 1.67 fps)
  └**6=Weir Plate** (Controls 0.00 cfs)

Pond 3P: SCM-1 Storm Brixx - Chamber Wizard Stone Bedding

Chamber Model = ACO StormBrixx 300 HD 1 (ACO StormBrixx® 300 HD)
Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf
Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf

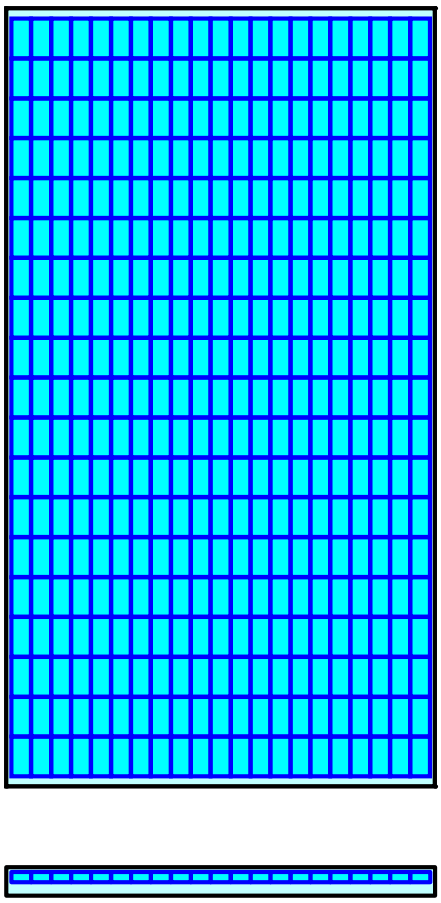
19 Chambers/Row x 3.96' Long = 75.30' Row Length +12.0" End Stone x 2 = 77.30' Base Length
21 Rows x 23.8" Wide + 6.0" Side Stone x 2 = 42.61' Base Width
16.0" Stone Base + 12.1" Chamber Height + 6.0" Stone Cover = 2.84' Field Height

399 Chambers x 7.4 cf = 2,966.9 cf Chamber Storage
399 Chambers x 7.9 cf = 3,156.2 cf Displacement

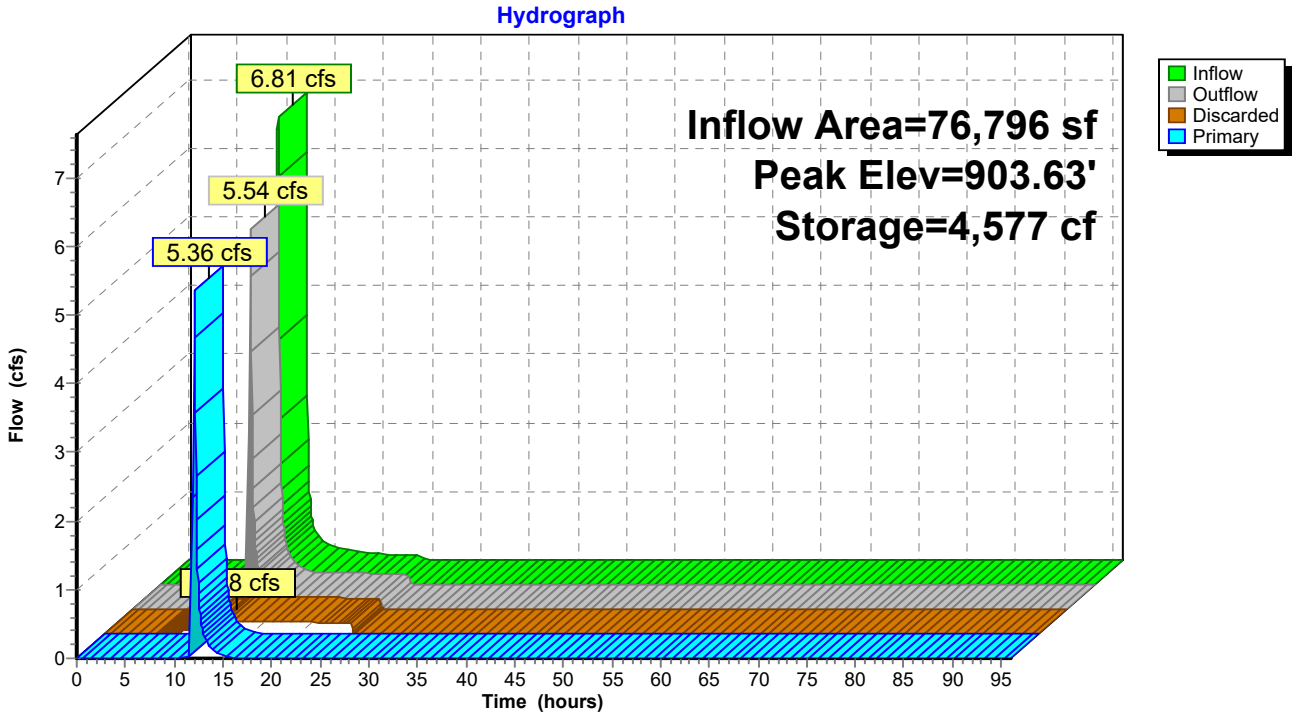
9,357.2 cf Field - 3,156.2 cf Chambers = 6,201.0 cf Stone x 40.0% Voids = 2,480.4 cf Stone Storage

Chamber Storage + Stone Storage = 5,447.3 cf = 0.125 af
Overall Storage Efficiency = 58.2%
Overall System Size = 77.30' x 42.61' x 2.84'

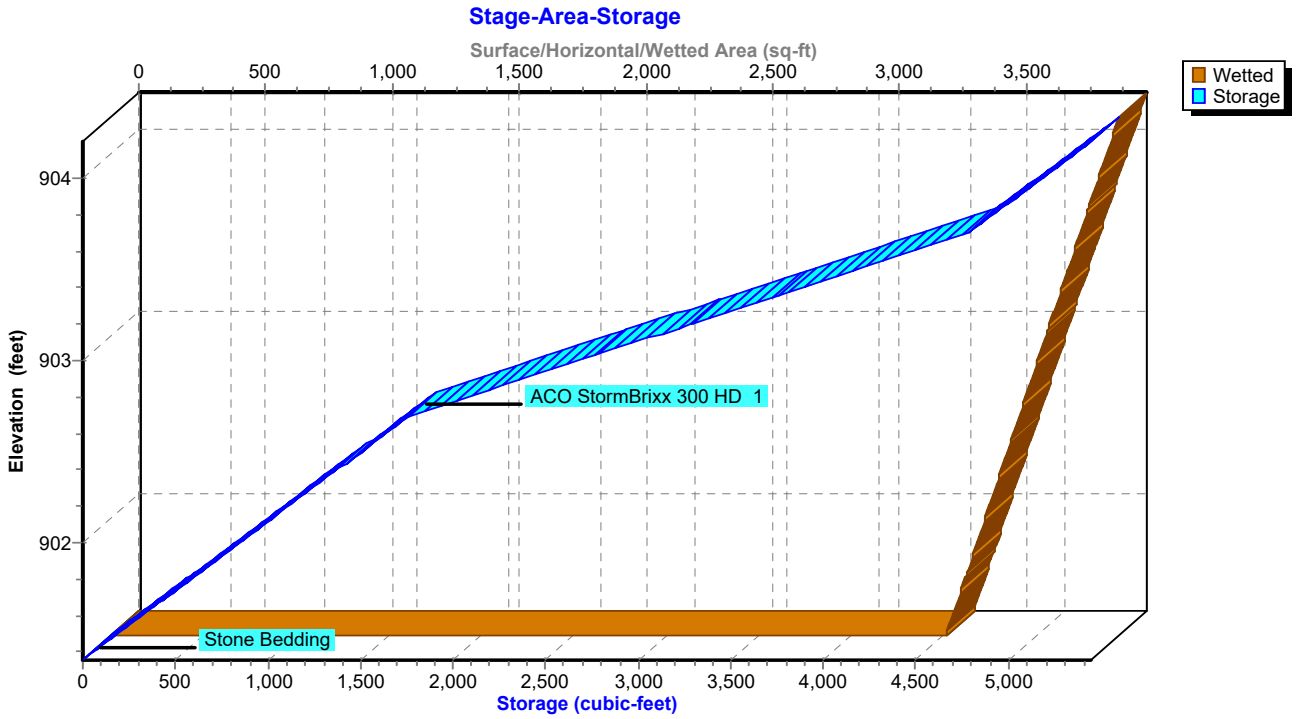
399 Chambers
346.6 cy Field
229.7 cy Stone



Pond 3P: SCM-1 Storm Brixx



Pond 3P: SCM-1 Storm Brixx



Stage-Area-Storage for Pond 3P: SCM-1 Storm Brixx

Elevation (feet)	Wetted (sq-ft)	Storage (cubic-feet)
901.36	3,294	0
901.41	3,306	66
901.46	3,318	132
901.51	3,330	198
901.56	3,342	264
901.61	3,354	329
901.66	3,366	395
901.71	3,378	461
901.76	3,390	527
901.81	3,402	593
901.86	3,414	659
901.91	3,426	725
901.96	3,438	791
902.01	3,450	856
902.06	3,462	922
902.11	3,474	988
902.16	3,486	1,054
902.21	3,498	1,120
902.26	3,510	1,186
902.31	3,522	1,252
902.36	3,534	1,318
902.41	3,546	1,384
902.46	3,558	1,449
902.51	3,570	1,515
902.56	3,582	1,581
902.61	3,594	1,647
902.66	3,606	1,713
902.71	3,618	1,807
902.76	3,630	1,958
902.81	3,642	2,108
902.86	3,654	2,259
902.91	3,666	2,409
902.96	3,678	2,560
903.01	3,690	2,710
903.06	3,702	2,860
903.11	3,714	3,011
903.16	3,726	3,161
903.21	3,738	3,312
903.26	3,750	3,462
903.31	3,762	3,613
903.36	3,774	3,763
903.41	3,786	3,914
903.46	3,798	4,064
903.51	3,810	4,215
903.56	3,822	4,365
903.61	3,834	4,516
903.66	3,846	4,666
903.71	3,858	4,801
903.76	3,870	4,867
903.81	3,882	4,933
903.86	3,894	4,999
903.91	3,906	5,064
903.96	3,918	5,130
904.01	3,930	5,196
904.06	3,942	5,262
904.11	3,954	5,328
904.16	**3,966**	**5,394**

Summary for Pond 4P: SCM-2 Storm Brixx

Inflow Area = 112,515 sf, 64.69% Impervious, Inflow Depth = 1.83" for 25 year event
Inflow = 7.09 cfs @ 12.06 hrs, Volume= 17,145 cf
Outflow = 1.19 cfs @ 12.53 hrs, Volume= 17,145 cf, Atten= 83%, Lag= 28.3 min
Discarded = 0.28 cfs @ 11.50 hrs, Volume= 14,162 cf
Primary = 0.91 cfs @ 12.53 hrs, Volume= 2,983 cf
Routed to Link 2L : Combine Routed SCM-1, SCM-2, and Undetained

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 903.09' @ 12.53 hrs Surf.Area= 5,993 sf Storage= 8,786 cf

Plug-Flow detention time= 205.9 min calculated for 17,136 cf (100% of inflow)
Center-of-Mass det. time= 205.8 min (971.0 - 765.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	900.72'	4,506 cf	**26.76'W x 223.94'L x 2.84'H Field A** 17,023 cf Overall - 5,759 cf Embedded = 11,265 cf x 40.0% Voids
#2A	902.05'	5,413 cf	**ACO StormBrixx 300 HD 1** x 728 Inside #1 Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf 728 Chambers in 13 Rows
		9,919 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	900.72'	**2.000 in/hr Exfiltration over Surface area**
#2	Primary	901.05'	**24.0" Round Outlet Pipe** L= 31.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 901.05' / 900.92' S= 0.0041 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf
#3	Device 2	902.82'	**24.0" W x 2.0" H Vert. Lowest Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 2	902.98'	**24.0" W x 2.0" H Vert. Middle Orifice** C= 0.600 Limited to weir flow at low heads
#5	Device 2	903.14'	**48.0" W x 4.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#6	Device 2	903.47'	**5.0' long Weir** 2 End Contraction(s) 0.5' Crest Height

Discarded OutFlow Max=0.28 cfs @ 11.50 hrs HW=900.75' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.28 cfs)

Primary OutFlow Max=0.91 cfs @ 12.53 hrs HW=903.09' (Free Discharge)
└**2=Outlet Pipe** (Passes 0.91 cfs of 11.46 cfs potential flow)
  ├**3=Lowest Orifice** (Orifice Controls 0.68 cfs @ 2.04 fps)
  ├**4=Middle Orifice** (Orifice Controls 0.22 cfs @ 1.05 fps)
  ├**5=Upper Orifice** (Controls 0.00 cfs)
  └**6=Weir** (Controls 0.00 cfs)

Pond 4P: SCM-2 Storm Brixx - Chamber Wizard Field A

Chamber Model = ACO StormBrixx 300 HD 1 (ACO StormBrixx® 300 HD)
Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf
Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf

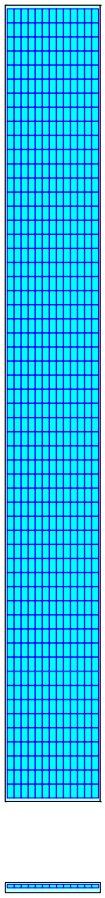
56 Chambers/Row x 3.96' Long = 221.94' Row Length +12.0" End Stone x 2 = 223.94' Base Length
13 Rows x 23.8" Wide + 6.0" Side Stone x 2 = 26.76' Base Width
16.0" Stone Base + 12.1" Chamber Height + 6.0" Stone Cover = 2.84' Field Height

728 Chambers x 7.4 cf = 5,413.2 cf Chamber Storage
728 Chambers x 7.9 cf = 5,758.8 cf Displacement

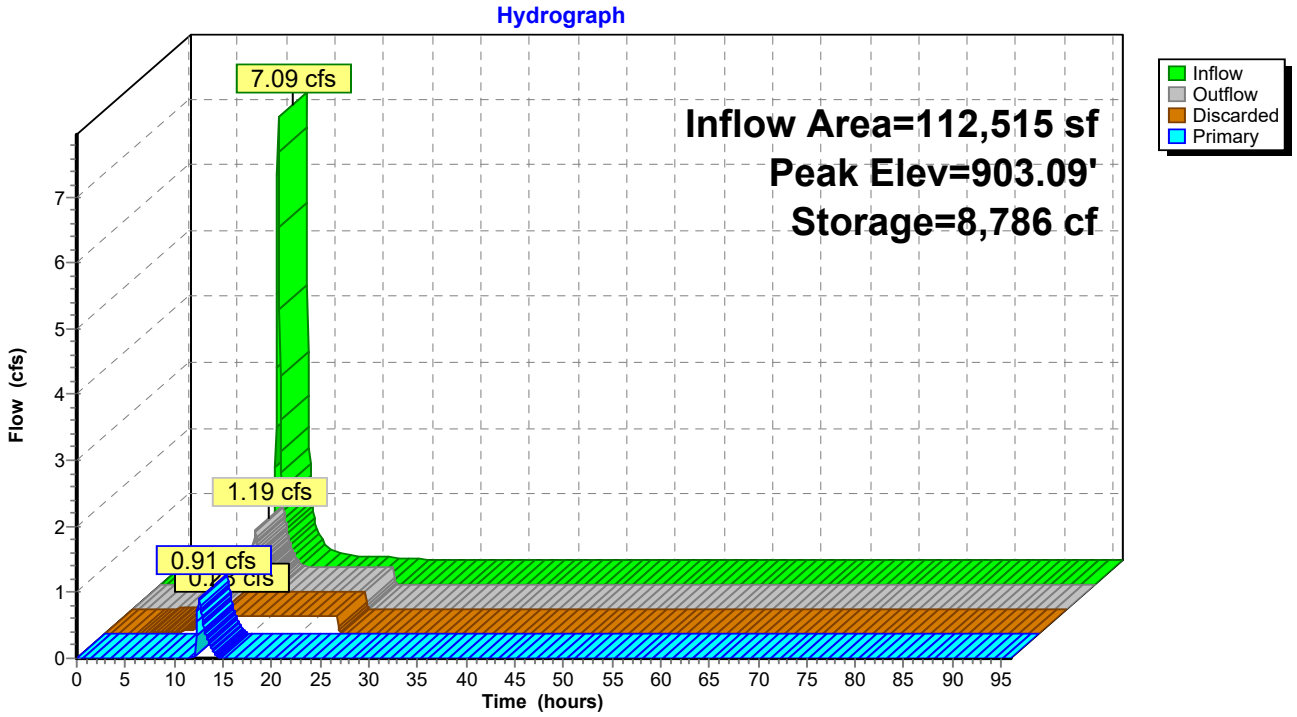
17,023.3 cf Field - 5,758.8 cf Chambers = 11,264.5 cf Stone x 40.0% Voids = 4,505.8 cf Stone Storage

Chamber Storage + Stone Storage = 9,919.0 cf = 0.228 af
Overall Storage Efficiency = 58.3%
Overall System Size = 223.94' x 26.76' x 2.84'

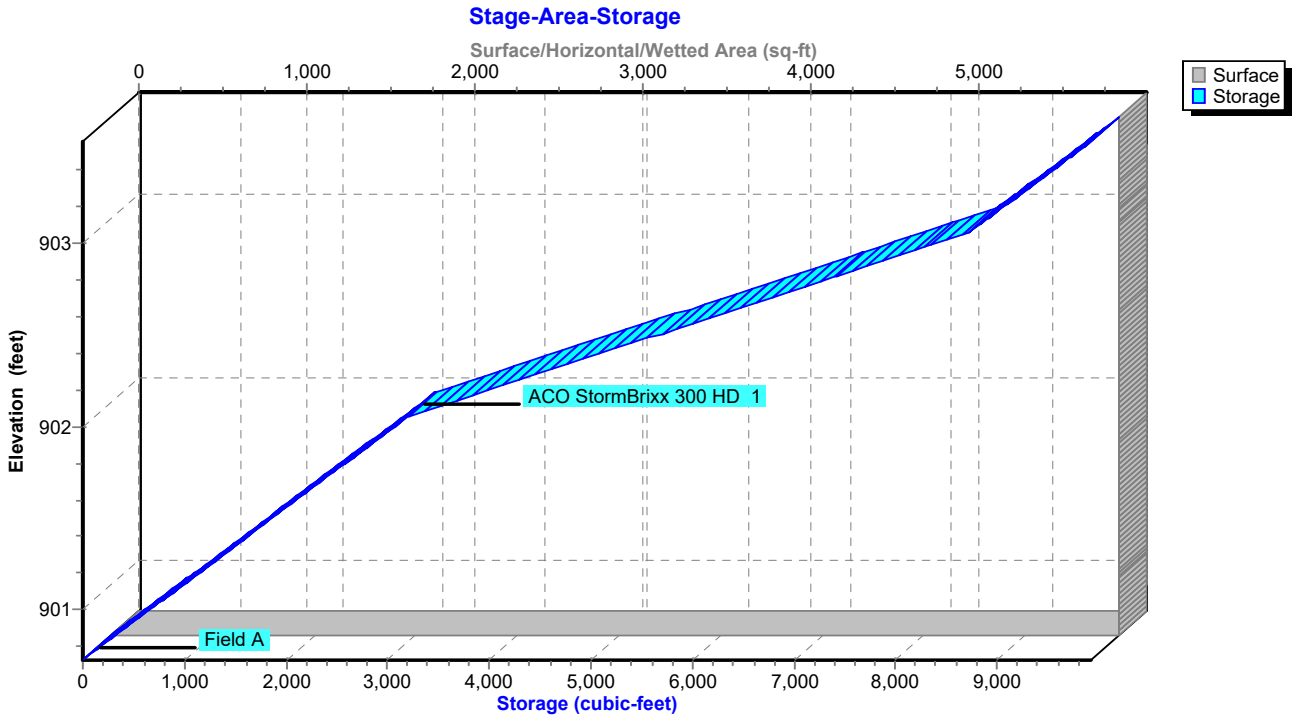
728 Chambers
630.5 cy Field
417.2 cy Stone



Pond 4P: SCM-2 Storm Brixx



Pond 4P: SCM-2 Storm Brixx



Stage-Area-Storage for Pond 4P: SCM-2 Storm Brixx

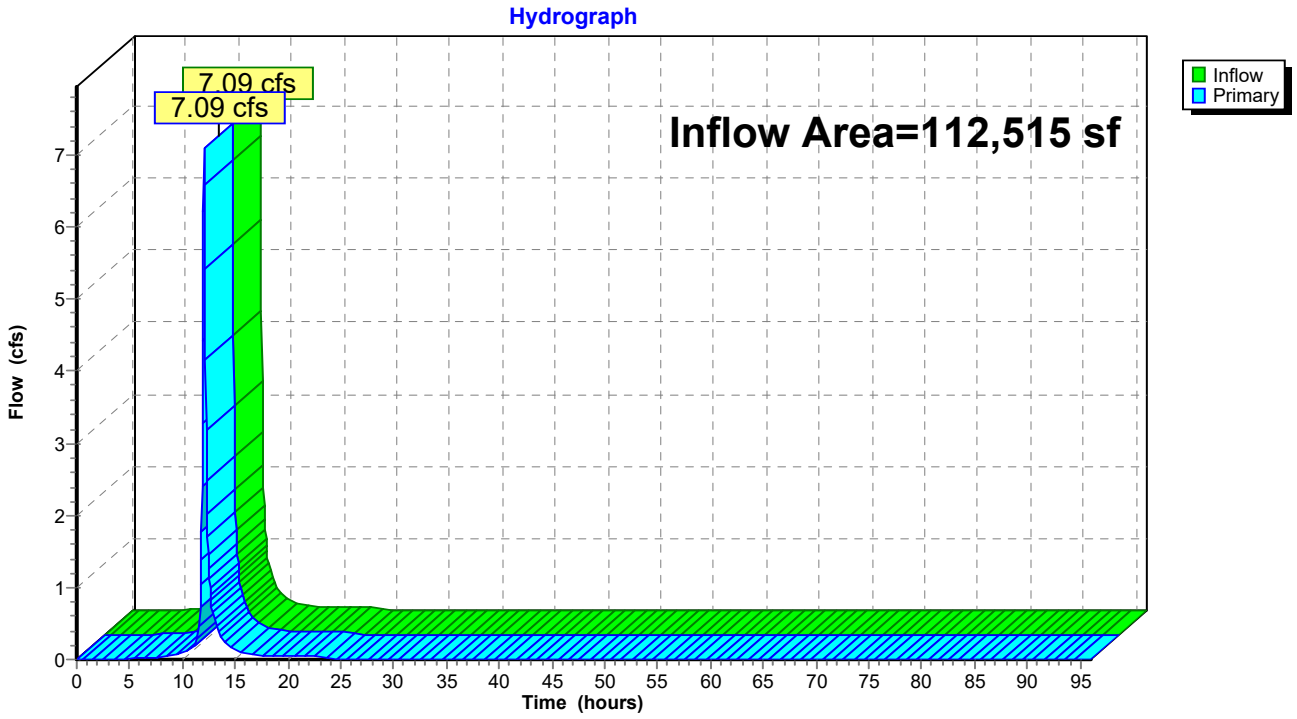
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
900.72	**5,993**	0
900.77	5,993	120
900.82	5,993	240
900.87	5,993	360
900.92	5,993	479
900.97	5,993	599
901.02	5,993	719
901.07	5,993	839
901.12	5,993	959
901.17	5,993	1,079
901.22	5,993	1,199
901.27	5,993	1,318
901.32	5,993	1,438
901.37	5,993	1,558
901.42	5,993	1,678
901.47	5,993	1,798
901.52	5,993	1,918
901.57	5,993	2,038
901.62	5,993	2,157
901.67	5,993	2,277
901.72	5,993	2,397
901.77	5,993	2,517
901.82	5,993	2,637
901.87	5,993	2,757
901.92	5,993	2,877
901.97	5,993	2,996
902.02	5,993	3,116
902.07	5,993	3,288
902.12	5,993	3,562
902.17	5,993	3,836
902.22	5,993	4,110
902.27	5,993	4,385
902.32	5,993	4,659
902.37	5,993	4,933
902.42	5,993	5,207
902.47	5,993	5,482
902.52	5,993	5,756
902.57	5,993	6,030
902.62	5,993	6,304
902.67	5,993	6,578
902.72	5,993	6,853
902.77	5,993	7,127
902.82	5,993	7,401
902.87	5,993	7,675
902.92	5,993	7,950
902.97	5,993	8,224
903.02	5,993	8,498
903.07	5,993	8,743
903.12	5,993	8,863
903.17	5,993	8,983
903.22	5,993	9,103
903.27	5,993	9,223
903.32	5,993	9,342
903.37	5,993	9,462
903.42	5,993	9,582
903.47	5,993	9,702
903.52	5,993	**9,822**

