



MEMORANDUM

ATTN: Planning Commission

DATE: April 10, 2026

FROM: Jamie P. Worman, Assistant Township Manager

Jamie Worman

SUBJ: Cedar Hill Road Subdivision (1512-1524 Cedar Hill)-#25-07SUBD

Susan Rice, P.E., of STA Engineering Inc., will attend the Planning Commission meeting on April 10, 2026, to present the revised Cedar Hill Road 4-Lot Subdivision plan on behalf of her client, Tisman Group LLC. As you may recall, the Planning Commission previously recommended this plan for approval in October 2025.

The original proposal involved combining the two parcels located at 1512 and 1524 Cedar Hill Road, demolishing the existing structures, and subdividing the merged property into four new building lots. The applicant intends to construct four new single-family dwellings, each with its own stormwater management facilities, and to provide a trail along the property frontage.

The revised plan continues to propose a four-lot subdivision but has been redesigned to comply with A-Residential District standards, as permitted under Section 1258.02(b)(1) of the code. This approach results in slightly larger lots and eliminates the requirement for designated open space, which could have posed potential challenges for future property owners.



GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

April 10, 2026

File No. 19-06051-01

Mimi Gleason, Township Manager
Lower Gwynedd Township
1130 N Bethlehem Pike
P.O. Box 625
Spring House, PA 19477

Reference: 1512 & 1524 Cedar Hill Road Subdivision
TMP's #39-00-00646-00-8 and #39-00-00649-00-5
Preliminary/Final Land Development Application

Dear Ms. Gleason:

Pursuant to your request, Gilmore & Associates, Inc. performed a review of the preliminary submission for land development for the above-referenced project. Upon review, we offer the following comments for consideration by the Lower Gwynedd Township Board of Supervisors:

I. Submission

- A. Preliminary/Final Land Development Plans, consisting of 1 through 18 of 18, dated August 25, 2025, latest revision February 27, 2026, as prepared by STA Engineering, Inc. for Tisman Group, LLC.
- B. Erosion and Sediment Control and Post Construction Stormwater Management Plan Narrative dated August 25, 2025, latest revision November 20, 2025, as prepared by STA Engineering, Inc. for Tisman Group, LLC.

II. Project Description

The subject property consists of two parcels, TMP's #39-00-00646-00-8 and #39-00-00649-00-5 located within the A-1 Residential Zoning District. The subject property is approximately 7.76 acres, currently containing two (2) dwellings with various accessory structures and two (2) swimming pools.

The Applicant proposes to subdivide the combined two parcels with a total area of 7.76- acres into four (4) new lots. Along with this parcel reorganization, the applicant proposes to demolish all existing improvements on the properties, including the dwellings and associated impervious driveways, walkways, accessory buildings, etc. The plans propose the construction of four (4) new dwellings with Managed Release Concept basins proposed to the rear of the properties to control the runoff from the added impervious surface areas. All proposed lots will be served by public water and sewer.

III. Review Comments

A. Zoning Ordinance

§1258.08(a) - It is our understanding that the proposed land development is permitted use as single-family detached dwellings in accordance with the regulations applicable to an "A" residential district.

410 Plymouth Road | Suite 150 | Plymouth Meeting, PA 19462 | Phone: 610-489-4949 | Fax: 610-489-8447

As such, the permanent open space requirement outlined in §1258.08(a)(3) & (9) of the Township's Ordinance for the "A-1" residential district would not apply. We defer all comments with respect to the Lower Gwynedd Township Zoning Ordinance to the Township's Zoning Officer.

B. Waivers Requested

Pursuant to §1230.09, the Township Board of Supervisors may grant a waiver of the requirements of one or more provisions of this ordinance provided the Applicant proves undue hardship. We note that the waiver requests are noted on the Subdivision Plan (to be recorded) in the Preliminary/Final Land Development Plans (sheet 2 of 18). The Record Plan shall list the waivers, applicable section numbers, and the date granted as applicable, including any conditions.

- a. §1230.07(c) – A waiver is requested to permit a concurrent preliminary/final land development application submission.
- b. §1230.45(a) – A waiver from providing the required sidewalks along both sides of existing and proposed streets. **We note that the applicant is proposing a paved trail across the frontage of the subject property. We defer to the Board of Supervisors regarding the material of the trail/sidewalk. Additionally, Note 22 on Sheet 2 shall be revised to specifically include snow removal as the homeowner's responsibility.**
- c. §1230.60(b) – A waiver from the requirement of constructing driveway aprons at all private driveways and within residential areas. **We note that if the Board of Supervisors recommends the construction of concrete sidewalk along the frontage in lieu of the proposed paved trail, then we would not support this waiver and would request the concrete driveway aprons be added to the plans.**
- d. §1230.61(a) – A waiver from providing curb along all existing and proposed streets. **We note that curbing has been provided on the opposite side of the street from previous subdivisions, however no curbing exists on the side of the subject property.**
- e. §1241.401(n) – A waiver from the requirement of 18" minimum diameter pipe. Instead, 8", 10", 12" and 15" pipe is proposed for stormwater basins. **We note that all pipes are designed to accommodate the 100-year storm. As such, we have no objection to this waiver request.**

C. Subdivision and Land Development Ordinance

We offer the following comments with respect to the current Lower Gwynedd Township Subdivision and Land Development Ordinance:

1. §1230.15 – The Applicant is responsible for all required approvals, permits, etc. (e.g., Montgomery County Conservation District, PennDOT HOP, Fire Marshal, PADEP, etc.).
2. §1230.16(b) – The Applicant shall address the following general plan issues:
 - a. The 360-foot contour line along the front walkway and garage entrance of unit number four (4) appears to be incorrect and shall be revised to 380 on the Construction Improvement Plan (sheet 6 of 18).
 - b. We note that the sanitary later for Lot 1 will connect to the sewer main within the easement on the side of the property. As such, the 4" PVC San Lateral text located in the front yard of unit number one (1) shall be removed from the plans.

- c. The width of all Rock Construction Entrances shall be 20 feet on the E&S Control Plan (sheet 7 of 18) as outlined in the Standard Construction Detail #3-1 located on the E&S Detail Sheet (8 of 18).
 - d. The E&S Detail Sheet (8 of 18) shall be revised to include a detail for tree protection.
 - e. Inlet protection shall be added to the proposed inlet in the back yard of unit one (1) and all 2'x2' yard inlets on the E&s Plan (sheet 7 of 18). Additionally, a detail for inlet protection shall be added to the E&S Detail Sheet (8 of 18).
 - f. The PCSM Plan (sheet 9 of 18) shall be revised so that the callout text does not overlap other linetypes for clarity.
 - g. The widths of SCM 005 & SCM 007 on the PCSM Plan (sheet 9 of 18) is not consistent with the callout and details. The Applicant shall confirm the sizes and revised the plans accordingly.
 - h. The sanitary manhole #7230 shall be revised to show invert 366.47 as an "in" instead of an "out" on the Plan, Profile, & Detail Sheet (14 of 18).
3. §1230.33 – The Applicant is required to obtain an NPDES and Erosion & Sediment Control permit from the Montgomery County Conservation District. The Township shall be copied on all future correspondence with the Conservation District.
4. §1230.40(a)(2) – We defer to the Township Traffic Engineer regarding the calculation of any applicable Act 209 fees and any comments related to traffic, signage, sight distance, etc.
5. §1230.41(i) – Each tree having a caliper of six inches or more measured six inches above the ground, that is removed shall be replaced with a shade tree or shade trees, which have a total caliper equal to or greater than the tree removed. The plans propose to remove 274 caliper inches of existing trees. We note that the replacement tree requirement shall be separate from the additional landscaping requirements, such as basin landscaping and street trees. It appears that the Applicant is counting the required street trees and basin plantings into the tree replacement quantity. The plans shall be revised to break out each separate landscaping requirement and shall not utilize other required plantings in the tree replacement calculations.
- Lastly, the plans propose to utilize some evergreen trees to satisfy the tree replacement calculation, with two (2) evergreen trees for each shade tree required. We defer to the Board of Supervisors to determine whether evergreen tree equivalent will be accepted.
6. §1230.53(a)(1) – All applicants for residential subdivision or land development approval for 10 or fewer single-family residential units shall, concurrent with the submission of a final plan of subdivision or land development, submit and tender to the Township a fixed park and recreation area fee of \$1,000 for each of the proposed dwelling units. We calculate the fee based on four (4) new dwellings to be \$2,000.00.
7. §1230.63 – The Applicant shall address the following issues in regard to the proposed sanitary sewer design:
- a. We note that the Applicant has confirmed the sewer planning exemption with PA DEP. The Applicant will be required to obtain approval from Ambler Borough Wastewater Treatment plans for the additional connections.
 - b. The Applicant will be required to enter into a Tapping Agreement with the Township for the sanitary connections. The document will be prepared by the Township Sewer Solicitor. In addition, The Applicant shall pay the required tapping fee to the Township prior to the start of work.

8. The Applicant will be required to pay a recreation impact fee of \$500 per new dwelling unit, as provided under Chapter 1236 of the Lower Gwynedd Township Code. We calculate the fee based on four (4) new dwellings to be \$2,000.00.

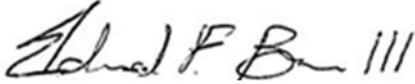
D. Stormwater Management Ordinance

We offer the following comments with respect to the current Lower Gwynedd Township Stormwater Management Ordinance (SWMO) (Adopted May 2017):

1. §1241.301 – If the waiver for curbing is denied, the applicant will be required to install the appropriate stormwater improvements along Cedar Hill Road, including but not limited to stormwater piping and inlets to capture the runoff from the roadway.
2. §1241.704 – The Applicant will be required to enter into a Stormwater Ownership & Maintenance Agreement with the Township for the proposed on-site stormwater improvements. The document will be prepared by the Township Solicitor and shall be executed prior to the plans being recorded.
3. In accordance with Lower Gwynedd Township Resolution 2005-16, the Applicant is required to pay a Stormwater Management Facility fee in the amount of \$500 per 1000 cubic feet of storage volume within the proposed BMP's. We calculate the fee based on 69,152 CF of proposed storage, to be \$34,576.00.

If you have any questions regarding the above, please contact this office.

Sincerely,



Edward Brown, P.E.
Project Manager
Gilmore & Associates, Inc.

EB/sl

cc: Jamie Worman Assistant Township Manager
Neil A. Stein, Esq. Township Solicitor
Al Comly, Township Fire Marshal
Chad Dixon, AICP, PP, McMahon Associates, Inc.
Susan Rice, P.E., STA Engineering, Inc.
Jim Hersh, P.E., Vice President, Gilmore & Associates, Inc.



April 9, 2026

Ms. Mimi Gleason
Township Manager
Lower Gwynedd Township
1130 N. Bethlehem Pike
Spring House, PA 19477

RE: **Traffic Review – Preliminary/Final Subdivision Plans**
1512 & 1524 Cedar Hill Road
Lower Gwynedd Township, Montgomery County, PA
Project No. 314087-01-018

Dear Mimi:

As requested, on behalf of Lower Gwynedd Township, Bowman Consulting Group (Bowman) has completed a traffic review for the proposed subdivision to be located at 1512 & 1524 Cedar Hill Road in Lower Gwynedd Township, Montgomery County, PA. It is our understanding that the proposed subdivision involves subdividing Parcel #39-00-00646-00-8 and Parcel #39-00-00649-00-5 into four lots (Lots 1 to 4) with a single-family home proposed on each lot. Access to Lots 1 to 4 will be provided via individual driveway connections along Cedar Hill Road.

The following documents were reviewed in preparation of our comments:

- Preliminary/Final Subdivision Plans for 1512 & 1524 Cedar Hill Road, prepared by S.T.A. Engineering, Inc., last revised February 27, 2026.
- Response to Comments Letter for 1512 & 1524 Cedar Hill Road, prepared by S.T.A. Engineering, Inc., dated March 2, 2026.

Bowman offers the following comments for consideration by the Township and action by the applicant:

1. The applicant is requesting a waiver from the following traffic-related Subdivision and Land Development Ordinance requirements:
 - Section 1230.45(a) – requiring sidewalk along the Cedar Hill Road site frontage. The plans currently show a paved trail along the Cedar Hill Road site frontage in lieu of sidewalk.
 - Section 1230.60(b) – requiring driveway aprons to be constructed at all private driveways and within residential areas.
 - Section 1230.61(a) – requiring curbing along the Cedar Hill Road site frontage.
2. The taper provided at the end of the road widening along the site frontage on the northern end of property should begin at the northernmost property line. Although the taper would be located along the frontage of the adjacent property, it appears from the plans it would be located within the existing legal right-of-way.
3. The proposed development will be subject to the transportation impact fee of \$3,865 per “new” weekday afternoon peak hour trip and the applicant will be required to pay a Transportation Impact

Fee. Based on Land Use Code 210 (Single-Family Detached Housing) in the Institute of Transportation Engineers publication, *Trip Generation, 12th Edition*, the proposed 4 single-family homes will generate approximately 4 "new" weekday afternoon peak hour trips. Providing a credit of 2 "new" weekday afternoon peak hour trips for the two existing single-family homes, the number of trips subject to the transportation impact fee is 2, resulting in a transportation impact fee of \$7,730.

We trust that this review letter responds to the Township's request and addresses our review of the materials related to the proposed development apparent to us at this time. If the Township has any questions, or requires further clarification, please contact me.

Sincerely,



Chad Dixon, AICP, PP
Senior Project Manager

BMJ/CED

cc: Jamie Worman, Assistant Township Manager
James Hersh, P.E., Gilmore & Associates, Inc.
Neil Stein, Esquire, Solicitor
Chris Condello, Tisman Group, LLC (Applicant)
Susan Rice, P.E., S.T.A. Engineering, Inc. (Applicant's Engineer)

Re: 1512 & 1524 Cedar Hill Road - RESUBMISSION

From Al Comly Jr <alcomlyjr8@gmail.com>
Date Tue 3/3/2026 10:51 PM
To Chad Dixon <cdixon@bowman.com>
Cc Patty Furber <pfurber@lowergwynedd.org>

I have reviewed the revised Preliminary/ Final Subdivision Plan submittal for 1512 & 1524 Cedar Hill Road as prepared by STA Engineers Inc dated Revision 3 "Revised per various reviews" dated 2/27/2026, consisting of 18 drawing sheets. I have no comments.

My review of the drawing sheets implies to me that the 2 residential structures on the site are to be demolished as part of the ultimate scope of this subdivision. Should that be the case, I wish to put in a strong request to allow the use of these structures for fire training by the Township Fire Companies prior to demolition. Such training could **NOT INVOLVE BURNING** the structures as part of this training . I am happy to answer any questions regarding this request.

Al Comly
Fire Marshal, Lower Gwynedd Township

On Tue, Mar 3, 2026 at 4:33 PM Chad Dixon <cdixon@bowman.com> wrote:

Hi Patty,

Thanks for forwarding. We did have a few minor comments for them to address regarding the proposed widening and driveways. We'll take a look at the submission.

-Chad

CHAD DIXSON, AICP, PP

Senior Project Manager, Transportation | **BOWMAN**

O: (215) 283-9444 | D: (267) 419-1238 | M: (610) 999-3985

cdixon@bowman.com | bowman.com



March 2, 2026

Lower Gwynedd Township
1130 N. Bethlehem Pike
P.O. Box 625
Spring House, PA 19477

Attn: Mimi Gleason, Township Manager

**Subj: 1512 & 1524 Cedar Hill Road – 4-Lot Residential Subdivision
PRELIMINARY/FINAL PLAN RESUBMISSION
TMP Nos. 39-00-00646-00-8 and 39-00-006949-00-5
Lower Gwynedd Township, Montgomery County, PA
STA Project #6571**

Received
MAR 03 2026
Lower Gwynedd TWP

Dear Ms. Gleason:

Enclosed herewith please find the following items being submitted in response to the Gilmore & Associates, Inc. and Bowman letters dated October 10, 2025:

1. Eight (8) copies of revised Subdivision/Land Development Plans last dated February 27, 2026;
2. One (1) copy of the Stormwater Management/E&S Report last dated November 20, 2025;
3. Legal Descriptions;
4. NWWA Will Serve Letter;
5. PaDEP Sewage Planning Exemption Letter;
6. Tree Evaluation Letter from Rockwell Associates;
7. *Electronic copy of all submission documents sent via email.*

Comments expressed in the letters have been addressed as follows:

Gilmore & Associates, Inc. letter dated October 10, 2025:

A. Zoning Ordinance

1. §1258.08(a)(3) & (9) – Permanent open space of not less than 10% of the gross tract area shall be offered for dedication. We note that the proposed open space area is located in the rear of the property. However, common open space shall be provided with safe and convenient access to the residentially developed area of the tract by adjoining frontage on streets or easements capable of accommodating pedestrian, bicycle and maintenance vehicle traffic. Additionally, common open space shall not be provided in narrow strips of land less than 50 feet in width. We defer to the Board of Supervisors to determine if this location and size is acceptable.

Response: The subdivision is now proposed to be developed in accordance with the A Residential District regulations as permitted by §1258.02(b)(1). Open space is not required in the A Residential District and is no longer shown on the plan.

B. Waivers Requested

Response: Waivers are requested and have been discussed with the Township Planning Commission and Township Board of Supervisors. Note 22 has been added to Sheet 2 to address trail maintenance responsibilities.

C. Subdivision and Land Development Ordinance

1. §1230.15 – The Applicant is responsible for all required approvals, permits, etc. (e.g., Montgomery County Conservation District, PennDOT HOP, Fire Marshal, PADEP, etc.).

Response: Understood and will comply.

2. §1230.16(b) – The Applicant shall address the following general plan issues:

- a. We note that the PCSM plan shows the existing inlets that the basin discharge pipe ties into as crossed out. The applicant shall clarify the purpose of crossing out the existing inlets on the plan sheets.

Response: The X's over the existing inlets on the PCSM plans signify an analysis point for the stormwater management design. The legend on the PCSM plan includes the meaning of the X.

- b. The Construction Improvement Plan, sheet 6, shows the proposed sanitary lateral on Lot 1 connecting into the existing main within the easement. However, it also appears that a separate lateral extends across the rear property of Lot 1 and Lot 3. The Applicant shall clarify the purpose of the additional laterals.

Response: Sheet 6 has been corrected to show the proposed lateral connections only. The existing features plan now includes additional notes and hatches to show portions of the existing laterals to be removed and/or abandoned. Lot 1 will utilize the existing lateral connection in the side yard and Lot 3 will connect to the existing sewer in Cedar Hill Road.

- c. The Zoning Data Schedule on Sheet 2 shall be revised to provide individual information for each lot created as part of this project. All information provided should be quantified for each of the lots.

Response: The Zoning Data Table on Sheet 2 is updated to provide individual lot information. It should be noted that the dwellings shown on the plans are not the final footprint. The footprints will be finalized at the building permit stage and will comply with all dimensional zoning requirements.

- d. Dimensions listed as “Proposed” shall be updated to reflect the correct dimension as shown on the proposed layout plan.

Response: The dwellings shown on the plans are not the final footprint and are intended to demonstrate the ability for compliance of dimensional criteria, grading and stormwater management. The footprints will be finalized at the building permit stage and will comply with all dimensional zoning requirements. The building permit plans will depict the accurate

proposed data.

- e. A note shall be added to the Record Plan and Post Construction Stormwater Management Plan, Sheets 2, 6 and 9, indicating the amount of impervious surface on each lot that the proposed stormwater BMP's area designed to handle.

Response: Note 21 is added to Sheet 2, Note 21 is added to Sheet 6 and a Stormwater Note is added to Sheet 9.

- f. The signature block for the sewer authority shall be removed from the plans.

Response: The specified signature block is removed from Sheet 2.

- g. The Plan Sheet Index on the Cover Sheet shall be updated to reference each plan to be recorded.

Response: The plan sheet index on the Cover Sheet now has an asterisk for all plans to be recorded.

3. §1230.29 & 30 – The Applicant shall provide legal descriptions for each of the new lots, Right-of-Way dedication, the open space area, and any proposed storm and sanitary sewer easements.

Response: The required legal descriptions are included with this submission.

4. §1230.33 – The Applicant is required to obtain an NPDES and Erosion & Sediment Control permit from the Montgomery County Conservation District. The Township shall be copied on all future correspondence with the Conservation District.

Response: The MCCD submission is currently in Technical Review. Permit documentation will be provided to the Township upon receipt.

5. §1230.37(c)&(e) – We note that Cedar Hill Road shall have a right-of-way width of at least 50 feet, which is offered for dedication as stated in notes 8 and 12 on Sheet 2.

Response: No comment is necessary.

6. §1230.40(a)(2) – We defer to the Township Traffic Engineer regarding the calculation of any applicable Act 209 fees and any comments related to traffic, signage, sight distance, etc.

Response: No comment is necessary.

7. §1230.41(c) – Street trees shall be planted outside the ultimate right-of-way, but not over underground utilities. The plans shall be revised to relocate the trees outside of the ultimate right-of-way. Additionally, we note that several proposed trees, including the proposed street trees are immediately adjacent to the proposed utility lines. The plans shall be revised to provide sufficient separation between the proposed utilities and the proposed trees.

Response: Street trees and other proposed trees have been shifted as needed on Sheet 12.

8. §1230.41(i) – Each tree having a caliper of six inches or more measured six inches above the ground, that is removed shall be replaced with a shade tree or shade trees, which have a total caliper equal to or greater than the tree removed. We note that the plans have indicated the trees to be removed, however the caliper inches have not been included. The plans shall be revised to include the size of the trees to be removed so the tree replacement requirements can be quantified. Additionally, the Replacement Tree Equivalent table on Sheet 13, appears to utilize other landscaping and planting requirements to satisfy the tree replacement requirement. We note that the tree replacement quantity shall be separate from any other required landscaping.

Response: The required replacement trees are provided on Sheet 13.

9. §1230.53(a)(1) – All applicants for residential subdivision or land development approval for 10 or fewer single-family residential units shall, concurrent with the submission of a final plan of subdivision or land development, submit and tender to the Township a fixed park and recreation area fee of \$1,000 for each of the proposed dwelling units. We calculate the fee based on four (4) new dwellings to be \$4,000.00.

Response: Understood and will comply.

10. §1230.53(b)(4) – Land for dedication shall be easily and safely accessible from all residential or occupied areas within the development or the general area to be served, and it shall have road frontage or, subject to the sole discretion of the Board of Supervisors, suitable access, ingress and egress from a public roadway for maintenance purposes. We note that the proposed open space area is along the rear of the proposed properties and does not have any road frontage. We defer to the Board of Supervisors to determine whether the location of the open area is acceptable.

Response: The subdivision is now proposed to be developed in accordance with the A Residential District regulations open space is not required and is no longer shown on the plan.

11. §1230.62 – The Applicant shall obtain a “will serve” letter from the water supplier. A copy of the letter shall be provided to the Township. Additionally, the plans shall be submitted to the water supplier for review/approval.

Response: The ‘Will Serve’ letter is included with this submission.

12. §1230.63 – The Applicant shall address the following issues in regards to the proposed sanitary sewer design:

- a. The Applicant should confirm sewage planning with PA DEP.

Response: A sewage planning exemption approval letter dated February 25, 2026, was issued by PaDEP and is included in this submission..

- b. Utility user’s list and contact information should be added to the Plans.

Response: The requested information is provided on the Cover Sheet.

- c. A note should be added to the Plans that states that construction of all sanitary sewer facilities and appurtenances shall be performed in accordance with Lower Gwynedd Township Standards and Specifications.

Response: Note 1 is provided on Sheet 16.

- d. A note shall be added to the plans stating the proper clearances (18" vertical/10' horizontal) from the sanitary sewer to other utilities.

Response: Note 2 is provided on Sheet 16.

- e. A note should be added to the Plans stating sanitary sewer laterals shall have a minimum of 4'-0" cover.

Response: Note 3 is provided on Sheet 16.

- f. A note should be added to the Plans stating that the proposed sanitary sewer lateral within the right-of-way or easement shall be 6" PVC.

Response: Note 4 is provided on Sheet 16.

- g. A note should be added to the Plans that states that the sanitary sewer lateral connection to existing Lower Gwynedd Township sanitary sewer may be installed with a wye saddle in accordance with Lower Gwynedd Township Standards and Specifications.

Response: Note 5 is provided on Sheet 16.

- h. We note that the size, slope and inverts shall be added to the plans for the sanitary laterals at the building line, each cleanout, and the connection to the main.

Response: The requested information is provided on Sheet 16.

- i. All applicable sewer details should be included on the plans and should conform to LGT Standard Details.

Response: Applicable details are provided on Sheet 16.

- j. The Applicant will be required to enter into a Tapping Agreement with the Township for the sanitary connections. The document will be prepared by the Township Sewer Solicitor. In addition, The Applicant shall pay the required tapping fee to the Township prior to the start of work.

Response: Understood and will comply.

- 13. §1230.69 – Tree protection fence shall be provided around all trees to remain within or adjacent to the limits of disturbance and shall be shown on the Existing Features Plan and the PCSM Landscape Plan

Response: Tree protection fence is now shown on Sheets 3, 6, 7, 9 and 12.

14. The Applicant will be required to pay a recreation impact fee of \$500 per new dwelling unit, as provided under Chapter 1236 of the Lower Gwynedd Township Code. We calculate the fee based on four (4) new dwellings to be \$2,000.00.

Response: Understood and will comply.

D. Stormwater Management Ordinance

1. §1241.301 – The plans shall be revised to address the following general comments with regard to the stormwater management design.
 - a. It appears that the proposed project will be completed in two (2) phases; where the stormwater and some grading improvements will be completed during Phase 1, and the final grading and construction of the dwellings will be completed in Phase 2. As such, the Applicant will be required to provide plot plans for each new lot prior to the construction of the buildings as stated in Note 20 on Sheet 2. Additionally, depending on the size and configuration of the new dwellings, additional stormwater improvements may be required at the time of the building permit.

Response: The stormwater management design is based on the maximum permitted impervious surface for each lot. Additional stormwater management improvements should not be required.

- b. Roof drain location, size and material shall be added to the plans in order to confirm management of all impervious area from the dwellings.

Response: Note 20 and a block note is provided on Sheet 6.

- c. If the waiver for curbing is denied, the applicant will be required to install the appropriate stormwater improvements along Cedar Hill Road, including but not limited to stormwater piping and inlets to capture the runoff from the roadway.

Response: Waivers were discussed with both the Township Planning Commission and Board of Supervisors, and the curbing waiver is expected to be granted. If anything changes, the applicant will comply as required.

2. §1241.401.j – Storage facilities shall completely drain both the volume control and rate control capacities over a period of time not less than 24 and not more than 72 hours from the end of the design storm. The basin dewatering calculations shall be added to the stormwater report.

Response: Dewatering calculations are provided on Pages 128 through 131 of the stormwater management report.

3. §1241.401.y – The minimum freeboard within the emergency spillway flow elevation to the top of berm elevation shall be one (1) foot. It appears that several basins propose less than one (1) of free board required. The freeboard design shall be verified and revised accordingly.

Response: The grading on Sheet 6 and the Emergency Spillway Cross-Section Detail on Sheet

10 have been revised to provide the required one (1) foot of freeboard.

4. §1241.704 – The Applicant will be required to enter into a Stormwater Ownership & Maintenance Agreement with the Township for the proposed on-site stormwater improvements. The document will be prepared by the Township Solicitor and shall be executed prior to the plans being recorded.

Response: Understood and will comply.

5. In accordance with Lower Gwynedd Township Resolution 2005-16, the Applicant is required to pay a Stormwater Management Facility fee in the amount of \$500 per 1000 cubic feet of storage volume within the proposed BMP's. We calculate the fee based on 52,699 CF of proposed storage, to be \$26,349.50. We note this fee calculation may change following any revisions to the stormwater design.

Response: Understood and will comply.

Bowman Letter dated October 10, 2025:

1. The applicant is requesting a waiver from the following Subdivision and Land Development Ordinance requirements:
 - Section 1230.45(a) – requiring sidewalk along the Cedar Hill Road site frontage. The plans currently show a paved trail along the Cedar Hill Road site frontage in lieu of sidewalk.
 - Section 1230.60(b) – requiring driveway aprons to be constructed at all private driveways and within residential areas.
 - Section 1230.61(a) – requiring curbing along the Cedar Hill Road site frontage.

Response: Waivers are requested and have been discussed with the Township Planning Commission and Township Board of Supervisors. Note 22 has been added to Sheet 2 to address trail maintenance responsibilities.

2. Sight distance measurements should be shown on the plans at the lot 1 to 4 driveway intersections with Cedar Hill Road as required in **Section 1230.38(a)** of the **Subdivision and Land Development Ordinance**.

Response: Sight distance measurements are provided on Sheet 14.

3. Additional details for the proposed driveways to lots 1 to 4 must be added to the plans. The driveways must be designed in accordance with **Section 1230.38** of the **Subdivision and Land Development Ordinance** with respect to grades and widths. The details should include the following:
 - a. Driveway tie-in radii.
 - b. Driveway width(s).
 - c. Driveway grades, as well as the cross-slope grades of the roadway.
 - d. Location and distance of driveway grade breaks.

Response: The requested information is provided on Sheet 15.

4. Appropriate tapers must be provided to transition the proposed edge of roadway to the existing edge

of roadway on each side of the proposed development.

Response: Tapers are now shown on Sheet 15.

5. The details provided on Sheet 14 of the plan set appear to have a discrepancy in regards to the grass strip width between the edge of pavement and the proposed paved trail. The designer should evaluate and revise as necessary, and the buffer strip should be in accordance with **Section 1230-45** of the **Subdivision and Land Development Ordinance**.

Response: The details on Sheet 14 have been corrected to be consistent and now show a 5 ft. wide grass strip which exceeds the minimum required 4 ft. grass strip in §1230-45.

6. The Township Fire Marshal should review the proposed subdivision for the accessibility and circulation needs of emergency apparatus. Ensure that any correspondence, including any review comments and/or approvals, is included in subsequent submissions.

Response: Applicant will provide documentation from the fire marshal upon receipt.

7. The proposed development will be subject to the transportation impact fee of \$3,865 per “new” weekday afternoon peak hour trip and the applicant will be required to pay a Transportation Impact Fee. Based on Land Use Code 210 (Single-Family Detached Housing) in the Institute of Transportation Engineers publication, *Trip Generation, 12th Edition*, the proposed 4 single-family homes will generate approximately 4 “new” weekday afternoon peak hour trips. Providing a credit of 2 “new” weekday afternoon peak hour trips for the two existing single-family homes, the number of trips subject to the transportation impact fee is 2, resulting in a transportation impact fee of \$7,730.

Response: Understood and will comply.

8. Based on our review, the applicant should address the aforementioned comments and provide revised plans to the Township and our office for further review and approval recommendations. The applicant's engineer must provide a response letter that describes how each specific review comment has been addressed, where each can be found in the plan set or materials, as opposed to general responses. This will aid in the detailed review and subsequent review timeframes.

Response: This letter serves to address this comment.

If you should have any questions or require additional information, please do not hesitate to contact me.

Respectfully submitted,



Susan Rice, P.E.
S.T.A. Engineering, Inc.

cc: Jamie Worman, Assistant Township Manager
Jim Hersh, P.E., Gilmore & Associates, Inc., Township Engineer
Chad Dixon, AICP, PP, McMahon Associates, Inc.
Andrew R. Freimuth, Esq., Wisler Pearlstine, LLP
Chris Condello, Tisman Group LLC



Via Email delivery

JOHN ROCKWELL HOSBACH JR.

Urban Forester
Registered Consulting Arborist #483
ISA Certified Arborist PD-0372

☎ 610-731-7969

✉ john@rockwellurbanforestry.com

Condition Evaluation Summary Report

Project: 1512 & 1524 Cedar Hill Road, Lower Gwynedd Township
Client: Chris Condello | President | Fairmont Builders Inc.
Address: 453 School Rd | Blue Bell, PA 19422
Date of Current Review: October 14, 2025
Original Evaluation Date: February 2021

Purpose of Report

At the request of Fairmont Builders, Rockwell Associates performed a follow-up assessment of the tree population located at 1512 and 1524 Cedar Hill Road.

The purpose of this updated inspection was to compare the current tree conditions (as of October 2025) with those observed in the original evaluation conducted in February 2021, and to document the extent of decline or mortality due to lack of maintenance over the past four years.

Methodology

Both assessments consisted of visual ground-level inspections of trees located within the designated parcels.

Each tree was evaluated for:

- Species and approximate size (DBH)
- Structural condition and stability
- Health and vigor (canopy density, dieback, disease presence)
- Longevity potential and safety risk

The updated inspection utilized the same rating framework to ensure consistent comparison between the two data sets.

Summary of Findings

Original Findings (February 2021)

A total of 64 trees were reviewed.



JOHN ROCKWELL HOSBACH JR.

Urban Forester
Registered Consulting Arborist #483
ISA Certified Arborist PD-0372

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- 27 trees were rated in poor condition, showing signs of stress, decay, or structural weakness.
- 37 trees were rated in fair condition, displaying moderate health but requiring corrective or maintenance actions for preservation.

Updated Findings (October 2025)

A secondary inspection revealed significant degradation across the population.

Since 2021, no proactive care, pruning, or mitigation has been conducted, resulting in progressive decline.

Current observations:

- 3 trees have completely died.
- 2 trees have structurally failed (partial or total collapse).
- 13 additional trees have degraded beyond repair, showing advanced decay, disease progression, or structural instability.

As of this inspection:

- 45 trees are dead, dying, diseased, or have failed.
- 19 trees remain in fair to poor condition, showing limited recovery potential without intervention.

The data indicates a degradation rate exceeding 40% over the four-year interval, correlating directly with lack of care and possible site stress (soil compaction, drought, or construction disturbance).

Conclusions and Recommendations

1. **Tree Removal:**
Immediate removal of the 45 non-viable or high-risk trees is strongly recommended to mitigate safety hazards.
2. **Selective compensation:**
The remaining 19 trees should be considered for compensation planting.
3. **Replanting Plan:**
A phased reforestation or landscape restoration plan should be implemented to replace lost canopy and maintain compliance with municipal or environmental guidelines.



JOHN ROCKWELL HOSBACH JR.

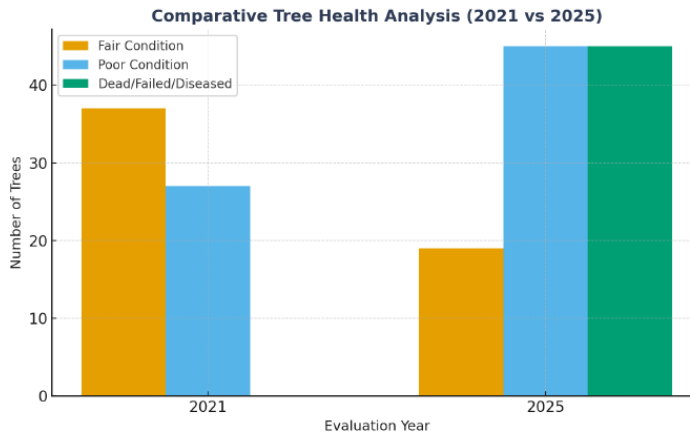
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Comparative Tree Health Analysis – 1512 & 1524 Cedar Hill Rd.

Evaluation Year	Total Trees	Fair Condition	Poor Condition	Dead/Failed/Diseased	Notable Trend
2021	64	37	27	0	Moderate overall health with need for maintenance
2025	64	19	45	45 (includes dead/dying/failed)	Major decline due to neglect and environmental stressors



Summary Insight:
The data indicates a **degradation rate exceeding 40%** over the four-year interval, correlating directly with lack of care and possible site stress (soil compaction, drought, or construction disturbance).

Compensation

737 inches in total. 274 inches to be replaced. 463 inches do not require compensation.

Respectfully submitted,

PRELIMINARY/FINAL SUBDIVISION PLANS

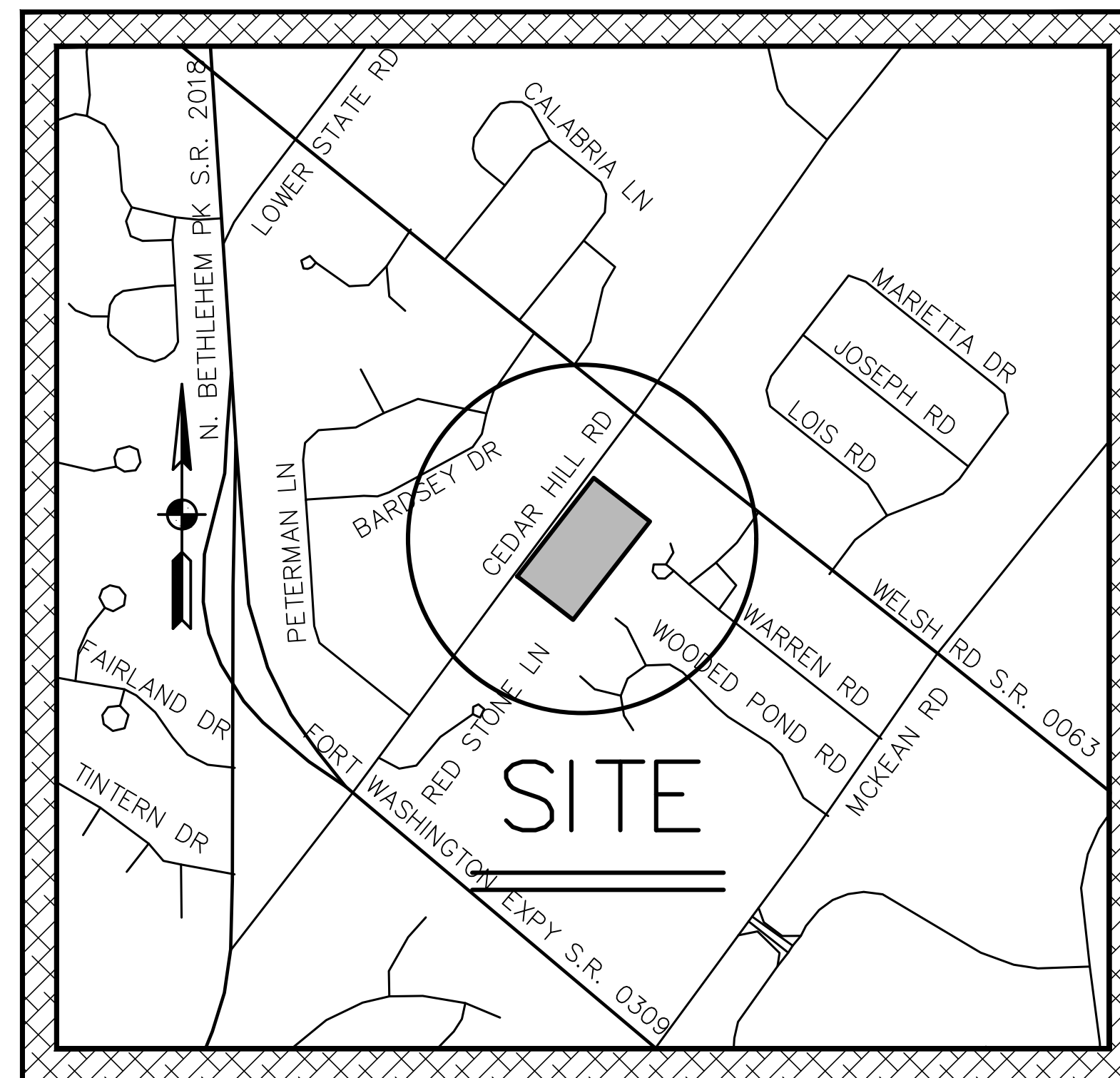
OF THE

1512 & 1524 CEDAR HILL ROAD

SITE SITUATE IN LOWER GWYNEDD TOWNSHIP, MONTGOMERY COUNTY

PLAN SHEET INDEX

SHEET NO.	PLAN TITLE	DATE	LAST REVISED
1 OF 18	COVER SHEET	AUG. 25, 2025	FEB. 27, 2026
2 OF 18	*SUBDIVISION PLAN	AUG. 25, 2025	FEB. 27, 2026
3 OF 18	EXISTING FEATURES PLAN	AUG. 25, 2025	FEB. 27, 2026
4 OF 18	DEMOLITION PLAN	AUG. 25, 2025	FEB. 27, 2026
5 OF 18	AERIAL PHOTO	AUG. 25, 2025	FEB. 27, 2026
6 OF 18	CONSTRUCTION IMPROVEMENT PLAN	AUG. 25, 2025	FEB. 27, 2026
7 OF 18	E&S PLAN	AUG. 25, 2025	FEB. 27, 2026
8 OF 18	E&S DETAIL SHEET	AUG. 25, 2025	FEB. 27, 2026
9 OF 18	*PCSM PLAN	AUG. 25, 2025	FEB. 27, 2026
10 OF 18	*PCSM NOTES & DETAIL SHEET	AUG. 25, 2025	FEB. 27, 2026
11 OF 18	*PCSM DETAIL SHEET	AUG. 25, 2025	FEB. 27, 2026
12 OF 18	*PCSM LANDSCAPE PLAN	AUG. 25, 2025	FEB. 27, 2026
13 OF 18	*PCSM LANDSCAPE DETAIL SHEET	AUG. 25, 2025	FEB. 27, 2026
14 OF 18	PLAN, PROFILE, AND DETAIL SHEET OF CEDAR HILL ROAD	AUG. 25, 2025	FEB. 27, 2026
15 OF 18	CEDAR HILL ROAD GRADING & DRIVEWAY PROFILES	AUG. 25, 2025	FEB. 27, 2026
16 OF 18	SANITARY SEWER PROFILE AND DETAIL SHEET	AUG. 25, 2025	FEB. 27, 2026
17 OF 18	PRE-DEVELOPMENT DRAINAGE SHED PLAN	AUG. 25, 2025	FEB. 27, 2026
18 OF 18	POST-DEVELOPMENT DRAINAGE SHED PLAN	AUG. 25, 2025	FEB. 27, 2026
*DENOTES PLANS TO BE RECORDED			
ADDITIONAL SUPPORTING DOCUMENTS			
1	POST-CONSTRUCTION STORMWATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL PLAN NARRATIVE WITH DRAINAGE SHED PLANS	AUG. 25, 2025	FEB. 27, 2026
2	STORMWATER INFILTRATION REPORT PREPARED BY VW CONSULTANTS LLC LIST ALL OTHER REPORTS USED.	SEPT. 2, 2025	-
3	WETLAND REPORT PREPARED BY VALLEY ENVIRONMENTAL SERVICES, INC.	JUNE 6, 2023	-



SITE LOCATION MAP 1" = 800'

SITE STATISTICS

- SUBJECT TRACT MAY BE IDENTIFIED BY MONTGOMERY COUNTY TAX ASSESSMENT INFORMATION AS FOLLOWS:
 - LOWER GWYNEDD TOWNSHIP
TAXMAPID: 39018 028
PARID: 39-00-00648-00-8
1512 CEDAR HILL ROAD
 - LOWER GWYNEDD TOWNSHIP
TAXMAPID: 39018 029
PARID: 39-00-00649-00-5
1524 CEDAR HILL ROAD
- RECORDED DEED DATA IS AS FOLLOWS:

AS RECORDED IN THE OFFICE FOR THE RECORDING OF DEEDS, ETC., IN AND FOR THE COUNTY OF MONTGOMERY AT DOYLESTOWN, PENNSYLVANIA IN:

 - DEED BOOK 6409, PAGE 02531
 - DEED BOOK 6409, PAGE 02542
- NAME AND ADDRESS OF THE OWNER OF THE SUBJECT TRACT:
 - TISMAN GROUP, LLC
831 N STILLMAN ST
PHILADELPHIA, PA 19130
 - TISMAN GROUP, LLC
831 N STILLMAN ST
PHILADELPHIA, PA 19130
- AREA STATISTICS:
 - TOTAL TRACT AREA = 4.00 AC. (GROSS)
 - TOTAL TRACT AREA = 3.76 AC. (TO TITLE LINES)
 - TOTAL COMBINED TRACT AREA = 7.76 AC. (GROSS)
TOTAL COMBINED TRACT AREA = 7.30 AC. (NET)

ACT 50 UTILITY NOTE



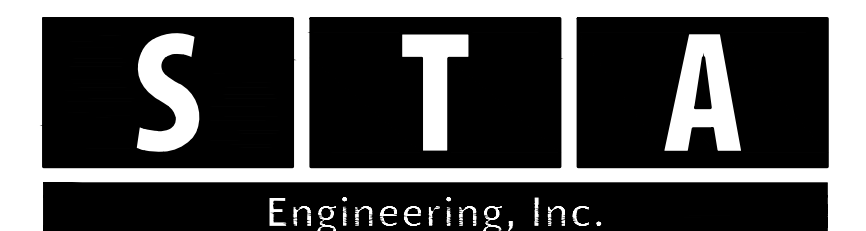
ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE-GROUND INSPECTION OF THE SITE. COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT NUMBER 121 AS PER THE AMENDMENT OF PA ACT 287 OF 1974, EFFECTIVE OCTOBER 30, 2017 CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. REFERENCE UTILITY CASE NUMBER: 20252383716.

LOWER GWYNEDD TOWNSHIP P.O. BOX 203 Spring House, PA 19477 215-846-5302	COMCAST CABLE COMMUNICATION 237 W. Germantown Pike Norristown, PA 19403 610-279-7200
VERIZON PENNSYLVANIA, INC. 1350 Welsh Road - Suite 100 North Wales, Pa 19454 215-958-2605	PECO ENERGY 680 Ridge Pike Plymouth Meeting, PA 19462 610-943-5522
NORTH WALES WATER AUTHORITY 200 West Walnut Street North Wales, pa 19454 215-699-4836	TRANSCONTINENTAL GAS PIPE LINE CORP. 60 Backton Hill Road Frazier, Pa 19355 610-644-7373

PREPARED FOR

TISMAN GROUP, LLC

3901 PARKSIDE DRIVE
FURLONG, PA 18925



Civil Engineers • Land Surveyors
2499 KNIGHT ROAD, PENNSBURG, PA 18073
PH: (215) 679-0200; www.stotac.com

NOTES

- THE METES AND BOUNDS ILLUSTRATED ON THIS PLAN WAS PREPARED FROM DOCUMENTS OF RECORD AND WITH BENEFIT OF TITLE REPORTS BY FIDELITY NATIONAL TITLE INSURANCE COMPANY, COMMITMENT NUMBERS 245702LAFS, 245731LAFS & 245713LAFS WITH EFFECTIVE DATES OF OCTOBER 22 & 23 OF 2018. ALL DATA SHOWN HEREON IS BASED ON ACTUAL FIELD SURVEY IN MAY, 2019. ALL BEARINGS SHOWN REFLECT A -03 DEG. 08 MIN. 39 SEC. CLOCKWISE ROTATION FROM DEED BEARING BASIS TO PENNSYLVANIA SOUTH ZONE 3702 STATE PLANE COORDINATE BEARING BASIS.
- ALL TOPOGRAPHIC AND EXISTING FEATURES ILLUSTRATED ON THIS PLAN WERE PREPARED BY SITE FIELD SURVEY DURING THE MONTH OF MAY, 2019. SITE BENCHMARK IS SANITARY MANHOLE #7230 LOCATED WITHIN CEDAR HILL ROAD HAVING A RIM ELEVATION OF 379.37'. SITE DATUM IS REFERENCED PER NOTE 3c BELOW.
- THIS PLAN AND SURVEY WERE PREPARED UTILIZING THE FOLLOWING REFERENCES:
 - TAX MAPS AND DEEDS OF RECORD AS OBTAINED FROM THE RECORDER OF DEEDS ONLINE RESOURCES.
 - EXISTING SOILS CLASSIFICATIONS AND MAPPING HAS BEEN PLOTTED FROM MAPS OBTAINED FROM THE USDA WEB SOIL SURVEY WEBSITE (HTTP://WEBSOILSURVEY.SC.EGOV.USDA.GOV/) UNLESS OTHERWISE NOTED.
 - VERTICAL DATUM REFERENCES PROVIDED BY THE PA SPECIAL DATA ACCESS SYSTEM (PASAD). PASAD DATA IS BASED ON PA STATE PLANE (SOUTH) NAD83 HORIZONTAL, NAVD83 VERTICAL DATUM. FLIGHT DATE WAS SPRING 2008, UPDATED BY DMRP FLIGHT 2010.
- AERIAL IMAGERY USED FOR BASE PLAN REFERENCE PROVIDED BY NEARMAP, INC. IMAGERY FROM FLIGHT DATED MARCH 19, 2019.
- THIS SITE IS LOCATED WITHIN FLOOD PLAIN ZONE 'X' (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS ILLUSTRATED ON COMMUNITY PANEL NUMBER 42291-C-0278C, EFFECTIVE DATE MARCH 2, 2016 AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY. NO COMPUTATIONAL FLOODPLAIN STUDY HAS BEEN PERFORMED FOR THIS SITE.
- ALL PERSONS DIGGING ON THIS SITE SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 5 OF PA ACT 287 AS AMENDED BY PA ACT 181. STATE LAW REQUIRES A THREE (3) BUSINESS DAY NOTICE PRIOR TO ANY DIGGING (DOES NOT INCLUDE STATE HOLIDAYS OR WEEKENDS). DIAL 9-1-1 OR GO TO WWW.PAONECALL.ORG.
- EXISTING SUBSURFACE UTILITY INFORMATION ILLUSTRATED ON THESE PLANS IS BASED UPON VISUAL FIELD LOCATIONS OBTAINED AS PART OF SITE SURVEY. THE INFORMATION PROVIDED IS REPRESENTATIVE OF SUBSURFACE CONDITIONS ONLY AT LOCATIONS AND DEPTHS WHERE SUCH INFORMATION WAS AVAILABLE. UTILITY INFORMATION SHOWN SHOULD NOT BE RELIED UPON FOR CONSTRUCTION. IT IS INCUMBENT UPON THE CONTRACTOR TO VERIFY SUBSURFACE UTILITIES PRIOR TO EXCAVATION.
- SUBJECT PROPERTY IS ZONED 'A-1' AS NOTED ON THE OFFICIAL ZONING MAP FOR THIS MUNICIPALITY.
- CEDAR HILL ROAD IS NOTED IN LOWER GWYNEDD SUBDIVISION ORDINANCE AS HAVING A 50-FT ULTIMATE RIGHT-OF-WAY WIDTH.

SOILS DATA

SOILS TYPE:	SLOPES:	DEPTH TO RESTRICTIVE FEATURE:	DEPTH TO WATER TABLE:	HYDROLOGIC SOIL GROUP:
RhA REAVILLE SILT LOAM	0 TO 3 PERCENT	20-40" TO LITHIC BEDROCK	6 TO 36"	D
RhB REAVILLE SILT LOAM	3 TO 8 PERCENT	20-40" TO LITHIC BEDROCK	6 TO 36"	D
UuB URBAN LAND-UDORTHENTS SHALE & SANDSTONE	0 TO 8 PERCENT	20-99" TO LITHIC BEDROCK	MORE THAN 80"	D

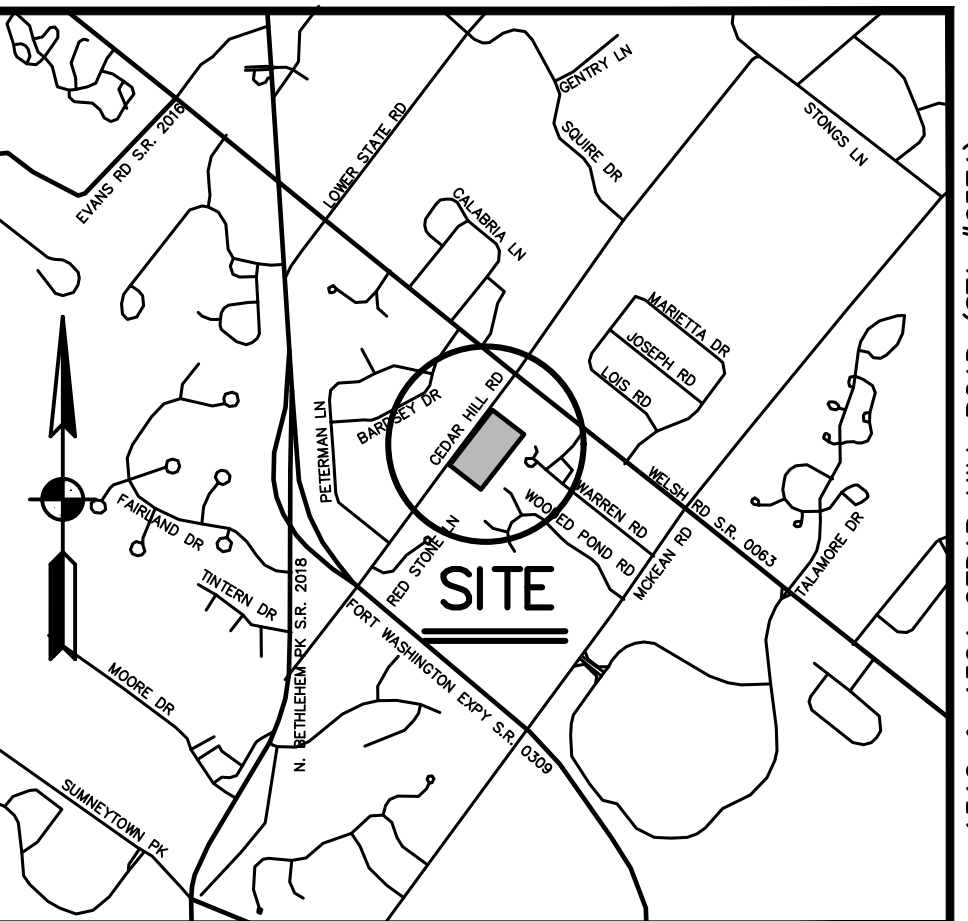
ACT 50 UTILITY NOTE

811

ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE-GROUND INSPECTION OF THE SITE. COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDER-GROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT NUMBER 121 AS PER THE AMENDMENT OF PA ACT 287 OF 1974, EFFECTIVE OCTOBER 30, 2017 CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. REFERENCE UTILITY CASE NUMBER: 20252383716.

LEGEND

- ADJOINING OWNERS
- EXISTING CONTOUR (MAJOR)
- EXISTING CONTOUR (MINOR)
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING EDGE OF ROAD
- EXISTING RIGHT-OF-WAY
- EXISTING CENTERLINE
- EXISTING DRIVES
- EXISTING EASEMENT
- EXISTING WOODS
- EXISTING TREE
- SOIL LINE
- EXISTING CONCRETE
- EXISTING EASEMENT
- OVERHEAD WIRES
- EXISTING LAMP POST
- EXISTING CLEANOUT
- EXISTING UTILITY POLE
- EXISTING SIGN
- IRON PIN FOUND
- CONC. MONUMENT FOUND



SITE LOCATION MAP 1"=2000'

SITE STATISTICS

- SUBJECT TRACT MAY BE IDENTIFIED BY MONTGOMERY COUNTY TAX ASSESSMENT INFORMATION AS FOLLOWS:
 - LOWER GWYNEDD TOWNSHIP
TAXMAPID: 39018 028
PARID: 39-00-00646-00-8
1512 CEDAR HILL ROAD
 - LOWER GWYNEDD TOWNSHIP
TAXMAPID: 39018 029
PARID: 39-00-00649-00-5
1524 CEDAR HILL ROAD
- RECORDED DEED DATA IS AS FOLLOWS:

AS RECORDED IN THE OFFICE FOR THE RECORDING OF DEEDS, ETC., IN AND FOR THE COUNTY OF MONTGOMERY AT DOYLESTOWN, PENNSYLVANIA IN:

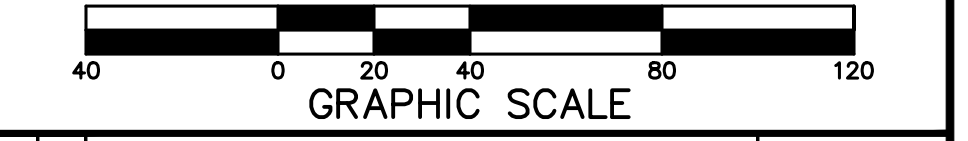
 - DEED BOOK 6409, PAGE 02531
 - DEED BOOK 6409, PAGE 02542
- NAME AND ADDRESS OF THE OWNER OF THE SUBJECT TRACT:
 - TISMAN GROUP, LLC
831 N STILLMAN ST
PHILADELPHIA, PA 19130
 - TISMAN GROUP, LLC
831 N STILLMAN ST
PHILADELPHIA, PA 19130
- AREA STATISTICS:
 - TOTAL TRACT AREA = 4.00 AC. (GROSS)
 - TOTAL TRACT AREA = 3.76 AC. (TO TITLE LINES)
 - TOTAL COMBINED TRACT AREA = 7.76 AC. (GROSS)
TOTAL COMBINED TRACT AREA = 7.30 AC. (NET)

ZONING DATA

DATA OBTAINED FROM LOWER GWYNEDD TOWNSHIP ZONING ORDINANCE, AS LAST REVISED 2017, REFERENCE CHAPTER 1258.

DISTRICT CLASSIFICATION:
"A-1" - RESIDENTIAL DISTRICT

CRITERIA:	REQUIRED:	TRACT A:	TRACT B:
MINIMUM LOT AREA:	35,000 S.F.	174,348 S.F.	163,990 S.F.
MINIMUM LOT WIDTH @ BUILDING LINE:	175 FT.	422.0 FT.	395.2 FT.
FRONT YARD SETBACK:	65 FT.	136.7 FT.	141.3 FT.
SIDE YARD RESTRICTION:	45 FT.	171.4 FT.	118.3 FT.
REAR YARD RESTRICTION:	65 FT.	236.9 FT.	243.2 FT.
MAXIMUM BUILDING COVERAGE:	20 %	2.8 %	1.4 %
MAXIMUM IMPERVIOUS SURFACE COVERAGE:	25 %	10.5 %	10.3 %
MAXIMUM BUILDING HEIGHT:	35 FT.	<35 FT.	<35 FT.

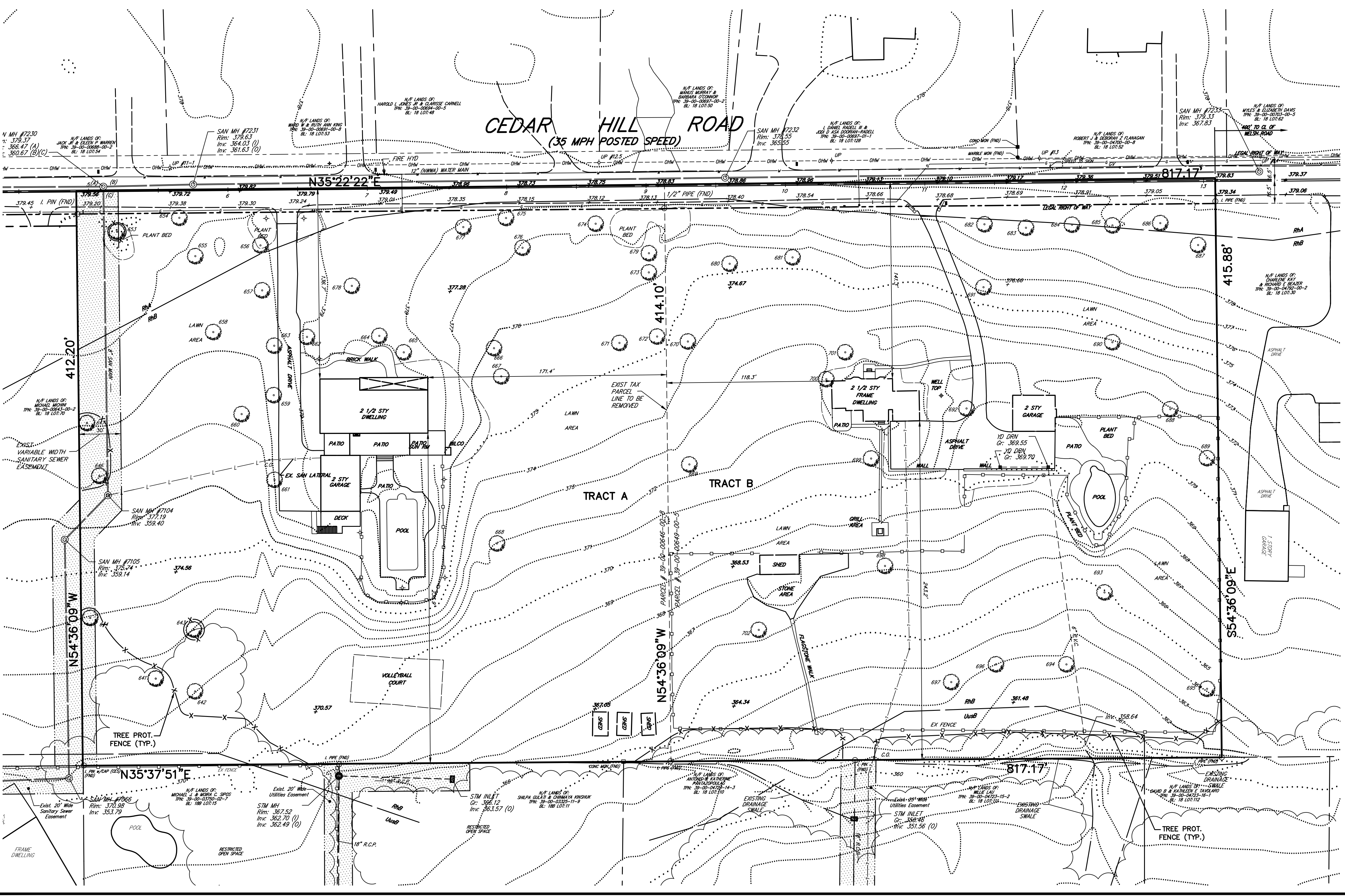


NO.	DATE	REVISION	BY
3	ADM	REVISED PER VARIOUS REVIEWS	FEB. 27, 2026
2	ADM	REVISED PER VARIOUS REVIEWS	NOV. 20, 2025
1	M.P.	S.T.A. PLAN ORIGIN DATE	AUG. 25, 2025

EXISTING FEATURES PLAN
AS PART OF
1512 & 1524 CEDAR HILL ROAD
PREPARED FOR
TISMAN GROUP, LLC
SITE SITUATE IN
LOWER GWYNEDD TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

S T A
Engineering, Inc.
Civil Engineers • Land Surveyors
2499 KNIGHT ROAD, PENNSBURG, PA 18073
PH: (215) 679-0200; www.stotac.com

PLAN SCALE	DRAFTED BY	PROJECT MANAGER	PLAN SHEET NUMBER
1" = 40'	M.J.P.	S.A.R.	3 OF 18
	PROJECT NUMBER	DRAWING FILE NUMBER	
	6571	6571EF	



1512 & 1524 CEDAR HILL ROAD (STA #6571)

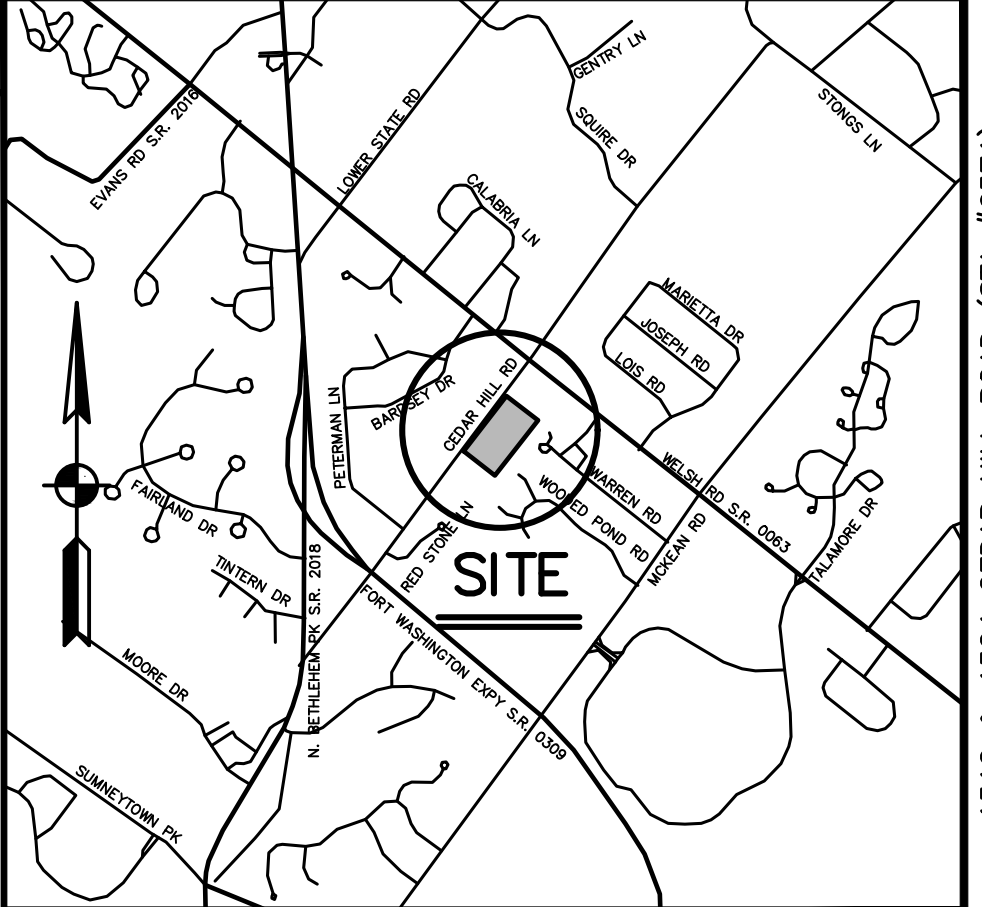
SOILS DATA				
SOILS TYPE:	SLOPES:	RESTRICTIVE FEATURE:	DEPTH TO WATER TABLE:	HYDROLOGIC SOIL GROUP:
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RhB REAVILLE SILT LOAM	3 TO 8 PERCENT	20-40" TO LITHIC BEDROCK	6 TO 36"	D
UuB URBAN LAND-UDORTHERTS SHALE & SANDSTONE	0 TO 8 PERCENT	20-99" TO LITHIC BEDROCK	MORE THAN 80"	D

SEPTIC ABANDONMENT NOTE

WELLS AND EXISTING SANITARY SEWER SERVICES TO BE ABANDONED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL RULES AND REGULATIONS.

LEGEND

- ADJOINING OWNERS
- EXISTING CONTOUR (MAJOR)
- EXISTING CONTOUR (MINOR)
- EXISTING SANITARY SEWER
- EXISTING EDGE OF ROAD
- EXISTING RIGHT-OF-WAY
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- EXISTING LAMP POST
- EXISTING CLEANOUT
- EXISTING UTILITY POLE
- EXISTING SIGN
- IRON PIN FOUND
- CONC. MONUMENT FOUND
- DENOTES STRUCTURES TO BE REMOVED
- DENOTES TREES TO BE REMOVED



SITE LOCATION MAP 1"=2000'

SITE STATISTICS

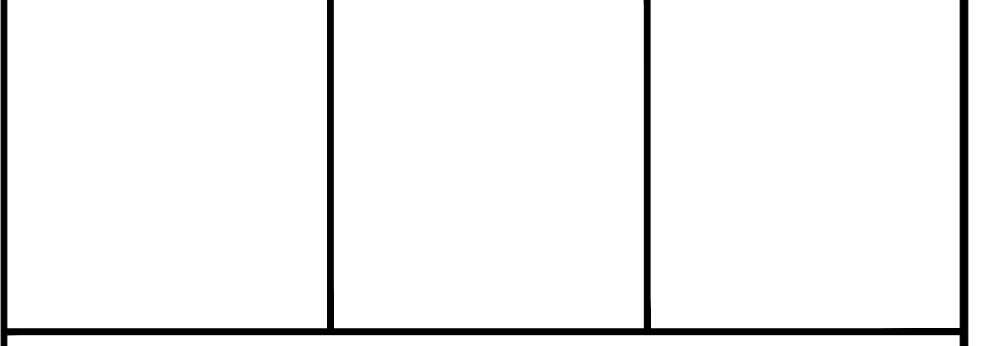
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TAXMAPID: 39018 028
PARID: 39-00-00646-00-8
1512 CEDAR HILL ROAD
 - B. LOWER GWYNEDD TOWNSHIP
TAXMAPID: 39018 028
PARID: 39-00-00649-00-5
1524 CEDAR HILL ROAD
- RECORDED DEED DATA IS AS FOLLOWS:
 - AS RECORDED IN THE OFFICE FOR THE RECORDING OF DEEDS, ETC., IN AND FOR THE COUNTY OF MONTGOMERY AT DOYLESTOWN, PENNSYLVANIA IN:
 - A. DEED BOOK 6409, PAGE 02531
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PHILADELPHIA, PA 19130
 - B. TISMAN GROUP, LLC
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PHILADELPHIA, PA 19130
- AREA STATISTICS:
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TOTAL COMBINED TRACT AREA = 7.30 AC. (NET)

ZONING DATA

DATA OBTAINED FROM LOWER GWYNEDD TOWNSHIP ZONING ORDINANCE, AS LAST REVISED 2017, REFERENCE CHAPTER 125B.

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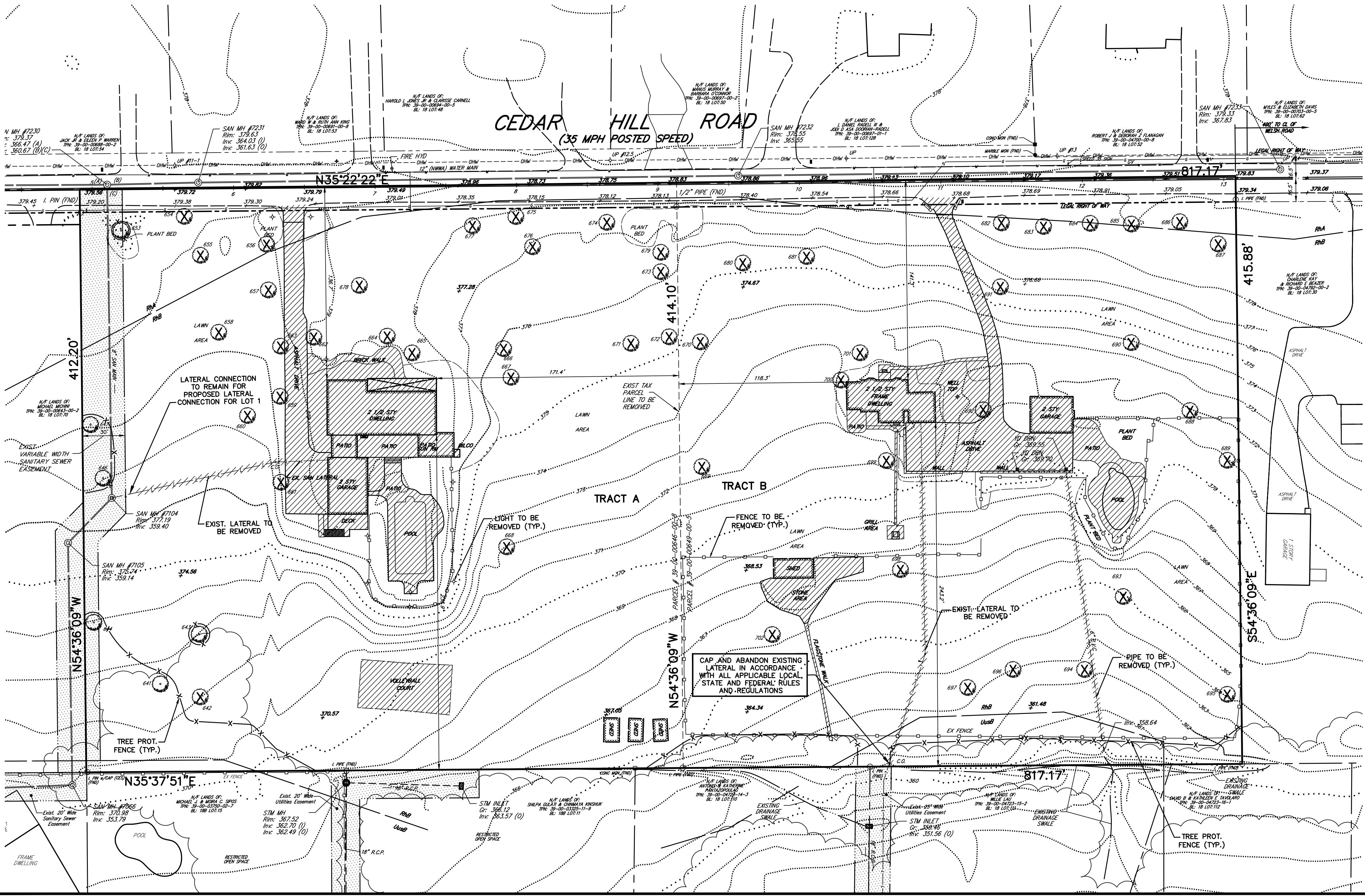


GRAPHIC SCALE		
3	ADM	REVISED PER VARIOUS REVIEWS
2	ADM	REVISED PER VARIOUS REVIEWS
1	INT.	S.T.A. PLAN ORIGINATION DATE

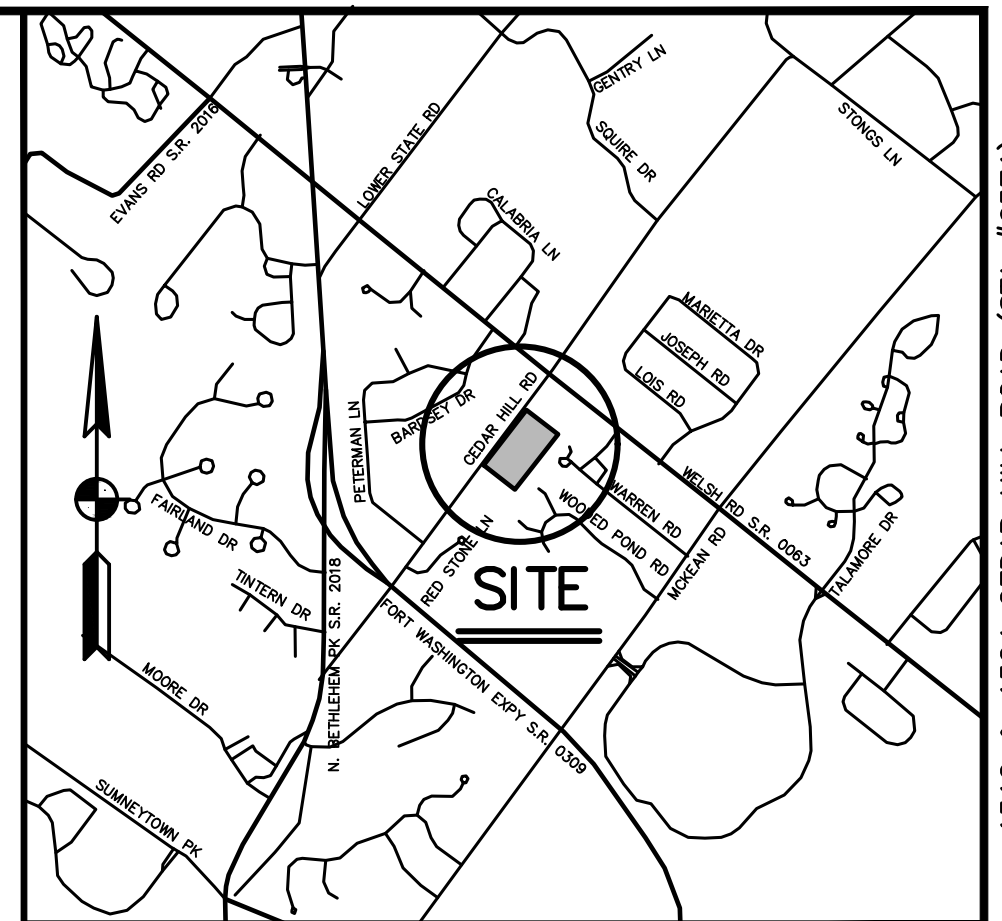
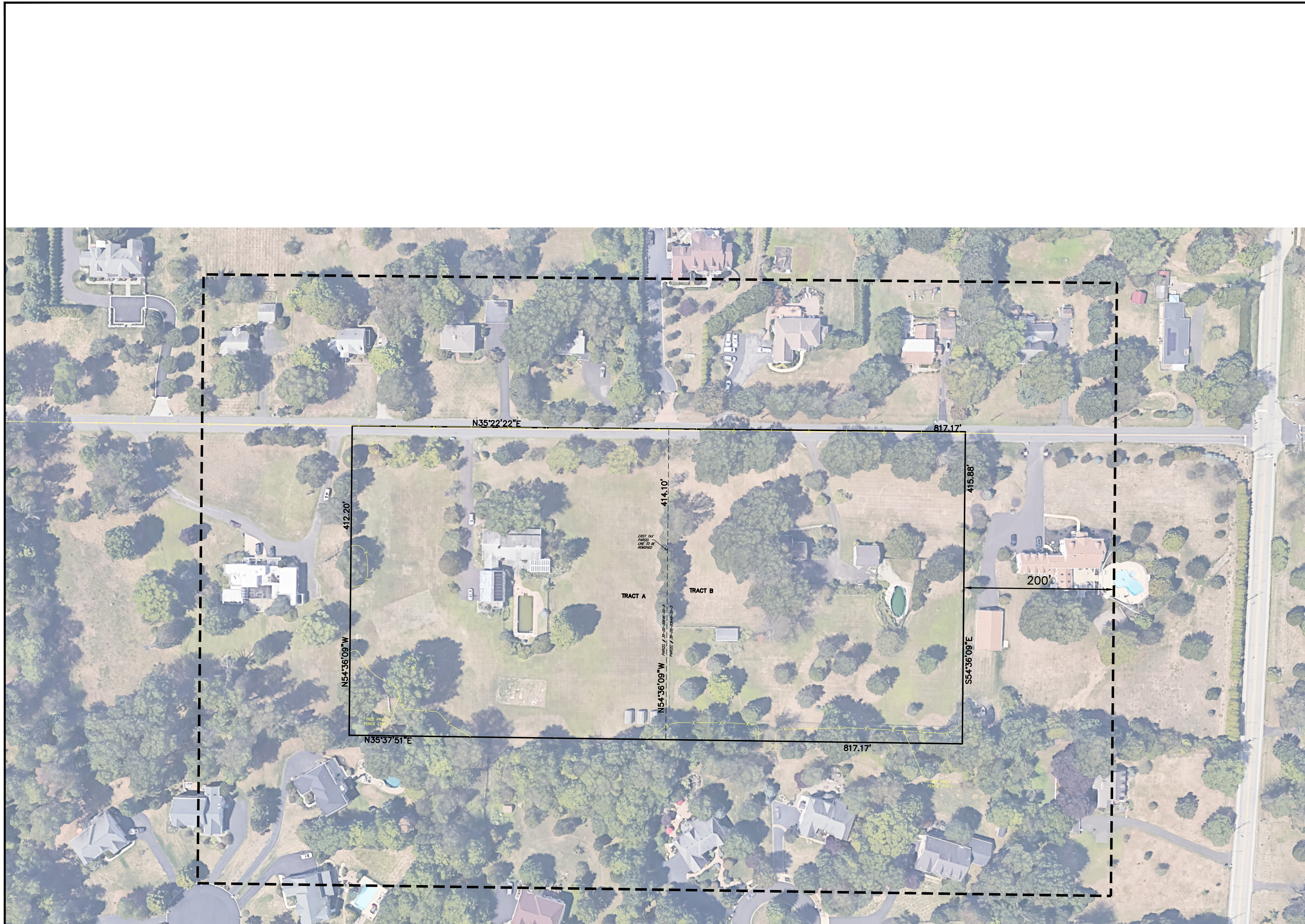
DEMOLITION PLAN
AS PART OF
1512 & 1524 CEDAR HILL ROAD
PREPARED FOR
TISMAN GROUP, LLC
SITE SITUATE IN
LOWER GWYNEDD TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

S T A
Engineering, Inc.
Civil Engineers • Land Surveyors
2499 KNIGHT ROAD, PENNSBURG, PA 18073
PH: (215) 679-0200; www.stotac.com

PLAN SCALE	DRAFTED BY	PROJECT MANAGER	PLAN SHEET NUMBER
1" = 40'	M.J.P.	S.A.R.	4 OF 18
	PROJECT NUMBER	DRAWING FILE NUMBER	
	6571	6571DEMO	



1512 & 1524 CEDAR HILL ROAD (STA #6571)

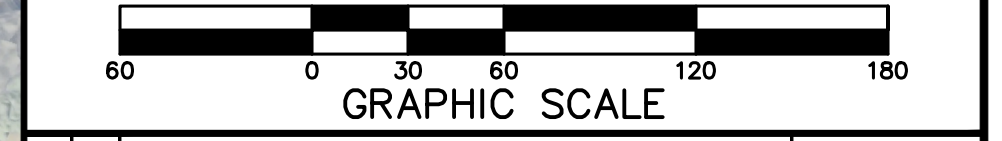
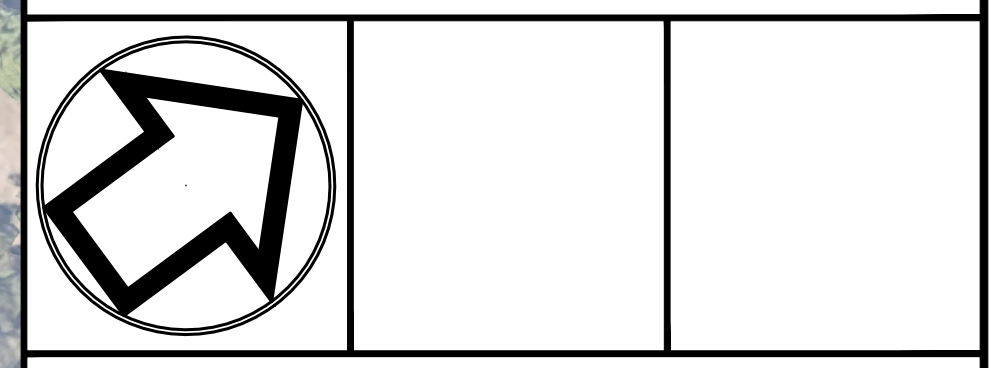


SITE LOCATION MAP 1"=2000'

SITE STATISTICS

- SUBJECT TRACT MAY BE IDENTIFIED BY MONTGOMERY COUNTY TAX ASSESSMENT INFORMATION AS FOLLOWS:
 - LOWER GWYNEDD TOWNSHIP
TAXMAPID: 39018 029
PARID: 39-00-00646-00-8
1512 CEDAR HILL ROAD
 - LOWER GWYNEDD TOWNSHIP
TAXMAPID: 39018 029
PARID: 39-00-00649-00-5
1524 CEDAR HILL ROAD
- RECORDED DEED DATA IS AS FOLLOWS:
AS RECORDED IN THE OFFICE FOR THE RECORDING OF DEEDS, ETC., IN AND FOR THE COUNTY OF MONTGOMERY AT DOYLESTOWN, PENNSYLVANIA IN:
 - DEED BOOK 6409, PAGE 02531
 - DEED BOOK 6409, PAGE 02542
- NAME AND ADDRESS OF THE OWNER OF THE SUBJECT TRACT:
 - TISMAN GROUP, LLC
831 N STILLMAN ST
PHILADELPHIA, PA 19130
 - TISMAN GROUP, LLC
831 N STILLMAN ST
PHILADELPHIA, PA 19130
- AREA STATISTICS:
 - TOTAL TRACT AREA = 4.00 AC. (GROSS)
 - TOTAL TRACT AREA = 3.76 AC. (TO TITLE LINES)
 - TOTAL COMBINED TRACT AREA = 7.76 AC. (GROSS)
 - TOTAL COMBINED TRACT AREA = 7.30 AC. (NET)

AERIAL PHOTO TAKEN FROM GOOGLE EARTH, IMAGERY DATED AUGUST 8, 2025.