Summary for Link 1L: Combine SCM-1 and Post DA#1 Detained SCM-2

Inflow Area = 112,515 sf, 64.69% Impervious, Inflow Depth = 1.83" for 25 year event
Inflow = 7.09 cfs @ 12.06 hrs, Volume= 17,145 cf
Primary = 7.09 cfs @ 12.06 hrs, Volume= 17,145 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond 4P : SCM-2 Storm Brixx

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link 1L: Combine SCM-1 and Post DA#1 Detained SCM-2

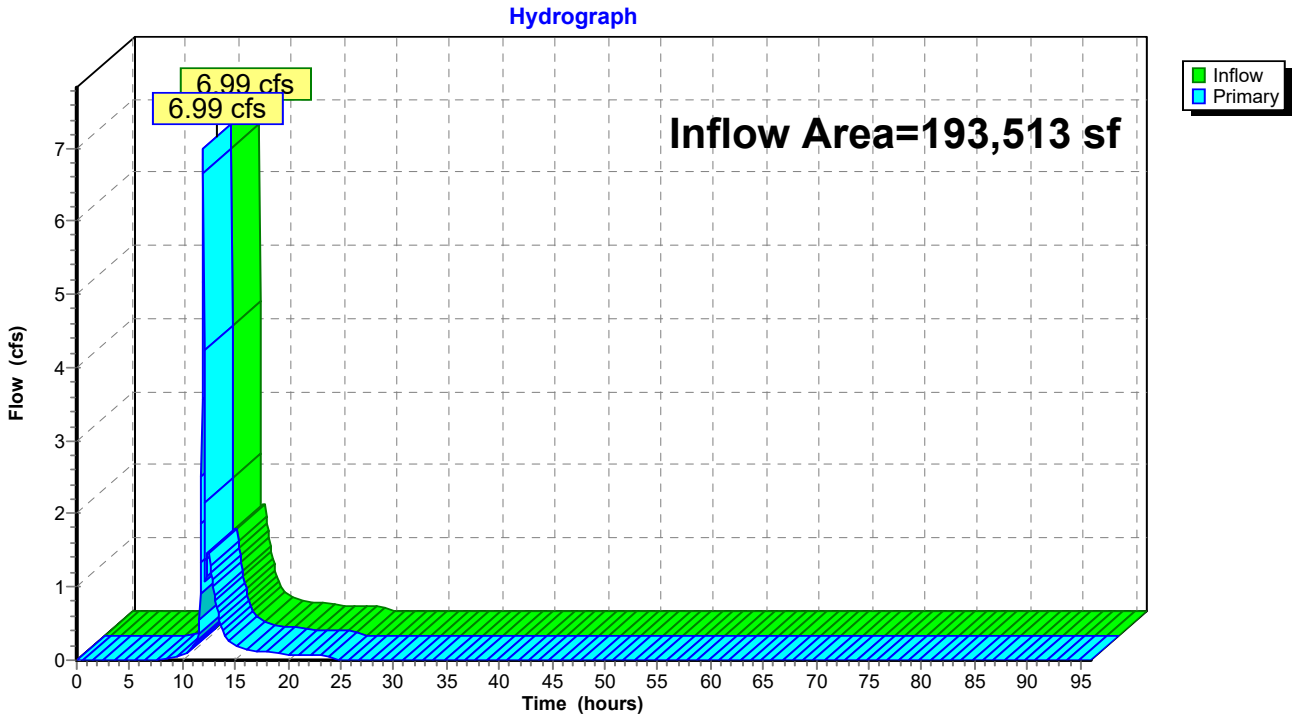


Summary for Link 2L: Combine Routed SCM-1, SCM-2, and Undetained

Inflow Area = 193,513 sf, 47.92% Impervious, Inflow Depth = 1.11" for 25 year event
Inflow = 6.99 cfs @ 11.97 hrs, Volume= 17,830 cf
Primary = 6.99 cfs @ 11.97 hrs, Volume= 17,830 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link 2L: Combine Routed SCM-1, SCM-2, and Undetained



Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Pre-DA#1 Runoff Area=4.444 ac 25.27% Impervious Runoff Depth=2.46"
Flow Length=869' Tc=16.7 min CN=81 Runoff=13.34 cfs 39,713 cf

Subcatchment2S: Post DA#1 Total Runoff Area=4.445 ac 47.92% Impervious Runoff Depth=3.10"
Tc=6.0 min CN=88 Runoff=22.84 cfs 50,056 cf

Subcatchment3S: Post DA#1 - Detained to Runoff Area=1.763 ac 59.50% Impervious Runoff Depth=3.20"
Flow Length=616' Tc=11.2 min CN=89 Runoff=7.93 cfs 20,481 cf

Subcatchment4S: Post DA#1 - Detained Runoff Area=0.820 ac 75.85% Impervious Runoff Depth=3.72"
Tc=6.0 min CN=94 Runoff=4.76 cfs 11,064 cf

Subcatchment5S: Post DA#1 - Undetained Runoff Area=80,998 sf 24.61% Impervious Runoff Depth=2.64"
Tc=6.0 min CN=83 Runoff=8.33 cfs 17,799 cf

Pond 3P: SCM-1 Storm Brixx Peak Elev=903.72' Storage=4,813 cf Inflow=7.93 cfs 20,481 cf
Discarded=0.18 cfs 10,650 cf Primary=6.81 cfs 9,831 cf Outflow=6.98 cfs 20,481 cf

Pond 4P: SCM-2 Storm Brixx Peak Elev=903.33' Storage=9,370 cf Inflow=9.24 cfs 20,895 cf
Discarded=0.28 cfs 14,981 cf Primary=2.95 cfs 5,914 cf Outflow=3.23 cfs 20,895 cf

Link 1L: Combine SCM-1 and Post DA#1 Detained SCM-2 Inflow=9.24 cfs 20,895 cf
Primary=9.24 cfs 20,895 cf

Link 2L: Combine Routed SCM-1, SCM-2, and Undetained Inflow=8.33 cfs 23,713 cf
Primary=8.33 cfs 23,713 cf

Total Runoff Area = 580,718 sf Runoff Volume = 139,114 cf Average Runoff Depth = 2.87"
59.63% Pervious = 346,295 sf 40.37% Impervious = 234,423 sf

Summary for Subcatchment 1S: Pre-DA #1

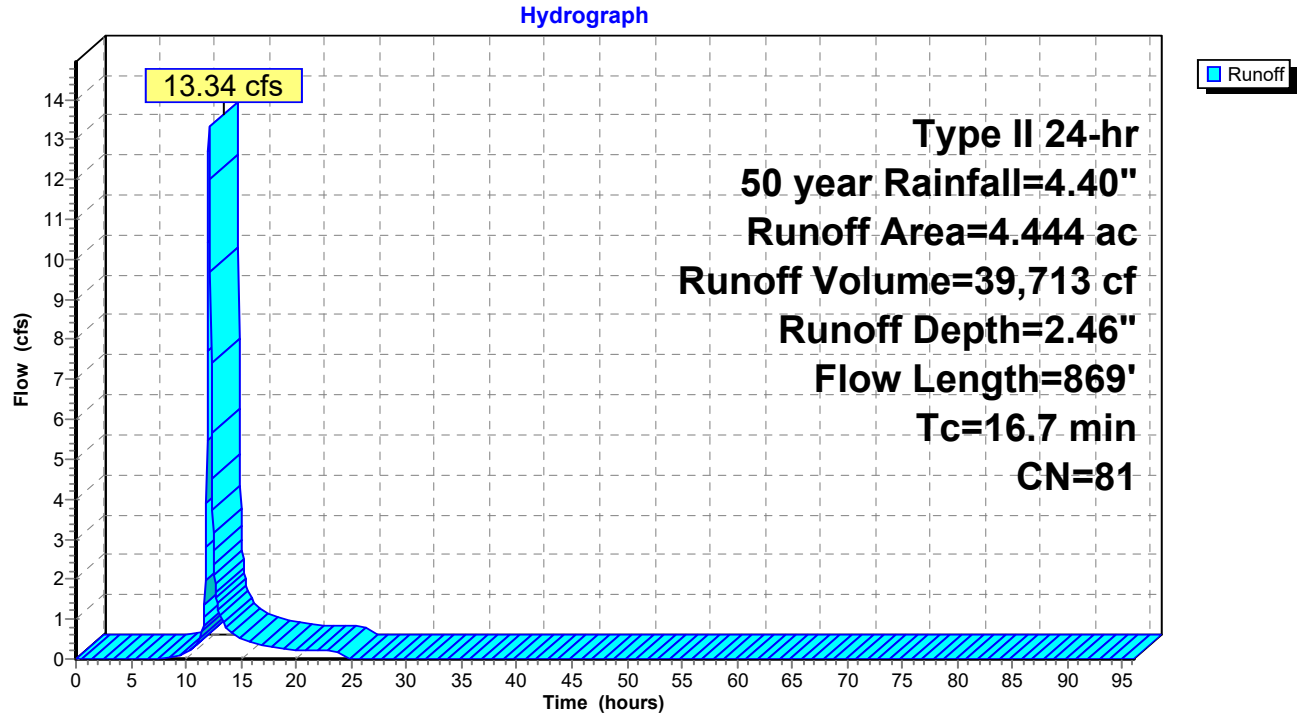
Runoff = 13.34 cfs @ 12.09 hrs, Volume= 39,713 cf, Depth= 2.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 50 year Rainfall=4.40"

Area (ac)	CN	Description
0.328	70	Woods, Good, HSG C
0.691	71	Meadow, non-grazed, HSG C
2.021	78	Meadow, non-grazed, HSG D
0.087	98	Paved parking, HSG C
1.036	98	Paved parking, HSG D
0.022	71	Meadow, non-grazed, HSG C
0.259	78	Meadow, non-grazed, HSG D
4.444	81	Weighted Average
3.321		74.73% Pervious Area
1.123		25.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.7	100	0.2800	0.19		**Sheet Flow, Sheet** Woods: Light underbrush n= 0.400 P2= 2.35"
8.0	769	0.0100	1.61		**Shallow Concentrated Flow, Shallow Conc** Unpaved Kv= 16.1 fps
16.7	869	Total			

Subcatchment 1S: Pre-DA #1



Summary for Subcatchment 2S: Post DA #1 Total

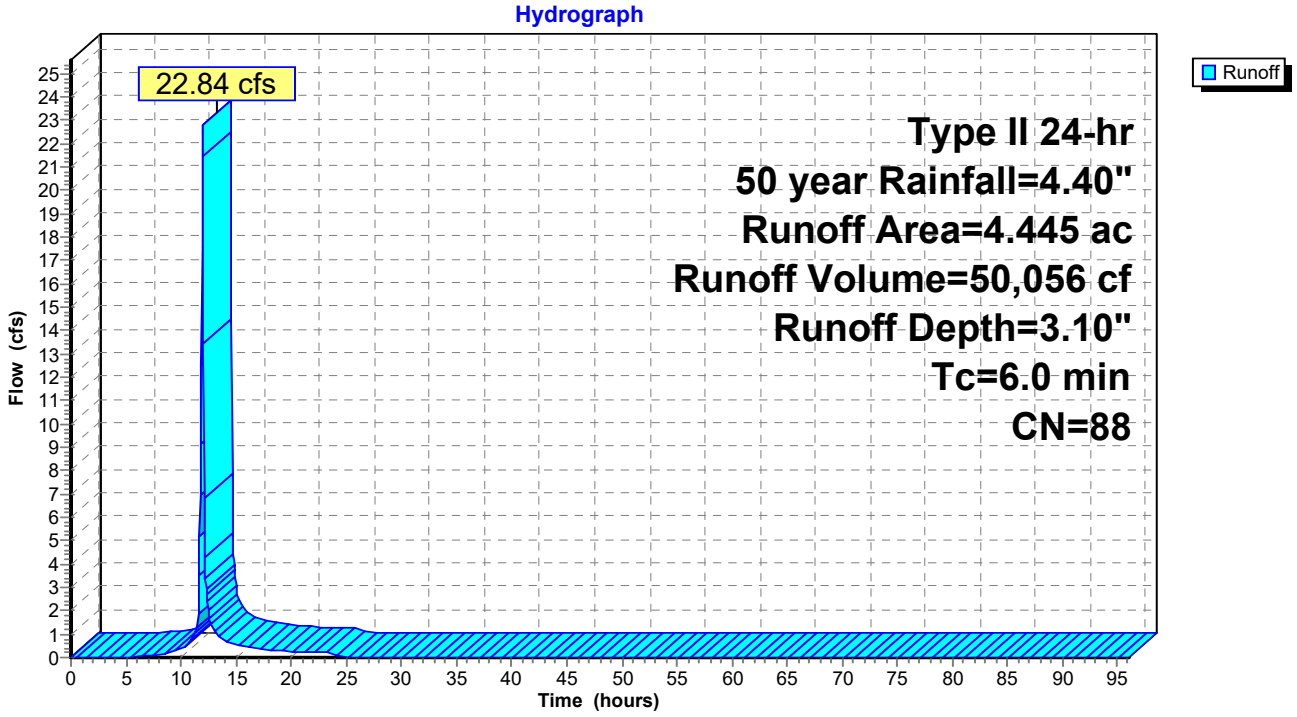
Runoff = 22.84 cfs @ 11.97 hrs, Volume= 50,056 cf, Depth= 3.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 50 year Rainfall=4.40"

Area (ac)	CN	Description
0.333	77	Woods, Poor, HSG C
0.108	71	Meadow, non-grazed, HSG C
0.427	74	>75% Grass cover, Good, HSG C
1.447	80	>75% Grass cover, Good, HSG D
0.266	98	Paved roads w/curbs & sewers, HSG C
1.864	98	Paved roads w/curbs & sewers, HSG D
4.445	88	Weighted Average
2.315		52.08% Pervious Area
2.130		47.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: Post DA #1 Total



Summary for Subcatchment 3S: Post DA #1 - Detained to SCM-1

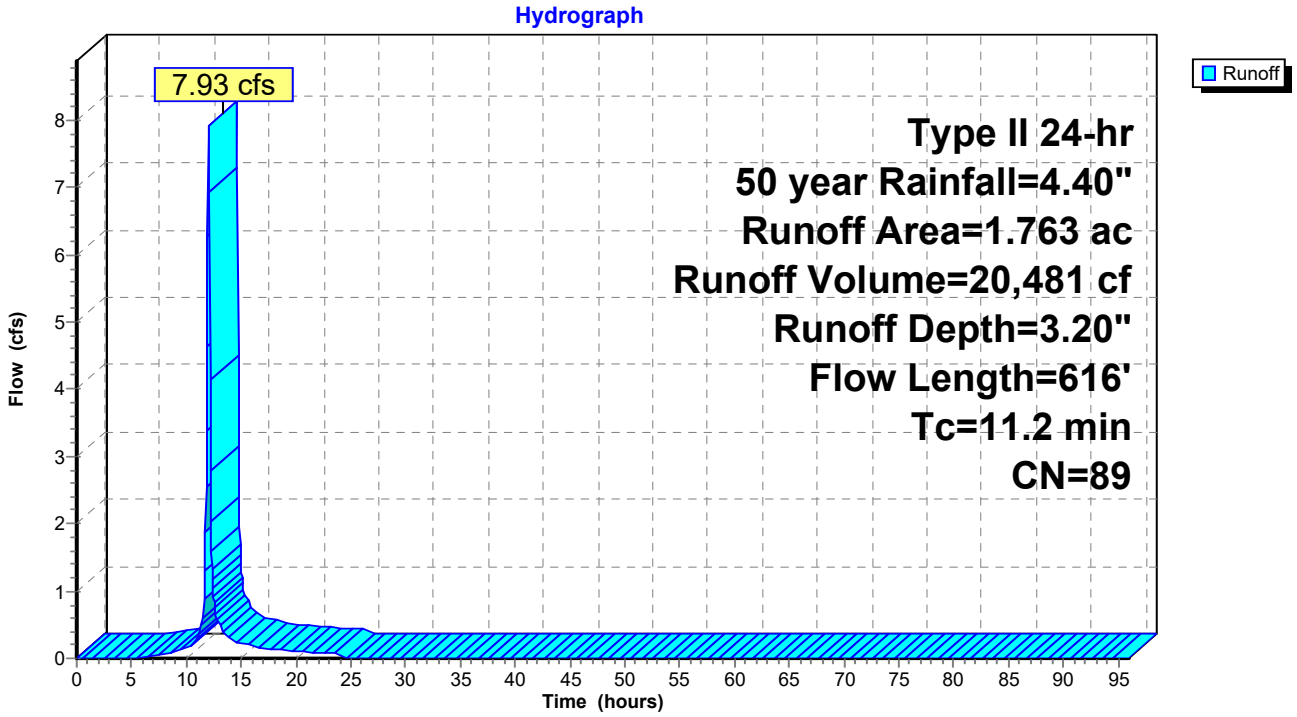
Runoff = 7.93 cfs @ 12.03 hrs, Volume= 20,481 cf, Depth= 3.20"
Routed to Pond 3P : SCM-1 Storm Brixx

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 50 year Rainfall=4.40"

Area (ac)	CN	Description
0.133	70	Woods, Good, HSG C
0.019	71	Meadow, non-grazed, HSG C
0.272	74	>75% Grass cover, Good, HSG C
0.290	80	>75% Grass cover, Good, HSG D
0.194	98	Paved roads w/curbs & sewers, HSG C
0.855	98	Paved roads w/curbs & sewers, HSG D
1.763	89	Weighted Average
0.714		40.50% Pervious Area
1.049		59.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	98	0.2400	0.18		**Sheet Flow, Sheet** Woods: Light underbrush n= 0.400 P2= 2.35"
0.7	164	0.0040	3.73	2.93	**Pipe Channel, 12" Pipe** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
1.4	354	0.0040	4.33	5.31	**Pipe Channel, 15" Pipe** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
11.2	616	Total			

Subcatchment 3S: Post DA #1 - Detained to SCM-1



Summary for Subcatchment 4S: Post DA #1 - Detained SCM-2

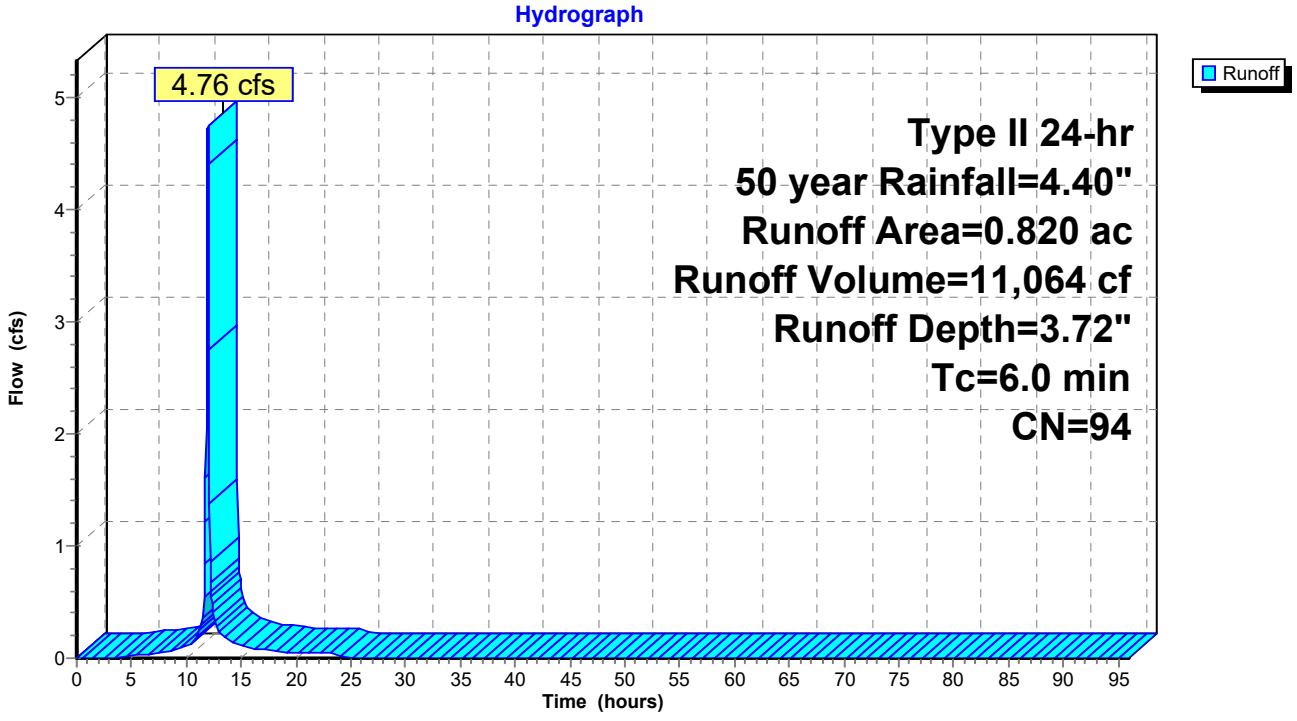
Runoff = 4.76 cfs @ 11.96 hrs, Volume= 11,064 cf, Depth= 3.72"
Routed to Link 1L : Combine SCM-1 and Post DA#1 Detained SCM-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 50 year Rainfall=4.40"

Area (ac)	CN	Description
0.198	80	>75% Grass cover, Good, HSG D
0.622	98	Paved roads w/curbs & sewers, HSG C
0.820	94	Weighted Average
0.198		24.15% Pervious Area
0.622		75.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: Post DA #1 - Detained SCM-2



Summary for Subcatchment 5S: Post DA #1 - Undetained

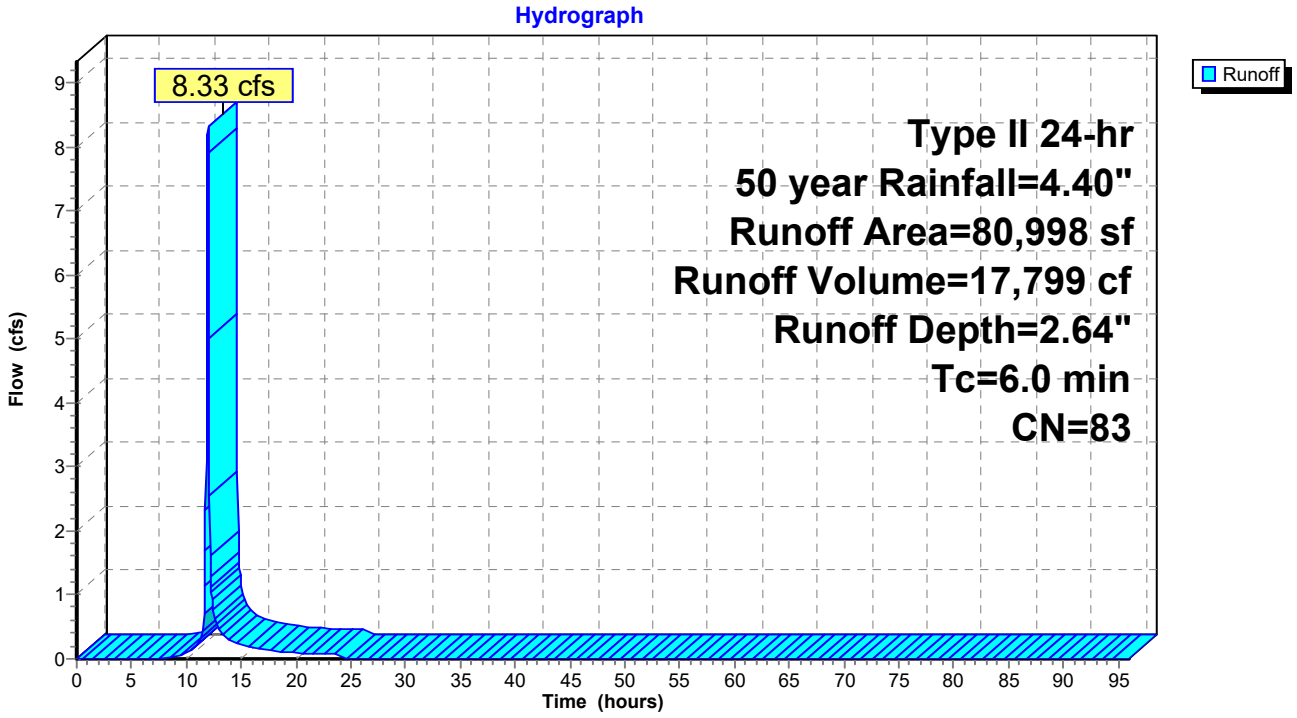
Runoff = 8.33 cfs @ 11.97 hrs, Volume= 17,799 cf, Depth= 2.64"
Routed to Link 2L : Combine Routed SCM-1, SCM-2, and Undetained

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 50 year Rainfall=4.40"

Area (sf)	CN	Description
8,685	77	Woods, Good, HSG D
3,848	71	Meadow, non-grazed, HSG C
6,756	74	>75% Grass cover, Good, HSG C
3,097	98	Paved roads w/curbs & sewers, HSG D
41,775	80	>75% Grass cover, Good, HSG D
16,837	98	Paved roads w/curbs & sewers, HSG D
80,998	83	Weighted Average
61,064		75.39% Pervious Area
19,934		24.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: Post DA #1 - Undetained



Summary for Pond 3P: SCM-1 Storm Brixx

Inflow Area = 76,796 sf, 59.50% Impervious, Inflow Depth = 3.20" for 50 year event
Inflow = 7.93 cfs @ 12.03 hrs, Volume= 20,481 cf
Outflow = 6.98 cfs @ 12.08 hrs, Volume= 20,481 cf, Atten= 12%, Lag= 3.6 min
Discarded = 0.18 cfs @ 12.08 hrs, Volume= 10,650 cf
Primary = 6.81 cfs @ 12.08 hrs, Volume= 9,831 cf
Routed to Link 1L : Combine SCM-1 and Post DA#1 Detained SCM-2

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 903.72' @ 12.08 hrs Surf.Area= 3,294 sf Storage= 4,813 cf

Plug-Flow detention time= 95.9 min calculated for 20,470 cf (100% of inflow)
Center-of-Mass det. time= 95.9 min (896.6 - 800.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	901.36'	2,480 cf	**42.61'W x 77.30'L x 2.84'H Stone Bedding** 9,357 cf Overall - 3,156 cf Embedded = 6,201 cf x 40.0% Voids
#2A	902.69'	2,967 cf	**ACO StormBrixx 300 HD 1** x 399 Inside #1 Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf 399 Chambers in 21 Rows
		5,447 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	901.36'	**2.000 in/hr Infiltration over Wetted area**
#2	Primary	901.69'	**24.0" Round Outlet Pipe** L= 8.9' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 901.69' / 901.35' S= 0.0382 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#3	Device 2	903.03'	**30.0" W x 2.0" H Vert. Lowest Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 2	903.20'	**48.0" W x 2.0" H Vert. Middle Orifice** C= 0.600 Limited to weir flow at low heads
#5	Device 2	903.36'	**54.0" W x 4.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#6	Device 2	903.69'	**5.0' long Weir Plate** Head (feet) 0.50 Coef. (English) 3.33

Discarded OutFlow Max=0.18 cfs @ 12.08 hrs HW=903.71' (Free Discharge)
└─**1=Infiltration** (Exfiltration Controls 0.18 cfs)

Primary OutFlow Max=6.64 cfs @ 12.08 hrs HW=903.71' (Free Discharge)
└─**2=Outlet Pipe** (Passes 6.64 cfs of 12.06 cfs potential flow)
  ├─**3=Lowest Orifice** (Orifice Controls 1.55 cfs @ 3.71 fps)
  ├─**4=Middle Orifice** (Orifice Controls 2.09 cfs @ 3.14 fps)
  ├─**5=Upper Orifice** (Orifice Controls 2.95 cfs @ 1.97 fps)
  └─**6=Weir Plate** (Weir Controls 0.05 cfs @ 0.46 fps)

Pond 3P: SCM-1 Storm Brixx - Chamber Wizard Stone Bedding

Chamber Model = ACO StormBrixx 300 HD 1 (ACO StormBrixx® 300 HD)
Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf
Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf

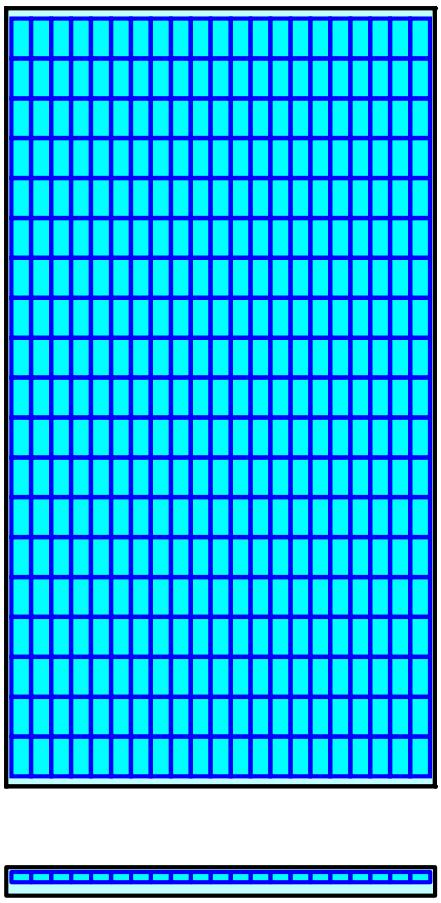
19 Chambers/Row x 3.96' Long = 75.30' Row Length +12.0" End Stone x 2 = 77.30' Base Length
21 Rows x 23.8" Wide + 6.0" Side Stone x 2 = 42.61' Base Width
16.0" Stone Base + 12.1" Chamber Height + 6.0" Stone Cover = 2.84' Field Height

399 Chambers x 7.4 cf = 2,966.9 cf Chamber Storage
399 Chambers x 7.9 cf = 3,156.2 cf Displacement

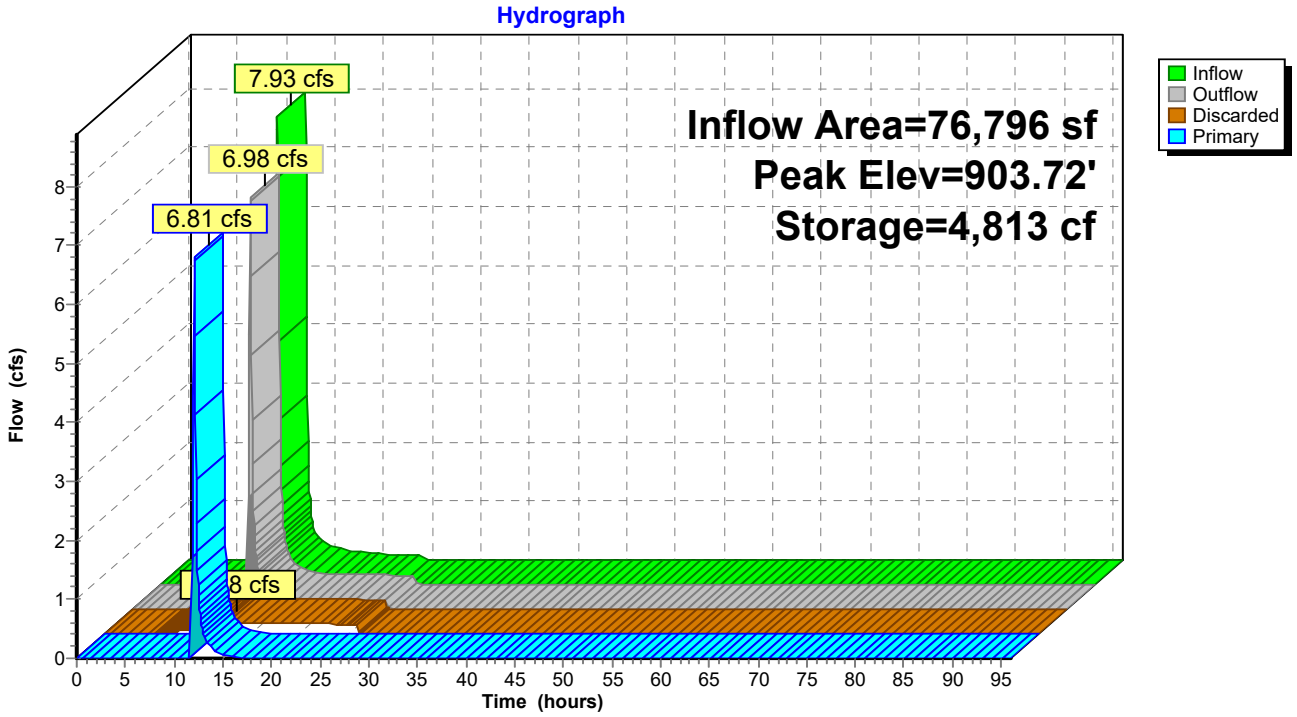
9,357.2 cf Field - 3,156.2 cf Chambers = 6,201.0 cf Stone x 40.0% Voids = 2,480.4 cf Stone Storage

Chamber Storage + Stone Storage = 5,447.3 cf = 0.125 af
Overall Storage Efficiency = 58.2%
Overall System Size = 77.30' x 42.61' x 2.84'

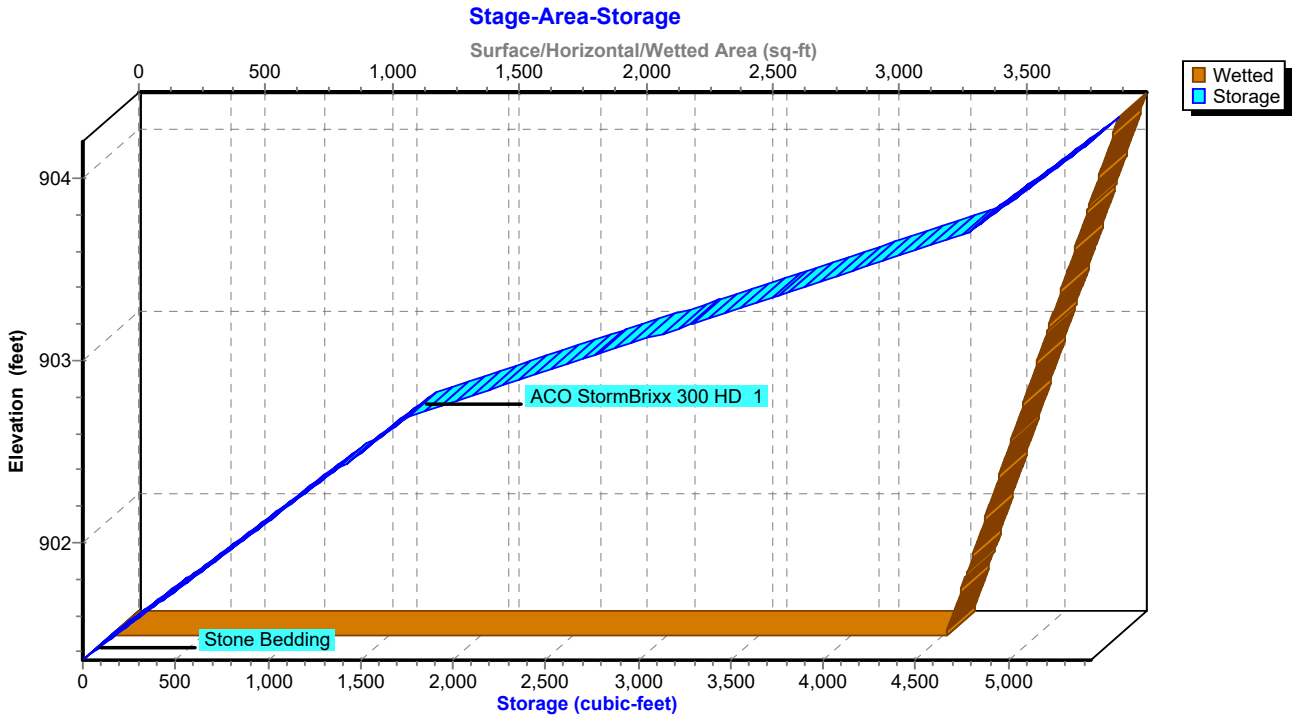
399 Chambers
346.6 cy Field
229.7 cy Stone



Pond 3P: SCM-1 Storm Brixx



Pond 3P: SCM-1 Storm Brixx



Stage-Area-Storage for Pond 3P: SCM-1 Storm Brixx

Elevation (feet)	Wetted (sq-ft)	Storage (cubic-feet)
901.36	3,294	0
901.41	3,306	66
901.46	3,318	132
901.51	3,330	198
901.56	3,342	264
901.61	3,354	329
901.66	3,366	395
901.71	3,378	461
901.76	3,390	527
901.81	3,402	593
901.86	3,414	659
901.91	3,426	725
901.96	3,438	791
902.01	3,450	856
902.06	3,462	922
902.11	3,474	988
902.16	3,486	1,054
902.21	3,498	1,120
902.26	3,510	1,186
902.31	3,522	1,252
902.36	3,534	1,318
902.41	3,546	1,384
902.46	3,558	1,449
902.51	3,570	1,515
902.56	3,582	1,581
902.61	3,594	1,647
902.66	3,606	1,713
902.71	3,618	1,807
902.76	3,630	1,958
902.81	3,642	2,108
902.86	3,654	2,259
902.91	3,666	2,409
902.96	3,678	2,560
903.01	3,690	2,710
903.06	3,702	2,860
903.11	3,714	3,011
903.16	3,726	3,161
903.21	3,738	3,312
903.26	3,750	3,462
903.31	3,762	3,613
903.36	3,774	3,763
903.41	3,786	3,914
903.46	3,798	4,064
903.51	3,810	4,215
903.56	3,822	4,365
903.61	3,834	4,516
903.66	3,846	4,666
903.71	3,858	4,801
903.76	3,870	4,867
903.81	3,882	4,933
903.86	3,894	4,999
903.91	3,906	5,064
903.96	3,918	5,130
904.01	3,930	5,196
904.06	3,942	5,262
904.11	3,954	5,328
904.16	**3,966**	**5,394**

Summary for Pond 4P: SCM-2 Storm Brixx

Inflow Area = 112,515 sf, 64.69% Impervious, Inflow Depth = 2.23" for 50 year event
Inflow = 9.24 cfs @ 12.03 hrs, Volume= 20,895 cf
Outflow = 3.23 cfs @ 12.28 hrs, Volume= 20,895 cf, Atten= 65%, Lag= 14.8 min
Discarded = 0.28 cfs @ 11.40 hrs, Volume= 14,981 cf
Primary = 2.95 cfs @ 12.28 hrs, Volume= 5,914 cf
Routed to Link 2L : Combine Routed SCM-1, SCM-2, and Undetained

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 903.33' @ 12.28 hrs Surf.Area= 5,993 sf Storage= 9,370 cf

Plug-Flow detention time= 182.6 min calculated for 20,884 cf (100% of inflow)
Center-of-Mass det. time= 182.5 min (945.3 - 762.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	900.72'	4,506 cf	**26.76'W x 223.94'L x 2.84'H Field A** 17,023 cf Overall - 5,759 cf Embedded = 11,265 cf x 40.0% Voids
#2A	902.05'	5,413 cf	**ACO StormBrixx 300 HD 1** x 728 Inside #1 Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf 728 Chambers in 13 Rows
		9,919 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	900.72'	**2.000 in/hr Exfiltration over Surface area**
#2	Primary	901.05'	**24.0" Round Outlet Pipe** L= 31.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 901.05' / 900.92' S= 0.0041 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf
#3	Device 2	902.82'	**24.0" W x 2.0" H Vert. Lowest Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 2	902.98'	**24.0" W x 2.0" H Vert. Middle Orifice** C= 0.600 Limited to weir flow at low heads
#5	Device 2	903.14'	**48.0" W x 4.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#6	Device 2	903.47'	**5.0' long Weir** 2 End Contraction(s) 0.5' Crest Height

Discarded OutFlow Max=0.28 cfs @ 11.40 hrs HW=900.75' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.28 cfs)

Primary OutFlow Max=2.90 cfs @ 12.28 hrs HW=903.33' (Free Discharge)
└**2=Outlet Pipe** (Passes 2.90 cfs of 13.30 cfs potential flow)
  ├**3=Lowest Orifice** (Orifice Controls 1.04 cfs @ 3.13 fps)
  ├**4=Middle Orifice** (Orifice Controls 0.82 cfs @ 2.46 fps)
  ├**5=Upper Orifice** (Orifice Controls 1.04 cfs @ 1.39 fps)
  └**6=Weir** (Controls 0.00 cfs)

Pond 4P: SCM-2 Storm Brixx - Chamber Wizard Field A

Chamber Model = ACO StormBrixx 300 HD 1 (ACO StormBrixx® 300 HD)
Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf
Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf

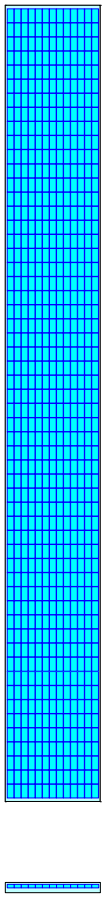
56 Chambers/Row x 3.96' Long = 221.94' Row Length +12.0" End Stone x 2 = 223.94' Base Length
13 Rows x 23.8" Wide + 6.0" Side Stone x 2 = 26.76' Base Width
16.0" Stone Base + 12.1" Chamber Height + 6.0" Stone Cover = 2.84' Field Height

728 Chambers x 7.4 cf = 5,413.2 cf Chamber Storage
728 Chambers x 7.9 cf = 5,758.8 cf Displacement

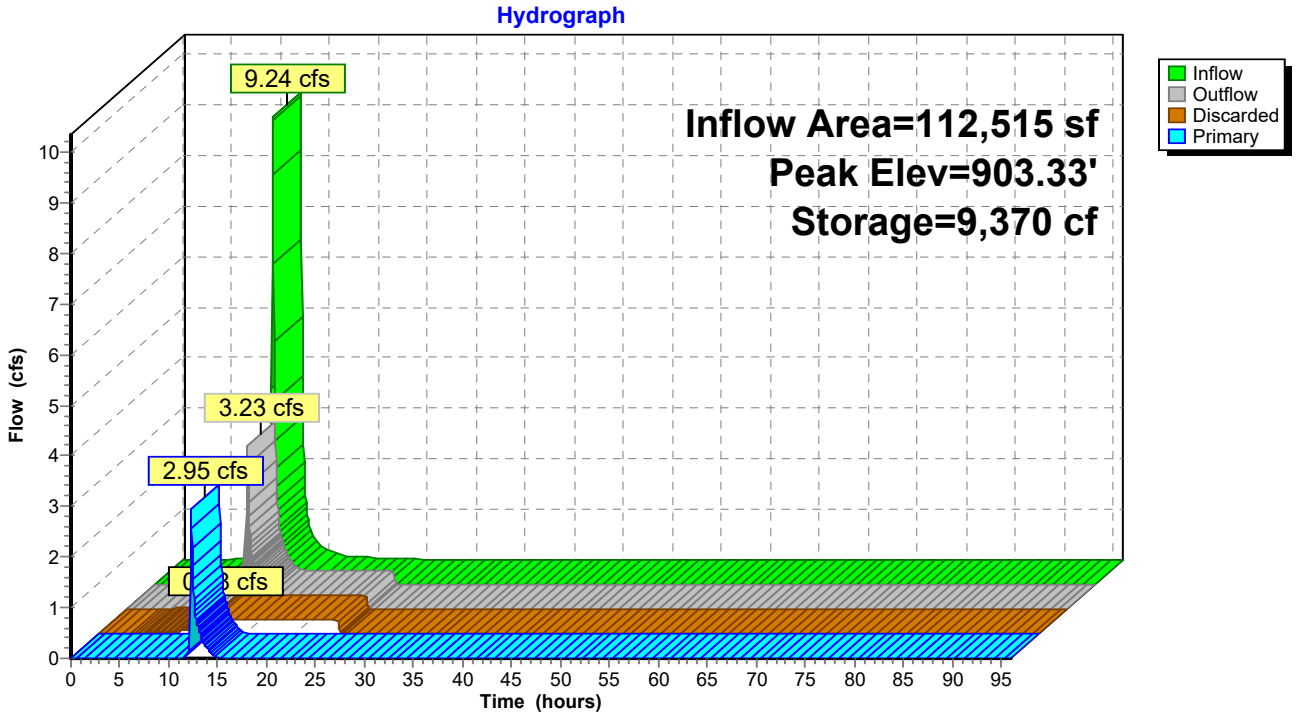
17,023.3 cf Field - 5,758.8 cf Chambers = 11,264.5 cf Stone x 40.0% Voids = 4,505.8 cf Stone Storage

Chamber Storage + Stone Storage = 9,919.0 cf = 0.228 af
Overall Storage Efficiency = 58.3%
Overall System Size = 223.94' x 26.76' x 2.84'

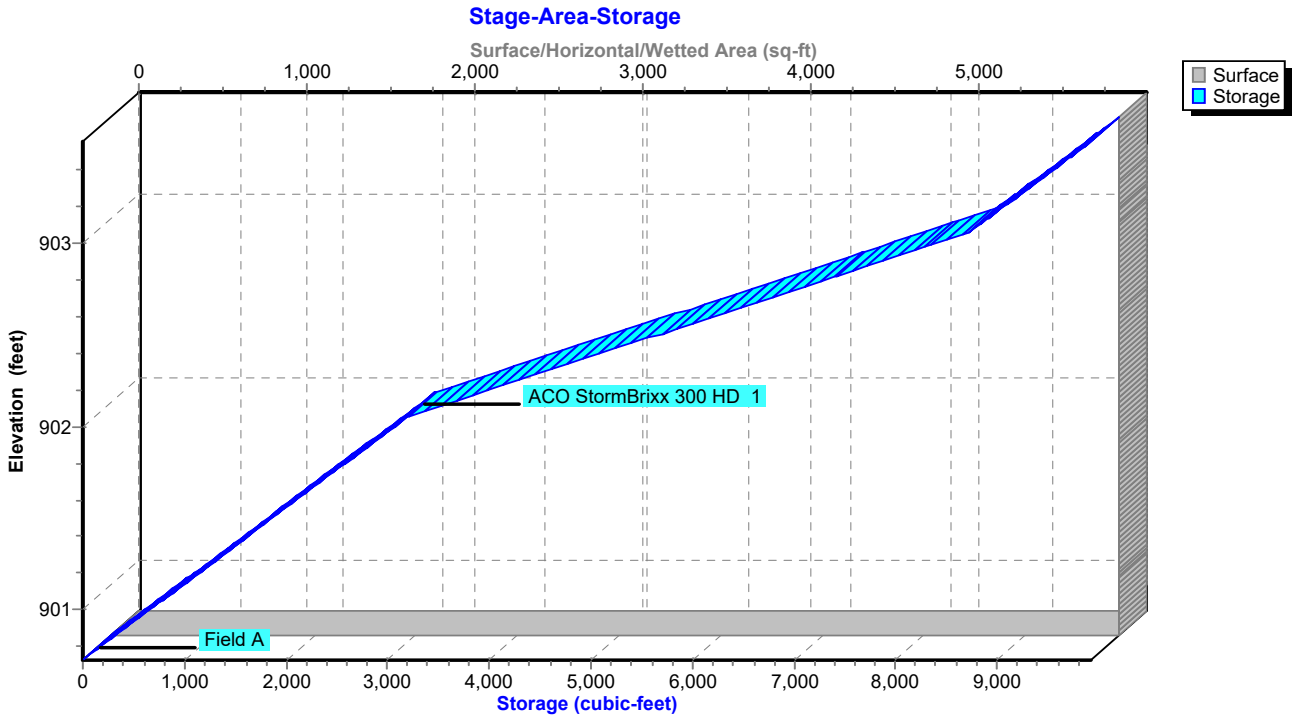
728 Chambers
630.5 cy Field
417.2 cy Stone