3	ADM	REVISED PER VARIOUS REVIEWS	FEB. 27, 2026
2	ADM	REVISED PER VARIOUS REVIEWS	NOV. 20, 2025
1	M.P.	S.T.A. PLAN ORIGINATOR DATE	AUG. 25, 2025

AERIAL PHOTO
AS PART OF
1512 & 1524 CEDAR HILL ROAD
PREPARED FOR
TISMAN GROUP, LLC
SITE SITUATE IN
LOWER GWYNEDD TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

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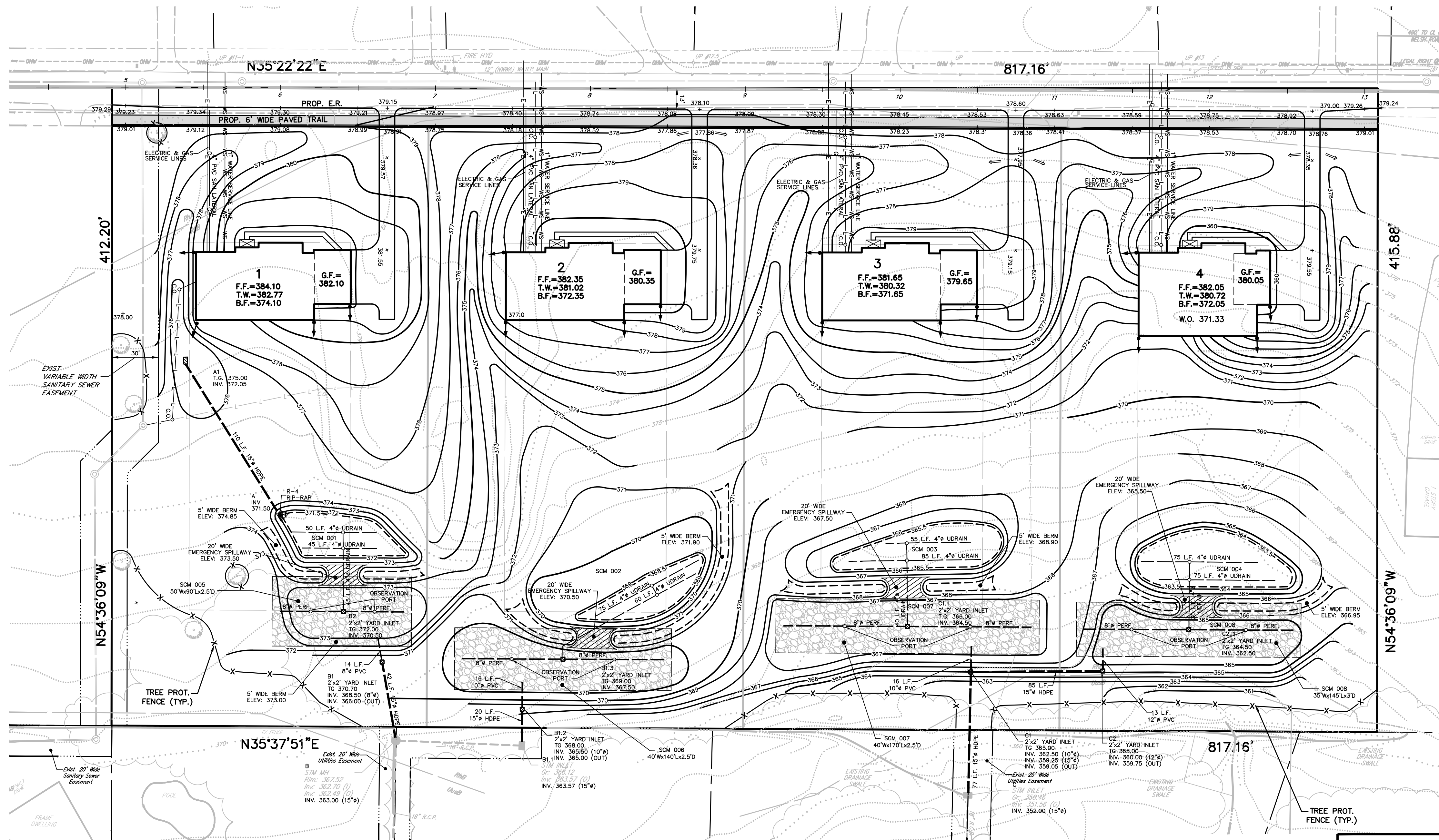
PLAN SCALE HORIZONTAL: 1" = 60'	DRAFTED BY M.J.P.	PROJECT MANAGER S.A.R.	PLAN SHEET NUMBER 5 OF 18
	PROJECT NUMBER 6571	DRAWING FILE NUMBER 6571AERIAL	

1512 & 1524 CEDAR HILL ROAD (STA #6571)

CONSTRUCTION NOTES

- ALL CONTRACTORS WORKING ON THIS PROJECT SHALL COMPLY WITH THE REQUIREMENTS OF P.F. 1574, NO. 287, DECEMBER 10, 1974, AS AMENDED ON DECEMBER 12, 1986 P.F. 1574, NO. 172. CONTRACTORS MUST NOTIFY PA ONE CALL SYSTEM, INC. THREE (3) DAYS PRIOR TO THE START OF ANY CONSTRUCTION. 1-(800)-242-1776.
- CONTRACTORS SHALL NOT ENCRoACH ONTO ADJOINING PROPERTIES UNLESS A TEMPORARY GRADING EASEMENT HAS BEEN OBTAINED FROM THE ADJOINING OWNERS. ALL PROPERTY LINES MUST BE ADEQUATELY MARKED AND ANY AREA THAT PROPOSED GRADING ENCRoACHES WITHIN FIVE (5) FEET OF THE PROPERTY LINE THE CONTRACTOR SHALL INSTALL TEMPORARY ORANGE CONSTRUCTION FENCE TO PREVENT ENCRoACHMENT ONTO ADJOINING PROPERTIES.
- ALL CONTRACTORS WORKING ON THIS PROJECT SHALL ENSURE THAT ALL CONSTRUCTION PERFORMED IS IN ACCORDANCE WITH ALL APPLICABLE OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION) STANDARDS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL ENSURE THAT ALL NECESSARY PERMITS AND APPROVALS HAVE BEEN OBTAINED PRIOR TO COMMENCEMENT OF ANY SITE CONSTRUCTION ACTIVITIES.
- EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE AND FUNCTIONAL PRIOR TO ANY EARTH DISTURBANCE OR GRADING WORK WITHIN THE TRIBUTARY AREA.
- BURYING OF TREES, TREE STUMP AND CONSTRUCTION DEBRIS IS PROHIBITED. ALL DEBRIS SHALL BE REMOVED AND DISPOSED OF IN STRICT ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL MUNICIPALITY STANDARDS AND SPECIFICATIONS. TREE STUMPS MAY BE GROUND OR CHIPPED AND SPREAD ON SITE.
- NOTHING SHALL BE PERMITTED TO BE SET ON, PLACED OR PLANTED WITHIN THE AREA OF ANY UTILITY OR STORM WATER EASEMENT EXCEPT LAWNS OR SUITABLE LOW GROUND COVER.
- PROPOSED LAWN IMPROVEMENTS: THE PROPOSED DWELLING FOOTPRINT, DRIVEWAY, UTILITY CONNECTIONS, ETC. ARE SHOWN TO VERIFY CONFORMITY WITH ORDINANCES. FINAL DESIGN MAY VARY AND WILL REQUIRE INDIVIDUAL BUILDING PERMIT PLANS TO BE PREPARED AND SUBMITTED TO THE TOWNSHIP(S) FOR APPROVAL.
- ALL CONSTRUCTION REQUIREMENTS, METHODS, MATERIALS AND SPECIFICATION SHALL BE IN ACCORDANCE WITH ALL MUNICIPAL AUTHORITY STANDARDS, MUNICIPALITY STANDARDS AND PENN-DOT FORM 408 (LATEST EDITION), WHERE IN THE CASE OF CONFLICT THE MORE STRINGENT REQUIREMENT SHALL APPLY.
- ALL STORM SEWER PIPING SHALL BE HDPE PIPE UNLESS NOTED OTHERWISE.
- ALL PRECAST STORM SEWER STRUCTURES SUCH AS INLETS, STORM MANHOLES, ENDWALLS, ETC. SHALL CONFORM TO THE COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION PUBLICATION # 72 (LATEST ADDITION). SHOP DRAWINGS SHALL BE SUBMITTED TO THE TOWNSHIP ENGINEER'S OFFICE FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
- ALL UTILITY INSTALLATION MUST BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE PENNSYLVANIA UNIFORM CONSTRUCTION CODE, AS ADOPTED BY THE MUNICIPALITY.
- ALL SLOPES AND GRADES THREE (3) FOOT HORIZONTAL TO ONE (1) FOOT VERTICAL (3:1) SHALL BE STABILIZED WITH A NORTH AMERICAN GREEN OR APPROVED EQUAL EROSION CONTROL BLANKET INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S STANDARDS AND SPECIFICATIONS. SEE EROSION CONTROL PLANS FOR LOCATION AND DETAILS.
- THE MINIMUM SLOPE IN GRASSED AREAS SHALL NOT BE LESS THAN 2% AND THE MINIMUM IN PAVED AREAS SHALL NOT BE LESS THAN 1%.
- SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ALL SOFT, YIELDING OR UNSUITABLE MATERIALS AND REPLACING WITH SUITABLE MATERIALS. ALL EXCAVATED OR FILLED AREAS SHALL BE COMPACTED TO 95% OF MODIFIED PROCTOR MAXIMUM DENSITY PER A.S.T.M. TEST D-1557. MOISTURE CONTENT AT THE TIME OF PLACEMENT SHALL NOT MORE THAN 2% ABOVE NOR 3% BELOW OPTIMUM. CONTRACTOR SHALL SUBMIT A COMPACTION REPORT PREPARED BY A QUALIFIED SOILS ENGINEER REGISTERED WITHIN THE STATE WHERE THE WORK IS PERFORMED, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS.
- ANY STORMWATER CONVEYANCE SYSTEM AND DETENTION FACILITY SHOWN ON THESE PLANS ARE A BASIC AND PERPETUAL PART OF THE STORMWATER MANAGEMENT SYSTEM FOR THIS TOWNSHIP, AND AS SUCH, ARE TO BE PROTECTED, MAINTAINED AND PRESERVED IN ACCORDANCE WITH THE APPROVED FINAL PLANS. THE TOWNSHIP AND/OR ITS AGENTS MAY RESERVE THE RIGHT AND PRIVILEGE TO ENTER UPON SUCH LANDS FROM TIME TO TIME FOR THE PURPOSE OF INSPECTION OF SAID STORMWATER MANAGEMENT SYSTEM IN ORDER TO DETERMINE THAT THE STRUCTURAL DESIGN AND INTERGITY ARE BEING MAINTAINED.
- A MINIMUM OF SIX (6) INCHES OF CLEAN TOPSOIL SHALL BE PROVIDED ON ALL LAWN AND PLANTING AREAS.
- SUBBASE MATERIAL FOR SIDEWALKS, CURB, OR ASPHALT SHALL BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SUBBASE BE DEEMED UNSUITABLE, SUBBASE IS TO BE REMOVED AND FILLED WITH APPROVED FILL MATERIAL COMPACTED TO 95% OPTIMUM DENSITY (AS DETERMINED BY MODIFIED PROCTOR METHOD).
- SUBBASE MATERIAL FOR SIDEWALKS, CURB, OR ASPHALT SHALL BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SHOULD SUBBASE BE DEEMED UNSUITABLE, SUBBASE IS TO BE REMOVED AND FILLED WITH APPROVED FILL MATERIAL COMPACTED TO 95% OPTIMUM DENSITY (AS DETERMINED BY MODIFIED PROCTOR METHOD).
- ALL ROOF LEADER COLLECTION SYSTEMS MUST BE DIRECTED TOWARDS THE DRAINAGE AREAS ILLUSTRATED ON THE POST DEVELOPMENT SHED PLANS. THE REAR OF EACH DWELLING UNIT SHALL BE DIRECTED TO THE SCM FOR EACH INDIVIDUAL LOT. ROOF LEADER LOCATIONS AND SIZING TO BE PROVIDED ON THE BUILDING PERMIT PLAN WHEN THE HOUSE FOOTPRINT AND DESIGN IS FINALIZED.
- STORM WATER MANAGEMENT IS DESIGNED FOR 25% MAXIMUM IMPERVIOUS COVER FOR EACH LOT. REFER TO STORMWATER DESIGN CHART ON SHEET 10.

1512 & 1524 CEDAR HILL ROAD (STA #6571)



ROOF DRAIN DISCHARGE LOCATIONS ARE APPROXIMATE AND WILL BE FINALIZED WITH THE BUILDING PERMIT APPLICATION. ROOF DRAINS FOR EACH LOT ARE TO BE DISCHARGED TO VEGETATED SURFACES AND GRADING IS TO BE IN A MANNER TO DIRECT RUNOFF TO THE SCM FOR EACH LOT.

LEGEND

ADJOINING OWNERS	---
SETBACK LINES	---
EXISTING SANITARY SEWER	---
EXISTING STORM SEWER	---
EXISTING CONTOUR (MAJOR)	---
EXISTING CONTOUR (MINOR)	---
EXISTING EDGE OF ROAD	---
EXISTING RIGHT-OF-WAY	---
EXISTING CENTERLINE	---
EXISTING DRIVES	---
EXISTING EXISTING SOILS	---
EXISTING TREE ROW	---
EXISTING EASEMENT	---
EXISTING FENCE	---
EXISTING WATER MAIN	---
EXISTING GAS MAIN	---
EXISTING WATER SERVICE	---
EXISTING OVERHEAD WIRES	---
PROPOSED CONTOUR (MINOR)	---
PROPOSED CONTOUR (MAJOR)	---
PROPOSED STORM SEWER	---
PROPOSED ROOF DRAIN DISCHARGE	---
PROPOSED EDGE OF ROAD	---
PROPOSED DRIVEWAY	---
PROPOSED WATER SERVICE	---
PROPOSED GAS SERVICE	---
PROPOSED ELECTRIC LINE	---
PROPOSED LATERAL	---
TREE PROTECTION FENCE	---

GRAPHIC SCALE

40 0 20 40 80 120

3	ADM	REVISED PER VARIOUS REVIEWS	FEB. 27, 2026
2	ADM	REVISED PER VARIOUS REVIEWS	NOV. 20, 2025
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CONSTRUCTION IMPROVEMENT PLAN
 AS PART OF
1512 & 1524 CEDAR HILL ROAD
 PREPARED FOR
TISMAN GROUP, LLC
 SITE SITUATE IN
 LOWER GWYNEDD TOWNSHIP
 MONTGOMERY COUNTY, PENNSYLVANIA

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PLAN SCALE	DRAFTED BY	PROJECT MANAGER	PLAN SHEET NUMBER
1" = 40'	M.J.P.	S.A.R.	6 OF 18
	PROJECT NUMBER	DRAWING FILE NUMBER	
	6571	6571CI	

ACT 50 UTILITY NOTE



ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE-GROUND INSPECTION OF THE SITE...

LIMITATIONS OF PENNSYLVANIA SOILS PERTAINING TO EARTHMOVING PROJECTS (Absence of an X does not mean "No Potential Limitation")

Table with 13 columns: SOIL NAME, SOIL SYMBOL, DEPTH TO SEASONAL HIGH WATER TABLE, DEPTH TO BEDROCK, REACTION (pH), CATIONS CA2+, CO32+, SO42+, DROUGHTY, EASILY ERODIBLE, FLOODING, DEPTH TO SATURATED HIGH WATER TABLE, HYDROLOGIC GROUP, HYDROLOGIC SUBGROUP, SLOW PERCOLATION, PIPING, POOR SOURCE OF TOPSOIL, FINEST ACTION, SENSITIVE TO SHALLOW SETTLEMENT, POTENTIAL SINKHOLE, PONDING, WETNESS.

SOILS DATA

Table with 5 columns: SOILS TYPE, SLOPES, DEPTH TO RESTRICTIVE FEATURE, DEPTH TO WATER TABLE, HYDROLOGIC GROUP.

Limitations for site soils will be resolved as suggested in the following table:

Table with 2 columns: CHARACTERISTICS, RESOLUTIONS. Includes rows for seasonal high-water table, shallow depth to bedrock, high acidity, cutbanks/cave, corrosive to concrete/steel, droughty, easily erodible, hydric inclusions, low strength/landslide prone, slow percolation, piping, poor source of topsoil, winter grading, and potential sinkhole.

NOTE: WHEN A DISTURBED AREA IS TO BE STABILIZED BY VEGETATION, NO MORE THAN 15,000 S.F. SHALL BE GRADED WITHOUT SEEDING AND MULCHING...

TABLE 11.2 SOIL AMENDMENT APPLICATION RATE EQUIVALENT. Table with 4 columns: SOIL AMENDMENT, PER ACRE, PER 1,000 S.F., PER 1,000 S.Y., NOTES.

Adapted from Penn State "Soil Control and Conservation Handbooks on Noncropland". NOTES: A COMPOST BLANKET WHICH MEETS THE STANDARDS OF THIS CHAPTER MAY BE SUBSTITUTED FOR THE SOIL AMENDMENTS SHOWN IN THIS TABLE.

TABLE 11.6 MULCH APPLICATION RATES. Table with 4 columns: MULCH TYPE, APPLICATION RATE (MIN.), PER ACRE, PER 1,000 S.F., PER 1,000 S.Y., NOTES.

1. STRAW AND HAY MULCH SHOULD BE ANCHORED OR TACKLED IMMEDIATELY AFTER APPLICATION TO PREVENT BEING BLOWN AWAY...

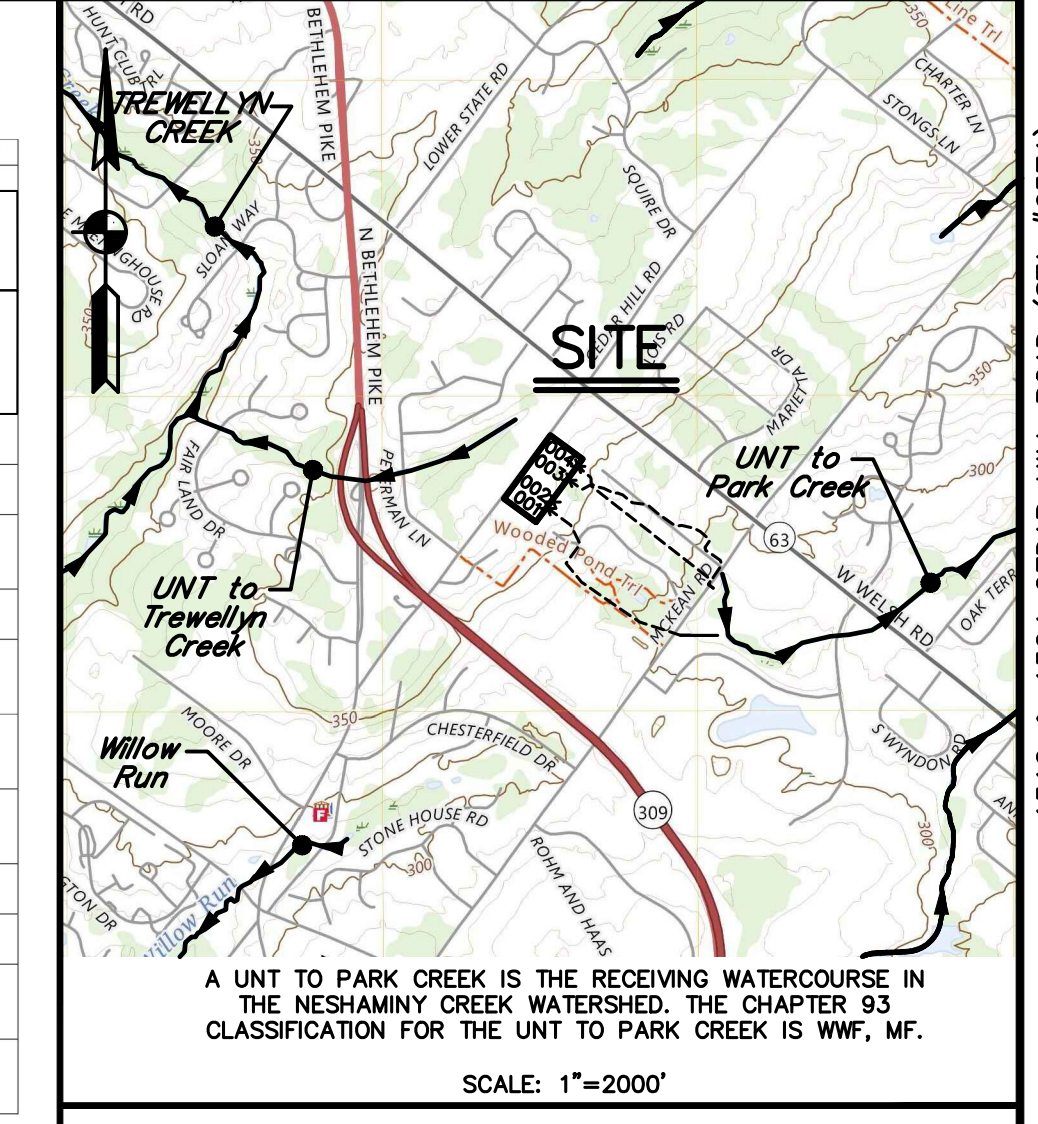
SEEDING SPECIFICATIONS

TABLE 11.4 Recommended Seed Mixtures. Table with 4 columns: Mixture Number, Species, Seeding Rate - Pure Live Seed, Most Sites, Adverse Sites.

Penn State, "Erosion Control and Conservation Plantings on Noncropland". 1. PLS is the product of the percentage of pure seed times percentage germination divided by 100.

TABLE 11.5 Recommended Seed Mixtures for Stabilizing Disturbed Areas. Table with 3 columns: Site Condition, Nurse Crop, Seed Mixture (Select one mixture).

1. For seed mixtures 11 and 12, only use spring oats or weeping lovegrass (included in mix) as nurse crop. 2. Contact the Pennsylvania Department of Transportation district roadside specialist for specific suggestions on treatment techniques and management practices.



A UNTO TO PARK CREEK IS THE RECEIVING WATERCOURSE IN THE NESHAMING CREEK WATERSHED, THE CHAPTER 93 CLASSIFICATION FOR THE UNTO TO PARK CREEK IS WWF, MF.

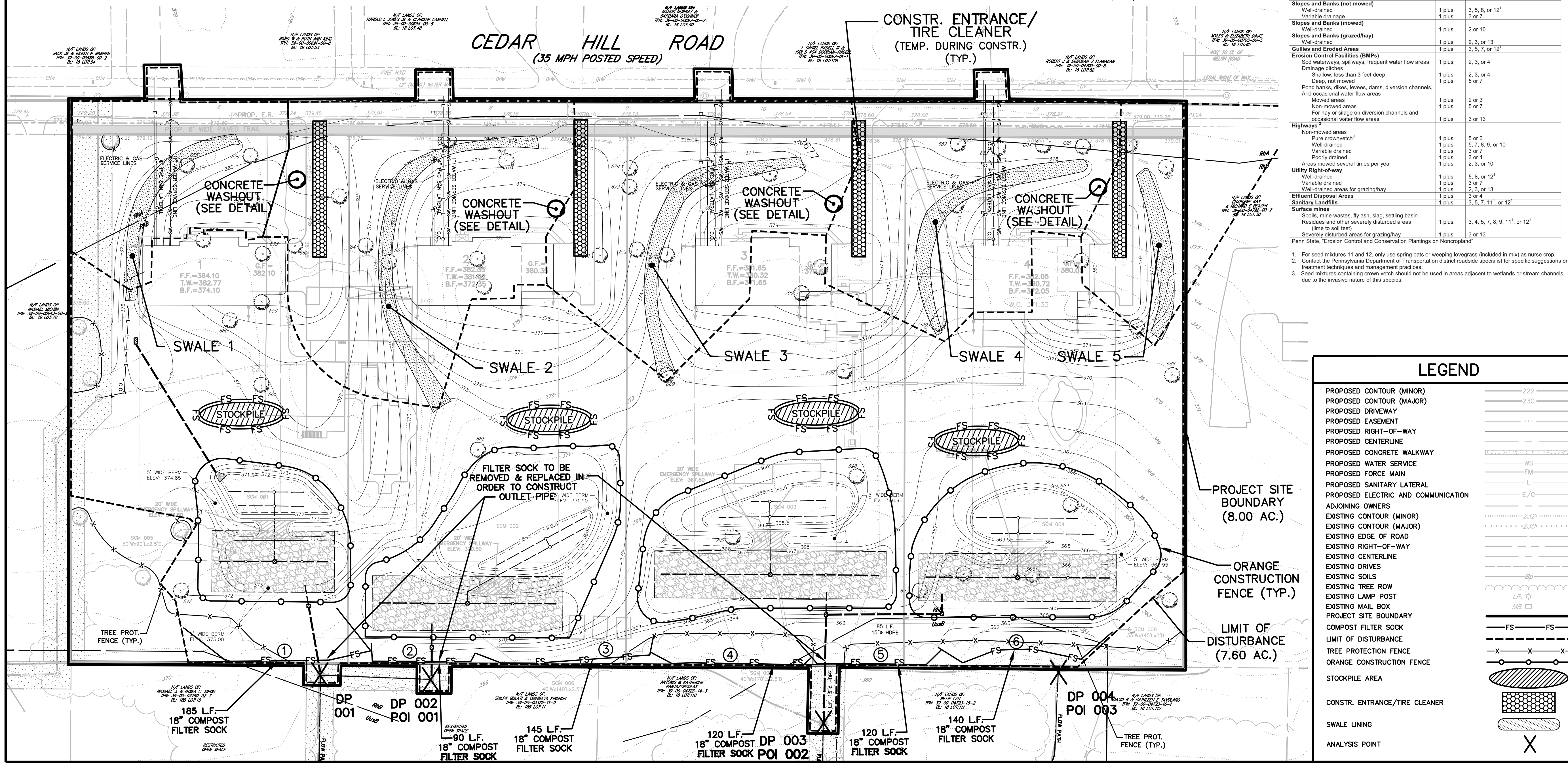
RECYCLING STATEMENT

INDIVIDUALS RESPONSIBLE FOR EARTH DISTURBANCE ACTIVITIES MUST ENSURE THAT PROPER MECHANISMS ARE IN PLACE TO CONTROL WASTE MATERIALS...

CRITICAL STAGES OF BMP CONSTRUCTION

- BIO-RETENTION W/MRC 001
- BIO-RETENTION W/MRC 002
- BIO-RETENTION W/MRC 003
- BIO-RETENTION W/MRC 004
- SEEPAGE BED 005
- SEEPAGE BED 006
- SEEPAGE BED 007
- SEEPAGE BED 008

THE FOLLOWING STORMWATER MANAGEMENT BMP'S SHALL HAVE CONSTRUCTION OVERSIGHT:



LEGEND

- PROPOSED CONTOUR (MINOR)
PROPOSED CONTOUR (MAJOR)
PROPOSED DRIVEWAY
PROPOSED EASEMENT
PROPOSED RIGHT-OF-WAY
PROPOSED CENTERLINE
PROPOSED CONCRETE WALKWAY
PROPOSED WATER SERVICE
PROPOSED FORCE MAIN
PROPOSED SANITARY LATERAL
PROPOSED ELECTRIC AND COMMUNICATION
ADJOINING OWNERS
EXISTING CONTOUR (MINOR)
EXISTING CONTOUR (MAJOR)
EXISTING EDGE OF ROAD
EXISTING RIGHT-OF-WAY
EXISTING CENTERLINE
EXISTING DRIVES
EXISTING SOILS
EXISTING TREE ROW
EXISTING LAMP POST
EXISTING MAIL BOX
PROJECT SITE BOUNDARY
COMPOST FILTER SOCK
LIMIT OF DISTURBANCE
TREE PROTECTION FENCE
ORANGE CONSTRUCTION FENCE
STOCKPILE AREA
CONSTR. ENTRANCE/TIRE CLEANER
SWALE LINING
ANALYSIS POINT



Revision table with columns: NO., DATE, DESCRIPTION, BY.

E&S PLAN
AS PART OF
1512 & 1524 CEDAR HILL ROAD
PREPARED FOR
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SITE SITUATE IN
LOWER GWYNEDD TOWNSHIP
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E&S NOTES

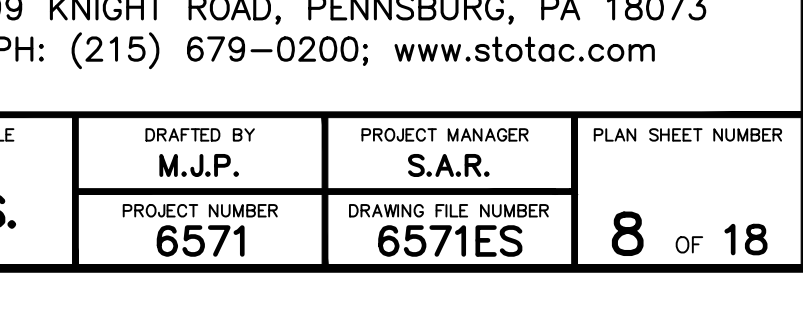
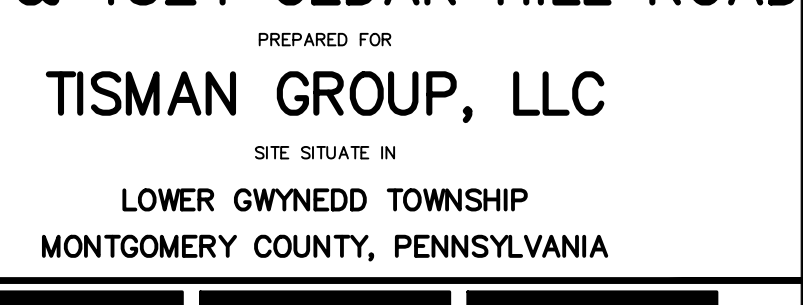
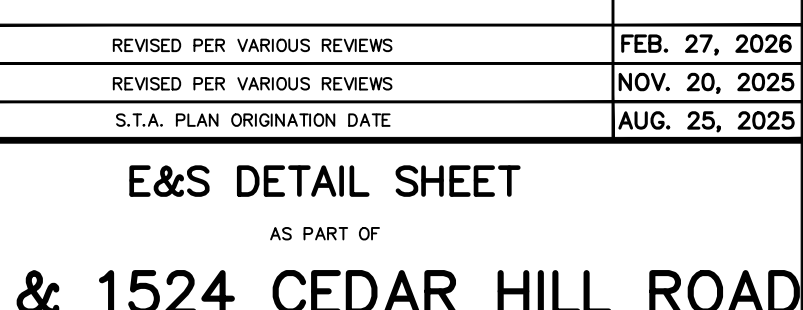
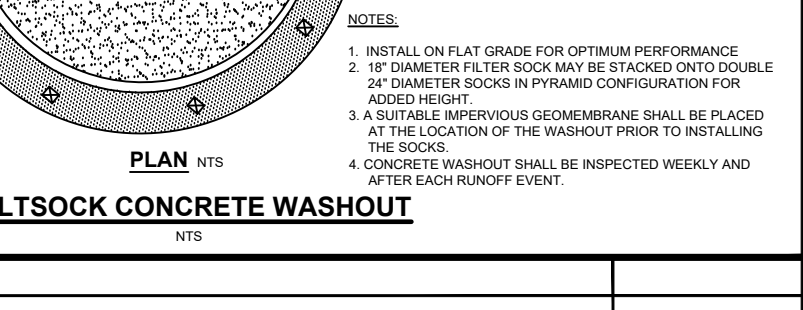
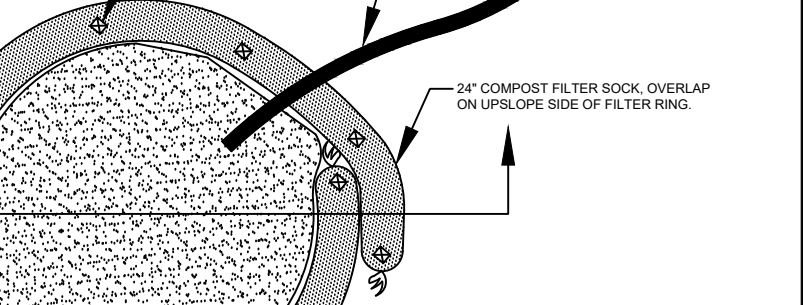
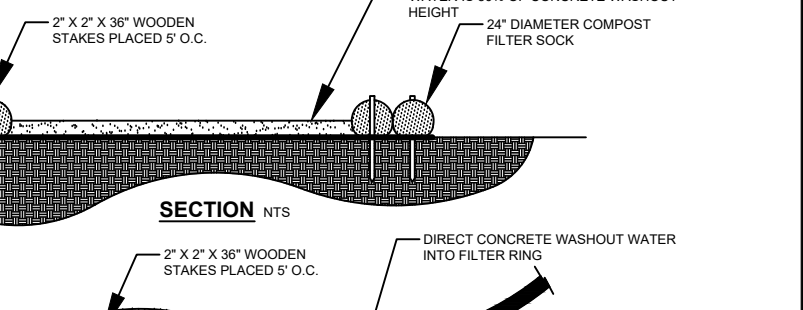
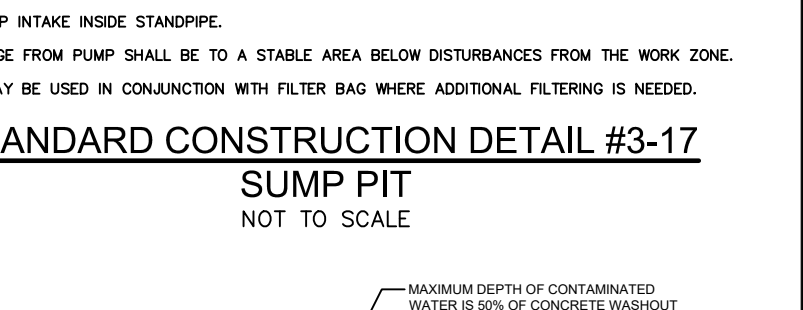
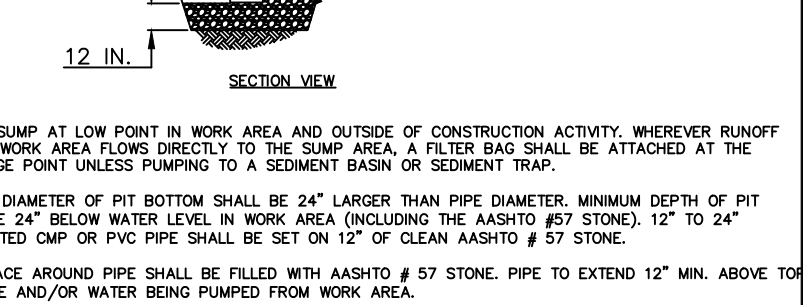
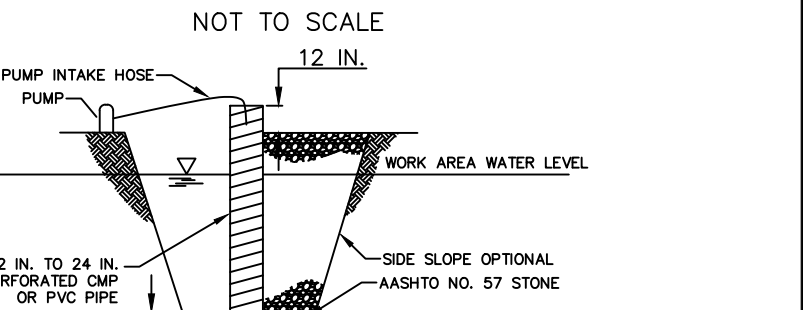
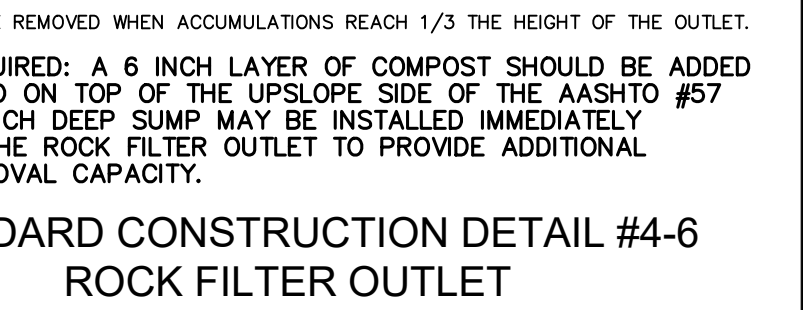
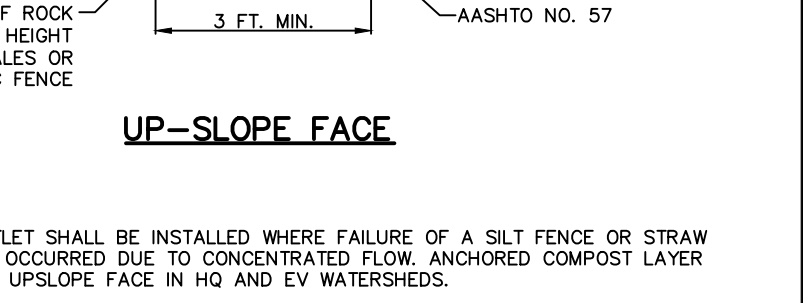
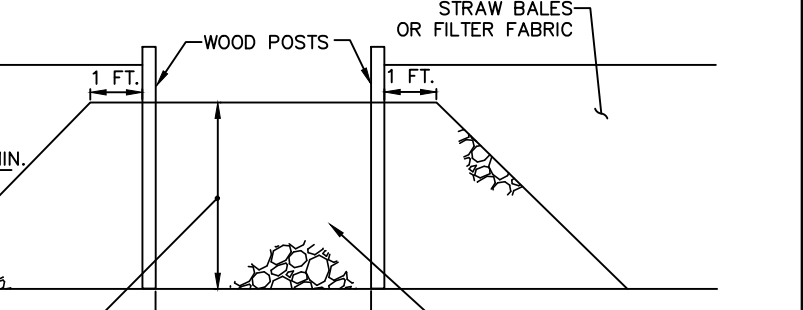
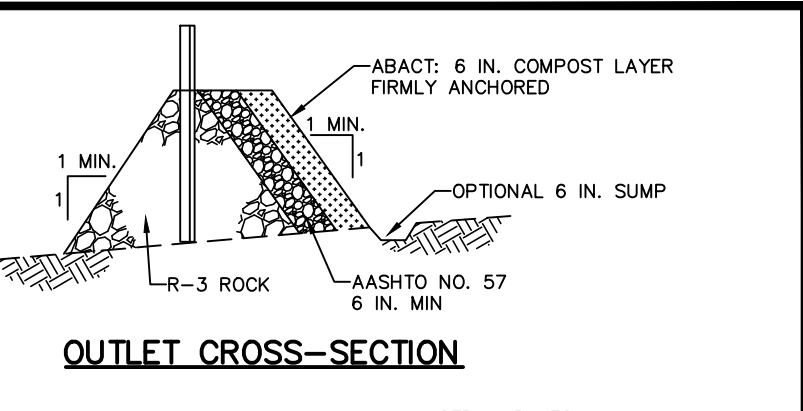
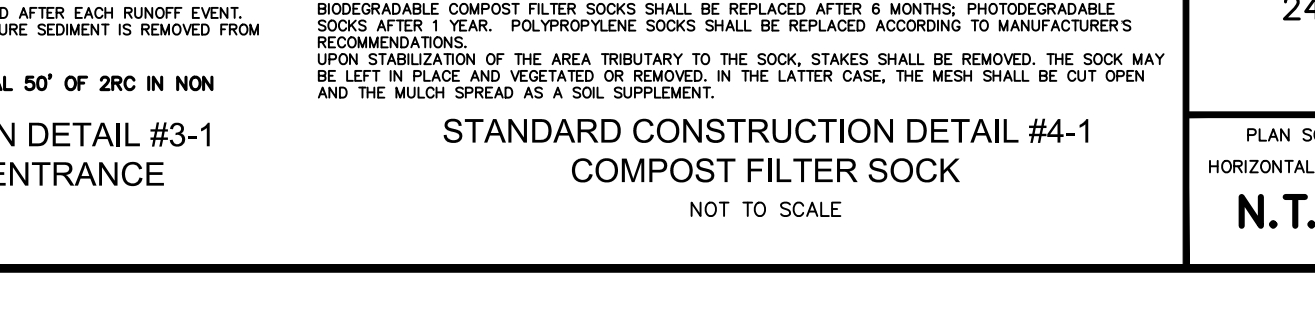
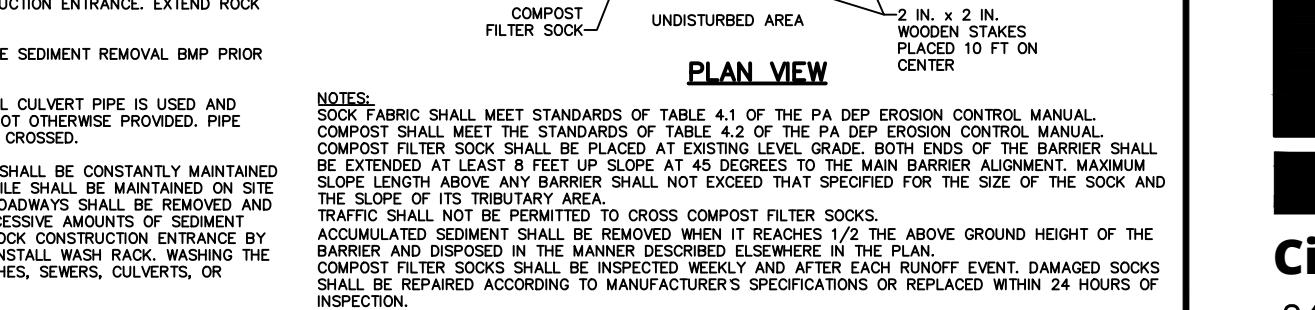
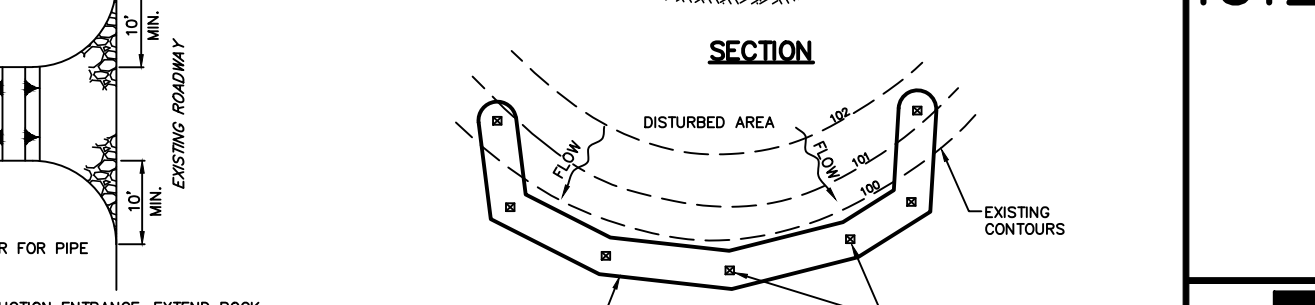
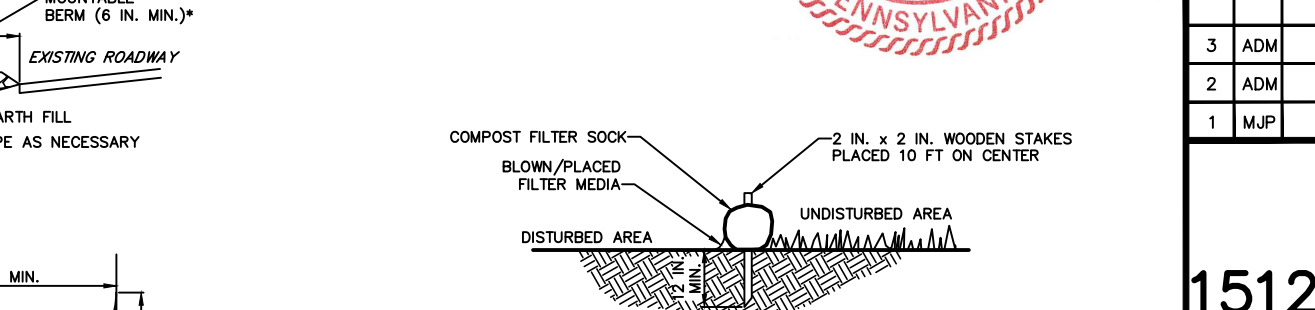
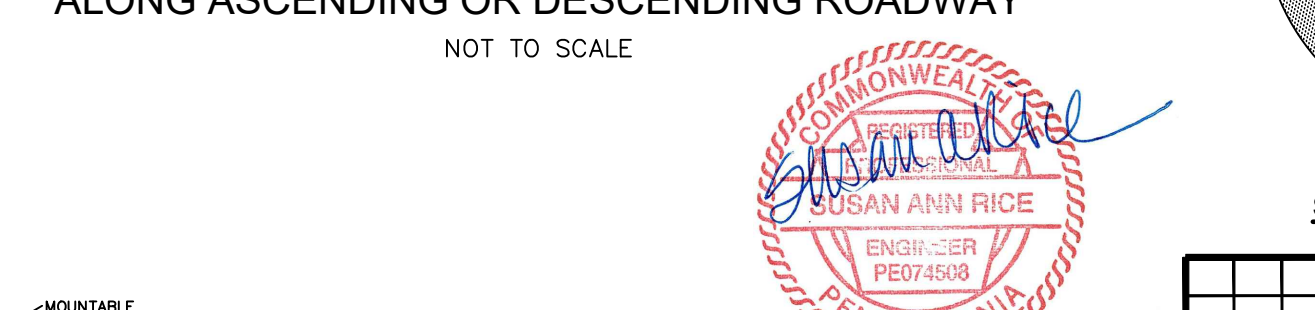
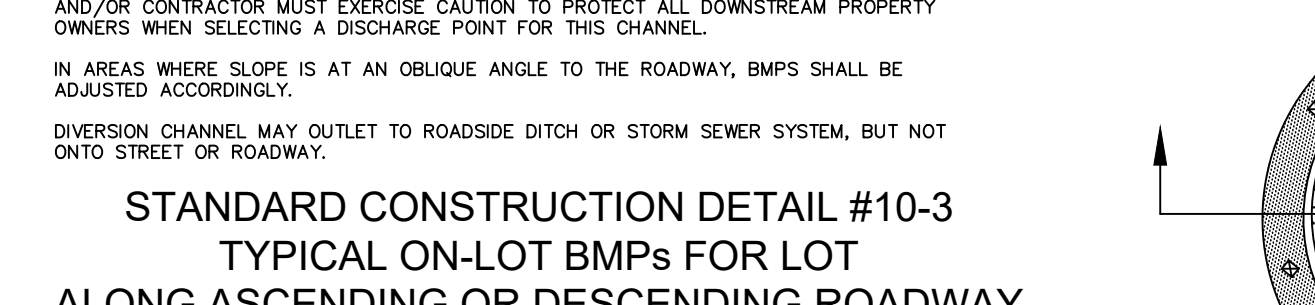
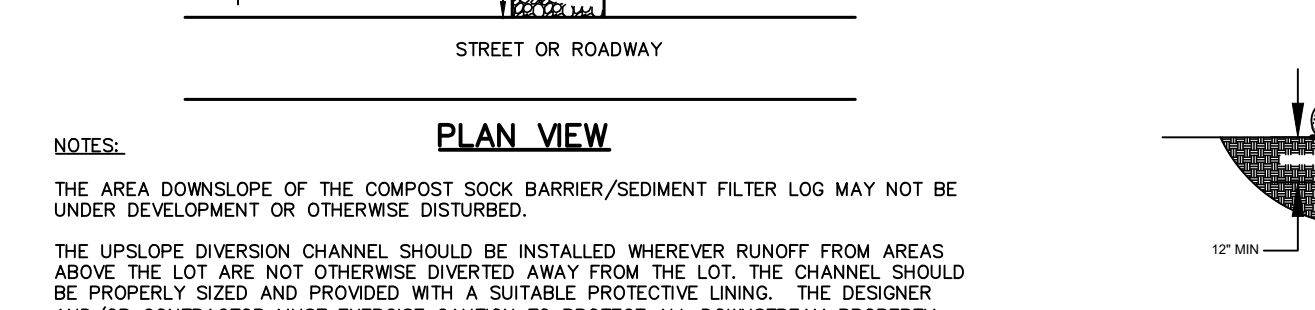
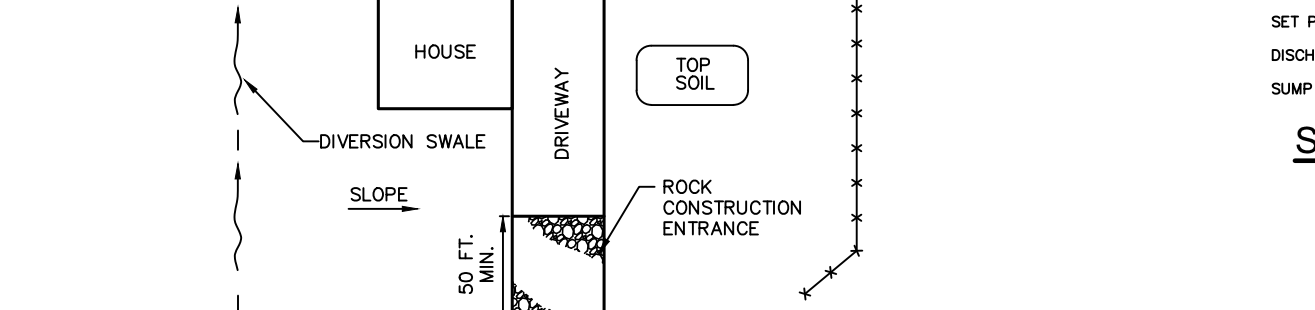
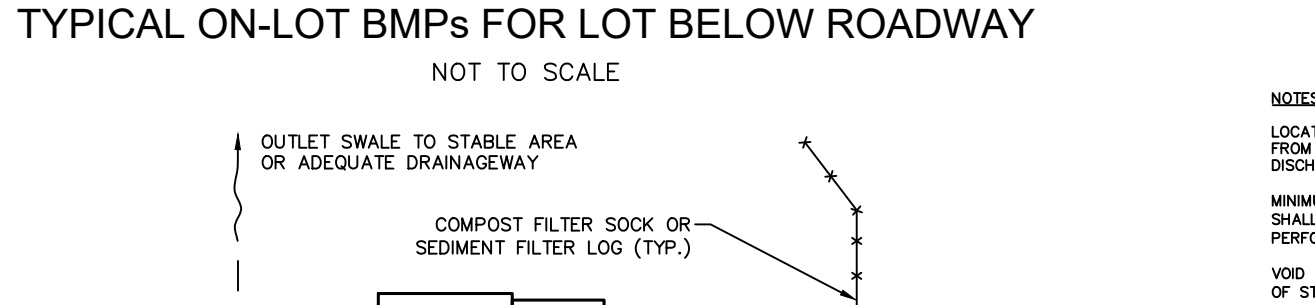
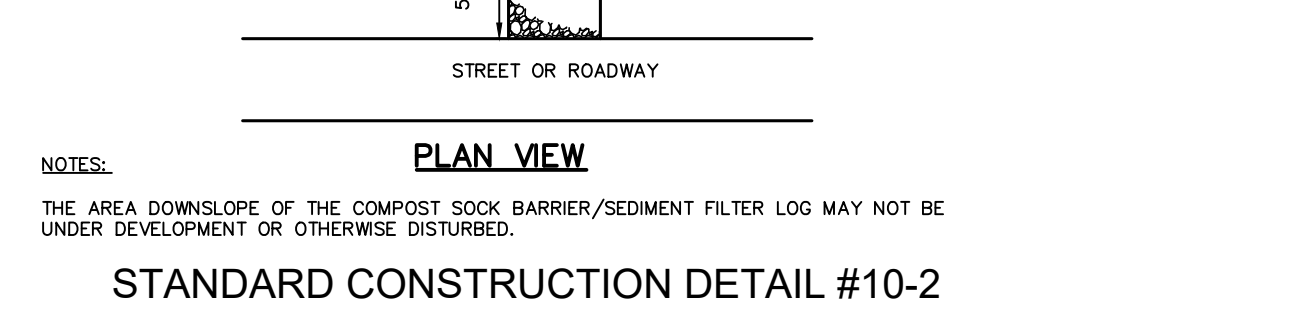
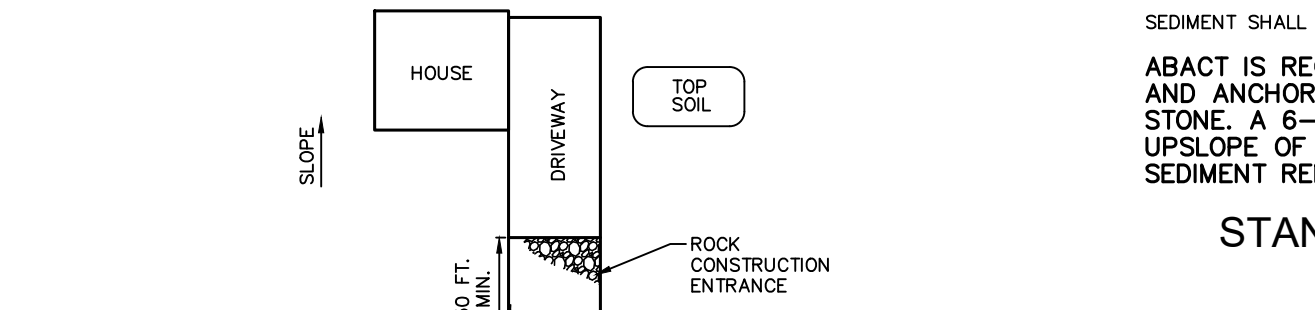
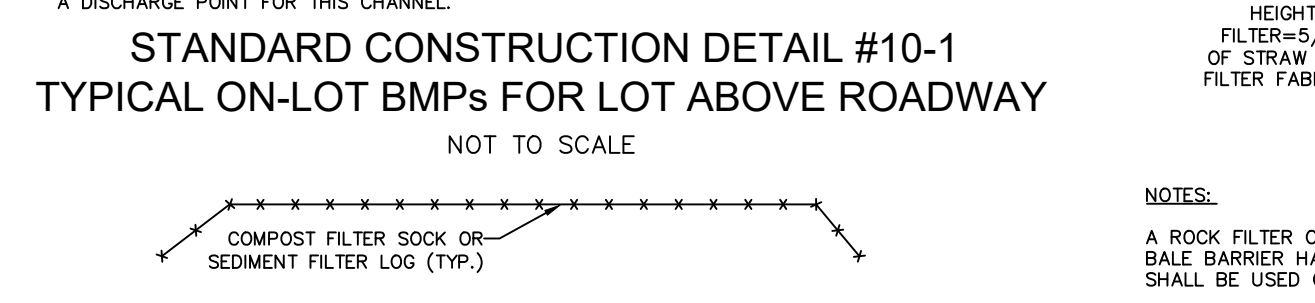
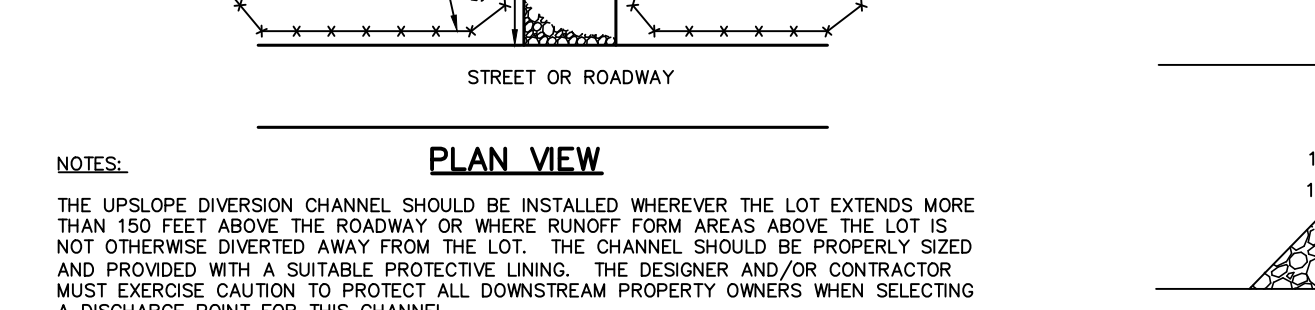
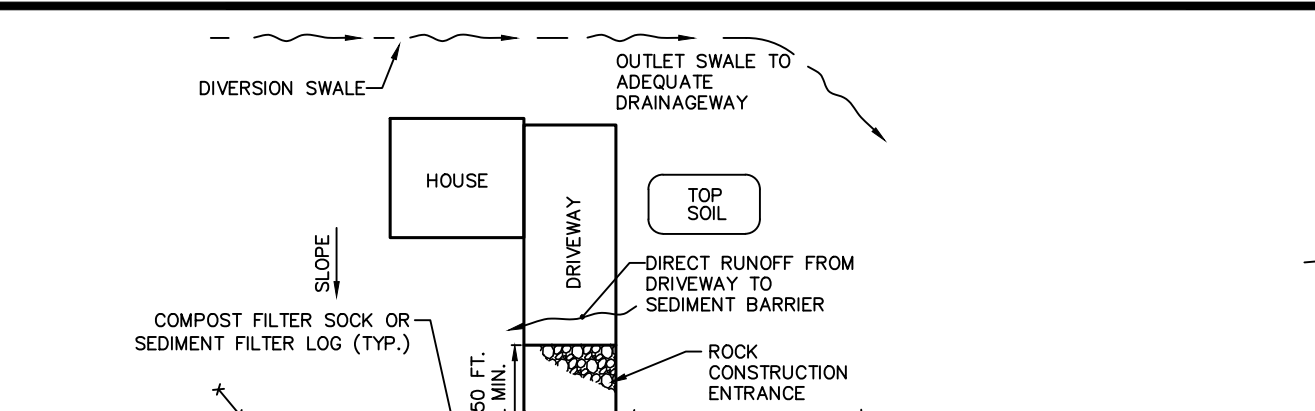
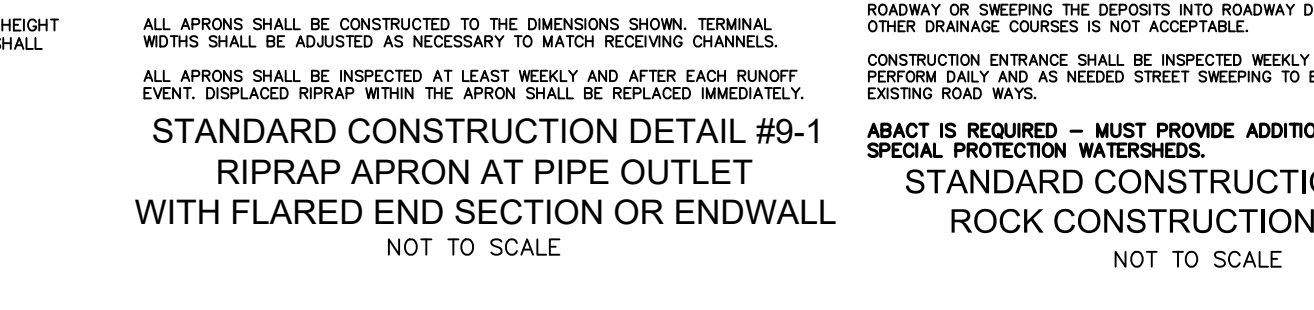
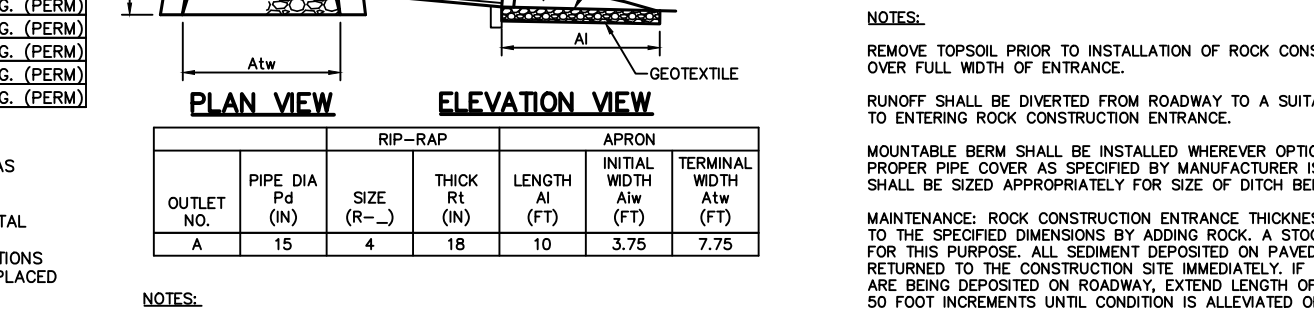
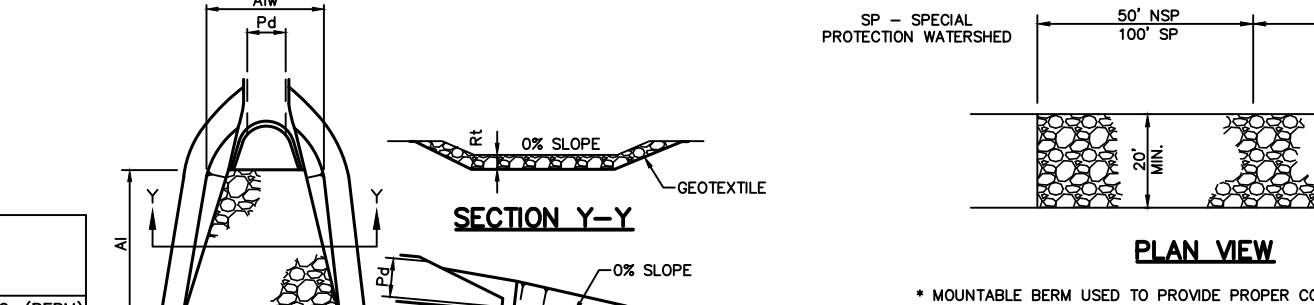
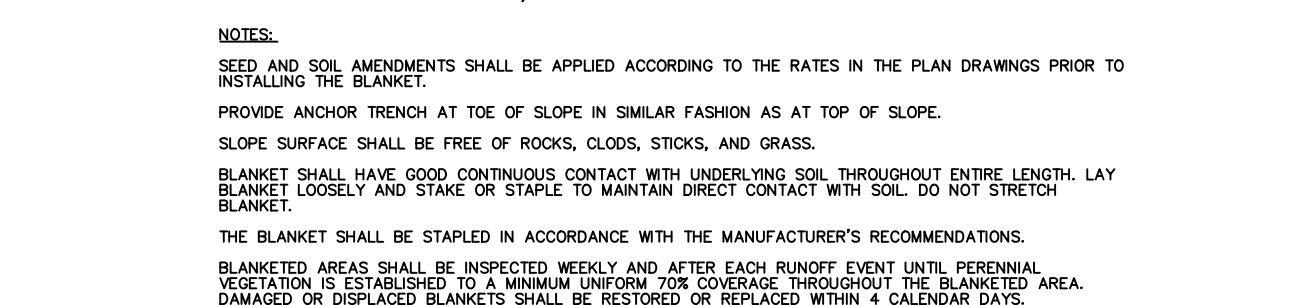
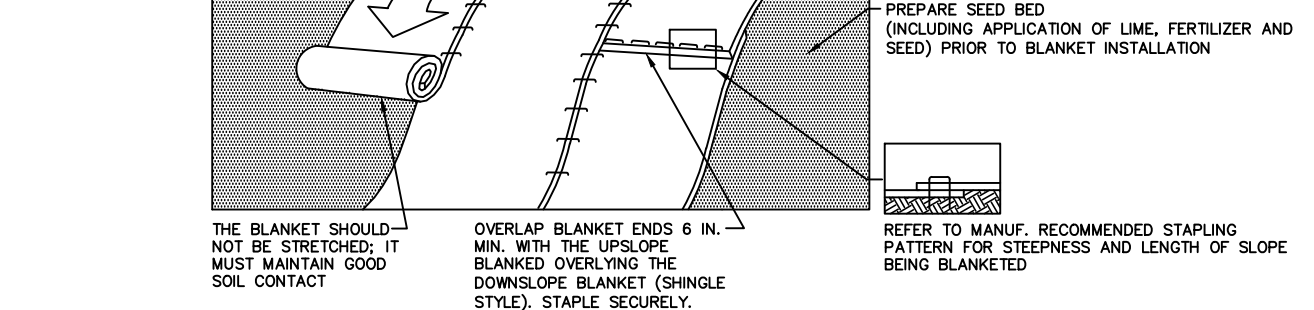
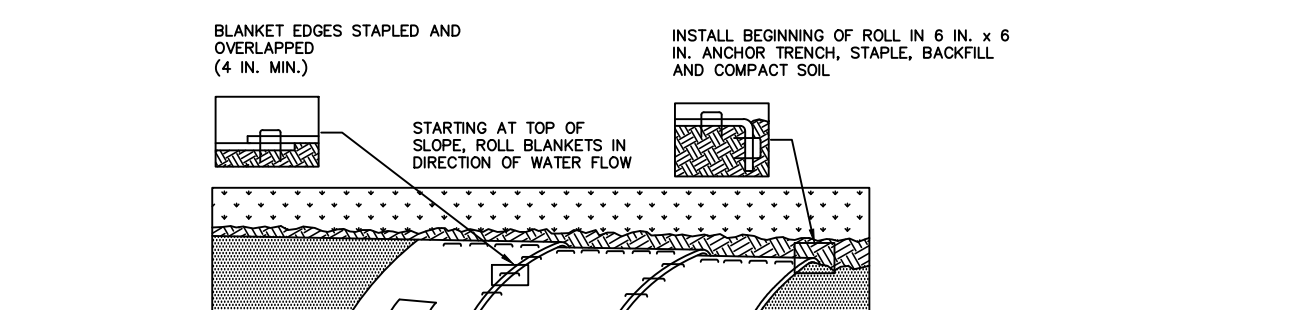
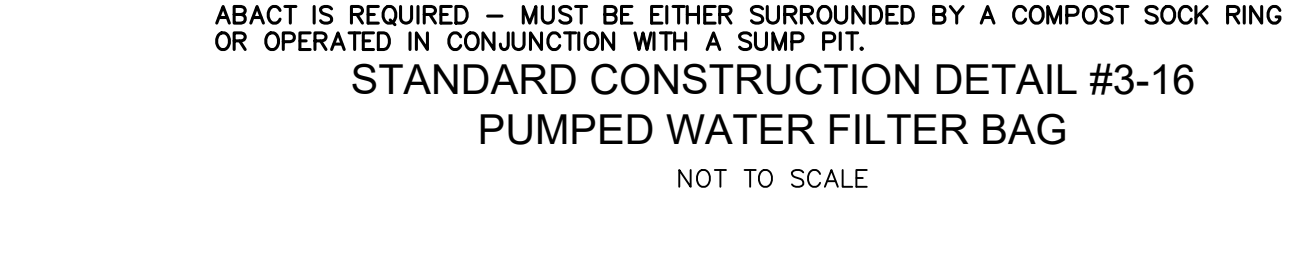
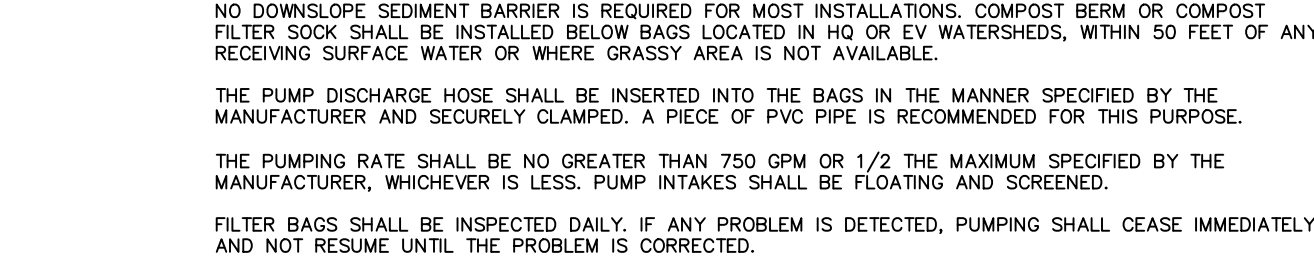
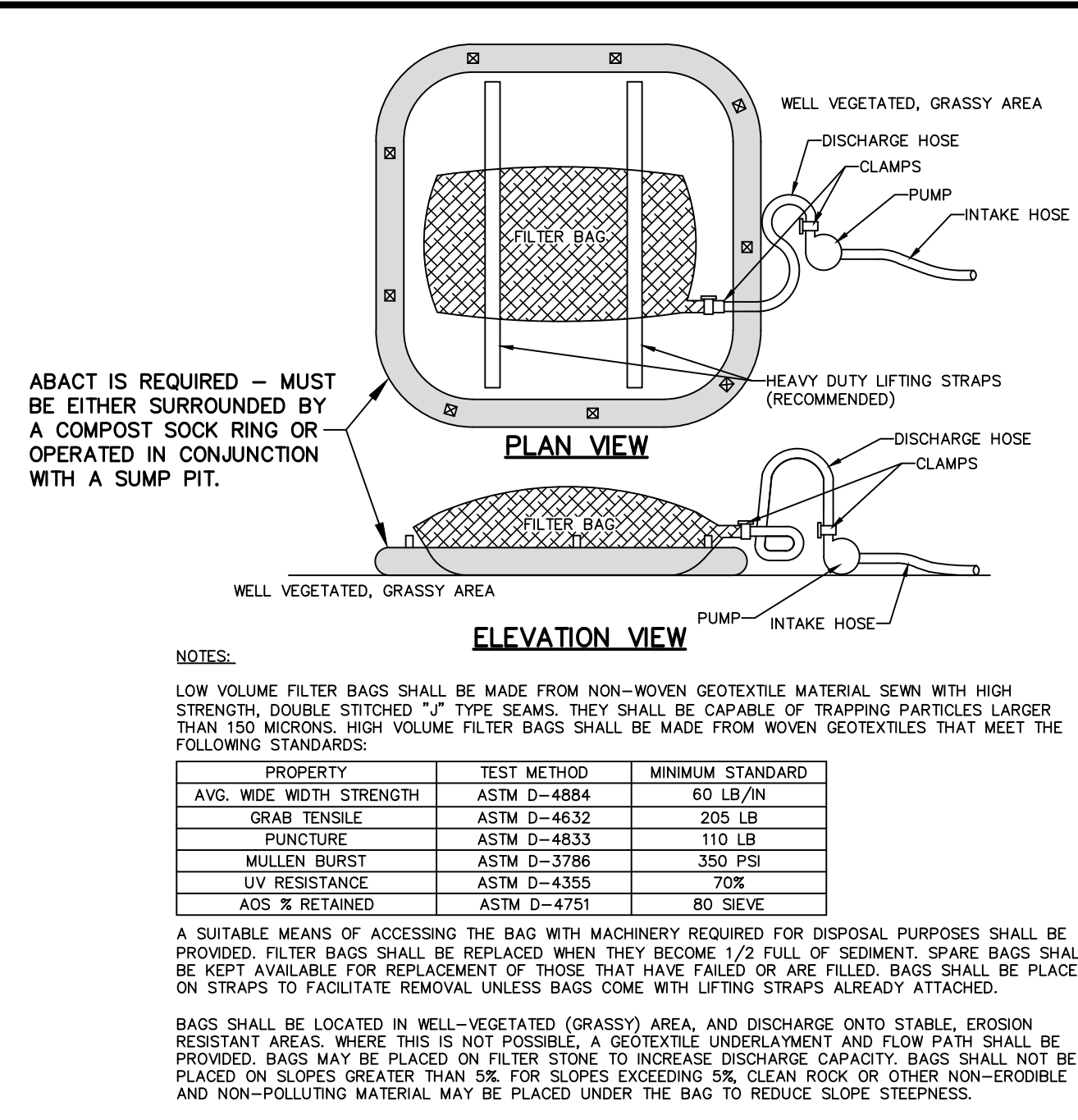
- ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN. A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE E&S PLAN PREPARED BY THE DESIGNER SHALL BE REVIEWED AND APPROVED PRIOR TO IMPLEMENTATION OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
- AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL NOTIFY ALL CONTRACTORS AND APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARED, THE PCSM PLAN PREPARED, THE LICENSED PROFESSIONAL RESPONSIBLE FOR EARTH DISTURBANCE ACTIVITIES, THE IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE FROM THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE PRECONSTRUCTION MEETING.
- 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.
- ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THIS SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY THE DEPARTMENT PRIOR TO IMPLEMENTATION.
- AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL.
- 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 SHALL BE LIMITED TO 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.
- AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN DRAWINGS. THESE AREAS MUST BE CLEARLY MARKED AND FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN.
- TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STORED AT THE LOCATION(S) SHOWN ON THE PLAN DRAWINGS. THE TOPSOIL MUST BE PROTECTED NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED BY VEGETATION. TOPSOIL SHALL BE STORED IN STACKS OR IN THE MANNER SHOWN ON THE PLAN DRAWINGS. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER.
- IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO MAINTAIN THE POTENTIAL EROSION AND/OR SEDIMENT POLLUTION AND NOTIFY THE LOCAL CONSERVATION DISTRICT AND/OR THE REGIONAL OFFICE OF THE DEPARTMENT.
- ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND CARRIED AWAY TO AN APPROVED LOCATION. THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 280.1 ET SEQ. 271.1, AND 280.1 ET SEQ. NO. BUILDING MATERIALS OR WASTES OR UNLINED BARRIERS SHALL BE REMOVED FROM THE SITE AND CARRIED AWAY TO AN APPROVED LOCATION. WASTES SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.
- 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.
- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL, FILL FORM-GOIT MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.
- PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OR UNDISTURBED VEGETATED AREAS.
- UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPs SHALL BE MAINTAINED PROPERLY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL DEVICES AT EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, RESETTING, RESEEDING, REGRADING AND RETENING MUST BE PERFORMED IMMEDIATELY. IF THE E&S BMPs FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPs, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
- 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.
- SEMENT 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 SWEEP INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.
- ALL SEDIMENT REMOVED FROM BMPs SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS.
- AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM OF 3 TO 5 INCHES PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM OF 3 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING.
- ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT OR OTHER RELATED PROBLEMS. COMPACTED FILL SHALL BE SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
- ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 6 INCHES IN THICKNESS.
- FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOIL, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
- FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.
- FILLS SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
- SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.
- ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. CUT SLOPES IN COMPLETE BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED. SEEDS ARE WITHIN 50 FEET OF A SURFACE WATER. SHALL BE 1/4 INCH OF SOIL TO ACHIEVE GOOD SEED TO SOIL CONTACT - DO NOT ROLL OR TRACK SEED WHEN SOIL IS WET. VEGETATE WITH NATIVE PLANTS.
- COVER SEEDS ARE WITH A LIGHT LAYER OF SALT, THRESHED STRAW OR PINE NEEDLES AND APPLY EROSION CONTROL MATTING OVER 3:1 SLOPES AND THE MAIN FLOOR.
- Plant and mulch according to specifications on the landscape plan.
- Maintain inlet protection and other E&S SCMs until the site is fully stabilized.
- Complete SCM Certification form and submit to M/CDD within 30 days of completion.
- Critical Stage - Simultaneously with Step 13, and when areas upstream of SCMs 005 through 008 are permanently stabilized, install seepage bed SCMs in accordance with the following sequence and the construction details:
 - Notify Lower Gwynedd Township and the Conservation District prior to construction.
 - Excavate the MRC SCM bottom to an uncompact substrate free from rocks and debris. Do NOT compact the substrate.
 - Install reinforced spillway, pipe bedding, underdrain piping and aggregate envelope, cleanouts, etc.
 - Place soil mix gently. Do not compact soil mix. The placement of soil mix should be done from outside the SCM footprint to avoid compaction by construction equipment. Equipment should never drive over placed soil mix.
 - Prepare for seeding by eliminating any weed growth prior to seed installation using an appropriate herbicide to control undesirable vegetation. For optimal establishment, soil pH shall be between 5.5 and 6.5.
 - Seed and stabilize disturbed area. Apply seed by carefully proportioning seed for the entire area. Broadcast seed in two separate applications by applying seed at half the suggested rate for each application to ensure even and adequate coverage. After the full rate of seeding has been achieved, follow by rolling or tracking seed into the top 1/4 inch of soil to achieve good seed to soil contact - do not roll or track seed when soil is wet. Vegetate with native plants.
 - Cover seeded area with a light layer of salt hay, threshed straw or pine needles and apply erosion control matting over 3:1 slopes and the main floor.
- Permanently stabilized is defined as a minimum uniform, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST EROSION, CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.
- 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.
- 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.
- 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 THE 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.
- 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.
- 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.
- 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.
- SEDIMENT BASINS SHALL BE KEPT FREE OF ALL CONSTRUCTION WASTE, WASH WATER, AND OTHER DEBRIS HAVING THE POTENTIAL TO CLOG THE BASIN/TRAP OUTLET STRUCTURES AND/OR POLLUTE THE SURFACE WATERS.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH OSHA GUIDELINES AND THE HEALTH AND SAFETY REQUIREMENT OF THE OWNER. THE CONTRACTORS REQUIREMENTS FOR THE PERIODS OF CONSTRUCTION, CONTROL OF GROUNDWATER SEEPAGE, STORMWATER RUNOFF INTO EXCAVATIONS SHALL BE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
- APPLICATIONS AND/OR OPERATORS MUST IMPLEMENT ENVIRONMENTAL DUE DILIGENCE TO ENSURE THAT QUALITIES AS CLEAN FILL. IF BROUGHT FROM OFF-SITE, FILL MUST BE CERTIFIED CLEAN.
- TO THE BEST OF OUR KNOWLEDGE, NO SPECIAL GEOLOGIC FORMATIONS OR SOIL CONDITIONS HAVING THE POTENTIAL TO CAUSE POLLUTION TO SURFACE WATERS EXIST AT THE SITE.
- THERMAL IMPACT: DURING CONSTRUCTION STORMWATER RUNOFF IS FILTERED THROUGH ON-SITE BMPs TO THE MAXIMUM EXTENT POSSIBLE TO AVOID THERMAL IMPACTS. RUNOFF FROM COMPOST FILTER SOCKS SHOULD BE DISCHARGED INTO AN OPPORTUNITY FOR WATER TO COOL, THEN FLOWING THROUGH EXISTING PROTECTED WOODED AREA BEFORE REACHING THE EXISTING STREAM CHANNEL.