Pond 4P: SCM-2 Storm Brixx



Pond 4P: SCM-2 Storm Brixx



Stage-Area-Storage for Pond 4P: SCM-2 Storm Brixx

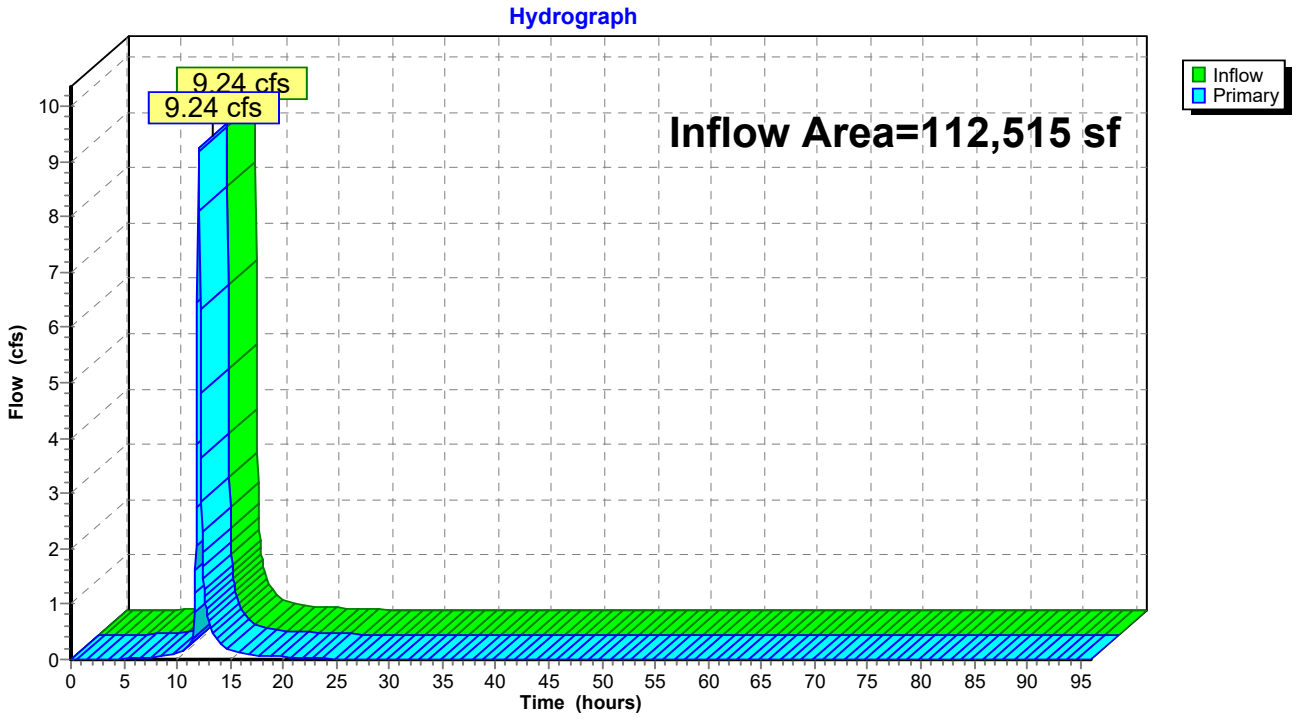
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
900.72	**5,993**	0
900.77	5,993	120
900.82	5,993	240
900.87	5,993	360
900.92	5,993	479
900.97	5,993	599
901.02	5,993	719
901.07	5,993	839
901.12	5,993	959
901.17	5,993	1,079
901.22	5,993	1,199
901.27	5,993	1,318
901.32	5,993	1,438
901.37	5,993	1,558
901.42	5,993	1,678
901.47	5,993	1,798
901.52	5,993	1,918
901.57	5,993	2,038
901.62	5,993	2,157
901.67	5,993	2,277
901.72	5,993	2,397
901.77	5,993	2,517
901.82	5,993	2,637
901.87	5,993	2,757
901.92	5,993	2,877
901.97	5,993	2,996
902.02	5,993	3,116
902.07	5,993	3,288
902.12	5,993	3,562
902.17	5,993	3,836
902.22	5,993	4,110
902.27	5,993	4,385
902.32	5,993	4,659
902.37	5,993	4,933
902.42	5,993	5,207
902.47	5,993	5,482
902.52	5,993	5,756
902.57	5,993	6,030
902.62	5,993	6,304
902.67	5,993	6,578
902.72	5,993	6,853
902.77	5,993	7,127
902.82	5,993	7,401
902.87	5,993	7,675
902.92	5,993	7,950
902.97	5,993	8,224
903.02	5,993	8,498
903.07	5,993	8,743
903.12	5,993	8,863
903.17	5,993	8,983
903.22	5,993	9,103
903.27	5,993	9,223
903.32	5,993	9,342
903.37	5,993	9,462
903.42	5,993	9,582
903.47	5,993	9,702
903.52	5,993	**9,822**

Summary for Link 1L: Combine SCM-1 and Post DA#1 Detained SCM-2

Inflow Area = 112,515 sf, 64.69% Impervious, Inflow Depth = 2.23" for 50 year event
Inflow = 9.24 cfs @ 12.03 hrs, Volume= 20,895 cf
Primary = 9.24 cfs @ 12.03 hrs, Volume= 20,895 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond 4P : SCM-2 Storm Brixx

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link 1L: Combine SCM-1 and Post DA#1 Detained SCM-2

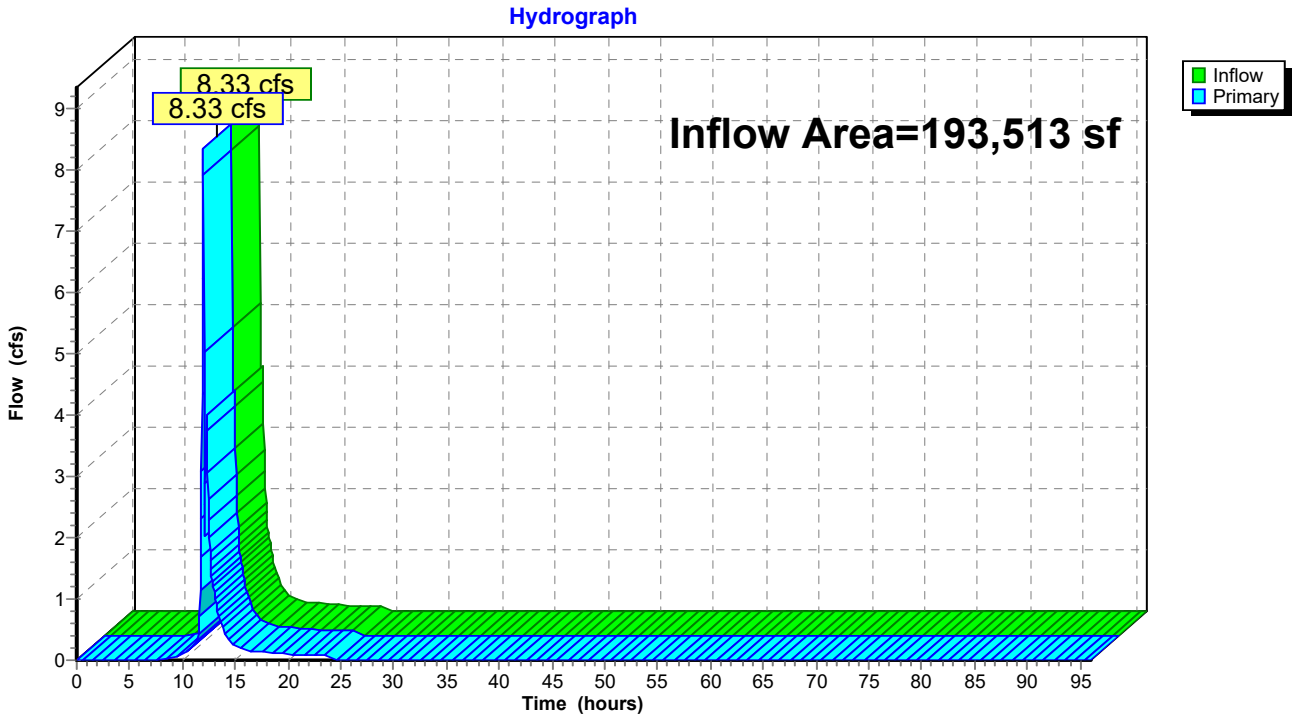


Summary for Link 2L: Combine Routed SCM-1, SCM-2, and Undetained

Inflow Area = 193,513 sf, 47.92% Impervious, Inflow Depth = 1.47" for 50 year event
Inflow = 8.33 cfs @ 11.97 hrs, Volume= 23,713 cf
Primary = 8.33 cfs @ 11.97 hrs, Volume= 23,713 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link 2L: Combine Routed SCM-1, SCM-2, and Undetained



Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Pre-DA#1 Runoff Area=4.444 ac 25.27% Impervious Runoff Depth=2.91"
Flow Length=869' Tc=16.7 min CN=81 Runoff=15.77 cfs 47,020 cf

Subcatchment2S: Post DA#1 Total Runoff Area=4.445 ac 47.92% Impervious Runoff Depth=3.59"
Tc=6.0 min CN=88 Runoff=26.23 cfs 57,974 cf

Subcatchment3S: Post DA#1 - Detained to Runoff Area=1.763 ac 59.50% Impervious Runoff Depth=3.70"
Flow Length=616' Tc=11.2 min CN=89 Runoff=9.06 cfs 23,649 cf

Subcatchment4S: Post DA#1 - Detained Runoff Area=0.820 ac 75.85% Impervious Runoff Depth=4.23"
Tc=6.0 min CN=94 Runoff=5.37 cfs 12,588 cf

Subcatchment5S: Post DA#1 - Undetained Runoff Area=80,998 sf 24.61% Impervious Runoff Depth=3.10"
Tc=6.0 min CN=83 Runoff=9.74 cfs 20,937 cf

Pond 3P: SCM-1 Storm Brixx Peak Elev=903.83' Storage=4,959 cf Inflow=9.06 cfs 23,649 cf
Discarded=0.18 cfs 11,331 cf Primary=8.86 cfs 12,318 cf Outflow=9.04 cfs 23,649 cf

Pond 4P: SCM-2 Storm Brixx Peak Elev=903.54' Storage=9,858 cf Inflow=12.05 cfs 24,906 cf
Discarded=0.28 cfs 15,815 cf Primary=5.64 cfs 9,092 cf Outflow=5.92 cfs 24,906 cf

Link 1L: Combine SCM-1 and Post DA#1 Detained SCM-2 Inflow=12.05 cfs 24,906 cf
Primary=12.05 cfs 24,906 cf

Link 2L: Combine Routed SCM-1, SCM-2, and Undetained Inflow=9.74 cfs 30,028 cf
Primary=9.74 cfs 30,028 cf

Total Runoff Area = 580,718 sf Runoff Volume = 162,168 cf Average Runoff Depth = 3.35"
59.63% Pervious = 346,295 sf 40.37% Impervious = 234,423 sf

Summary for Subcatchment 1S: Pre-DA #1

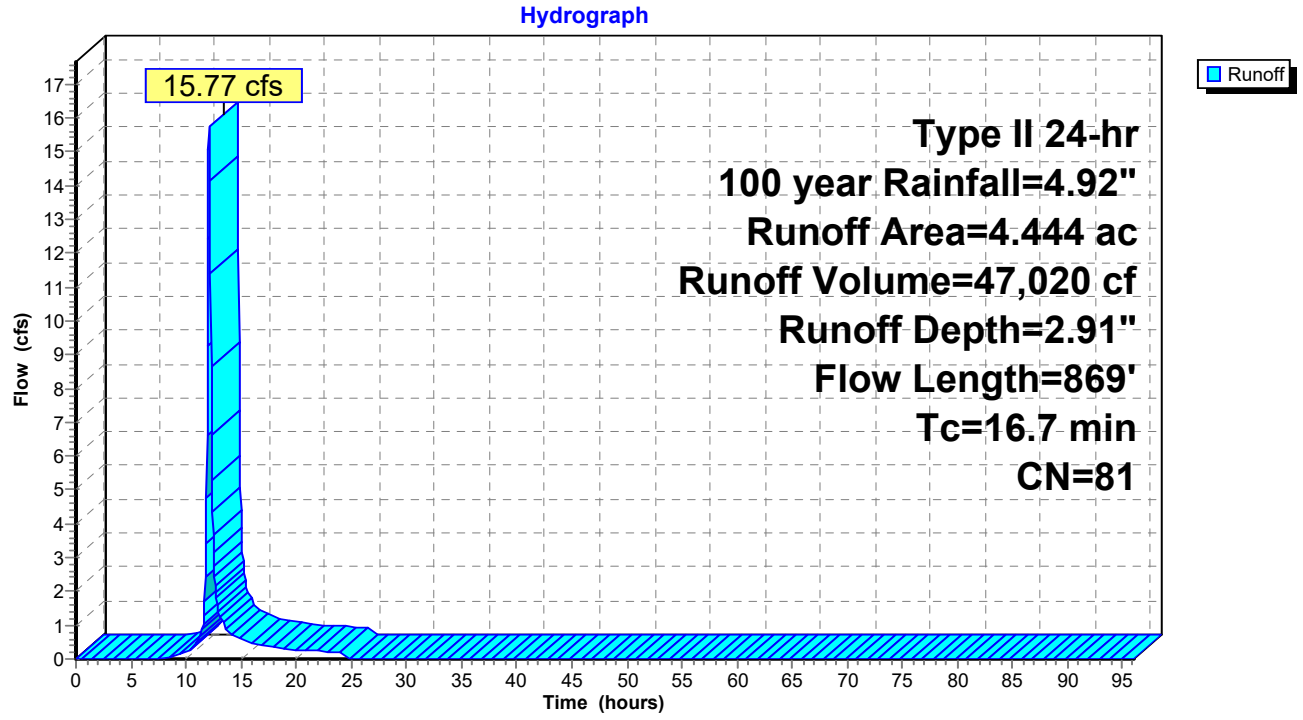
Runoff = 15.77 cfs @ 12.09 hrs, Volume= 47,020 cf, Depth= 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 100 year Rainfall=4.92"

Area (ac)	CN	Description
0.328	70	Woods, Good, HSG C
0.691	71	Meadow, non-grazed, HSG C
2.021	78	Meadow, non-grazed, HSG D
0.087	98	Paved parking, HSG C
1.036	98	Paved parking, HSG D
0.022	71	Meadow, non-grazed, HSG C
0.259	78	Meadow, non-grazed, HSG D
4.444	81	Weighted Average
3.321		74.73% Pervious Area
1.123		25.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.7	100	0.2800	0.19		**Sheet Flow, Sheet** Woods: Light underbrush n= 0.400 P2= 2.35"
8.0	769	0.0100	1.61		**Shallow Concentrated Flow, Shallow Conc** Unpaved Kv= 16.1 fps
16.7	869	Total			

Subcatchment 1S: Pre-DA #1



Summary for Subcatchment 2S: Post DA #1 Total

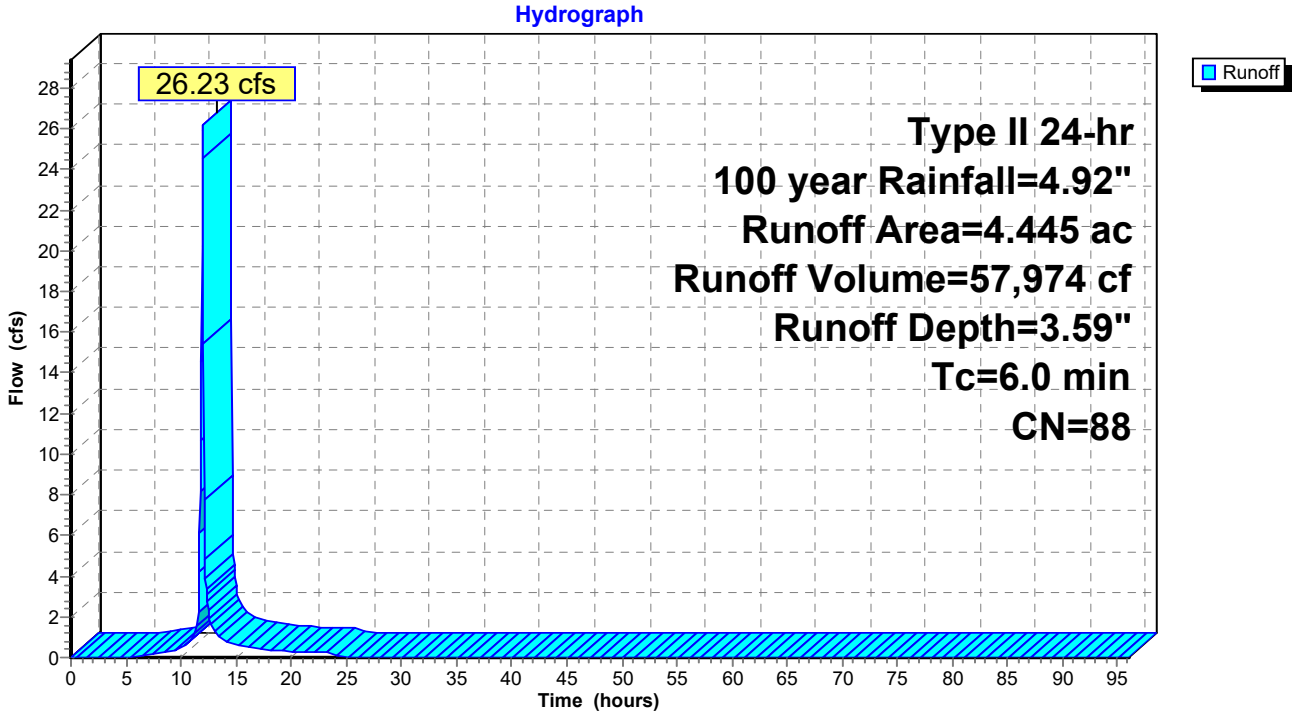
Runoff = 26.23 cfs @ 11.97 hrs, Volume= 57,974 cf, Depth= 3.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 100 year Rainfall=4.92"

Area (ac)	CN	Description
0.333	77	Woods, Poor, HSG C
0.108	71	Meadow, non-grazed, HSG C
0.427	74	>75% Grass cover, Good, HSG C
1.447	80	>75% Grass cover, Good, HSG D
0.266	98	Paved roads w/curbs & sewers, HSG C
1.864	98	Paved roads w/curbs & sewers, HSG D
4.445	88	Weighted Average
2.315		52.08% Pervious Area
2.130		47.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2S: Post DA #1 Total



Summary for Subcatchment 3S: Post DA #1 - Detained to SCM-1

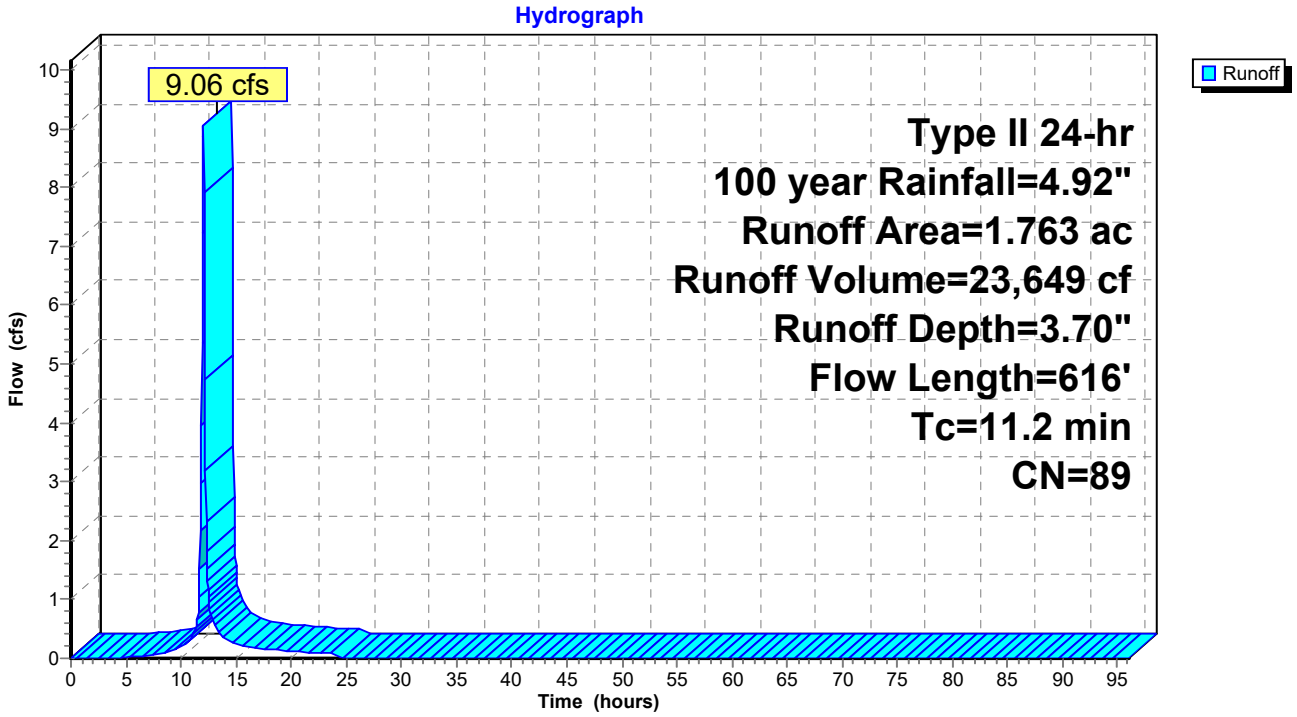
Runoff = 9.06 cfs @ 12.02 hrs, Volume= 23,649 cf, Depth= 3.70"
Routed to Pond 3P : SCM-1 Storm Brixx

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 100 year Rainfall=4.92"

Area (ac)	CN	Description
0.133	70	Woods, Good, HSG C
0.019	71	Meadow, non-grazed, HSG C
0.272	74	>75% Grass cover, Good, HSG C
0.290	80	>75% Grass cover, Good, HSG D
0.194	98	Paved roads w/curbs & sewers, HSG C
0.855	98	Paved roads w/curbs & sewers, HSG D
1.763	89	Weighted Average
0.714		40.50% Pervious Area
1.049		59.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	98	0.2400	0.18		**Sheet Flow, Sheet** Woods: Light underbrush n= 0.400 P2= 2.35"
0.7	164	0.0040	3.73	2.93	**Pipe Channel, 12" Pipe** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.010 PVC, smooth interior
1.4	354	0.0040	4.33	5.31	**Pipe Channel, 15" Pipe** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010 PVC, smooth interior
11.2	616	Total			

Subcatchment 3S: Post DA #1 - Detained to SCM-1



Summary for Subcatchment 4S: Post DA #1 - Detained SCM-2

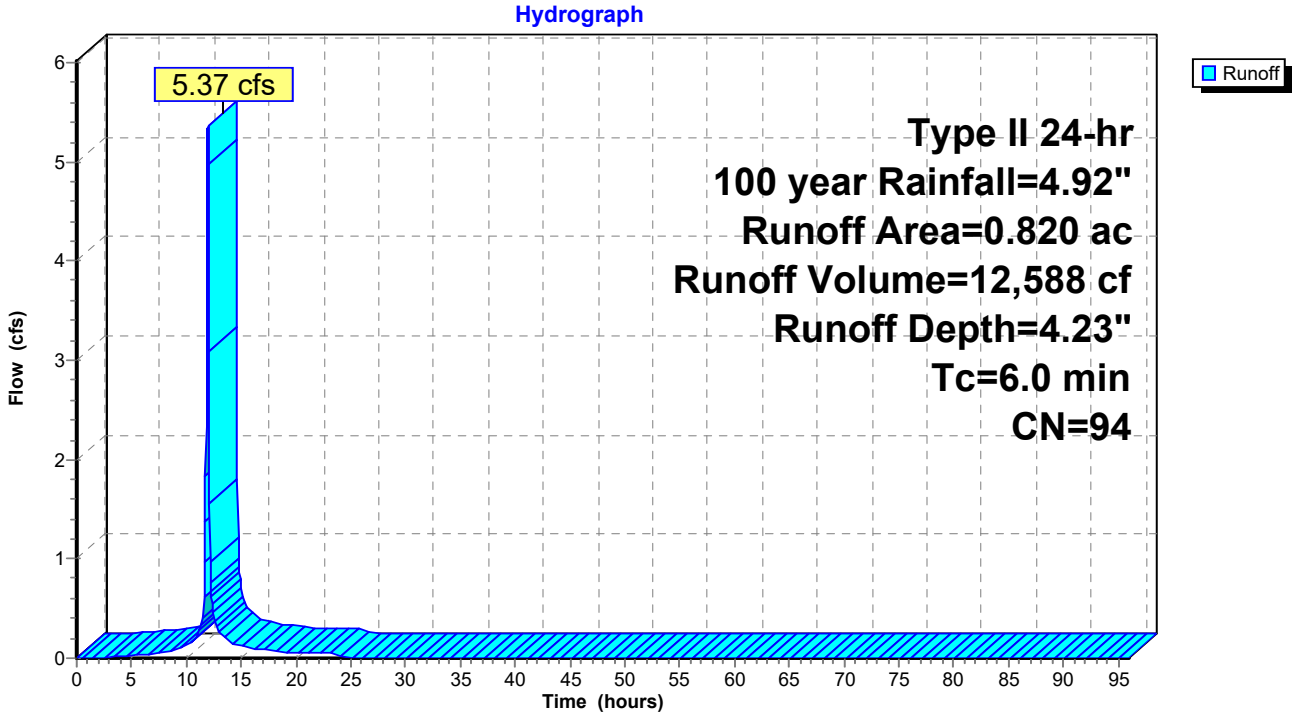
Runoff = 5.37 cfs @ 11.96 hrs, Volume= 12,588 cf, Depth= 4.23"
Routed to Link 1L : Combine SCM-1 and Post DA#1 Detained SCM-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 100 year Rainfall=4.92"

Area (ac)	CN	Description
0.198	80	>75% Grass cover, Good, HSG D
0.622	98	Paved roads w/curbs & sewers, HSG C
0.820	94	Weighted Average
0.198		24.15% Pervious Area
0.622		75.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: Post DA #1 - Detained SCM-2



Summary for Subcatchment 5S: Post DA #1 - Undetained

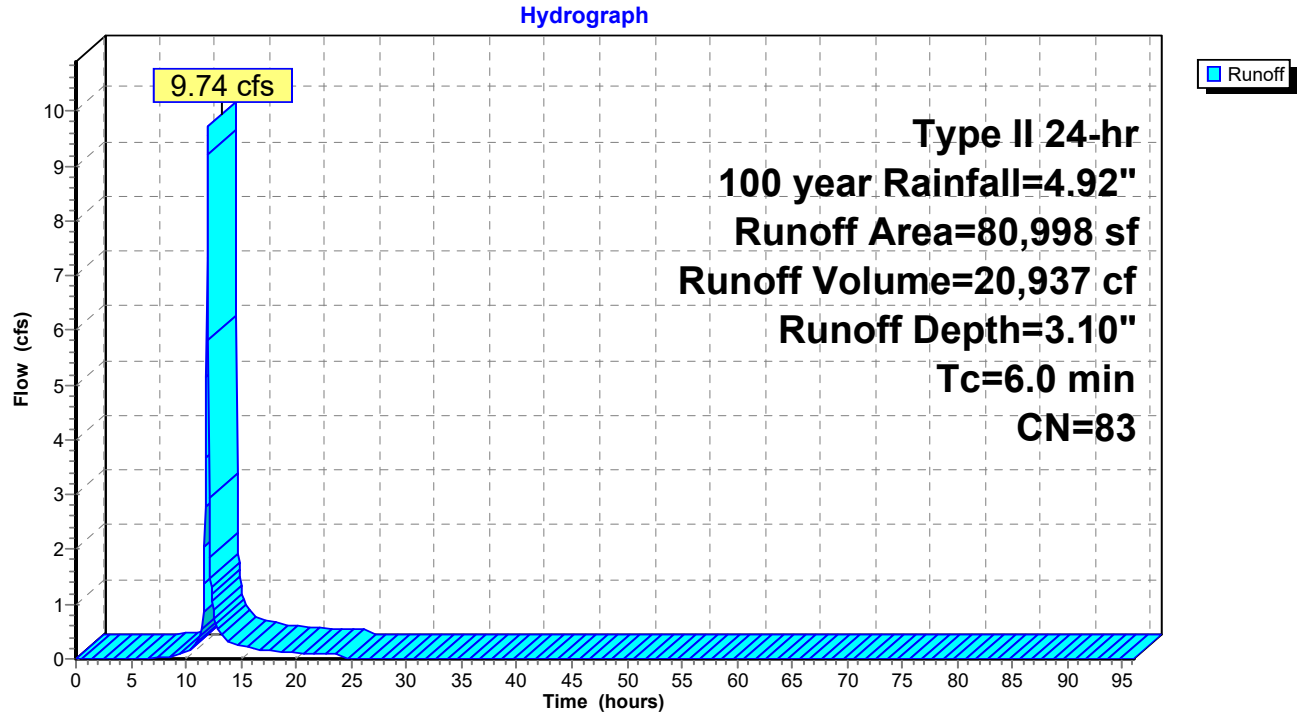
Runoff = 9.74 cfs @ 11.97 hrs, Volume= 20,937 cf, Depth= 3.10"
Routed to Link 2L : Combine Routed SCM-1, SCM-2, and Undetained

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 100 year Rainfall=4.92"

Area (sf)	CN	Description
8,685	77	Woods, Good, HSG D
3,848	71	Meadow, non-grazed, HSG C
6,756	74	>75% Grass cover, Good, HSG C
3,097	98	Paved roads w/curbs & sewers, HSG D
41,775	80	>75% Grass cover, Good, HSG D
16,837	98	Paved roads w/curbs & sewers, HSG D
80,998	83	Weighted Average
61,064		75.39% Pervious Area
19,934		24.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: Post DA #1 - Undetained



Summary for Pond 3P: SCM-1 Storm Brixx

Inflow Area = 76,796 sf, 59.50% Impervious, Inflow Depth = 3.70" for 100 year event
Inflow = 9.06 cfs @ 12.02 hrs, Volume= 23,649 cf
Outflow = 9.04 cfs @ 12.06 hrs, Volume= 23,649 cf, Atten= 0%, Lag= 2.1 min
Discarded = 0.18 cfs @ 12.06 hrs, Volume= 11,331 cf
Primary = 8.86 cfs @ 12.06 hrs, Volume= 12,318 cf
Routed to Link 1L : Combine SCM-1 and Post DA#1 Detained SCM-2

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 903.83' @ 12.06 hrs Surf.Area= 3,294 sf Storage= 4,959 cf

Plug-Flow detention time= 90.5 min calculated for 23,637 cf (100% of inflow)
Center-of-Mass det. time= 90.5 min (887.1 - 796.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	901.36'	2,480 cf	**42.61'W x 77.30'L x 2.84'H Stone Bedding** 9,357 cf Overall - 3,156 cf Embedded = 6,201 cf x 40.0% Voids
#2A	902.69'	2,967 cf	**ACO StormBrixx 300 HD 1** x 399 Inside #1 Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf 399 Chambers in 21 Rows
		5,447 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	901.36'	**2.000 in/hr Infiltration over Wetted area**
#2	Primary	901.69'	**24.0" Round Outlet Pipe** L= 8.9' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 901.69' / 901.35' S= 0.0382 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#3	Device 2	903.03'	**30.0" W x 2.0" H Vert. Lowest Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 2	903.20'	**48.0" W x 2.0" H Vert. Middle Orifice** C= 0.600 Limited to weir flow at low heads
#5	Device 2	903.36'	**54.0" W x 4.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#6	Device 2	903.69'	**5.0' long Weir Plate** Head (feet) 0.50 Coef. (English) 3.33

Discarded OutFlow Max=0.18 cfs @ 12.06 hrs HW=903.81' (Free Discharge)
└**1=Infiltration** (Exfiltration Controls 0.18 cfs)

Primary OutFlow Max=8.58 cfs @ 12.06 hrs HW=903.82' (Free Discharge)
└**2=Outlet Pipe** (Passes 8.58 cfs of 12.67 cfs potential flow)
  ├**3=Lowest Orifice** (Orifice Controls 1.68 cfs @ 4.03 fps)
  ├**4=Middle Orifice** (Orifice Controls 2.34 cfs @ 3.51 fps)
  ├**5=Upper Orifice** (Orifice Controls 3.82 cfs @ 2.55 fps)
  └**6=Weir Plate** (Weir Controls 0.74 cfs @ 1.18 fps)

Pond 3P: SCM-1 Storm Brixx - Chamber Wizard Stone Bedding

Chamber Model = ACO StormBrixx 300 HD 1 (ACO StormBrixx® 300 HD)
Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf
Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf

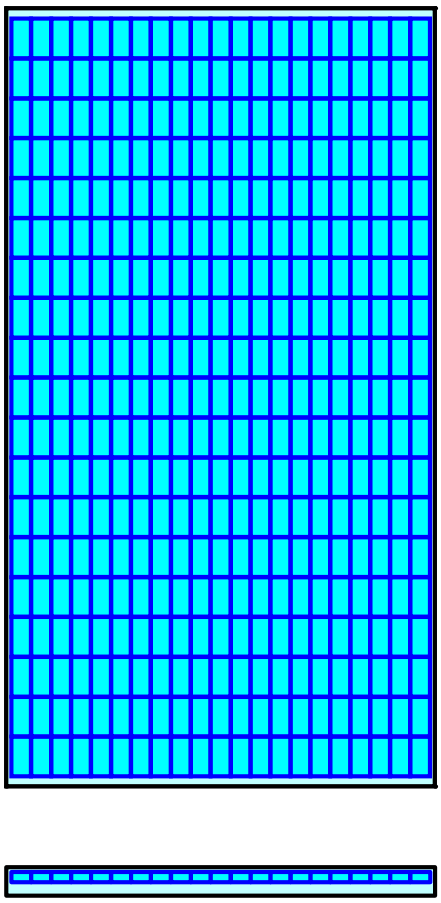
19 Chambers/Row x 3.96' Long = 75.30' Row Length +12.0" End Stone x 2 = 77.30' Base Length
21 Rows x 23.8" Wide + 6.0" Side Stone x 2 = 42.61' Base Width
16.0" Stone Base + 12.1" Chamber Height + 6.0" Stone Cover = 2.84' Field Height

399 Chambers x 7.4 cf = 2,966.9 cf Chamber Storage
399 Chambers x 7.9 cf = 3,156.2 cf Displacement

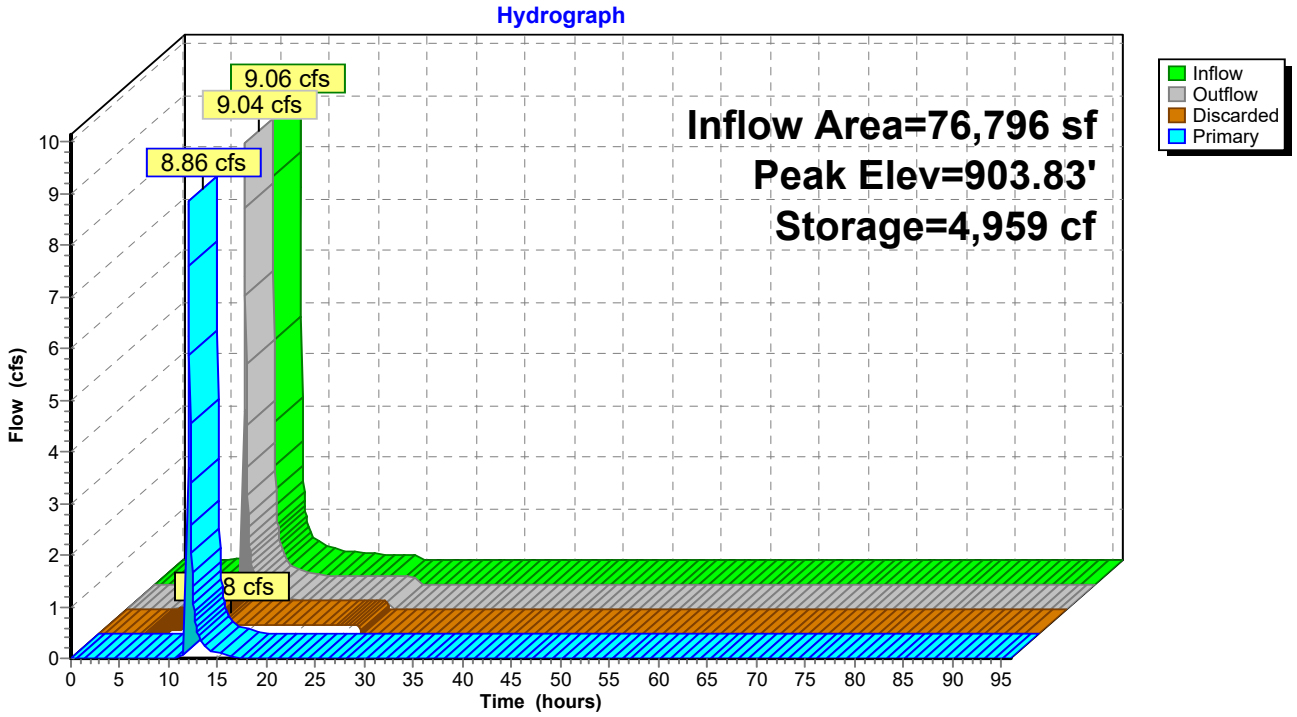
9,357.2 cf Field - 3,156.2 cf Chambers = 6,201.0 cf Stone x 40.0% Voids = 2,480.4 cf Stone Storage

Chamber Storage + Stone Storage = 5,447.3 cf = 0.125 af
Overall Storage Efficiency = 58.2%
Overall System Size = 77.30' x 42.61' x 2.84'

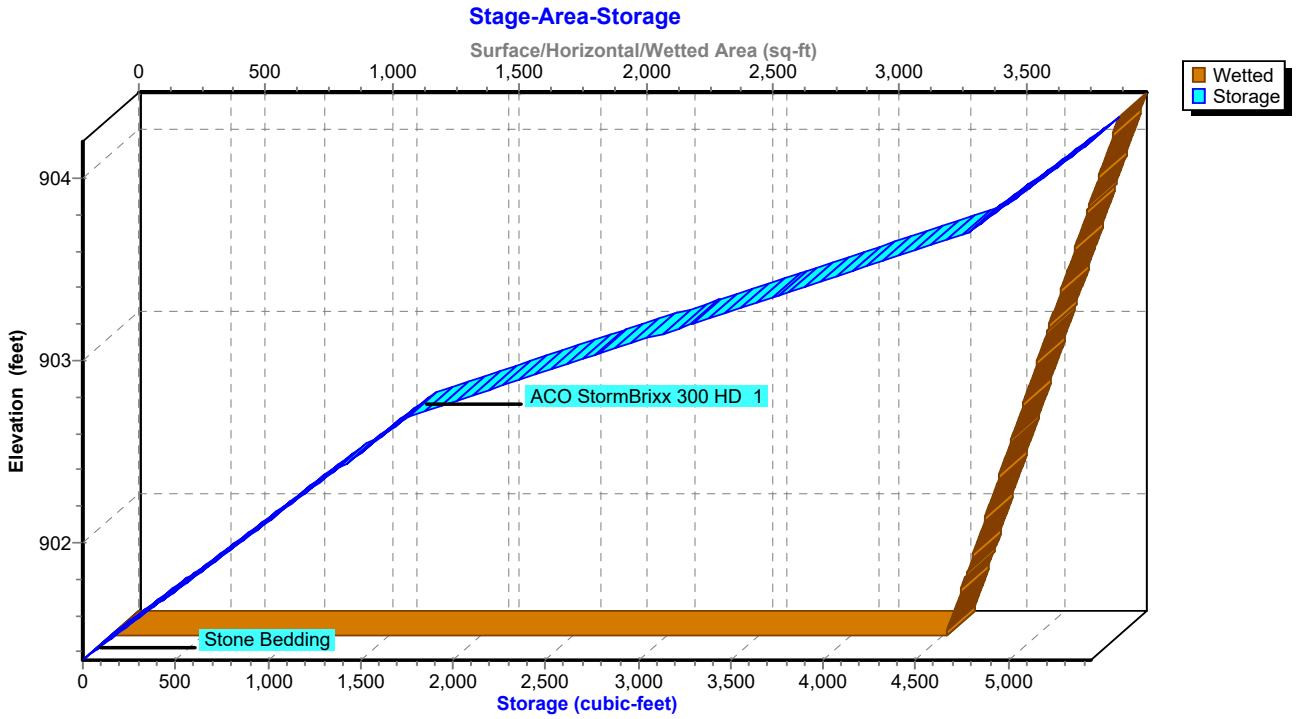
399 Chambers
346.6 cy Field
229.7 cy Stone



Pond 3P: SCM-1 Storm Brixx



Pond 3P: SCM-1 Storm Brixx



Stage-Area-Storage for Pond 3P: SCM-1 Storm Brixx

Elevation (feet)	Wetted (sq-ft)	Storage (cubic-feet)
901.36	3,294	0
901.41	3,306	66
901.46	3,318	132
901.51	3,330	198
901.56	3,342	264
901.61	3,354	329
901.66	3,366	395
901.71	3,378	461
901.76	3,390	527
901.81	3,402	593
901.86	3,414	659
901.91	3,426	725
901.96	3,438	791
902.01	3,450	856
902.06	3,462	922
902.11	3,474	988
902.16	3,486	1,054
902.21	3,498	1,120
902.26	3,510	1,186
902.31	3,522	1,252
902.36	3,534	1,318
902.41	3,546	1,384
902.46	3,558	1,449
902.51	3,570	1,515
902.56	3,582	1,581
902.61	3,594	1,647
902.66	3,606	1,713
902.71	3,618	1,807
902.76	3,630	1,958
902.81	3,642	2,108
902.86	3,654	2,259
902.91	3,666	2,409
902.96	3,678	2,560
903.01	3,690	2,710
903.06	3,702	2,860
903.11	3,714	3,011
903.16	3,726	3,161
903.21	3,738	3,312
903.26	3,750	3,462
903.31	3,762	3,613
903.36	3,774	3,763
903.41	3,786	3,914
903.46	3,798	4,064
903.51	3,810	4,215
903.56	3,822	4,365
903.61	3,834	4,516
903.66	3,846	4,666
903.71	3,858	4,801
903.76	3,870	4,867
903.81	3,882	4,933
903.86	3,894	4,999
903.91	3,906	5,064
903.96	3,918	5,130
904.01	3,930	5,196
904.06	3,942	5,262
904.11	3,954	5,328
904.16	**3,966**	**5,394**

Summary for Pond 4P: SCM-2 Storm Brixx

Inflow Area = 112,515 sf, 64.69% Impervious, Inflow Depth = 2.66" for 100 year event
Inflow = 12.05 cfs @ 12.03 hrs, Volume= 24,906 cf
Outflow = 5.92 cfs @ 12.19 hrs, Volume= 24,906 cf, Atten= 51%, Lag= 9.5 min
Discarded = 0.28 cfs @ 11.25 hrs, Volume= 15,815 cf
Primary = 5.64 cfs @ 12.19 hrs, Volume= 9,092 cf
Routed to Link 2L : Combine Routed SCM-1, SCM-2, and Undetained

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 903.54' @ 12.19 hrs Surf.Area= 5,993 sf Storage= 9,858 cf

Plug-Flow detention time= 164.6 min calculated for 24,906 cf (100% of inflow)
Center-of-Mass det. time= 164.5 min (925.7 - 761.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	900.72'	4,506 cf	**26.76'W x 223.94'L x 2.84'H Field A** 17,023 cf Overall - 5,759 cf Embedded = 11,265 cf x 40.0% Voids
#2A	902.05'	5,413 cf	**ACO StormBrixx 300 HD 1** x 728 Inside #1 Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf 728 Chambers in 13 Rows
		9,919 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	900.72'	**2.000 in/hr Exfiltration over Surface area**
#2	Primary	901.05'	**24.0" Round Outlet Pipe** L= 31.4' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 901.05' / 900.92' S= 0.0041 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf
#3	Device 2	902.82'	**24.0" W x 2.0" H Vert. Lowest Orifice** C= 0.600 Limited to weir flow at low heads
#4	Device 2	902.98'	**24.0" W x 2.0" H Vert. Middle Orifice** C= 0.600 Limited to weir flow at low heads
#5	Device 2	903.14'	**48.0" W x 4.0" H Vert. Upper Orifice** C= 0.600 Limited to weir flow at low heads
#6	Device 2	903.47'	**5.0' long Weir** 2 End Contraction(s) 0.5' Crest Height

Discarded OutFlow Max=0.28 cfs @ 11.25 hrs HW=900.75' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.28 cfs)

Primary OutFlow Max=5.56 cfs @ 12.19 hrs HW=903.53' (Free Discharge)
└**2=Outlet Pipe** (Passes 5.56 cfs of 14.53 cfs potential flow)
  ├**3=Lowest Orifice** (Orifice Controls 1.27 cfs @ 3.81 fps)
  ├**4=Middle Orifice** (Orifice Controls 1.09 cfs @ 3.28 fps)
  ├**5=Upper Orifice** (Orifice Controls 2.95 cfs @ 2.21 fps)
  └**6=Weir** (Weir Controls 0.24 cfs @ 0.81 fps)

Pond 4P: SCM-2 Storm Brixx - Chamber Wizard Field A

Chamber Model = ACO StormBrixx 300 HD 1 (ACO StormBrixx® 300 HD)
Inside= 23.8"W x 12.1"H => 1.88 sf x 3.96'L = 7.4 cf
Outside= 23.8"W x 12.1"H => 2.00 sf x 3.96'L = 7.9 cf

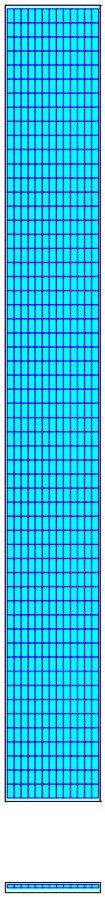
56 Chambers/Row x 3.96' Long = 221.94' Row Length +12.0" End Stone x 2 = 223.94' Base Length
13 Rows x 23.8" Wide + 6.0" Side Stone x 2 = 26.76' Base Width
16.0" Stone Base + 12.1" Chamber Height + 6.0" Stone Cover = 2.84' Field Height

728 Chambers x 7.4 cf = 5,413.2 cf Chamber Storage
728 Chambers x 7.9 cf = 5,758.8 cf Displacement

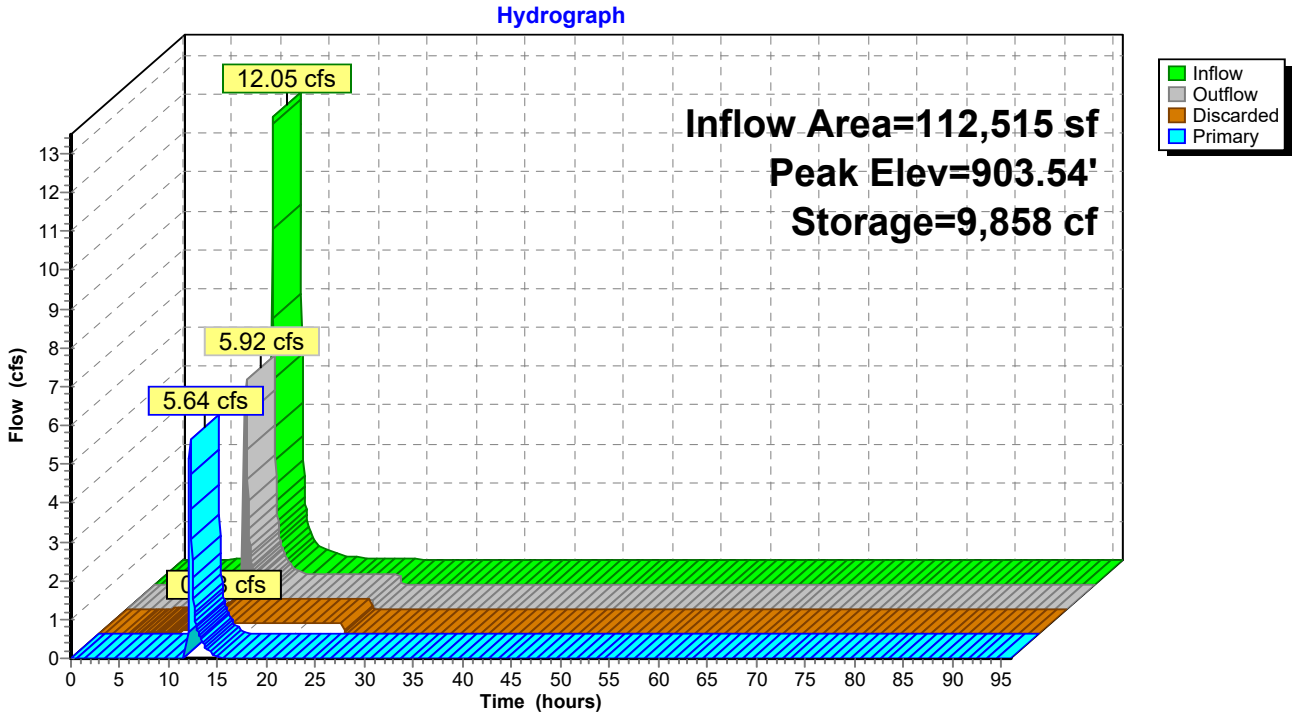
17,023.3 cf Field - 5,758.8 cf Chambers = 11,264.5 cf Stone x 40.0% Voids = 4,505.8 cf Stone Storage