CONSTRUCTION SEQUENCE

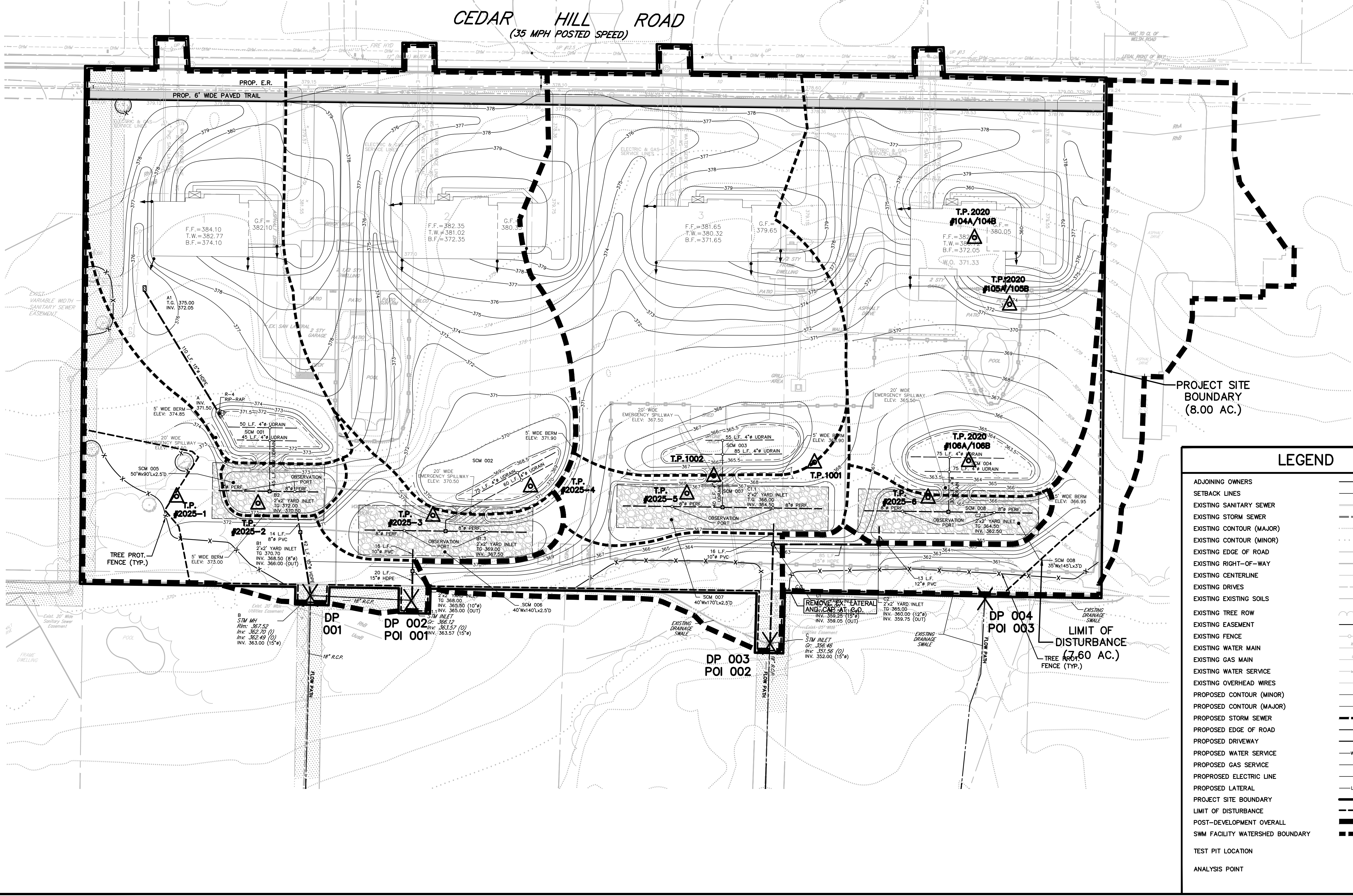
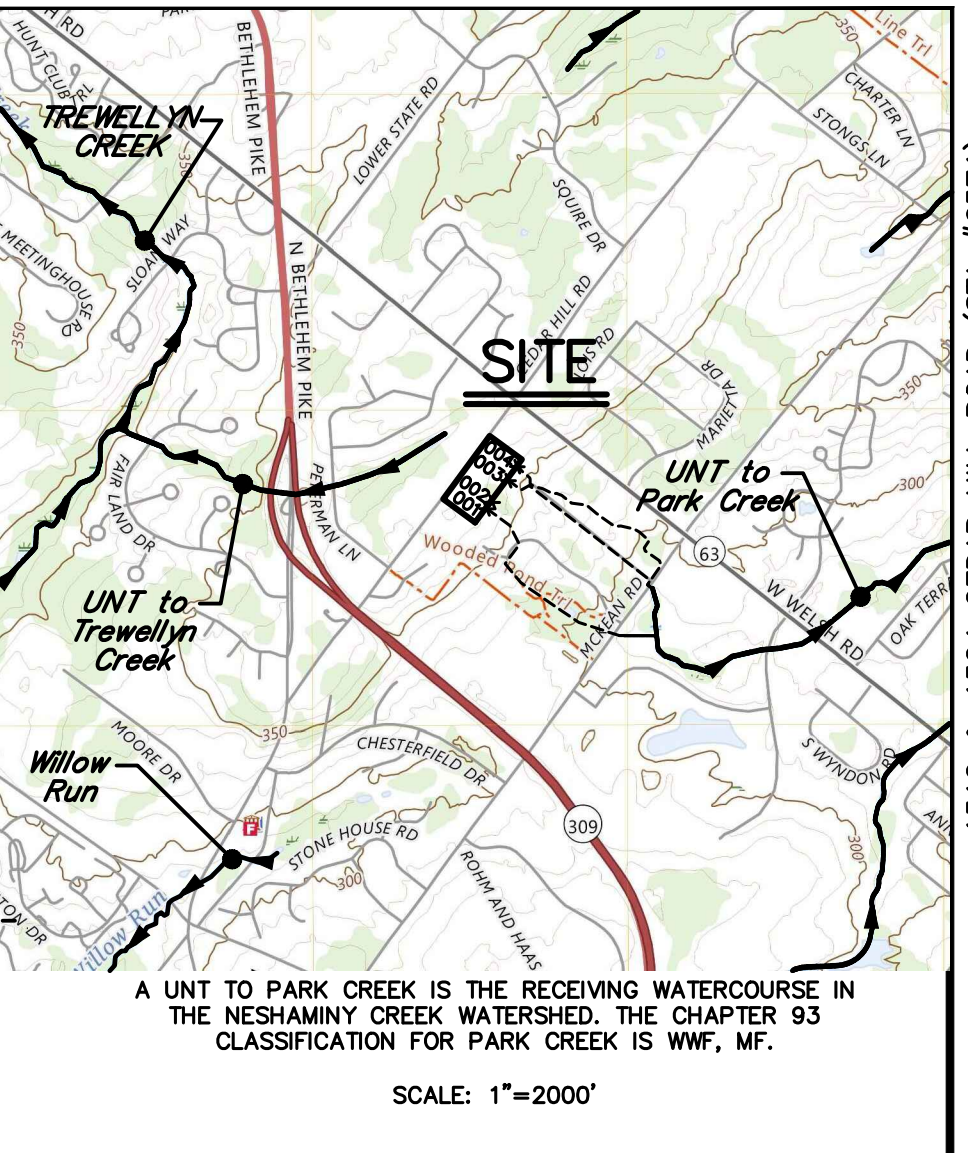
- CONSTRUCTION SEQUENCE NOTES:
- At least 7 days prior to starting any earth disturbance activities (including clearing and grubbing) the owner and/or operator shall invite all contractors, the landowner, appropriate municipal officials, the E&S plan preparer, the PCSM plan preparer, the designated licensed professional and a representative from the Montgomery County Conservation District to an on-site pre-construction meeting.
 - Critical stages as noted throughout the construction sequence are defined as sequence steps that require the permittee to provide engineering construction oversight. A licensed professional engineer knowledgeable in the design and construction of stormwater SCMs, preferably the design engineer, shall conduct the oversight.
 - 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.
 - All earth disturbance activities shall proceed in accordance with the following sequence. Each step of the sequence shall be completed before proceeding to the next step, except where noted. Deviation from the sequence must be approved by the Montgomery County Conservation District or by the department prior to implementation.
 - Any cessation of activity for 4 days or longer requires temporary stabilization.
 - As soon as slopes, channels, ditches and other disturbed areas reach final grade, they must be permanently stabilized immediately.
 - Perimeter compost filter sock to be installed by clearing area for sock and installing sock immediately or by clearing and installing sock as you go. No disturbed area should be left without perimeter controls. Sock shall be installed to minimize existing tree removal to the greatest extent possible.
- CONSTRUCTION SEQUENCE:
- Field-mark the limits of disturbance, streams and wetlands prior to disturbance activities (i.e. survey stakes, posts and rope, construction fence, etc.) in accordance with the erosion and sediment control plan.
 - Clear, grub and strip topsoil in the area proposed for the construction entrance. Install the temporary stone construction entrance-type cleaners in accordance with the construction detail.
 - Install compost filter sock 1 through 3 as shown on the erosion and sediment control plan.
 - Install orange construction fence for SCMs 001 through 008 as shown.
 - Strip any remaining topsoil and stockpile. Stabilize stockpile and protect with compost filter sock. Clear and grub any remaining areas left to be disturbed.
 - Rough grade the site and pad out building sites, rough grade swales 1 through 5.
 - Install road widening and sidewalk along Cedar Hill Road. Stabilize disturbed areas immediately with seed and mulch.
 - Construction of dwellings can begin. Install on-lot sediment controls in accordance with construction details #10-1, #10-2 or #10-3, as applicable, prior to construction on each lot. If driveway is not stabilized, access to the constructed units shall be stabilized to a minimum of a stone base for construction vehicle access. Construct buildings, install utilities, sidewalks and driveway paving.
 - Replace topsoil equal to pre-development depths or to a minimum depth of 6-in, whichever is greater. And finish grade, wherever possible. Seed and mulch each area of disturbance immediately after disturbance. Once construction is completed, no more than 15,000 lb. of disturbed area shall reach final grade before initiating seeding and mulching operations. Graded areas should be scarified or otherwise loosened to a depth of 3-to 5-inches prior to topsoil placement.
 - Install trees and shrubs wherever and whenever possible in accordance with the PCSM Landscape Plan and details.
 - Perform final landscaping operations. In such cases, permanently seed and mulch disturbed areas. Seeding shall follow fertilization and seeding rates specified in seeding specification chart. If finish grading is not practical, temporarily seed all disturbed areas.
- NOTE: THE MONTGOMERY COUNTY CONSERVATION DISTRICT MUST BE NOTIFIED PRIOR TO THE REMOVAL OF PRIMARY EROSION AND SEDIMENT CONTROL SCMS.
- Critical Stage - When areas upstream of SCMs 001 through 004 are permanently stabilized, install bio-retention with MRC SCMs in accordance with the following sequence and the construction details:
 - Notify Lower Gwynedd Township and the Conservation District prior to construction.
 - Unless otherwise infeasible, construction of the permanent basin should be scheduled to allow for installation of the specified seed mixes as soon as permanent basin construction is complete between early April to mid-June to allow the plants with a full growing season to build strong root reserves for winter hardiness. In no case shall seed be installed prior to April 1 or later than September 15. Install annual ryegrass cover over off-watering, followed by site preparation and application of the specified seed mixes during the following spring.
 - A licensed professional engineer (or authorized representative) knowledgeable in the design and construction of stormwater SCMs, preferably the design engineer, shall conduct the oversight during installation.
 - Install the MRC SCM during final phases of site construction to prevent sedimentation and/or damage from construction activity. After installation, prevent sediment-laden water from entering via overland, inlets and pipes.
 - Install and maintain proper E&S SCMs during construction.
 - If necessary, excavate the MRC SCM bottom to an uncompact substrate free from rocks and debris. Do NOT compact the substrate.
 - Install reinforced spillway, pipe bedding, underdrain piping and aggregate envelope, cleanouts, etc.
 - Place soil mix gently. Do not compact soil mix. The placement of soil mix should be done from outside the SCM footprint to avoid compaction by construction equipment. Equipment should never drive over placed soil mix.
 - Prepare for seeding by eliminating any weed growth prior to seed installation using an appropriate herbicide to control undesirable vegetation. For optimal establishment, soil pH shall be between 5.5 and 6.5.
 - Seed and stabilize disturbed area. Apply seed by carefully proportioning seed for the entire area. Broadcast seed in two separate applications by applying seed at half the suggested rate for each application to ensure even and adequate coverage. After the full rate of seeding has been achieved, follow by rolling or tracking seed into the top 1/4 inch of soil to achieve good seed to soil contact - do not roll or track seed when soil is wet. Vegetate with native plants.
 - Cover seeded area with a light layer of salt hay, threshed straw or pine needles and apply erosion control matting over 3:1 slopes and the main floor.
 - Critical Stage - Simultaneously with Step 13, and when areas upstream of SCMs 005 through 008 are permanently stabilized, install seepage bed SCMs in accordance with the following sequence and the construction details:
 - Notify Lower Gwynedd Township and the Conservation District prior to construction.
 - Excavate the MRC SCM bottom to an uncompact substrate free from rocks and debris. Do not compact substrate. If the area has been subject to compaction or sedimentation during construction, infiltration testing may be required during/prior to the construction of the SCM to verify the volume credits taken by design. If unfavorable conditions are encountered during installation (i.e. groundwater and/or bedrock, etc.), the engineer should be consulted, and the location of the proposed facility should be re-evaluated.
 - To the greatest extent possible, excavation should be performed with the lightest practical equipment. Excavation equipment should be placed outside the limits of the infiltration bed.
 - Excavation equipment should be placed outside the limits of the infiltration bed.
 - Place uniformly graded, clean-washed aggregate in 6-inch lifts, lightly compacting between lifts. Install inlet structures with connection to upstream MRC SCM underdrain upturned elbow, perforated pipe with caps and/or mesh, observation ports, outlet pipe and associated structures.
 - Fold and secure nonwoven geotextile over trench, with minimum overlap of 12-inches.
 - Backfill bed with soil mix as shown on plans and specifications. Overfill is recommended to account for settlement. Light hand tamping is acceptable if necessary.
 - Seed and stabilize soil.
 - In no case shall erosion and sediment control measures until site is fully stabilized.
 - Complete SCM Certification form and submit to M/CDD within 30 days of completion.
 - After all construction work is completed, install final paving, permanent striping and signage.
 - Upon final stabilization, remove all other temporary sediment controls. An area shall be considered to have achieved final stabilization when it has minimum 70% uniform permanent vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated surface erosion and subsurface characteristics sufficient to resist sliding and other movements.
 - Critical Stage - The site engineer shall impact the PCSM SCM to ensure that the SCM has not been impacted by construction activities. Completion of the Notice to New Property Owners of PCSM SCMs and O&M requirements - "New Property Owner Notification Form" shall be provided for the property owners of Lots 1, 2, 3 and 4.
 - Within 30 days after the completion of earth disturbance activities authorized by this permit, including the permanent stabilization of the site and proper installation of PCSM SCMs in accordance with the approved PCSM plan, or upon submission of the NOT if so noted, the permittee shall file with the department or authorized conservation district a statement signed by a licensed professional and by the permittee certifying that work has been completed in accordance with the terms and conditions of this permit and the approved E&S and PCSM plans. Completion certificates are needed to ensure that all work is performed in accordance with the terms and conditions of the permit and approved E&S and PCSM plans.
 - Upon completion of all certifications and final inspections, the permittee or co-permittee shall submit a Notice of Termination (NOT) to the Conservation District.
- ANY SEDIMENT CONTROL, SUCH AS COMPOST FILTER SOCK, ROCK FILTER, OR INLET FILTER MUST NOT BE REMOVED UNTIL ALL VEGETATION (UPSTREAM OF THAT PARTICULAR CONTROL) HAS BEEN RE-ESTABLISHED.
- ANY AREAS DISTURBED DURING THE REMOVAL OF SEDIMENT CONTROLS SHALL BE IMMEDIATELY RE-STABILIZED.

E&S MAINTENANCE PROGRAM AND NOTES

- During construction, maintenance of the control facilities will be the responsibility of the general contractor. Erosion and sediment control (E&S) BMPs will be inspected weekly or after each erosion-producing storm event, and cleaned and repaired as necessary. After completion and acceptance of construction, the property owner will be responsible for the maintenance of the control facilities, essentially ground cover. Disturbed areas of the topsoil stockpile will be reseeded with temporary seeding in accordance with specifications for seeding and soil supplements as shown on the plans.
- Until the site is stabilized, all E&S BMPs shall be maintained properly. Maintenance shall include inspections of all E&S BMPs after each runoff event, and on a weekly basis. All preventative and remedial maintenance work, including clean out, repair, replacement, regrading, reseeded, reconditioning 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.
- A Qualified Inspector shall perform weekly site inspections and post-rain event inspections per the new NPDES guidelines.
- 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.
- All sediment removed during maintenance and cleaning of E&S BMPs shall be incorporated into the fine grading upstream from a sediment control device, outside of steep slopes, wetlands, floodplains or drainage swales and within the limit of disturbance, or otherwise disposed of in the manner described on the plan drawings.
- Compost Filter Sock - installed at the location(s) shown on the approved plans.
- The sock installation must be inspected weekly and after each runoff event. Any necessary repairs or replacement to be made within 24 hours.
 - Accumulated sediment will be removed as required to keep the sock functional. In all cases deposits must be removed where accumulations reach 1/2 the above ground height of the barrier.
 - Adhere to any manufacturer's recommendations for replacing compost filter sock for any reason.
- Construction Entrance - install at the location(s) shown on the approved plans.
- Construction entrance to be inspected weekly and after each runoff event. Perform daily and as needed street sweeping to ensure sediment is removed from existing roadways.
 - The structure's thickness will be constantly maintained to the specified dimensions by adding rock. A stockpile of rock material will be maintained on the site for this purpose. At the end of each construction day, all sediment deposited on public roads will be removed and returned to the construction site. Washing the roadway with water is not permitted.
 - Pumped Water Filter Bag - utilize as dictated by work area conditions.
 - Pumped water filter bag to be inspected daily and after each runoff event.
 - Refer to details on plan drawings for maintenance requirements.
 - Rough grade the site and pad out building sites, rough grade swales 1 through 5.
 - Install road widening and sidewalk along Cedar Hill Road. Stabilize disturbed areas immediately with seed and mulch.
 - Construction of dwellings can begin. Install on-lot sediment controls in accordance with construction details #10-1, #10-2 or #10-3, as applicable, prior to construction on each lot. If driveway is not stabilized, access to the constructed units shall be stabilized to a minimum of a stone base for construction vehicle access. Construct buildings, install utilities, sidewalks and driveway paving.
 - Replace topsoil equal to pre-development depths or to a minimum depth of 6-in, whichever is greater. And finish grade, wherever possible. Seed and mulch each area of disturbance immediately after disturbance. Once construction is completed, no more than 15,000 lb. of disturbed area shall reach final grade before initiating seeding and mulching operations. Graded areas should be scarified or otherwise loosened to a depth of 3-to 5-inches prior to topsoil placement.
 - Install trees and shrubs wherever and whenever possible in accordance with the PCSM Landscape Plan and details.
 - Perform final landscaping operations. In such cases, permanently seed and mulch disturbed areas. Seeding shall follow fertilization and seeding rates specified in seeding specification chart. If finish grading is not practical, temporarily seed all disturbed areas.
- NOTE: THE MONTGOMERY COUNTY CONSERVATION DISTRICT MUST BE NOTIFIED PRIOR TO THE REMOVAL OF PRIMARY EROSION AND SEDIMENT CONTROL SCMS.
- Critical Stage - When areas upstream of SCMs 001 through 004 are permanently stabilized, install bio-retention with MRC SCMs in accordance with the following sequence and the construction details:
 - Notify Lower Gwynedd Township and the Conservation District prior to construction.
 - Unless otherwise infeasible, construction of the permanent basin should be scheduled to allow for installation of the specified seed mixes as soon as permanent basin construction is complete between early April to mid-June to allow the plants with a full growing season to build strong root reserves for winter hardiness. In no case shall seed be installed prior to April 1 or later than September 15. Install annual ryegrass cover over off-watering, followed by site preparation and application of the specified seed mixes during the following spring.
 - A licensed professional engineer (or authorized representative) knowledgeable in the design and construction of stormwater SCMs, preferably the design engineer, shall conduct the oversight during installation.
 - Install the MRC SCM during final phases of site construction to prevent sedimentation and/or damage from construction activity. After installation, prevent sediment-laden water from entering via overland, inlets and pipes.
 - Install and maintain proper E&S SCMs during construction.
 - If necessary, excavate the MRC SCM bottom to an uncompact substrate free from rocks and debris. Do NOT compact the substrate.
 - Install reinforced spillway, pipe bedding, underdrain piping and aggregate envelope, cleanouts, etc.
 - Place soil mix gently. Do not compact soil mix. The placement of soil mix should be done from outside the SCM footprint to avoid compaction by construction equipment. Equipment should never drive over placed soil mix.
 - Prepare for seeding by eliminating any weed growth prior to seed installation using an appropriate herbicide to control undesirable vegetation. For optimal establishment, soil pH shall be between 5.5 and 6.5.
 - Seed and stabilize disturbed area. Apply seed by carefully proportioning seed for the entire area. Broadcast seed in two separate applications by applying seed at half the suggested rate for each application to ensure even and adequate coverage. After the full rate of seeding has been achieved, follow by rolling or tracking seed into the top 1/4 inch of soil to achieve good seed to soil contact - do not roll or track seed when soil is wet. Vegetate with native plants.
 - Cover seeded area with a light layer of salt hay, threshed straw or pine needles and apply erosion control matting over 3:1 slopes and the main floor.
 - Critical Stage - Simultaneously with Step 13, and when areas upstream of SCMs 005 through 008 are permanently stabilized, install seepage bed SCMs in accordance with the following sequence and the construction details:
 - Notify Lower Gwynedd Township and the Conservation District prior to construction.
 - Excavate the MRC SCM bottom to an uncompact substrate free from rocks and debris. Do not compact substrate. If the area has been subject to compaction or sedimentation during construction, infiltration testing may be required during/prior to the construction of the SCM to verify the volume credits taken by design. If unfavorable conditions are encountered during installation (i.e. groundwater and/or bedrock, etc.), the engineer should be consulted, and the location of the proposed facility should be re-evaluated.
 - To the greatest extent possible, excavation should be performed with the lightest practical equipment. Excavation equipment should be placed outside the limits of the infiltration bed.
 - Excavation equipment should be placed outside the limits of the infiltration bed.
 - Place uniformly graded, clean-washed aggregate in 6-inch lifts, lightly compacting between lifts. Install inlet structures with connection to upstream MRC SCM underdrain upturned elbow, perforated pipe with caps and/or mesh, observation ports, outlet pipe and associated structures.
 - Fold and secure nonwoven geotextile over trench, with minimum overlap of 12-inches.
 - Backfill bed with soil mix as shown on plans and specifications. Overfill is recommended to account for settlement. Light hand tamping is acceptable if necessary.
 - Seed and stabilize soil.
 - In no case shall erosion and sediment control measures until site is fully stabilized.
 - Complete SCM Certification form and submit to M/CDD within 30 days of completion.
 - After all construction work is completed, install final paving, permanent striping and signage.
 - Upon final stabilization, remove all other temporary sediment controls. An area shall be considered to have achieved final stabilization when it has minimum 70% uniform permanent vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated surface erosion and subsurface characteristics sufficient to resist sliding and other movements.
 - Critical Stage - The site engineer shall impact the PCSM SCM to ensure that the SCM has not been impacted by construction activities. Completion of the Notice to New Property Owners of PCSM SCMs and O&M requirements - "New Property Owner Notification Form" shall be provided for the property owners of Lots 1, 2, 3 and 4.
 - Within 30 days after the completion of earth disturbance activities authorized by this permit, including the permanent stabilization of the site and proper installation of PCSM SCMs in accordance with the approved PCSM plan, or upon submission of the NOT if so noted, the permittee shall file with the department or authorized conservation district a statement signed by a licensed professional and by the permittee certifying that work has been completed in accordance with the terms and conditions of this permit and the approved E&S and PCSM plans. Completion certificates are needed to ensure that all work is performed in accordance with the terms and conditions of the permit and approved E&S and PCSM plans.
 - Upon completion of all certifications and final inspections, the permittee or co-permittee shall submit a Notice of Termination (NOT) to the Conservation District.
- ANY SEDIMENT CONTROL, SUCH AS COMPOST FILTER SOCK, ROCK FILTER, OR INLET FILTER MUST NOT BE REMOVED UNTIL ALL VEGETATION (UPSTREAM OF THAT PARTICULAR CONTROL) HAS BEEN RE-ESTABLISHED.
- ANY AREAS DISTURBED DURING THE REMOVAL OF SEDIMENT CONTROLS SHALL BE IMMEDIATELY RE-STABILIZED.



SOILS DATA					2025 TEST PIT INFILTRATION DATA					2023 TEST PIT DATA					2020 TEST PIT INFILTRATION DATA				
SOILS TYPE:	SLOPES:	DEPTH TO RESTRICTIVE FEATURE:	DEPTH TO WATER TABLE:	HYDROLOGIC SOIL GROUP:	TEST PIT NO.	LIMITING ZONE	EXIST. GROUND ELEV.	TEST ELEV.	INFILTRATION RATE (in/hr)	TEST PIT NO.	LIMITING ZONE	EXIST. GROUND ELEV.	TEST ELEV.	INFILTRATION RATE (in/hr)	TEST PIT NO.	LIMITING ZONE	EXIST. GROUND ELEV.	TEST ELEV.	INFILTRATION RATE (in/hr)
RHA REAVILLE SILT LOAM	0 TO 3 PERCENT	20-40' TO LITHIC BEDROCK	6 TO 36"	D	1	369.5 (R)	372.5	371.5	0.00	1001	359.5 (R)	365.5	N/A	N/A	104A	370.5 (R)	373.0	372.5	0.25
RHB REAVILLE SILT LOAM	3 TO 8 PERCENT	20-40' TO LITHIC BEDROCK	6 TO 36"	D	2	368.5 (R)	371.5	370.5	0.00	1002	360.5 (R)	365.7	N/A	N/A	104B	370.5 (R)	373.0	372.5	0.00
RHA REAVILLE SILT LOAM	0 TO 3 PERCENT	20-40' TO LITHIC BEDROCK	6 TO 36"	D	3	365.5 (R)	369.0	367.5	0.00	NOTE: TEST PITS 1003 - 1006 ARE NOT LOCATED WITHIN THE DEVELOPMENT SITE AREA AND HAVE BEEN EXCLUDED FROM THIS TABLE.					105A	368.5 (R)	371.0	370.5	0.25
					4	365.3 (R)	368.3	367.3	0.00						105B	368.5 (R)	371.0	370.5	0.25
					5	362.7 (R)	365.7	364.7	0.00						106A	360.5 (R)	364.0	362.5	0.50
					6	360.2 (R)	363.2	362.2	0.00						106B	360.5 (R)	364.0	362.5	0.00



RECYCLING STATEMENT

IF NECESSARY, SEDIMENT SHOULD BE REMOVED WHEN THE BMP'S ARE THOROUGHLY DRY. TRASH AND DEBRIS REMOVED FROM THE SITE SHOULD BE DEPOSITED ONLY AT SUITABLE DISPOSAL/RECYCLING SITES AND MUST COMPLY WITH APPLICABLE LOCAL, STATE, AND FEDERAL WASTE REGULATIONS. IN THE CASE WHERE A BMP IS USED FOR SEDIMENT CONTROL, IT SHOULD BE REGRADED AND RESEEDED IMMEDIATELY AFTER CONSTRUCTION HAS CONCLUDED.

ACT 50 UTILITY NOTE

811 ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE-GROUND INSPECTION OF THE SITE. COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDER-GROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT NUMBER 121 AS PER THE AMENDMENT OF PA ACT 287 OF 1974, EFFECTIVE OCTOBER 30, 2017 CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. REFERENCE UTILITY CASE NUMBER: 20252383716.

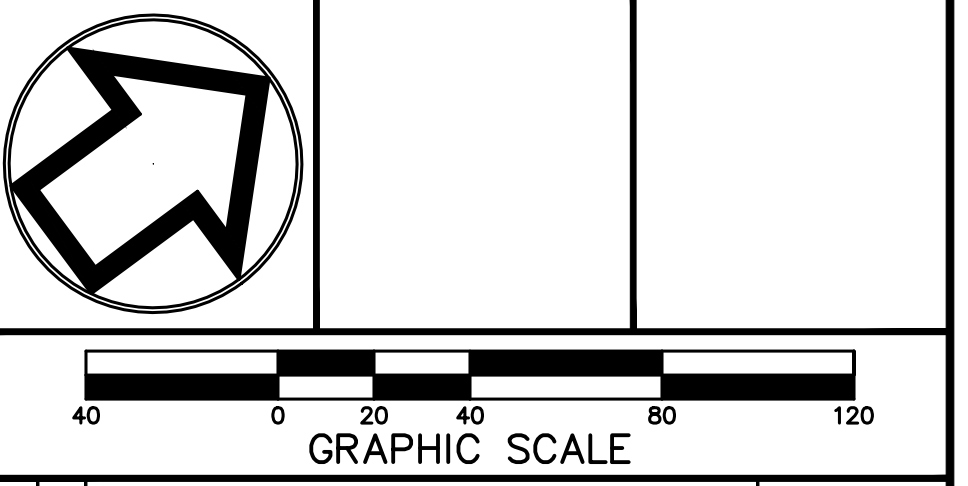
CRITICAL STAGES OF BMP CONSTRUCTION

- THE FOLLOWING STORMWATER MANAGEMENT BMP'S SHALL HAVE CONSTRUCTION OVERSIGHT:
- BIO-RETENTION W/MRC 001
 - BIO-RETENTION W/MRC 002
 - BIO-RETENTION W/MRC 003
 - BIO-RETENTION W/MRC 004
 - SEEPAGE BED 005
 - SEEPAGE BED 006
 - SEEPAGE BED 007
 - SEEPAGE BED 008



LEGEND

ADJOINING OWNERS	---
SETBACK LINES	---
EXISTING SANITARY SEWER	---
EXISTING STORM SEWER	---
EXISTING CONTOUR (MAJOR)	---
EXISTING CONTOUR (MINOR)	---
EXISTING EDGE OF ROAD	---
EXISTING RIGHT-OF-WAY	---
EXISTING CENTERLINE	---
EXISTING DRIVES	---
EXISTING EXISTING SOILS	---
EXISTING TREE ROW	---
EXISTING EASEMENT	---
EXISTING FENCE	---
EXISTING WATER MAIN	---
EXISTING GAS MAIN	---
EXISTING WATER SERVICE	---
EXISTING OVERHEAD WIRES	---
PROPOSED CONTOUR (MINOR)	---
PROPOSED CONTOUR (MAJOR)	---
PROPOSED STORM SEWER	---
PROPOSED EDGE OF ROAD	---
PROPOSED DRIVEWAY	---
PROPOSED WATER SERVICE	---
PROPOSED GAS SERVICE	---
PROPOSED ELECTRIC LINE	---
PROPOSED LATERAL	---
PROJECT SITE BOUNDARY	---
LIMIT OF DISTURBANCE	---
POST-DEVELOPMENT OVERALL	---
SWM FACILITY WATERSHED BOUNDARY	---
TEST PIT LOCATION	△
ANALYSIS POINT	X

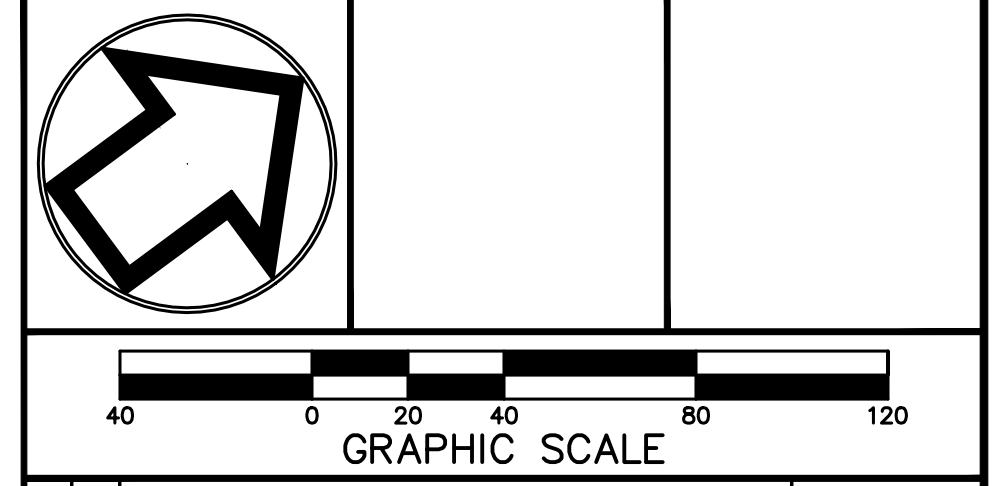
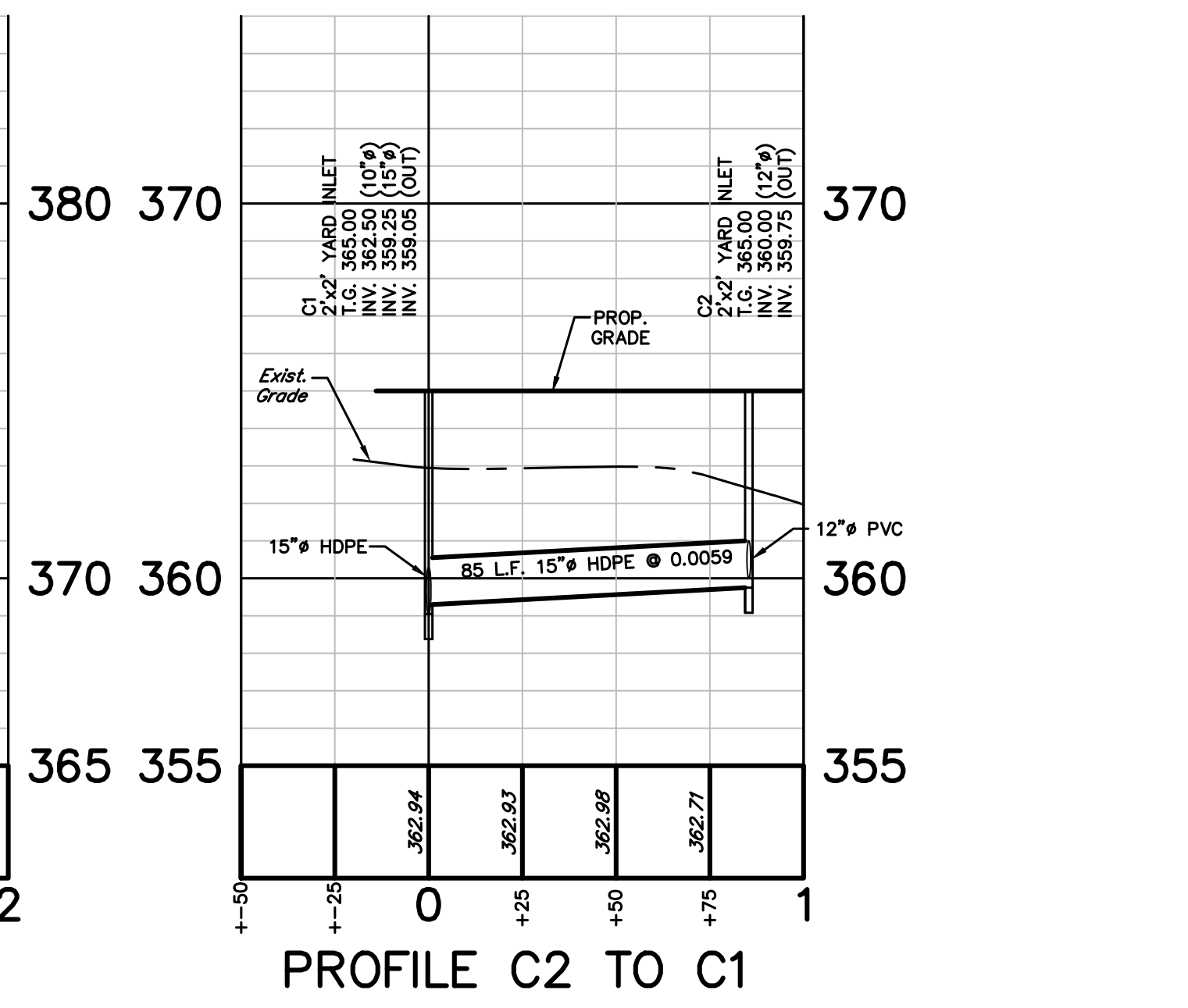
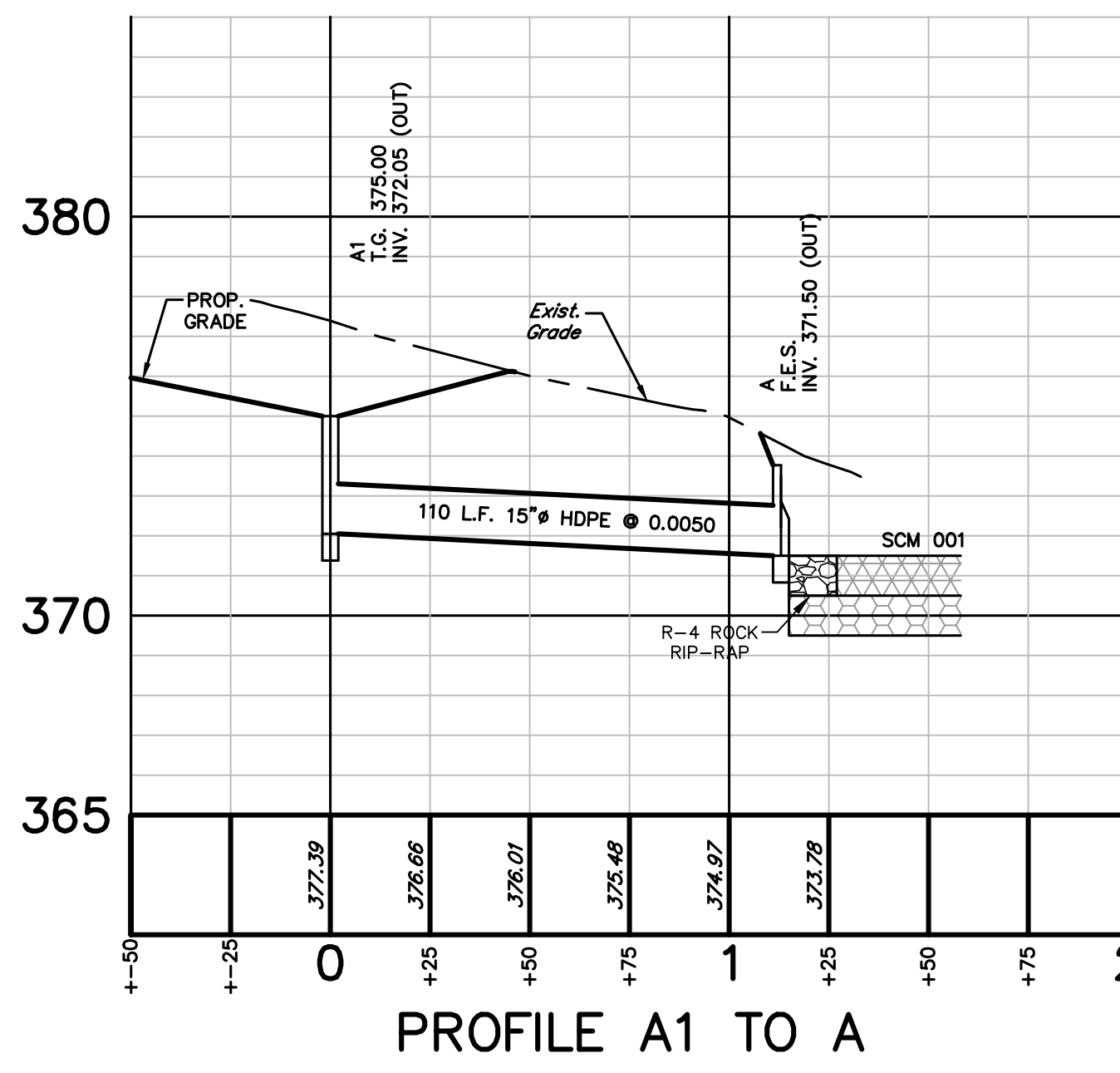
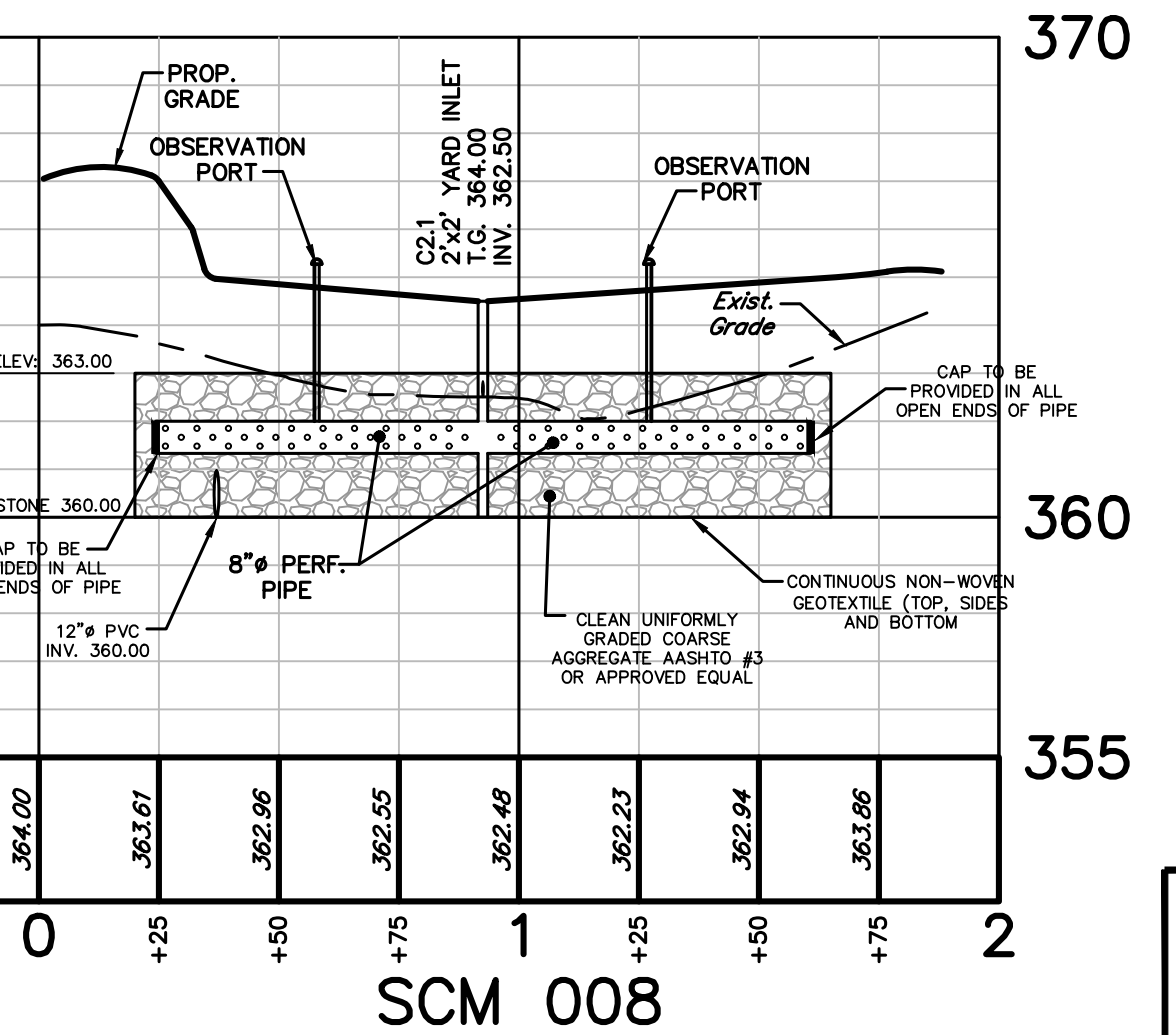
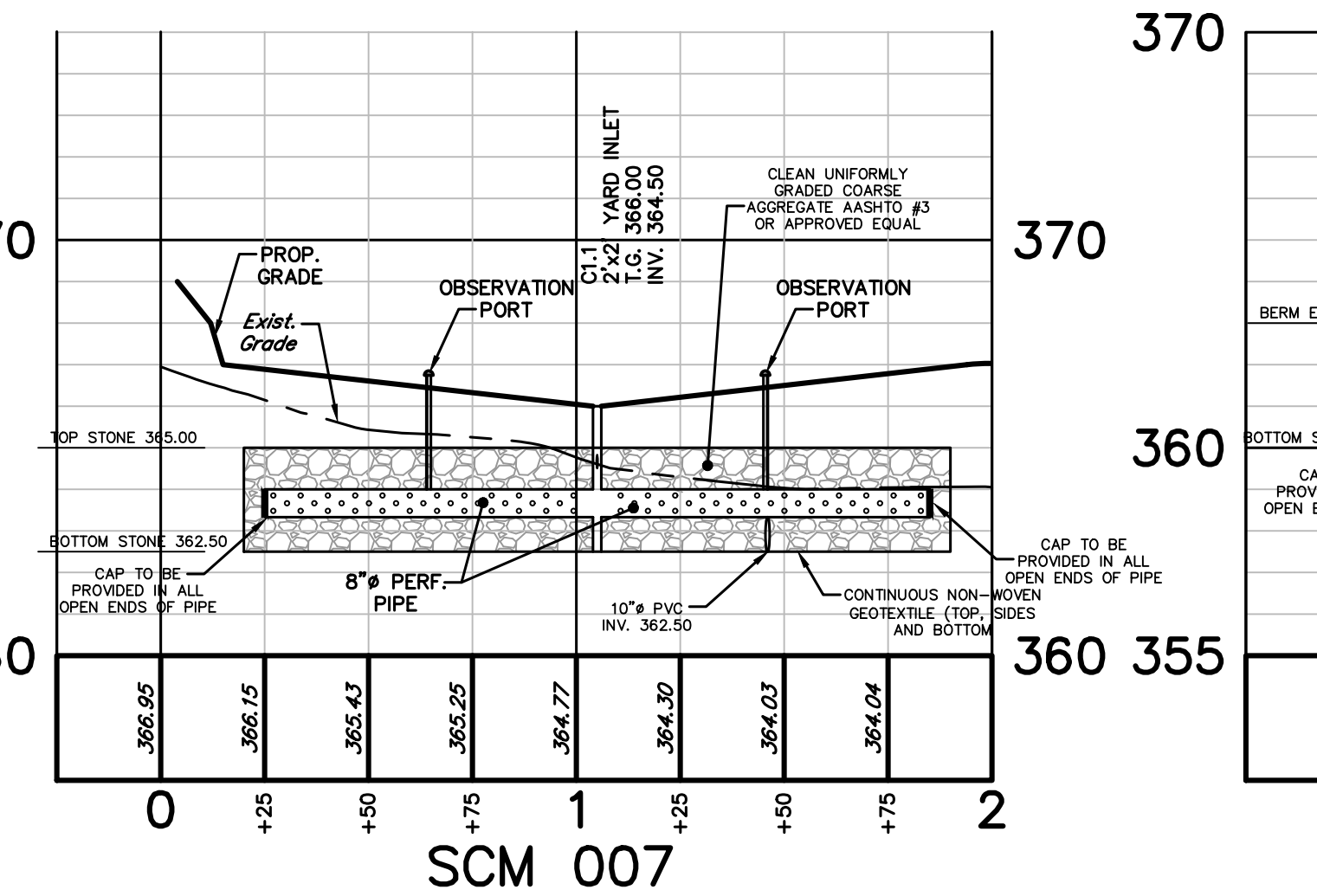
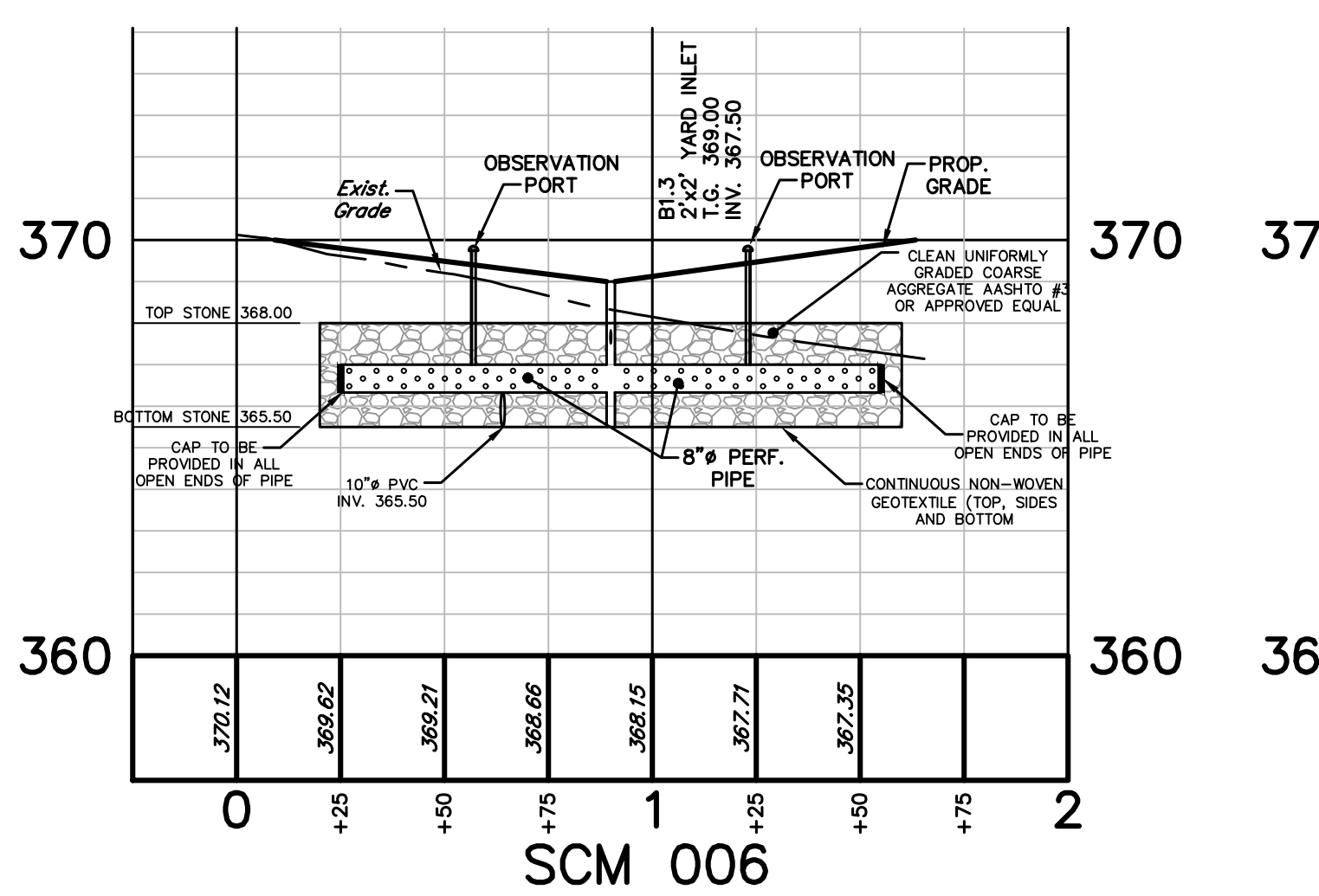
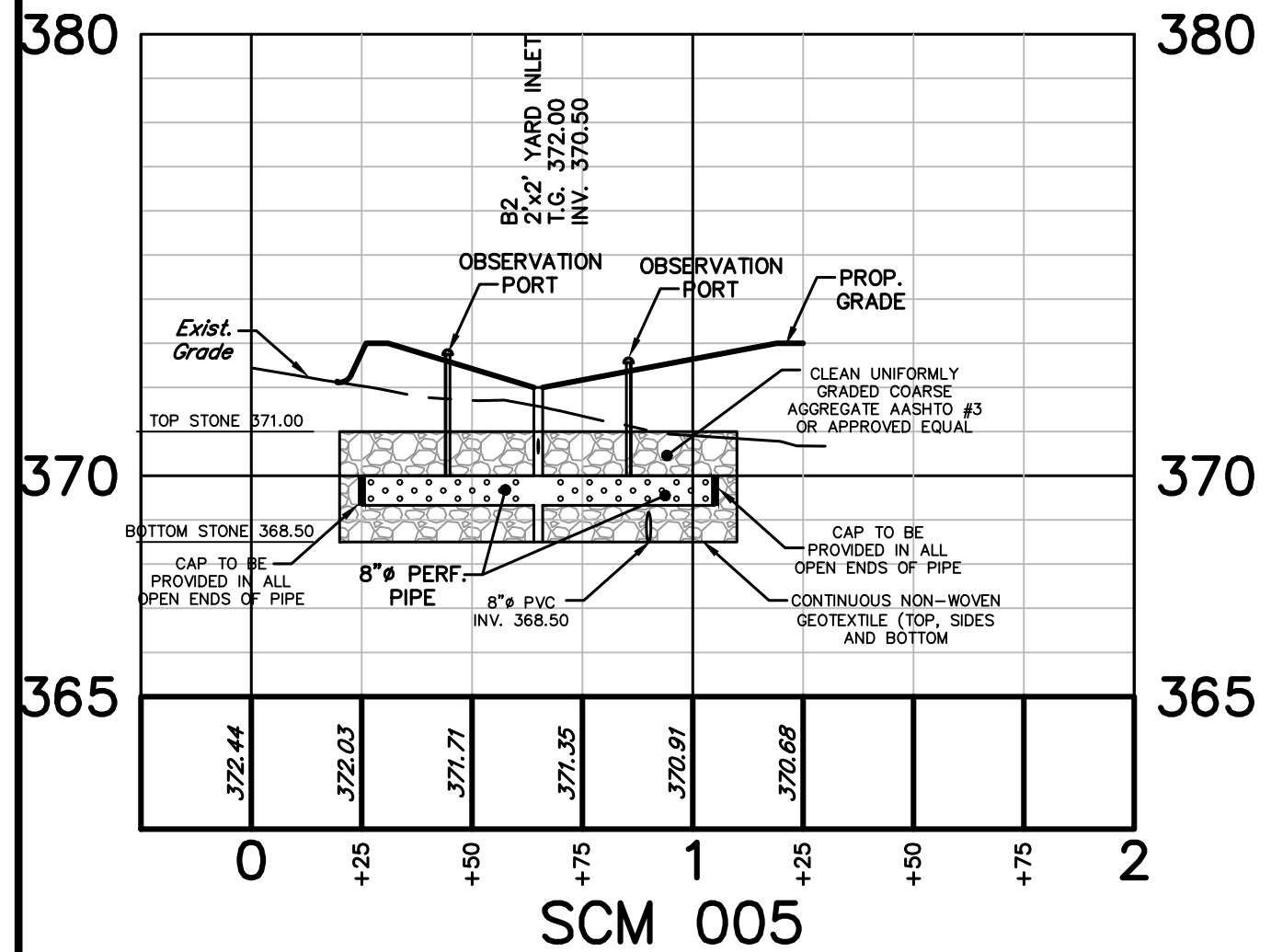
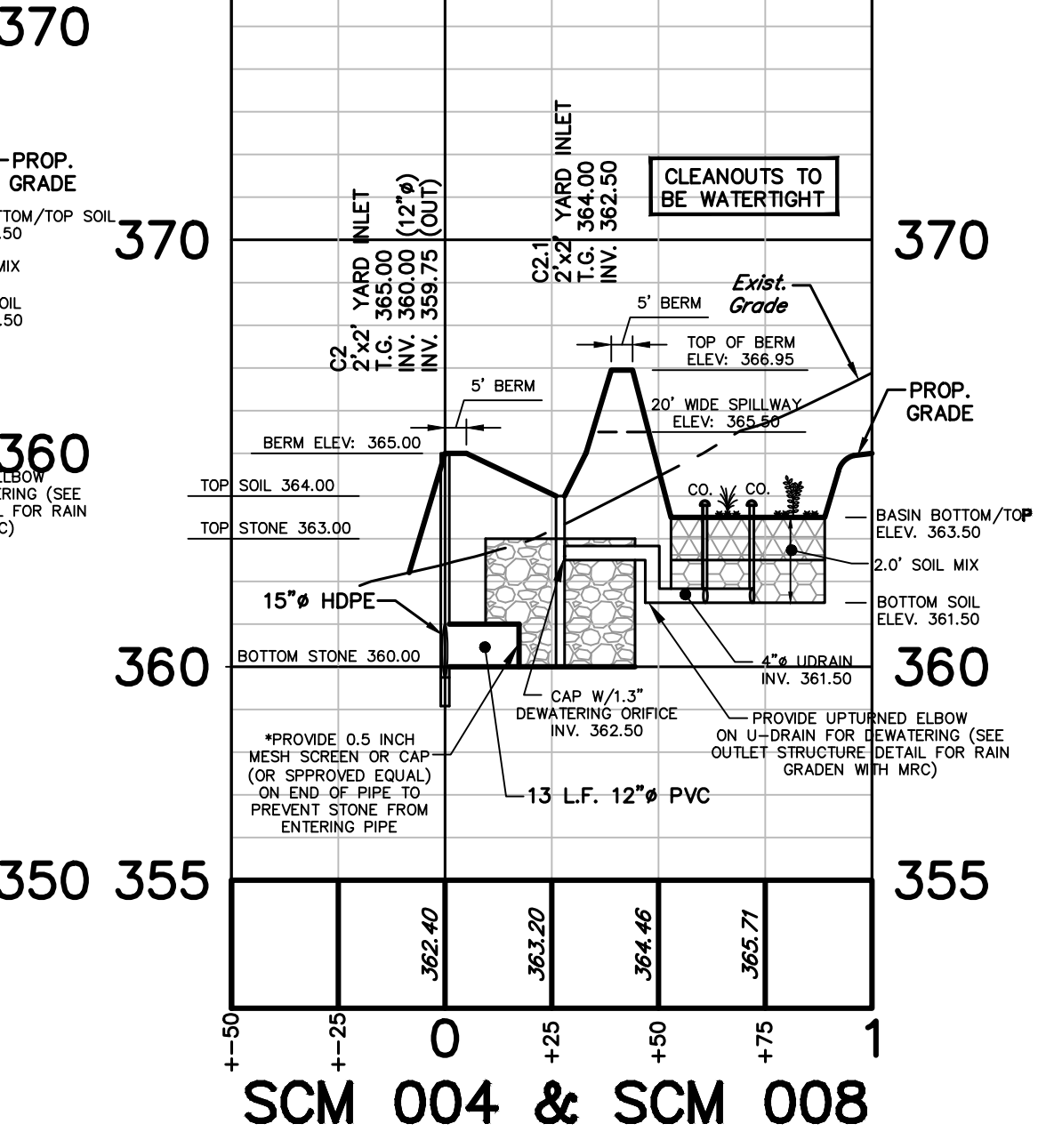
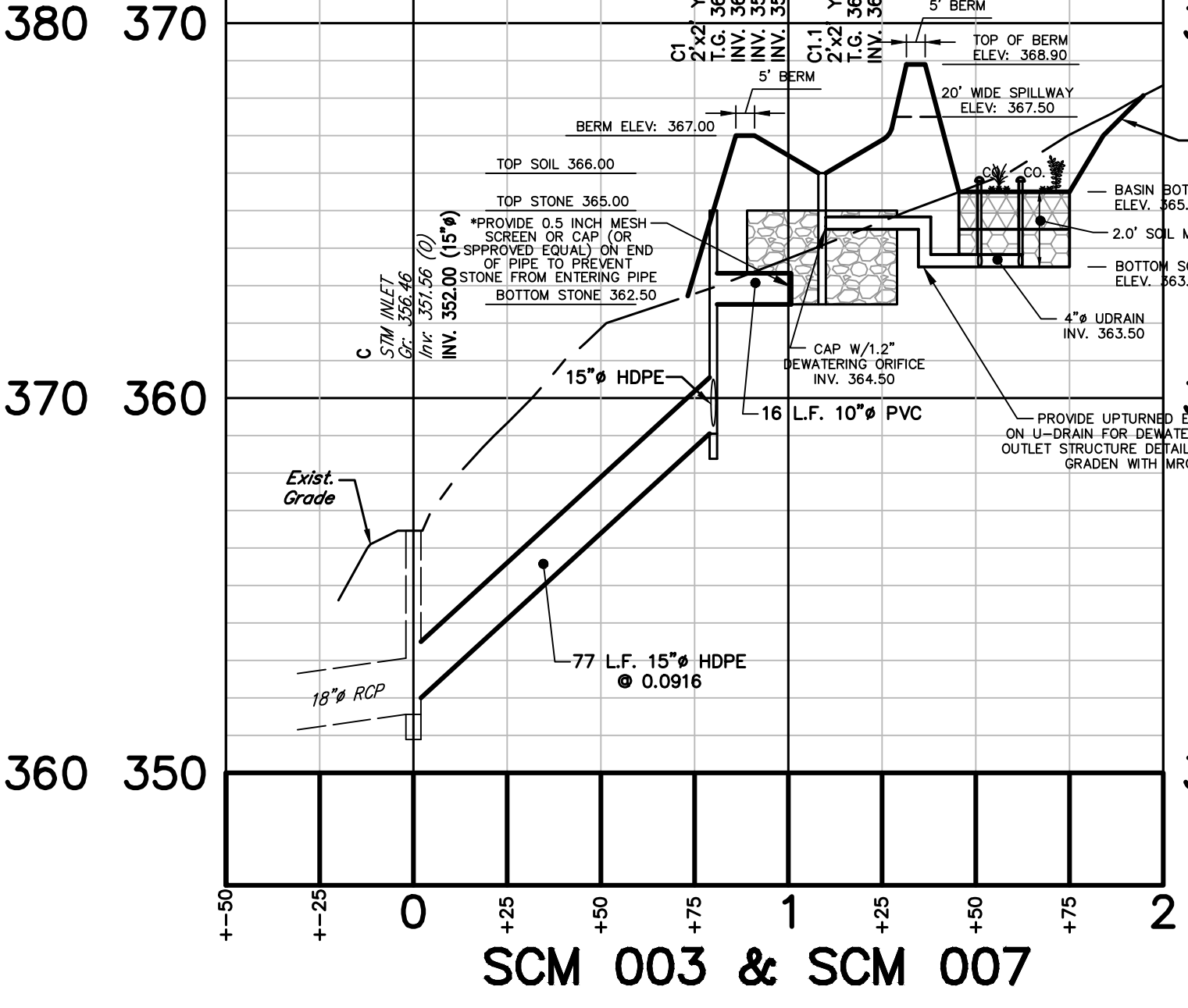
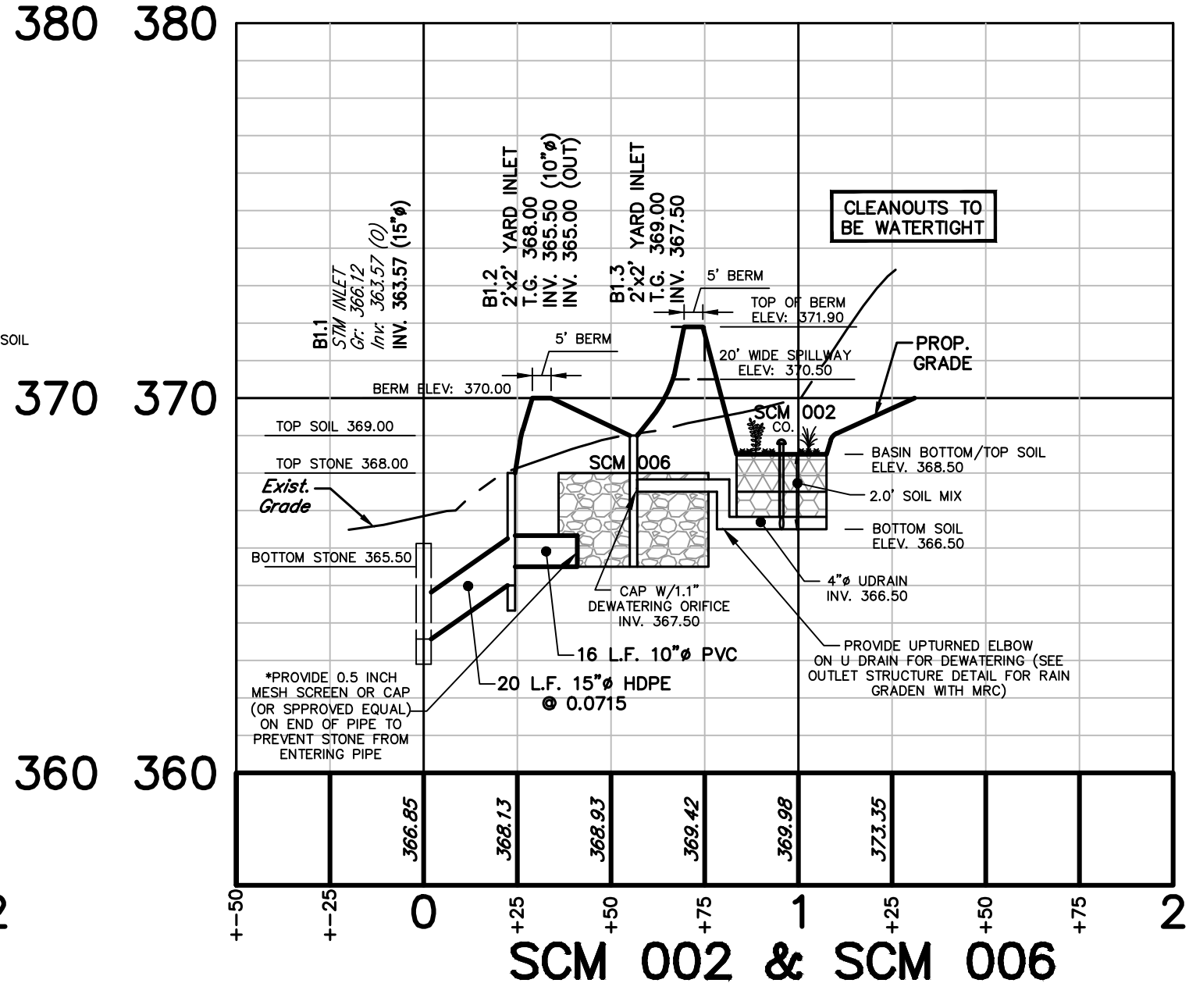
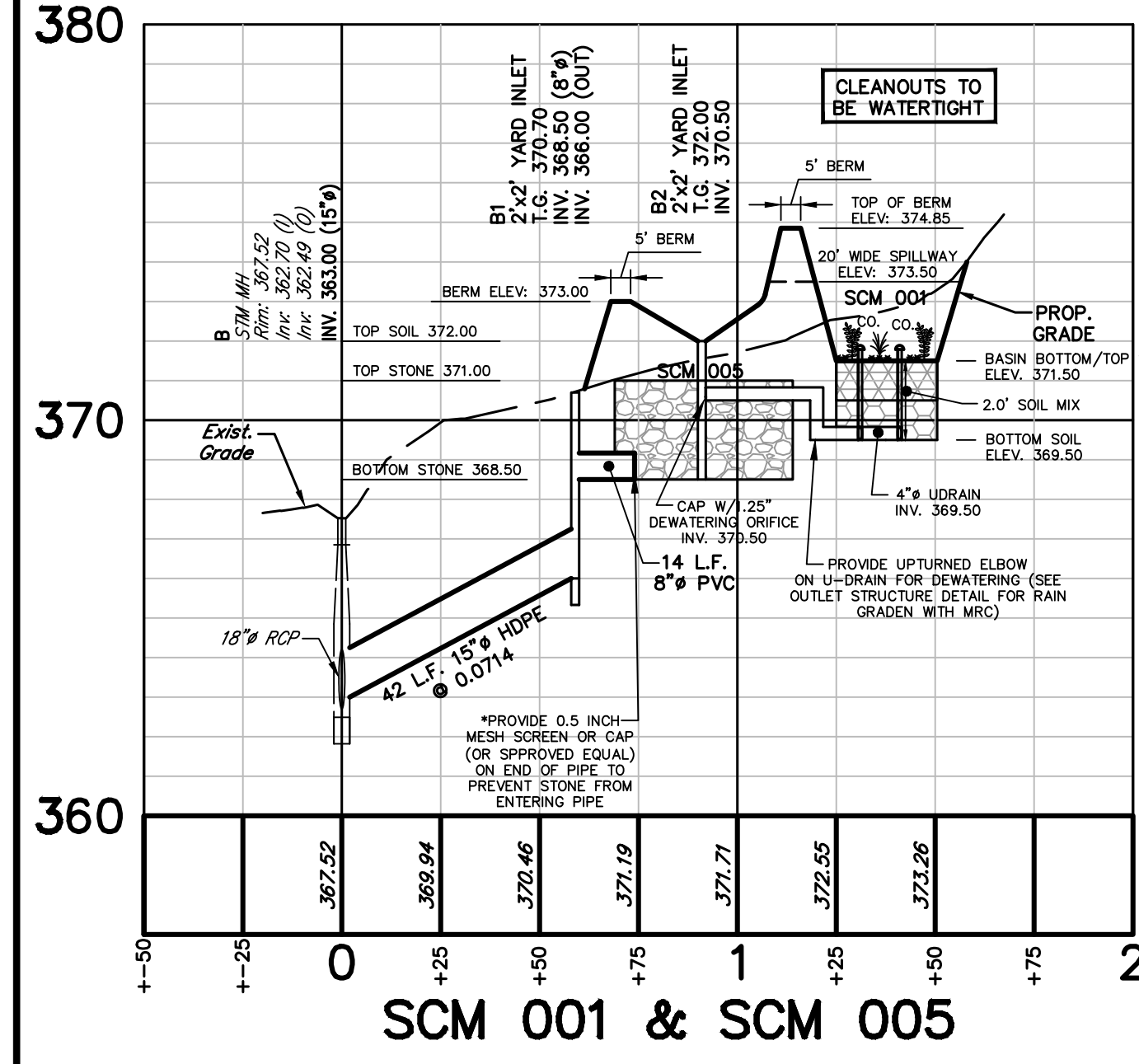