Chamber Storage + Stone Storage = 9,919.0 cf = 0.228 af
Overall Storage Efficiency = 58.3%
Overall System Size = 223.94' x 26.76' x 2.84'

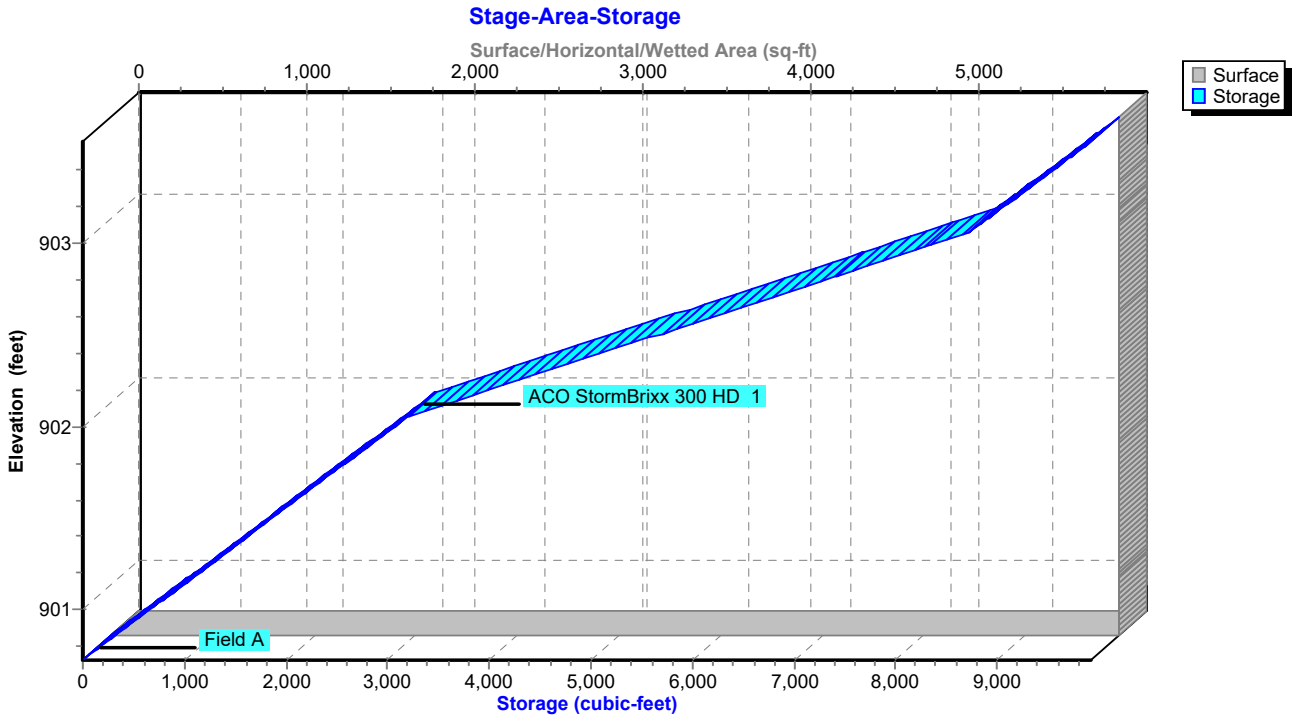
728 Chambers
630.5 cy Field
417.2 cy Stone



Pond 4P: SCM-2 Storm Brixx



Pond 4P: SCM-2 Storm Brixx



Stage-Area-Storage for Pond 4P: SCM-2 Storm Brixx

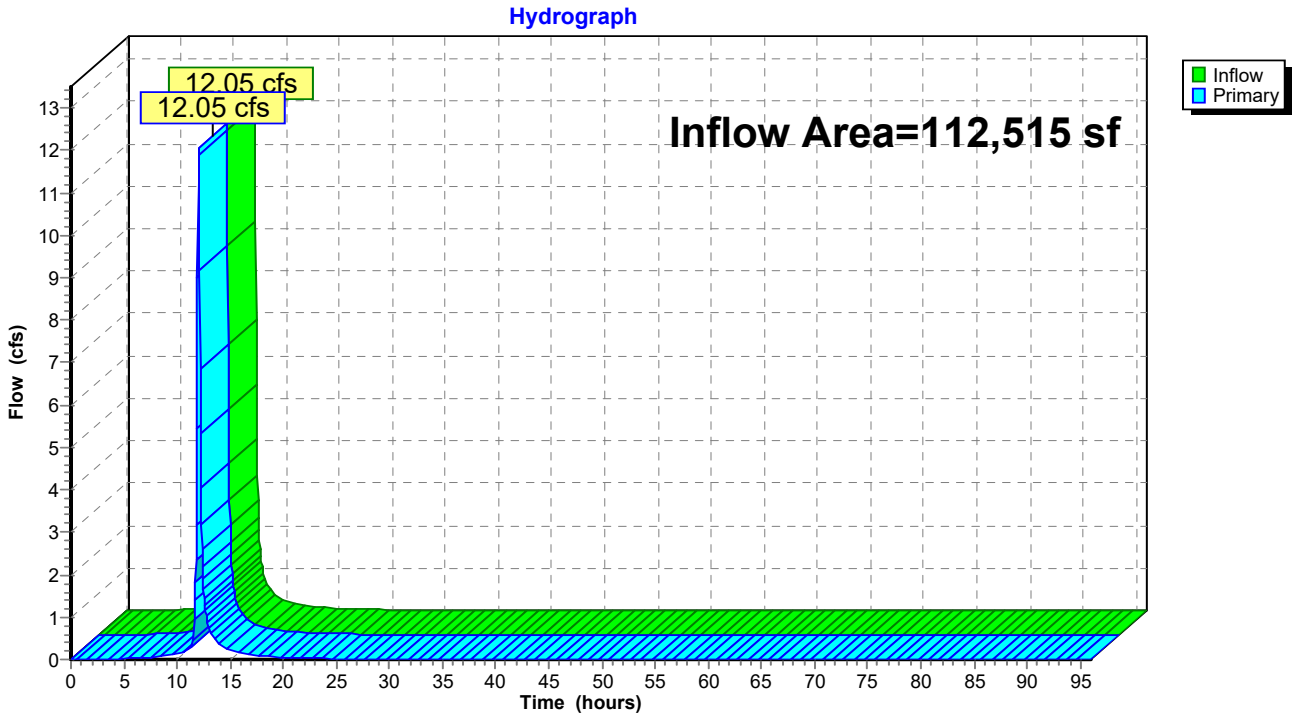
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
900.72	**5,993**	0
900.77	5,993	120
900.82	5,993	240
900.87	5,993	360
900.92	5,993	479
900.97	5,993	599
901.02	5,993	719
901.07	5,993	839
901.12	5,993	959
901.17	5,993	1,079
901.22	5,993	1,199
901.27	5,993	1,318
901.32	5,993	1,438
901.37	5,993	1,558
901.42	5,993	1,678
901.47	5,993	1,798
901.52	5,993	1,918
901.57	5,993	2,038
901.62	5,993	2,157
901.67	5,993	2,277
901.72	5,993	2,397
901.77	5,993	2,517
901.82	5,993	2,637
901.87	5,993	2,757
901.92	5,993	2,877
901.97	5,993	2,996
902.02	5,993	3,116
902.07	5,993	3,288
902.12	5,993	3,562
902.17	5,993	3,836
902.22	5,993	4,110
902.27	5,993	4,385
902.32	5,993	4,659
902.37	5,993	4,933
902.42	5,993	5,207
902.47	5,993	5,482
902.52	5,993	5,756
902.57	5,993	6,030
902.62	5,993	6,304
902.67	5,993	6,578
902.72	5,993	6,853
902.77	5,993	7,127
902.82	5,993	7,401
902.87	5,993	7,675
902.92	5,993	7,950
902.97	5,993	8,224
903.02	5,993	8,498
903.07	5,993	8,743
903.12	5,993	8,863
903.17	5,993	8,983
903.22	5,993	9,103
903.27	5,993	9,223
903.32	5,993	9,342
903.37	5,993	9,462
903.42	5,993	9,582
903.47	5,993	9,702
903.52	5,993	**9,822**

Summary for Link 1L: Combine SCM-1 and Post DA#1 Detained SCM-2

Inflow Area = 112,515 sf, 64.69% Impervious, Inflow Depth = 2.66" for 100 year event
Inflow = 12.05 cfs @ 12.03 hrs, Volume= 24,906 cf
Primary = 12.05 cfs @ 12.03 hrs, Volume= 24,906 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond 4P : SCM-2 Storm Brixx

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link 1L: Combine SCM-1 and Post DA#1 Detained SCM-2

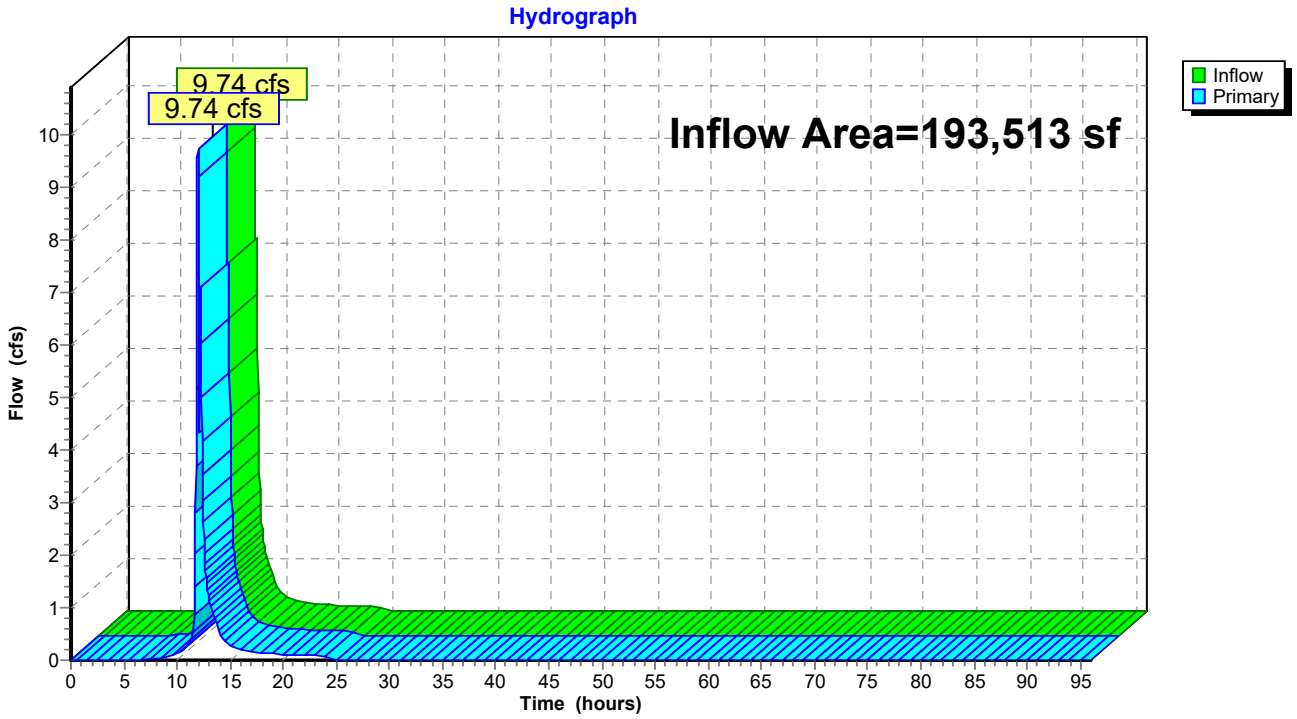


Summary for Link 2L: Combine Routed SCM-1, SCM-2, and Undetained

Inflow Area = 193,513 sf, 47.92% Impervious, Inflow Depth = 1.86" for 100 year event
Inflow = 9.74 cfs @ 11.97 hrs, Volume= 30,028 cf
Primary = 9.74 cfs @ 11.97 hrs, Volume= 30,028 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs

Link 2L: Combine Routed SCM-1, SCM-2, and Undetained



Events for Subcatchment 1S: Pre-DA #1

Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
1 year	1.97	2.99	9,447	0.59
2 year	2.35	4.41	13,502	0.84
5 year	2.88	6.56	19,712	1.22
10 year	3.30	8.37	24,973	1.55
25 year	3.90	11.05	32,872	2.04
50 year	4.40	13.34	39,713	2.46
100 year	**4.92**	**15.77**	**47,020**	**2.91**

Events for Subcatchment 2S: Post DA #1 Total

Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
1 year	1.97	7.21	15,186	0.94
2 year	2.35	9.57	20,234	1.25
5 year	2.88	12.94	27,622	1.71
10 year	3.30	15.66	33,677	2.09
25 year	3.90	19.57	42,536	2.64
50 year	4.40	22.84	50,056	3.10
100 year	**4.92**	**26.23**	**57,974**	**3.59**

Events for Subcatchment 3S: Post DA #1 - Detained to SCM-1

Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
1 year	1.97	2.58	6,420	1.00
2 year	2.35	3.39	8,476	1.32
5 year	2.88	4.55	11,466	1.79
10 year	3.30	5.48	13,907	2.17
25 year	3.90	6.81	17,467	2.73
50 year	4.40	7.93	20,481	3.20
100 year	**4.92**	**9.06**	**23,649**	**3.70**

Events for Subcatchment 4S: Post DA #1 - Detained SCM-2

Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
1 year	1.97	1.86	4,073	1.37
2 year	2.35	2.32	5,139	1.73
5 year	2.88	2.96	6,650	2.23
10 year	3.30	3.46	7,861	2.64
25 year	3.90	4.17	9,604	3.23
50 year	4.40	4.76	11,064	3.72
100 year	**4.92**	**5.37**	**12,588**	**4.23**

Events for Subcatchment 5S: Post DA #1 - Undetained

Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
1 year	1.97	2.17	4,554	0.67
2 year	2.35	3.06	6,372	0.94
5 year	2.88	4.33	9,116	1.35
10 year	3.30	5.41	11,418	1.69
25 year	3.90	6.99	14,847	2.20
50 year	4.40	8.33	17,799	2.64
100 year	**4.92**	**9.74**	**20,937**	**3.10**

Events for Pond 3P: SCM-1 Storm Brixx

Event	Inflow (cfs)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Elevation (feet)	Storage (cubic-feet)
1 year	2.58	0.20	0.17	0.03	903.05	2,830
2 year	3.39	0.75	0.17	0.58	903.20	3,292
5 year	4.55	2.30	0.18	2.13	903.39	3,851
10 year	5.48	3.62	0.18	3.45	903.50	4,177
25 year	6.81	5.54	0.18	5.36	903.63	4,577
50 year	7.93	6.98	0.18	6.81	903.72	4,813
100 year	**9.06**	**9.04**	**0.18**	**8.86**	**903.83**	**4,959**

Events for Pond 4P: SCM-2 Storm Brixx

Event	Inflow (cfs)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Elevation (feet)	Storage (cubic-feet)
1 year	1.86	0.28	**0.28**	0.00	901.27	1,314
2 year	2.32	0.28	0.28	0.00	901.81	2,606
5 year	2.96	0.28	0.28	0.00	902.41	5,153
10 year	4.36	0.28	0.28	0.00	902.81	7,329
25 year	7.09	1.19	0.28	0.91	903.09	8,786
50 year	9.24	3.23	0.28	2.95	903.33	9,370
100 year	**12.05**	**5.92**	0.28	**5.64**	**903.54**	**9,858**

Events for Link 1L: Combine SCM-1 and Post DA#1 Detained SCM-2

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)
1 year	1.86	1.86	**0.00**
2 year	2.32	2.32	0.00
5 year	2.96	2.96	0.00
10 year	4.36	4.36	0.00
25 year	7.09	7.09	0.00
50 year	9.24	9.24	0.00
100 year	**12.05**	**12.05**	0.00

Events for Link 2L: Combine Routed SCM-1, SCM-2, and Undetained

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)
1 year	2.17	2.17	**0.00**
2 year	3.06	3.06	0.00
5 year	4.33	4.33	0.00
10 year	5.41	5.41	0.00
25 year	6.99	6.99	0.00
50 year	8.33	8.33	0.00
100 year	**9.74**	**9.74**	0.00

ARTUSO
CONSTRUCTION
ENGINEERING
CONSULTANTS

September 29, 2025
CEC 177 204
J-18229

Mr. Christopher Hamm, P.E.
KDH Consulting Engineers, Inc.
593 Rugh Street, Lower Level
Greensburg, PA 15601

RE: Test Pit Letter Report – Walkers Mill Townhomes
Oakdale, Allegheny County, Pennsylvania

Dear Mr. Hamm,

Eight (8) test pits were excavated at the above referenced site on Tuesday, September 16th, 2025. They are designated as TP-1 through TP-8. A sketch illustrating the test pit locations and the test pit logs are attached in Appendix A and B, respectively. Laboratory moisture tests and a classification test were performed on selected samples from the test pits. The lab test results are attached in Appendix C. Site plans indicate seven (7) separate townhome structures with three (3) to seven (7) townhomes at each structure. The site is somewhat level with about four (4) to five (5) feet of elevation change across the site. Each building location is at or near the proposed subgrade elevation. It is our understanding the site was previously an old railroad yard sometime in the past.

ANALYSIS AND DISCUSSION

All eight (8) test pits were excavated at or just outside the seven (7) building locations. All the test pits except TP-7 were initiated on the exiting gravel surface. The surface gravel material is composed of what appears to be mostly 2A crushed limestone, crushed concrete, and asphalt millings and fragments. Some of the asphalt is in cobble sized pieces. Portions of the gravel layer also contained some boulder sized pieces of concrete which appeared to be old concrete curbs and sidewalks. These materials extend to depths of about two (2) feet at TP-1, TP-2 and TP-3 to five (5) to six (6) feet at TP-4 and TP-6. The crushed gravel, concrete, and asphalt has a dense to very dense relative density. The relative density was determined by using a dynamic cone penetrometer at various depths at each test pit location. The test results are included in the test pit logs. The relative density is based on a scale for cohesionless soils of very loose, loose, medium dense, dense, and very dense. The gravel layer appears to be very well compacted across the site.

2018 WAVERLY STREET
PITTSBURGH, PA 15218-2402
(412) 351-6465
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Underlying the dense gravel layer is a medium dense to very dense slag fill material. The slag is composed of many materials consisting of brown, white, gray, blue sandy slag with varying amounts of rock fragments, coal, and reddog. Some layers of cinders and ash were also encountered in the mostly slag fill materials. The slag fill extends to depths of about six (6) to thirteen (13) feet below the existing surface grade. Test pits TP-4 and TP-8 were terminated in the slag fill at depths of nine (9) and eight (8) feet, respectively due to not being able to penetrate through the very dense slag with the small excavator.

The surface gravel fill and underlying slag fill were visually observed to be dry to damp at the time of excavation. This is based on a moisture range of dry, damp, moist, wet, and saturated. Laboratory moisture tests taken on select samples from the gravel and slag fill ranged from about two (2) to seventeen and one-half (17.5) percent. The average for all the fill samples that were tested was about seven (7) percent.

The various fill soils transition to a layer of alluvial brown to gray sandy silt and clay layer. This alluvial layer was likely placed by the nearby stream. At test pits TP-1, TP-2, and TP-3, the silt layers extend to a depth of nine (9) to ten (10) feet before transitioning to a hard gray sandy shale bedrock layer. The residual shale layer was not encountered in any of the other test pits, but it is likely close to the bottom of these excavations. Due to limitations of the excavator, the bedrock layer was not encountered in the remaining test pits. The remaining test pits were terminated in the silt and clay at depths of eleven (11) to fourteen (14) feet. The silt and clay layer appeared to be mostly soft to medium stiff based on a range for cohesive soils of very soft, soft, medium stiff, stiff, very stiff, and hard. The silt and clay were moist to wet at the time of excavation. One lab moisture test indicated an in-situ moisture content of thirty-five and one-half (35.5) percent.

Groundwater was encountered within or at the bottom of the silt and clay layer at depths of ten (10) to thirteen and one-half (13.5) feet. This appears to be at or near the nearby stream elevation. It does not appear that typical excavations at the site will encounter groundwater. It is possible that some trapped or perched water could be encountered in portions of the site fill due to its granular nature. If deep foundations or slag removal and replacement are performed, it is possible that trapped or groundwater could be encountered.

Only minor grading operations are needed to achieve each new building subgrade since the area has been previously graded. All eight (8) test pits encountered medium dense to dense fill materials consisting of compacted gravel, slag or cinders at or near typical frost foundation depths. These materials can support the proposed new townhomes. Footings for the new townhomes can be designed for a maximum allowable soil bearing pressure of two thousand (2000) pounds per square foot (PSF). Prior to reinforcing and concrete placement, all footing bottoms should be tamped with a mechanical tamper to consolidate any soft zones. Also, any larger concrete boulders encountered at the footing bottom elevation should be removed. The boulder can be replaced with extra foundation concrete or compacted fill. If any loose zones are encountered in the site fill, they should be undercut to a suitable bearing stratum or two (2) feet in depth if bottom is still loose. Compacted crushed gravel from the surface fill materials can then be compacted into place to the original bottom of footing. The over-excavation should also extend six (6) inches of each side of the footing to allow for proper compaction under the edges of the footing.

The slag soils encountered across the site could be potentially expansive. These slag soils are the byproduct of the steel making process. Mill slags produced from open-hearth furnaces can contain excessive free magnesium oxide (M_gO) or calcium oxide (C_aO) which have a high swell potential when they become hydrated. Although this hydration typically occurs within a year or two, it has been our experience that changes in the groundwater level or site grading can start volumetric expansion in deeper underlying slag fills. The only way to eliminate the risk would be to remove all of the overlying slag fill and replace the over-excavation with an inert borrow fill. **The owners should be aware of this potential expansive risk. This expansion can cause heaving of slabs, utilities, and even some foundations that are lightly loaded such as those for wood framing homes.** A large sample of the slag fill was obtained for expansion testing if the owner chooses to perform the test. Even if the test shows no expansion, the risk for expansion cannot be eliminated due the varying slag compositions that make up the slags at the site.

However, the slag is seven (7) to nine (9) feet below the existing surface for all of the lots except Lot 102 and 103. As long as the final grading and foundation and utility installations does not extend into the slag layer, the potential for expansion of the slag is negligible. If possible, the subgrade for Lots 102 and 103 should be raised by at least two (2) feet to keep foundation excavations from intercepting the slag.

A map was obtained from the Pennsylvania Department of Environmental Protection (PA DEP) mine map atlas concerning the status of coal mines below the site. A copy of the map of previous mining and the coal mine contour map across the site is attached in Appendix D. The map indicates that the Pittsburgh Coal Seam is not present at the site. The Pittsburgh seam coal contours indicate a coal elevation of around 1040 feet. With a site elevation of just over 900 feet, the map indicates the Pittsburgh seam does not exist below the site, and no mining has occurred below the site. Therefore, the risk of damage to new structures built on the site due to mine subsidence is considered non-existent.