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2	ADM	REVISED PER VARIOUS REVIEWS	NOV. 20, 2025
1	W/P	S.T.A. PLAN ORIGINATION DATE	AUG. 25, 2025

PCSM PLAN
AS PART OF
1512 & 1524 CEDAR HILL ROAD
PREPARED FOR
TISMAN GROUP, LLC
SITE SITUATE IN
LOWER GWYNEDD TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

S T A
Engineering, Inc.
Civil Engineers • Land Surveyors
2499 KNIGHT ROAD, PENNSBURG, PA 18073
PH: (215) 679-0200; www.stotac.com

PLAN SCALE	DRAFTED BY	PROJECT MANAGER	PLAN SHEET NUMBER
1" = 40'	M.J.P.	S.A.R.	9 OF 18
	PROJECT NUMBER	DRAWING FILE NUMBER	
	6571	6571PCSM	



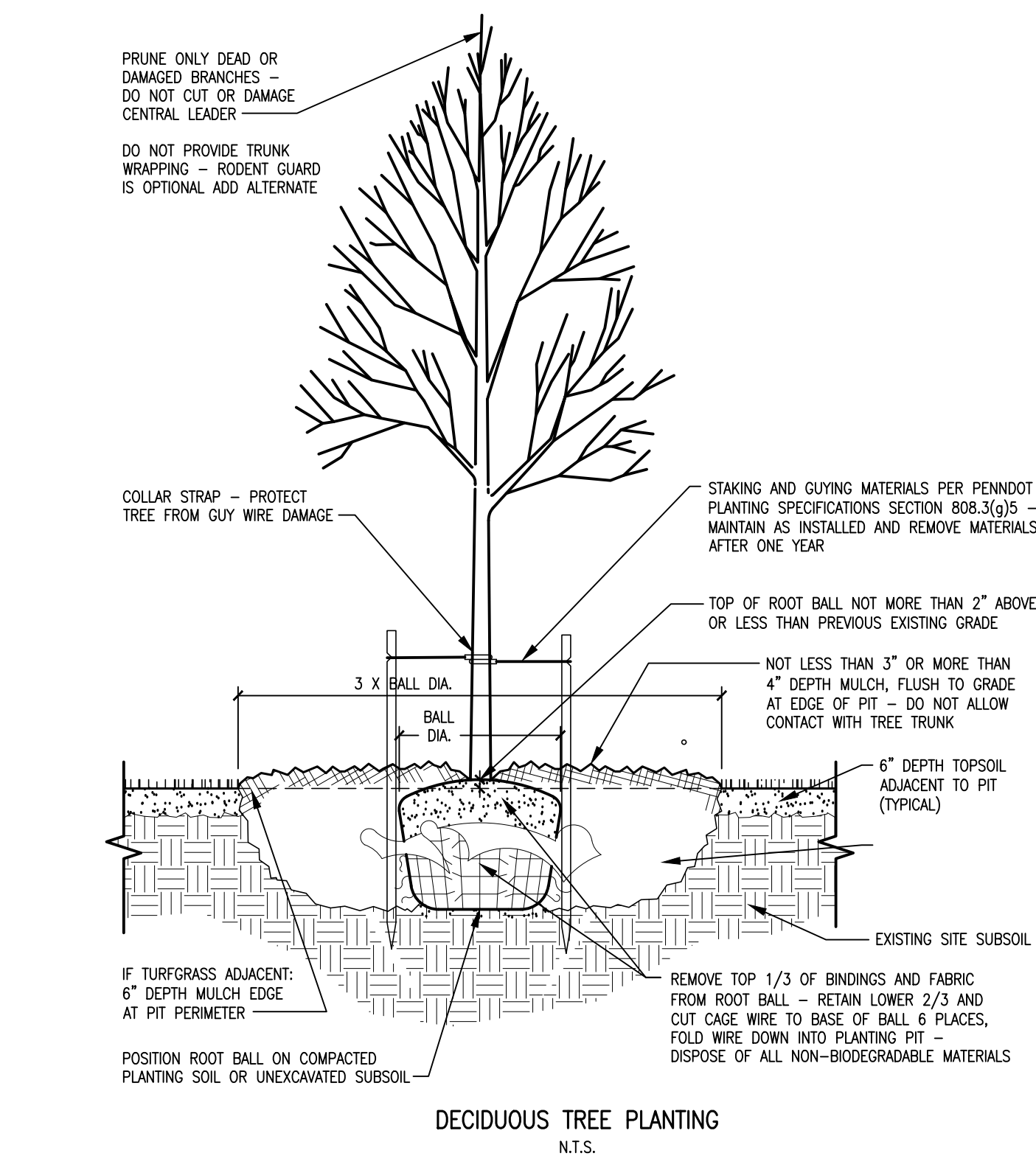
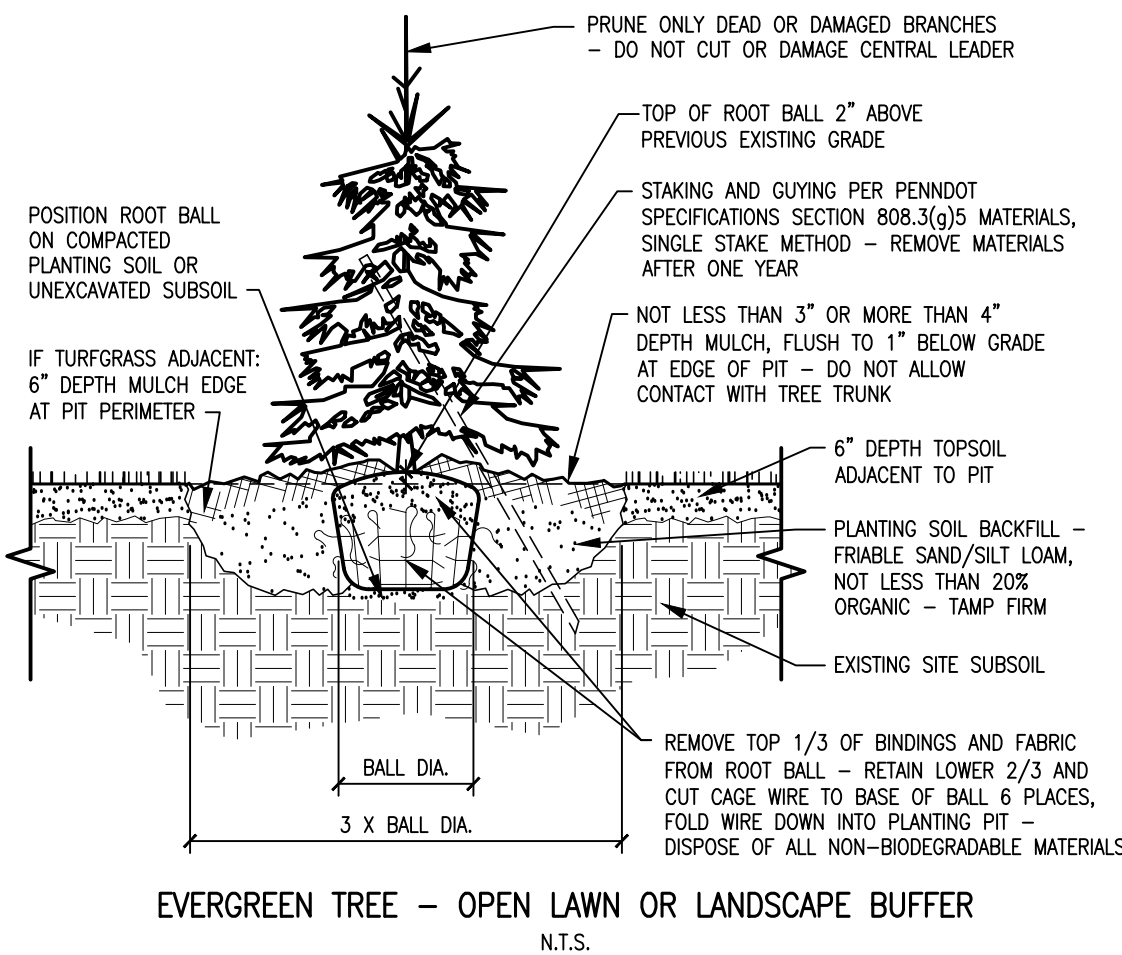
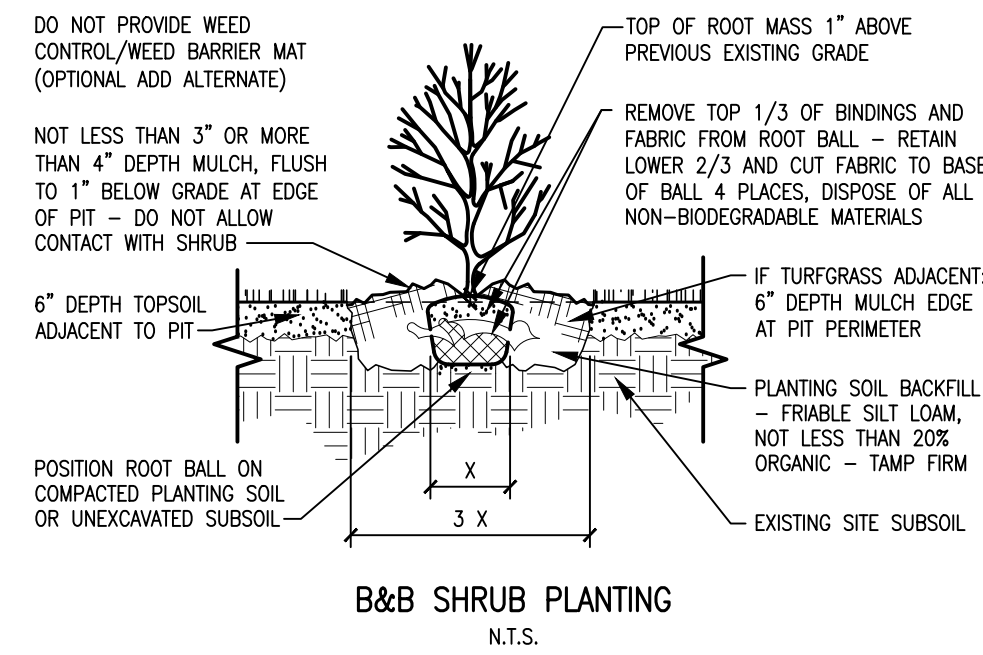
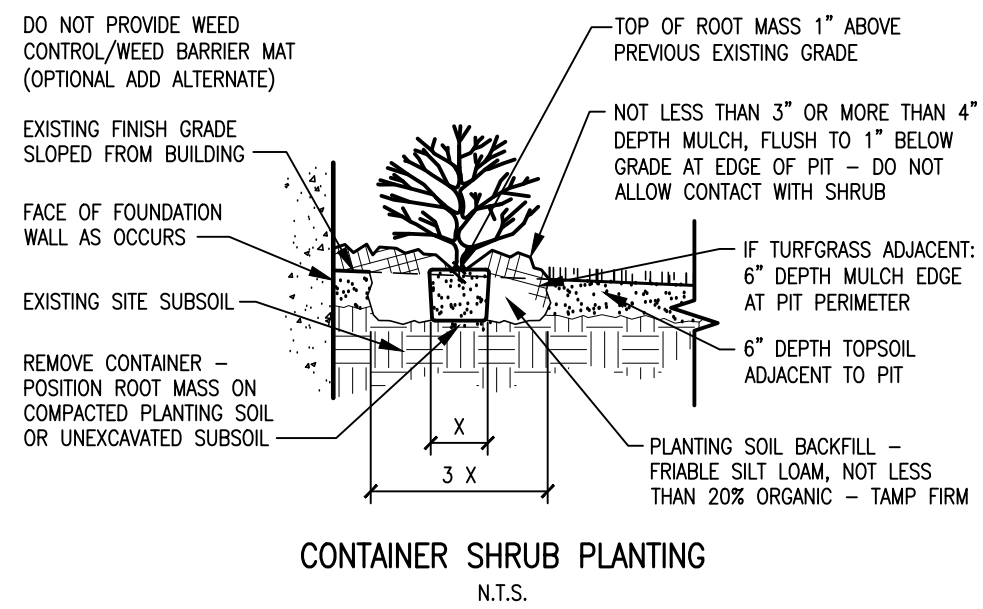
NO.	DESCRIPTION	DATE
3	ADM. REVISED PER VARIOUS REVIEWS	FEB. 27, 2026
2	ADM. REVISED PER VARIOUS REVIEWS	NOV. 20, 2025
1	M.F.P. S.T.A. PLAN ORIGINATOR DATE	AUG. 25, 2025

PCSM DETAIL SHEET
 AS PART OF
1512 & 1524 CEDAR HILL ROAD
 PREPARED FOR
TISMAN GROUP, LLC
 SITE SITUATE IN
 LOWER GWYNEDD TOWNSHIP
 MONTGOMERY COUNTY, PENNSYLVANIA



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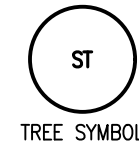
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HORIZONTAL: 1" = 40'	M.J.P.	S.A.R.	11 OF 18
VERTICAL: 1" = 5'	PROJECT NUMBER 6571	DRAWING FILE NUMBER 6571PCSM	



STREET TREES - SECTION 1230.42(a)(1)
REQUIRED: 1 SHADE TREE PER 40 L.F. (ONE SIDE OF STREET)

STREET NAME	STREET LENGTH	REQUIRED TREES	PROVIDED TREES
CEDAR HILL ROAD	817 L.F.	21	21

KEY	BOTANICAL NAME	COMMON NAME
AR	ACER RUBRUM	RED MAPLE (NATIVE)
GT	GLEDITSIA TRIACANTHOS F. INERMIS	THORNLESS HONEYLOCUST
LT	LIRIODENDRON TULIPIFERA	TULIPTREE, TULIP POPLAR (NATIVE)
QA	QUERCUS ALBA	WHITE OAK (NATIVE)



TOTAL: 21 SHADE TREES PROVIDED

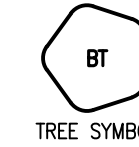
DETENTION BASIN PERIMETER PLANTINGS - SECTION 1230.42(a)(2)
REQUIRED TREES: 1 SHADE TREE PER 30 LINEAR FEET OF BASIN PERIMETER

PROPOSED REPLACEMENT TREES:
1 FLOWERING TREE AND 2 EVERGREEN TREES PER 100 LINEAR FEET OF BASIN PERIMETER

SCM NO.	PERIMETER LENGTH	REQUIRED		REPLACEMENT	
		SHADE TREES	FLOWERING	EVERGREEN	EVERGREEN
001	235 L.F.	8	8	3	6
002	355 L.F.	12	12	4	8
003	355 L.F.	12	12	4	8
004	325 L.F.	11	11	3	6
TOTAL		43	43	14	28

BASIN REQUIRED:

SCM NO.	PERIMETER LENGTH	REQUIRED	PROVIDED	KEY	BOTANICAL NAME	COMMON NAME
4	5	4	4	AR	ACER RUBRUM	RED MAPLE (NATIVE)
1	3	4	2	BN	BETULA NIGRA	RIVER BIRCH (NATIVE)
3	4	4	5	CO	CARYA OVATA	SHAGBARK HICKORY (NATIVE)
TOTAL:	8	12	11			



43 SHADE TREES PROVIDED

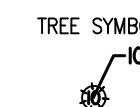
BASIN REPLACEMENT:

SCM NO.	PERIMETER LENGTH	REQUIRED	PROVIDED	KEY	BOTANICAL NAME	COMMON NAME
2	2	0	2	AC	AMELANCHIER CANADENSIS	SHADBLOW SERVICEBERRY (NATIVE)
1	0	2	1	CF	CORNUS FLORIDA	FLOWERING DOGWOOD (NATIVE)
0	2	2	0	MV	MAGNOLIA VIRGINIANA	SWEETBAY MAGNOLIA (NATIVE)
TOTAL:	3	4	3			



14 FLOWERING TREES PROVIDED

SCM NO.	PERIMETER LENGTH	REQUIRED	PROVIDED	KEY	BOTANICAL NAME	COMMON NAME
6	8	8	6	IO	ILEX OPACA	AMERICAN HOLLY (NATIVE)
TOTAL:	6	8	6			

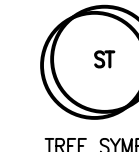


28 EVERGREEN TREES PROVIDED

INTERIOR LANDSCAPING - SECTION 1230.42(b)
REQUIRED: 3 SHADE TREES PER DWELLING

NO. OF DWELLINGS	REQUIRED TREES	PROVIDED TREES
4	12	12

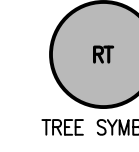
KEY	BOTANICAL NAME	COMMON NAME
AR	ACER RUBRUM	RED MAPLE (NATIVE)
GT	GLEDITSIA TRIACANTHOS F. INERMIS	THORNLESS HONEYLOCUST
LS	LIQUIDAMBAR STYRACIFLUA	SWEET GUM (NATIVE)
LT	LIRIODENDRON TULIPIFERA	TULIPTREE, TULIP POPLAR (NATIVE)



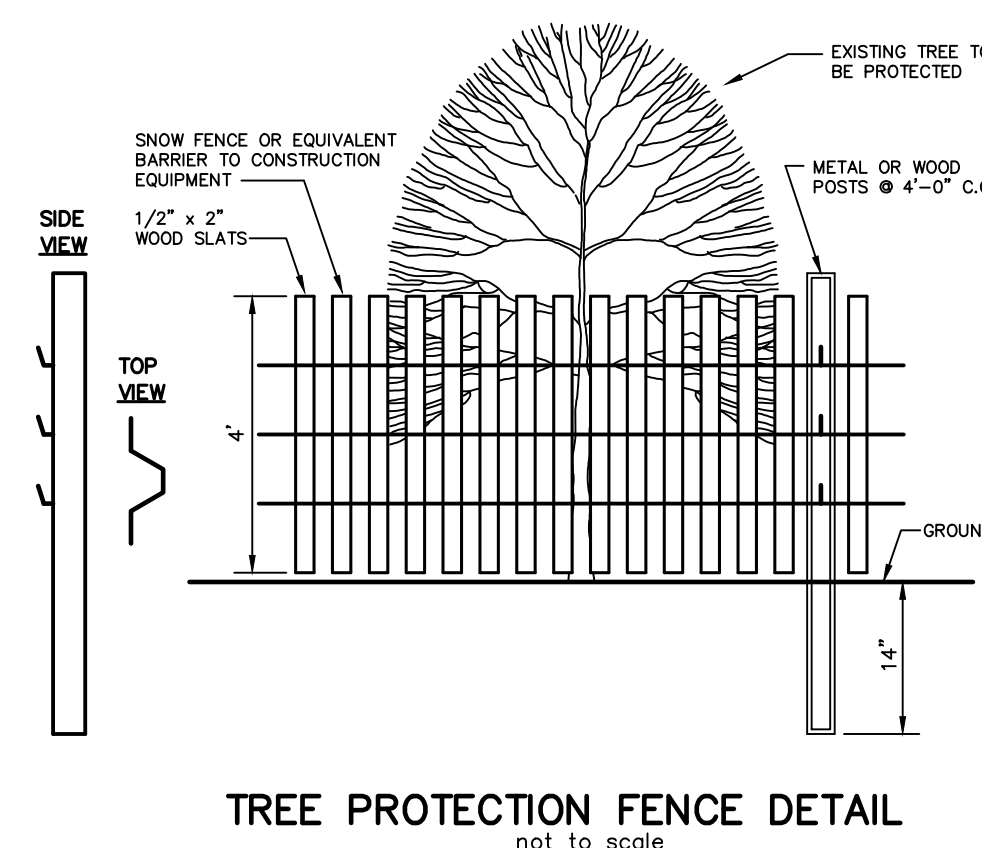
TOTAL: 12 SHADE TREES PROVIDED

ADDITIONAL TREE REPLACEMENT:

KEY	BOTANICAL NAME	COMMON NAME
7	AS	ACER SACCHARUM
8	LS	LIQUIDAMBAR STYRACIFLUA
7	LT	LIRIODENDRON TULIPIFERA
7	QA	QUERCUS ALBA
7	ZS	ZELKOVA SERRATA



TOTAL: 36 SHADE TREES PROVIDED



REPLACEMENT TREE EQUIVALENTS	
REPLACEMENT TREE CALIPER INCHES REQUIRED -	274 INCHES OR 79 TREES BASED ON 3.5" CAL.
- 36 SHADE TREES OF 3.5" CAL. = 80.5 INCHES	
- 21 BASIN FLOWERING/EVERGREEN EQUIVALENTS (10 FT. MIN. HT.) 14 FLOWERING TREES + 28 EVERGREEN TREES = 42/2 = 21 EQUIVALENTS	
- 6 UPSIZED STREET TREES (3.5" CAL.) 3.5"-2.5" (REQ. STREET TREE SIZE) = 1.0 ADDITIONAL INCH PER TREE 21 STREET TREES x 1.0" = 21"/3.5" = 6 EQUIVALENTS	
- 16 UPSIZED BASIN SHADE AND INTERIOR LANDSCAPE TREES (3.5" CAL.) 3.5"-2.5" (REQ. BASIN/INTERIOR LANDSCAPE TREE SIZE) = 1.0 ADDITIONAL INCH PER TREE [43 BASIN SHADE TREES + 12 INTERIOR LANDSCAPE TREES] x 1.0" = 55"/3.5" = 16 EQUIVALENTS	
TOTAL REPLACEMENT TREES PROVIDED -	79 TREES

PCSM LANDSCAPE DETAIL SHEET

AS PART OF

1512 & 1524 CEDAR HILL ROAD

PREPARED FOR

TISMAN GROUP, LLC

SITE SITUATE IN

LOWER GWYNEDD TOWNSHIP
MONTGOMERY COUNTY

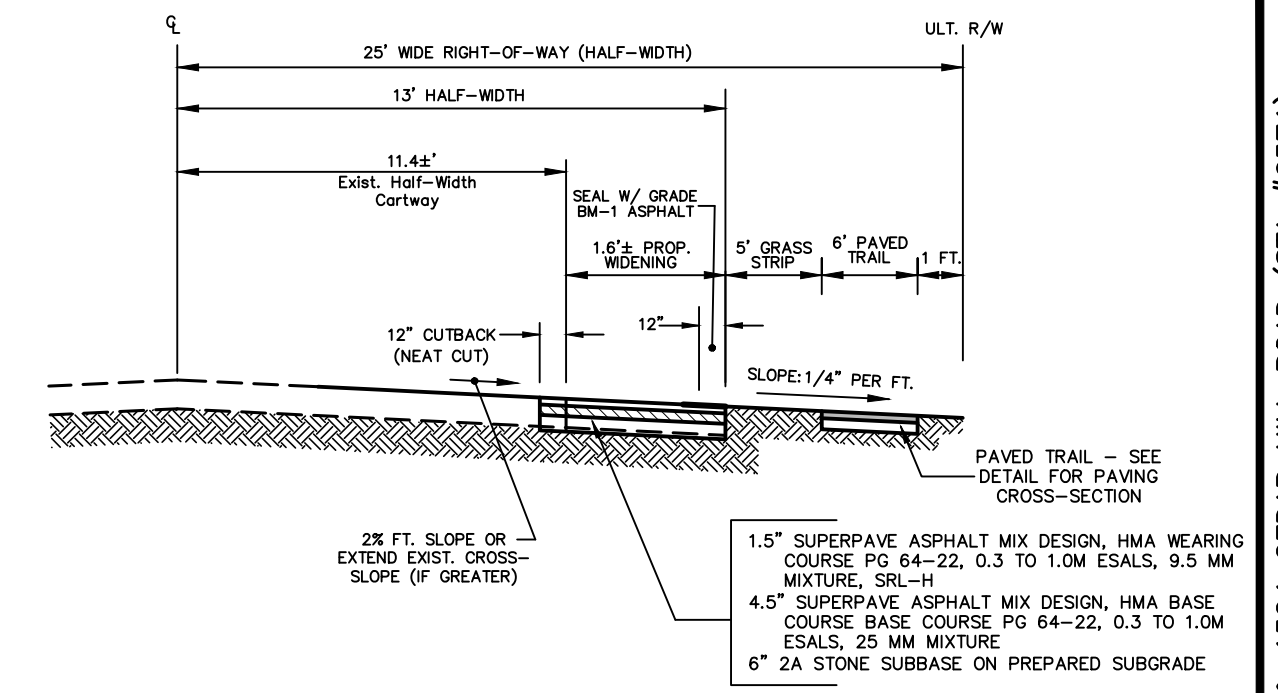
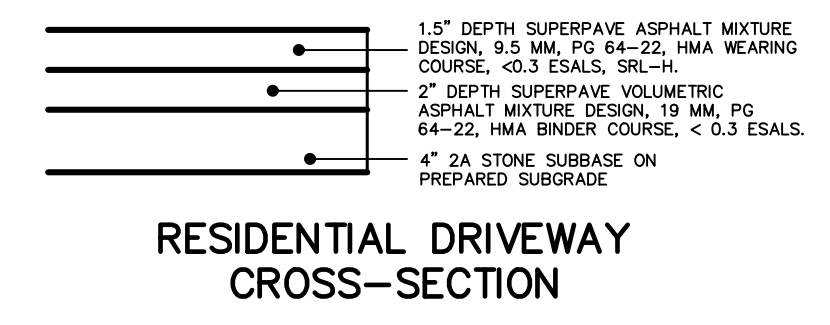
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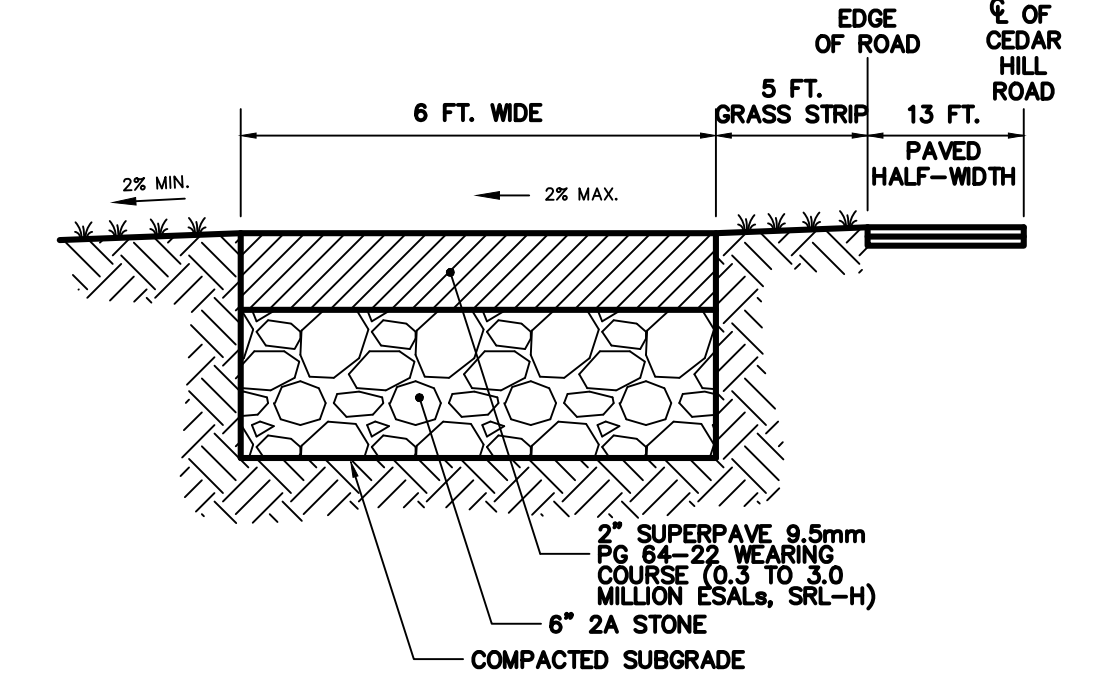
PLAN SCALE	DRAFTED BY	PROJECT MANAGER	PLAN SHEET NUMBER
HORIZONTAL	M.J.P.	S.A.R.	
N.T.S.	PROJECT NUMBER	DRAWING FILE NUMBER	13 OF 18
	6571	6571LA	

1512 & 1524 CEDAR HILL ROAD (STA #6571)

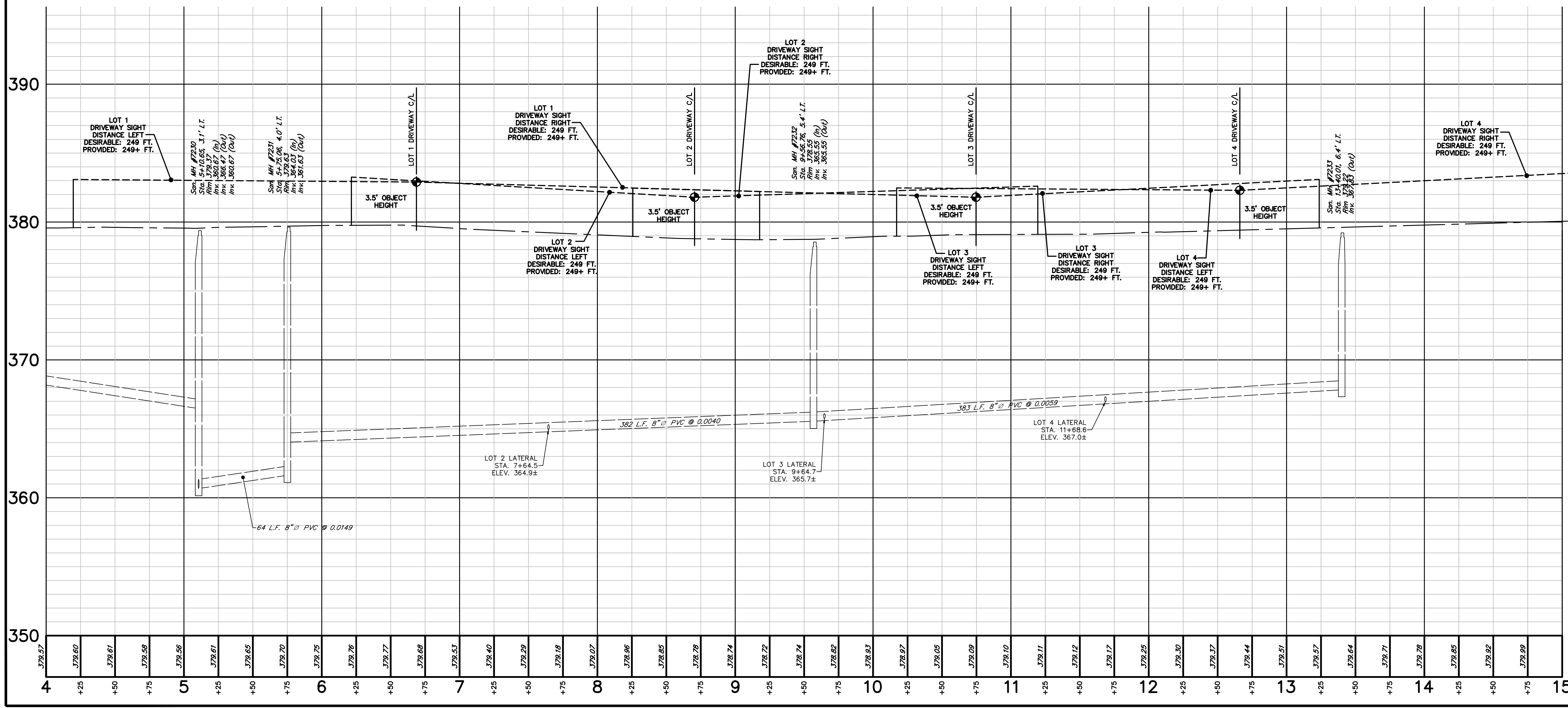
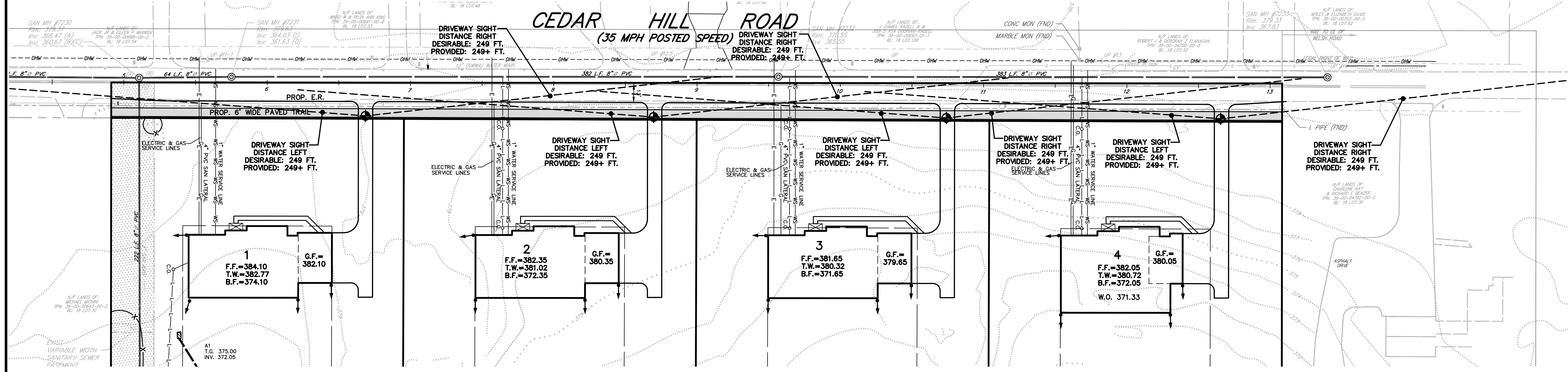


- NOTES:
 1. ALL SUBGRADE AREAS TO BE COMPACTED AND APPROVED PRIOR TO PLACEMENT OF MATERIALS.
 2. BASE UNDERDRAIN TO BE INSTALLED AS DIRECTED BY MUNICIPAL ENGINEER.

TYPICAL HALF-SECTION CEDAR HILL ROAD WIDENING N.T.S.

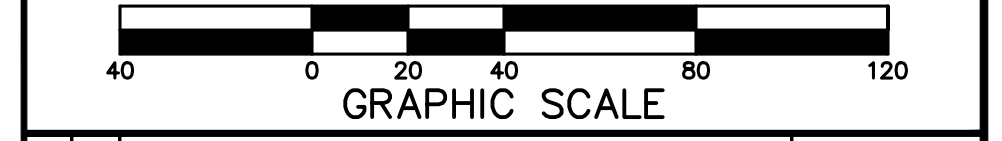
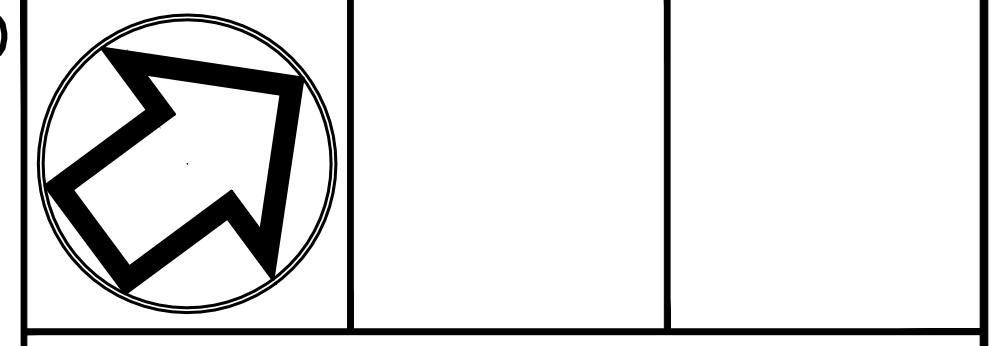


6 FT. BITUMINOUS TRAIL DETAIL



NOTES

- CONSTRUCTION OF ALL SANITARY SEWER FACILITIES AND APPURTENANCES SHALL BE PERFORMED IN ACCORDANCE WITH LOWER GWYNEDD TOWNSHIP STANDARDS AND SPECIFICATIONS.
- ALL SANITARY SEWER SHALL HAVE A MINIMUM HORIZONTAL SEPARATION OF 10 FEET AND A MINIMUM VERTICAL SEPARATION OF 18 INCHES FROM ALL UTILITIES.
- SANITARY SEWER LATERALS SHALL HAVE A MINIMUM OF 4 FEET OF COVER.
- THE PROPOSED SANITARY SEWER LATERAL WITHIN THE RIGHT-OF-WAY OR EASEMENT SHALL BE 6-INCH PVC.
- THE SANITARY SEWER LATERAL CONNECTION TO EXISTING LOWER GWYNEDD TOWNSHIP SANITARY SEWER MAY BE INSTALLED WITH A WYE SADDLE IN ACCORDANCE WITH LOWER GWYNEDD TOWNSHIP STANDARDS AND SPECIFICATIONS.

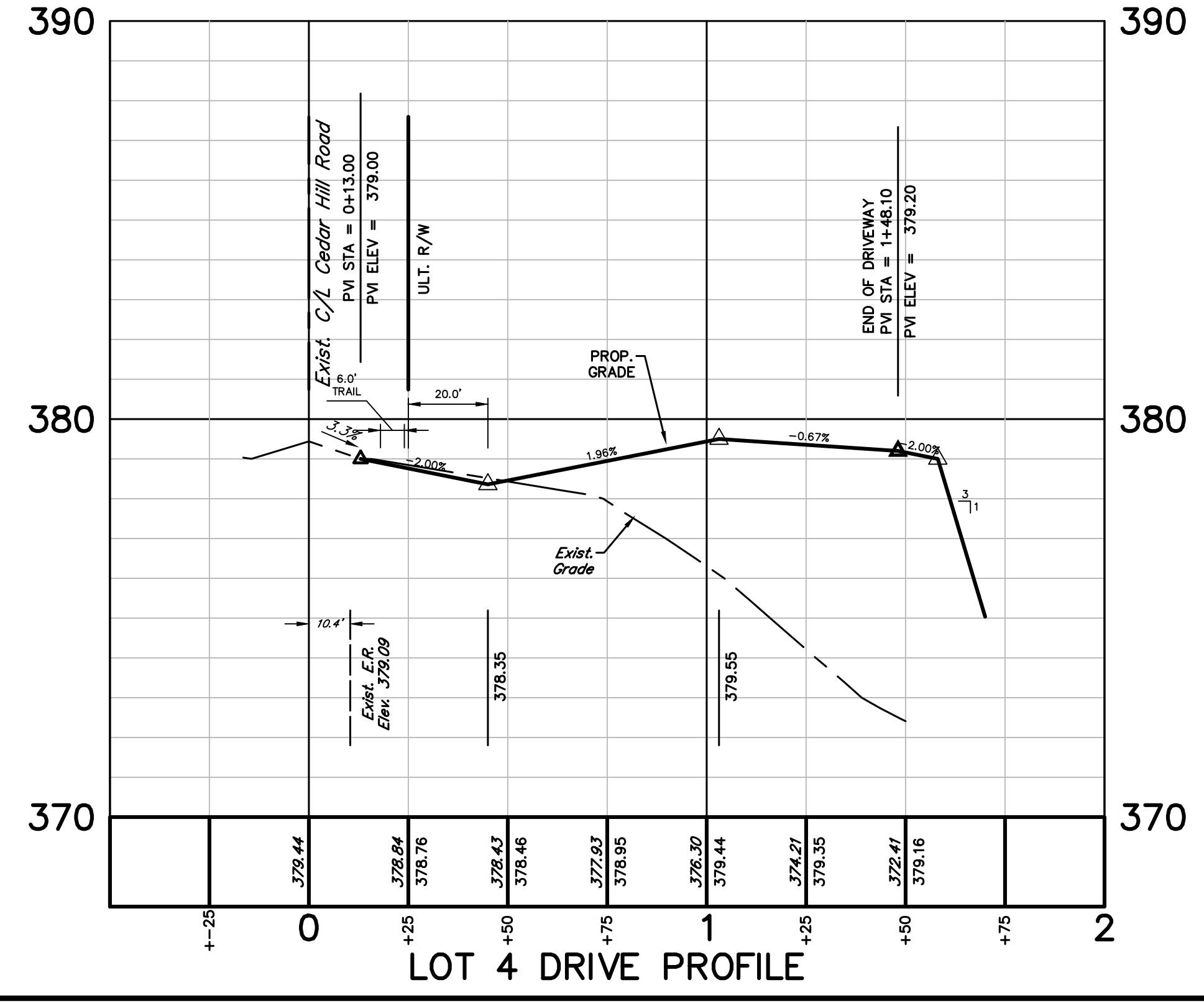
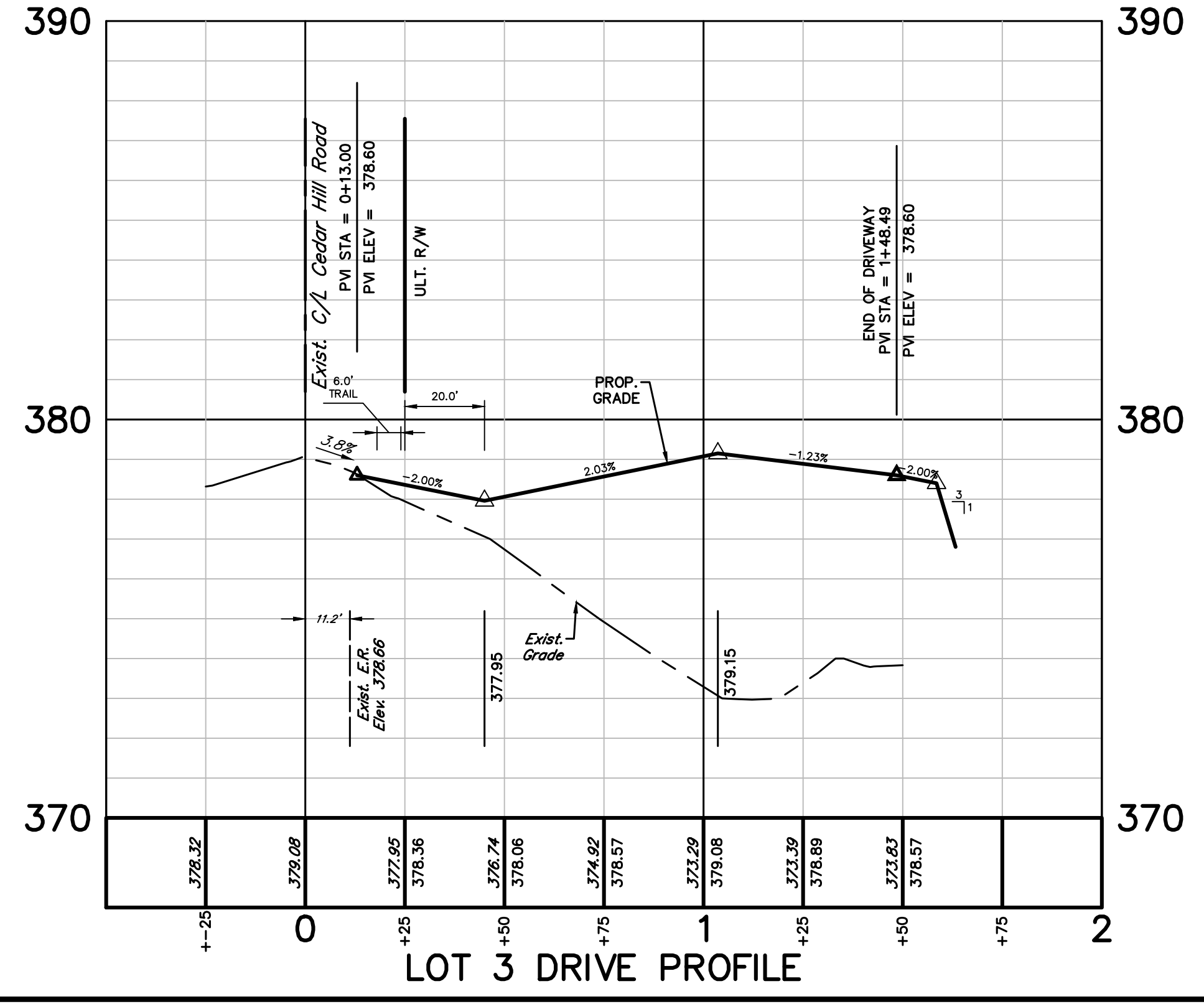
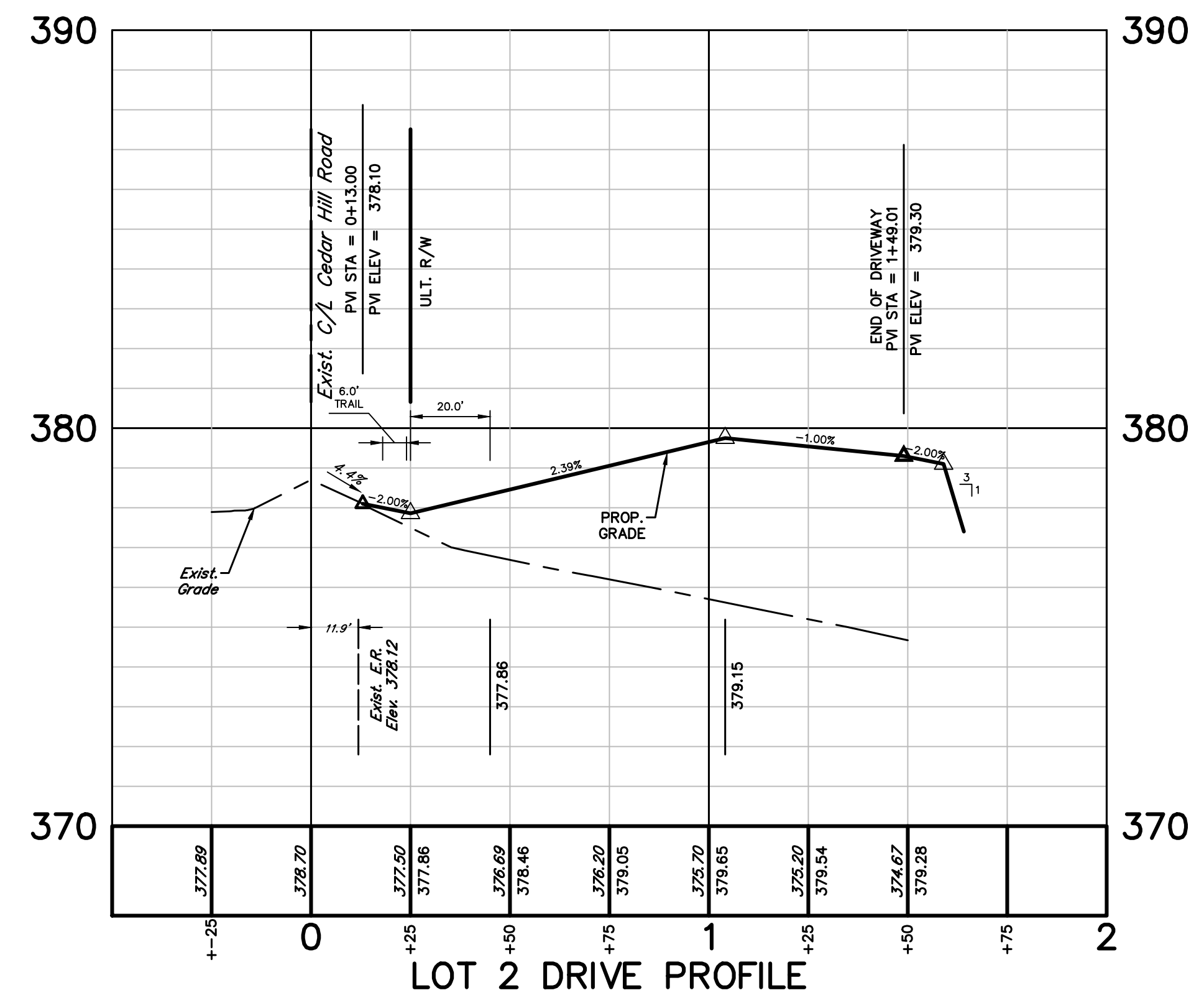
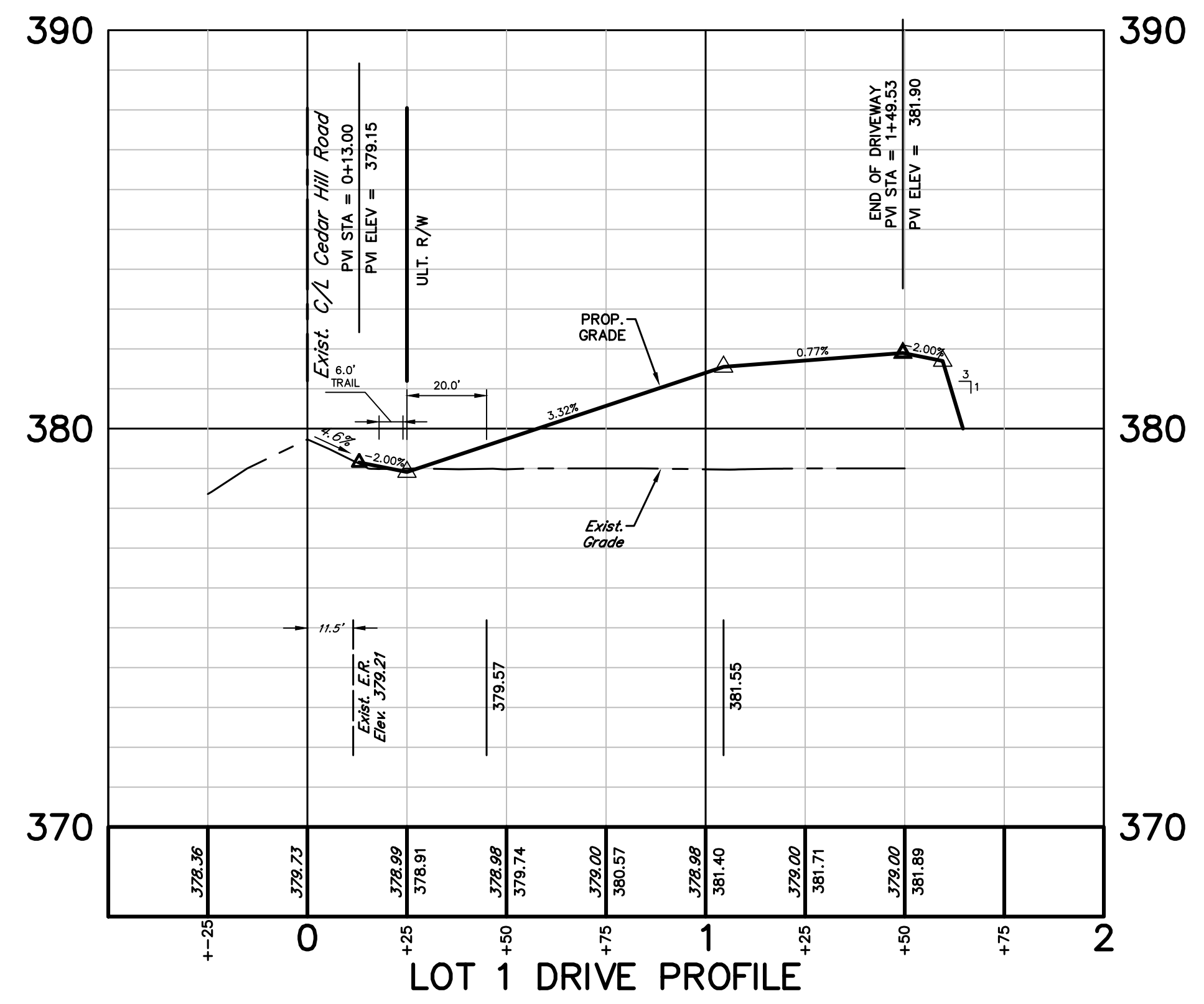
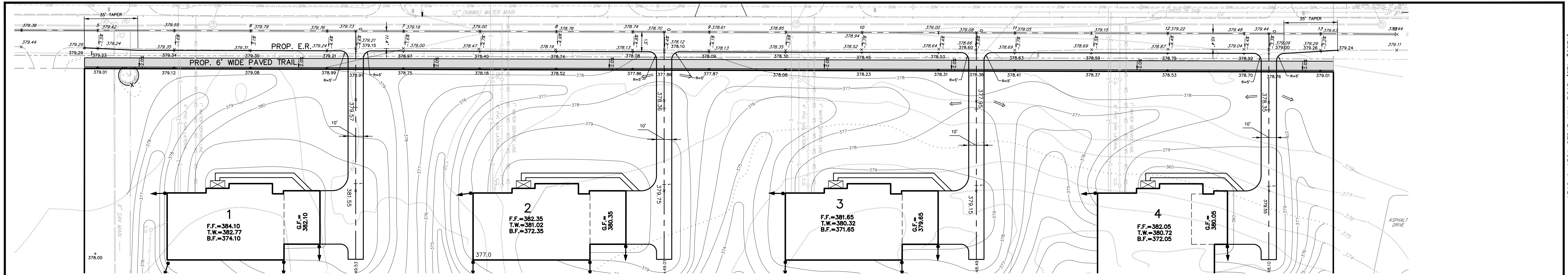


2	ADM	REVISED PER VARIOUS REVIEWS	NOV. 20, 2025
1	M.P.	S.T.A. PLAN ORIGINATOR DATE	AUG. 25, 2025

PLAN, PROFILE, AND DETAIL SHEET OF CEDAR HILL ROAD AS PART OF 1512 & 1524 CEDAR HILL ROAD PREPARED FOR TISMAN GROUP, LLC SITE SITUATE IN LOWER GWYNEDD TOWNSHIP MONTGOMERY COUNTY

S T A
 Engineering, Inc.
 Civil Engineers • Land Surveyors
 2499 KNIGHT ROAD, PENNSBURG, PA 18073
 PH: (215) 679-0200; www.stotac.com

PLAN SCALE	DRAFTED BY	PROJECT MANAGER	PLAN SHEET NUMBER
HORIZONTAL: 1" = 40'	M.J.P.	S.A.R.	14 OF 18
VERTICAL: 1" = 4'	PROJECT NUMBER	DRAWING FILE NUMBER	
	6571	6571RD	



GRAPHIC SCALE

3	ADM	REVISED PER VARIOUS REVIEWS	FEB. 27, 2026
2	ADM	REVISED PER VARIOUS REVIEWS	NOV. 20, 2025
1	M.P.	S.T.A. PLAN ORIGINATION DATE	AUG. 25, 2025

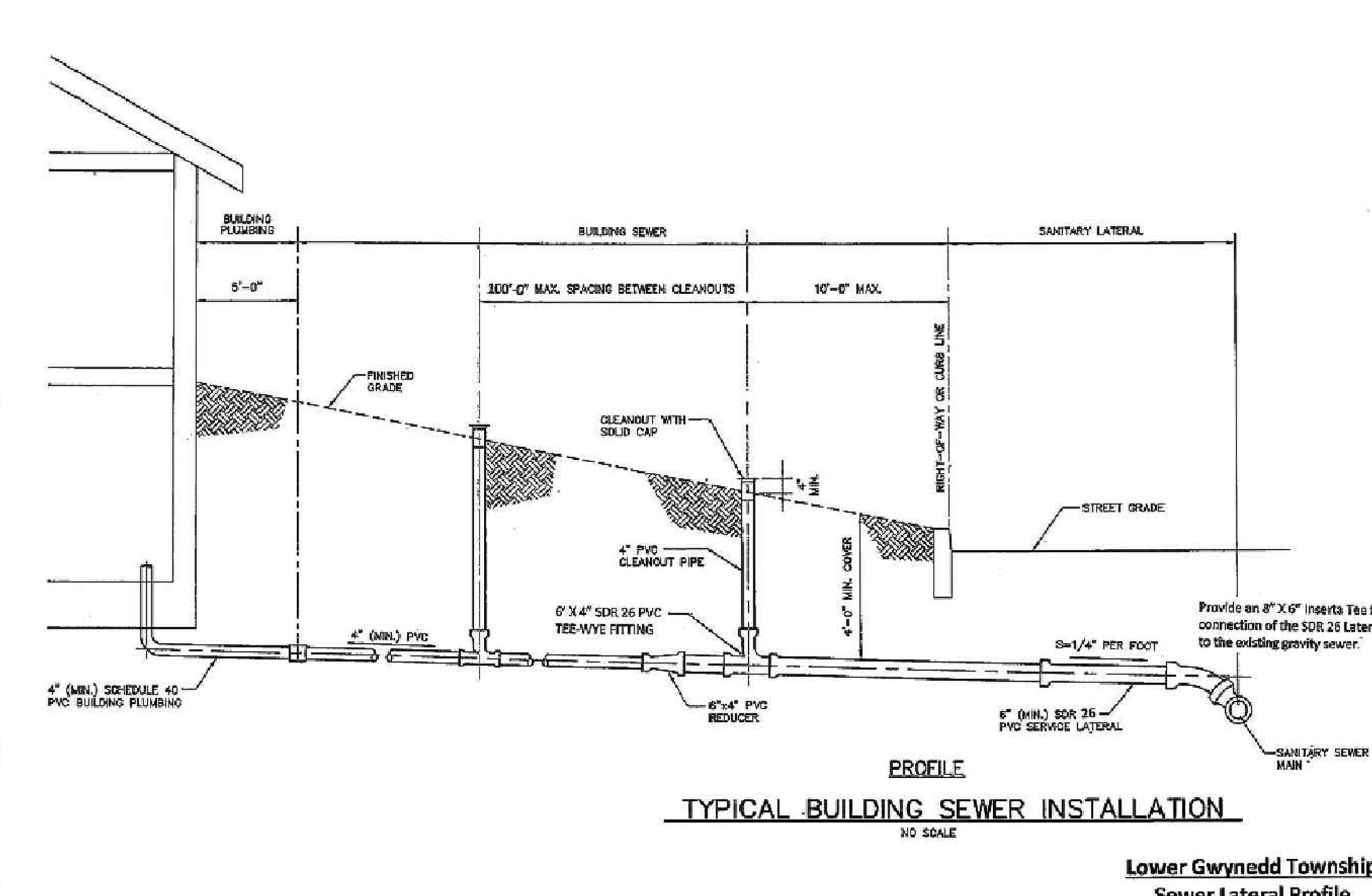
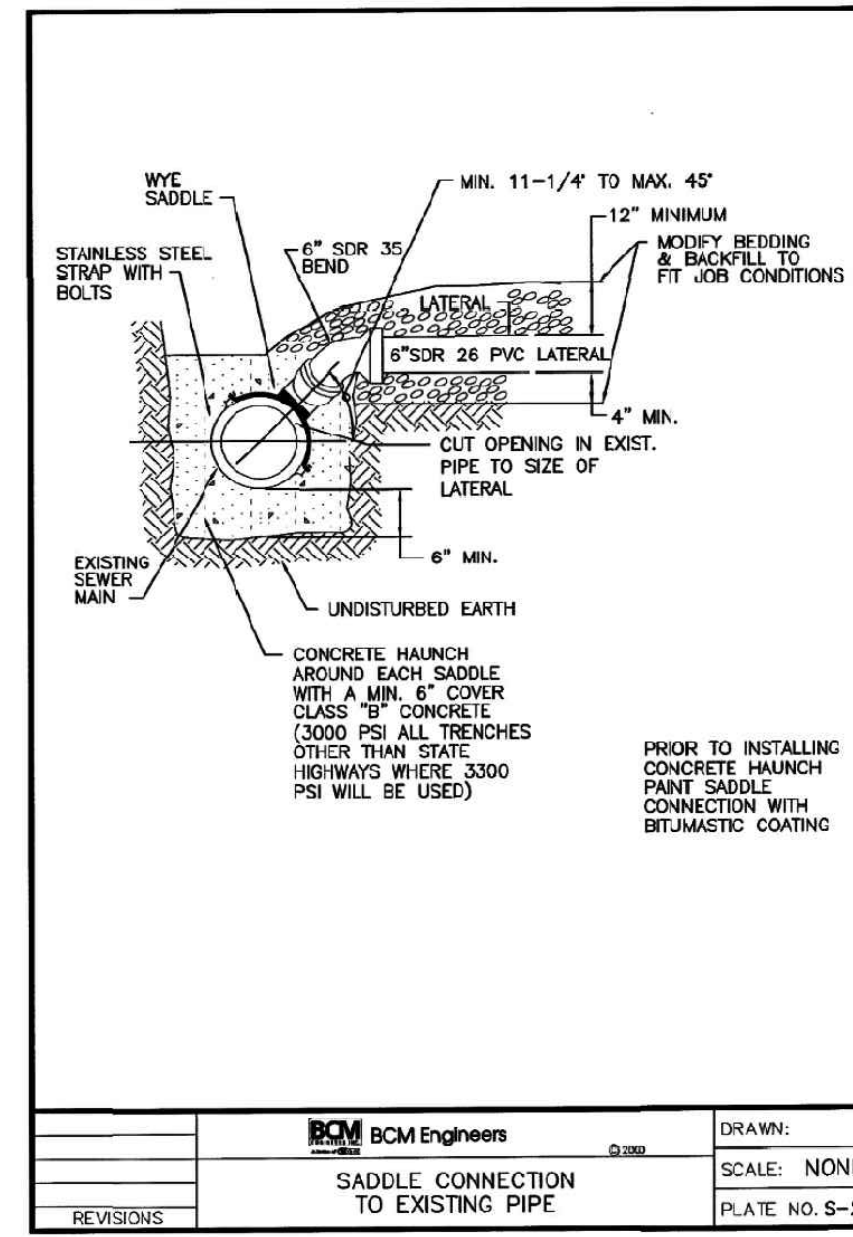
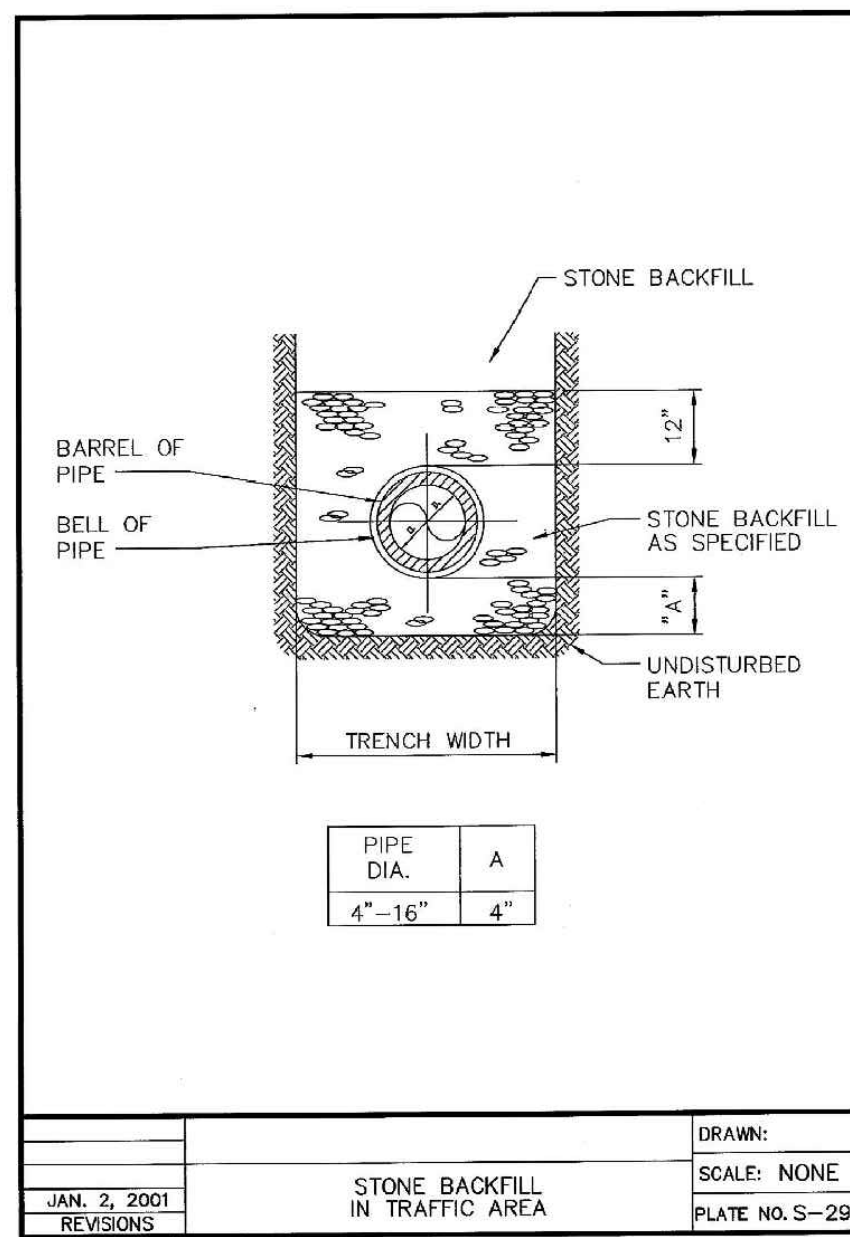
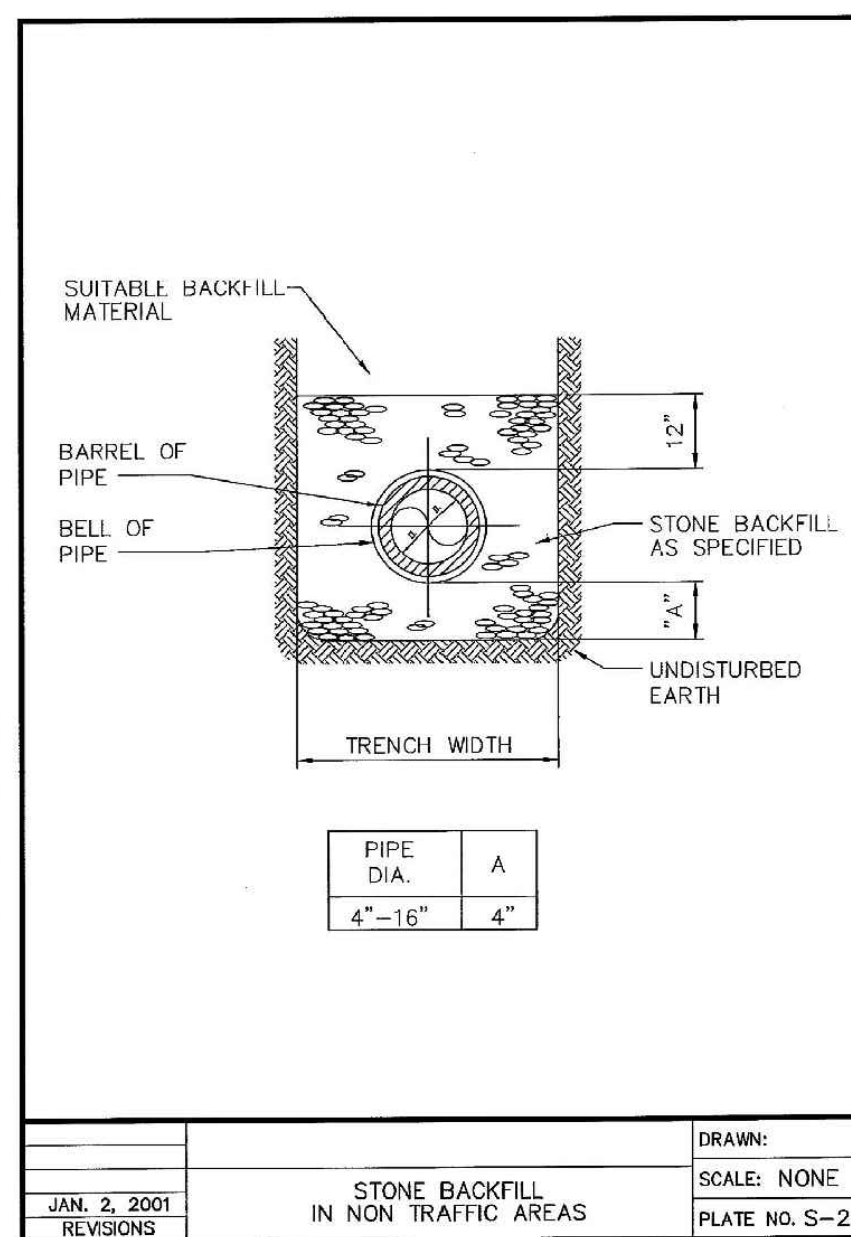
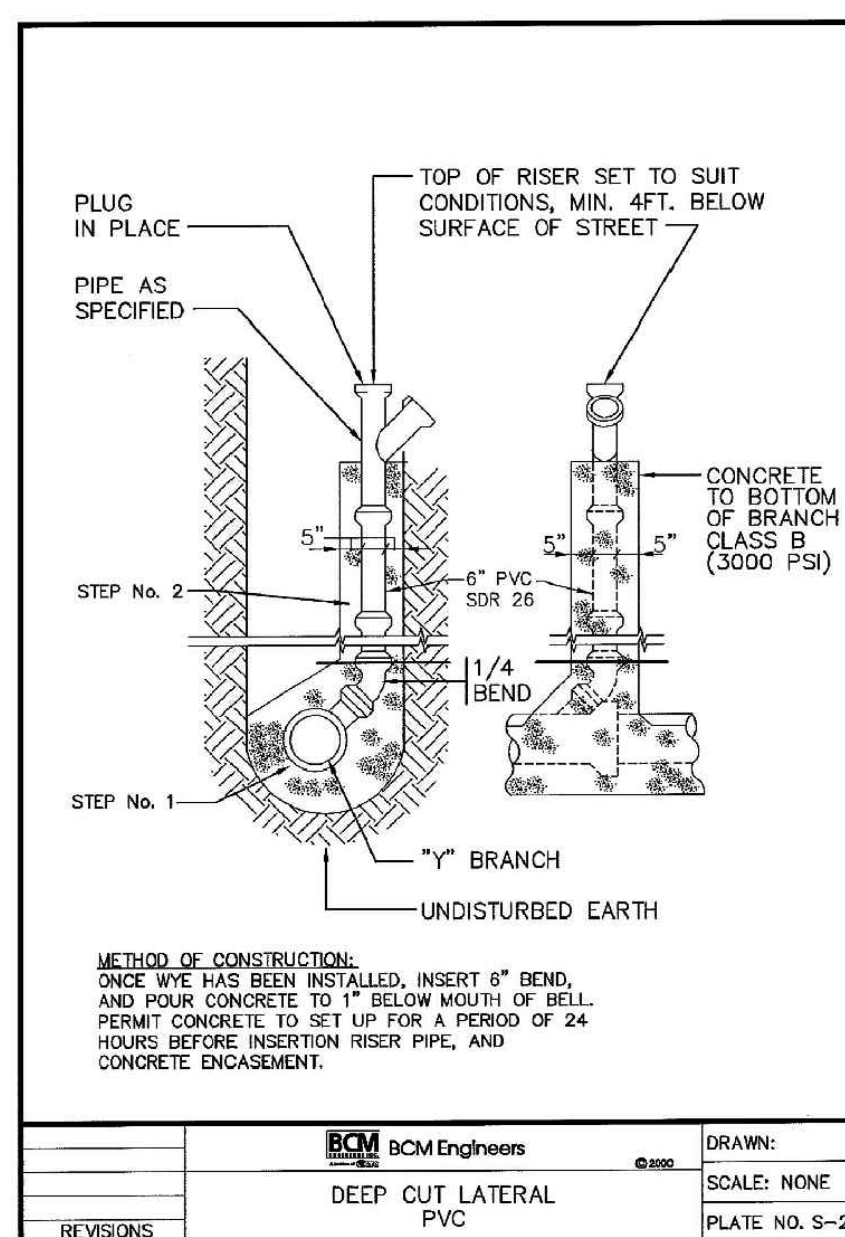
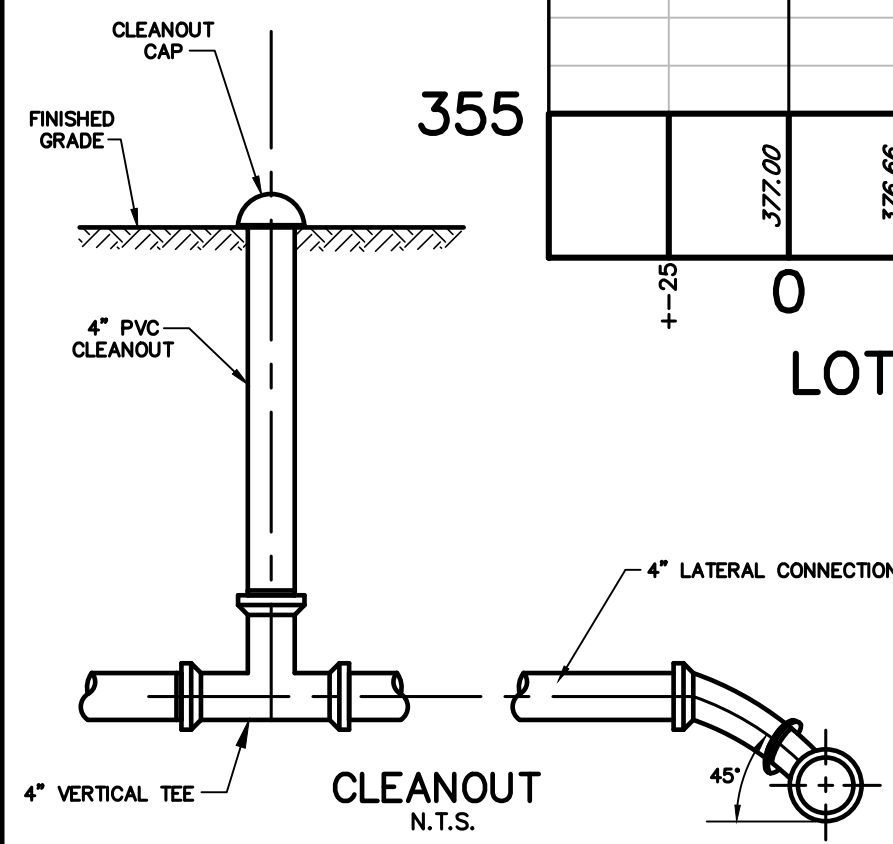
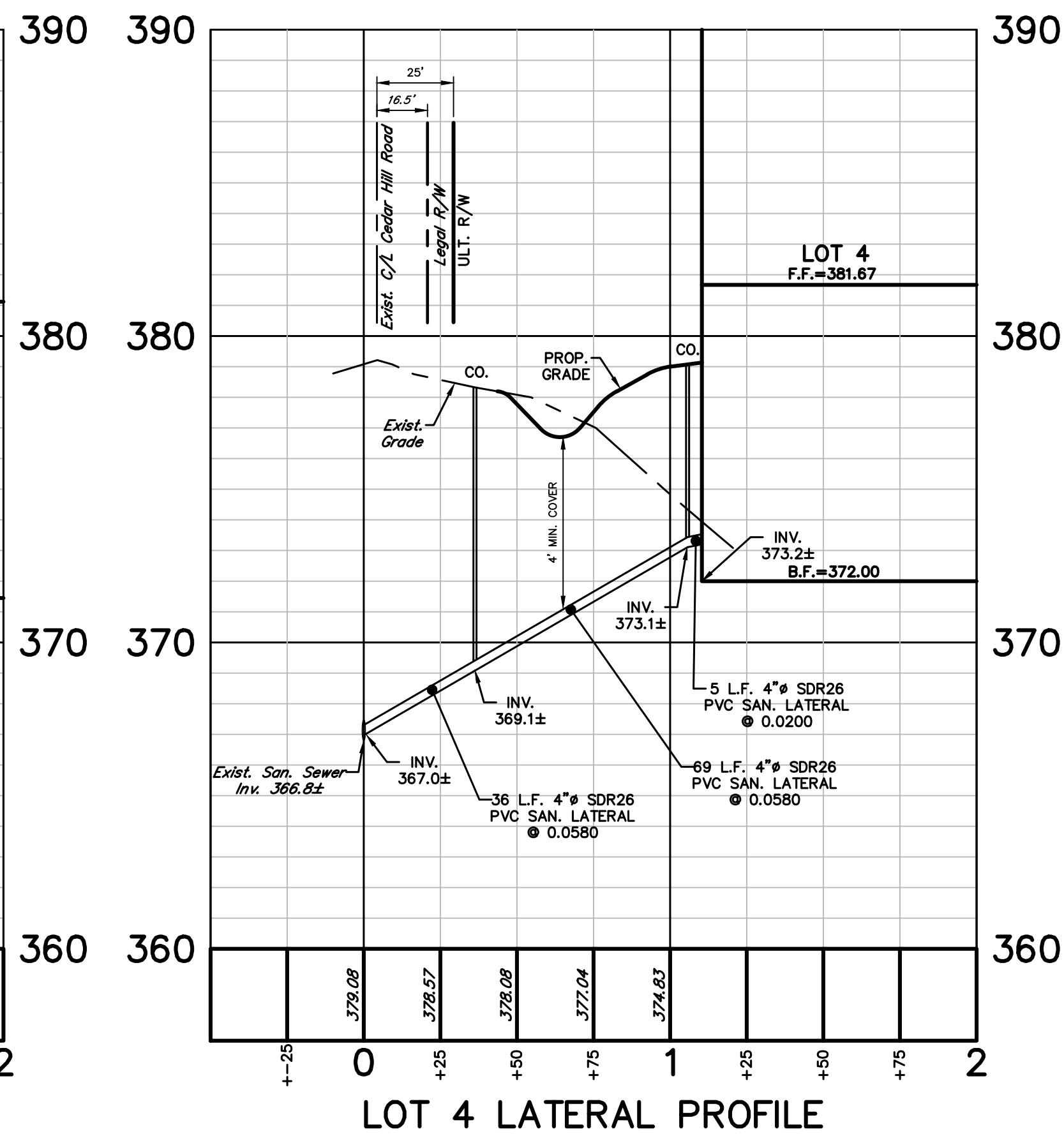
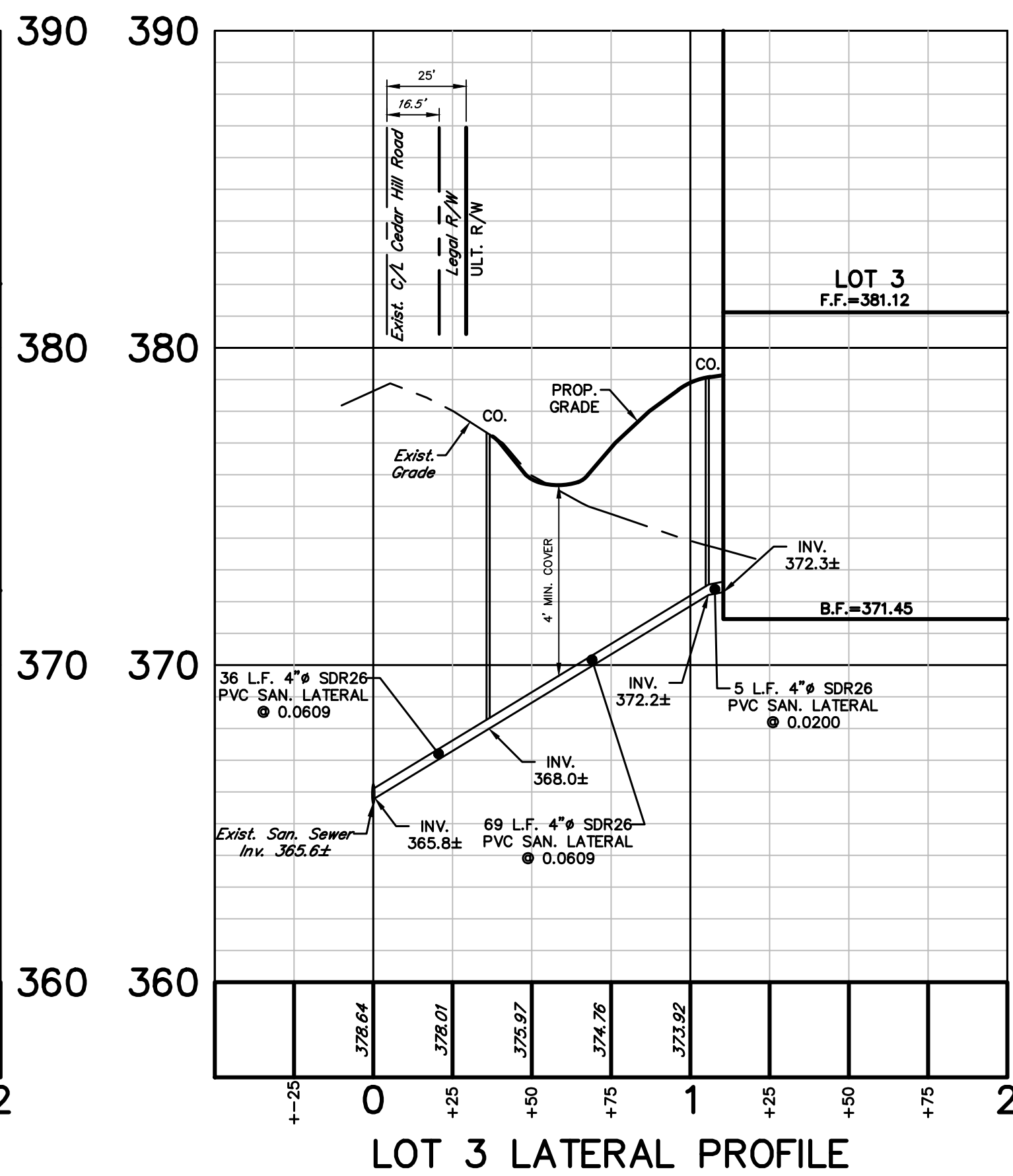
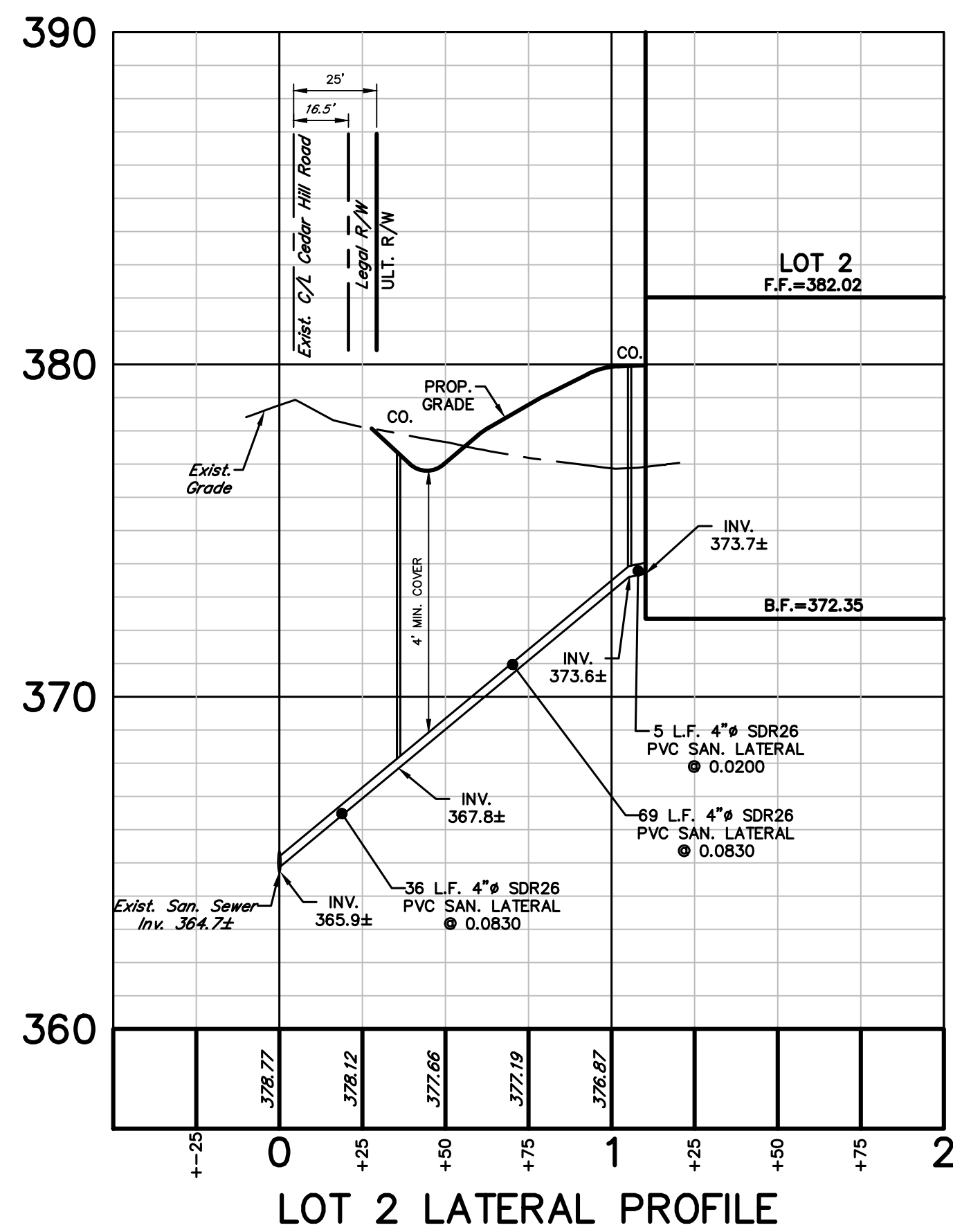
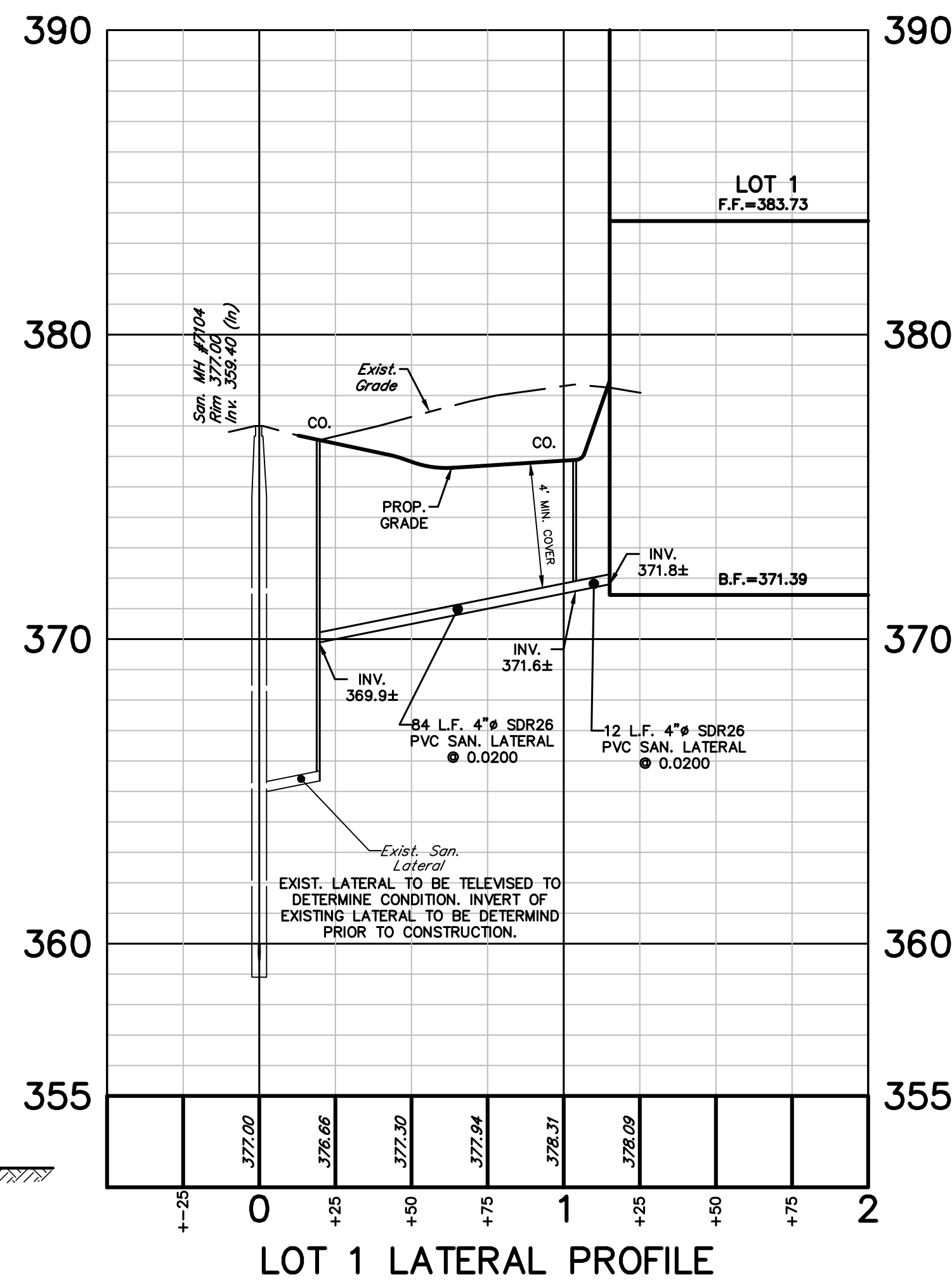
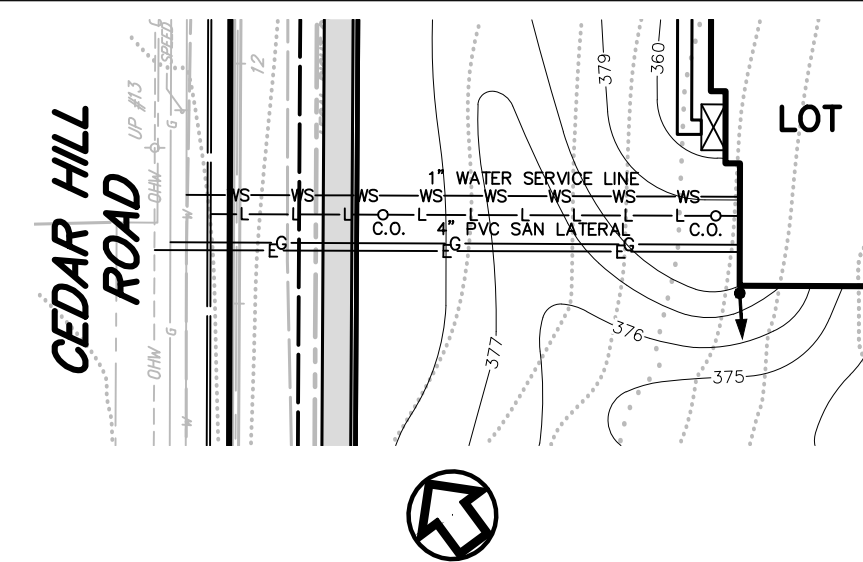
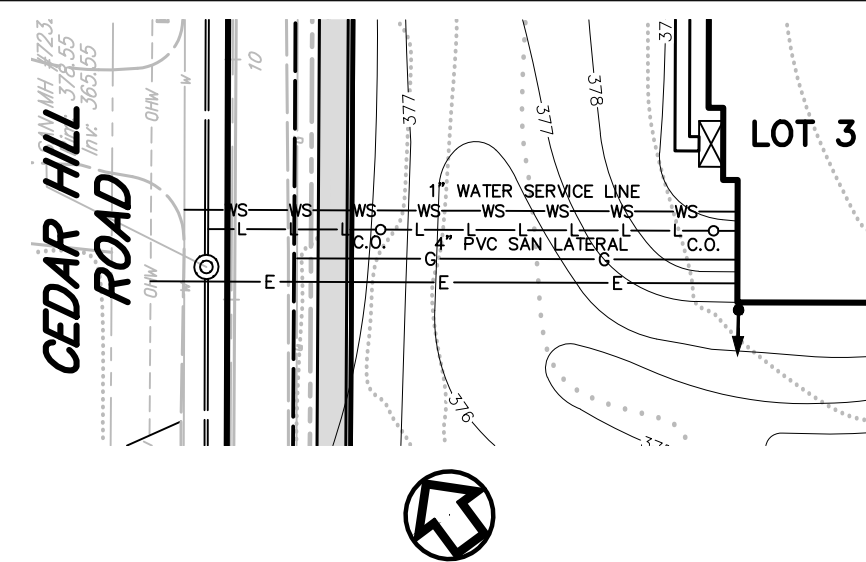
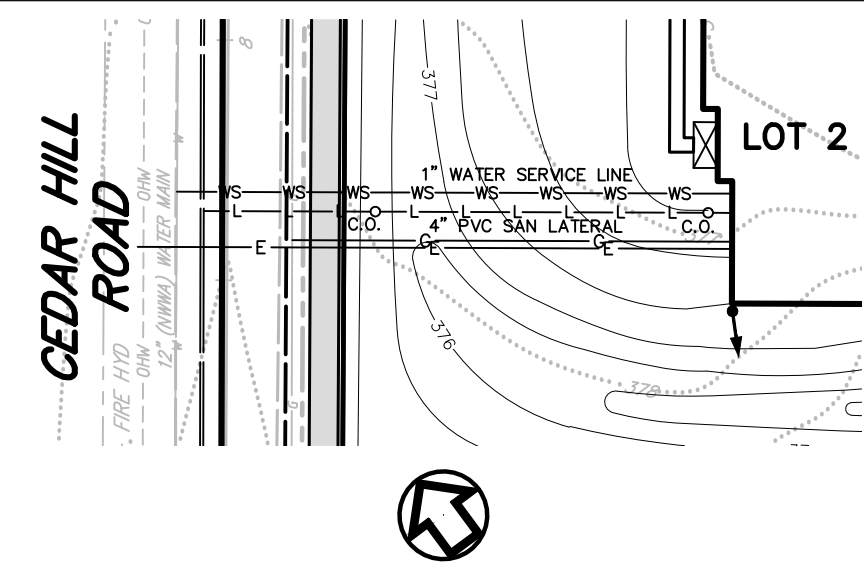
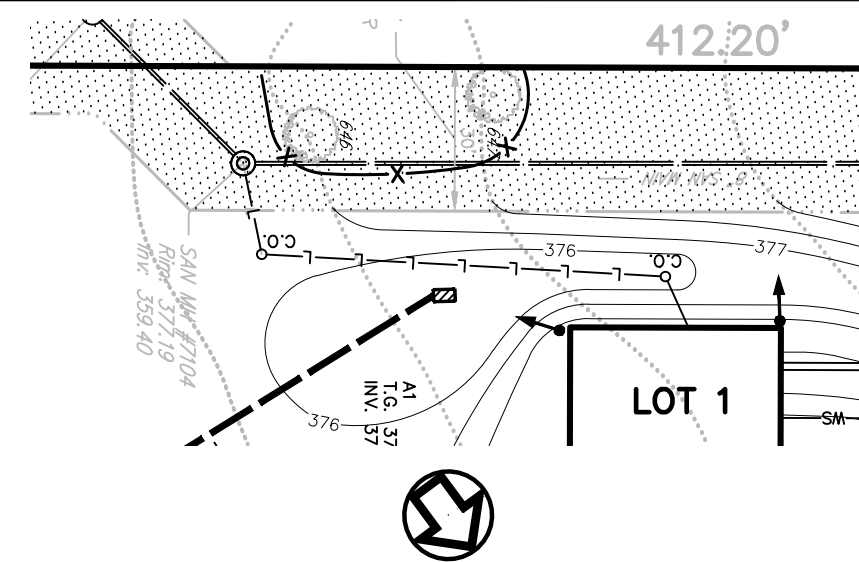
CEDAR HILL ROAD GRADING & DRIVEWAY PROFILES
OF
CEDAR HILL ROAD
AS PART OF
1512 & 1524 CEDAR HILL ROAD
PREPARED FOR
TISMAN GROUP, LLC
SITE SITUATE IN
LOWER GWYNEDD TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

S T A
Engineering, Inc.

Civil Engineers • Land Surveyors
2499 KNIGHT ROAD, PENNSBURG, PA 18073
PH: (215) 679-0200; www.stotac.com

PLAN SCALE	DRAFTED BY	PROJECT MANAGER	PLAN SHEET NUMBER
HORIZONTAL:	M.J.P.	S.A.R.	
VERTICAL:	PROJECT NUMBER	DRAWING FILE NUMBER	
1" = 30'	6571	6571PDRV	15 OF 18

1512 & 1524 CEDAR HILL ROAD (STA #6571)



GRAPHIC SCALE

3	ADM	REVISED PER VARIOUS REVIEWS	FEB. 27, 2026
2	ADM	REVISED PER VARIOUS REVIEWS	NOV. 20, 2025
1	M.F.P.	S.T.A. PLAN ORIGIN DATE	AUG. 25, 2025

SANITARY SEWER PROFILE AND DETAIL SHEET
 OF
CEDAR HILL ROAD
 AS PART OF
1512 & 1524 CEDAR HILL ROAD
 PREPARED FOR
TISMAN GROUP, LLC
 SITE SITUATE IN
 LOWER GWYNEDD TOWNSHIP
 MONTGOMERY COUNTY, PENNSYLVANIA

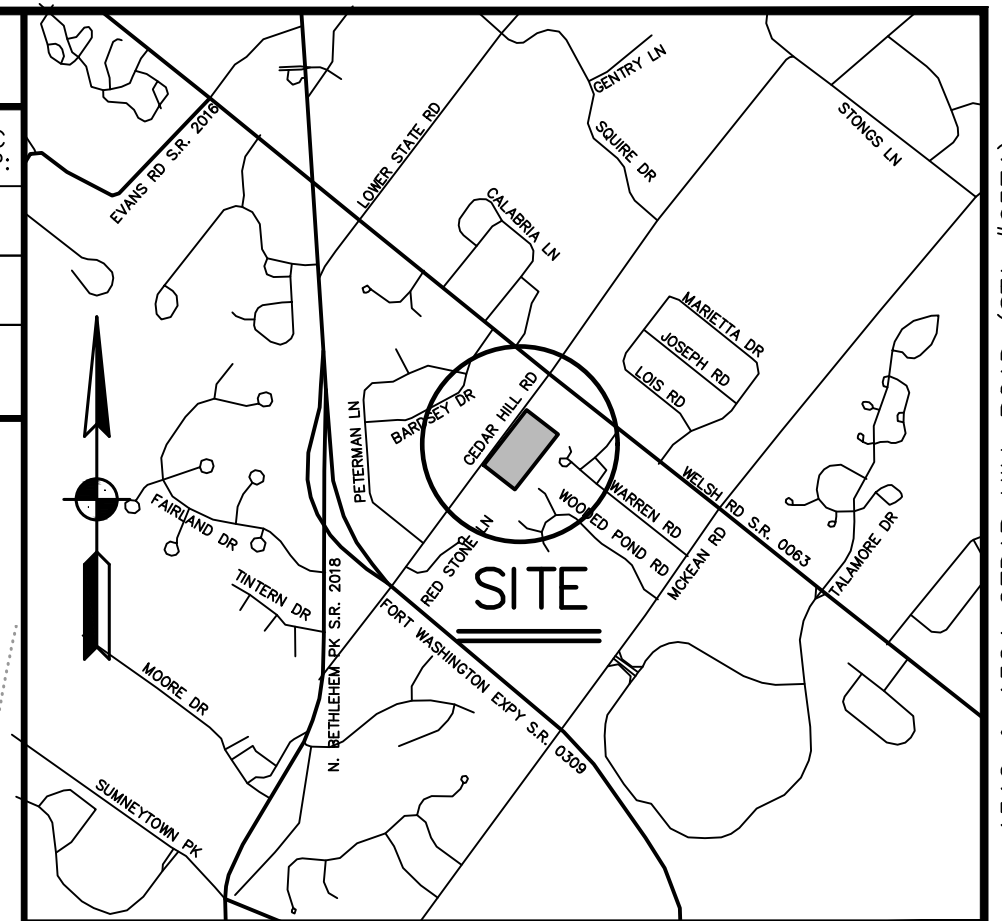
Civil Engineers • Land Surveyors
 2499 KNIGHT ROAD, PENNSBURG, PA 18073
 PH: (215) 679-0200; www.stotac.com

PLAN SCALE	DRAFTED BY	PROJECT MANAGER	PLAN SHEET NUMBER
HORIZONTAL: 1" = 40'	M.J.P.	S.A.R.	
VERTICAL: 1" = 4'	PROJECT NUMBER 6571	DRAWING FILE NUMBER 6571PSAN	16 OF 18

1512 & 1524 CEDAR HILL ROAD (STA #6571)

SOILS DATA

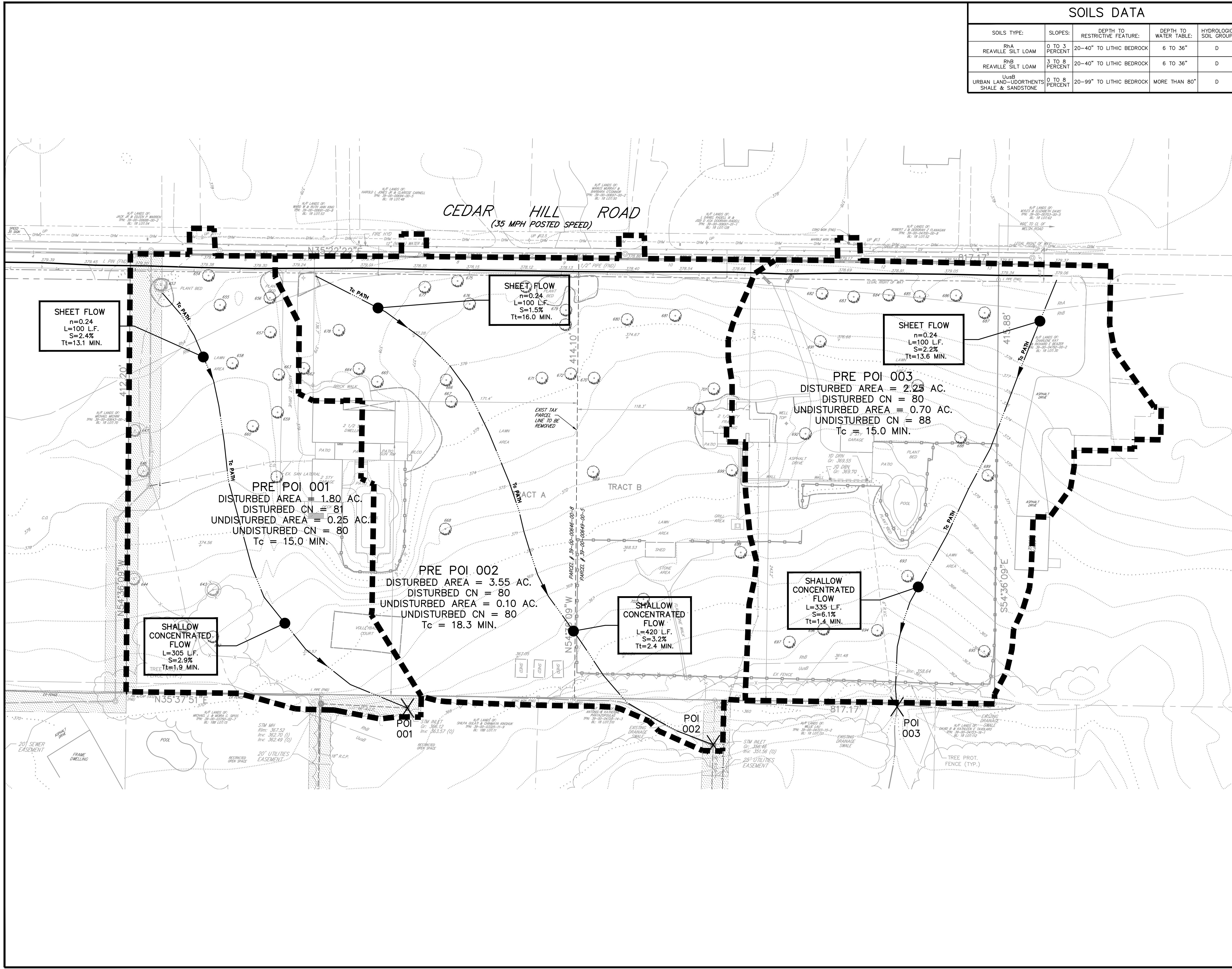
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RhB REAVILLE SILT LOAM	3 TO 8 PERCENT	20-40" TO LITHIC BEDROCK	6 TO 36"	D
UuSB URBAN LAND-UDORTHENTS SHALE & SANDSTONE	0 TO 8 PERCENT	20-99" TO LITHIC BEDROCK	MORE THAN 80"	D



SITE LOCATION MAP 1"=2000'

LEGEND

- PRE-DEVELOPMENT WATERSHED BOUNDARY
- TIME OF CONCENTRATION PATH
- DISCHARGE POINT



SHEET FLOW
n=0.24
L=100 L.F.
S=2.4%
Tt=13.1 MIN.

SHEET FLOW
n=0.24
L=100 L.F.
S=1.5%
Tt=16.0 MIN.

SHEET FLOW
n=0.24
L=100 L.F.
S=2.2%
Tt=13.6 MIN.

PRE POI 001
DISTURBED AREA = 1.80 AC.
DISTURBED CN = 81
UNDISTURBED AREA = 0.25 AC.
UNDISTURBED CN = 80
Tc = 15.0 MIN.

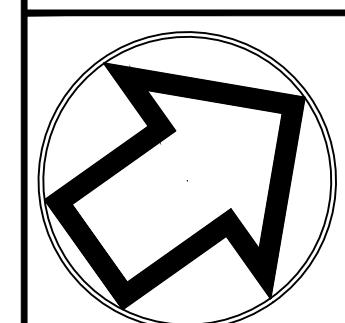
PRE POI 002
DISTURBED AREA = 3.55 AC.
DISTURBED CN = 80
UNDISTURBED AREA = 0.10 AC.
UNDISTURBED CN = 80
Tc = 18.3 MIN.

PRE POI 003
DISTURBED AREA = 2.25 AC.
DISTURBED CN = 80
UNDISTURBED AREA = 0.70 AC.
UNDISTURBED CN = 88
Tc = 15.0 MIN.

SHALLOW CONCENTRATED FLOW
L=305 L.F.
S=2.9%
Tt=1.9 MIN.

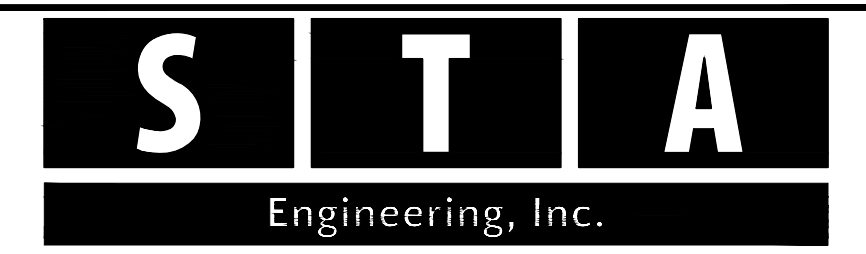
SHALLOW CONCENTRATED FLOW
L=420 L.F.
S=3.2%
Tt=2.4 MIN.

SHALLOW CONCENTRATED FLOW
L=335 L.F.
S=6.1%
Tt=1.4 MIN.



NO.	DESCRIPTION	DATE
3	ADM REVISED PER VARIOUS REVIEWS	FEB. 27, 2026
2	ADM REVISED PER VARIOUS REVIEWS	NOV. 20, 2025
1	M.F. S.T.A. PLAN ORIGINATION DATE	AUG. 25, 2025

PRE-DEVELOPMENT DRAINAGE SHED PLAN
AS PART OF
1512 & 1524 CEDAR HILL ROAD
PREPARED FOR
TISMAN GROUP, LLC
SITE SITUATE IN
LOWER GWYNEDD TOWNSHIP
MONTGOMERY COUNTY



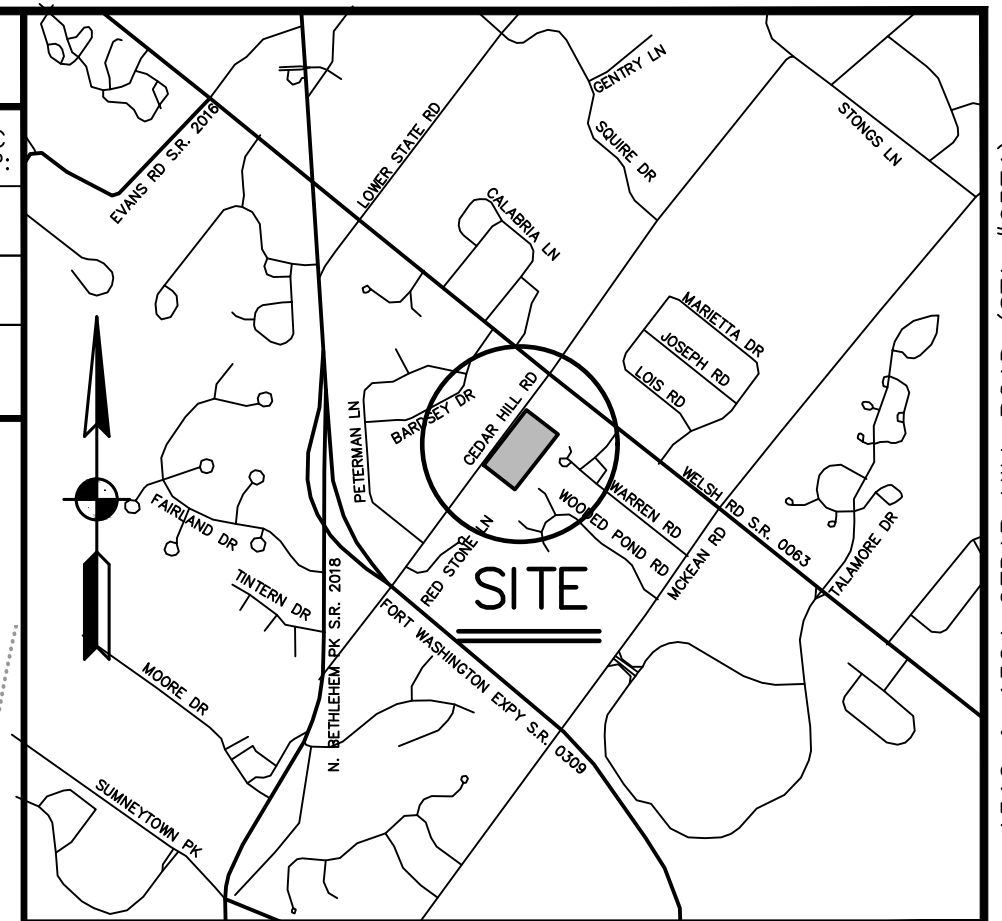
Civil Engineers • Land Surveyors
2499 KNIGHT ROAD, PENNSBURG, PA 18073
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PLAN SCALE	DRAFTED BY	PROJECT MANAGER	PLAN SHEET NUMBER
1" = 40'	M.J.P.	S.A.R.	17 OF 18
	PROJECT NUMBER	DRAWING FILE NUMBER	
	6571	SHED-PRE	

1512 & 1524 CEDAR HILL ROAD (STA #6571)

SOILS DATA

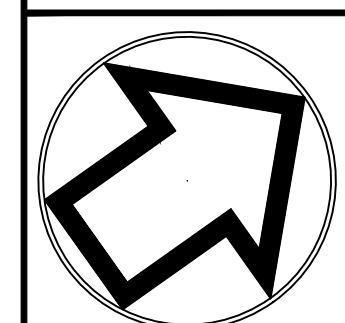
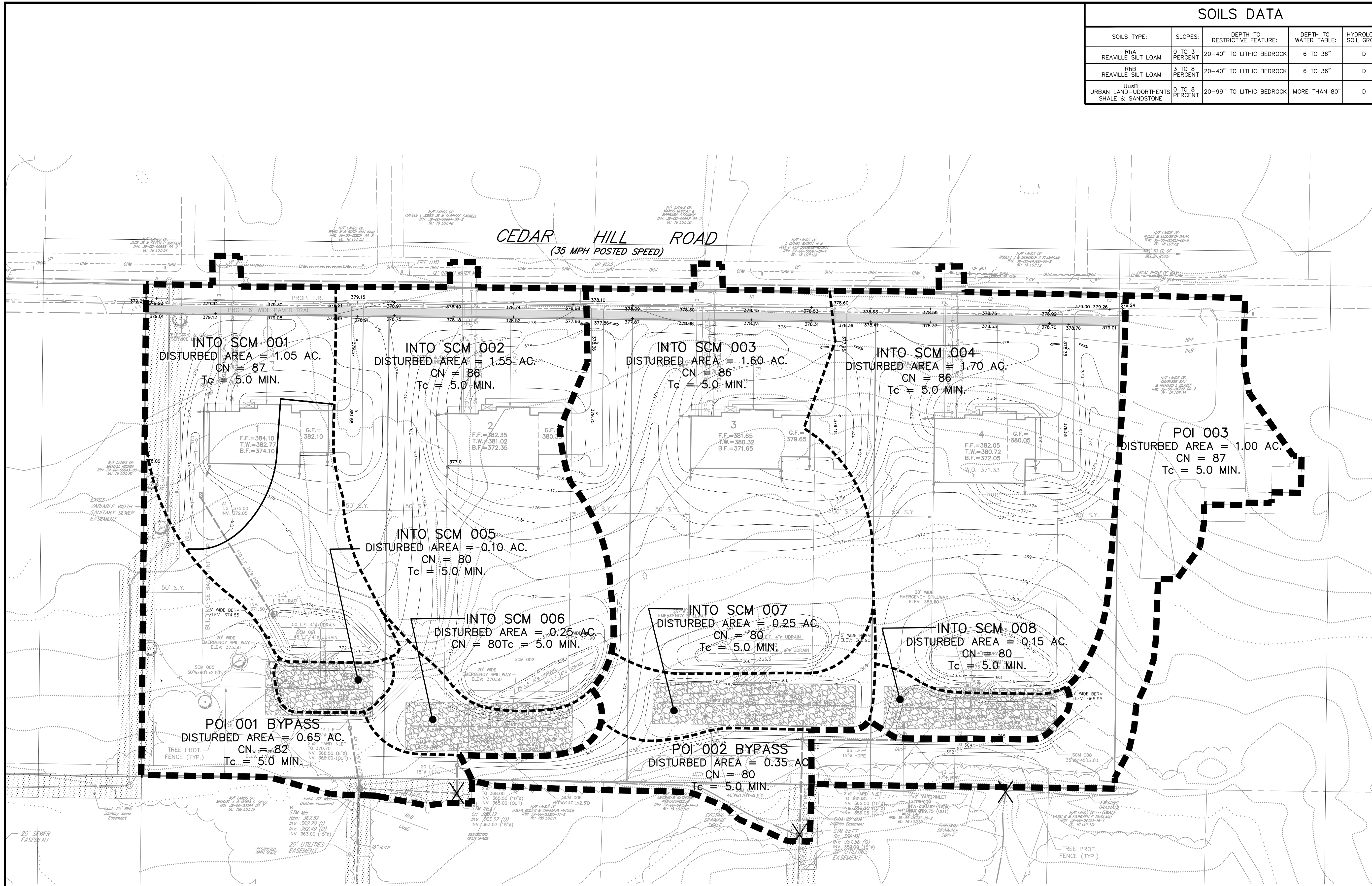
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UuSb URBAN LAND-UDORTHERTS SHALE & SANDSTONE	0 TO 8 PERCENT	20-99" TO LITHIC BEDROCK	MORE THAN 80"	D



SITE LOCATION MAP 1"=2000'

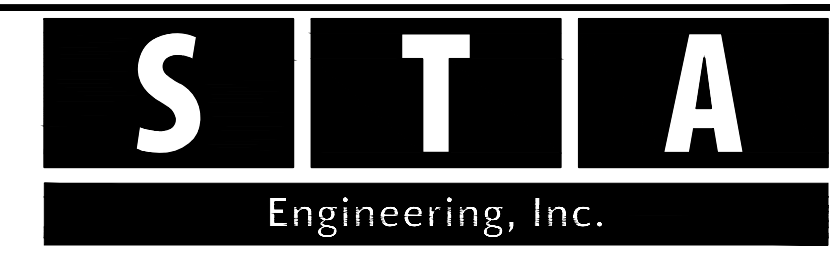
LEGEND

- PRE-DEVELOPMENT WATERSHED BOUNDARY
- PSCM WATERSHED BOUNDARY
- DISCHARGE POINT



NO.	DESCRIPTION	DATE
3	ADM REVISED PER VARIOUS REVIEWS	FEB. 27, 2026
2	ADM REVISED PER VARIOUS REVIEWS	NOV. 20, 2025
1	M.F. S.T.A. PLAN ORIGINATION DATE	AUG. 25, 2025

POST-DEVELOPMENT DRAINAGE SHED PLAN
 AS PART OF
1512 & 1524 CEDAR HILL ROAD
 PREPARED FOR
TISMAN GROUP, LLC
 SITE SITUATE IN
 LOWER GWYNEDD TOWNSHIP
 MONTGOMERY COUNTY



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PLAN SCALE	DRAFTED BY	PROJECT MANAGER	PLAN SHEET NUMBER
1" = 40'	M.J.P.	S.A.R.	18 OF 18
	PROJECT NUMBER 6571	DRAWING FILE NUMBER SHED-POST	

1512 & 1524 CEDAR HILL ROAD (STA #6571)



MEMORANDUM

ATTN: Planning Commission

DATE: April 8, 2026

FROM: Jamie P. Worman, Assistant Township Manager

SUBJ: BET- Spring House Corporate Center

BET representatives Michael Markman and Peter Clelland, along with their attorney, Christen Pionzio, will attend the April 15, 2026, PC meeting to present a revised mixed-use redevelopment proposal for the Spring House Corporate Center.

The applicant is seeking to revitalize the underutilized property at 321 Norristown Road by rezoning it from a D-1 Special Use District to an MF-3 Multi-Family Residential District. As part of this request, they propose adding a provision to the existing MF-3 ordinance that would permit mixed-use development under specific criteria. Attached to this memo is the existing MF-3 Multi-Family Residential District with the proposed changes by BET in red.

On February 13, 2026, BET submitted applications for both a zoning amendment and conditional use approval. The submission included a site plan and traffic study illustrating the proposed development, contingent upon approval of the zoning amendment. The property currently includes two office buildings, a barn, parking areas, a driveway, lighting, landscaping, and signage. This information is also attached to this memo.

Under the proposed plan, one office building would be demolished while the other would be retained for Berkadia. The redevelopment would include a four-story, 278-unit multi-family apartment building with an interior parking garage. Additionally, three commercial

retail buildings totaling approximately 47,000 square feet are proposed, along with expanded parking and an emergency access connection between the Spring House Corporate Center and the adjacent Gwynedd Estates.

The proposed mixed-use ordinance provision outlines permitted uses, most notably residential apartments with amenities and retail space, as well as dimensional standards, parking requirements, and other regulations, including a workforce housing component. Workforce housing is defined as dwelling units offered at reduced rental rates to households earning no more than 100% of the Montgomery County Household Median Income (HMI). For reference, the current HMI is \$83,600 for a one-person household and \$95,600 for a two-person household. The ordinance would allow a density bonus of 1.5 dwelling units per acre when at least 10% of the residential units are designated as workforce housing. The monthly rental rates for these units would fall between \$2,000-\$2,400. In comparison, the rental rates for a 2-bedroom apartment at the Hunt Club are approximately \$1,875-\$2,000 and similarly, Georgetown rates range from \$1,750-\$2,850.

At the meeting, BET will present its plan and traffic study and respond to questions. The PC will review the proposed ordinance text and offer any feedback pertaining to the proposed amendments. The ordinance is currently under review by Township Staff and Consultants as well. In addition, the PC will review and discuss the proposed conditional use application.

Township Staff will compile feedback received from the PC, MCPC, and the Township Engineers and revise the ordinance accordingly to the satisfaction of the Township Solicitor.

Chapter 1276

MF-3 MULTIFAMILY RESIDENTIAL DISTRICT

§ 1276.01. Application of chapter. [Ord. 223. Passed 12-10-1985]

In an "MF-3" Multifamily Residential District, the regulations set forth in this chapter shall apply.

§ 1276.02. Permitted uses. [Ord. 223. Passed 12-10-1985]

In an "MF-3" Multifamily Residential District, a building may be erected or used, and a lot may be used or occupied, for any of the following purposes and no other:

- (a) Housing for the elderly.
- (b) Residential nursing care facilities.
- (c) Municipal use.
- (d) Accessory uses in accordance with Section 1250.04(2) and Chapter 1298.
- (e) Mixed-Use Development, in accordance with §1276.09.

(1) On a property with frontage along a major roadway as classified in §1230.37 (b) (1) of the Township Subdivision and Land Development Ordinance, a development consisting of a minimum of three (3) of the following uses, for single and multiple occupancy of property and buildings, shall be permitted when authorized by conditional use, in accordance with §1298.07 "Conditional uses". Existing buildings may be part of a Mixed-Use Development provided they contain a permitted use and meet all standards of §1276.09.

A. Multifamily apartment buildings with amenities, and which may include a parking structure designed in accordance with §1298.20 (b). "Parking Structures".

B. Office building.

C. Retail Store.

D. Personal service shop.

E. Restaurant, excluding drive-thru service.

F. Bank or financial institution, with drive-thru service.

G. Medical services, such as dental care, aesthetic procedures, urgent care and outpatient surgery center.

H. Medical office

(2) Master Plan and Architecture. For all mixed-use developments, a master plan shall be submitted as part of the required conditional use application, which adequately depicts where each of the above category of uses and parking shall occur on the property. Material changes to the Master Plan involving the relocation, addition or deletion of buildings, vehicular circulation access shall require an amended conditional use approval from the Board of Supervisors. Review and approval of the conditional use shall include the approval of the dimensional criteria and parking as shown on the Master Plan. As part of the conditional use application, architectural renderings shall be submitted. Such renderings shall include: a perspective view of the building from the exterior main road (s) showing the façade (s) and streetscape, in addition, elevations of all sides of the proposed building (s). The renderings shall be in color and indicate the mass, form, color, and materials of the proposed building (s). The renderings shall show conceptual connections to an existing public trail network which is immediately and directly adjacent to the mixed-use development.

§ 1276.03. Lot area and width. [Ord. 223. Passed 12-10-1985]

(a) Minimum Lot Area. In an "MF-3" Multifamily Residential District, a lot area of not less than 20 acres shall be provided for every development.

(b) Minimum Lot Width. A lot width of not less than 200 feet shall be provided along a public street or way for every access to the development

§ 1276.04. Yards. [Ord. 223. Passed 12-10-1985; Ord. 395. Passed 2-19-2001]

In an "MF-3" Multifamily Residential District, the front yard provided on each lot shall not be less than 200 feet in width. The side yards and rear yards shall not be less than 75 feet in width.

§ 1276.05. Lot coverage. [Ord. 223. Passed 12-10-1985]

(a) Building Coverage. In an "MF-3" Multifamily Residential District, the total building coverage shall not exceed 20%.

(b) Impervious Coverage. The total impervious coverage shall not exceed 45%.

§ 1276.06. Building height. [Ord. 223. Passed 12-10-1985]

(a) The maximum height for dwellings, buildings or other structures erected or enlarged in an "MF-3" Multifamily Residential District shall be 30 feet, not exceeding two stories.

(b) The maximum height for any building accessory to any dwelling shall be 14 feet, not exceeding one story.

§ 1276.07. Off-street parking and loading. [Ord. 223. Passed 12-10-1985; Ord. 395. Passed 2-19-2002]

(a) For each dwelling unit in an "MF-3" Multifamily Residential District, 0.85 of a parking space shall be provided in accordance with Chapter 1294.

b) For employee and accessory uses, parking shall be provided in accordance with Chapter 1294.

(c) Areas for loading and unloading of delivery trucks and other vehicles, and for refuse collection, fuel and other service vehicles, shall be provided, shall be adequate in size and shall be so arranged that they may be used without blocking or interfering with the use of access roads or automobile parking facilities, and all such areas shall be in accordance with Chapter 1294.

(d) No parking area shall be located within 75 feet of the property line and no service or loading area shall be located within 200 feet of any property line, except as required for normal ingress or egress.

§ 1276.08. Development standards. [Ord. 223. Passed 12-10-1985; Ord. 251. Passed 2-16-1988; Ord. 395. Passed 2-19-2002]

(a) Density. In the "MF-3" Multifamily Residential District, the number of residential units per acre shall not exceed 8.04. For the purposes of this calculation, the gross acreage of the tract shall be used for lands zoned MF-3. Apartments and personal care beds shall each be equal to one residential unit. The ratio of apartments to personal care units shall not exceed 9.05 to 1.

(b) Building Plan. Buildings shall be in accordance with an overall plan and shall be designed as a single architectural scheme. The distance at the closest point between buildings shall be not less than 30 feet.

(c) Preservation of Natural Features. The development plan shall preserve and incorporate natural features such as woods, streams and open space areas, which add to the overall cohesive development of this district and to the overall Township development.

(d) Lighting; Utility Lines. Spaces between buildings, parking areas, loading areas, access areas and service areas shall be adequately illuminated at night. Lighting, including sign lighting, shall be arranged to protect the highway and adjoining property from direct glare or hazardous interference. Utility lines servicing the area shall be placed underground.

(e) Storage of Refuse. Raw materials, supplies, trash, rubbish and other refuse shall be stored in covered containers within an adequate enclosure and handled and disposed of in such a manner so as not to give rise to smoke, odor or litter.

(f) Landscaping. All development in an "MF-3" Multifamily Residential District shall be designed and maintained in accordance with the landscape provisions of the Subdivision Regulations.

(g) Common Open Space. Any development in such district shall contain a minimum of five acres of common open space. Such common open space shall be of a character and quality acceptable to the Board of Supervisors. In addition, there shall be such provision for the ownership and maintenance of the common open space as is reasonable to ensure its preservation. To this end, the Township may accept the dedication of land or any interest therein for public use and maintenance, but the Board need not require that land proposed to be set aside for common open space be dedicated as a condition of the approval of the subdivision or land development. The Board shall require the landowner to provide for and establish an organization for the ownership and maintenance of the common open space consistent with the requirements of the Pennsylvania Uniform Condominium Act, and such organization shall not dispose of the common open space by sale or otherwise, except to the Township or, after approval of the Board, to an organization established to own and maintain the common open space. If the common open space deteriorates or if, in the judgment of the Board, it is not maintained in a reasonable manner in accordance with any approved plan or otherwise, the Township may proceed to remedy any such deficiency by enforcement of any applicable Township ordinance or by injunctive relief or otherwise.

(h) (Reserved)¹

(i) Personal Care Units. In an MF-3 Project with only apartment units, the owner may apply one time for conditional use approval to convert up to four apartment units to personal care units at a ratio of five personal care units to one apartment unit.

§ 1276.09. Regulations and Standards for a Mixed-Use Development.

The following regulations and standards shall apply to a Mixed-Use Development in the case of a conflict with any other sections of the Zoning Ordinance, the provisions of this section shall apply.

(a) Minimum Lot Area. For a Mixed-Use Development, a lot area of not less than 20 acres shall be provided.

(b) Minimum Lot Width. A lot width of not less than 800 feet shall be provided along a public street or way for every access to the development.

(c) Yards.

(1) Front Yard for a Mixed-Use Development

- a. For multifamily apartment buildings and office buildings there shall be a front yard, which shall not be less than 200 feet in depth.*
- b. For all other uses there shall be a front yard along Norristown Road, which shall not be less than 100 feet in depth.*

(2) Side Yards. For a Mixed-Use Development there shall be two side yards, neither of which shall be less than 50 feet in depth.

(3) Rear Yard. For a Mixed-Use Development there shall be a rear yard, which yard shall not be less than 100 feet in depth.

(d) Building Coverage. The total building coverage shall not exceed 20%.

(e) Impervious Coverage. The total impervious coverage shall not exceed 60%.

(f) Building Height.

(1) Multifamily Apartment Buildings. The maximum height for a multifamily apartment building shall be 55 feet, not exceeding 4 stories. For purposes of measuring the building height for multifamily apartment buildings, unoccupied architectural features extending above the main roof such as dormers, gables, and similar treatments, shall be required in order to provide variations in rooflines and the appearance of the multifamily apartment building façade, and shall be excluded from the calculation of height. Such features shall not exceed 10 feet in total height.

(2) Office Building. The maximum height for an office building shall be 50 feet, not exceeding 3 stories.

(3) The maximum height for all other buildings and structures shall be 35 feet, not exceeding 2 stories.

(4) The maximum height for buildings and structures with a front yard setback of less than 200 feet from Norristown Road shall be 35 feet, not exceeding 2 stories.

(g) Building Spacing. The distance at the closest point between any buildings shall not be less than 75 feet.

(h) Density. For a multifamily apartment building, the number of residential units per gross acre shall not exceed 12.

(1) Bonus Density. Provided that a minimum of 10% of the residential units are designated as workforce housing the density may be increased by 1.5 dwelling units per gross acre. The maximum density, including any density bonus, shall not exceed 13.5 dwelling units per gross acre.

(2) A Workforce Housing Declaration of Covenants shall be prepared to the satisfaction of the Township Solicitor and agreed upon by the property owner/developer, which Declaration of Covenants shall be recorded in the Montgomery County Recorder of Deeds office at the time of recording of the final land development plan. For the purposes of this clause “workforce housing” shall mean; a dwelling unit available to a household with a total income not exceeding 100% of the Household Median Income (HMI) of Montgomery County as determined on an annual basis by the Pennsylvania Housing Finance Agency (PHFA). The monthly rent amount shall be no more than 30% of the Household Median Income.

(3) Property owner/developer shall submit an annual report to the Township Building and Zoning Department which demonstrates that the multifamily apartment building is in compliance with workforce housing requirements contained in the Declaration of Covenants. The report shall include, annually, the total number of units in the building, and for the workforce housing units only the following additional information: the total number of units, number of bedrooms, tenant incomes and rents, unit locations within the multifamily apartment building, and square footage.

(i) Off-street parking and loading.

(1) Multifamily Apartments. For each residential unit, 1.5 parking spaces shall be provided.

(2) Office building. One space for every 250 square feet of gross floor area, minus common areas.

- (3) *Retail store or personal service shop. One space for every 250 square feet of sales area.*
- (4) *Restaurant. One parking space for every 100 square feet of floor space devoted to patron use.*
- (5) *Bank or financial institution. One space for every 500 square feet of floor area space devoted to patron use.*
- (6) *Medical services. One parking space for every 250 square feet of gross floor area.*
- (7) *No parking, service, or loading area shall be located within 75 feet of any side or rear yard property lines, or within 10 feet of any side yard property line abutting a major roadway, except as required for normal ingress or egress, and no service drives shall be located within 25 feet of any side or rear property line. No service and loading area shall directly face a highway as defined in 1298.12 unless adequate architectural detailing and/or landscaping is provided which obscures the service and/or loading areas to the satisfaction of the Township Board of Supervisors.*
- (8) *Parking Reduction. The total number of required parking spaces may be reduced by conditional use. The total parking may be reduced by a maximum of up to 20% provided the applicant can demonstrate the reduction is warranted through the submission of a parking study, parking counts, or other pertinent information.*
- (j) *Signage. The Mixed-Use Development shall be permitted one (1) pylon/free-standing sign not to exceed twenty (20) feet in height and two hundred (200) square feet in area. Each tenant in the Mixed-Use Development shall be permitted one (1) wall sign not to exceed forty (40) square feet per building façade of the leased area facing a street. Digital signs are prohibited.*
- (k) *Storage of Refuse. Raw materials, supplies, trash, rubbish and other refuse shall be stored in covered containers within an adequate enclosure and handled and disposed of in such a manner so as to not give rise to smoke, odor, or litter.*

- (l) *Landscaping. All Mixed-Use Developments shall be designed and maintained in accordance with the landscape provisions of the Subdivision Regulations.*
- (m) *Emergency access. All Mixed-Use Developments shall have an emergency driveway access in addition to and separate from the main driveway access.*
- (n) *Public water and sewer. All Mixed-Use Developments shall be served by public water and public sewer.*
- (o) *With the exception of gate houses, guard houses, and trails, no accessory building or structure shall be located within a required perimeter setback and no accessory building or structure shall be located between the front of a building unit and a street line, if any.*
- (p) *All new buildings within the Mixed-Use Development shall be constructed in accordance with an overall plan and a common architectural theme as approved by the Board of Supervisors during the conditional use stage.*
- (q) *Special Conveyancing. When a lot or lots are developed as a Mixed-Use Development, the creation of and conveyance of a lot or lots within such Mixed-Use Development shall be permitted upon compliance with the following conditions.*
- (1) Irrevocable cross-easements in favor of, and duly binding on all title owners within the area of the development plan, their successors and assigns, with respect to use, control and maintenance of the common areas including access, green space, and parking areas are in effect and recorded, with form and substance subject to the prior approval of the Township Solicitor; and*
 - (2) Individual lots or parcels created pursuant to this section need not comply with the dimensional standards §1276.09 herein but shall remain in compliance with all other aspects of the approved Mixed-Use Development Plan.*

§ 1298.20. Parking structures. [Added 1-27-2009 by Ord. No. 462]

- (a) The erection and use of structured parking facilities shall be permitted only in the D-1 Special Use District and the F-1 Zoning District subject to the following regulations:
[Amended 5-28-2019 by Ord. No. 523]

(1) Parking structures shall be permitted only upon demonstration to the satisfaction of the Township that the site will be no more intensely developed (as to permitted square footage of building and to required number of parking spaces) than could be achieved through the use of surface parking alone.

(2) Parking structures shall be located entirely within the principal building envelope, except in the instance where the subject property is immediately adjacent to the right-of-way of a limited access highway. Parking structures immediately adjacent to such a highway may be located no closer than 50 feet from the ultimate right-of-way of the adjacent highway, which shall be considered the parking setback line. When located in the D-1 Special Use District, parking structures shall be no greater than two stories in height.

(3) The design, layout and sizes of the parking spaces, driveways, ramps and other elements of the parking structure shall be subject to the review of the Township Traffic Engineer and the approval of the Township.

(4) The exterior facade of the parking structure shall be of a design and materials consistent with adjacent occupied structures on the site. Compatibility of design shall be accomplished through the use of like materials, similar detailing and harmonious proportioning of the design elements. The design shall be subject to the review and approval of the Board of Supervisors at the appropriate stage in the land development approval process.

(5) There shall be no projection of lighting or other elements above the required guardrail height on the roof deck of parking structures, except for minimal access shelters over stair enclosures.

(6) Parking structures shall be effectively screened from off-site view through the use of other buildings or berms and landscaping. Berms shall be a minimum of eight feet high, and the plantings on top of the berm shall be a minimum of 10 feet in height and shall be planted in sufficient density to provide an opaque screen. Parking structures adjacent to a divided, limited access highway shall be exempt from the above requirements, but shall be subject to the requirement of a softening buffer composed of deciduous trees as approved by the Township. In addition, any openings into parking structures adjacent to these highways shall be architecturally treated (through the use of screens, louvers, etc.) in a manner so as to obscure the direct view of the automobiles parked in the structure.

(7) Parking structures shall in all cases be 10 feet lower in height than the occupied buildings that they serve on the site, and their perimeter length shall not exceed the perimeter length of the occupied buildings that they serve.

(b) The erection and use of structured parking facilities, otherwise prohibited, shall be permitted only in the MF-3 Multifamily Residential District subject to the following regulations:

(1) Parking structures shall be permitted for a multifamily apartment building provided that the parking structure is entirely internal to the multifamily apartment building, or the residential units are wrapped around the perimeter parking structure.

(2) When a parking structure is wrapped with residential units no more than 25% of the perimeter of the parking structure shall be visible from the exterior of the building. The exposed portion of the parking structure shall not directly face an external street. The exposed portion of the parking structure shall be buffered through the use of architectural elements to the satisfaction of the Board of Supervisors.

(3) A parking structure shall not be taller than the residential portions of the building.

(4) The design, layout and sizes of the parking spaces, driveways, ramps and other elements of the parking structure shall be subject to the review of the Township Traffic Engineer and the approval of the Township.

(5) There shall be no protection of lighting or other elements above the guardrail height on the roof deck of parking structures, except for minimal access shelters over stair enclosures.

(6) Building Coverage. The total building coverage may be increased from 20% to 30% if a parking structure is included as part of the Mixed-Use Development.



Lower Gwynedd Township

1130 N. Bethlehem Pike, P.O. Box 625
Spring House, PA 19477
(215)646-5302- phone
(215)646-3357-fax
www.lowergwynedd.org

Request for a Public Hearing Before the Lower Gwynedd Township Board of Supervisors to Amend the Zoning Ordinance Text and/or the Zoning Map

Instructions for the Completion of this Application

1. An original and ten (10) copies of this application as well as all pertinent documents, plans, and drawings must be submitted to the Lower Gwynedd Township Zoning Officer with the appropriate filing fee. In addition, an electronic version of the complete submission including drawings/plans must be submitted via email or an external hard drive. A submission is not considered complete and will not be processed until the Township is in receipt of all the required components.
2. Please include a narrative regarding the nature of your proposal. Including all applicable information such as a detailed map of your location showing any proposed changes, draft text for proposed ordinance amendments, tax parcel and ownership information including deeds, and any other information pertinent to the specific issues to be raised before the Board of Supervisors.
3. Filing Fees will be set by resolution of the Lower Gwynedd Township Board of Supervisors and will be amended from time to time. Please refer to the attached fee schedule section pertaining to Rezone Requests.
4. The Board of Supervisors will review all submitted applications. Should they be inclined to grant a hearing the applicant will be contacted to schedule such hearing. After the initial full hearing (3 hours) on an application, each additional hearing needed to complete the testimony (whether or not such testimony is being offered by the applicant, by protestants or by the Township itself) shall require an additional filing fee as per the attached fee schedule to cover the Township's additional costs. The failure to deliver the additional filing fee prior to the scheduled hearing date shall be construed as the intention of the applicant to withdraw his application.
5. Lower Gwynedd Township shall not be deemed to have accepted this application for filing until all information required by the Application Form, as well as, supporting plans and other documentation have been submitted and received by the Zoning Officer. The date of the effective filing of the Application shall be noted by the Zoning Officer on the Application itself.



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**Rezone/Zoning Ordinance & Map Amendment
Request for Public Hearing to the
Board of Supervisors**

1. Date: 02/13/2026

2. Classification of Request (check all that apply):
 - Rezone Request- Individual Parcel
 - Text Amendment
 - Map Amendment
 - Extension or Application of existing overlay
 - Overlay Proposal

3. Applicant:
 - Name: BT 309, LLC
 - Mailing Address: 200 Dryden Road, Suite 2000, Dresher, PA 19025
 - Phone Number: 215-416-2110
 - Email Address: Pclelland@betinvestments.com
 - State owner of legal title, if other than Applicant: Brookwood Philadelphia I, LLC and Brookwood Philadelphia II, LLC
 - Tax Parcel No. (list parcel numbers for all subject properties): 39-00-02956-00-2

4. Applicant's Attorney:
 - Name: Julie L. Von Spreckelsen, Esquire-Eastburn and Gray, P.C.
 - Mailing Address: 470 Norristown Road, Suite 302, Blue Bell, PA 19422
 - Phone Number: 215-461-1239
 - Email Address: jvonspreckelsen@eastburngray.com

5. Property:

Location: 321 Norristown Road; Springhouse Corporate Center
Present Zoning Classification: D-1 Special Use District
Tax Parcel No. (list parcel numbers for all subject properties): 39-00-02956-00-2

Description of the proposed use and the proposed improvements (if different):

Rezone of the property from D-1 to MF-3 to permit demolition of the 2-story office building and the construction of a 4-story multi-family apartment building consisting of 278 units and interior parking garage with 433 parking spaces and 3 commercial retail buildings of 30,750 sq. ft., 12,000 sq. ft. and 4,000 sq. ft. with 234 parking spaces. The 3-story office building will remain along with the designated 315 parking spaces.

6. State each section of the zoning ordinance involved in this application:

- Section 1276.02 "Permitted Uses"
- Section 1276.09 "Regulations and standards for a Mixed-Use Development"
- Section 1254.01 "Zoning Map"

7. Has any previous appeal or application been filed in connection with this property?

Yes No If yes, date and specifics: A conditional use application has been submitted simultaneously with this Rezone/Zoning Ordinance and Map Amendment request.

8. Does this Application involve a proposed subdivision? Yes No
If yes, has a subdivision plan been filed with the Township? Yes No



Signature of Applicant

Peter J. Clelland, VP of Development

**Narrative to Rezone/Zoning Ordinance & Map Amendment Request of BT 309, LLC
Property: 321 Norristown Road; TPN 39-00-02956-00-2**

The Property is currently zoned D-1 Special Use District. The only other property zoned D-1 in the Township is located across a limited access highway from the Property. The D-1 District is very restrictive in terms of the uses permitted, only a scientific research laboratory, an engineering center, an office building, or a municipal use is permitted. The Property comprises 24 acres, abuts a limited access highway, and is improved with a 2-story and 3-story office building. The 2-story office building is and has been vacant for a number of years due to lack of tenant interest, although diligently marketed for lease by the Property owner.

The purpose of the Rezone/Zoning Ordinance & Map Amendment is to revitalize an under-utilized Property by rezoning the Property to the MF-3 Multi-Family Residential District and adding a mixed-use development as a permitted use in the MF-3 District. Currently, the MF-3 District consists of one tax parcel, the ACTS parcel, which abuts the Property. Rezoning the Property to MF-3 is a natural extension of the MF-3 District. The mixed-use development, which use does not exist within the Township, adds a variety of permitted uses to the MF-3 District in order to serve the community, such as apartment buildings that may include workforce/attainable housing units, restaurants, retail and personal service shops.



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**Request for a Conditional Use Hearing Before the
Lower Gwynedd Township Board of Supervisors**

Instructions for the Completion of this Application

1. An original and twenty (20) copies of this application as well as all pertinent documents, plans, and drawings must be submitted to the Lower Gwynedd Township Zoning Officer with the appropriate filing fee. In addition, an electronic version of the complete submission including drawings/plans must be submitted via email or an external hard drive. A submission is not considered complete and will not be processed until the Township is in receipt of all the required components.
2. Each application must be accompanied by a plot plan of the property showing the exact dimensions of the property, the names of all immediately adjacent property owners, all of the setbacks of the pertinent zoning district, the existing improvements on the property, the proposed improvements on the property, the total area of the lot in square feet, any water courses or rights of way which may extend through the property, and any other information pertinent to the specific issues to be raised before the Board of Supervisors. Except in cases where the Zoning Officer deems it unnecessary, every such plan is to be prepared and signed by a registered architect, surveyor or engineer. At the hearing itself, the applicant shall provide five (5) legal sized duplicates of any large, mounted exhibits so that duplicates may be folded and placed in the permanent Township files for this application. Any exhibits that are to be shown on the monitors must be provided to staff one day prior to the hearing.
3. Filing Fees will be set by resolution of the Lower Gwynedd Township Board of Supervisors and will be amended from time to time. Please refer to the attached fee schedule section pertaining to Conditional Use Hearings.
4. After the initial full hearing (3 hours) on an application, each additional hearing needed to complete the testimony (whether or not such testimony is being offered by the applicant, by protestants or by the Township itself) shall require an additional filing fee as per the attached fee schedule to cover the Township's additional costs. The failure to deliver the additional filing fee prior to the scheduled

hearing date shall be construed as the intention of the applicant to withdraw his application.

5. Lower Gwynedd Township shall not be deemed to have accepted this application for filing until all information required by the Application Form, as well as, supporting plans and other documentation have been submitted and received by the Zoning Officer. The date of the effective filing of the Application shall be noted by the Zoning Officer on the Application itself.
6. A complete application will be delivered to the required review agents and the Board of Supervisors shall schedule and hold a public hearing within a sixty (60) day period (unless otherwise waived or extended with consent of applicant) and act upon the application within the allowed forty-five (45) days.



Lower Gwynedd Township

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Conditional Use Appeal to Board of Supervisors

1. Date: 02/13/2026

2. Classification of Appeal (check all that apply):
 Request for a Conditional Use
 Other (specify): _____

3. Applicant:
Name: BT 309, LLC
Mailing Address: 200 Dryden Road, Suite 2000, Dresher, PA 19025

Phone Number: 215-416-2110
Email Address: Pclelland@betinvestments.com
State owner of legal title, if other than Applicant: _____
Brookwood Philadelphia I, LLC and Brookwood Philadelphia II, LLC

4. Applicant's Attorney:
Name: Julie L. Von Spreckelsen, Esquire-Eastburn and Gray, P.C.
Mailing Address: 470 Norristown Road, Suite 302, Blue Bell, PA 19422

Phone Number: 215-461-1238
Email Address: jvonspreckelsen@eastburngray.com

5. Property:
Location: 321 Norristown Road; Springhouse Corporate Center
Present Zoning Classification: MF-3 Multi-Family Residential 3
Area: 24.097 acres
Frontage: 820'
Depth: 1,148'
Description of the current use and the existing improvements on the property: Two office buildings, 2 and 3 story totaling 136,966 sq. ft. gross floor area a 1,500 sq. ft. barn and associated parking, lighting, landscaping and signage.

Description of the proposed use and the proposed improvements (if different):

Demolition of the 2-story office building and the construction of a 4-story multi-family apartment building consisting of 278 units and interior parking garage with 433 parking spaces and 3 commercial retail buildings of 30,750 sq. ft., 12,000 sq. ft., and 4,000 sq. ft. with 234 parking spaces. The 3-story office building will remain along with the designated 315 parking spaces.

6. Legal grounds for appeal:

Meets all of specific objective and general criteria for a Mixed Use Development permitted by conditional use in the MF-3 District.

7. State each section of the zoning ordinance involved in this application:

Section 1276.02 "Permitted Uses"

Section 1276.09 "Regulations and Standards for a Mixed Use Development"

Section 1298.20 "Parking Structures"

Section 1298.07 "Conditional Uses"

8. Has any previous appeal or application been filed in connection with this property?

Yes No If yes, date and specifics: A Rezone/Zoning Ordinance and Map Amendment request has been submitted simultaneously with this conditional use application

9. Is public water available to this property?

Yes No

Is public sewer available to this property?

Yes No

10. Does this Application involve a proposed subdivision?

Yes No

If yes, has a subdivision plan been filed with the Township?

Yes No



Signature of Applicant

Peter J. Clelland, VP of Development



GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

April 10, 2026

File No. 24-00662

Mimi Gleason, Township Manager
Lower Gwynedd Township
1130 N. Bethlehem Pike, PO Box 625
Spring House, PA 19477

Reference: Spring House Corporate Center
Conditional Use Review

Dear Ms. Gleason:

Pursuant to your request, Gilmore & Associates, Inc. performed a review of the submission for the above-referenced project in relation to the conditional use application. Upon review we offer the following comments for consideration by the Lower Gwynedd Township Board of Supervisors:

I. Submission

- A. Conditional Use Plans, titled Mixed Use Development for BT 309, LLC, consisting of sheets 1 through 3 of 3, dated February 11, 2026, as prepared by Bohler Engineering.
- B. Architectural Exhibits, dated February 12, 2026, as prepared by AEI (Architecture Engineering Interiors).
- C. Ordinance Alternative MF-3 Text Amendment Language
- D. Rezoning Ordinance Map Amendment

II. General Information

The subject property consists of one (1) parcel located within the D-1 District. The overall tract is approximately 24.09 acres and currently contains a 3-story brick office building, 2-story masonry office building, and 3-story masonry barn building with existing parking areas.

The Applicant proposes to remove the existing 2-story masonry office building to construct a 4-story multi-family apartment building with interior parking garage and three (3) commercial retail buildings. The existing 3-story brick office building and 3-story masonry barn building are to remain. The subject property will be accessed to Norristown Road (SR 2007) and will contain internal drives for access to the apartment building and retail spaces. Additional improvements include parking areas, curbing, sidewalk, ornamental fence, landscaping, and associated stormwater management facilities.

II. Review Comments

A. Conditional Use

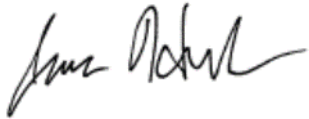
The existing property is subject to a proposed Zoning Map and Ordinance Amendment to rezone the property to Multi-Family Residential District (MF-3). The proposed text amendment adds additional uses and requirements to the MF-3 District while allowing mixed use development by conditional use. The Applicant has submitted a Conditional Use application showing their proposed development in the event that the map and text amendment are approved. As such, we have reviewed the plan in accordance with the Multi-Family Residential District where this project shall have its design be subject to conditional use approval. Upon review of the conditional use application, we offer the following comments. The comments contained in this section should not be misconstrued as requirements, but rather discussion points for the Board's consideration when evaluating the Conditional Use Application.

1. We defer to the Township Traffic Engineer regarding comments related to traffic improvements, signage, sight distance, and the calculation of any applicable traffic impact fees.
2. We note that the proposed text amendment allows for a base density of 12 units per acre with the potential to gain a bonus density of an additional 1.5 units per acres in the event that a minimum of 10% of the units are designated as workforce housing. The Applicant has submitted conditional use plan showing a four-story apartment building with a density of 11.58 dwelling units per acre. Additionally, the Applicant has submitted a Workforce Housing Declaration of Covenants, indicating that they intend to take advantage of the Bonus Density. The Applicant shall clarify their intentions for the potential to build additional apartment units on the property as the discussions to this point have centered around one apartment building on the property and a final design consistent with the submitted Conditional Use plan.
3. We note that the conceptual locations for stormwater management facilities are not shown on the plans. We recommend conceptual locations be added and preliminary calculations for sizing the stormwater facilities be submitted for review so that it can be determined if the conceptual areas are sufficient to support the plan as currently proposed.
4. We note that the Applicant has explored the feasibility of pedestrian facilities under the PA-309 overpass and believe the connection to possible. We recommend that the full design, permitting, and construction of those facilities be a condition of conditional use approval.
5. We note that additional buffering should be provided between the subject property and the Gwynedd Estates development. To provide a sufficient landscape buffer, the Applicant may be required to provide buffer plantings on both the subject property and Gwynedd Estates. An agreement will be needed between the Applicant and Gwynedd Estates.
6. We note that a pedestrian connection easement will be required for the trail connection to the Gwynedd Estates development. We recommend consideration be given to allow the Gwynedd Estates residents to utilize the subject property trails but not encourage the mixed-use development residents to utilize the property at Gwynedd Estates as the connection does not lead to the trail network within Gwynedd Estates.
7. Common Amenity spaces throughout the development should be added to the plans. Currently, the only amenity space is depicted within the proposed courtyard area.
8. The Applicant should explore the feasibility of a crosswalk and pedestrian facilities to accommodate a connection Beach Hollow Road neighborhood.
9. We note that the buffer plantings between Norristown Road and mixed-use parking lot may need to be supplemented with additional landscaping screenings in order to achieve the aesthetic as depicted on the Conditional Use plan. We recommend a condition of approval be that the Applicant supplement the plantings in this area to the satisfaction of the Township in order to achieve the conditional use plan aesthetic representation.
10. The Applicant will need to work with the Township to determine the best design and path for the sanitary sewer line and connection with sanitary sewer main in Norristown Road (SR 2007) to minimize the environmental impact and address the concerns of the increased capacity on the system.
11. ADA compliant ramps/access ways should be considered at all crosswalks and buildings to nearby public facilities.
12. Snow storage areas should be considered in the design of parking lot areas. Snow removal and storage during major snow events could potentially cause the total number of parking spaces to be inadequate.
13. Areas designated for trash storage and routes of removal should be considered and implemented in land development plans. The waste produced by the residents of the proposed 278 units in the 4-story apartment building and commercial buildings will likely cause any remaining existing waste removal facilities to be inadequate.

14. The Multi-Family District requires that the design of landscaping, lighting, streetscape improvements, and architectural elements be established and reviewed for the project during Conditional Use. We defer to the Board to determine whether the submitted renderings are sufficient.
15. Based on the level of design at this time, we recommend the Applicant provide a list of important waivers that they know they will request at the time of the land development submission, so that the Board of Supervisors can evaluate the entire scope of the project. Examples include but are not limited to: Frontage Improvements, Landscaping, Stormwater Management.
16. We recommend implementing a dense visual buffer of evergreen vegetation behind the proposed ornamental fence located in front of the garage entry/exit way of the proposed service drive to minimize disturbance to the residents of the neighboring property and pedestrians on walking trail.
17. The plan shall be reviewed by the Lower Gwynedd Township Fire Marshal for internal circulation and location of proposed fire hydrants. Additionally, a turning template will be required to be submitted to ensure the circulation of emergency vehicles.
18. We note that the proposed development will be required to obtain all applicable permits, including but not limited to Montgomery County Conservation District, PA DEP, PennDOT, etc. The Township and our office shall be copied on correspondence with these agencies.

Please note that additional comments will be made during the land development review process. If you have any questions regarding the above, please contact this office.