RECOMMENDATIONS

SITE WORK AND FILL

1. Due to previous grading operations, no topsoil, organics, or other surface stripping is anticipated.

2. Proofroll the building planned fill areas with a compactor or other approved vehicle. Any yielding areas should be undercut to stable soil before placing any fill. The subgrade elevation for Lots 102 and 103 should be raised so that foundation installation excavations do not intercept the underling slag.

3. Any materials to be used as fill must be approved before placement. All fill materials should have a maximum size of six (6) inches in any direction. Larger concrete boulders should be removed if encountered during grading operations or from footing bottoms.

4. For filling areas to grade or replacing undercut areas of unsuitable material, each lift thickness should be a maximum of eight (8) inches in the loose state and placed within plus or minus three (3) percent of the optimum moisture content as determined by the Modified Proctor (ASTM D-1557) for cohesive soils.

5. All fill placed using cohesive soils should be compacted to at least 95% of the maximum dry density as determined by the Modified Proctor (ASTM D-1557) or at least 70 percent of the relative density as determined by ASTM D-4253 and D-4254 for cohesionless soils.

6. Adequate site drainage should be maintained during all site work. Any areas where water ponds due to poor drainage must be drained and undercut to stable soil before further fill placement proceeds. Sump pits and pumping may be needed in order to remove water from footing excavations.

7. Utilize underground drains for any groundwater encountered during the excavation.

8. Any borrow source fill utilized for the slag remediation backfill should be inspected for it suitability prior to its use on site.

BUILDING FOUNDATIONS AND SLABS ON GRADE

1. Support all proposed structures on spread footings for column loads and strip footings for load bearing walls. See additional comments concerning the foundation installation and alternative foundations in the **"ANALYSIS AND DISCUSSION"** section of this report.

2. All exterior shallow foundations should be placed forty-two (42) inches below the outside grade for frost protection.

3. Spread and strip footings can be designed with an allowable bearing pressure of two thousand (2000) pounds per square foot. All footings should lie in the dense fill soils above the existing slag layer. All footing bottoms should be tamped prior to concrete placement, and any concrete boulders removed from the footing bottoms. **The potential for slag expansion is possible if the slag materials are intercepted in foundation or utility excavations.**

4. The minimum width of any footing should be two (2) feet regardless of the calculated values.

5. All bearing surfaces should be free of water prior to the placement of concrete. Foundations should be placed as soon after excavation as possible and no concrete should be placed on frozen soil.

6. Wall footings should be reinforced in order to act as rigid a manner as possible so that differential settlement stresses are resisted.

7. Support floor slabs on grade using a minimum of four (4) inches of compacted granular fill under the slab. Expansion joints should be used between the footings and floor slabs to minimize differential settlement stresses. The floor slab can be designed using a modulus of subgrade reaction (k) of 100 pci. All ACI 302 recommendations should be followed in the floor installation.

8. The granular fill under the floor slab should have a PennDOT 2A or 2B grading. Compaction to 95% of the maximum dry density as determined by ASTM D 1557 should be achieved prior to slab placement.

9. Lateral pressure coefficients should be used to design below grade or retaining walls:

At Rest (wall restrained at top):	0.53
Active (normal retaining wall):	0.36

GROUNDWATER

1. The groundwater level will fluctuate depending upon the time of the year. In areas where the groundwater table or trapped water in the existing fill is encountered during the excavation for foundations, the water will have to be removed immediately prior to the placement of concrete. This may require sump pits and pumps.

INSPECTION

1. During site preparation, a qualified soil inspector under the direction of one of our registered geotechnical engineers should be present at all times in order to identify unsuitable materials, monitor fill placement and inspect foundation bearings. It is highly recommended that our firm perform these inspections since we have the visual experience with existing soil types and would be able to discern any variations accurately. It is only with our inspection that we can assure that our recommendations are followed.

2. All fill densities should be tested using a nuclear densometer or other approved method at the rate of one test for every 3000 square feet of material placed on each lift.

SEISMIC SITE CLASS

1. A seismic site Class **'C'** as defined in section 1613 of the 2018 International Building Code should be used in the foundation design. The 2018 IBC uses a similar design methodology as ASCE 7-16. See additional seismic parameters based upon ASCE 7-16 in Appendix E.

LIMITATIONS

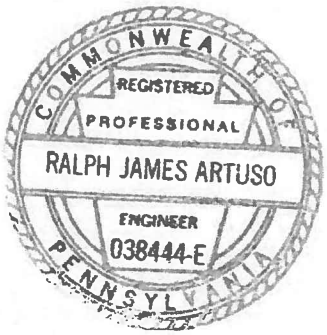
1. The recommendations listed above are based on the information currently available about the proposed structures and site development and are applicable only to the client for which it was performed. Misinterpretation may occur by anyone other than whom the report was prepared. The report should only be presented in its entirety. Changes in the planned construction including size elevation, location or configuration of structures and site improvements may result in the recommendations becoming invalid.

2. This report assumes that the actual subsurface conditions do not differ significantly from the conditions observed in the test pits. Actual subsurface conditions can only be fully discerned once earthwork has begun. If during construction, it is determined that there are significant variations from the test borings, the recommendations listed above may have to be changed.

3. All of the above listed recommendations, specifications and comments contained in this report have been prepared in accordance with the generally accepted professional engineering practice of soil mechanics and foundation engineering. The geotechnical information included in this report are professional judgements based upon extrapolated data from specific locations on the site. Actual conditions between these locations may change more gradually or abruptly than the report indicates or could contain conditions not found at the test locations. No other warranties are expressed or implied. Additionally, no environmental aspects of the site were within the scope of this investigation.

Respectfully Submitted,

Construction Engineering Consultants, Inc.



Ralph Artuso, PE
President

APPENDIX B

TEST BORING LOGS

CONSTRUCTION ENGINEERING CONSULTANTS, INC.
2018 Waverly Street
Pittsburgh, PA 15218
(412) 351-6465

TEST BORING LOG

BORING NO.: TP-1

PROJECT: WALKERS MILL TOWNSHOMES
CLIENT: KDH
LOCATION: OAKDALE, PA
PROJECT NO.: J-18229
DATE STARTED: 9-16-25
DATE COMPLETED: 9-16-25
DRILLER: EXCAVATOR
LOGGED BY: ZMW
SURFACE ELEVATION: 903.0
LOG TYPE: TEST PIT LOG
WATER LEVELS:
SPOON SIZE: N/A
AT COMPLETION: DRY
HLW. STEM AGR.: N/A
AT 24 HOURS: BACKFILLED
SHEET 1 OF 1

ELEVATION	DEPTH	LEGEND	SYMBOL	DESCRIPTION OF MATERIAL	RECOVERY (%)	SAMPLE NO.	SPOON BLOWS/6in.	THICKNESS OF SAMPLES	RQD, %	REMARKS
903.0'	0.0'			LIMESTONE GRAVEL WITH ASPHALT: Gray with sandy fines, dense, damp to dry						
	1.5									DCP TESt at 1.5' 20+
901.0'	2.0'			SLAG: Black, gray, white and blue with sandy seams, dense to very dense, damp to dry						
	3									
	4.5									
	6									
896.7'	6.3'			SANDY SILT: Brownish gray to medium gray, traces of clay, soft, moist to wet						
	7.5									
	9									
894.0'	9.0'			SANDY SHALE: Medium gray, hard, damp						Bottom of test pit at 9.1'

DCP-DYNAMIC CONE PENETROMETER

CONSTRUCTION ENGINEERING CONSULTANTS, INC.
2018 Waverly Street
Pittsburgh, PA 15218
(412) 351-6465

TEST BORING LOG

BORING NO.: TP-2

PROJECT: WALKERS MILL TOWNSHOMES
CLIENT: KDH
LOCATION: OAKDALE, PA
PROJECT NO.: J-18229
DATE STARTED: 9-16-25
DATE COMPLETED: 9-16-25
DRILLER: EXCAVATOR
LOGGED BY: ZMW
SURFACE ELEVATION: 903.0
LOG TYPE: TEST PIT LOG
WATER LEVELS:
SPOON SIZE: N/A
AT COMPLETION: DRY
HLW. STEM AGR.: N/A
AT 24 HOURS: BACKFILLED
SHEET 1 OF 1

ELEVATION	DEPTH	LEGEND	SYMBOL	DESCRIPTION OF MATERIAL	RECOVERY (%)	SAMPLE NO.	SPOON BLOWS/6in.	THICKNESS OF SAMPLES	RQD, %	REMARKS
903.0'	0.0'			LIMESTONE GRAVEL WITH ASPHALT: Gray with sandy fines, dense, damp to dry						
	1.5									DCP TESt at 1.5' 20+
901.0'	2.0'			SLAG: Black, gray, white and blue with sandy seams, dense to very dense, damp to dry						
	3									
899.5'	3.5'			ASH AND CINDERS: Reddish brown and black, traces of reddog and coal, Medium dense, damp						DCP at 3.5 6-7
	4.5									
	6									
896.0'	7.0'			SANDY SILT: Brownish gray to medium gray, traces of clay, soft, moist to wet						
	7.5									
	9									
894.0'	9.0'			SANDY SHALE: Medium gray, hard, damp						
893.9'	9.1'									Bottom of test pit at 9.1'

DCP-DYNAMIC CONE PENETROMETER

CONSTRUCTION ENGINEERING CONSULTANTS, INC.
2018 Waverly Street
Pittsburgh, PA 15218
(412) 351-6465

TEST BORING LOG

BORING NO.: TP-3

PROJECT: WALKERS MILL TOWNSHOMES
CLIENT: KDH
LOCATION: OAKDALE, PA
PROJECT NO.: J-18229
DATE STARTED: 9-16-25
DATE COMPLETED: 9-16-25
DRILLER: EXCAVATOR
LOGGED BY: ZMW
SURFACE ELEVATION: 903.5
LOG TYPE: TEST PIT LOG
WATER LEVELS:
SPOON SIZE: N/A
AT COMPLETION: 10.0
HLW. STEM AGR.: N/A
AT 24 HOURS: BACKFILLED
SHEET 1 OF 1

ELEVATION	DEPTH	LEGEND	SYMBOL	DESCRIPTION OF MATERIAL	RECOVERY (%)	SAMPLE NO.	SPOON BLOWS/6in.	THICKNESS OF SAMPLES	RQD, %	REMARKS
903.5'	0.0'			LIMESTONE GRAVEL WITH ASPHALT: Gray with sandy fines, dense, damp to dry						DCP TESt at 1.5' 18-13
901.0'	2.5'			SLAG: Black and brownish gray, some gravel and traces of coal and reddog, Medium dense to dense						
899.5'	4.0'			ASH AND CINDERS: Reddish brown and black, traces of reddog and coal, Medium dense, damp						DCP at 3.5 5-7
896.5'	7.0'			SANDY SILT AND CLAY: Medium brown to medium gray, soft, moist to wet						
893.5'	10.0'			SANDY SHALE: Medium grav. hard. damp						
893.4'	10.1'									Bottom of test pit at 10.1'

DCP-DYNAMIC CONE PENETROMETER

CONSTRUCTION ENGINEERING CONSULTANTS, INC.
2018 Waverly Street
Pittsburgh, PA 15218
(412) 351-6465

TEST BORING LOG

BORING NO.: TP-4

PROJECT: WALKERS MILL TOWNSHOMES
CLIENT: KDH
LOCATION: OAKDALE, PA
PROJECT NO.: J-18229
DATE STARTED: 9-16-25
DATE COMPLETED: 9-16-25
DRILLER: EXCAVATOR
LOGGED BY: ZMW
SURFACE ELEVATION: 904
LOG TYPE: TEST PIT LOG
WATER LEVELS:
SPOON SIZE: N/A
AT COMPLETION: DRY
HLW. STEM AGR.: N/A
AT 24 HOURS: BACKFILLED
SHEET 1 OF 1

ELEVATION	DEPTH	LEGEND	SYMBOL	DESCRIPTION OF MATERIAL	RECOVERY (%)	SAMPLE NO.	SPOON BLOWS/6in.	THICKNESS OF SAMPLES	RQD, %	REMARKS
904.0'	0.0'			LIMESTONE GRAVEL WITH ASPHALT: Light gray to dark gray and black, some concrete cobbles and boulders, dense, dry to damp						DCP at 3' 14-20+
898.0'	6.0'			ASH AND CINDERS: Reddish brown and black, some slag, coal, and reddog, Medium dense, damp						
895.0'	9.0'			SLAG: Dark gray to blue, Very dense, dry						Refusal on Slag. Excavator could not penetrate deeper.
894.9'	9.1'									

2
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12

CONSTRUCTION ENGINEERING CONSULTANTS, INC.
2018 Waverly Street
Pittsburgh, PA 15218
(412) 351-6465

TEST BORING LOG

BORING NO.: TP-5

PROJECT: WALKERS MILL TOWNSHOMES
CLIENT: KDH
LOCATION: OAKDALE, PA
PROJECT NO.: J-18229
DATE STARTED: 9-16-25
DATE COMPLETED: 9-16-25
DRILLER: EXCAVATOR
LOGGED BY: ZMW
SURFACE ELEVATION: 905
LOG TYPE: TEST PIT LOG
WATER LEVELS:
SPOON SIZE: N/A
AT COMPLETION: 13.5'
HLW. STEM AGR.: N/A
AT 24 HOURS: BACKFILLED
SHEET 1 OF 1

ELEVATION	DEPTH	LEGEND	SYMBOL	DESCRIPTION OF MATERIAL	RECOVERY (%)	SAMPLE NO.	SPOON BLOWS/6in.	THICKNESS OF SAMPLES	RQD, %	REMARKS
905.0'	0.0'			LIMESTONE GRAVEL WITH ASPHALT: Light gray to dark gray and black, some concrete cobbles and boulders, dense, dry to damp						DCP at 1' 20+
	2.5									Intact asphalt layer 2-2.5'
902.0'	3.0'			SANDY SILT WITH SANDSTONE: Medium brown, traces of slag and clay, Stiff to very stiff, damp						DCP at 3.5' 20+
	5									
	7.5									
897.0'	8.0'			SLAG: Dark gray to black, some ash, reddog and coal, Dense, damp						
	10									
	12.5									
892.0'	13.0'			SANDY SILT AND CLAY: Brown and gray, soft to medium stiff, moist to wet						
891.0'	14.0'									Bottom of test pit at 14' Excavator could not extend deeper.
	15									

CONSTRUCTION ENGINEERING CONSULTANTS, INC.
2018 Waverly Street
Pittsburgh, PA 15218
(412) 351-6465

TEST BORING LOG

BORING NO.: TP-6

PROJECT: WALKERS MILL TOWNSHOMES **CLIENT:** KDH

LOCATION: OAKDALE, PA **PROJECT NO.:** J-18229

DATE STARTED: 9-16-25 **DATE COMPLETED:** 9-16-25

DRILLER: EXCAVATOR **LOGGED BY:** ZMW

SURFACE ELEVATION: 906 **LOG TYPE:** TEST PIT LOG

WATER LEVELS: **SPOON SIZE:** N/A

AT COMPLETION: 10.0' **HLW. STEM AGR.:** N/A

AT 24 HOURS: BACKFILLED **SHEET 1 OF 1**

ELEVATION	DEPTH	LEGEND	SYMBOL	DESCRIPTION OF MATERIAL	RECOVERY (%)	SAMPLE NO.	SPOON BLOWS/6in.	THICKNESS OF SAMPLES	RQD, %	REMARKS
906.0'	0.0'			LIMESTONE GRAVEL WITH ASPHALT: Light gray to dark gray and black, dense, dry to damp						DCP at 1' 5-9
903.5'	2.5'			SANDY SILT WITH ASPHALT: Dark brown to black, some gravel and sandstone, Stiff to very stiff, damp						DCP at 3.5' 13-10
901.0'	5.0'			SANDY SILT WITH SLAG: Brown with blue hard slag, Dense to very dense						
899.0'	7.0'			SLAG: Dark gray to black,some dark gray slag cobbles (ballast), traces of reddog and coal, Dense to Very dense, damp						
897.0'	9.0'			SANDY SILT AND CLAY: Medium gray, traces of shale, soft to medium stiff, moist to wet						
895.0'	11.0'									Bottom of test pit at 11' Excess water prevented further excavation.

2 4 6 8 10 12

CONSTRUCTION ENGINEERING CONSULTANTS, INC.
2018 Waverly Street
Pittsburgh, PA 15218
(412) 351-6465

TEST BORING LOG

BORING NO.: TP-7

PROJECT: WALKERS MILL TOWNSHOMES
CLIENT: KDH
LOCATION: OAKDALE, PA
PROJECT NO.: J-18229
DATE STARTED: 9-16-25
DATE COMPLETED: 9-16-25
DRILLER: EXCAVATOR
LOGGED BY: ZMW
SURFACE ELEVATION: 907
LOG TYPE: TEST PIT LOG
WATER LEVELS:
SPOON SIZE: N/A
AT COMPLETION: 11.0'
HLW. STEM AGR.: N/A
AT 24 HOURS: BACKFILLED
SHEET 1 OF 1

ELEVATION	DEPTH	LEGEND	SYMBOL	DESCRIPTION OF MATERIAL	RECOVERY (%)	SAMPLE NO.	SPOON BLOWS/6in.	THICKNESS OF SAMPLES	RQD, %	REMARKS
907.0'	0.0'			SANDY CLAY WITH SHALE: brownish gray to medium brown to dark gray, traces of brick and slag, Stiff						DCP at 1' 5-9 DCP at 1.0' 20+ DCP at 3' 5-9
900.0'	7.0'			SLAG: Dark gray to black,some dark gray slag cobbles (ballast), traces of reddog and coal, Dense to Very dense, damp						
898.0'	9.0'			SANDY SILT AND CLAY: Medium gray, traces of shale, soft to medium stiff, moist to wet						
895.0'	12.0'									Bottom of test pit at 12' Excess water prevented further excavation.

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CONSTRUCTION ENGINEERING CONSULTANTS, INC.
2018 Waverly Street
Pittsburgh, PA 15218
(412) 351-6465

TEST BORING LOG

BORING NO.: TP-8

PROJECT: WALKERS MILL TOWNSHOMES
CLIENT: KDH
LOCATION: OAKDALE, PA
PROJECT NO.: J-18229
DATE STARTED: 9-16-25
DATE COMPLETED: 9-16-25
DRILLER: EXCAVATOR
LOGGED BY: ZMW
SURFACE ELEVATION: 907
LOG TYPE: TEST PIT LOG
WATER LEVELS:
SPOON SIZE: N/A
AT COMPLETION: DRY
HLW. STEM AGR.: N/A
AT 24 HOURS: BACKFILLED
SHEET 1 OF 1

ELEVATION	DEPTH	LEGEND	SYMBOL	DESCRIPTION OF MATERIAL	RECOVERY (%)	SAMPLE NO.	SPOON BLOWS/6in.	THICKNESS OF SAMPLES	RQD, %	REMARKS
907.0'	0.0'	1.5		LIMESTONE GRAVEL WITH ASPHALT: Light gray to dark gray and black, dense, dry to damp						DCP at 1' 20+
904.0'	3.0'	3		SANDY SILT WITH ASPHALT: Dark brown to black, some gravel and sandstone, Stiff						DCP at 3' 20+
903.0'	4.0'	4.5		SANDY SILT WITH SLAG: Brown with blue hard slag, some sandstone, Dense to very dense						
900.0'	7.0'	6 7.5		SLAG: Dark gray to black,some dark gray slag cobbles (ballast), traces of reddog and coal, Dense to Very dense, damp						
899.0'	8.0'	9								Bottom of test pit at 8' Excavator could not penetrate slag layer.

APPENDIX C

LABORATORY TEST RESULTS

CONSTRUCTION ENGINEERING CONSULTANTS, INC.
2018 WAVERLY STREET
PITTSBURGH, PA 15218

REPORT OF: Moisture Content of Soils – ASTM D 2216

CLIENT: KDH

PROJECT: Walkers Mill Town Homes **JOB NUMBER:** J-18229

MATERIAL: Soil Borings

TEST RESULTS

SAMPLE NUMBER	SAMPLE LOCATION	DESCRIPTION	SAMPLE CONTENT %
SW-89821	TP-1, S-1 3.0 – 6.0'	Dark grey to black sandy slag with some white slag	11.5
SW-89822	TP-2, S-1 6.0 – 9.0'	Olive to medium grey sandy silt and clay	35.5
SW-89823	TP-3, S-1 4.0 – 7.0'	Dark grey to black sandy silt with asphalt, gravel; some slag and ash	17.6
SW-89824	TP-4, S-1 0.0 – 4.0'	Grey limestone gravel and asphalt with sand	3.8
SW-89825	TP-5, S-1 8.0 – 13.0'	Reddish-black ash and cinders with some rubble and brick	12.2
SW-89826	TP-6, S-1 7.0 – 9.0'	Black sandy slag with ballast slag	5.8

James Kaclik
Reviewer

CONSTRUCTION ENGINEERING CONSULTANTS, INC.
2018 WAVERLY STREET
PITTSBURGH, PA 15218

REPORT OF: Moisture Content of Soils – ASTM D 2216

CLIENT: KDH

PROJECT: Walkers Mill Town Homes **JOB NUMBER:** J-18229

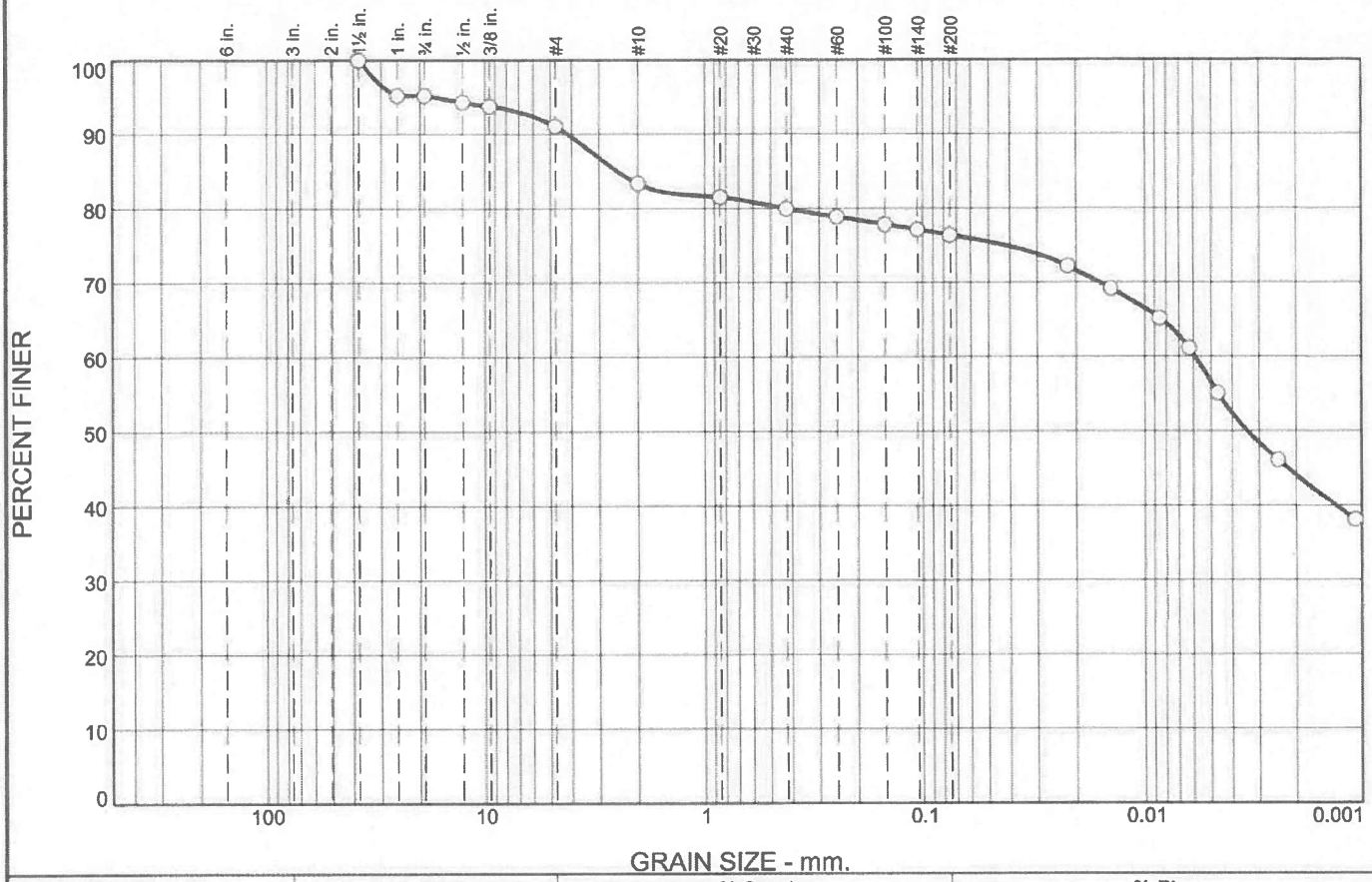
MATERIAL: Soil Borings

TEST RESULTS

SAMPLE NUMBER	SAMPLE LOCATION	DESCRIPTION	SAMPLE CONTENT %
SW-89827	TP-7, S-1 0.0 – 5.0'	Medium brown sandy silt with rock; trace slag and asphalt	12.1
SW-89828	TP-8, S-1 0.0 – 1.0'	Grey limestone gravel with asphalt and sand	2.0