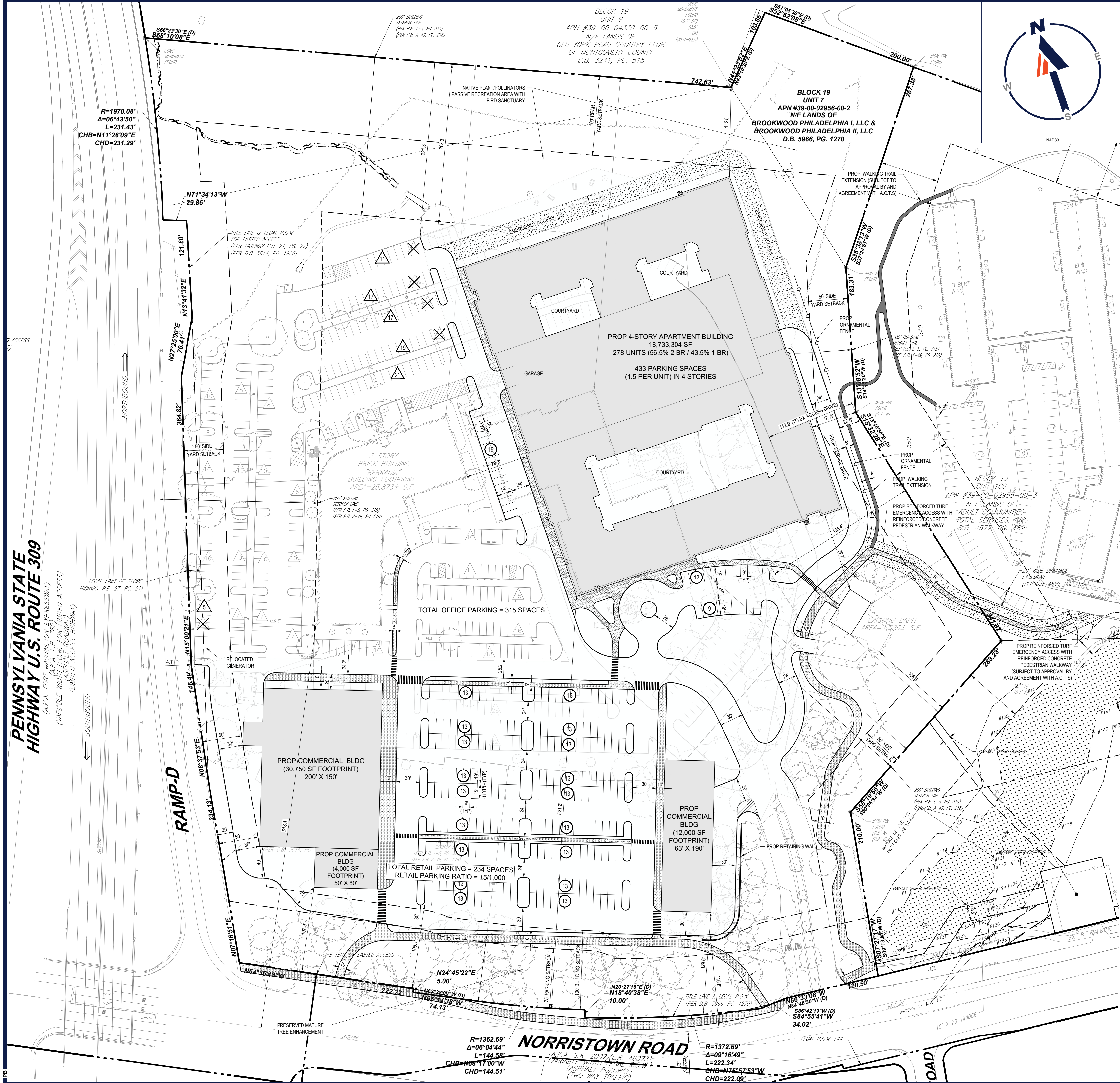
Sincerely,



James J. Hersh, P.E.
Vice President
Gilmore & Associates, Inc.

EB/sl

cc: Neil A Stein, Esq., Kaplin Stewart
Jamie Worman, Assistant Township Manager
Patty Sexton-Furber, Building Codes Administrator
Peter J. Clelland, VP of Development, BT 309, LLC
Thomas R. Knab, R.L.A., Bohler Engineering
Al Comly, Township Fire Marshal
Chad Dixson, P.E., Bowman Consulting Group
Edward Brown, P.E., Gilmore & Associates, Inc.



LOCATION MAP
SCALE: 1" = 1,000'
SOURCE: BING MAPS

ZONING TABLE				
ZONE: MF-3 USE PERMITTED BY CONDITIONAL USE: MIXED USE DEVELOPMENT				
APPLICANT/ OWNER INFORMATION				
APPLICANT:	BT 309, LLC 200 DRYDEN ROAD, SUITE 2000 DRESHER, PA 19025			
BULK REQUIREMENTS				
ITEM	CODE	REQUIRED	EXISTING	PROPOSED
MIN LOT AREA	\$ 1276.09	20 AC	24,097 AC	24,097 AC
MIN LOT WIDTH	\$ 1276.09	800.0'	820.9'	820.9'
MIN YARD SETBACKS				
FRONT YARD	\$ 1276.09	MULTI-FAMILY APT & OFFICE - 200.0' OTHER USES - 100.0' ALONG NORRISTOWN ROAD	OFFICE 513.4'	APT BLDGS 521.2' OTHER USE 107.9'
SIDE YARD	\$ 1276.09	50.0'	112.9'	50.0'
REAR YARD	\$ 1276.09	100.0'	395.7'	112.5'
MAX PERMITTED HEIGHT	\$ 1276.09	MULTI-FAMILY APT 55.0' & 4 STORIES OFFICE 50.0' & 3 STORIES OTHER USES 35.0' & 2 STORIES	OFFICE <40.0' - 3 STORIES	APT BLDG <55.0' - 4 STORIES OFFICE <50' - 3 STORIES OTHER USES <35.0' - 2 STORIES
MAX BUILDING COVERAGE	\$ 1276.09	20.0% BASE REQUIREMENT 30.0% (BONUS PROVISION WHEN A PARKING STRUCTURE IS IMPLEMENTED)	5.6% (58,480 SF)	19.4% (203,879 SF)
MAX LOT COVERAGE	\$ 1276.09	60.0%	32.7% (343,285 SF)	46.9% (492,045 SF)
MIN BUILDING SPACING	\$ 1276.09	75.0'	40.5' (ENC)	79.3'
DENSITY	\$ 1276.09	NUMBER OF RESIDENTIAL UNITS PER GROSS ACRE SHALL NOT EXCEED 12 BASE 12 DWELLING UNITS / ACRE (888) BONUS WHEN WORKFORCE HOUSING IS IMPLEMENTED: 13.5 DWELLING UNITS / ACRE (324)	N/A	278 UNITS (11.58 DU/ACRE)
MIN PARKING, SERVICE, OR LOADING AREA SETBACKS	\$ 1276.09	10' FROM ANY SIDE YARD PROPERTY LINE ABUTTING A MAJOR ROADWAY (ADJ 309 RAMP)	4.1' (ENC) (ADJ 309 RAMP)	4.1' (ENC) (ADJ 309 RAMP) 20.0' ALL NEW AREAS
MIN PARKING, SERVICE, OR LOADING AREA SETBACKS	\$ 1276.09	75' FROM ANY SIDE OR REAR PROPERTY LINE	SIDE YARD ADJ TO ACTS 195.4'	SIDE YARD ADJ TO ACTS 195.4' REAR YARD TO OLD YORK RD CC 221.3'
SERVICE DRIVEWAY SETBACKS	\$ 1276.09	25' FROM SIDE OR REAR PROPERTY LINE	SIDE YARD ADJ TO ACTS 112.9'	SIDE YARD ADJ TO ACTS 25.5'
PARKING REQUIREMENTS - MULTIFAMILY APARTMENTS - OFFICE / RETAIL BUILDING	\$ 1276.09	MULTI-FAMILY APT* 278 UNITS x 1.5 STALLS=417 SPACES OFFICE** 77,819 GFA / 295SF=311 SPACES OTHER USE*** 46,350 GFA / 295SF=187 SPACES *15 STALLS / RESIDENTIAL UNIT **1 STALL / EVERY 250 SF OF GFA	623 SPACES (144,359 GFA)	APT BLDG 433 SPACES OFFICE 315 SPACES OTHER USE 234 SPACES
			ENC =	EXISTING NON-CONFORMITY

PENNSYLVANIA STATE HIGHWAY U.S. ROUTE 309
(A.K.A. FORT WASHINGTON EXPRESSWAY)
(VARIABLE WIDTH R.O.W. FOR LIMITED ACCESS)
(LIMITED ACCESS HIGHWAY)

BOHLER
SITE CIVIL AND CONSULTING ENGINEERING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
SUSTAINABLE DESIGN
PERMITTING SERVICES
TRANSPORTATION SERVICES

REVISIONS

REV	DATE	COMMENT	DRAWN BY	CHECKED BY

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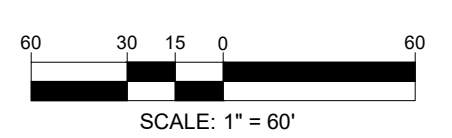
PROJECT No.: PAA240076-00-0A
DRAWN BY: PAB
CHECKED BY: CJH
DATE: 02/11/2026
CAD LDR: P-CUSE-PROP

MIXED USE DEVELOPMENT
FOR
BT 309, LLC
PROPOSED MIXED USE DEVELOPMENT
321 NORRISTOWN ROAD
MONTGOMERY COUNTY
LOWER GWYNEDD TOWNSHIP
PENNSYLVANIA, 19002

BOHLER
1600 MANOR DRIVE, SUITE 200
CHALFONT, PA 18914
Phone: (215) 996-9100
Fax: (215) 996-9102
www.BohlerEngineering.com

T.R. KNAB
REGISTERED LANDSCAPE ARCHITECT
PENNSYLVANIA LICENSE NO. 15003352
REGISTERED LANDSCAPE ARCHITECT

SHEET TITLE:
CONDITIONAL USE PLAN
SHEET NUMBER:
2
ORG. DATE - 02/11/2026



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April 10, 2026

Ms. Mimi Gleason
Township Manager
Lower Gwynedd Township
1130 N. Bethlehem Pike
Spring House, PA 19477

RE: **Traffic Review – Transportation Impact Study and Conditional Use Plans**
321 Norristown Road (S.R. 2052) – Spring House Mixed-Use Development
Lower Gwynedd Township, Montgomery County, PA
Project No. 314087-01-005

Dear Mimi:

As requested, on behalf of Lower Gwynedd Township, Bowman Consulting Group (Bowman) has completed our traffic engineering review of the proposed mixed-use development to be located at 321 Norristown Road (S.R. 2052) in Lower Gwynedd Township, Montgomery County, PA. Based on information provided in the submission, the proposed development will consist of 278 mid-rise apartments, 77,619 square feet of office space, a 30,750 square-foot grocery store, and 16,000 square feet of general retail space. Access to the site will continue to be provided via the existing signalized full-movement driveway (Boveri Drive) along Norristown Road (S.R. 2052).

The following documents were reviewed in preparation of our review:

- Transportation Impact Study – Springhouse Mixed-Use Development, prepared by TPD, Inc., last revised February 4, 2026.
- Transportation Impact Study Summary Memorandum – Springhouse Mixed-Use Development, prepared by TPD, Inc., dated February 4, 2026.
- Response to Comments Letter – Springhouse Mixed-Use Development, prepared by TPD, Inc., dated February 4, 2026.
- Conditional Use Plans – Mixed-Use Development, prepared by Bohler Engineering, dated February 11, 2026.

Based on our review of the submitted documents noted above, Bowman offers the following comments for consideration by the Township and action by the applicant.

General

1. The applicant should address the comments contained in this letter and provide revised materials to the Township and our office for further review and recommendations as the proposed development proceeds through the Township and PennDOT review process. The applicant's engineers must provide a response letter that describes how each specific review comment has been addressed, where each can be found in the study or materials.
2. The proposed development will be subject to the transportation impact fee of \$3,865 per "new" weekday afternoon peak hour trip and the applicant will be required to pay a Transportation Impact

Fee. If the proposed development moves forward to the land development phase, the transportation impact fee will be calculated at that time.

3. Since Norristown Road (S.R. 2052) is a state roadway, a Highway Occupancy Permit (HOP) will be required for any modifications within the legal right-of-way along Norristown Road (S.R. 2052). The Township and our office must be copied on all plan submissions and correspondence between the applicant and PennDOT and invited to any and all meetings between these parties.

Transportation Impact Study

4. The transportation impact study (TIS) should be concurrently reviewed by PennDOT at the appropriate time during the land development process to obtain concurrence and approvals on the access and associated improvements proposed in the study. Any comments from PennDOT are requested to also be coordinated with/copied to our office and Lower Gwynedd Township. It is noted that the PennDOT has provided preliminary comments regarding the TIS Scoping Application in its review dated April 2, 2026.
5. The applicant's traffic engineer concludes that under the 2027 and 2032 projected conditions, with the development of the proposed site, and with the site-related recommendations outlined in Table II of the Executive summary of the TIS, all study area intersections will satisfy PennDOT ILOS Standards. The study presents the following recommendations/conclusions (bullet items below), that should minimally be required of the applicant as we note after each, and of which will also be reviewed by PennDOT. In addition, we have provided recommendations for additional improvements that should be further considered and evaluated by the applicant, Township, and PennDOT. The improvements included in the revised TIS suggested for further evaluation by our office in our June 25, 2025 review letter are provided in **bold font below** for reference.

Norristown Road (S.R. 2052) Corridor

- Optimize traffic signal timings at the signalized study intersections.
- **In addition to the traffic signal timing adjustments for the Norristown Road (S.R. 2052) corridor listed above, we recommend the existing loop detection system for the Route 309 interchange traffic signals be replaced with detection systems that are consistent with the current Township traffic signal specifications in order to further optimize traffic flow through the interchange area. Additional traffic signal equipment upgrade requirements may be identified at intersections when a review of the design plans is completed for the proposed improvements along the corridor.**

PennDOT TIS guidelines state if the evaluation of the With Development Horizon Year Scenario to the Without Development Horizon Year Scenario indicates that the overall intersection levels-of-service have dropped, the applicant will be required to mitigate the levels-of-service if the increase in overall intersection delay is greater than 10-seconds. If the overall intersection delay increase is less than or equal to 10-seconds, mitigation of the intersection will not be required. It should be noted that the proposed traffic signal timing optimization at the signalized intersections along Norristown Road (S.R. 2052) from Bethlehem Pike (S.R. 2018) to Tennis Avenue (S.R. 2020) are expected to mitigate the overall intersection levels-of-service (LOS) impacts of the proposed development according to current PennDOT criteria. It is also noted that the Township will work with the Applicant's traffic engineer to evaluate the adjusted traffic signal timings for the Norristown

Road (S.R. 2052) and Bethlehem Pike (S.R. 2018) intersection to best optimize operations for the intersection.

Norristown Road (S.R. 2052) Site Access (Boveri Drive)

- Restripe the eastbound left-turn lane to increase the storage length to 250 feet.
- Maintenance of on-site vegetation to maximize available sight distance.
- **Extend the southbound right-turn lane on the site access approach to the first internal intersection via widening.**
- **Work with PennDOT and the Township on potential traffic signal equipment upgrades. If the proposed development moves forward, Bowman recommends that a review of the traffic signal equipment for the Boveri Drive intersection be completed to determine upgrades that will be required of the applicant for compliance with the current township traffic signal specifications.**
- **Work with PennDOT and the Township on potential traffic signal timing modifications to increase the green time on the westbound Norristown Road (S.R. 2052) approach in order to create a gap in the eastbound traffic stream to facilitate turns into and out of Beech Hollow Road.**

According to the turn lane warrant analysis summarized in Table 16, a 175-foot right-turn lane is warranted along the westbound Norristown Road (S.R. 2052) approach to Boveri Drive. Based on information provided in the study, the applicant is not proposing to install this right-turn lane due to steep grades adjacent to Norristown Road (S.R. 2052), small stream crossing of Norristown Road (S.R. 2052) and the existing walking trail along Norristown Road (S.R. 2052). It should be noted that the westbound Norristown Road (S.R. 2052) approach to Boveri Drive is expected to operate at LOS A during all three peak hours under 2027 and 2032 future projected conditions. The Township and the applicant should further evaluate the impacts to the existing features along the north side of Norristown Road (S.R. 2052) from widening Norristown Road (S.R. 2052) and relocating the trail to provide the right-turn lane and discuss with PennDOT during the HOP review process.

The residents located along Beech Hollow Road raised concerns at the January 2025 community meeting about the difficulty of making a left-turn from Beech Hollow Road onto Norristown Road (S.R. 2052), which could potentially be exacerbated by the proposed development. The separation distance between the Beech Hollow Road intersection and the existing traffic signal at Boveri Drive must be taken into consideration for the feasibility of lane improvements or traffic signal modifications. *The applicant's traffic engineer indicates in its response that the traffic signal timings have been optimized to meet PennDOT standards. Future modifications to the signal timings to allow for additional green time on the westbound Norristown Road (S.R. 2052) approach will be coordinated with PennDOT. This additional westbound green time would provide a gap in the eastbound traffic for the vehicles entering and exiting Beech Hollow Road.*

Any improvements to Norristown Road (S.R. 2052) or modifications to the existing traffic signal would require PennDOT approval. The applicant and Township should coordinate any potential improvements to the Norristown Road (S.R. 2052)/Beech Hollow Road intersection with PennDOT during the PennDOT HOP review process.

Norristown Road (S.R. 2052) Site Frontage

- Provide a 10-foot-wide trail along the Norristown Road (S.R. 2052) site frontage. In addition, provide a 10-foot-wide trail through portions of the site that connects to the proposed trail along the Norristown Road (S.R. 2052) site frontage and to the existing trail to the east of the site.
- Provide sidewalk extending across the Route 309 northbound on-ramp, under Route 309, across the Route 309 southbound off-ramp terminating at/near the SHIP property to the west of the site.
- Provide PennDOT compliant crosswalks and pedestrian traffic signal equipment at the signalized study intersections between Boveri Drive and the Route 309 southbound off-ramp.

Based on our preliminary review of the proposed sidewalk extending under the Route 309 along Norristown Road (S.R. 2052), identified in the Traffic Impact Summary memorandum, it appears that providing a 4' sidewalk and single-faced barrier curb may reduce the outermost westbound through lane to less than 11' in width which may require adjustments to lane widths and or shifting of travel lanes on Norristown Road (S.R. 2052) through the interchange area. It is noted that the applicant's traffic engineer has included the conceptual sketch of the proposed sidewalk with the TIS Scoping Application submitted to PennDOT on March 4, 2026. PennDOT has provided preliminary comments regarding the proposed sidewalk in their TIS Scoping Application review dated April 2, 2026. If the proposed development moves forward, a more detailed concept plan should be prepared for review by the Township and PennDOT.

Norristown Road (S.R. 2052) and Tennis Avenue (S.R. 2020)

- **Coordinate with PennDOT and the Township on shifting where the transition occurs between the one westbound lane and two westbound lanes further west in order to extend the existing eastbound left-turn lane approaching Tennis Avenue (S.R. 2020).**
- **In addition to the lane improvements suggested in our June 25, 2025 letter and the recommendations provided in the TIS, Bowman recommends that a review of the traffic signal equipment for the Tennis Avenue intersection be completed with the design plans for the proposed improvements to determine upgrades that may be required of the applicant to improve traffic operations for the intersection.**

PennDOT TIS guidelines state that applicants may be required to address available storage and queue lengths at critical movements or approaches even if the overall intersection LOS requirements are met. The applicant's engineer should evaluate feasible improvements at the intersection of Norristown Road (S.R. 2052) and Tennis Avenue (S.R. 2020) to accommodate the 2027 and 2032 future projected queues that are projected to exceed the available storage length for the eastbound left-turn movement on Norristown Road (S.R. 2052) during the weekday morning and weekday afternoon peak hours according to the queue analysis provided in Tables 13 to 15 of the TIS.

The applicant's traffic engineer indicates in its response that the existing eastbound Norristown Road (S.R. 2052) left-turn queue storage area is approximately 100 feet and that queues for this movement exceed 100 feet under existing conditions during the AM Peak Hour and during the AM and PM peak hours during all projected conditions. Due to the high volume of left turns, the queue cannot be shortened through retiming alone. Additionally, the road cannot be restriped due to the presence of

narrow shoulders and the variable message board structure within the westbound shoulder. However, as part of further coordination with Bowman, the possibility of shifting where the transition occurs between the one (1) westbound lane to two (2) westbound lanes further west in order to extend the existing eastbound left turn lane approaching Tennis Avenue was discussed. Since Norristown Road (S.R. 2052) is a PennDOT owned roadway, the proposed "lane transition shift" would require PennDOT approval. The applicant and the Township Traffic Engineer will coordinate with PennDOT on this potential "shift" at the appropriate time during the Land Development process.

If improvements to address available storage and queue lengths at critical movements or approaches are not feasible and agreed upon by PennDOT, the applicant should identify other improvements for the intersection or Norristown Road (S.R. 2052) corridor in place of those referenced above. Additionally, the applicant may be required by PennDOT to provide an Alternative Transportation Plan (ATP) that proposes necessary storage and/or infrastructure improvements in the study area that are feasible and will improve transportation (multi-modal) mobility.

6. Additional comments and requirements could be raised, and revisions may be required for the site access, and recommended transportation improvements for the Norristown Road (S.R. 2052) corridor during the Conditional Use, Land Development and PennDOT Highway Occupancy Permit (HOP) review processes.
7. Based on information provided in Table 6 of the TIS, the proposed development will generate 311 total "new" trips during the weekday morning peak hour, 339 total "new" trips during the weekday afternoon peak hour, and 382 total "new" trips during the Saturday midday peak hour. The table below summarizes the "new" trips for the proposed development.

**Total "New" Trips
Proposed Site**

Land Uses	Size	AM Peak	PM Peak	Saturday Midday Peak
Office (Existing to Remain)	77,619 s.f.	97	84	57
Proposed Residential	278 units	105	55	73
Proposed Retail Buildings	46,750 s.f.	109	200	252
Total New Trips		311	339	382

The existing site consists of a 143,295 square-foot office building which if fully occupied would generate 180 total "new" trips during the weekday morning peak hour, 173 total "new" trips during the weekday afternoon peak hour, and 126 total "new" trips during the Saturday midday peak hour. Therefore, the proposed development is expected to generate an additional 131 total "new" trips during the weekday morning peak hour, an additional 166 total "new" trips during the weekday afternoon peak hour, and an additional 256 total "new" trips during the Saturday midday peak hour over the existing office buildings of the site if fully occupied.

8. Crash resumes should be provided to our office and PennDOT during the land development and HOP review process in order for the crashes summarized in the study at the intersection of Norristown Road (S.R. 2052) and Route 309 Northbound Ramps can be further evaluated. The evaluation may help determine if there is a pattern to the crashes at this intersection and if the provision of safety improvements may benefit this intersection and reduce the types of crashes that are occurring there. The applicant's review of the same should indicate their recommendation, as

well. *The applicant's traffic engineer indicates in its response that the crash resumes will be provided during the land development and HOP processes.*

9. If the proposed development proceeds to the land development process, the applicant's traffic engineer should discuss with the Township whether additional background developments should be included in future revisions to the TIS.
10. The applicant must forward the revised electronic Synchro files to our office with future submissions for further review, and verification, to confirm the analyses inputs and operations.
11. If the proposed development is approved and constructed, we continue to recommend that the applicant complete a post-development trip generation study after the development is completely constructed and fully occupied to determine if additional traffic analysis at any of the study intersections should be completed to determine if further mitigation should be required of the applicant. *The applicant's traffic engineer indicates in its response that this comment is noted.*

Conditional Use Plans

In addition to the improvements identified for the site frontage and access at the signalized intersection of Norristown Road (S.R. 2052) and Boveri Drive referenced in comment 5 of this letter, we offer the following additional comments for consideration pertaining to the conditional use plan.

12. The applicant's engineer should evaluate the feasibility of adjusting the alignment of the first internal intersection to the site so that the minor approaches to this intersection are aligned opposite each other.
13. The applicant's engineer should consider alternative access configurations for the parking areas leading to/from the apartment building and the supermarket/commercial area on the northern end of the main access drive leading to/from Norristown Road (S.R. 2052) to improve internal circulation and access management in this area of the site.
14. The applicant's engineer should review the proposed parking and consider whether the proposed parking spaces located in the vicinity of the parking garage entrance and the internal intersection on the northern end of the main access drive leading to/from Norristown Road (S.R. 2052) should be relocated to other areas of the parking fields.
15. The applicant has proposed an emergency access only driveway connecting to the Gwynedd Estates parking lot adjacent to the property. We defer to the Township Fire Marshal on the most appropriate location of the proposed emergency access only driveway.
16. Turning templates should be provided demonstrating the ability of emergency vehicles, trash trucks, and the largest expected delivery vehicle expected to routinely access the site to maneuver into and out of the site access along Norristown Road (S.R. 2052) and entirely through the site (including through the emergency access located adjacent to the apartment building). It is recommended that the Township Fire Marshal review the plans for accessibility and circulation needs of emergency apparatus.

17. A more detailed review of land development plans will be conducted if and when the project moves forward through a detailed land development review and approval process. Additional comments and requirements could be raised, and revisions may be required for the site access, roads internal to the development, pedestrian facilities, signage, and parking at that time.

If you or the Township have any questions, or require clarification on the above comments, please contact me.

Sincerely,



Chad Dixson, AICP, PP
Senior Project Manager

CED/BMJ

cc: Jamie Worman, Assistant Township Manager
Patty Sexton-Furber, Building Codes Administrator
James Hersh, P.E., Gilmore & Associates, Inc.
Neil Stein, Esquire, Solicitor
Al Comly, Township Fire Marshal
Mirlene SaintVal, P.E., PennDOT
Nidhi Mehra, PennDOT
John Gallagher, P.E., PennDOT
Peter Clelland, BT 309, LLC (Applicant)
Christen Pionzio, Esquire, HRMM&L (Applicant's Attorney)
Thomas Knab, R.L.A, Bohler Engineering (Applicant's Architect)
Matt Hammond, P.E., TPD, Inc. (Applicant's Traffic Engineer)



Office of the Fire Marshal

1130 N. Bethlehem Pike--P.O.Box 625--Spring House, PA 19477-0625--(215) 646-5302--FAX (215) 646-3357

MEMORANDUM

TO: MIMI GLEASON, TOWNSHIP MANAGER
FROM: AL COMLY, FIRE MARSHAL
DATE: APRIL 14, 2026

RE: **SPRING HOUSE CORPORATE CENTER
BET DEVELOPMENT
321-323 NORRISTOWN ROAD**

REVIEW CONDITIONAL USE SUBMITTAL
PREPARED BY BOHLER ENGINEERING
DATED 2-11-2026

SUBMITTAL

- 1 EXISTING CONDITIONS PLAN (SHOWING SITE BOUNDARIES)
- 2 CONDITIONAL USE PLAN (SHOWING PROPOSED LAYOUT)
- 3 SITE PLAN (RENDERED IN COLOR TO SHOW PROPOSED LAYOUT)

SUMMARY PLAN SHOWS THE SITE WITH THE FOLLOWING:

- EXISTING 323 OFFICE BUILDING REMAINS
- FORMER 321 OFFICE BUILDING IS REMOVED
- NEW CONSTRUCTION: HOUSING BUILDING (278 UNITS) WITH PARKING GARAGE (433 SPACES) IN THE CORE AREA IN THE NORTH CENTRAL AREA OF THE SITE
- NEW CONSTRUCTION: RETAIL BUILDING IN THE SOUTHEAST AREA OF THE SITE (12,000 SF)
- NEW CONSTRUCTION: LARGE RETAIL, WITH ADJACENT SMALLER RETAIL BUILDINGS ALONG THE WESTERN BOUNDARY OF THE SITE (ADJACENT TO US 309) (30,750 SF WITH 4,000 SF APPENDAGE)

PROPOSED PLAN SHOWS BUILDINGS AS BLOCKS OF SPACE. USES AND OCCUPANCIES TO BE DETERMINED AT A LATER DATE.

THE SITE IS ACCESSED FROM NORRISTOWN ROAD BY BOVERI DRIVE—A DIVIDED ROAD WITH 2 LANES EACH SIDE OF THE CENTER GREEN AREA. CONSTRUCTION ON THE WESTERN BOUNDARY OF THE SITE. NO TOPOGRAPHY INFORMATION HAS BEEN PROVIDED IN THE SUBMITTAL

PLAN COMMENTS—TOWNSHIP FIRE CODE—INTERNATIONAL FIRE CODE 2018 EDITION WITH LOWER GWYNEDD AMENDMENTS

EMERGENCY ACCESS

THE DRIVEWAY SHOWN ON THE DRAWINGS NOW ACCESSES THROUGH THE ACTS GWYNEDD ESTATES PROPERTY. I’VE REVIEWED THIS WITH THE FIRE CHIEF AND WE AGREE ON THE PROPOSED APPROACH. IN MY PREVIOUS MEMO DATED AUGUST 13, 2025, I NOTED SOME TECHNICAL DETAILS TO BE FINALIZED, BUT THEY ARE TRADITIONALLY ADDRESSED IN THE LAND DEVELOPMENT PROCESS, SPECIFICALLY:

- WIDTH (IFC 503.2.1)
- SLOPE, INCLUDING ARRIVAL AND DEPARTURE POINTS
- TURNING RADIUS
- SURFACE (IFC 503.2.3)

ADDITIONALLY, EXISTENCE OF A MEMO OF UNDERSTANDING WITH ACTS AGREEING TO THIS LAYOUT, AND DETAILING OF ANY PROPOSED SECURITY TO LIMIT THIS DRIVEWAY TO EMERGENCY USE ONLY WILL BE ADDRESSED IN LAND DEVELOPMENT.

THE PROPOSED RESIDENTIAL BUILDING IS SHOWN WITH A ROADWAY COMPLETELY ENCIRCLING THE BUILDING.

OTHER COMMENTS TO ADDRESS IN LAND DEVELOPMENT

- ALL STRUCTURES, INCLUDING THE PARKING GARAGE, WILL BE EQUIPPED WITH AUTOMATIC SPRINKLERS INSTALLED IN ACCORDANCE WITH NFPA 13 AUTOMATIC SPRINKLERS.
- PARKING GARAGE DOES NOT APPEAR TO MEET THE REQUIREMENT FOR AN “OPEN PARKING GARAGE” SECTION 406 OF THE BUILDING CODE PROVIDES THE DETAILS ASSOCIATED WITH THIS CALCULATION. THIS WILL AFFECT THE REQUIREMENTS FOR EMERGENCY POWER & VENTILATION.
- EV CHARGING STATIONS CANNOT BE INSTALLED IN THE GARAGE. (STANDARDS FOR THIS ARE CURRENTLY UNDER DEVELOPMENT)
- HYDRANT LOCATIONS, FIRE DEPARTMENT CONNECTIONS DUMPSTER LOCATIONS, AND DELIVERY SPACES WILL BE ADDRESSED.

**MONTGOMERY COUNTY
BOARD OF COMMISSIONERS**

Jamila H. Winder, Chair
Neil K. Makhija, Vice Chair
Thomas DiBello, Commissioner

www.montgomerycountypa.gov



**Montgomery County
Planning Commission**

Montgomery County • PO Box 311
Norristown, PA 19404-0311

610-278-3722
planning@montgomerycountypa.gov

Scott France, AICP
Executive Director

April 15, 2026

Ms. Jamie Worman, Assistant Township Manager
Lower Gwynedd Township
1130 North Bethlehem Pike, Box 625
Spring House, Pennsylvania 19477

Re: MCPC #24-0218-002
Plan Name: BT 309 Development
Situate: Norristown Road (north), Route 309 Expressway (east)
Lower Gwynedd Township

Dear Ms. Worman:

We have reviewed the above-referenced zoning map and text amendment in accordance with Section 609 of Act 247, "The Pennsylvania Municipalities Planning Code," as you requested on March 5, 2026. We have also reviewed a conditional use application included with this submission. We forward this letter as a report of our review.

BACKGROUND

The applicant, BT 309, LLC, requests a zoning map amendment for a 24.1-acre tract of land located at 321 Norristown Road (County Parcel ID 39-00-02956-00-2) in Lower Gwynedd Township to rezone the property from the D-1 Special Use District to the MF-3 Multifamily Residential District. The site is currently developed with a two-story and a three-story office building and is located adjacent to U.S. Route 309.

Along with the map amendment, a zoning text amendment aims to revise the Lower Gwynedd Township Zoning Code to add a new mixed-use development option within the MF-3 Multifamily Residential District. The amendment permits, through conditional use, a mix of multifamily residential, including workforce housing, as well as office, retail, restaurant, and related commercial uses on properties fronting a major roadway.

The text amendment clarifies use permissions and development standards specific to mixed-use projects, including dimensional regulations, parking requirements, building height limits, and design criteria. It also introduces provisions related to workforce housing and residential parking structures, allowing density incentives and structured parking under certain conditions. The applicant states that this text amendment aims to create a coordinated mixed-use development option within the MF-3 District.

The applicant has also submitted a conditional use application and a conceptual site plan for a proposed mixed-use development on the subject parcel, designed in accordance with standards outlined in the zoning text amendment. The plan involves demolishing an existing two-story office building on the site and constructing a four-story multifamily apartment building with 278 units, including an internal parking structure that provides 433 spaces, while retaining an existing three-story office building with 315 parking

spaces. The proposal also includes the planned construction of three new commercial buildings totaling approximately 46,750 square feet (30,750 SF, 12,000 SF, and 4,000 SF, respectively), served by 234 parking spaces, along with internal circulation, pedestrian walkways, and landscaped areas. The conditional use plan outlines how the proposed residential, office, and limited retail components would operate together as a coordinated mixed-use campus.

The Montgomery County Planning Commission (MCPC) previously reviewed ordinances related to the applicant's property and submitted comments to the township in a letter dated November 14, 2024. The letter stated that the map amendment largely aligns with the objectives and themes of the Montgomery County Comprehensive Plan, *Montco 2040: Shared Vision*. We also supported the proposed MF-3 District text amendment but identified areas for refinement before adoption. Comments focused on clarifying the administration of workforce housing requirements, addressing concerns about redundant reporting, and improving sustainability through reduced impervious coverage, green parking strategies, and incentives for structured parking. Our office also recommended adding design standards to manage better the massing of taller multifamily buildings, such as façade step-backs, and supported reduced parking ratios to provide greater design flexibility while promoting more sustainable development outcomes.

COMPREHENSIVE PLAN COMPLIANCE

TOWNSHIP COMPREHENSIVE PLAN

The ordinance amendments and plan generally align with the township's land use goals and objectives outlined in the Lower Gwynedd Comprehensive Plan 2045 DRAFT.

According to the document's Future Land Use Map (Map 2.2), the applicant's property is classified as "Mixed-Use." As stated, the category may be described as:

"Pedestrian-friendly existing commercial sites, typically on busier roads, that allow for flexibility of uses to serve residents. Uses may include a mix of retail, service, office, and institutional uses, as well as residential. Adaptive reuse of historic buildings is encouraged. Uses can be mixed within a building. Streetscape design will help to create attractive, walkable, and engaging places."

The draft indicates that the Lower Gwynedd 2045 Future Land Use Plan, as shown on Map 2.2, largely corresponds to the future land use categories outlined in the Montgomery County Future Land Use Plan. Apart from township parks, open space, preserved farmland, and other conservation lands, the entire township falls within the Designated Growth Area, as shown on the "Development Potential Map" in the Montgomery County Comprehensive Plan, *Montco 2040: A Shared Vision*.

RECOMMENDATION

MCPC supports this proposal; however, during our review, we found the following issues that the applicant and municipality may want to consider before final plan approval.

REVIEW COMMENTS

ZONING TEXT AMENDMENT

- A. Conditional Use Application Requirements (\$1276.09. (e). (1)). Our office suggests adding additional application standards to this ordinance. We note, for example, that the ordinance appears to contain no requirement for a community impact statement.

Such information would support informed, transparent decision-making, help identify mitigation measures early in the review process, and ensure that approvals are based on documented evidence of community compatibility rather than on assumptions or isolated project details.

- B. Conditional Use Standards for Consideration. The text amendment includes a provision stating that a mixed-use development, as defined by the ordinance, “shall be permitted when authorized by conditional use, in accordance with §1298.07 Conditional Uses.” We note that the conditional requirements listed in Section 1298.07 are general. It is suggested that the MF-3 District requirements be amended to include specific and measurable development-related standards for conditional use approval.

Specific conditional use requirements are crucial because they promote consistency and fairness, ensuring that certain land uses are approved reliably and in accordance with clear standards. By requiring applicants to demonstrate compliance with the ordinance's criteria, municipalities can provide flexibility for more complex or higher impact uses while still protecting public health, safety, and neighborhood harmony. These requirements can also improve the legal defensibility of decisions by linking approvals or denials to objective findings of fact, thereby providing transparency for the public and predictability for applicants.

- C. Master Plan Requirements (§1276.09. (e). (2)). The text amendment requires the preparation and submission of a master plan. While adequate, MCPC suggests that the standards in this section could be improved by adding language specifying that the master plan should be consistent with tentative sketch plan requirements, pursuant to §1230.13 of Chapter 1230, Subdivision and Land Development. Additionally, the language should specify that the master plan include landscape planting information for the entire tract and depict pedestrian accommodations on the development tract in logical locations to facilitate “pedestrian movement between buildings, between buildings and parking areas, and between buildings, parking areas, and open spaces.”
- D. Open Space Requirements. We note that the ordinance, as written, lacks any open space requirements. Providing open space is essential in a mixed-use development with offices, retail, and apartments, as it balances density with livability and functionality. In a mixed-use environment, open space serves as shared, adaptable infrastructure supporting various user groups—residents, employees, customers, and visitors—by offering areas for recreation, informal gatherings, respite, and visual relief from buildings and parking. It helps organize the site by establishing logical relationships among uses, improving orientation and walkability, and fostering a unified sense of place rather than a collection of isolated components.
- E. Density-Bonus (§1276.09. (h). (1)). The ordinance includes a density-bonus option that allows a bonus for providing workforce housing on the site.

Density-bonus options are widely regarded as an effective zoning tool because they offer flexibility and incentives that align private development choices with public planning objectives. Rather than relying solely on strict base-density limits, a density-bonus system enables municipalities to promote desired outcomes, such as affordable housing, open space preservation, improved design quality, pedestrian amenities, sustainability features, or structured parking, by granting additional development capacity in return. This incentive-based approach is often more effective and justifiable than mandates because it allows developers to participate where the bonus makes economic and design sense.

Accordingly, consideration should be given to amending the ordinance to include additional bonus options for items such as gathering spaces, seating, or open space.

- F. Off-Street Parking and Loading (§1276.09. (j)). The proposed amendment introduces special mixed-use development parking standards that partially duplicate the township's existing parking requirements and, in some cases, differ from them by setting lower minimum parking requirements. It also includes a separate parking-reduction provision under §1276.09.(i).(8). For example, §1276.09.(i).(4) requires "one parking space for every 100 square feet of floor space devoted to patron use" for restaurants, while existing municipal parking standards in §1294.01(b).(11) mandate *two parking spaces for every 50 square feet of floor space devoted to patron use*. Meanwhile, according to a proposed parking reduction regulation in this ordinance, "the total parking may be reduced by a maximum of up to 20%, provided the applicant can demonstrate the reduction is warranted through the submission of a parking study."

This structure inadvertently risks double-counting the reduction in intent, lowering the baseline, and allowing additional relief, while also introducing internal inconsistencies when mixed-use standards differ from the globally adopted parking rules, all without a clear policy rationale. The township may wish to clarify whether mixed-use parking efficiencies should be addressed by adjusting base parking ratios or by applying parking reduction standards. We advise using only one approach, not both.

A cleaner approach is to do one of the following: keep base parking standards consistent with (or clearly tied to) the global parking requirements and rely on the parking reduction provisions to provide flexibility for mixed-use developments; or intentionally set lower base parking ratios for mixed-use development to reflect shared parking efficiencies, but then limit, narrow, or clearly recalibrate the separate reduction provisions so they are not redundant. What should be avoided is a system in which it is unclear which standards apply or whether a mixed-use project can benefit from both reduced base ratios and reduction waivers without a policy check.

- G. "Common Architectural Theme" (§1276.09. (p)). The language in the text amendment states that "all new buildings within the Mixed-Use Development shall be constructed in accordance with an overall plan and a common architectural theme as approved by the Board of Supervisors during the conditional use stage." While consistent with the master plan requirements, we note that the ordinance appears to lack appearance or design standards for *existing* buildings on the development site that may be retained or repurposed. Without such requirements, it is unclear how a proposed mixed-use development comprising existing and new buildings will function as a unified whole.

Therefore, it is advised that this section be revised or amended to include language or provisions that ensure buildings retained and integrated into the development shall be "architecturally consistent" in terms of materials, massing, or style.

- H. Parking Structures (§1298.20. (b). (6)). The applicant has proposed amendments to regulations governing parking structures, under which "total building coverage may be increased from 20% to 30% if a parking structure is included as part of the Mixed-Use Development." While adequate, we note that a parking garage would typically result in a corresponding *reduction in surface parking and paved area*, but the amendment does not include a parallel adjustment to the maximum impervious coverage. As drafted, the provision therefore allows additional building footprint without explicitly ensuring that the overall impervious surface area is reduced or even held constant. This creates a policy disconnect between the stated intent of encouraging structured parking and the quantitative standards governing site coverage and stormwater impacts.

To fully align the incentive structure with the underlying site design and environmental objectives, the ordinance should be clarified to require that any increase in allowable building coverage associated with a parking garage be offset by a *proportional reduction in permitted impervious coverage* or be conditioned on documented reductions in surface parking area. This approach would ensure that the

incentive for structured parking yields a net benefit to the site rather than an unintended increase in overall site coverage intensity.

CONDITIONAL USE PLAN SUBMISSION

- A. General Comment. The proposed development generally meets applicable land development standards and reflects a conventional approach to site design. While the project is functional and appropriate in many respects, it takes a largely utilitarian approach that does not fully leverage opportunities to enhance the streetscape, strengthen placemaking elements, or incorporate more forward-looking sustainability practices. As the proposal moves forward, consideration should be given to refinements that better address the pedestrian experience, public-realm design, and long-term environmental performance, helping the development more fully realize the site's potential and contribute positively to community character.
- B. Central Open Space/Amenity Area. While we commend the applicant for including a proposed passive recreation area with a bird sanctuary in the rear of the site, we recommend that this mixed-use development include open space or an "amenity area" for residents and/or a public gathering area for visitors or office workers.

At minimum, the gathering space should function as a usable civic-scaled outdoor room that supports informal social interaction, enhances walkability between mixed-use components, and contributes to placemaking objectives. The space should be expressly designed for people, not vehicles, and should reinforce the development's mixed-use character and pedestrian orientation.

- C. Pedestrian Circulation. The pedestrian circulation system is acceptable at a preliminary level; however, further refinement is encouraged to improve walking connectivity between the site's land uses and to support a more integrated, mixed-use development pattern. Plans should also place greater emphasis on providing clear, continuous, and ADA-accessible pedestrian routes among the office, retail, open space, and multifamily components to ensure safe, equitable access for all users. At a minimum, we recommend providing a pedestrian connection to the passive recreation area.

In a related issue, the pedestrian circulation pattern from the rear office parking area to the building entrance is unclear, and additional consideration may be needed to provide a safe, direct pedestrian route that minimizes conflicts with internal vehicular movements.

Lastly, safe pedestrian access from the adjacent residential development to the retail portion of the site is not clearly addressed, particularly given the placement of a central vehicular access drive. Additional pedestrian crossings and traffic-calming features may be necessary to reduce potential pedestrian-vehicle conflicts.

- D. Emergency Access. The plan shows an emergency access road/drive on the site. We defer to the Township Engineer and Township Fire Marshal to assess whether the proposed layout and alignment are sufficient.

CONCLUSION

We reiterate that the MCPC generally supports these map and text amendments and overall conditional use plan; however, we recommend that municipal officials consider the issues raised in this letter.

Please note that the review comments and recommendations in this report are advisory to the municipality, and final disposition on the approval of any proposal will be made by the municipality.

Should the governing body adopt the proposed zoning ordinance amendments, Section 609 of the Municipalities Planning Code requires that we be sent an official copy within 30 days.

Sincerely,

A handwritten signature in black ink that reads "Kevin Chavous". The signature is written in a cursive, flowing style.

Kevin Chavous, ASLA, SITES AP, LEED AP, WELL AP, CNU-A, AICP CUD
Design Planner II
610.278.3731 e-mail kevin.chavous@montgomerycountypa.gov

c: Peter Clelland, BET Investments, Inc., Applicant
Julie Von Spreckelsen, Esq., Eastburn and Gray PC, Applicant's Representative
Bohler Engineering, Applicant's Engineer
Mimi Gleason, Township Manager
Kenneth Amey, AICP, Township Zoning Officer
Craig Melograno, Chairman, Township Planning Commission
Neil Stein, Esq., Township Solicitor



BLOCK 19
UNIT 9
APN #39-00-04330-00-5
N/F LANDS OF
OLD YORK ROAD COUNTRY CLUB
OF MONTGOMERY COUNTY
D.B. 3241, PG. 515

BLOCK 19
UNIT 100
N/F LANDS OF
ADULT COMMUNITIES
TOTAL SERVICES, INC.
D.B. 4577, PG. 489



LOCATION MAP
SCALE: 1" = 1,000'
SOURCE: BING MAPS

BOHLER
SITE CIVIL AND CONSULTING ENGINEERING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
SUSTAINABLE DESIGN
PERMITTING SERVICES
TRANSPORTATION SERVICES

REVISIONS

REV	DATE	COMMENT	DRAWN BY	CHECKED BY

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THIS DRAWING IS INTENDED FOR MUNICIPAL AND/OR AGENCY REVIEW AND APPROVAL. IT IS NOT INTENDED AS A CONSTRUCTION DOCUMENT UNLESS INDICATED OTHERWISE.

PROJECT No.: PAA240076-00-0A
DRAWN BY: PAB
DATE: 02/11/2026
CAD LID: P-CUSE-DEV

MIXED USE DEVELOPMENT
FOR
BT 309, LLC
PROPOSED MIXED USE DEVELOPMENT
321 NORRISTOWN ROAD
MONTGOMERY COUNTY
LOWER GWYNEDD TOWNSHIP
PENNSYLVANIA, 19002

BOHLER
1600 MANOR DRIVE, SUITE 200
CHALFONT, PA 18914
Phone: (215) 996-9100
Fax: (215) 996-9102
www.BohlerEngineering.com

T.R. KNAB
REGISTERED LANDSCAPE ARCHITECT
PENNSYLVANIA LICENSE NO. 15403352
REGISTERED LANDSCAPE ARCHITECT

SHEET TITLE:
SITE PLAN
SHEET NUMBER:
3
ORG. DATE - 02/11/2026

ZONING TABLE

ZONE: MF-3
USE PERMITTED BY CONDITIONAL USE: MIXED USE DEVELOPMENT

APPLICANT/ OWNER INFORMATION

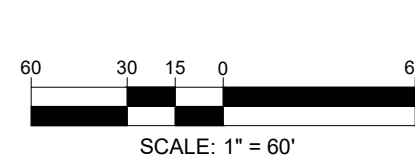
APPLICANT: BT 309, LLC
200 DRYDEN ROAD, SUITE 2000
DRESHER, PA 19025

BULK REQUIREMENTS

ITEM	CODE	REQUIRED	EXISTING	PROPOSED
MIN LOT AREA	\$ 1276.09	20 AC	24.097 AC	24.097 AC
MIN LOT WIDTH	\$ 1276.09	800.0'	820.9'	820.9'
MIN YARD SETBACKS				
FRONT YARD	\$ 1276.09	MULTI-FAMILY APT & OFFICE - 200.0' OTHER USES - 100.0' ALONG NORRISTOWN ROAD	OFFICE 513.4'	APT BLDGS 521.2' OTHER USE 107.9'
SIDE YARD	\$ 1276.09	50.0'	112.9'	50.0'
REAR YARD	\$ 1276.09	100.0'	395.7'	112.5'
MAX PERMITTED HEIGHT	\$ 1276.09	MULTI-FAMILY APT 55.0' & 4 STORIES OFFICE 50.0' & 3 STORIES OTHER USES 35.0' & 2 STORIES	OFFICE <40.0' - 3 STORIES	APT BLDG <55.0' - 4 STORIES OFFICE <50' - 3 STORIES OTHER USES <35.0' - 2 STORIES
MAX BUILDING COVERAGE	\$ 1276.09	20.0% BASE REQUIREMENT 30.0% (BONUS PROVISION WHEN A PARKING STRUCTURE IS IMPLEMENTED)	5.6% (58,480 SF)	19.4% (203,879 SF)
MAX LOT COVERAGE	\$ 1276.09	60.0%	32.7% (343,285 SF)	46.9% (492,045 SF)
MIN BUILDING SPACING	\$ 1276.09	75.0'	40.5' (ENC)	79.3'
DENSITY	\$ 1276.09	NUMBER OF RESIDENTIAL UNITS PER GROSS ACRE SHALL NOT EXCEED 12 BASE 12 DWELLING UNITS / ACRE (288) BONUS WHEN WORKFORCE HOUSING IS IMPLEMENTED: 13.5 DWELLING UNITS / ACRE (324)	N/A	278 UNITS (11.58 DU/ACRE)
MIN PARKING, SERVICE, OR LOADING AREA SETBACKS	\$ 1276.09	10' FROM ANY SIDE YARD PROPERTY LINE ABUTTING A MAJOR ROADWAY (ADJ 309 RAMP)	4.1' (ENC) (ADJ 309 RAMP)	4.1' (ENC) (ADJ 309 RAMP) 20.0' ALL NEW AREAS
MIN PARKING, SERVICE, OR LOADING AREA SETBACKS	\$ 1276.09	75' FROM ANY SIDE OR REAR PROPERTY LINE	SIDE YARD ADJ TO ACTS 196.4'	SIDE YARD ADJ TO ACTS 196.3'
MIN PARKING, SERVICE, OR LOADING AREA SETBACKS	\$ 1276.09	75' FROM ANY SIDE OR REAR PROPERTY LINE	REAR YARD TO OLD YORK RD CC 203.3'	REAR YARD TO OLD YORK RD CC 221.3'
SERVICE DRIVEWAY SETBACKS	\$ 1276.09	25' FROM SIDE OR REAR PROPERTY LINE	SIDE YARD ADJ TO ACTS 112.9'	SIDE YARD ADJ TO ACTS 25.5'
PARKING REQUIREMENTS - MULTIFAMILY APARTMENTS - OFFICE / RETAIL BUILDING	\$ 1276.09	MULTI-FAMILY APT* 278 UNITS x 1.5 STALLS=417 SPACES OFFICE** 77,819 GFA / 2955 SF=311 SPACES OTHER USE*** 46,750 GFA / 2955 SF=187 SPACES *15 STALLS / RESIDENTIAL UNIT **1 STALL / EVERY 250 SF OF GFA	623 SPACES (144,359 GFA)	APT BLDG 433 SPACES OFFICE 315 SPACES OTHER USE 234 SPACES
			ENC =	EXISTING NON-CONFORMITY

PENNSYLVANIA STATE
HIGHWAY U.S. ROUTE 309
(A.K.A. FORT WASHINGTON EXPRESSWAY)
(VARIABLE WIDTH ROAD FOR LIMITED ACCESS)
(LIMITED ACCESS HIGHWAY)

NORRISTOWN ROAD
(A.K.A. S.R. 2007)(L.R. 1007)
(VARIABLE WIDTH LEGAL HIGHWAY)
(ASPHALT ROADWAY)
(TWO WAY TRAFFIC)



RESIDENTIAL

ARCHITECTURAL
FEATURES MAX. HT.
(+58'-0")

T.O. FLAT ROOF
(+48'-0")

GRADE
(0'-0")



ARCHITECTURAL
FEATURES MAX. HT.
(+58'-0")

T.O. FLAT ROOF
(+48'-0")

GRADE
(0'-0")



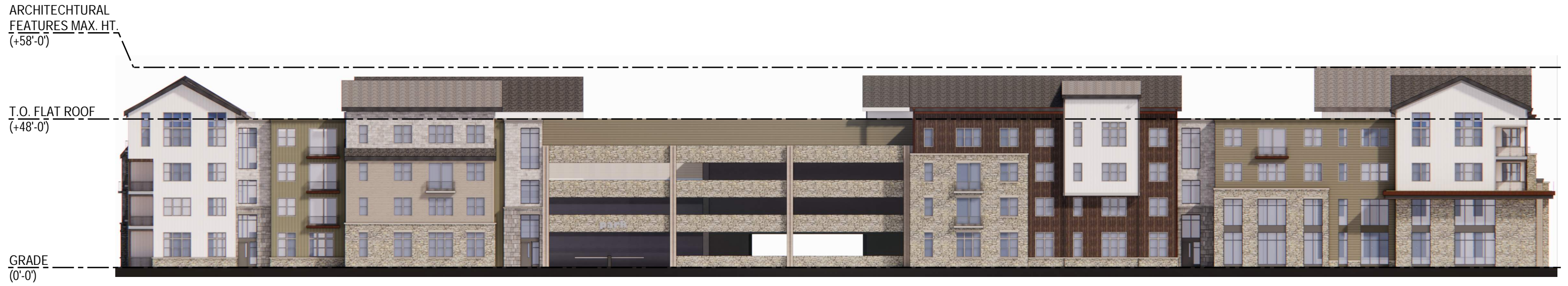
BUILDING ELEVATIONS



ARCHITECTURAL EXHIBITS | 12 FEBRUARY 2026

BET INVESTMENTS | SPRING HOUSE REDEVELOPMENT

RESIDENTIAL



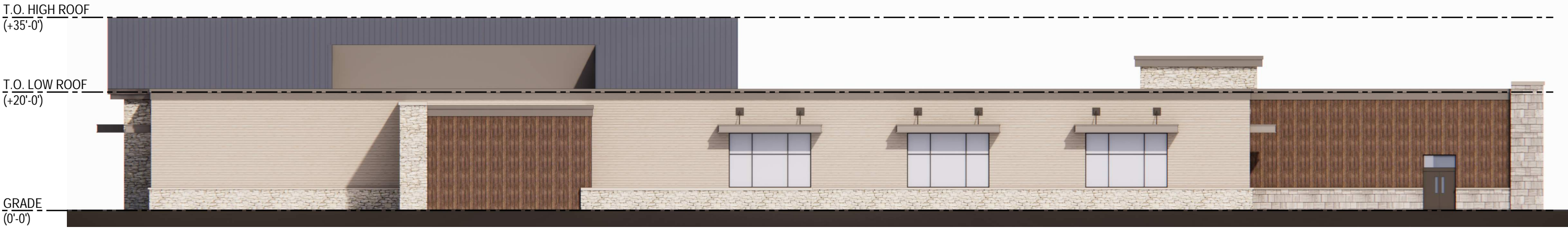
BUILDING ELEVATIONS



ARCHITECTURAL EXHIBITS | 12 FEBRUARY 2026

BET INVESTMENTS | SPRING HOUSE REDEVELOPMENT

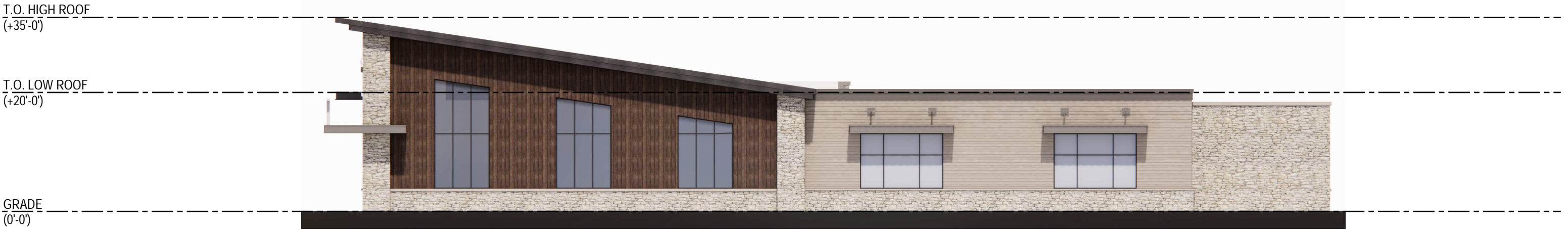
RETAIL



BUILDING ELEVATIONS



RETAIL



BUILDING ELEVATIONS

RETAIL



BUILDING ELEVATIONS



ARCHITECTURAL EXHIBITS | 12 FEBRUARY 2026

BET INVESTMENTS | SPRING HOUSE REDEVELOPMENT

RETAIL

T.O. HIGH ROOF
(+25'-0")
T.O. LOW ROOF
(+20'-0")

GRADE
(0'-0")



T.O. HIGH ROOF
(+25'-0")
T.O. LOW ROOF
(+20'-0")

GRADE
(0'-0")



BUILDING ELEVATIONS



ARCHITECTURAL EXHIBITS | 12 FEBRUARY 2026

BET INVESTMENTS | SPRING HOUSE REDEVELOPMENT



MEMORANDUM

TO: Lower Gwynedd Township Board of Supervisors

FROM: Matthew I. Hammond, P.E., TPD

CC: Chad Dixson, AICP, PP, Bowman
Lower Gwynedd Township
Project Team

DATE: February 4th, 2026

RE: **Traffic Impact Study Summary from Traffic Impact Study Dated February 4, 2026**
Springhouse Mixed Use Development
Lower Gwynedd Township, Montgomery County, PA
TPD# BETI.00012

-
- » The project site is located on the northwestern corner of Norristown Road (SR 2052) and Boveri Drive and currently consists of 143,295 sf of office space.
 - » The proposed site will be redeveloped and will consist of the following uses:
 - » 77,619 sf of Office Space;
 - » A 30,750 sf Grocery Store;
 - » 16,000 sf of Retail Space;
 - » 278 mid-rise apartments.
 - » Access to the Proposed Site will be provided via one (1) full-access signalized driveway via existing Boveri Drive. In addition, emergency access will be provided from the east side of the property, to the existing ACTS property to the east.
 - » Upon full build-out, the proposed development is expected to generate **311 new trips** during the weekday A.M. peak hour, **339 new trips** during the weekday P.M. peak hour, and **382 new trips** during the Saturday midday peak hour.
 - » When compared to the **Existing Site** (at full capacity), the **Proposed Site** will generate **131 more net new trips** (approximately 2.2 additional trips per minute) during the weekday AM peak hour, **166 more net new trips** (approximately 2.8 additional trips per minute) during the weekday PM peak hour, and **256 more net new trips** (approximately 4.3 additional trips per minute) during the Saturday Midday peak hour. *Based on the above, and a Township Transportation Impact Fee of \$3,865 per "new" weekday afternoon peak hour trip, the **Impact Fee is \$641,590.***
 - » Under the 2027 and 2032 projected conditions, with the development of the proposed site, with site-related recommendations, all study area intersections **will satisfy** PennDOT Standards.
 - » TPD has made the following recommendations in relation to the proposed Springhouse Mixed-Use development:

Norristown Road (SR 2052) & Boveri Drive

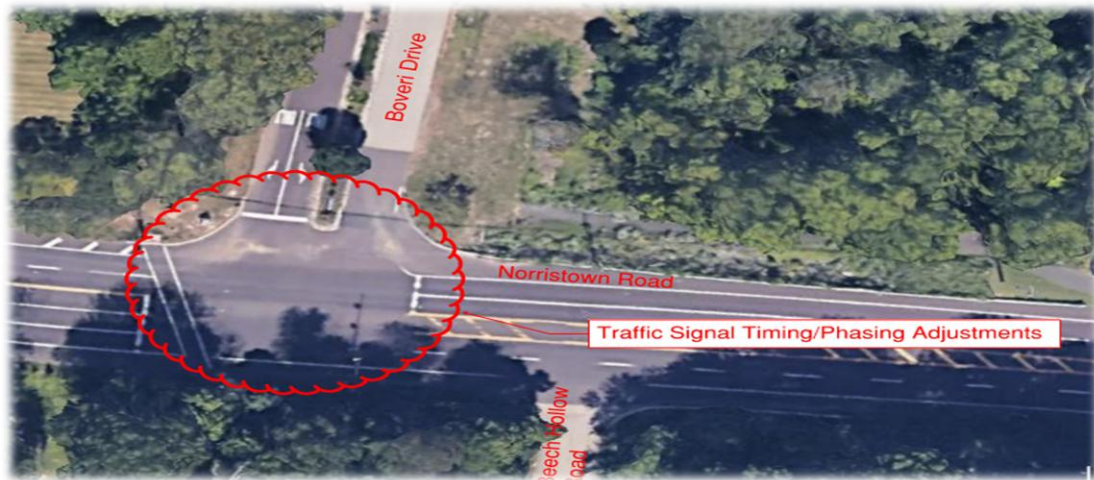
- » Restripe the Eastbound Left Turn Lane to increase the storage length to 250 feet.



- » Extend the southbound Boveri Drive right turn lane, via widening, to the first internal intersection in order to accommodate future queue lengths.



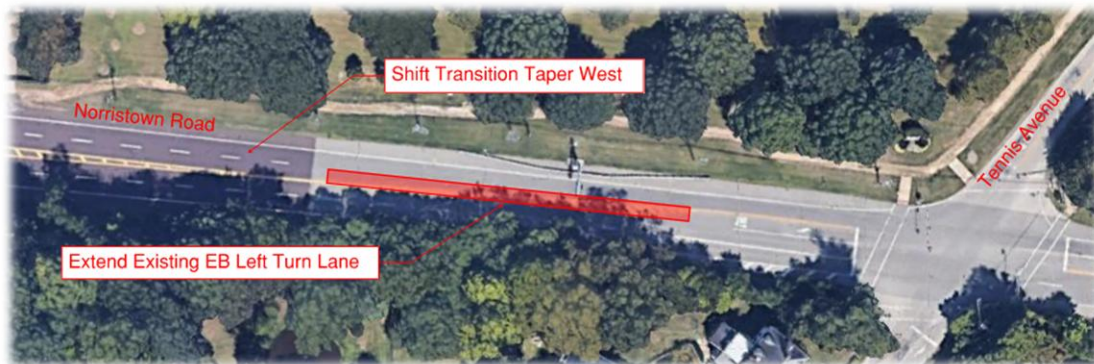
- » Work with the Township and PennDOT on potential traffic signal timing modifications to increase the green time on the westbound Norristown Road approach in order to create a gap in the eastbound traffic to facilitate turns in/out of Beech Hollow Road.



- » Maintenance of on-site vegetation to maximize available sight distance.

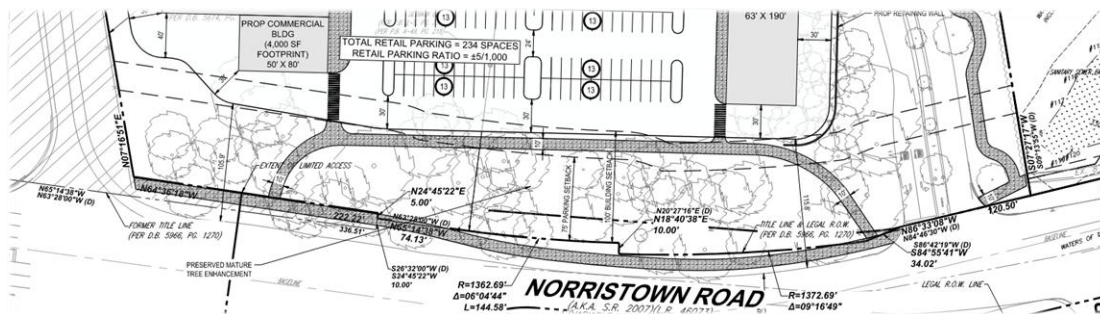
Norristown Road (SR 2052) & Tennis Avenue (SR 2020)

- » Coordinate with the Township and PennDOT on shifting where the transition occurs between the one (1) westbound lane to two (2) westbound lanes further west in order to extend the existing eastbound left turn lane approaching Tennis Avenue.



Norristown Road (SR 2052) Frontage – Pedestrian Improvements

- » Provide a 10' wide trail along Norristown Road, and within the property, connecting to the existing trail located to the east of the site.



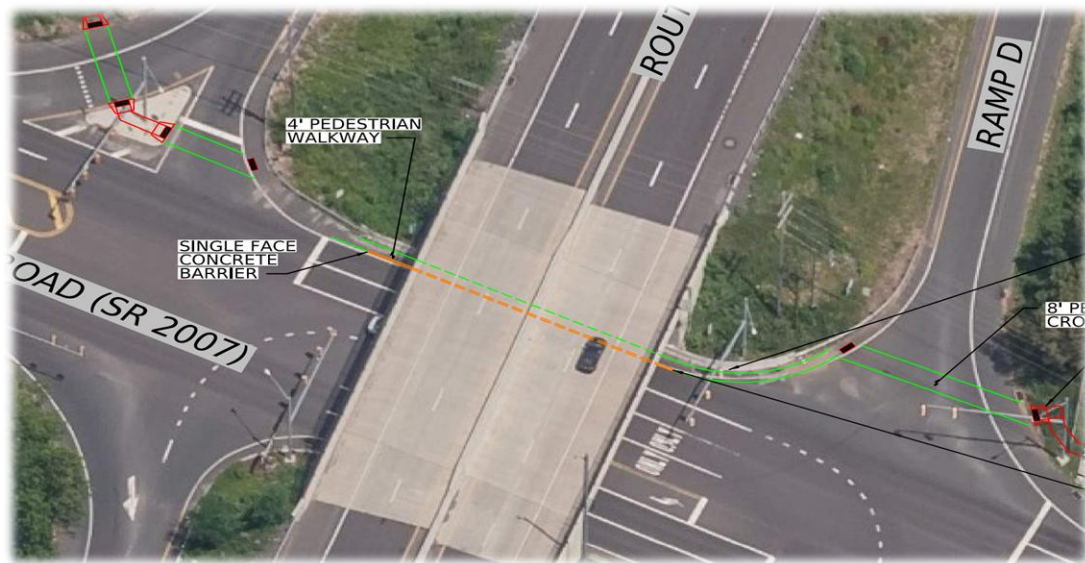
- » Provide sidewalk extending across the northbound Route 309 on-ramp, under Route 309, across the southbound Route 309 off-ramp and terminating at/near the SHIP property to the west of the site.

EXISTING UNDERPASS SHOULDER



DEPICTION OF PROPOSED UNDERPASS WALKWAY

- » Provide PennDOT compliant crosswalks and pedestrian traffic signal equipment at the existing signalized intersections between Boveri Drive and the Route 309 southbound off-ramp.



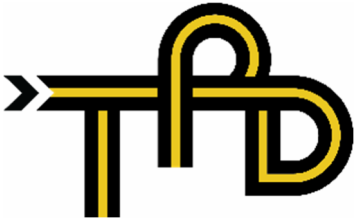
Norristown Road (SR 2052) Corridor – Signal Timing Adjustments

- » Provide Traffic Signal Timing adjustments to the following intersections within the Norristown Road Corridor:
 - Norristown Road & Tennis Avenue;
 - Norristown Road & Boveri Drive¹;
 - Norristown Road & Route 309 NB Ramps¹;
 - Norristown Road & Route 309 SB Ramps¹;
 - Norristown Road & Springhouse Estates/Springhouse Innovation Park;
 - Norristown Road & McKean Road;

- Norristown Road & Bethlehem Pike/Sumneytown Pike.

¹ – *Traffic Signal Equipment upgrades are also proposed at these intersections. The extent of the equipment upgrades will be determined during the Township's Land Development process, as well as during the PennDOT Highway Occupancy Permit (HOP) process.*

As previously mentioned, the above excerpts were taken from the Traffic Impact Study, dated February 4, 2026 completed in relation to the proposed Springhouse Mixed Use Development. Additional details can be found in the February 4, 2026 Traffic Impact Study.



March 18, 2025
(Last Revised February 4, 2026)
TPD# BETI.00012

Springhouse Mixed Use Development

Transportation Impact Study

Lower Gwynedd Township, Montgomery County, PA

For Submission To:

Lower Gwynedd Township, Montgomery County, PA

SPRINGHOUSE MIXED USE DEVELOPMENT TRANSPORTATION IMPACT STUDY

FOR SUBMISSION TO:

Lower Gwynedd Township, Montgomery County, PA

Prepared For:

BT 309, LLC

Mr. Peter Clelland

200 Dryden Road, Suite 2000

Dresher, PA 19025

March 18, 2025

(Last Revised February 4, 2026)

TPD # BETI.00012



Prepared By:

TPD

2500 East High Street, Suite 650

Pottstown, Pennsylvania 19464

Phone: (610) 326-3100

Fax: (610) 326-9410

E-mail: TPD@TPDinc.com

Website: www.TPDinc.com



Matthew I. Hammond, P.E.

Executive Vice President

Pennsylvania License Number 071037

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Appendix J:	Auxiliary Turn Lane Warrant Analyses

EXECUTIVE SUMMARY

The purpose of this study is to examine the potential traffic impact associated with the proposed Springhouse Mixed-Use development on the roadway network in Lower Gwynedd Township, Montgomery County, PA. Based on this evaluation, the following conclusions were reached:

- » The project site is located on the northwestern corner of Norristown Road (SR 2052) and Boveri Drive and currently consists of 143,295 sf of office space.
- » The proposed site will be redeveloped and will consist of the following uses:
 - » 77,619 sf of Office Space;
 - » A 30,750 sf Grocery Store;
 - » 16,000 sf of Retail Space;
 - » 278 mid-rise apartments.
- » Access to the Proposed Site will be provided via one (1) full-access signalized driveway via existing Boveri Drive. In addition, an emergency access will be provided in coordination with the Township Fire Marshal.
- » All measured sight distances at the site driveway exceed the acceptable sight distances and, in most cases, exceed PennDOT's desirable sight distance requirements.
- » Upon full build-out, the proposed development is expected to generate **311 new trips** during the weekday A.M. peak hour, **339 new trips** during the weekday P.M. peak hour, and **382 new trips** during the Saturday midday peak hour.
- » The Existing Site (at full capacity) will generate **180 new trips** during the weekday AM peak hour, **173 new trips** during the weekday PM peak hour, and **126 new trips** during the Saturday Midday peak hour.
- » When compared to the Existing Site (at full capacity), the **Proposed Site** will generate **131 more net new trips** during the weekday AM peak hour, **166 more net new trips** during the weekday PM peak hour, and **256 more net new trips** during the Saturday Midday peak hour.
- » Under the 2027 and 2032 projected conditions, with the development of the proposed site, with site-related recommendations outline in **Table II**, all study area intersections will satisfy PennDOT ILOS Standards.
- » Levels of Service (LOS) for the study area intersections have been summarized in matrix form. **Table I** details the overall intersection LOS for each study area intersection:

**TABLE I
OVERALL INTERSECTION LEVEL OF SERVICE SUMMARY**

Intersection	Peak Hour	2024 Existing	Opening Year 2027			Design Year 2032 ¹			Design Year 2032 ²			Meets LOS Requirements?
			Base	Projected	Projected ^{3,4}	Without SHIP Development		With SHIP Development				
						Base	Projected	Projected ^{3,4}	Base	Projected	Projected ^{3,4}	
Norristown Road (SR 2052) & Boveri Drive (Site Driveway)	Weekday A.M.	A (0.8)	A (0.8)	A (5.9)	A (5.9)	A (0.8)	A (5.9)	A (5.9)	A (0.8)	A (5.5)	A (5.5)	YES
	Weekday P.M.	A (1.2)	A (1.2)	A (8.1)	A (8.1)	A (1.2)	A (8.1)	A (8.1)	A (1.4)	A (8.2)	A (8.2)	
	Saturday	A (0.7)	A (0.7)	A (8.0)	A (8.0)	A (0.7)	A (8.0)	A (8.0)	A (0.7)	A (7.9)	A (7.9)	
Norristown Road (SR 2052) & Beech Hollow Road	Weekday A.M.	A (0.0)	A (0.0)	A (0.0)	--	A (0.0)	A (0.0)	--	A (0.0)	A (0.0)	--	YES
	Weekday P.M.	A (0.0)	A (0.0)	A (0.0)	--	A (0.0)	A (0.0)	--	A (0.1)	A (0.1)	--	
	Saturday	A (0.0)	A (0.0)	A (0.0)	--	A (0.0)	A (0.0)	--	A (0.0)	A (0.0)	--	
Norristown Road (SR 2052) & Route 309 NB Ramps	Weekday A.M.	C (31.3)	C (31.2)	C (30.1)	--	C (27.5)	C (26.7)	--	C (26.3)	C (26.8)	--	YES
	Weekday P.M.	B (17.8)	B (18.7)	B (18.4)	--	B (18.1)	B (17.8)	--	B (18.4)	B (18.6)	--	
	Saturday	C (21.2)	C (23.1)	C (21.4)	--	C (23.2)	C (21.4)	--	C (22.3)	C (20.7)	--	
Norristown Road (SR 2052) & Route 309 SB Ramps	Weekday A.M.	B (15.1)	B (15.5)	B (19.2)	--	B (15.8)	B (18.7)	--	B (19.6)	C (27.6)	--	YES
	Weekday P.M.	B (16.4)	B (16.9)	B (16.8)	--	B (17.3)	B (17.2)	--	B (19.4)	B (19.3)	--	
	Saturday	B (11.0)	B (10.8)	B (12.0)	--	B (11.0)	B (12.0)	--	B (11.4)	B (12.5)	--	
Norristown Road (SR 2052) & Tennis Avenue	Weekday A.M.	C (20.8)	C (21.4)	C (22.8)	--	C (20.8)	C (22.2)	--	C (26.9)	C (30.5)	--	YES
	Weekday P.M.	B (19.8)	B (19.8)	C (21.3)	--	C (20.3)	C (22.3)	--	C (23.6)	C (27.3)	--	
	Saturday	B (16.8)	B (16.7)	B (16.6)	--	B (16.5)	B (16.4)	--	B (17.2)	B (16.9)	--	
Norristown Road (SR 2052) & Residential Driveway/ SHIP Driveway	Weekday A.M.	A (2.2)	A (2.2)	A (2.2)	--	A (2.2)	A (2.2)	--	A (5.6)	A (5.8)	--	YES
	Weekday P.M.	A (3.5)	A (3.5)	A (3.4)	--	A (3.4)	A (3.4)	--	B (12.3)	B (12.6)	--	
	Saturday	A (2.0)	A (2.0)	A (2.0)	--	A (2.0)	A (2.0)	--	A (3.9)	A (3.9)	--	
Norristown Road (SR 2052) & McKean Road	Weekday A.M.	B (13.3)	B (13.5)	B (15.8)	--	B (13.7)	B (16.0)	--	B (13.4)	B (14.7)	--	YES
	Weekday P.M.	B (15.3)	B (15.0)	B (16.1)	--	B (15.2)	B (16.4)	--	B (17.1)	B (18.6)	--	
	Saturday	A (8.2)	A (8.2)	A (8.8)	--	A (8.3)	A (8.9)	--	A (8.8)	A (9.4)	--	
Norristown Road (SR 2052)/ Sumneytown Pike & Bethlehem Pike	Weekday A.M.	D (51.2)	D (40.4)	D (43.2)	--	D (40.9)	D (43.9)	--	D (49.2)	D (53.8)	--	YES
	Weekday P.M.	D (53.8)	D (47.1)	D (50.6)	--	D (45.2)	D (48.4)	--	D (45.8)	D (51.7)	--	
	Saturday	C (29.9)	C (29.8)	C (30.9)	--	C (29.9)	C (31.1)	--	C (30.3)	C (31.5)	--	

Base = No-Build scenario, Projected = Build scenario

1 = Without SHIP Traffic and Roadway Improvements

2 = With SHIP Traffic and Roadway Improvements

3 = with site-related improvements

4 = Signal timing adjustments proposed at all signalized intersections within the study area

» Site-related recommendations are summarized in **Table II:**

**TABLE II
RECOMMENDATIONS**

Intersection	Recommendation
Norristown Road (SR 2052) Corridor	Optimize traffic signals timings at the signalized study area intersections.
Norristown Road (SR 2052) & Boveri Drive (Site Driveway)	Restripe the Eastbound Left Turn Lane to increase the storage length to 250 feet.
	Extend the southbound Boveri Drive right turn lane, via widening, to the first internal intersection in order to accommodate future queue lengths.
	Work with the Township and PennDOT on potential traffic signal equipment upgrades.
	Work with the Township and PennDOT on potential traffic signal timing modifications to increase the green time on the westbound Norristown Road approach in order to create a gap in the eastbound traffic to facilitate turns in/out of Beech Hollow Road.
	Maintenance of on-site vegetation to maximize available sight distance.
Norristown Road (SR 2052) & Tennis Avenue (SR 2020)	Coordinate with the Township and PennDOT on shifting where the transition occurs between the one (1) westbound lane to two (2) westbound lanes further west in order to extend the existing eastbound left turn lane approaching Tennis Avenue.
Norristown Road Frontage	Provide a 10' wide trail beginning within the site and connecting to the existing trail located to the east of the site.
	Provide a 10' wide trail along the property's frontage.
	Provide sidewalk extending across the northbound Route 309 on-ramp, under Route 309, across the southbound Route 309 off-ramp and terminating at/near the SHIP property to the west of the site.
	Provide PennDOT compliant crosswalks and pedestrian traffic signal equipment at the existing signalized intersections between Boveri Drive and the Route 309 southbound off-ramp.

INTRODUCTION

Traffic Planning and Design, Inc. (TPD) has completed a Revised Transportation Impact Study (TIS) for the proposed Springhouse Mixed-Use Development in Lower Gwynedd Township, Montgomery County, Pennsylvania. The project site is located on the northwestern corner of Norristown Road (SR 2052) and Boveri Drive, and consists of 143,295 sf of office space, as shown in **Figure 1**. As shown in **Figure 2**, the proposed site will consist of the following uses:

- » 77,619 sf of Office Space;
- » A 30,750 sf Grocery Store;
- » 16,000 sf of Retail Space;
- » 278 mid-rise apartments.

TPD assumed an opening year of 2027 and a design year of 2032. This report has been prepared in accordance with PennDOT's *Policies and Procedures for Transportation Impact Studies*, found in PennDOT's Publication 282, Appendix A, dated September 2022. This TIS has been revised based on review comments contained in the Bowman review letter, dated June 26, 2025. Project Correspondence is contained in **Appendix A**.

EXISTING ROADWAY NETWORK

A field review of the existing roadway system in the study area was conducted. The existing roadway characteristics within the study area are summarized in **Table 1**. Photographs of the study area intersections are included in **Appendix B**.

TABLE 1
ROADWAY CHARACTERISTICS WITHIN STUDY AREA

Roadway	Ownership	Functional Classification/ Roadway Type	Predominant Directional Orientation	Average Daily Traffic	Posted Speed Limit
Bethlehem Pike	State (SR 2018)	Minor Arterial	North-South	16,215	40 mph
Norristown Road	State (SR 2052)	Minor Arterial	East-West	19,169	45/40 mph
Tennis Avenue	State (SR 2020)	Urban Collector	North-South	5,277	40 mph
Route 309 NB Off Ramp	State (SR 8039)	Other Freeway	North	5,089	40 mph
Route 309 NB On Ramp	State (SR 8039)	Other Freeway	North	453	--
Route 309 SB Off Ramp	State (SR 8039)	Other Freeway	South	507	40 mph
Route 309 SB On Ramp	State (SR 8039)	Other Freeway	South	4,311	--
Sumneytown Pike	Other Principle Arterial Highway		East-West	14,748	35 mph
McKean Road	Urban Collector		North-South	2,981	35 mph
Boveri Drive	Local Road		North-South	--	25 mph
Beech Hollow Road	Local Road		North-South	--	--

Bicycle and Pedestrian Facilities

Based on observations during field visits at the study area intersections, there are no bicycle specific accommodations present. Pedestrian accommodations are detailed per intersection below.

- » Norristown Road (SR 2052) & Boveri Drive – The signalized intersection does not have sidewalks. One (1) curb ramp exists on the NW corner serving one (1) crosswalk that crosses Norristown Road. Pedestrians are prohibited via signage from crossing the northern and eastern approaches.

- » Norristown Road (SR 2052) & Beech Hollow Road – The unsignalized intersection does not have any pedestrian accommodations besides paved shoulders.
- » Norristown Road (SR 2052) & Route 309 NB Ramps – The signalized intersection does not have any pedestrian accommodations besides paved shoulders. Pedestrians are prohibited via signage from crossing all approaches.
- » Norristown Road (SR 2052) & Route 309 SB Ramps – The signalized intersection does not have any pedestrian accommodations besides paved shoulders. Pedestrians are prohibited via signage from crossing all approaches.
- » Norristown Road (SR 2052) & Tennis Avenue – The signalized intersection has pedestrian curb ramps and crosswalks on all four approaches. There are pedestrian push buttons on the Norristown Road crossings.
- » Norristown Road (SR 2052) & Residential Driveway/SHIP Driveway – The signalized intersection does not have any sidewalks or pedestrian curb ramps. There are crosswalks across Norristown Road with pedestrian push buttons.
- » Norristown Road (SR 2052) & McKean Road – The signalized intersection has pedestrian curb ramps on the Northwestern, Northeastern, and Southeastern corners of the intersection. There are pedestrian push buttons and crosswalks on the southbound and westbound approaches, while pedestrians are prohibited via signage from crossing the Eastbound approach.
- » Norristown Road (SR 2052)/Sumneytown Pike & Bethlehem Pike (SR 2018) – The signalized intersection has pedestrian curb ramps on all four corners of the intersection. There are pedestrian push buttons and crosswalks on all approaches.

Mass Transit Facilities

Montgomery County and the Lower Gwynedd area are provided with public transportation by SEPTA. Public transportation is not currently available in the vicinity of the proposed site.

Crash Data Investigation

Crash data were obtained from PennDOT for the study area intersections. PennDOT defines a reportable crash as follows, "A reportable (crash) is one in which an injury or fatality occurs or if at least one of the vehicles involved requires towing from the scene." Reportable crashes were tabulated for the five-year time period beginning 01/01/2019 and ending 12/31/2023. For a given intersection, PennDOT considers a crash occurrence of 5 reportable, correctable crashes over a continuous twelve-month period during the past five years to be a threshold value, above which the intersection design should be reviewed to examine if corrective measures can be taken to enhance safety. The number of reportable crashes at the study area intersections is shown in **Table 2**.

**TABLE 2
PENNDOT REPORTABLE CRASH DATA**

Study Area Intersection	Number of Reportable Crashes				
	2019	2020	2021	2022	2023
Norristown Road (SR 2052) & Boveri Drive (Site Driveway)	0	0	0	0	0
Norristown Road (SR 2052) & Beech Hollow Road	0	0	0	0	0
Norristown Road (SR 2052) & Route 309 NB Ramps	4	1	2	5	0
Norristown Road (SR 2052) & Route 309 SB Ramps	0	0	0	0	0
Norristown Road (SR 2052) & Tennis Avenue	1	2	1	1	1
Norristown Road (SR 2052) & Residential Driveway/SHIP Driveway	1	2	1	2	2
Norristown Road (SR 2052) & McKean Road	4	2	3	2	4
Norristown Road/Sumneytown Pike & Bethlehem Pike (SR 2018)	4	1	2	4	4

Based on a review of the crash data, there were no continuous twelve-month periods during the past five years where 5 or more crashes occurred that were deemed correctable, except for the following intersection:

- » Norristown Road (SR 2052) & Route 309 NB Ramps – There were 5 or more reportable crashes that occurred in 2022. The primary types of crash were the angle and rear-end crashes. The primary causation of the crashes was due to driver error such as improper/careless turn, driving too fast for conditions, and running red light.

EXISTING TRAFFIC CONDITIONS

Manual Turning Movement Counts

Manual traffic counts were conducted on 15-minute intervals during the weekday morning (6:00 to 10:00 A.M.), weekday evening (3:00 to 7:00 P.M.) and Saturday midday (10:00 A.M. to 2:00 P.M.) peak periods. Data pertaining to heavy vehicles, pedestrians and transit vehicles were observed during the turning movement counts. Peak hours and count dates for the study area intersections are identified in **Table 3**.

**TABLE 3
TRAFFIC COUNT INFORMATION**

Intersection	Date of Traffic Counts	Time Period	Intersection Peak Hour ¹
Norristown Road (SR 2052) & Boveri Drive (Site Driveway)	Thursday, October 24, 2024	Weekday A.M.	7:30 to 8:30 A.M.
		Weekday P.M.	3:00 to 4:00 P.M.
	Saturday, October 26, 2024	Saturday Midday	12:15 to 1:15 P.M.
Norristown Road (SR 2052) & Beech Hollow Road	Thursday, October 24, 2024	Weekday A.M.	7:30 to 8:30 A.M.
		Weekday P.M.	3:00 to 4:00 P.M.
	Saturday, October 26, 2024	Saturday Midday	12:15 to 1:15 P.M.
Norristown Road (SR 2052) & Route 309 NB Ramps	Thursday, October 24, 2024	Weekday A.M.	7:30 to 8:30 A.M.
		Weekday P.M.	3:00 to 4:00 P.M.
	Saturday, October 26, 2024	Saturday Midday	12:30 to 1:30 P.M.
Norristown Road (SR 2052) & Route 309 SB Ramps	Thursday, October 24, 2024	Weekday A.M.	7:30 to 8:30 A.M.
		Weekday P.M.	4:15 to 5:15 P.M.
	Saturday, October 26, 2024	Saturday Midday	1:00 to 2:00 P.M.
Norristown Road (SR 2052) & Tennis Avenue	Thursday, October 24, 2024	Weekday A.M.	7:30 to 8:30 A.M.
		Weekday P.M.	3:00 to 4:00 P.M.
	Saturday, October 26, 2024	Saturday Midday	12:00 to 1:00 P.M.
Norristown Road (SR 2052) & Residential Driveway/SHIP Driveway	Thursday, October 24, 2024	Weekday A.M.	7:30 to 8:30 A.M.
		Weekday P.M.	4:15 to 5:15 P.M.
	Saturday, October 26, 2024	Saturday Midday	12:30 to 1:30 P.M.
Norristown Road (SR 2052) & McKean Road	Thursday, February 13, 2025	Weekday A.M.	7:15 to 8:15 A.M.
		Weekday P.M.	4:15 to 5:15 P.M.
	Saturday, February 15, 2025	Saturday Midday	11:30 A.M. to 12:30 P.M.
Norristown Road/Sumneytown Pike & Bethlehem Pike	Thursday, February 13, 2025	Weekday A.M.	7:15 to 8:15 A.M.
		Weekday P.M.	4:30 to 5:30 P.M.
	Saturday, February 15, 2025	Saturday Midday	12:15 to 1:15 P.M.

Peak Hour consists of the four consecutive 15-minute intervals where the highest traffic volumes occur.

Existing condition traffic volumes for the weekday A.M., weekday P.M., and Saturday peak hours are illustrated in **Figures 3-5**, respectively. Traffic count data sheets are provided in **Appendix C**.

BASE (NO-BUILD) CONDITIONS

Annual Background Growth

A background growth factor for the roadways in the study area was developed based on growth factors for August 2024 to July 2025 obtained from the PennDOT Bureau of Planning and Research (BPR). The PennDOT BPR suggests using a background growth trend factor of 0.17% per year in Montgomery County for urban non-interstate roadways. Also, existing counts contained in this TIS were conducted in both 2024 and 2025. As such, the background growth factor was applied annually to yield overall growth percentages of 0.34%-0.51% (0.17% per year, compounded over 2-3 years) for the 2027 opening year and 1.2%-1.37% (0.17% per year, compounded over 7-8 years) for the 2032 design year.

Nearby Proposed Developments

Base (no-build) traffic conditions were calculated to include traffic volumes from proposed developments, which, though not operating under existing conditions, may be operating by the opening year (2027) and design year (2032) of the proposed development. Based on discussions with Lower Gwynedd Township staff, the following nearby planned development was specifically included in this study:

SHIP Development - The project site is located on the northeastern corner of Norristown Road (S.R. 2007) and McKean Road. The Proposed Site will be a redevelopment of the former Rohm and Haas campus and

will consist of the following uses: 80,606 ksf Manufacturing and 598.161 ksf of Research and Development. TPD based trip generation and distribution on previous Traffic Impact Studies (TIS) conducted for this site. The latest TIS called for the following roadway improvements as a result of the development:

- Norristown Road (S.R. 2007) & McKean Road
 - 350' EB left-turn lane
- Norristown Road (S.R. 2007) & SHIP Driveway/Springhouse Estates
 - 250' EB left-turn lane
 - 225' WB right-turn lane

Based on the current schedule for this site and the Proposed Site, TPD included the traffic associated with this development under 2032 Design Year Conditions only. The site-related improvements listed above were included under 2032 Base and 2032 Projected Conditions. ***In addition, as requested by Township Consultants in their review, 2032 Base and 2032 Projected Conditions have been analyzed with and without the traffic and roadway improvements associated with this development.***

Additionally, through further coordination with Lower Gwynedd Township, the proposed developments of Ambler Yards, Maple Glen Townhomes and Promenade East in Upper Dublin were mentioned. However, it is TPD's opinion that due to their proximity to the site, any traffic associated with these developments would be captured in the annual background growth rates applied.

The additional traffic volumes due to background growth and background developments (as relevant) were added to the existing traffic data to produce 2027 and 2032 base (no-build) condition traffic volumes (with and without SHIP Development traffic and improvements). Base condition volumes for the weekday A.M., weekday P.M. and Saturday midday peak hours are illustrated in **Figures 6-8** for the 2027 opening year conditions and **Figures 9-14** for the 2032 design year conditions (with and without SHIP Development traffic and improvements). Trip distributions for background developments are provided in **Appendix D**.

SCHEDULED ROADWAY IMPROVEMENTS

Based on a review of the Pennsylvania and DVRPC Transportation Improvement Programs (TIP) there are no programmed roadway improvements in the vicinity of the proposed site.

As stated above, the nearby planned SHIP Development includes several roadway improvements in the Study Area. Design Year (2032 Base and Projected) Conditions are assumed with and without SHIP Development traffic and improvements.

PROPOSED SITE ACCESS

The proposed site will be served by one (1) full-movement signalized driveway to Norristown Road (SR 2052), via existing Boveri Drive. In addition, an emergency access will be provided in coordination with the Township Fire Marshal.

Sight Distance Analysis

A sight distance analysis was prepared for the proposed site driveway. In general, recommended safe sight distances depend upon the posted speed limit and roadway grades. The existing sight distances at the proposed driveways were measured in accordance with PennDOT Publication 282 Highway Occupancy Permit Operations Manual and compared to PennDOT's desirable sight distance standard, which is identified in 67 PA Code Chapter 441.8(h), "Access to and Occupancy of Highways by Driveways and Local Roads." In addition,

measured sight distances at the proposed driveways were compared to PennDOT’s safe stopping sight distance standard, which is calculated by the following equation:

$$SSSD = 1.47VT + V^2/[30(f \pm g)]$$

- SSSD = safe stopping sight distance (acceptable sight distance)
- V = Vehicle Speed
- T = Perception Reaction Time of Driver (2.5 seconds)
- f = Coefficient of Friction for Wet Pavements
- g = Percent of Roadway Grade Divided by 100

Table 4 shows the measured, desirable, acceptable (SSSD) sight distances at the site driveway for vehicles entering and exiting the site.

**TABLE 4
SIGHT DISTANCE ANALYSIS**

	Direction	Speed	Grade ¹	Sight Distances (feet)		
				DES	SSSD	EXIST ²
Site Driveway (Boveri Drive) to Norristown Road (SR 2052)						
Exiting Movements	To the left	45 mph	-1%	635'	390'	650'+
	To the right	45 mph	-1%	570'	390'	450'
Entering Left Turns	Approaching same direction	45 mph	-1%	N/A	390'	600'+
	Approaching opposite direction	45 mph	-1%	445'	390'	650'+

DES = PennDOT Desirable Sight Distance
SSSD = PennDOT Acceptable Sight Distance
EXIST = Existing (measured) Sight Distance

1 = Roadway Grade Approaching Driveway
2 = With removal of vegetation

As shown in **Table 4** above, all measured sight distances at the signalized site driveway exceed the acceptable sight distances and, in most cases, exceed PennDOT’s desirable sight distance requirements.

TRIP GENERATION

The trip generation rates for the Proposed Site were obtained from the Trip Generation Manual, Twelfth Edition, 2025, an institute of Transportation Engineers (ITE) Informational Report. Land Use Code #221 (Multifamily Housing (Mid-Rise) – Not Close to Rail Transit), #710 (General Office), #821 (Shopping Plaza (40-150K) - with Supermarket) was used to calculate the number of vehicular trips generated during the following time periods: average weekday; weekday A.M. peak hour, weekday P.M. peak hour and Saturday Midday peak hour.

Table 5 shows the rates and directional percentages for the analyzed time periods.

**TABLE 5
ITE TRIP GENERATION DATA**

Land Use	ITE #	Units	Time Period	Equations/Rates	Entering %	Pass-By %
Multifamily Housing (Mid-Rise) (Not Close to Rail Transit)	221	278 du	Average Weekday	$T = 4.55*(X) - 17.52$	50%	--
			Weekday A.M. Peak Hour	$T = 0.42*(X) - 7.77$	23%	--
			Weekday P.M. Peak Hour	$T = 0.38*(X)$	64%	--
			Saturday Midday Peak Hour	$T = 0.36*(X)$	51%	--
General Office	710	77.619 ksf	Average Weekday	$T = 6.18*(X) + 207.96$	50%	--
			Weekday A.M. Peak Hour	$T = 1.12*(X) + 19.95$	88%	--
			Weekday P.M. Peak Hour	$T = 0.99*(X) + 31.14$	16%	--
			Saturday Midday Peak Hour	$T = 0.88*(X)$	54%	--
Shopping Plaza (40-150K) - with Supermarket	821	46.750 ksf	Average Weekday	$T = 101.43*(X)$	50%	--
			Weekday A.M. Peak Hour	$T = 3.54*(X)$	60%	30% ¹
			Weekday P.M. Peak Hour	$T = 8.58*(X)$	49%	40%
			Saturday Midday Peak Hour	$T = 5.46*(X) + 168.21$	49%	31%

*T = number of site-generated vehicular trips
X = independent variable (ksf = 1000 sf, du= Dwelling Units)
1 = Data not published, used 10% less than PM Peak Hour*

Internal Trips

TPD assumed interaction between the individual uses for the Proposed (Future Build) scenario utilizing the methodology outlined in the NHCRP Report 684. Based on this methodology, the following overall weighted interaction percentages were calculated:

- » Average Weekday – 16.1% (weighted average based on AM and PM, by land use)
- » Weekday AM Peak Hour – 6.3%
- » Weekday PM Peak Hour – 23.1%
- » SAT Midday Peak Hour – 16.2% (weighted average based on AM and PM, by land use, by enter and exit)

The interaction worksheets are included in **Appendix E** and are summarized in **Table 6**. **As requested, descriptions of the interaction calculations for the Average Weekday and Saturday Midday are also included in Appendix E.**

**TABLE 6
TRIP GENERATION SUMMARY**

Land Use	Total Trips			Interaction			Pass-By Trips			New Trips		
	Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit
Average Weekday												
Multifamily Housing (Mid-Rise)	1247	624	623	-320	-160	-160	--	--	--	927	464	463
General Office	688	344	344	-110	-55	-55	--	--	--	578	289	289
Shopping Plaza (40-150K)	4742	2371	2371	-646	-323	-323	--	--	--	4096	2048	2048
Total	6677	3339	3338	-1076	-538	-538	--	--	--	5601	2801	2800
Weekday A.M. Peak Hour												
Multifamily Housing (Mid-Rise)	109	25	84	-4	-1	-3	0	0	0	105	24	81
General Office	107	94	13	-10	-6	-4	0	0	0	97	88	9
Shopping Plaza (40-150K)	165	99	66	-10	-5	-5	46	28	18	109	66	43
Total	381	218	163	-24	-12	-12	46	28	18	311	178	133
Weekday P.M. Peak Hour												
Multifamily Housing (Mid-Rise)	106	68	38	-51	-33	-18	0	0	0	55	35	20
General Office	108	17	91	-24	-6	-18	0	0	0	84	11	73
Shopping Plaza (40-150K)	401	197	204	-67	-32	-35	134	66	68	200	99	101
Total	615	282	333	-142	-71	-71	134	66	68	339	145	194
Saturday Midday Peak Hour												
Multifamily Housing (Mid-Rise)	100	51	49	-27	-19	-8	0	0	0	73	32	41
General Office	68	37	31	-11	-4	-7	0	0	0	57	33	24
Shopping Plaza (40-150K)	423	207	216	-58	-26	-32	113	56	57	252	125	127
Total	591	295	296	-96	-49	-47	113	56	57	382	190	192

Based on Table 6, the Proposed Site will generate 311 new trips during the weekday AM peak hour, 339 new trips during the weekday PM peak hour, and 382 new trips during the Saturday Midday peak hour.

Trip Generation Comparison

It is TPD’s understanding the Existing Site consists of 143,295 sf of general office space. Based on the trip generation data contained in Table 5 (ITE #710), the Existing Site (at full capacity) would generate **180 new trips** during the weekday AM peak hour, **173 new trips** during the weekday PM peak hour, and **126 new trips** during the Saturday Midday peak hour. Therefore, when compared to the Existing Site (at full capacity), the Proposed Site will generate **131 more net new trips** during the weekday AM peak hour, **166 more net new trips** during the weekday PM peak hour, and **256 more net new trips** during the Saturday Midday peak hour.

Trip Generation Credit

In order to account for the traffic associated with the Existing Site (at current capacity) being replaced by the traffic associated with the Proposed Site (at full capacity), TPD developed a base condition redistribution based on the counts performed at Norristown Road (S.R. 2052) and Boveri Drive, which will zero-out the current trip generation. This base redistribution is shown in Figures 15-17.

TRIP DISTRIBUTION

The distribution of trips generated by the proposed development was based on the local road network, the existing traffic patterns, the proposed use of the site, and the site driveway location. The new trips for the proposed development were distributed to the local roadway network based on the percentages shown in Table 7.

**TABLE 7
TRIP DISTRIBUTION PERCENTAGES – NEW TRIPS**

Direction - To/From	Assignment (To/From)	Distribution Percentage
West	via Sumneytown Pike	20%
South	via Bethlehem Pike	17%
South	via Route 309 NB	16%
North	via Bethlehem Pike	13%
East	via Norristown Road	12%
South	via Tennis Avenue	7%
North	via Tennis Avenue	7%
North	via McKean Road	6%
North	via Route 309 SB	2%

Pass-By Trips

Pass-by trips were established based on the existing traffic patterns in the vicinity of the site and the location and configuration of the site driveway. The percentages used for the distribution of pass-by trips to the project site are shown below in **Table 8**.

**TABLE 8
TRIP DISTRIBUTION PERCENTAGES – PASS-BY TRIPS**

Direction	Pass-by Trip Distribution Percentages		
	Weekday A.M.	Weekday P.M.	Saturday Midday
EB via Norristown Road	53%	65%	50%
WB via Norristown Road	47%	35%	50%

The assignment of site-generated trips for the proposed developments during the weekday A.M., P.M., and Saturday midday peak hours are shown in **Figures 18-20**. The trip distribution and assignment percentage information are included in **Appendix F**. ***It should be noted that, in order to comply with a review comment from the Township Traffic Engineer (pertaining to pass-by trips balancing), TPD conservatively increased the respective lower enter or exit pass-by trip numbers during each peak hour to be equal with the higher enter or exit pass-by trip numbers. This is reflected in the volume development spreadsheet and figures.***

PROJECTED (BUILD) CONDITION TRAFFIC VOLUMES

The site-generated trips for the proposed development were added to the 2027 and respective 2032 base (no-build) condition traffic volumes to develop the 2027 and 2032 projected (build) (with and without SHIP Development traffic and improvements) condition traffic volumes. Projected condition traffic volumes for the opening year of 2027 for the weekday A.M., P.M., and Saturday midday peak hours are shown in **Figures 21-23**. Projected condition traffic volumes for the design year of 2032 (with and without SHIP Development traffic and improvements) for the weekday A.M., P.M., and Saturday midday peak hours are shown in **Figures 24-29**. Traffic volume development worksheets are also contained in **Appendix F**.

LEVELS OF SERVICE FOR AN INTERSECTION

For analysis of intersections, level of service is defined in terms of delay, which is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. LOS criteria is stated in terms of control delay per vehicle

for a one-hour analysis period. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The criteria are shown in **Table 9**. Delay, as it relates to level of service, is a complex measure and is dependent upon a number of variables. For signalized intersections, these variables include the quality of vehicle progression, the cycle length, the green time ratio, and the volume/capacity ratio for the lane group in question. For unsignalized intersections, delay is related to the availability of gaps in the flow of traffic on the major street and the driver's discretion in selecting an appropriate gap for a particular movement from the minor street (straight across, left or right turn).

TABLE 9
LEVEL OF SERVICE CRITERIA
UNSIGNALIZED AND SIGNALIZED INTERSECTIONS¹

Level of Service	Control Delay Per Vehicle (Seconds)	
	Signalized	Unsignalized
A	< 10	< 10
B	> 10 and < 20	> 10 and < 15
C	> 20 and < 35	> 15 and < 25
D	> 35 and < 55	> 25 and < 35
E	> 55 and < 80	> 35 and < 50
F	> 80 or v/c > 1.0	> 50 or v/c > 1.0

¹ Obtained from Exhibits 19-8 and 20-2 of the Transportation Research Board's Highway Capacity Manual 6th Edition

CAPACITY ANALYSIS METHODOLOGY

Capacity analyses were conducted for the weekday A.M., P.M., and Saturday midday peak hours at the study area intersections. These analyses were conducted according to the methodologies contained in the *Highway Capacity Manual 6th Edition* (HCM) using *Synchro 12* software, a Trafficware product.

The following conditions were analyzed, as applicable:

- » Existing conditions;
- » 2027 Base conditions (Build-out year without development);
- » 2027 Projected conditions (Build-out year with development);
- » 2032 Base conditions (Design year without development) – Without SHIP Traffic/Improvements;
- » 2032 Projected conditions (Design year with development) – Without SHIP Traffic/Improvements;
- » 2032 Base conditions (Design year without development) – With SHIP Traffic/Improvements;
- » 2032 Projected conditions (Design year with development) – With SHIP Traffic/Improvements.

It should be noted that based on methodologies contained in Chapter 10 of PennDOT's Publication 46, TPD adjusted the following 2010 HCM default values in the *Synchro 12* capacity analysis. These adjustments were made at the signalized intersections within the study area for all time periods based on the study area location being classified as Suburban:

- » Base saturation flow rates for signalized intersections. The saturation flow rate was changed from the default value of 1900 to 1800 based on Exhibit 10-9.
- » Start-up lost time and extension of effective green time for signalized intersections. The startup lost time was changed from the default value of 2.0 seconds to 2.5 seconds. Based on the total clearance time (yellow plus all-red time) being greater than 5 seconds, the extension of green time

was changed from the default value of 2 seconds to 3.5 seconds. These adjusted values were based on Exhibit 10-10.

- » Critical and Follow-Up Gap times were adjusted relative to the difference between default and PA Default values contained in Exhibits 10-11 and 10-12. As requested by PennDOT, worksheets/tables showing how these values were calculated are included in **Appendix G**.
- » Due to limitations of the HCM methodology to analyze clustered intersections, the signalized intersections of Norristown Road (SR 2052) and Route 309 Ramps have been analyzed with the synchro percentile methodology.
- » Due to limitations of the HCM methodology to analyze intersections which have protected left turn movements from a shared left-thru lane, the signalized intersection of Norristown Road (SR 2052) and Tennis Avenue (SR 2020) has been analyzed with the synchro percentile methodology.
- » Due to limitations of the HCM methodology to analyze intersections which have protected left turn movements from a shared left-thru lane, the signalized intersection of Norristown Road (SR 2052) and McKean Road has been analyzed with the synchro percentile methodology.

In addition, capacity analyses were conducted at the proposed site driveway intersection under the 2027 and 2032 projected conditions. The capacity analysis worksheets are included in **Appendix H**. The PennDOT-approved signal plans are included in **Appendix I**.

PennDOT's Transportation Impact Study Guidelines outlined in PennDOT's *Policies and Procedures for Transportation Impact Studies*, found in PennDOT's Publication 282, Appendix A, dated September 2022 contain the following criteria regarding levels of service:

- » Page 29 of the Guidelines state that if evaluation of the With Development Horizon Year Scenario to the Without Development Horizon Year Scenario indicates that the overall intersection level of service has dropped, the applicant will be required to mitigate the level of service if the increase in overall intersection delay is greater than 10-seconds. If the overall intersection delay increase is less than or equal to 10-seconds, mitigation of the intersection will not be required.
- » Page 29 of the Guidelines state that for mitigation scenarios, applicants are expected to mitigate the overall intersection LOS to the original Without Development LOS; the 10-second delay variance is not applied to mitigation scenarios. Applicants may be required to address available storage and queue lengths at critical movements or approaches even if the overall LOS requirements are met.
- » Page 31 of the Guidelines state that if signalization is the preferred alternative for mitigation, overall intersection LOS C in rural areas and LOS D in urban areas is acceptable.
- » Page 31 of the Guidelines states new signalized or unsignalized intersection established to serve as access to the development shall be designed to operate at minimum LOS C for rural areas, and minimum LOS D for urban areas.

LEVELS OF SERVICE IN THE STUDY AREA

Level of service (LOS) matrices for the study area intersections are shown in **Tables 10-12** for the weekday A.M., weekday P.M., and Saturday midday peak hours.

**TABLE 10
LEVEL OF SERVICE DELAY (SECONDS) SUMMARY**

Intersection	Movement	Weekday A.M. Peak Hour									
		Existing Condition	Opening Year 2027			Design Year 2032 ¹			Design Year 2032 ²		
			Base	Proj.	Proj. ^{3,4}	Base	Proj.	Proj. ^{3,4}	Base	Proj.	Proj. ^{3,4}
Norristown Road (SR 2052) & Boveri Drive/ Site Driveway	EB L	A	A	A	A	A	A	A	A	A	A
	EB T	A	A	A	A	A	A	A	A	A	A
	WB T	A	A	A	A	A	A	A	A	A	A
	WB TR	A	A	A	A	A	A	A	A	A	A
	SB L	D	D	D	D	D	D	D	D	D	D
	SB R	D	D	D	D	D	D	D	D	D	D
	ILOS	A (0.8)	A (0.8)	A (5.9)	A (5.9)	A (0.8)	A (5.9)	A (5.9)	A (0.8)	A (5.5)	A (5.5)
Norristown Road (SR 2052) & Beech Hollow Road	WB LT	A	A	A	--	A	A	--	A	A	--
	NB LR	A	A	A	--	A	A	--	A	A	--
	ILOS	A (0.0)	A (0.0)	A (0.0)	--	A (0.0)	A (0.0)	--	A (0.0)	A (0.0)	--
Norristown Road (SR 2052) & Route 309 NB Ramps	EB L	B	B	B	--	B	B	--	B	B	--
	EB T	A	A	A	--	A	A	--	A	A	--
	WB TR	C	C	C	--	C	C	--	C	C	--
	NB L	E	E	E	--	D	D	--	D	D	--
	NB LT	E	E	E	--	D	D	--	D	D	--
	NB R	A	A	A	--	A	A	--	A	A	--
	ILOS	C (31.3)	C (31.2)	C (30.1)	--	C (27.5)	C (26.7)	--	C (26.3)	C (26.8)	--
Norristown Road (SR 2052) & Route 309 SB Ramps	EB T	C	C	C	--	C	C	--	C	D	--
	EB R	B	B	B	--	B	B	--	B	B	--
	WB L	D	D	D	--	D	D	--	D	D	--
	WB T	A	A	B	--	A	A	--	B	C	--
	SB L	C	C	C	--	C	C	--	C	C	--
	SB R	A	A	A	--	A	A	--	A	A	--
	ILOS	B (15.1)	B (15.5)	B (19.2)	--	B (15.8)	B (18.7)	--	B (19.6)	C (27.6)	--
Norristown Road (SR 2052) & Tennis Avenue	EB L	B	B	C	--	C	C	--	D	E	--
	EB TR	A	A	B	--	A	B	--	B	B	--
	WB L	B	B	B	--	B	B	--	B	B	--
	WB TR	C	C	C	--	C	C	--	D	D	--
	NB LT	C	C	C	--	C	C	--	C	C	--
	NB R	A	A	A	--	A	A	--	A	A	--
	SB LTR	C	C	C	--	C	C	--	C	C	--
ILOS	C (20.8)	C (21.4)	C (22.8)	--	C (20.8)	C (22.2)	--	C (26.9)	C (30.5)	--	
Norristown Road (SR 2052) & Residential Driveway/ SHIP Driveway	EB L	A	A	A	--	A	A	--	B	B	--
	EB T		A	A	--	A	A	--	A	A	--
	EB TR	A	A	A	--	A	A	--	A	A	--
	WB LT	A	A	A	--	A	A	--	A	A	--
	WB T	A	A	A	--	A	A	--	A	A	--
	WB R		A	A	--	A	A	--	A	A	--
	NB L	D	D	D	--	D	D	--	D	D	--
	NB TR	D	D	D	--	D	D	--	D	D	--
	SB L	D	D	D	--	D	D	--	D	D	--
SB TR	D	D	D	--	D	D	--	D	D	--	
ILOS	A (2.2)	A (2.2)	A (2.2)	--	A (2.2)	A (2.2)	--	A (5.6)	A (5.8)	--	

Base = No-Build scenario, Proj. = Build scenario

1 = Without SHIP Traffic and Roadway Improvements

2 = With SHIP Traffic and Roadway Improvements

3 = with site-related improvements

4 = Signal timing adjustments proposed at all signalized intersections within the study area

**TABLE 10 (CONTINUED)
LEVEL OF SERVICE DELAY (SECONDS) SUMMARY**

Intersection	Movement	Weekday A.M. Peak Hour									
		Existing Condition	Opening Year 2027			Design Year 2032 ¹			Design Year 2032 ²		
			Base	Proj.	Proj. ^{3,4}	Base	Proj.	Proj. ^{3,4}	Base	Proj.	Proj. ^{3,4}
Norristown Road (SR 2052) & McKean Road	EB L	B	B	B	--	B	B	--	A	B	--
	EB T	B	B	B	--	B	B	--	A	A	--
	WB T	B	B	B	--	B	B	--	B	C	--
	WB R	A	A	A	--	A	A	--	A	A	--
	NB LTR	A	A	A	--	A	A	--	A	A	--
	SB L	D	D	D	--	D	D	--	D	D	--
	SB R	B	B	B	--	B	C	--	B	B	--
	ILOS	B (13.3)	B (13.5)	B (15.8)	--	B (13.7)	B (16.0)	--	B (13.4)	B (14.7)	--
Norristown Road (SR 2052) /Sumneytown Pike & Bethlehem Pike	EB L	C	C	C	--	C	C	--	C	C	--
	EB T	F (97.7)	E	E	--	E	E	--	F (87.7)	F (99.6)	--
	EB R	C	C	C	--	C	C	--	C	C	--
	WB L	D	D	D	--	D	D	--	D	E	--
	WB T	D	D	D	--	D	D	--	D	D	--
	WB TR	D	D	D	--	D	D	--	D	D	--
	NB L	C	C	C	--	C	C	--	C	C	--
	NB T	C	C	C	--	C	C	--	C	D	--
	NB TR	C	C	C	--	C	C	--	D	D	--
	SB L	C	C	C	--	C	C	--	C	C	--
	SB T	C	C	C	--	C	C	--	C	C	--
	SB TR	A	A	A	--	A	A	--	A	A	--
ILOS	D (51.2)	D (40.4)	D (43.2)	--	D (40.9)	D (43.9)	--	D (49.2)	D (53.8)	--	

Base = No-Build scenario, Proj. = Build scenario

1 = Without SHIP Traffic and Roadway Improvements

2 = With SHIP Traffic and Roadway Improvements

3 = with site-related improvements

4 = Signal timing adjustments proposed at all signalized intersections within the study area

**TABLE 11
LEVEL OF SERVICE DELAY (SECONDS) SUMMARY**

Intersection	Movement	Weekday P.M. Peak Hour									
		Existing Condition	Opening Year 2027			Design Year 2032 ¹			Design Year 2032 ²		
			Base	Proj.	Proj. ^{3,4}	Base	Proj.	Proj. ^{3,4}	Base	Proj.	Proj. ^{3,4}
Norristown Road (SR 2052) & Boveri Drive/ Site Driveway	EB L	A	A	A	A	A	A	A	A	A	A
	EB T	A	A	A	A	A	A	A	A	A	A
	WB T	A	A	A	A	A	A	A	A	A	A
	WB TR	A	A	A	A	A	A	A	A	A	A
	SB L	D	D	D	D	D	D	D	D	D	D
	SB R	A	A	D	D	A	D	D	A	D	D
	ILOS	A (1.2)	A (1.2)	A (8.1)	A (8.1)	A (1.2)	A (8.1)	A (8.1)	A (1.4)	A (8.2)	A (8.2)
Norristown Road (SR 2052) & Beech Hollow Road	WB LT	B	B	B	--	B	B	--	B	B	--
	NB LR	C	C	C	--	C	C	--	D	E	--
	ILOS	A (0.0)	A (0.0)	A (0.0)	--	A (0.0)	A (0.0)	--	A (0.1)	A (0.1)	--
Norristown Road (SR 2052) & Route 309 NB Ramps	EB L	C	C	C	--	C	C	--	C	C	--
	EB T	A	A	A	--	A	A	--	A	A	--
	WB TR	B	B	B	--	B	B	--	B	B	--
	NB L	D	D	D	--	D	D	--	D	D	--
	NB LT	D	D	D	--	D	D	--	D	D	--
	NB R	B	B	B	--	B	B	--	B	B	--
	ILOS	B (17.8)	B (18.7)	B (18.4)	--	B (18.1)	B (17.8)	--	B (18.4)	B (18.6)	--
Norristown Road (SR 2052) & Route 309 SB Ramps	EB T	C	C	C	--	C	C	--	C	C	--
	EB R	C	C	C	--	C	C	--	C	C	--
	WB L	D	D	D	--	D	D	--	D	D	--
	WB T	A	A	A	--	A	A	--	A	A	--
	SB L	C	C	C	--	C	C	--	C	C	--
	SB R	A	A	A	--	A	A	--	A	A	--
	ILOS	B (16.4)	B (16.9)	B (16.8)	--	B (17.3)	B (17.2)	--	B (19.4)	B (19.3)	--
Norristown Road (SR 2052) & Tennis Avenue	EB L	A	A	B	--	A	B	--	C	D	--
	EB TR	B	B	B	--	B	B	--	B	C	--
	WB L	B	B	B	--	B	B	--	B	B	--
	WB TR	C	C	C	--	C	C	--	C	D	--
	NB LT	D	D	D	--	D	D	--	D	D	--
	NB R	A	A	A	--	A	A	--	A	A	--
	SB LTR	C	C	C	--	C	C	--	C	C	--
ILOS	B (19.8)	B (19.8)	C (21.3)	--	C (20.3)	C (22.3)	--	C (23.6)	C (27.3)	--	
Norristown Road (SR 2052) & Residential Driveway/ SHIP Driveway	EB L	A	A	A	--	A	A	--	A	A	--
	EB T	A	A	A	--	A	A	--	A	A	--
	EB TR	A	A	A	--	A	A	--	A	A	--
	WB LT	A	A	A	--	A	A	--	A	B	--
	WB T	A	A	A	--	A	A	--	B	B	--
	WB R	A	A	A	--	A	A	--	A	A	--
	NB L	D	D	D	--	D	D	--	C	C	--
	NB TR	D	D	D	--	D	D	--	C	C	--
	SB L	D	D	D	--	D	D	--	D	D	--
SB TR	D	D	D	--	D	D	--	C	C	--	
ILOS	A (3.5)	A (3.5)	A (3.4)	--	A (3.4)	A (3.4)	--	B (12.3)	B (12.6)	--	

Base = No-Build scenario, Proj. = Build scenario
 1 = Without SHIP Traffic and Roadway Improvements
 2 = With SHIP Traffic and Roadway Improvements
 3 = with site-related improvements

4 = Signal timing adjustments proposed at all signalized intersections within the study area

TABLE 11 (CONTINUED)
LEVEL OF SERVICE DELAY (SECONDS) SUMMARY

Intersection	Movement	Weekday P.M. Peak Hour									
		Existing Condition	Opening Year 2027			Design Year 2032 ¹			Design Year 2032 ²		
			Base	Proj.	Proj. ^{3,4}	Base	Proj.	Proj. ^{3,4}	Base	Proj.	Proj. ^{3,4}
Norristown Road (SR 2052) & McKean Road	EB L	B	B	B	--	B	B	--	A	B	--
	EB T								A	A	--
	WB T	A	A	A	--	A	A	--	B	B	--
	WB R	A	A	A	--	A	A	--	A	A	--
	NB LTR	A	A	A	--	A	A	--	A	A	--
	SB L	E	E	E	--	E	E	--	E	E	--
	SB R	A	A	B	--	A	B	--	B	B	--
	ILOS	B (15.3)	B (15.0)	B (16.1)	--	B (15.2)	B (16.4)	--	B (17.1)	B (18.6)	--
Norristown Road (SR 2052) /Sumneytown Pike & Bethlehem Pike	EB L	D	D	D	--	C	C	--	C	C	--
	EB T	F (116.9)	F (88.2)	F (98.7)	--	F (79.4)	F (87.9)	--	E	E	--
	EB R	C	C	C	--	C	C	--	C	C	--
	WB L	D	D	D	--	D	D	--	E	F (95.0)	--
	WB T	D	D	D	--	D	D	--	D	D	--
	WB TR	D	D	D	--	D	D	--	D	D	--
	NB L	C	C	C	--	C	C	--	C	C	--
	NB T	C	C	C	--	C	C	--	D	D	--
	NB TR	C	C	C	--	C	D	--	D	D	--
	SB L	C	C	C	--	C	C	--	D	D	--
	SB T	C	C	C	--	C	C	--	D	D	--
	SB TR	A	A	A	--	A	A	--	A	A	--
ILOS	D (53.8)	D (47.1)	D (50.6)	--	D (45.2)	D (48.4)	--	D (45.8)	D (51.7)	--	

Base = No-Build scenario, Proj. = Build scenario

1 = Without SHIP Traffic and Roadway Improvements

2 = With SHIP Traffic and Roadway Improvements

3 = with site-related improvements

4 = Signal timing adjustments proposed at all signalized intersections within the study area

**TABLE 12
LEVEL OF SERVICE DELAY (SECONDS) SUMMARY**

Intersection	Movement	SAT Midday Peak Hour									
		Existing Condition	Opening Year 2027			Design Year 2032 ¹			Design Year 2032 ²		
			Base	Proj.	Proj. ^{3,4}	Base	Proj.	Proj. ^{3,4}	Base	Proj.	Proj. ^{3,4}
Norristown Road (SR 2052) & Boveri Drive/ Site Driveway	EB L	A	A	A	A	A	A	A	A	A	A
	EB T	A	A	A	A	A	A	A	A	A	A
	WB T	A	A	A	A	A	A	A	A	A	A
	WB TR	A	A	A	A	A	A	A	A	A	A
	SB L	D	D	D	D	D	D	D	D	D	D
	SB R	A	A	D	D	A	D	D	A	D	D
	ILOS	A (0.7)	A (0.7)	A (8.0)	A (8.0)	A (0.7)	A (8.0)	A (8.0)	A (0.7)	A (7.9)	A (7.9)
Norristown Road (SR 2052) & Beech Hollow Road	WB LT	A	A	A	--	A	A	--	A	A	--
	NB LR	A	A	A	--	A	A	--	A	A	--
	ILOS	A (0.0)	A (0.0)	A (0.0)	--	A (0.0)	A (0.0)	--	A (0.0)	A (0.0)	--
Norristown Road (SR 2052) & Route 309 NB Ramps	EB L	C	C	C	--	C	C	--	C	C	--
	EB T	A	A	A	--	A	A	--	A	A	--
	WB TR	C	C	C	--	C	C	--	C	C	--
	NB L	D	E	E	--	E	E	--	D	D	--
	NB LT	D	E	E	--	E	E	--	D	D	--
	NB R	A	A	B	--	B	B	--	A	A	--
	ILOS	C (21.2)	C (23.1)	C (21.4)	--	C (23.2)	C (21.4)	--	C (22.3)	C (20.7)	--
Norristown Road (SR 2052) & Route 309 SB Ramps	EB T	C	B	C	--	B	C	--	C	C	--
	EB R	A	A	A	--	A	A	--	A	A	--
	WB L	D	D	D	--	D	D	--	D	D	--
	WB T	A	A	A	--	A	A	--	A	A	--
	SB L	C	C	C	--	C	C	--	C	C	--
	SB R	A	A	A	--	A	A	--	A	A	--
	ILOS	B (11.0)	B (10.8)	B (12.0)	--	B (11.0)	B (12.0)	--	B (11.4)	B (12.5)	--
Norristown Road (SR 2052) & Tennis Avenue	EB L	A	A	A	--	A	A	--	A	A	--
	EB TR	A	A	A	--	A	A	--	A	A	--
	WB L	A	A	A	--	A	A	--	A	A	--
	WB TR	B	B	B	--	B	B	--	B	B	--
	NB LT	E	E	E	--	E	E	--	E	E	--
	NB R	A	A	A	--	A	A	--	A	A	--
	SB LTR	C	C	C	--	C	C	--	C	C	--
ILOS	B (16.8)	B (16.7)	B (16.6)	--	B (16.5)	B (16.4)	--	B (17.2)	B (16.9)	--	
Norristown Road (SR 2052) & Residential Driveway/ SHIP Driveway	EB L	A	A	A	--	A	A	--	A	A	--
	EB T		A	A	--	A	A	--	A	A	--
	EB TR	A	A	A	--	A	A	--	A	A	--
	WB LT	A	A	A	--	A	A	--	A	A	--
	WB T	A	A	A	--	A	A	--	A	A	--
	WB R		A	A	--	A	A	--	A	A	--
	NB L	D	D	D	--	D	D	--	D	D	--
	NB TR	D	D	D	--	D	D	--	D	D	--
	SB L	D	D	D	--	D	D	--	D	D	--
SB TR	A	A	A	--	A	A	--	D	D	--	
ILOS	A (2.0)	A (2.0)	A (2.0)	--	A (2.0)	A (2.0)	--	A (3.9)	A (3.9)	--	

Base = No-Build scenario, Proj. = Build scenario

1 = Without SHIP Traffic and Roadway Improvements

2 = With SHIP Traffic and Roadway Improvements

3 = with site-related improvements

4 = Signal timing adjustments proposed at all signalized intersections within the study area

**TABLE 12 (CONTINUED)
LEVEL OF SERVICE DELAY (SECONDS) SUMMARY**

Intersection	Movement	SAT Midday Peak Hour									
		Existing Condition	Opening Year 2027			Design Year 2032 ¹			Design Year 2032 ²		
			Base	Proj.	Proj. ^{3,4}	Base	Proj.	Proj. ^{3,4}	Base	Proj.	Proj. ^{3,4}
Norristown Road (SR 2052) & McKean Road	EB L	A	A	A	--	A	A	--	A	A	--
	EB T	A	A	A	--	A	A	--	A	A	--
	WB T	A	A	A	--	A	A	--	B	B	--
	WB R	A	A	A	--	A	A	--	A	A	--
	NB LTR	A	A	A	--	A	A	--	A	A	--
	SB L	D	D	D	--	D	D	--	D	D	--
	SB R	A	A	A	--	A	A	--	A	A	--
	ILOS	A (8.2)	A (8.2)	A (8.8)	--	A (8.3)	A (8.9)	--	A (8.8)	A (9.4)	--
Norristown Road (SR 2052) /Sumneytown Pike & Bethlehem Pike	EB L	C	C	C	--	C	C	--	C	C	--
	EB T	D	D	D	--	D	D	--	D	D	--
	EB R	C	C	C	--	C	C	--	C	C	--
	WB L	C	C	C	--	C	C	--	C	C	--
	WB T	D	D	D	--	D	D	--	D	D	--
	WB TR	D	D	D	--	D	D	--	D	D	--
	NB L	B	B	B	--	B	B	--	B	B	--
	NB T	C	C	C	--	C	C	--	C	C	--
	NB TR	C	C	C	--	C	C	--	C	C	--
	SB L	B	B	B	--	B	B	--	B	C	--
	SB T	C	C	C	--	C	C	--	C	C	--
	SB TR	A	A	A	--	A	A	--	A	A	--
ILOS	C (29.9)	C (29.8)	C (30.9)	--	C (29.9)	C (31.1)	--	C (30.3)	C (31.5)	--	

Base = No-Build scenario, Proj. = Build scenario

1 = Without SHIP Traffic and Roadway Improvements

2 = With SHIP Traffic and Roadway Improvements

3 = with site-related improvements

4 = Signal timing adjustments proposed at all signalized intersections within the study area

As shown in **Tables 10-12**, under all projected (build) conditions with the development of the proposed site and with site-related recommendations outlined in **Table 17**, all study area intersections will satisfy PennDOT ILOS Standards.

95TH PERCENTILE QUEUE ANALYSIS

Queue analyses were conducted at the study area intersections using *Synchro 12* software. For this analysis, the 95th percentile queue is defined as the queue length that is exceeded in 5% of the signal cycles. As an example, for a signal with a 90-second cycle, this means that the 95th percentile queue length will be exceeded during 2 of the 40 signal cycles that occur during the peak hour. The queue analysis results are summarized in **Table 13 - 15** for the analyzed peak hours.

**TABLE 13
95TH PERCENTILE QUEUE ANALYSIS (FEET)**

Intersection	Movement	Available Storage	Weekday A.M. Peak Hour									
			Existing Condition	Opening Year 2027			Design Year 2032 ¹			Design Year 2032 ²		
				Base	Proj.	Proj. ^{3,4}	Base	Proj.	Proj. ^{3,4}	Base	Proj.	Proj. ^{3,4}
Norristown Road (SR 2052) & Boveri Drive (Site Driveway)	EB L	150'	0'	0'	28'	28'	0'	28'	28'	0'	30'	30'
	EB T	575 ³	3'	3'	53'	53'	3'	53'	53'	5'	58'	58'
	WB T	50 ³	8'	8'	8'	8'	8'	8'	8'	10'	13'	13'
	WB TR	605'	8'	8'	8'	8'	8'	8'	8'	10'	13'	13'
	SB L	250 ⁵	0'	0'	48'	48'	0'	48'	48'	0'	48'	48'
	SB R	250 ³	3'	3'	123'	123'	3'	123'	123'	3'	123'	123'
Norristown Road (SR 2052) & Beech Hollow Road	WB LT	895 ³	0'	0'	0'	--	0'	0'	--	0'	0'	--
	NB LR	335 ³	0'	0'	0'	--	0'	0'	--	0'	0'	--
Norristown Road (SR 2052) & Route 309 NB Ramps	EB L	110'	6'	6'	4'	--	6'	4'	--	7'	5'	--
	EB T	160 ³	36'	37'	56'	--	37'	54'	--	44'	61'	--
	WB TR	350'+	99'	108'	92'	--	110'	93'	--	143'	150'	--
	NB L	350'	407'	409'	409'	--	393'	393'	--	398'	398'	--
	NB LT	350'	408'	410'	410'	--	393'	393'	--	401'	401'	--
	NB R	140'	67'	69'	73'	--	64'	67'	--	62'	68'	--
Norristown Road (SR 2052) & Route 309 SB Ramps	EB T	580 ³	119'	121'	147'	--	121'	146'	--	133'	157'	--
	EB R	60'	226'	243'	250'	--	241'	242'	--	268'	275'	--
	WB L	110'	72'	72'	81'	--	75'	82'	--	70'	74'	--
	WB T	160 ³	39'	39'	41'	--	39'	45'	--	77'	98'	--
	SB L	50'	48'	48'	51'	--	50'	54'	--	53'	58'	--
	SB R	1000'+ ³	0'	0'	0'	--	0'	0'	--	0'	0'	--
Norristown Road (SR 2052) & Tennis Avenue	EB L	100'	118'	126'	171'	--	132'	121'	--	210'	243'	--
	EB TR	885 ³	83'	85'	94'	--	82'	93'	--	83'	93'	--
	WB L	70'	62'	62'	64'	--	64'	64'	--	66'	66'	--
	WB TR	950 ³	329'	365'	391'	--	328'	354'	--	400'	426'	--
	NB LT	430 ³	111'	112'	120'	--	110'	120'	--	143'	156'	--
	NB R	35'	25'	25'	24'	--	25'	25'	--	24'	24'	--
	SB LTR	1000'+ ³	248'	251'	253'	--	247'	256'	--	308'	316'	--
Norristown Road (SR 2052) & Residential Driveway/SHIP Driveway	EB L	250'	10'	10'	10'	--	8'	8'	--	103'	118'	--
	EB T	865 ³										
	EB TR	865 ³	8'	8'	8'	--	8'	8'	--	58'	68'	--
	WB LT	160 ³	18'	18'	18'	--	18'	20'	--	88'	98'	--
	WB T	160 ³	15'	15'	18'	--	15'	18'	--	70'	78'	--
	WB R	225'										
	NB L	50'	8'	8'	8'	--	8'	8'	--	8'	8'	--
	NB TR	50'	3'	3'	3'	--	3'	3'	--	3'	3'	--
	SB L	35'	8'	8'	8'	--	8'	8'	--	58'	58'	--
SB TR	365 ³	0'	0'	0'	--	0'	0'	--	40'	40'	--	

Base = No-Build scenario, Proj. = Build scenario

1 = Without SHIP Traffic and Roadway Improvements

2 = With SHIP Traffic and Roadway Improvements

3 = with site-related improvements

4 = Signal timing adjustments proposed at all signalized intersections within the study area

5 = Distance to nearest public intersection

**TABLE 13 (CONT'D)
95TH PERCENTILE QUEUE ANALYSIS (FEET)**

Intersection	Movement	Available Storage	Weekday A.M. Peak Hour									
			Existing Condition	Opening Year 2027			Design Year 2032 ¹			Design Year 2032 ²		
				Base	Proj.	Proj. ^{3,4}	Base	Proj.	Proj. ^{3,4}	Base	Proj.	Proj. ^{3,4}
Norristown Road (SR 2052) & McKean Road	EB L	350'	211'	213'	268'	--	216'	276'	--	81'	92'	--
	EB T	1000'+ ³								235'	273'	--
	WB T	870' ³	225'	227'	257'	--	229'	260'	--	330'	382'	--
	WB R	230'	32'	32'	33'	--	32'	33'	--	45'	48'	--
	NB LTR	--	0'	0'	0'	--	0'	0'	--	0'	0'	--
	SB L	70'	157'	158'	166'	--	159'	167'	--	164'	172'	--
	SB R	820' ³	77'	81'	82'	--	81'	83'	--	69'	65'	--
Norristown Road (SR 2052) / Sumneytown Pike & Bethlehem Pike	EB L	100'	53'	50'	50'	--	50'	50'	--	50'	50'	--
	EB T	585' ³	655'	535'	583'	--	545'	593'	--	690'	753'	--
	EB R	305'	215'	205'	205'	--	208'	208'	--	208'	208'	--
	WB L	600'+	150'	150'	183'	--	153'	188'	--	183'	228'	--
	WB T	1000'+ ³	405'	380'	403'	--	385'	408'	--	400'	428'	--
	WB TR	1000'+ ³	415'	390'	413'	--	395'	415'	--	410'	433'	--
	NB L	135'	168'	183'	188'	--	185'	190'	--	190'	190'	--
	NB T	340' ³	183'	195'	215'	--	195'	218'	--	260'	280'	--
	NB TR	340' ³	183'	195'	213'	--	195'	215'	--	250'	270'	--
	SB L	325'	73'	78'	98'	--	80'	100'	--	138'	158'	--
	SB T	512' ³	203'	213'	213'	--	215'	215'	--	215'	215'	--
SB TR	110'	0'	0'	0'	--	0'	0'	--	0'	0'	--	

Base = No-Build scenario, Proj. = Build scenario

1 = Without SHIP Traffic and Roadway Improvements

2 = With SHIP Traffic and Roadway Improvements

3 = with site-related improvements

4 = Signal timing adjustments proposed at all signalized intersections within the study area

5 = Distance to nearest public intersection

**TABLE 14
95TH PERCENTILE QUEUE ANALYSIS (FEET)**

Intersection	Movement	Available Storage	Weekday P.M. Peak Hour									
			Existing Condition	Opening Year 2027			Design Year 2032 ¹			Design Year 2032 ²		
				Base	Proj.	Proj. ^{3,4}	Base	Proj.	Proj. ^{3,4}	Base	Proj.	Proj. ^{3,4}
Norristown Road (SR 2052) & Boveri Drive (Site Driveway)	EB L	150'	0'	0'	45'	45'	0'	45'	45'	0'	48'	48'
	EB T	575 ⁵	8'	10'	148'	148'	10'	148'	148'	13'	190'	190'
	WB T	50 ⁵	5'	5'	10'	10'	5'	10'	10'	5'	10'	10'
	WB TR	605'	0'	0'	10'	10'	0'	10'	10'	0'	10'	10'
	SB L	250 ⁵	3'	3'	108'	108'	3'	108'	108'	3'	108'	108'
	SB R	250 ⁵	0'	0'	200'	200'	0'	200'	200'	0'	200'	200'
Norristown Road (SR 2052) & Beech Hollow Road	WB LT	895 ⁵	0'	0'	0'	--	0'	0'	--	0'	0'	--
	NB LR	335 ⁵	3'	3'	3'	--	3'	3'	--	3'	3'	--
Norristown Road (SR 2052) & Route 309 NB Ramps	EB L	110'	33'	33'	33'	--	33'	32'	--	36'	34'	--
	EB T	160 ⁵	54'	52'	53'	--	55'	56'	--	58'	69'	--
	WB TR	350'+	47'	49'	84'	--	46'	82'	--	54'	89'	--
	NB L	350'	189'	209'	209'	--	192'	192'	--	213'	213'	--
	NB LT	350'	190'	210'	210'	--	194'	194'	--	214'	214'	--
	NB R	140'	64'	66'	84'	--	66'	84'	--	66'	84'	--
Norristown Road (SR 2052) & Route 309 SB Ramps	EB T	580 ⁵	120'	119'	131'	--	124'	137'	--	145'	157'	--
	EB R	60'	516'	544'	552'	--	551'	557'	--	444'	445'	--
	WB L	110'	81'	79'	92'	--	81'	94'	--	80'	94'	--
	WB T	160 ⁵	32'	33'	32'	--	32'	31'	--	33'	32'	--
	SB L	50'	38'	38'	40'	--	38'	40'	--	38'	40'	--
	SB R	1000'+ ⁵	0'	0'	0'	--	0'	0'	--	0'	0'	--
Norristown Road (SR 2052) & Tennis Avenue	EB L	100'	60'	67'	95'	--	76'	160'	--	288'	319'	--
	EB TR	885 ⁵	401'	410'	436'	--	413'	456'	--	462'	491'	--
	WB L	70'	44'	45'	48'	--	45'	50'	--	49'	49'	--
	WB TR	950 ⁵	325'	320'	345'	--	365'	392'	--	336'	384'	--
	NB LT	430 ⁵	179'	177'	179'	--	182'	178'	--	178'	190'	--
	NB R	35'	25'	25'	23'	--	25'	23'	--	24'	24'	--
	SB LTR	1000'+ ⁵	180'	179'	177'	--	183'	175'	--	181'	188'	--
Norristown Road (SR 2052) & Residential Driveway/SHIP Driveway	EB L	250'	15'	15'	13'	--	13'	13'	--	13'	15'	--
	EB T	865 ⁵								128'	138'	--
	EB TR	865 ⁵	15'	15'	15'	--	15'	15'	--	133'	145'	--
	WB LT	160 ⁵	60'	60'	70'	--	63'	73'	--	215'	245'	--
	WB T	160 ⁵	53'	50'	60'	--	53'	60'	--	198'	223'	--
	WB R	225'								13'	13'	--
	NB L	50'	13'	13'	13'	--	13'	13'	--	13'	13'	--
	NB TR	50'	20'	20'	20'	--	20'	20'	--	15'	15'	--
	SB L	35'	55'	55'	55'	--	55'	55'	--	270'	270'	--
SB TR	365 ⁵	20'	20'	20'	--	20'	20'	--	168'	168'	--	

Base = No-Build scenario, Proj. = Build scenario

1 = Without SHIP Traffic and Roadway Improvements

2 = With SHIP Traffic and Roadway Improvements

3 = with site-related improvements

4 = Signal timing adjustments proposed at all signalized intersections within the study area

5 = Distance to nearest public intersection

**TABLE 14 (CONT'D)
95TH PERCENTILE QUEUE ANALYSIS (FEET)**

Intersection	Movement	Available Storage	Weekday P.M. Peak Hour									
			Existing Condition	Opening Year 2027			Design Year 2032 ¹			Design Year 2032 ²		
				Base	Proj.	Proj. ^{3,4}	Base	Proj.	Proj. ^{3,4}	Base	Proj.	Proj. ^{3,4}
Norristown Road (SR 2052) & McKean Road	EB L	350'	189'	207'	227'	--	210'	230'	--	43'	43'	--
	EB T	1000'+ ⁵								200'	220'	--
	WB T	870' ⁵	126'	127'	140'	--	130'	144'	--	259'	296'	--
	WB R	230'	21'	20'	18'	--	21'	18'	--	25'	32'	--
	NB LTR	--	0'	0'	0'	--	0'	0'	--	0'	0'	--
	SB L	70'	275'	259'	272'	--	262'	274'	--	294'	307'	--
	SB R	820' ⁵	68'	73'	87'	--	75'	89'	--	119'	126'	--
Norristown Road (SR 2052) / Sumneytown Pike & Bethlehem Pike	EB L	100'	65'	65'	65'	--	65'	65'	--	63'	63'	--
	EB T	585' ⁵	648'	573'	620'	--	553'	593'	--	520'	558'	--
	EB R	305'	148'	143'	143'	--	143'	140'	--	135'	135'	--
	WB L	600'+	205'	205'	240'	--	208'	243'	--	318'	420'	--
	WB T	1000'+ ⁵	450'	433'	465'	--	433'	460'	--	490'	535'	--
	WB TR	1000'+ ⁵	455'	440'	470'	--	440'	465'	--	490'	533'	--
	NB L	135'	178'	185'	190'	--	190'	195'	--	203'	203'	--
	NB T	340' ⁵	298'	305'	328'	--	313'	335'	--	350'	368'	--
	NB TR	340' ⁵	293'	303'	323'	--	310'	330'	--	345'	358'	--
	SB L	325'	135'	140'	168'	--	145'	175'	--	180'	90'	--
	SB T	512' ⁵	213'	218'	223'	--	223'	228'	--	238'	238'	--
SB TR	110'	0'	0'	0'	--	0'	0'	--	0'	0'	--	

Base = No-Build scenario, Proj. = Build scenario

1 = Without SHIP Traffic and Roadway Improvements

2 = With SHIP Traffic and Roadway Improvements

3 = with site-related improvements

4 = Signal timing adjustments proposed at all signalized intersections within the study area

5 = Distance to nearest public intersection

**TABLE 15
95TH PERCENTILE QUEUE ANALYSIS (FEET)**

Intersection	Movement	Available Storage	Midday Saturday Peak Hour									
			Existing Condition	Opening Year 2027			Design Year 2032 ¹			Design Year 2032 ²		
				Base	Proj.	Proj. ^{3,4}	Base	Proj.	Proj. ^{3,4}	Base	Proj.	Proj. ^{3,4}
Norristown Road (SR 2052) & Boveri Drive (Site Driveway)	EB L	150'	0'	0'	35'	35'	0'	35'	35'	0'	35'	35'
	EB T	575 ⁵	3'	3'	43'	43'	3'	43'	43'	3'	45'	45'
	WB T	50 ⁵	5'	5'	8'	8'	5'	8'	8'	5'	8'	8'
	WB TR	605'	5'	5'	8'	8'	5'	8'	8'	5'	8'	8'
	SB L	250 ⁵	3'	3'	75'	75'	3'	75'	75'	3'	75'	75'
	SB R	250 ⁵	0'	0'	180'	180'	0'	180'	180'	0'	180'	180'
Norristown Road (SR 2052) & Beech Hollow Road	WB LT	895 ⁵	0'	0'	0'	--	0'	0'	--	0'	0'	--
	NB LR	335 ⁵	0'	0'	0'	--	0'	0'	--	0'	0'	--
Norristown Road (SR 2052) & Route 309 NB Ramps	EB L	110'	12'	13'	10'	--	13'	10'	--	17'	13'	--
	EB T	160 ⁵	14'	12'	29'	--	13'	30'	--	19'	34'	--
	WB TR	350'+	88'	88'	110'	--	89'	111'	--	91'	111'	--
	NB L	350'	189'	212'	212'	--	215'	215'	--	212'	212'	--
	NB LT	350'	189'	212'	212'	--	216'	216'	--	213'	213'	--
	NB R	140'	53'	55'	61'	--	56'	61'	--	55'	60'	--
Norristown Road (SR 2052) & Route 309 SB Ramps	EB T	580 ⁵	85'	81'	110'	--	84'	110'	--	94'	119'	--
	EB R	60'	130'	127'	134'	--	131'	134'	--	138'	142'	--
	WB L	110'	53'	51'	66'	--	51'	65'	--	52'	67'	--
	WB T	160 ⁵	41'	46'	46'	--	47'	46'	--	46'	45'	--
	SB L	50'	49'	50'	50'	--	50'	51'	--	49'	52'	--
	SB R	1000'+ ⁵	0'	0'	0'	--	0'	0'	--	0'	0'	--
Norristown Road (SR 2052) & Tennis Avenue	EB L	100'	24'	24'	21'	--	24'	23'	--	25'	28'	--
	EB TR	885 ⁵	35'	36'	59'	--	36'	60'	--	46'	66'	--
	WB L	70'	23'	23'	27'	--	24'	28'	--	25'	29'	--
	WB TR	950 ⁵	238'	240'	285'	--	247'	296'	--	261'	314'	--
	NB LT	430 ⁵	137'	137'	142'	--	137'	141'	--	142'	145'	--
	NB R	35'	9'	9'	9'	--	10'	9'	--	9'	9'	--
Norristown Road (SR 2052) & Residential Driveway/SHIP Driveway	SB LTR	1000'+ ⁵	135'	137'	134'	--	137'	134'	--	139'	135'	--
	EB L	250'	8'	8'	8'	--	8'	8'	--	3'	3'	--
	EB T	865 ⁵								25'	28'	--
	EB TR	865 ⁵	8'	8'	8'	--	8'	8'	--	25'	30'	--
	WB LT	160 ⁵	10'	10'	13'	--	10'	13'	--	33'	38'	--
	WB T	160 ⁵	8'	8'	10'	--	8'	10'	--	25'	28'	--
	WB R	225'								0'	0'	--
	NB L	50'	8'	8'	8'	--	8'	8'	--	8'	8'	--
	NB TR	50'	5'	5'	5'	--	5'	5'	--	5'	5'	--
	SB L	35'	8'	8'	8'	--	8'	8'	--	40'	40'	--
SB TR	365 ⁵	0'	0'	0'	--	0'	0'	--	25'	25'	--	

Base = No-Build scenario, Proj. = Build scenario

1 = Without SHIP Traffic and Roadway Improvements

2 = With SHIP Traffic and Roadway Improvements

3 = with site-related improvements

4 = Signal timing adjustments proposed at all signalized intersections within the study area

5 = Distance to nearest public intersection

**TABLE 15 (CONT'D)
95TH PERCENTILE QUEUE ANALYSIS (FEET)**

Intersection	Movement	Available Storage	Midday Saturday Peak Hour									
			Existing Condition	Opening Year 2027			Design Year 2032 ¹			Design Year 2032 ²		
				Base	Proj.	Proj. ^{3,4}	Base	Proj.	Proj. ^{3,4}	Base	Proj.	Proj. ^{3,4}
Norristown Road (SR 2052) & McKean Road	EB L	350'	94'	95'	117'	--	96'	118'	--	37'	38'	--
	EB T	1000'+ ⁵		85'	106'	--						
	WB T	870' ⁵	117'	118'	147'	--	120'	148'	--	142'	175'	--
	WB R	230'	8'	8'	13'	--	9'	14'	--	11'	17'	--
	NB LTR	--	0'	0'	0'	--	0'	0'	--	0'	0'	--
	SB L	70'	91'	91'	98'	--	91'	100'	--	94'	102'	--
	SB R	820' ⁵	34'	34'	33'	--	34'	34'	--	32'	31'	--
Norristown Road (SR 2052) / Sumneytown Pike & Bethlehem Pike	EB L	100'	55'	55'	53'	--	55'	55'	--	55'	55'	--
	EB T	585' ⁵	225'	225'	243'	--	228'	245'	--	230'	250'	--
	EB R	305'	128'	128'	125'	--	128'	125'	--	128'	123'	--
	WB L	600'+	110'	108'	135'	--	110'	135'	--	120'	145'	--
	WB T	1000'+ ⁵	258'	255'	278'	--	258'	283'	--	268'	290'	--
	WB TR	1000'+ ⁵	260'	258'	278'	--	260'	283'	--	268'	290'	--
	NB L	135'	100'	100'	108'	--	103'	108'	--	105'	110'	--
	NB T	340' ⁵	213'	215'	240'	--	218'	243'	--	228'	253'	--
	NB TR	340' ⁵	215'	215'	238'	--	218'	240'	--	228'	250'	--
	SB L	325'	95'	95'	123'	--	98'	123'	--	108'	135'	--
	SB T	512' ⁵	168'	170'	180'	--	173'	183'	--	178'	188'	--
	SB TR	110'	0'	0'	0'	--	0'	0'	--	0'	0'	--

Base = No-Build scenario, Proj. = Build scenario

1 = Without SHIP Traffic and Roadway Improvements

2 = With SHIP Traffic and Roadway Improvements

3 = with site-related improvements

4 = Signal timing adjustments proposed at all signalized intersections within the study area

5 = Distance to nearest public intersection

The queues are accommodated within the available storage in most cases.

With respect to the eastbound Norristown Road left turn queue storage area approaching Tennis Avenue, the Applicant will coordinate with the Township and PennDOT on the possibility of shifting where the transition occurs between the one (1) westbound lane to two (2) westbound lanes further west in order to extend the existing eastbound left turn lane approaching Tennis Avenue in order to accommodate the existing and projected queues. In regard to the eastbound Sumneytown Pike approach to Bethlehem Pike, based on a review of the conditions in the field, the available storage within the eastbound approach accommodates the existing queues, which was confirmed by the Township Traffic Engineer. The difference between the field observations (i.e. actual operations) and the analysis conducted relates to the use of an adaptive traffic signal system at this intersection. Due to the complications in modeling an adaptive system, the analysis conducted in the Traffic Impact Study should be considered conservative (i.e. less efficient than actual operations).

Queue analysis worksheets are included with the capacity analysis worksheets provided in **Appendix H**.

AUXILIARY TURN LANE ANALYSIS

Methodology

TPD evaluated auxiliary turn lane warrants at the site access intersection. The warrant analysis methodology contained within Chapter 11 of PennDOT's *Publication 46*, Section 11.17 and Strike-Off Letter 470-08-07 was utilized for this evaluation.

Findings

Table 16 summarizes the results of the auxiliary turn lane analysis at the site access intersections.

TABLE 16
AUXILIARY TURN LANE ANALYSIS SUMMARY

Intersection	Auxiliary Lane	Warrant Satisfied?	Required Lane Length	Proposed Lane Length
Norristown Road (SR 2052) & Boveri Drive (Site Driveway)	EB Left-Turn Lane	Yes	250'	250'
	WB Right-Turn Lane	Yes	175'	--

As shown in **Table 16**, warrants are satisfied for a 250' eastbound left turn lane and a 175' westbound right turn lane at the existing signalized site driveway (Boveri Drive). TPD recommends restriping the existing gore area located before the existing eastbound left turn lane in order to accommodate the additional storage length warranted for the eastbound left turn lane.

While a 175' westbound right turn lane is warranted, there exists a steep drop off adjacent to the existing shoulder area on the northern side of Norristown Road (SR 2052). In addition, a newly constructed walking trail also precludes the construction of the right turn lane. Furthermore, as shown above in **Tables 10-15**, the westbound approaches operate at LOS A with the longest queue in the westbound direction projected to be less than one (1) vehicle length. Therefore, TPD does not recommend the installation of a westbound right turn lane. The calculations for the auxiliary turn lane warrants are included in **Appendix J**.

RECOMMENDATIONS

TPD has made the following recommendations in relation to the proposed Springhouse Mixed-Use development in Lower Gwynedd Township, Montgomery County, as outlined in **Table 17**.

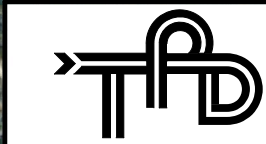
**TABLE 17
RECOMMENDATIONS**

Intersection	Recommendation
Norristown Road (SR 2052) Corridor	Optimize traffic signals timings at the signalized study area intersections.
Norristown Road (SR 2052) & Boveri Drive (Site Driveway)	Restripe the Eastbound Left Turn Lane to increase the storage length to 250 feet.
	Extend the southbound Boveri Drive right turn lane, via widening, to the first internal intersection in order to accommodate future queue lengths.
	Work with the Township and PennDOT on potential traffic signal equipment upgrades.
	Work with the Township and PennDOT on potential traffic signal timing modifications to increase the green time on the westbound Norristown Road approach in order to create a gap in the eastbound traffic to facilitate turns in/out of Beech Hollow Road.
	Maintenance of on-site vegetation to maximize available sight distance.
Norristown Road (SR 2052) & Tennis Avenue (SR 2020)	Coordinate with the Township and PennDOT on shifting where the transition occurs between the one (1) westbound lane to two (2) westbound lanes further west in order to extend the existing eastbound left turn lane approaching Tennis Avenue.
Norristown Road Frontage	Provide a 10' wide trail beginning within the site and connecting to the existing trail located to the east of the site.
	Provide a 10' wide trail along the property's frontage.
	Provide sidewalk extending across the northbound Route 309 on-ramp, under Route 309, across the southbound Route 309 off-ramp and terminating at/near the SHIP property to the west of the site.
	Provide PennDOT compliant crosswalks and pedestrian traffic signal equipment at the existing signalized intersections between Boveri Drive and the Route 309 southbound off-ramp.

CONCLUSIONS

- » The project site is located on the northwestern corner of Norristown Road (SR 2052) and Boveri Drive and currently consists of 143,295 sf of office space.
- » The proposed site will be redeveloped and will consist of the following uses:
 - » 77,619 sf of Office Space;
 - » A 30,750 sf Grocery Store;
 - » 16,000 sf of Retail Space;
 - » 278 mid-rise apartments.
- » Access to the Proposed Site will be provided via one (1) full-access signalized driveway via existing Boveri Drive. In addition, an emergency access will be provided in coordination with the Township Fire Marshal.

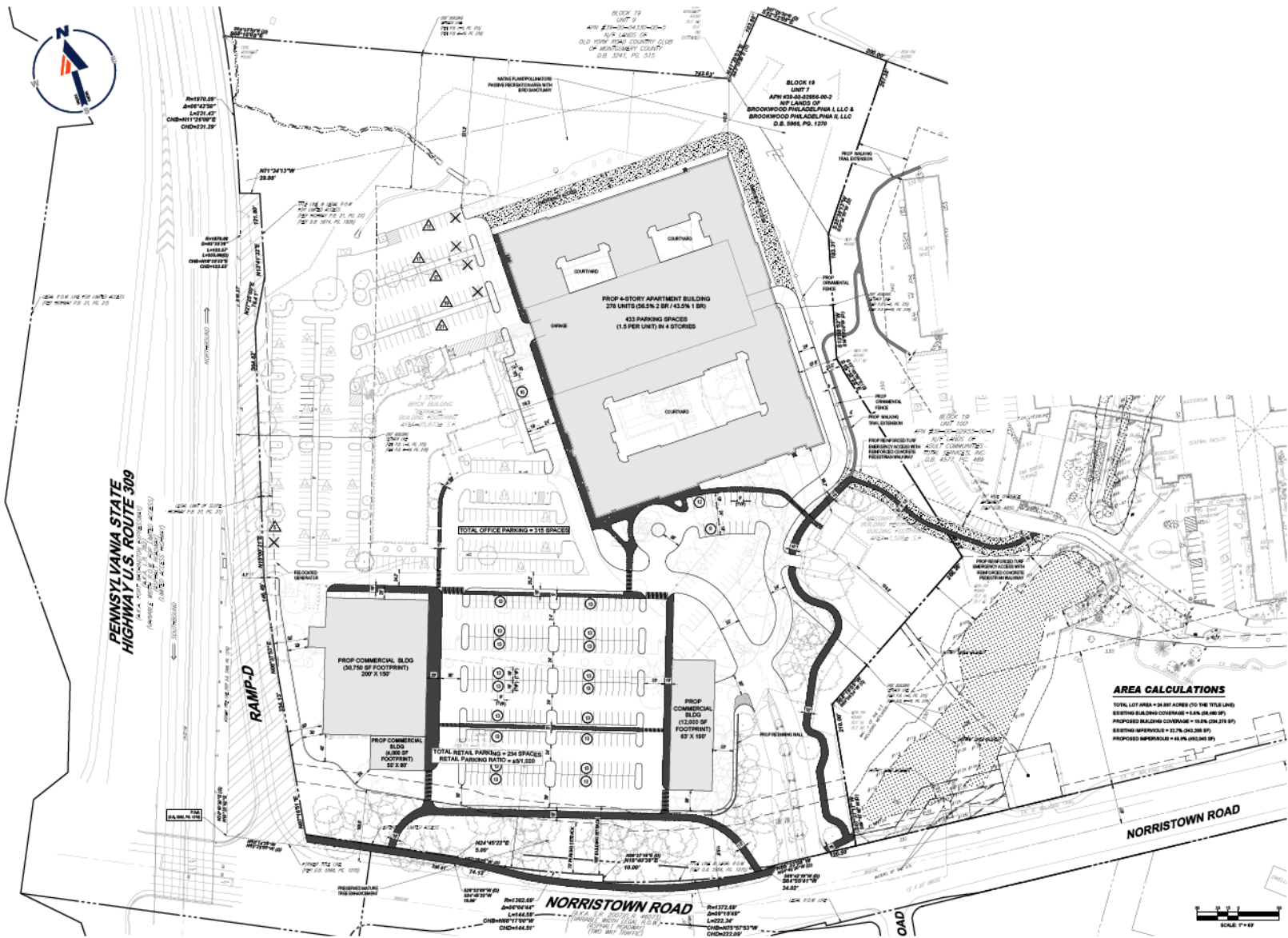
- » All measured sight distances at the site driveway exceed the acceptable sight distances and, in most cases, exceed PennDOT's desirable sight distance requirements.
- » Upon full build-out, the proposed development is expected to generate **311 new trips** during the weekday A.M. peak hour, **339 new trips** during the weekday P.M. peak hour, and **382 new trips** during the Saturday midday peak hour.
- » The Existing Site (at full capacity) will generate **180 new trips** during the weekday AM peak hour, **173 new trips** during the weekday PM peak hour, and **126 new trips** during the Saturday Midday peak hour.
- » When compared to the Existing Site (at full capacity), the **Proposed Site** will generate **131 more net new trips** during the weekday AM peak hour, **166 more net new trips** during the weekday PM peak hour, and **256 more net new trips** during the Saturday Midday peak hour.
- » Under the 2027 and 2032 projected conditions, with the development of the proposed site, with site-related recommendations outline in **Table 17**, all study area intersections will satisfy PennDOT ILOS Standards.