James Kaclik
Reviewer

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	4.8	4.1	7.7	3.4	3.6	19.8	56.6

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.5	100.0		
1	95.2		
.75	95.2		
0.5	94.3		
.375	93.8		
#4	91.1		
#10	83.4		
#20	81.5		
#40	80.0		
#60	78.9		
#100	77.8		
#140	77.1		
#200	76.4		

* (no specification provided)

Material Description

OLIVE GRAY SANDY SILT AND CLAY

Atterberg Limits

PL= 24 LL= 51 PI= 27

Coefficients

D_{90}= 4.1550 D_{85}= 2.4724 D_{60}= 0.0059
D_{50}= 0.0034 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CH AASHTO= A-7-6(21)

Remarks

SW-89829

Source of Sample: TP-2 **Depth:** 6-9'
Sample Number: S-1

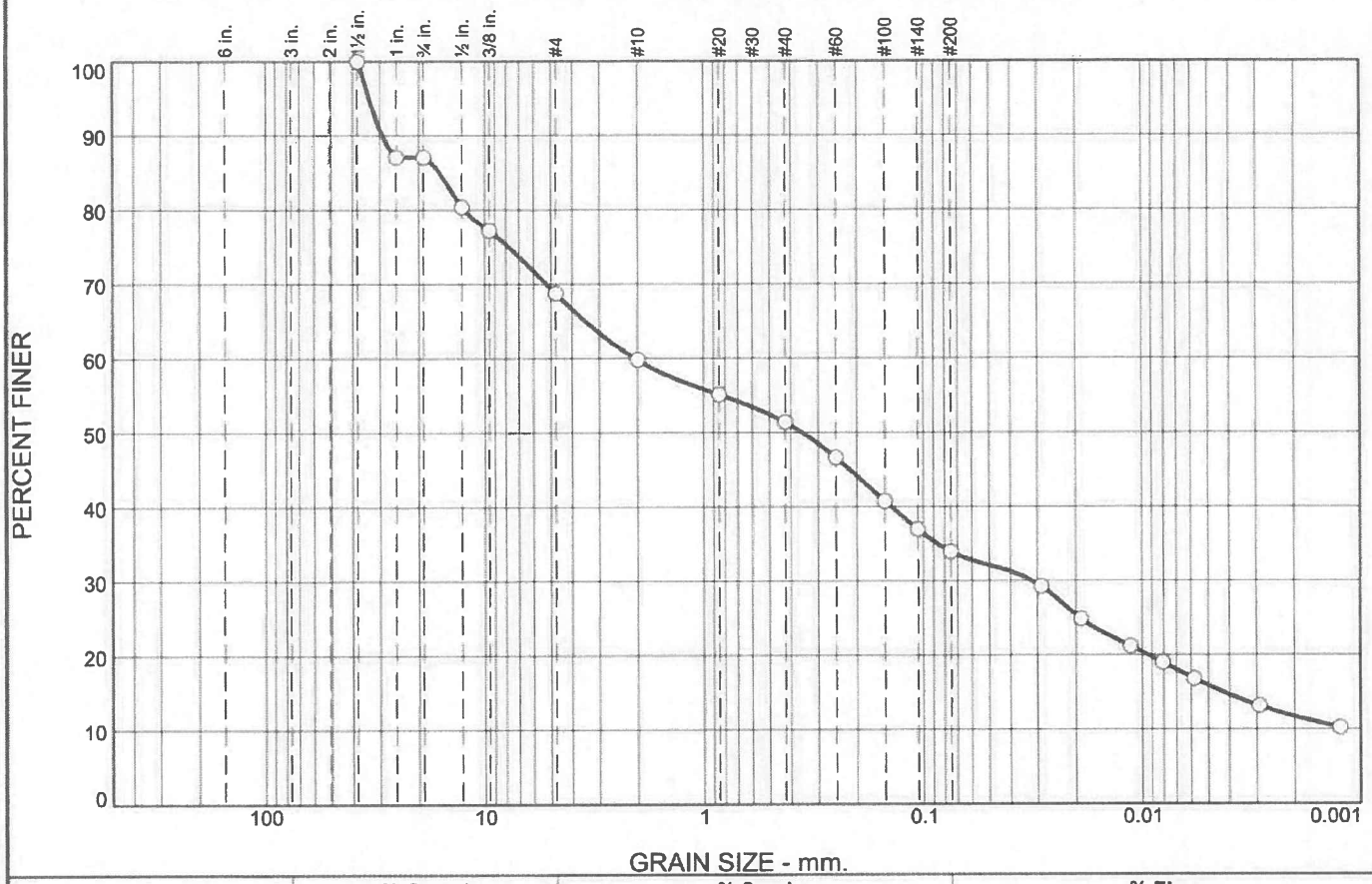
Date: 9-25-25

Construction Engineering Consultants, Inc.

Client: KDH
Project: WALKERS MILL TOWNHOMES

Project No: J-18229 **Figure** 01

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	12.9	18.3	9.0	8.4	17.5	18.0	15.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.5	100.0		
1	87.1		
.75	87.1		
0.5	80.4		
.375	77.2		
#4	68.8		
#10	59.8		
#20	55.1		
#40	51.4		
#60	46.6		
#100	40.8		
#140	37.0		
#200	33.9		

* (no specification provided)

Material Description

MEDIUM BROWN SANDY SILT WITH ROCK ANC TRACES OF SLAG

Atterberg Limits

PL= 19 LL= 29 PI= 10

Coefficients

D_{90}= 29.3318 D_{85}= 16.0684 D_{60}= 2.0511
D_{50}= 0.3545 D_{30}= 0.0317 D_{15}= 0.0043
D_{10}= C_u= C_c=

Classification

USCS= SC AASHTO= A-2-4(0)

Remarks

SW-89830

Source of Sample: TP-7 **Depth:** 0-5'
Sample Number: S-1

Date: 9-25-25

Construction Engineering Consultants, Inc.

Client: KDH
Project: WALKERS MILL TOWNHOMES

Project No: J-18229 **Figure** 02

APPENDIX D

COAL MINE STATUS REPORT

Active Oil Well
Abandoned Oil Well
Active Gas Well
Abandoned Gas Well
Active Oil & Gas Well
Dry Hole
No Record
County Lines
Township Lines
Borough Lines
Coal Contours
Crop Lines - Seams Not Being Mined
Carnegie-1
Carnegie 2
Carnegie 5
Carnegie 7
40°25'
80°15'
80°10'
Carnegie Coal Co
Oakdale Mine
Pittsburgh Coal Co
Kirk Coal Co.
Champion
Nickle Plate
Oakdale
Run
McClane Mining Co
McClane Mine
National
Coal
Co
Leech Farm Coal Co.
Chalfant Mine
Fayette Coal Co
Willow Grove
Laurel Hill No. 1
McClane Mining Co
Robinson
North
Crown Run
P.C.C.&St.L.
Brier Hill
Vulcan
BM 892
1080
1060
1040
1020
1000
980
960
950
940
920
Barrier Pillar
W.P.A. PROJECT NO.4483
CARNEGIE SHEET No. 4
Pittsburgh Seam

APPENDIX E

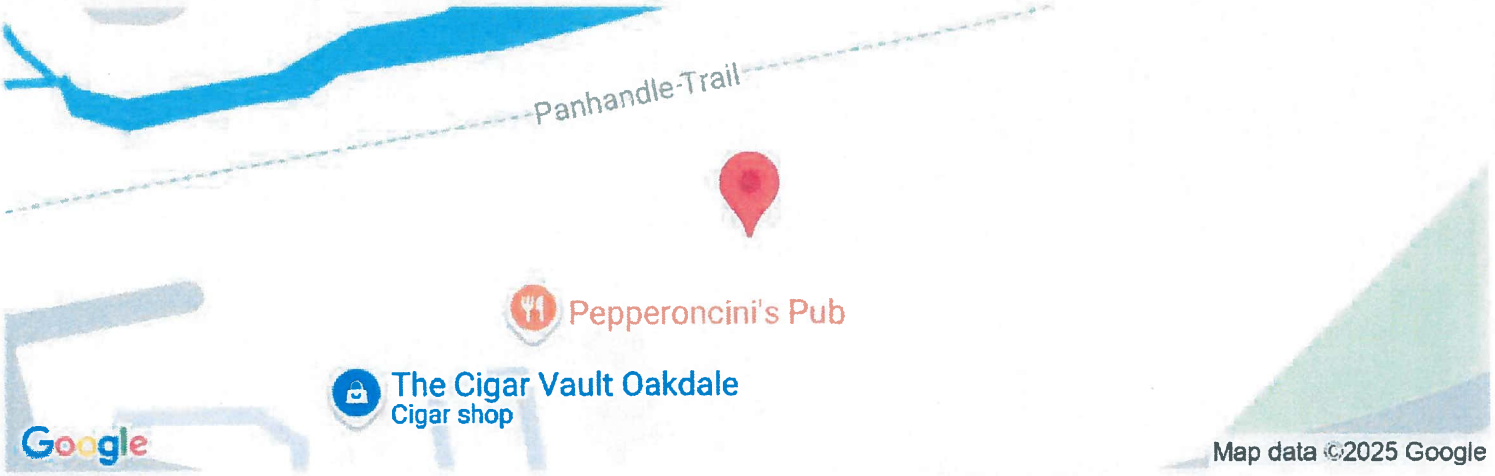
SEISMIC SITE PARAMETERS

Announcement
ASCE 7-22 is now available

OSHPD

Walkers Mill Townhomes

Latitude, Longitude: 40.39715277, -80.18300629



Date	9/23/2025, 1:23:53 PM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	C

Type	Value	Description
S_S	0.09	MCE_R ground motion. (for 0.2 second period)
S_1	0.045	MCE_R ground motion. (for 1.0s period)
S_{MS}	0.117	Site-modified spectral acceleration value
S_{M1}	0.068	Site-modified spectral acceleration value
S_{DS}	0.078	Numeric seismic design value at 0.2 second SA
S_{D1}	0.045	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	A	Seismic design category
F_a	1.3	Site amplification factor at 0.2 second
F_v	1.5	Site amplification factor at 1.0 second
PGA	0.043	MCE_G peak ground acceleration
F_{PGA}	1.3	Site amplification factor at PGA
PGA_M	0.056	Site modified peak ground acceleration
T_L	12	Long-period transition period in seconds
SsRT	0.09	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	0.096	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.5	Factored deterministic acceleration value. (0.2 second)
S1RT	0.045	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.049	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.6	Factored deterministic acceleration value. (1.0 second)
PGAd	0.5	Factored deterministic acceleration value. (Peak Ground Acceleration)
PGA_{UH}	0.043	Uniform-hazard (2% probability of exceedance in 50 years) Peak Ground Acceleration
C_{RS}	0.943	Mapped value of the risk coefficient at short periods
C_{R1}	0.92	Mapped value of the risk coefficient at a period of 1 s
C_V	0.7	Vertical coefficient

DISCLAIMER

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Oakdale Borough

104 Seminary Ave, Oakdale, PA 15071
Office: (724) 693-9740
Fax: (724) 693-0100

November 7, 2025

J&T Oakdale Properties, LLC
1321-C McLaughlin Road
Pittsburgh, PA 15241

Re: Land Development Plan - Walker's Mill – Phase 1

Dear Mr. Robinson:

Please allow this letter to serve as official notice that, at its regularly scheduled public meeting of November 6, 2025, the Oakdale Borough Council voted to approve the above Application for Approval of the Final Subdivision and Land Development Plan of the Phase 1 Walker's Mill Townhouse Development, subject to the conditions as set forth in the Township Engineer correspondence dated November 5, 2025, all of which shall be satisfied prior to and as a condition of the issuance and maintenance in good standing of any Borough Grading, Demolition, Building, or other permits necessary to commence or complete any work on the Approved Plan, or for any occupancy permits following same.

Of course, please do not hesitate to contact the Borough, Solicitor, Borough Engineer, or me with any questions as to the above approval, conditions, or any other matter.

Very truly yours,

Vicki Kaine
Borough Manager

cc: Borough Council
Kevin Brett, Township Engineer
Michele McPeak Cromer, Solicitor
Michael Wetzel, Victor-Wetzel Associates

Steve Trusnovic, Mayor ■ Jonathan DeBor, President ■ Al Pifer, Vice President
■ Gary Lauderbaugh, Councilman ■ William Hartman, Jr., Councilman ■ Barbara Rossen, Councilwoman

PROPERTY DEED EXHIBIT

J&T Property Deed & Purchase of Kosky Deed

Walkers Mill Townhouses

Oakdale Borough & South Fayette Township

J & T OAKDALE PROPERTIES, LLC

4

QUITCLAIM DEED

THIS QUITCLAIM DEED is made the 29TH day of May, 2004,

BETWEEN: BEST FEEDS & FARM SUPPLIES, INC., a Pennsylvania Corporation,

(herein called "Grantor"),

-A N D-

J & T OAKDALE PROPERTIES, LLC, a Pennsylvania Limited Liability Company,

(herein called "Grantee").

WITNESSETH, Grantor in consideration of the sum of $1.00, paid to Grantor by Grantee, the receipt and sufficiency of which is hereby acknowledged, does grant, bargain, sell and convey to Grantee, its successors and assigns, all of Grantor's right, title and interest in and to the following:

All those certain parcel or piece of ground or land situate in the Borough of Oakdale, County of Allegheny and Commonwealth of Pennsylvania, as more fully bounded and described on Exhibit "A" attached hereto and made a part of this Quitclaim Deed.

Being the same property which Consolidated Rail Corporation by its deed dated September 18, 1996 granted and conveyed unto Best Feeds and Farm Supplies, Inc., a corporation, the Grantor hereof, which deed and legal description therein contained are incorporated herein by reference.

UNDER AND SUBJECT TO: easements, rights-of-way, restrictions and special provisions of record; building and use restrictions of record; prior grants, reservations or leases of coal, oil, gas or other minerals or mineral or mining rights, as the may be shown by

instruments of record; any rights of the public in those portions of any prior or existing public street which may be contained within the confines of or abuts the above real estate; all matters that may be shown by a full, complete and competent survey of the subject real estate; and all other matters of record.

BEING designated in the Deed Registry Office of Allegheny County, Pennsylvania as follows: Being part of Block and Lot No. 9946-X-50583.

Together with the appurtenances and all improvements, if any, thereon erected.

TO HAVE AND TO HOLD the same to and for the use of Grantee, its successors and assigns forever.

Grantor hereby quitclaims all of its right, title and interest, if any, in and to the above-described real estate to Grantee without warranty or representation of any type or kind and under and subject to all matters of record.

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.)

This Deed is made under and by virtue of a Resolution of the Board of Directors and Stockholders of Grantor Corporation duly passed at a special meeting thereof, held on May 7, 2004, a full quorum being present, unanimously authorizing and directing the same to be done.

IN WITNESS WHEREOF, Grantor has caused its common and corporate seal to be affixed to these presents by the hand of its President and Corporate Secretary, as of the day and year first above written.

BEST FEEDS & FARM SUPPLIES, INC., a Pennsylvania Corporation,

Attest:

By _____
President

By _____
Secretary

COMMONWEALTH OF PENNSYLVANIA)
) SS:
COUNTY OF ALLEGHENY)

On this 29th day of May, 2004, before me, a Notary Public, the undersigned officer, personally appeared R.N. Kohser, who acknowledged himself to be the President of Best Feeds & Farm Supplies, Inc., a Pennsylvania corporation, and that he as such officer, 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 corporate officer.

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

_____
Notary Public

MY COMMISSION EXPIRES:

Notarial Seal
Georgiana Wolff, Notary Public
Hampton Twp., Allegheny County
My Commission Expires Oct. 2, 2004
Member, Pennsylvania Association of Notaries

NOTICE - THE UNDERSIGNED, AS EVIDENCED BY THE SIGNATURES TO THIS NOTICE AND THE ACCEPTANCE AND RECORDING OF THIS DEED, 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:

GRANTEE J & T OAKDALE PROPERTIES, LLC

By

CERTIFICATE OF NAME AND RESIDENCE

It is certified that the Grantee is J & T Oakdale Properties, LLC, whose address is:

1299 McLAUGHLIN RUN ROAD, BRIDGEVILLE, PA. 15017

For Grantee

Doc-24879

Walkers Mill
Purchase of Kosky Deed

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-

0407J00005000000

Document Number: 2024-24879
Recorded As: ERX-DEED
Recorded On: September 13, 2024
Recorded At: 02:31:19 pm
Number of Pages: 8
Book-VI/Pg: Bk-DE VI-19801 Pg-338
Recording Fee: $181.75
Parties:
KOSKY JOHN A
J & T OAKDALE PROPERTIES L L C
Receipt Number: 4396809
Processed By: Laura Snyder

Realty Transfer Stamp

Consideration Amt: $90000.00
Tax Code : SOUTH FAYETTE TP
Tax Amount: $1800.00
Ward :
99-NO WARD
Stamp Num: T20903
Blk/Lot: 0407J00005000000
Affidavit: YES
Exempt: No

Commonwealth of Pennsylvania	$900.00
Munic-South Fayette Twp	$450.00
School District-South Fayette	$450.00
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-24879

599068

DRE Certified
13-Sep-2024 02:16P\Int By: A G

Prepared by and return to:

Steve M. Regan, Esquire
Steptoe & Johnson PLLC
One PPG Place, Suite 3300
Pittsburgh, PA 15222

Parcel ID No: 407-J-5

SPECIAL WARRANTY DEED

Made this 26th day of August, 2024, and made effective as the 11th day of September, 2024,

between **JOHN A. KOSKY**, hereinafter referred to as "Grantor,"

and **J & T OAKDALE PROPERTIES, LLC,** a Pennsylvania limited liability company, hereinafter referred to as "Grantee".

WITNESSETH, that in consideration of **NINETY THOUSAND AND 00/100 DOLLARS ($90,000.00)**, in hand paid, the receipt of which is hereby acknowledged, Grantor does hereby grant bargain, sell and convey unto Grantee, his successors and assigns, forever:

ALL that certain tracts of land situate in the Township of South Fayette, County of Allegheny, and Commonwealth of Pennsylvania, being more particularly described on **Exhibit A** hereto and made a part hereof.

TOGETHER with all and singular, the improvements, ways, waters, water-courses, rights, liberties, privileges, hereditaments and appurtenances whatsoever thereunto belonging, or in anywise appertaining, and the reversions and remainders, rents, issues and profits thereof; and all the estate, rights, title, interest, property, claim and demand whatsoever of the said Grantor, in law, equity or otherwise, however, of in and to the same and every part thereof.

UNDER AND SUBJECT to all exceptions, reservations, easements, covenants, restrictions, conditions, rights-of-way, etc. contained in prior instruments of record and affecting the chain of title thereto.

TO HAVE AND TO HOLD the same to and for the use of said Grantee, and Grantee's successors and assigns forever, and said Grantor for himself, his heirs and assigns, hereby covenants and agrees with Grantee, and Grantee's heirs, successors and assigns, that it will **WARRANT SPECIALLY** the property hereby conveyed.

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/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, Grantor signed and sealed hereto as of the day and year first above written.

[THIS SPACE INTENTIONALLY LEFT BLANK,
SIGNATURE PAGES TO FOLLOW]

WITNESS:

Karen Rose

GRANTOR:

John A. Kosky

ACKNOWLEDGMENT

COMMONWEALTH OF PENNSYLVANIA)
) §:
COUNTY OF Allegheny)

On this, the 26 day of August, 2024, before me, a Notary Public, the undersigned officer, personally appeared **JOHN A. KOSKY**, 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.

Jill Estes
Notary Public

[SEAL]
Commonwealth of Pennsylvania - Notary Seal
Jill Estes, Notary Public
Washington County
My commission expires March 2, 2025
Commission number 1247533
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.

GRANTEE:

J & T OAKDALE PROPERTIES, LLC, a Pennsylvania limited liability company

By: _____
Thomas A. Robinson, Member

CERTIFICATE OF RESIDENCE

I do hereby certify that the **Tax Bill Address** of the within named grantee is:

J & T Oakdale Properties, LLC
Name

1321 McLaughlin Run Road
Address

Pittsburgh, PA 15241
City, State and Zip Code

Witness the due execution hereof.

I do hereby certify that the **Owner Mailing Address** of the within named grantee is:

J & T Oakdale Properties, LLC
Name

1321 McLaughlin Run Road
Address

Pittsburgh, PA 15241
City, State and Zip Code

_____
Attorney for the Grantee

Exhibit A - Legal Description

ALL THAT CERTAIN lot or parcel of land situate in the Township of South Fayette, County of Allegheny County, Commonwealth of Pennsylvania, based on a field survey prepared Keystone Surveying and Mapping, Inc. dated December 13, 2023, a copy of which is attached hereto and being more particularly described as follows:

COMMENCING at a point in the centerline of Seminary Ave. (33' right-of-way), being the southeasterly corner of lands of J & T Oakdale Properties, LLC; thence, along the easterly line of said lands of J & T Oakdale Properties, LLC, North 27°28'21" West, a distance of 66.00 feet to the true point of BEGINNING; thence, continuing along said easterly line, North 27°28'21" West, a distance of 216.70 feet to a point the southerly line of the Panhandle Trail; thence, along said southerly line of the Panhandle Trail, the following two (2) courses: 1. By an arc curving to the left, having a radius of 2894.10 feet, an arc length of 32.64 feet, being subtended by a chord which bears North 63°23'46" East, a chord distance of 32.64 feet to a point; thence, 2. North 63°04'39" East, a distance of 422.02 feet to a found 1" threaded iron pin (bent); thence, leaving said Panhandle Trail, South 44°35'21" East, a distance of 95.81 feet to a found 1" iron pipe at the northeasterly corner of lands of Carla Jane McMullen and Daniel William Collins; thence, along the northerly line of said lands of McMullen and Collins, the following two (2) courses: 1. South 44°01'39" West, a distance of 352.82 feet to a point; thence, 2. South 59°11'39" West, a distance of 148.50 feet to the first mentioned point and the PLACE OF BEGINNING.

Encompassing 1.834 acres of land, more or less, and subject to easements, right of ways, covenants, and restrictions of record. North and bearing system is based on Pennsylvania State Plane Coordinate System NAD83.

BEING Parcel ID 407-J-5 in Allegheny County Assessment Office.

BEING the same property which John A. Kosky, as Executor of the Estate of Madeline M. Kosky a/k/a Madeline Moore Kosky a/k/a Madeline Kosky, deceased, granted by deed dated April 16, 2024 to John A. Kosky, and recorded in the Department of Real Estate of Allegheny County, Pennsylvania in Deed Book 19676, Page 411, as Instrument No. 2024-12928.

ALSO BEING the same property which Tank Lining Corp., a Nevada corporation, granted by deed to John Kosky, Jr. and Madeline Kosky, his wife, dated March 27, 1987 and recorded on June 6, 1987 in the Recorder of Deeds of Allegheny County, PA in Deed Book Volume 7570, page 423.