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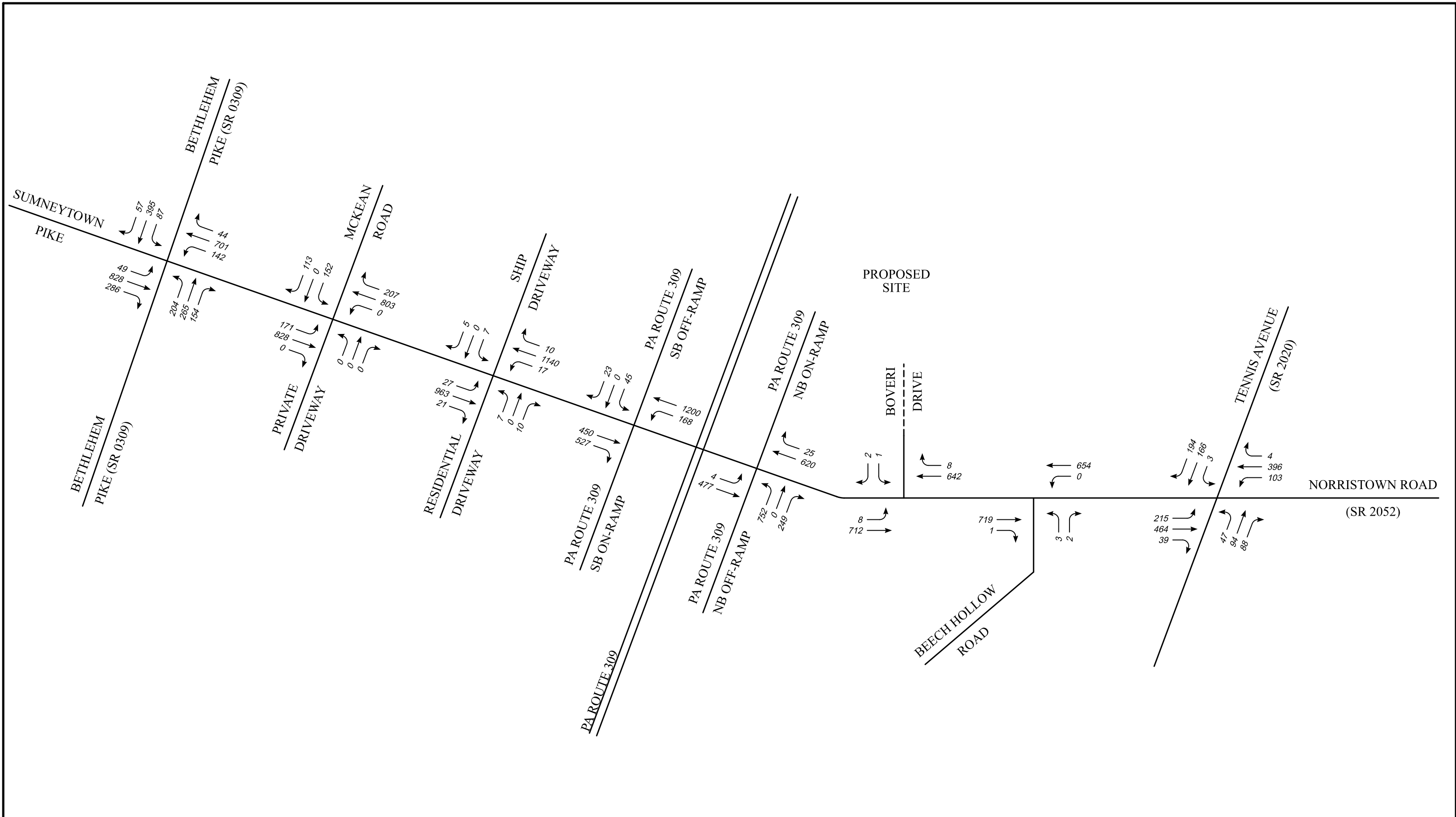
FIGURE 1

PROJECT SITE LOCATION



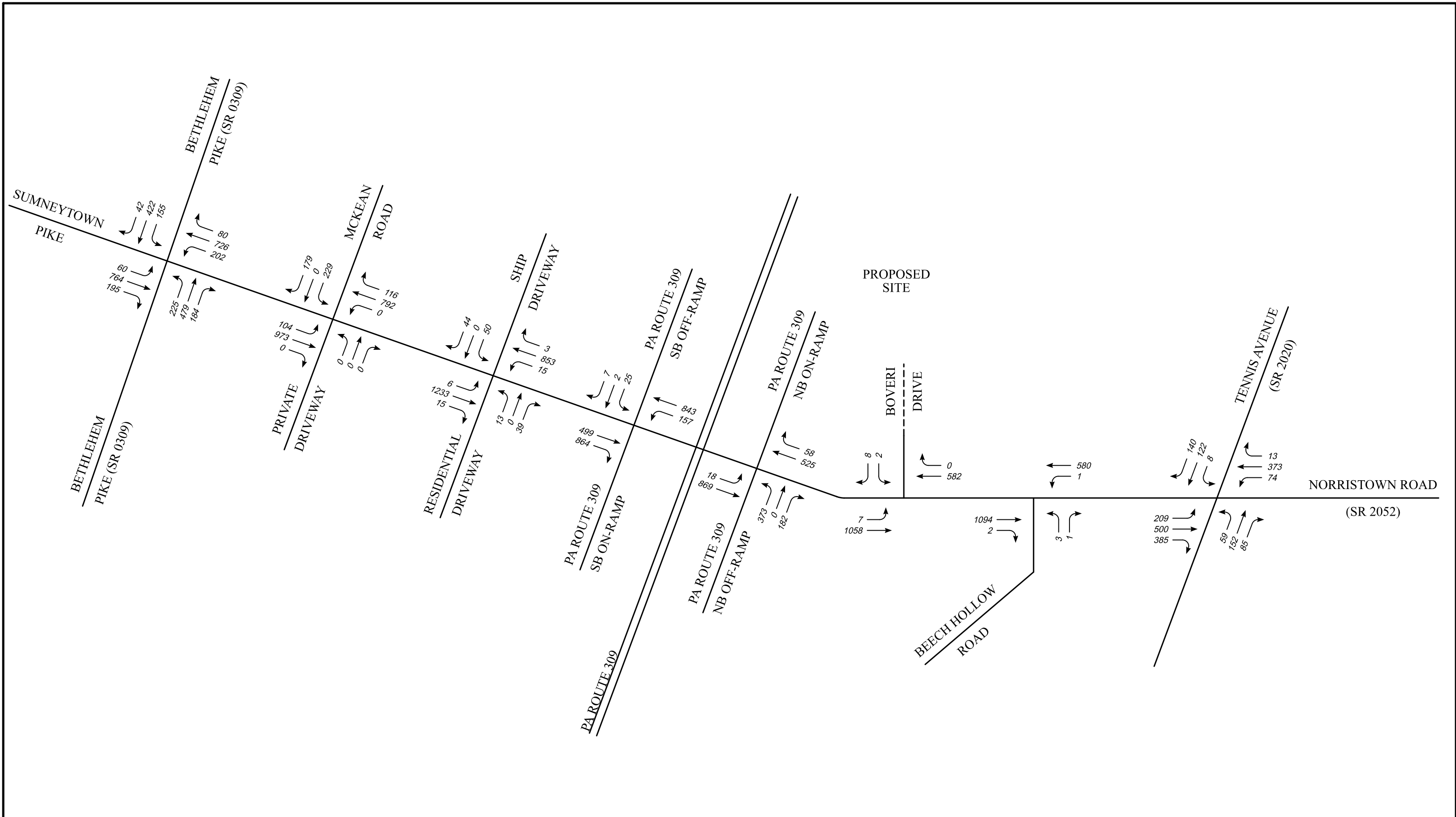
KEY:
SCHEMATIC DRAWING: NOT TO SCALE

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FIGURE 2	
PROPOSED SITE PLAN	



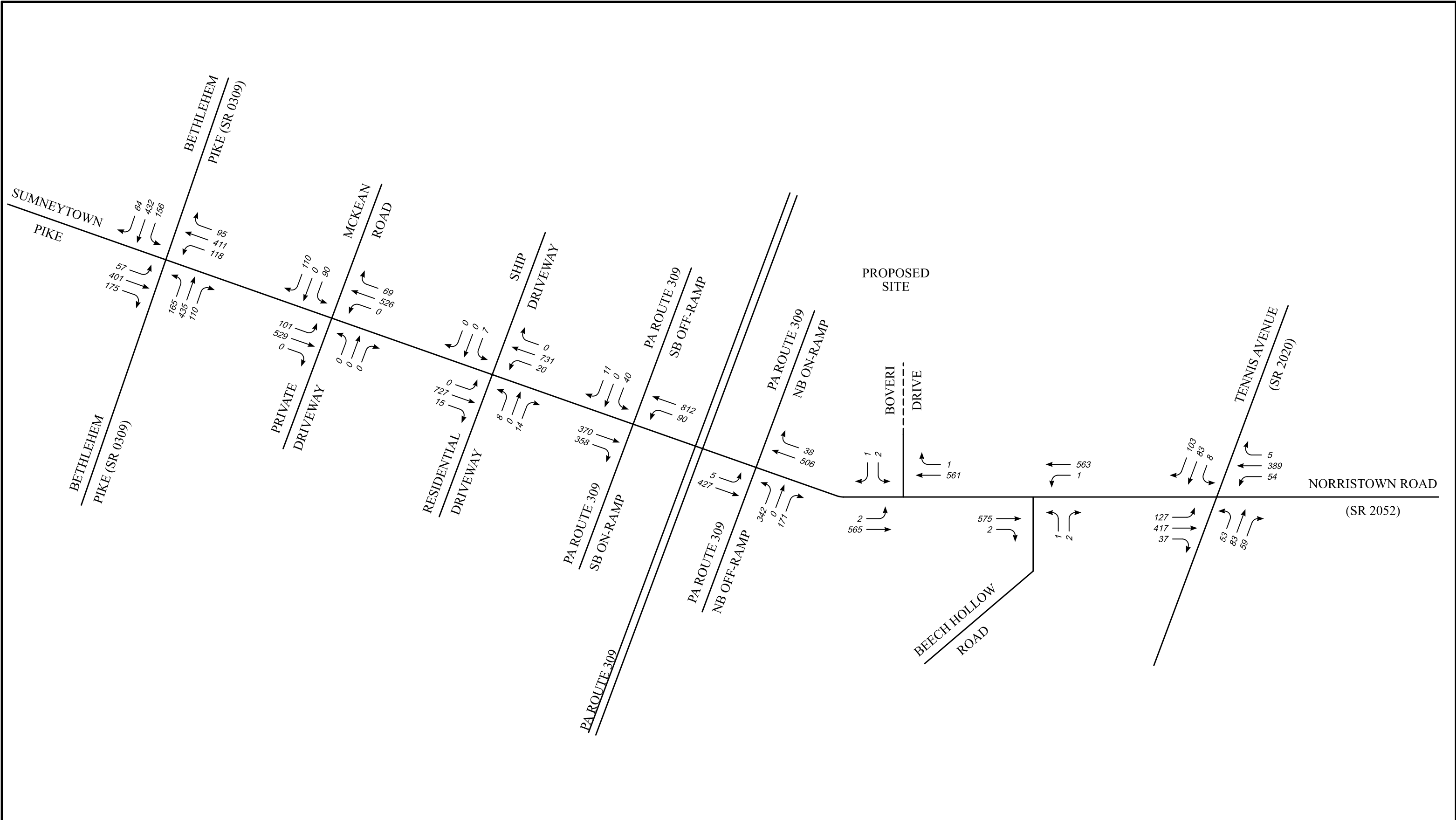
KEY:
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 SCHEMATIC DRAWING: NOT TO SCALE

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FIGURE 3 2024 EXISTING CONDITIONS WEEKDAY A.M. PEAK HOUR TRAFFIC VOLUMES		



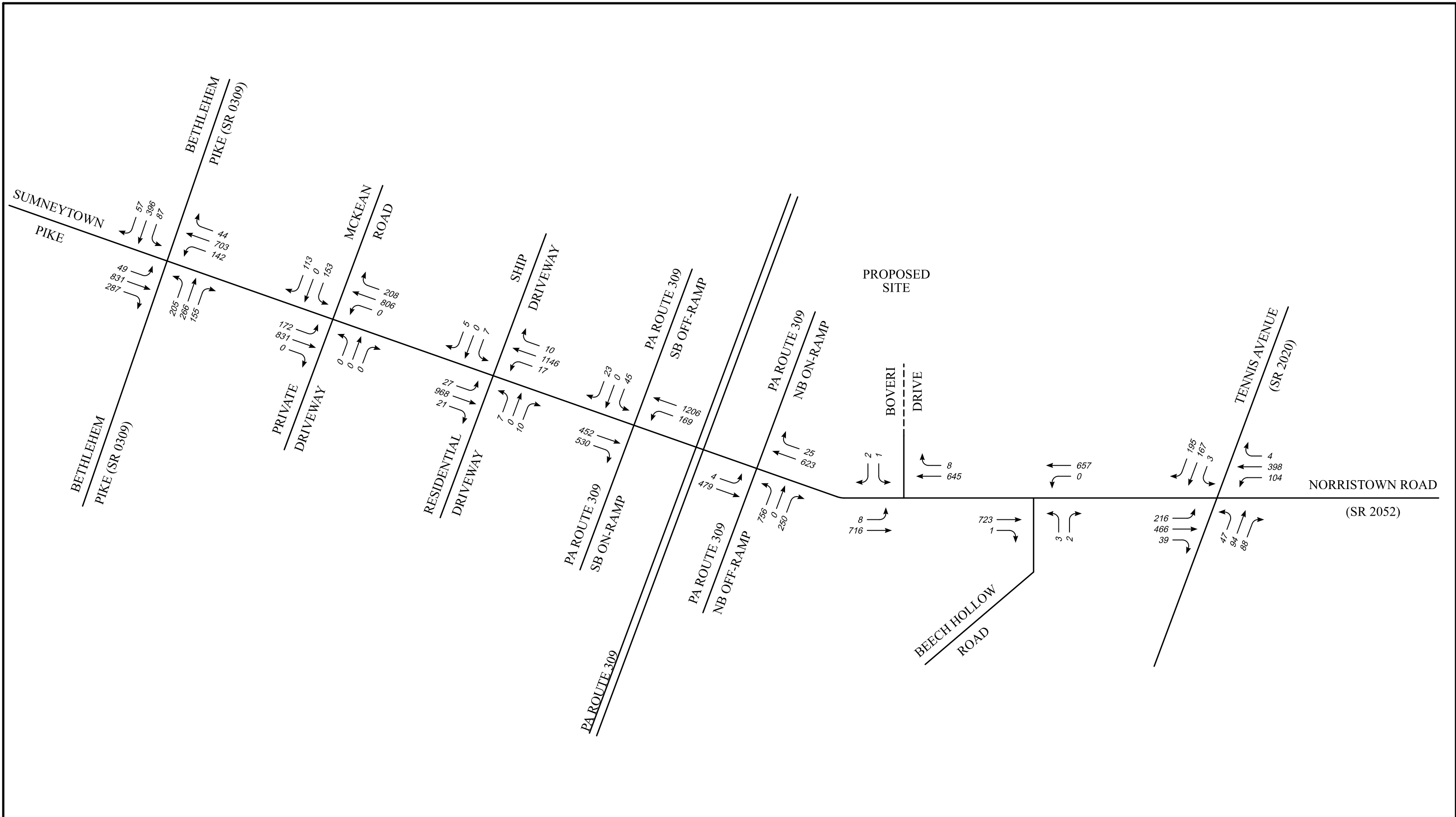
KEY:
 ----- PROPOSED DRIVEWAY
 SCHEMATIC DRAWING: NOT TO SCALE

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FIGURE 4 2024 EXISTING CONDITIONS WEEKDAY P.M. PEAK HOUR TRAFFIC VOLUMES		

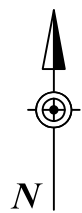



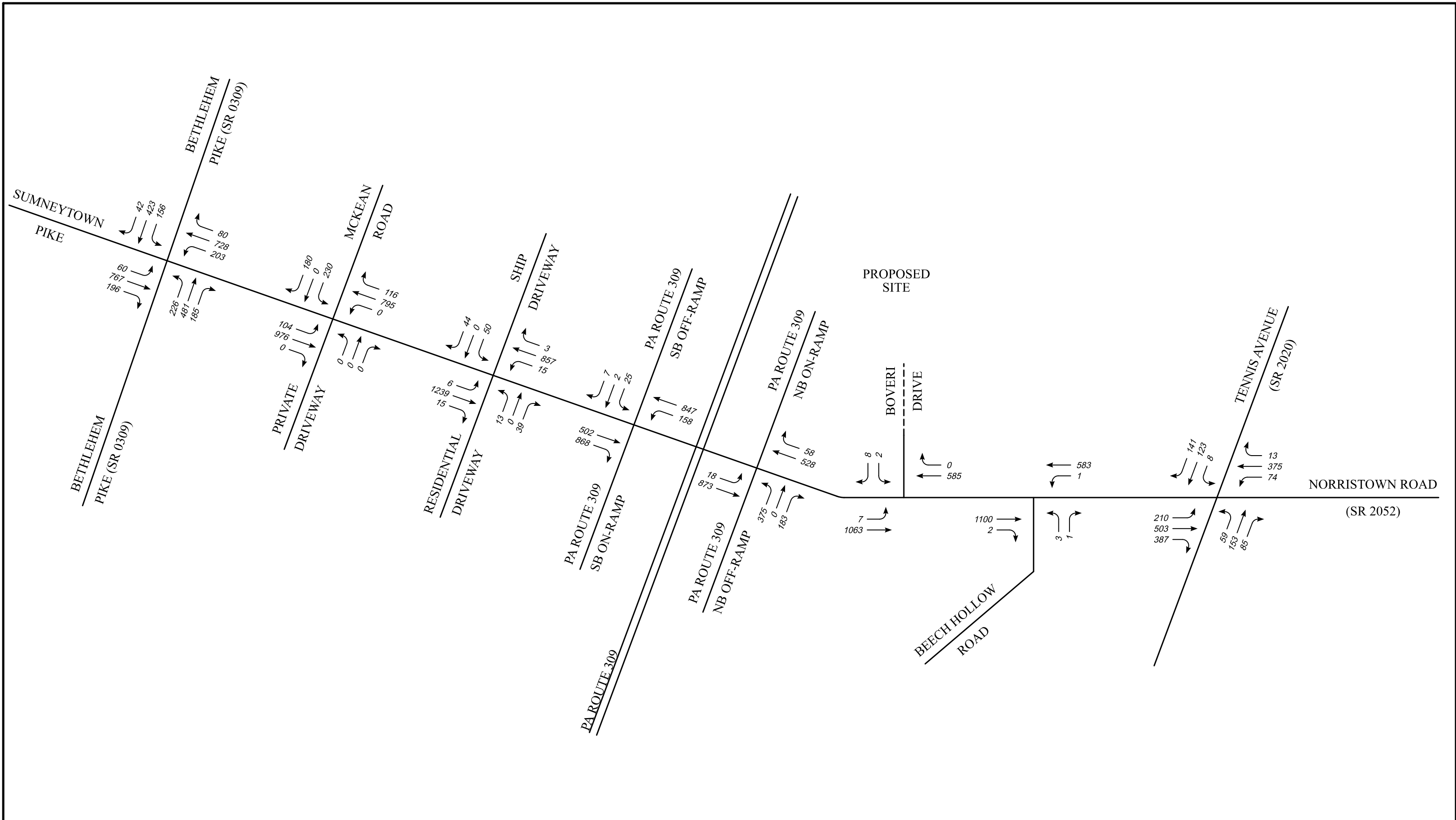
KEY:
 ----- PROPOSED DRIVEWAY
 SCHEMATIC DRAWING: NOT TO SCALE

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FIGURE 5 2024 EXISTING CONDITIONS MIDDAY SATURDAY PEAK HOUR TRAFFIC VOLUMES		



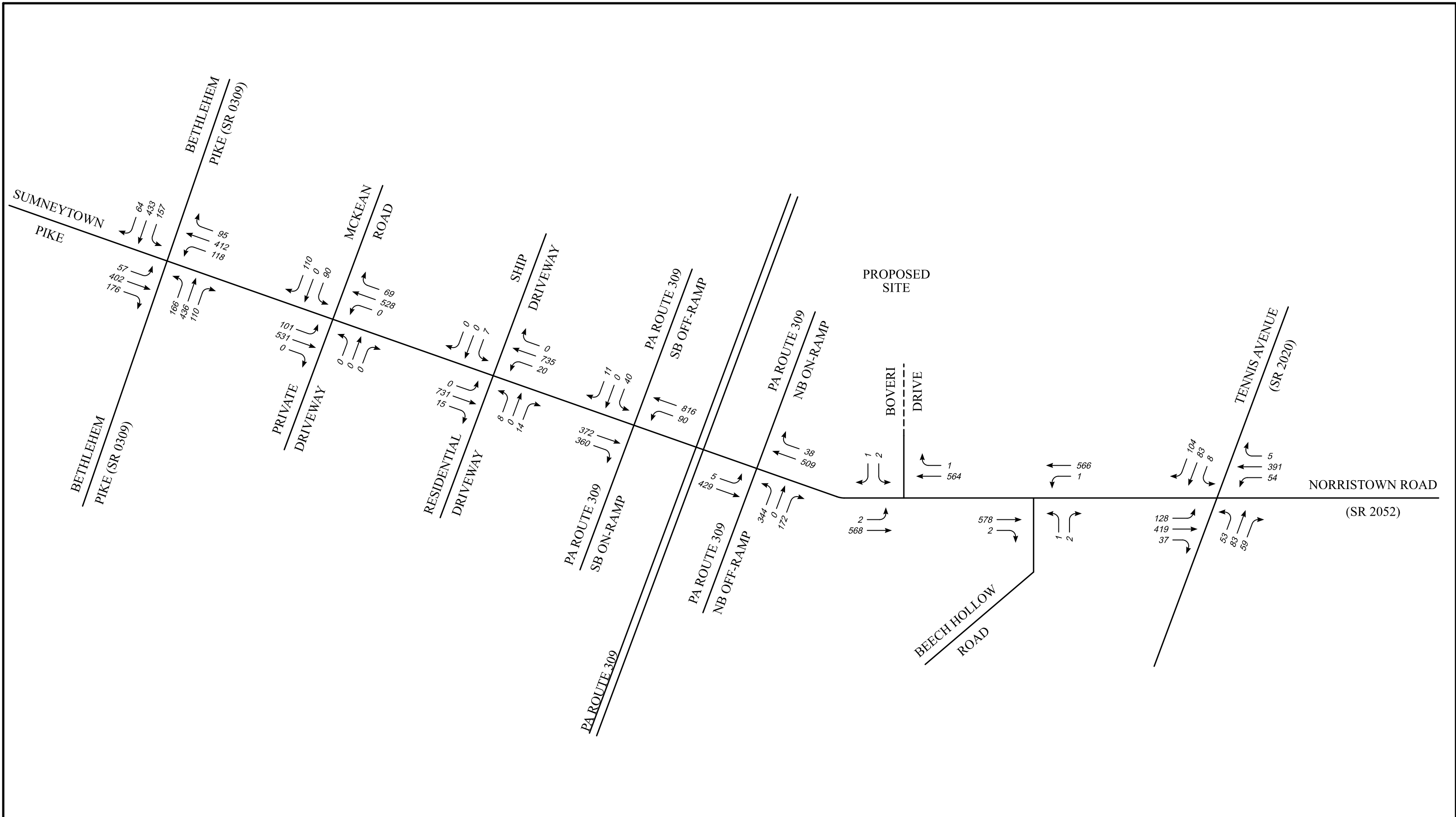
KEY:
 ----- PROPOSED DRIVEWAY
 SCHEMATIC DRAWING: NOT TO SCALE

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FIGURE 6 2027 BASE CONDITIONS WEEKDAY A.M. PEAK HOUR TRAFFIC VOLUMES		





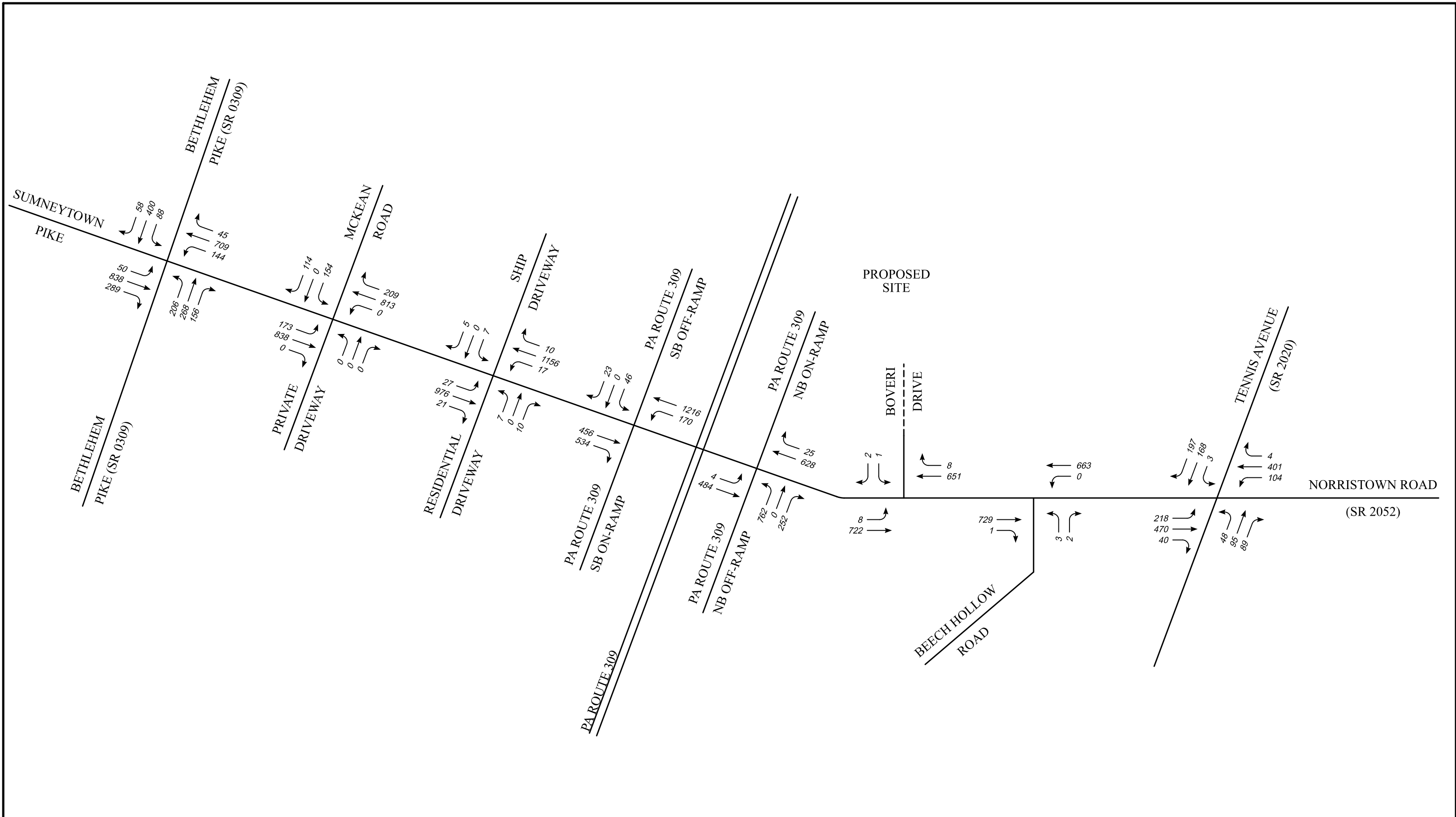
KEY:
 ----- PROPOSED DRIVEWAY
 SCHEMATIC DRAWING: NOT TO SCALE

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FIGURE 7 2027 BASE CONDITIONS WEEKDAY P.M. PEAK HOUR TRAFFIC VOLUMES		



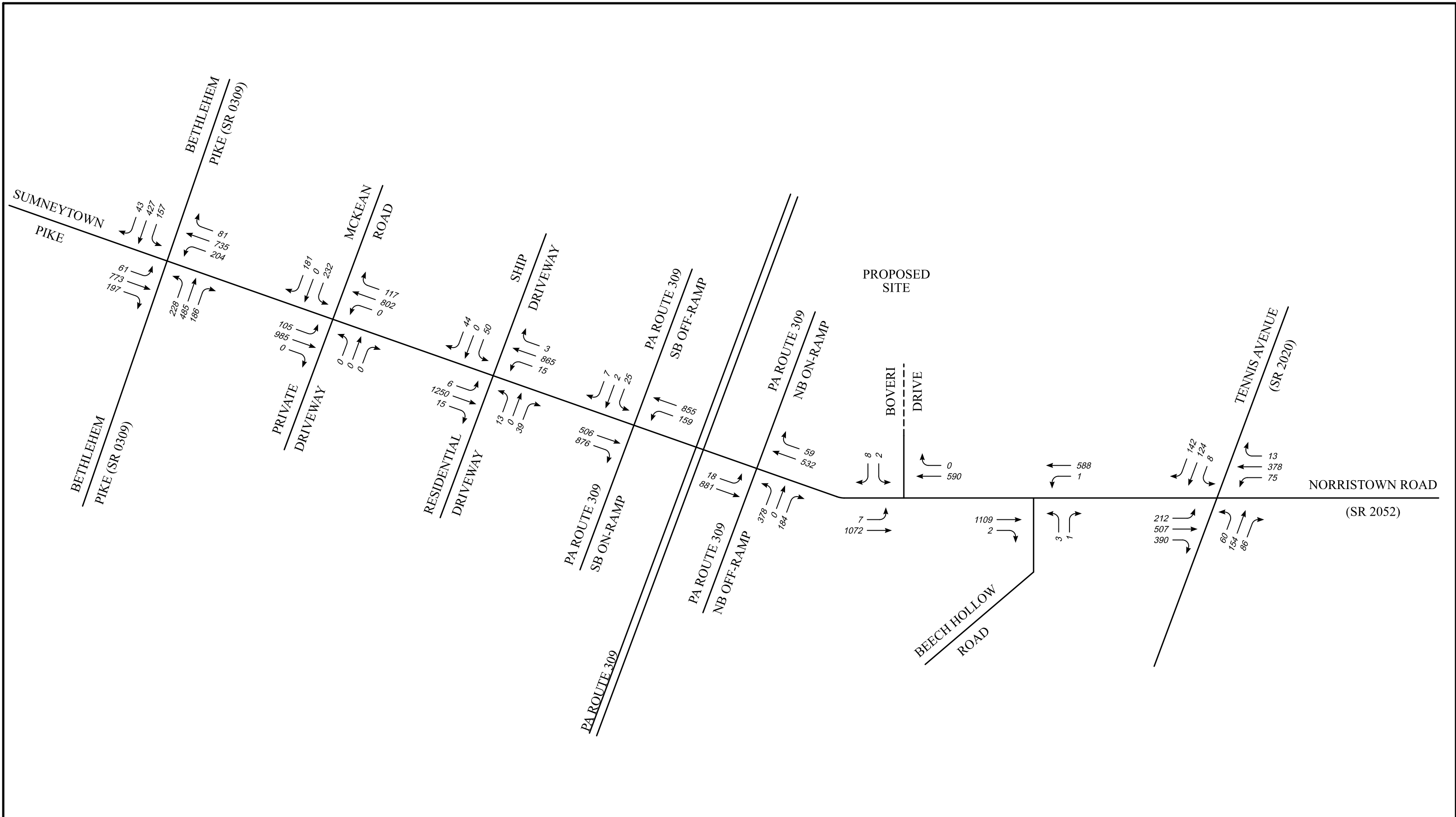
KEY:
 - - - - - PROPOSED DRIVEWAY
 SCHEMATIC DRAWING: NOT TO SCALE

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FIGURE 8 2027 BASE CONDITIONS MIDDAY SATURDAY PEAK HOUR TRAFFIC VOLUMES		



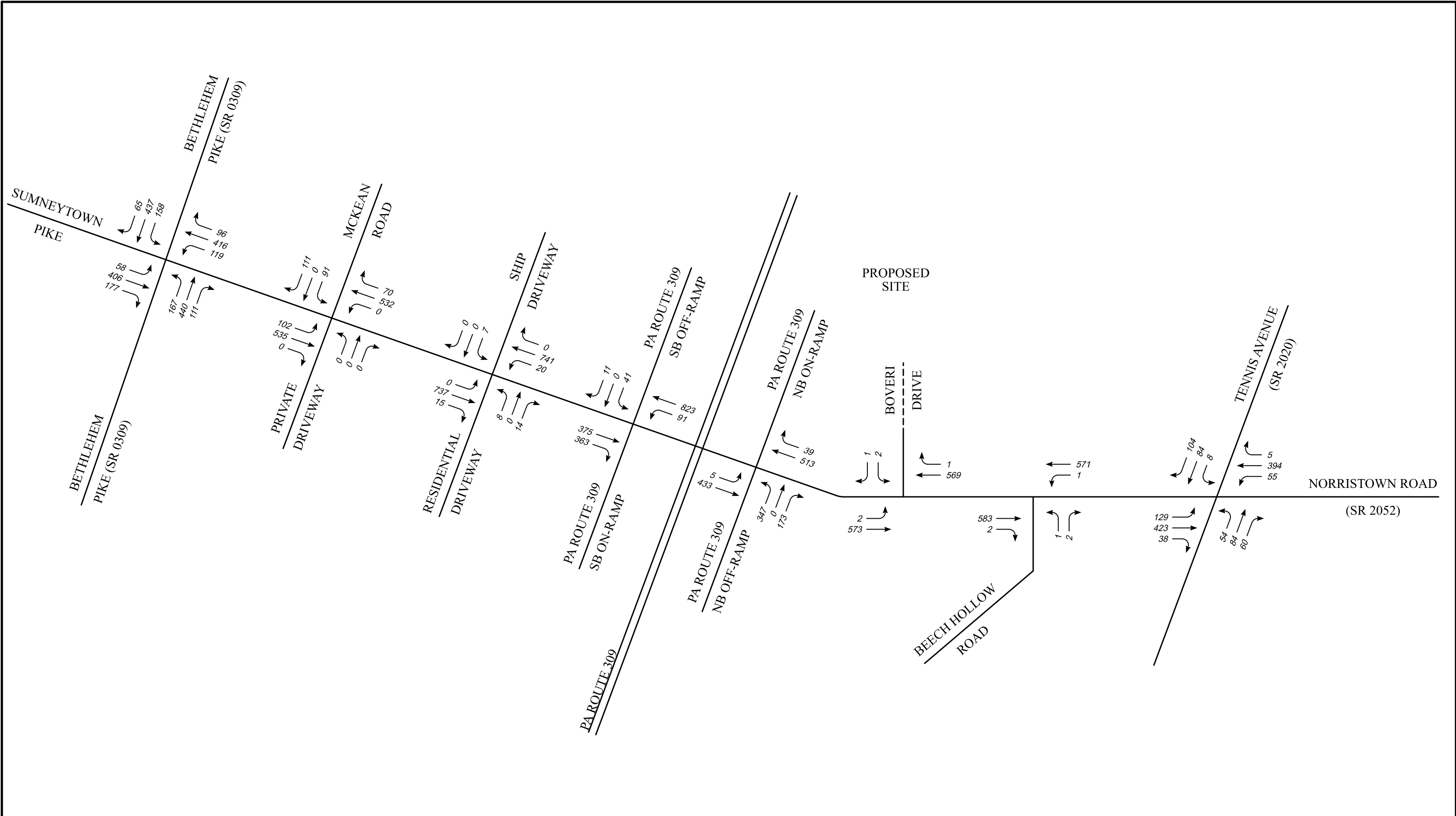
KEY:
 ----- PROPOSED DRIVEWAY
 SCHEMATIC DRAWING: NOT TO SCALE

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FIGURE 9 2032 BASE CONDITIONS WITHOUT SHIP WEEKDAY A.M. PEAK HOUR TRAFFIC VOLUMES		



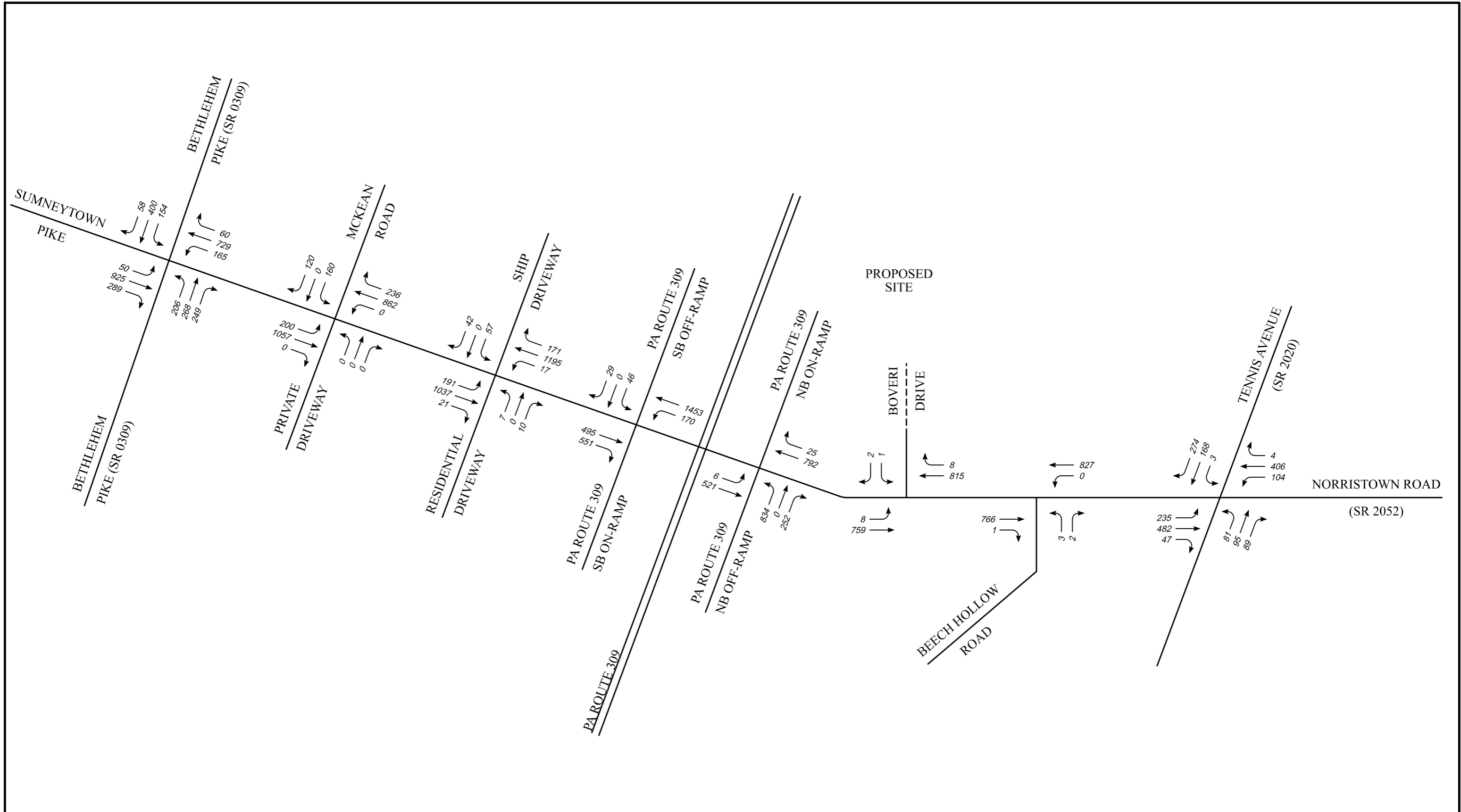
KEY:
 ----- PROPOSED DRIVEWAY
 SCHEMATIC DRAWING: NOT TO SCALE

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FIGURE 10 2032 BASE CONDITIONS WITHOUT SHIP WEEKDAY P.M. PEAK HOUR TRAFFIC VOLUMES		





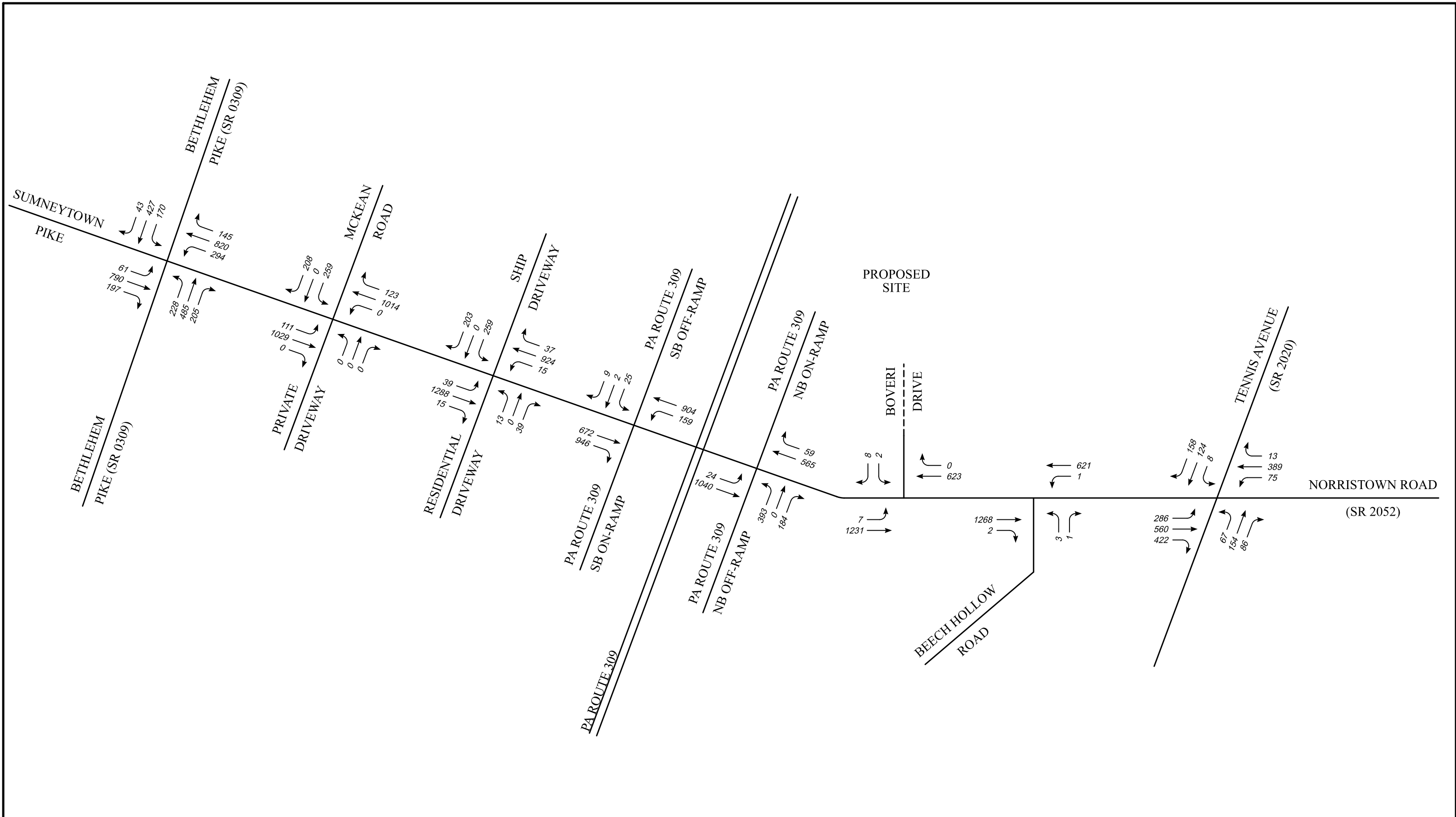
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 SCHEMATIC DRAWING: NOT TO SCALE

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FIGURE 11 2032 BASE CONDITIONS WITHOUT SHIP MIDDAY SATURDAY PEAK HOUR TRAFFIC VOLUMES		



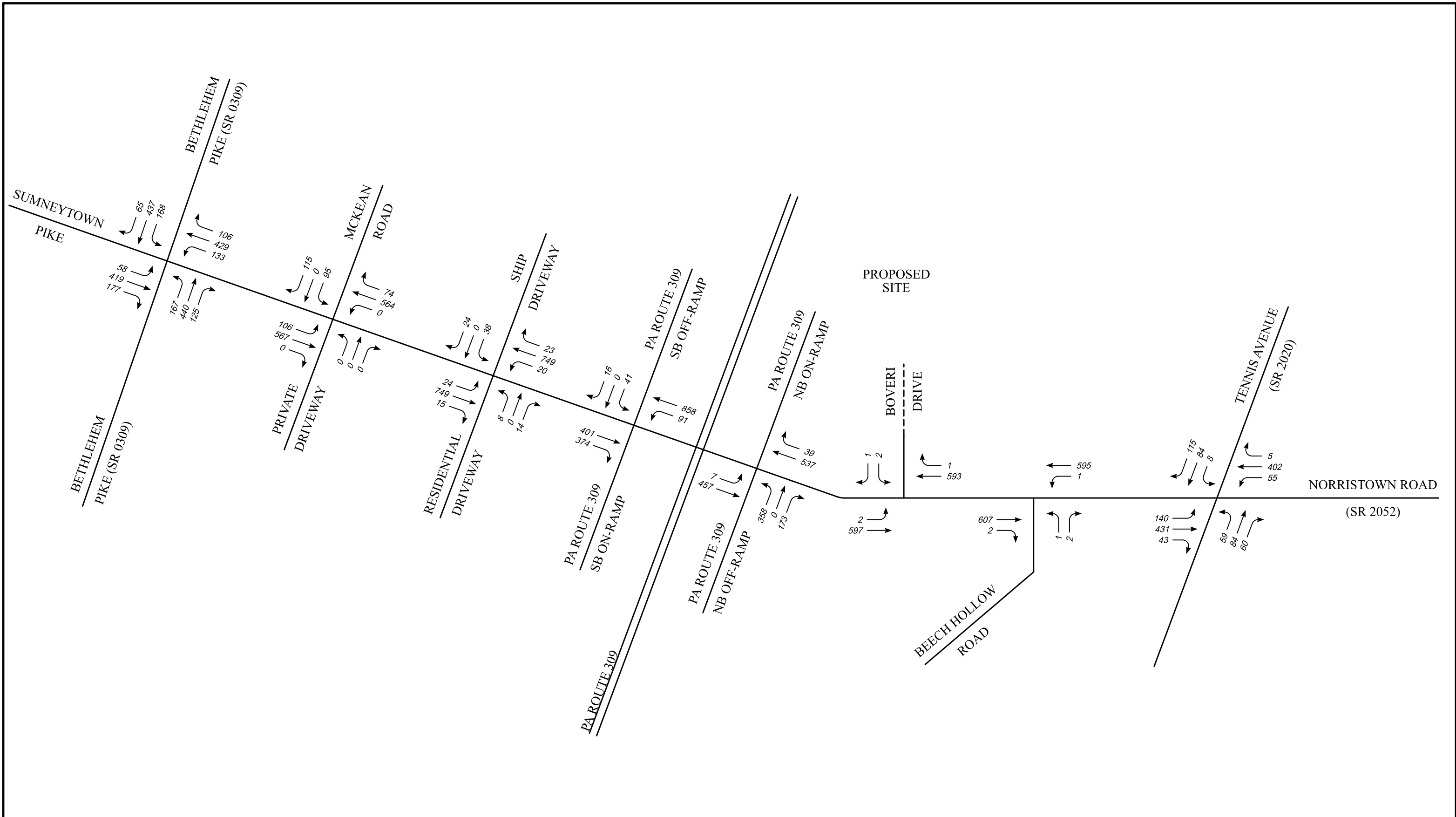
KEY:
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 SCHEMATIC DRAWING: NOT TO SCALE

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FIGURE 12 2032 BASE CONDITIONS WITH SHIP WEEKDAY A.M. PEAK HOUR TRAFFIC VOLUMES		



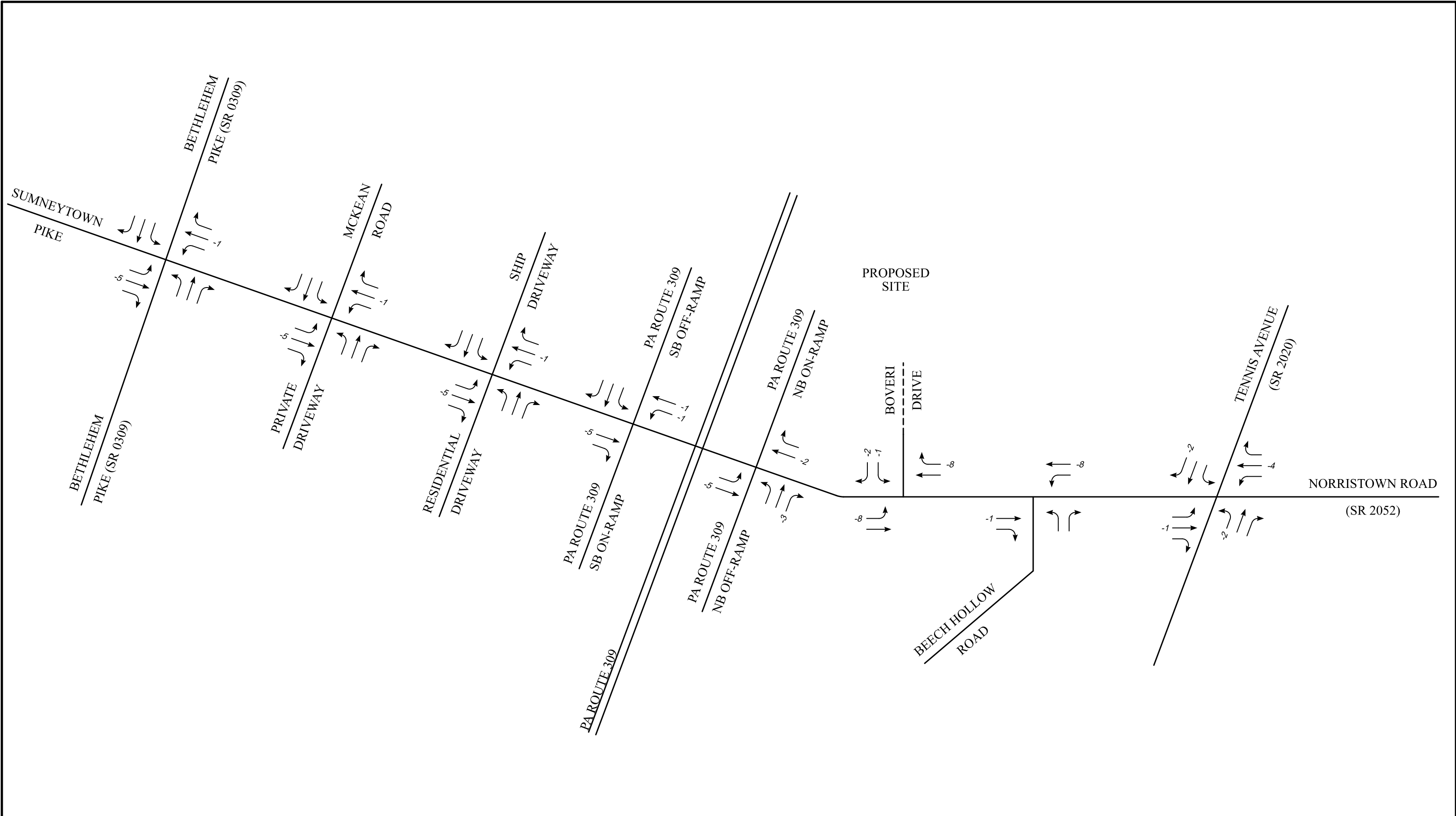
KEY:
 - - - - - PROPOSED DRIVEWAY
 SCHEMATIC DRAWING: NOT TO SCALE

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FIGURE 13 2032 BASE CONDITIONS WITH SHIP WEEKDAY P.M. PEAK HOUR TRAFFIC VOLUMES		

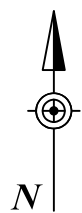



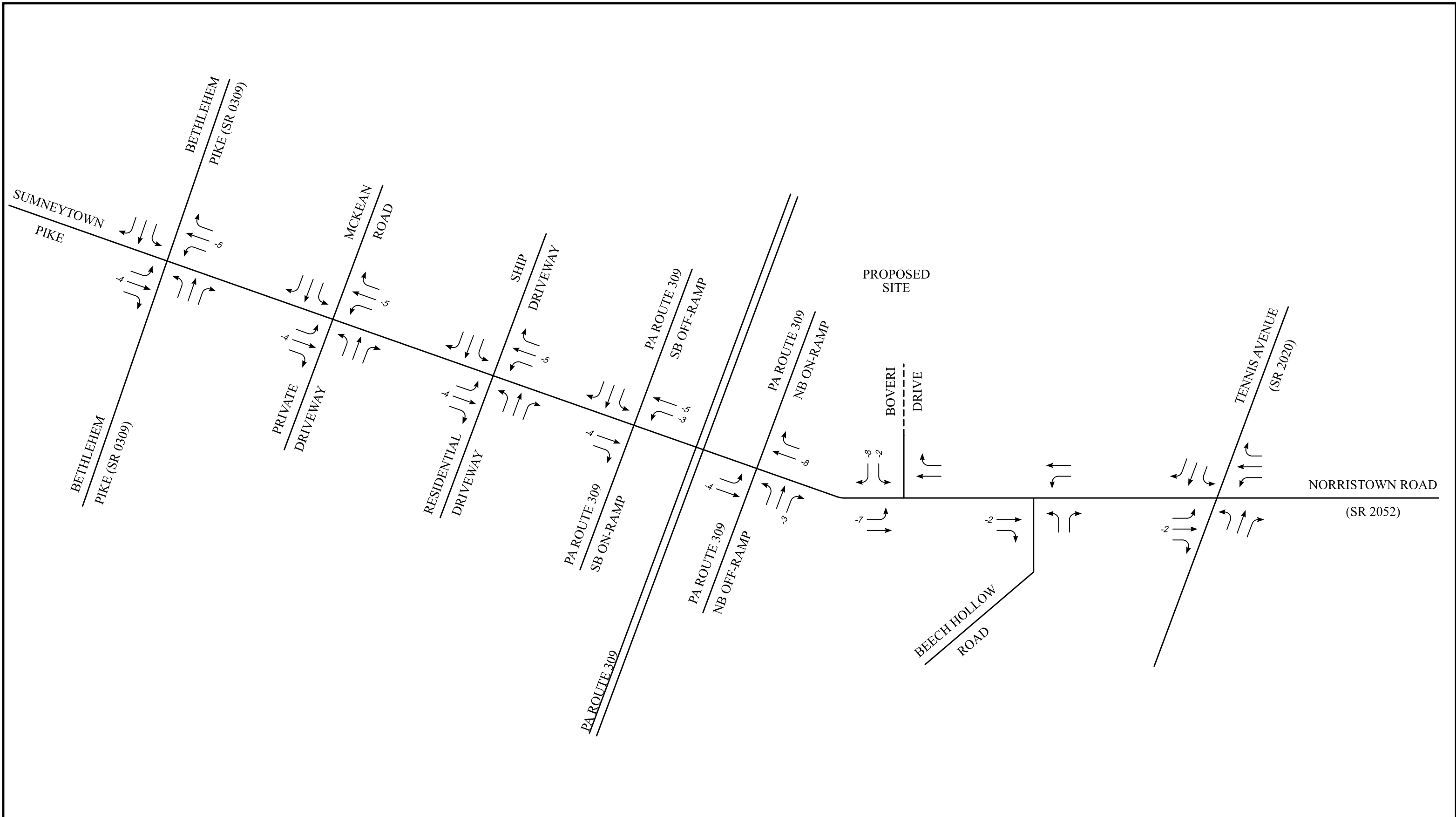
KEY:
 ----- PROPOSED DRIVEWAY
 SCHEMATIC DRAWING: NOT TO SCALE

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FIGURE 14 2032 BASE CONDITIONS WITH SHIP MIDDAY SATURDAY PEAK HOUR TRAFFIC VOLUMES		

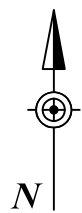



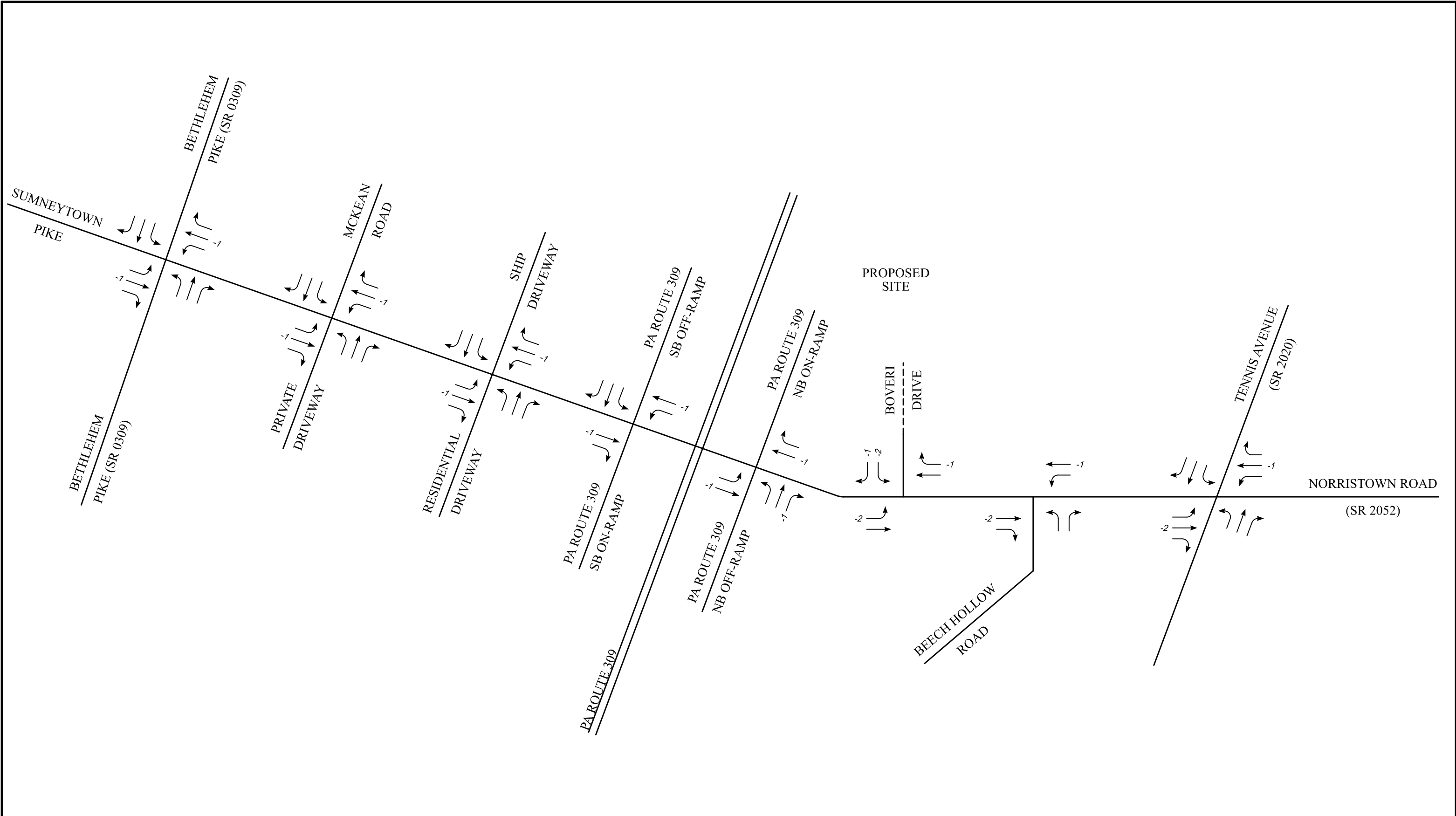
KEY:
 ----- PROPOSED DRIVEWAY
 SCHEMATIC DRAWING: NOT TO SCALE

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FIGURE 15 BASE REDISTRIBUTION WEEKDAY A.M. PEAK HOUR TRIP DISTRIBUTION		



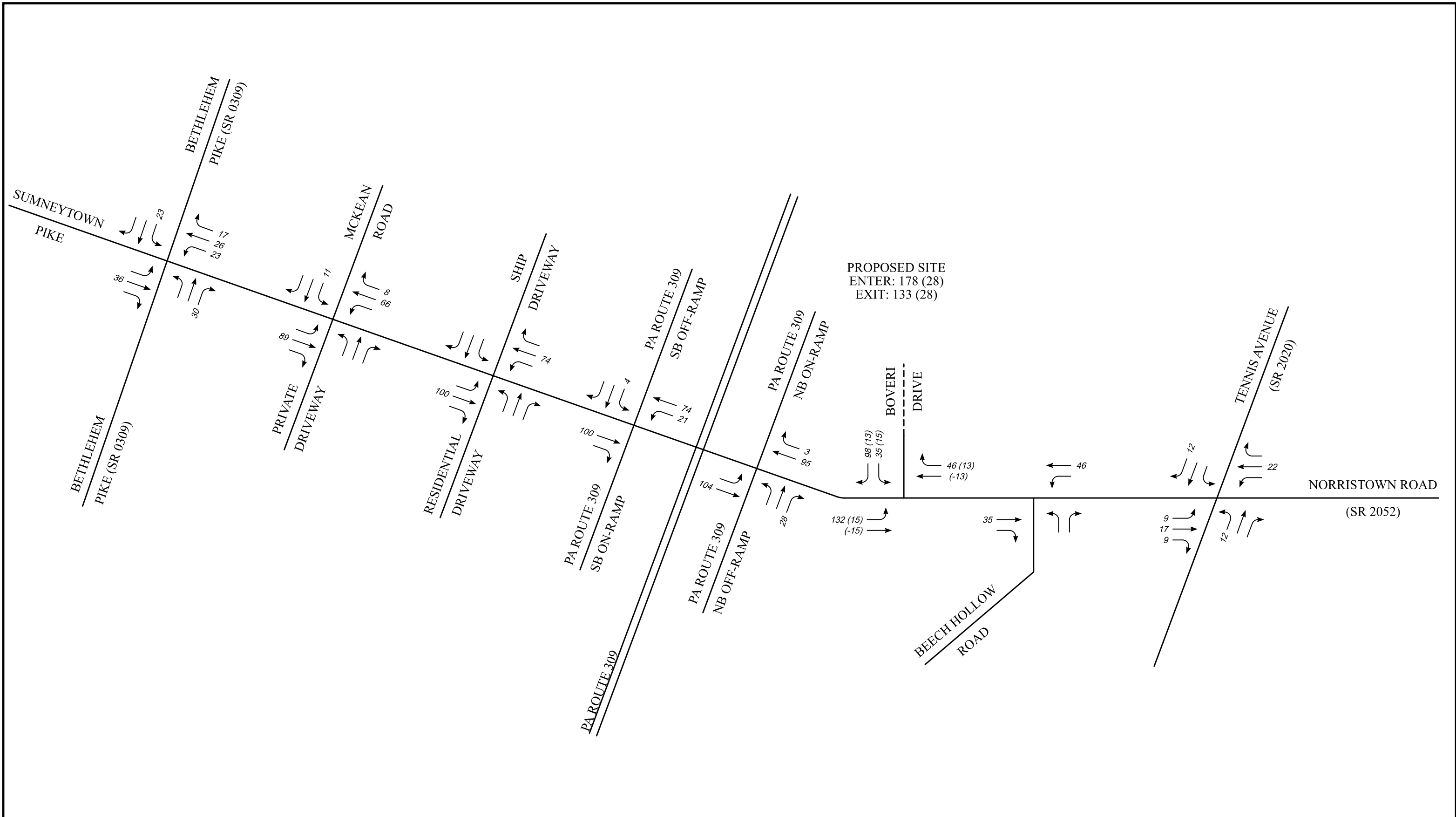
KEY:
 ----- PROPOSED DRIVEWAY
 SCHEMATIC DRAWING: NOT TO SCALE

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FIGURE 16 BASE REDISTRIBUTION WEEKDAY P.M. PEAK HOUR TRIP DISTRIBUTION		



KEY:
 ----- PROPOSED DRIVEWAY
 SCHEMATIC DRAWING: NOT TO SCALE

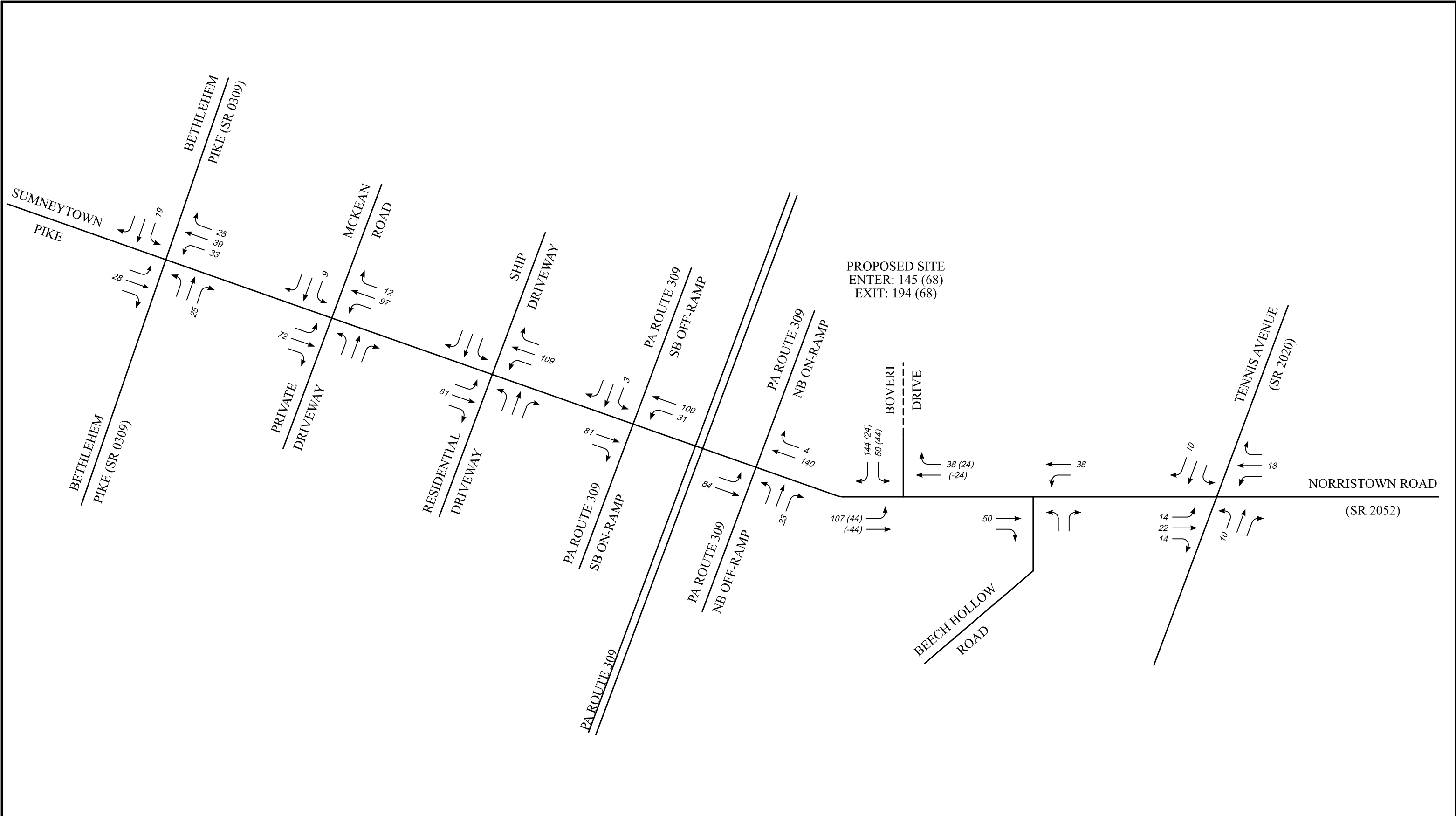
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FIGURE 17 BASE REDISTRIBUTION MIDDAY SATURDAY PEAK HOUR TRIP DISTRIBUTION		



PROPOSED SITE
 ENTER: 178 (28)
 EXIT: 133 (28)

KEY:
 - - - - - PROPOSED DRIVEWAY
 NEW(PASS-BY)TRIPS
 SCHEMATIC DRAWING:NOT TO SCALE

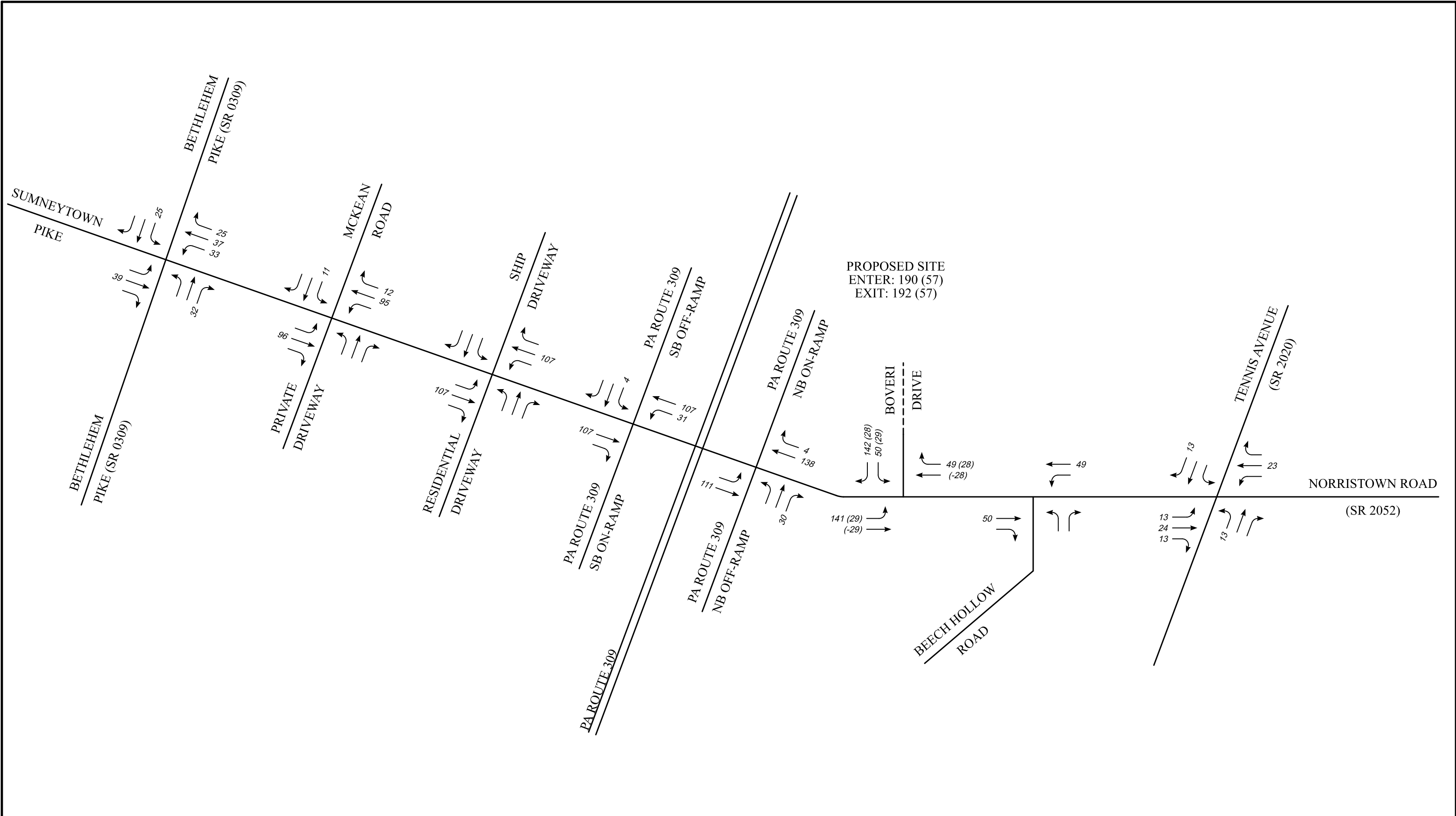
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FIGURE 18 SPRINGHOUSE MIXED USE DEVELOPMENT WEEKDAY A.M. PEAK HOUR TRIP DISTRIBUTION		



PROPOSED SITE
 ENTER: 145 (68)
 EXIT: 194 (68)

KEY:
 ----- PROPOSED DRIVEWAY
 NEW(PASS-BY)TRIPS
 SCHEMATIC DRAWING:NOT TO SCALE

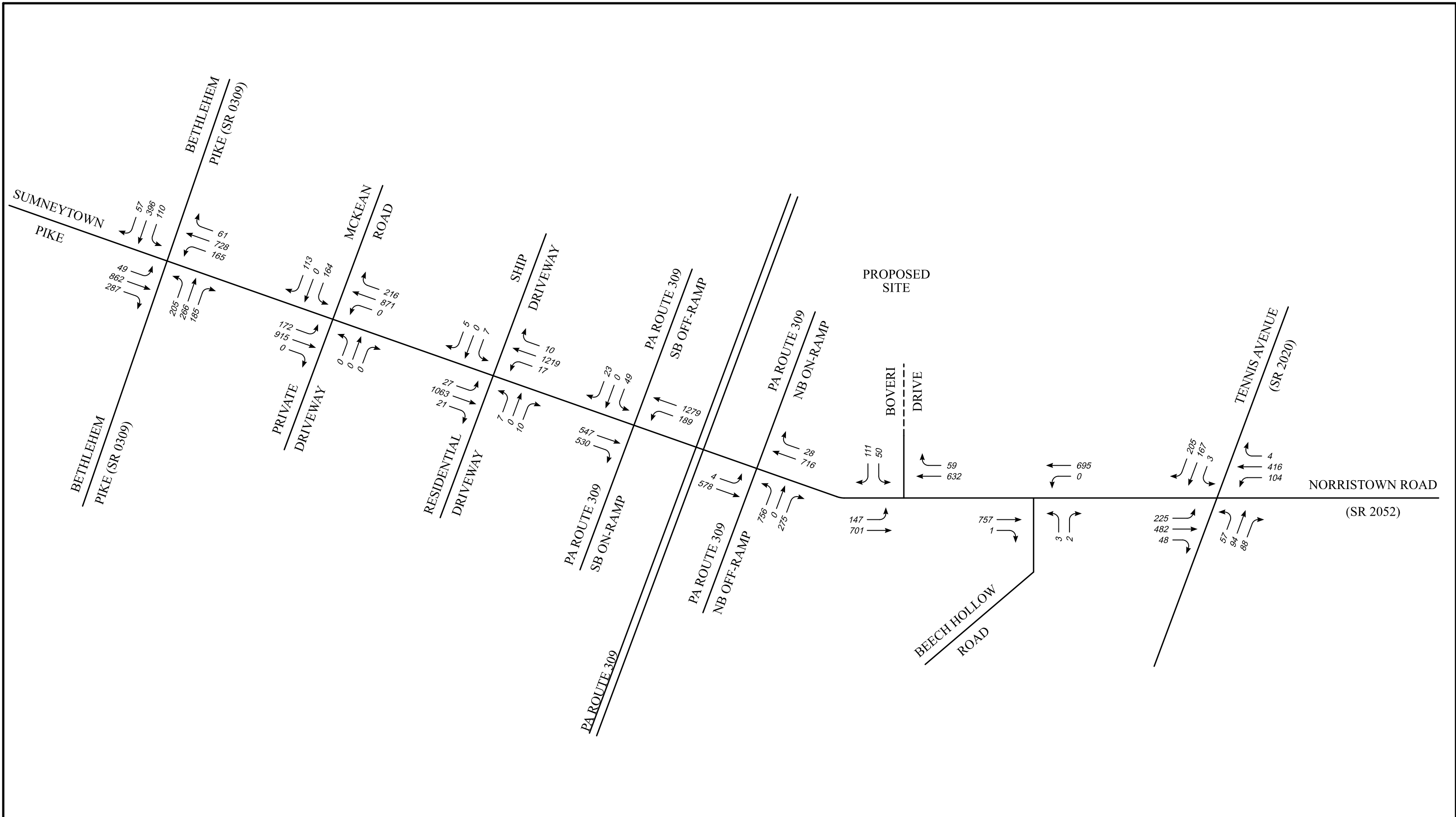
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FIGURE 19 SPRINGHOUSE MIXED USE DEVELOPMENT WEEKDAY P.M. PEAK HOUR TRIP DISTRIBUTION		



PROPOSED SITE
 ENTER: 190 (57)
 EXIT: 192 (57)

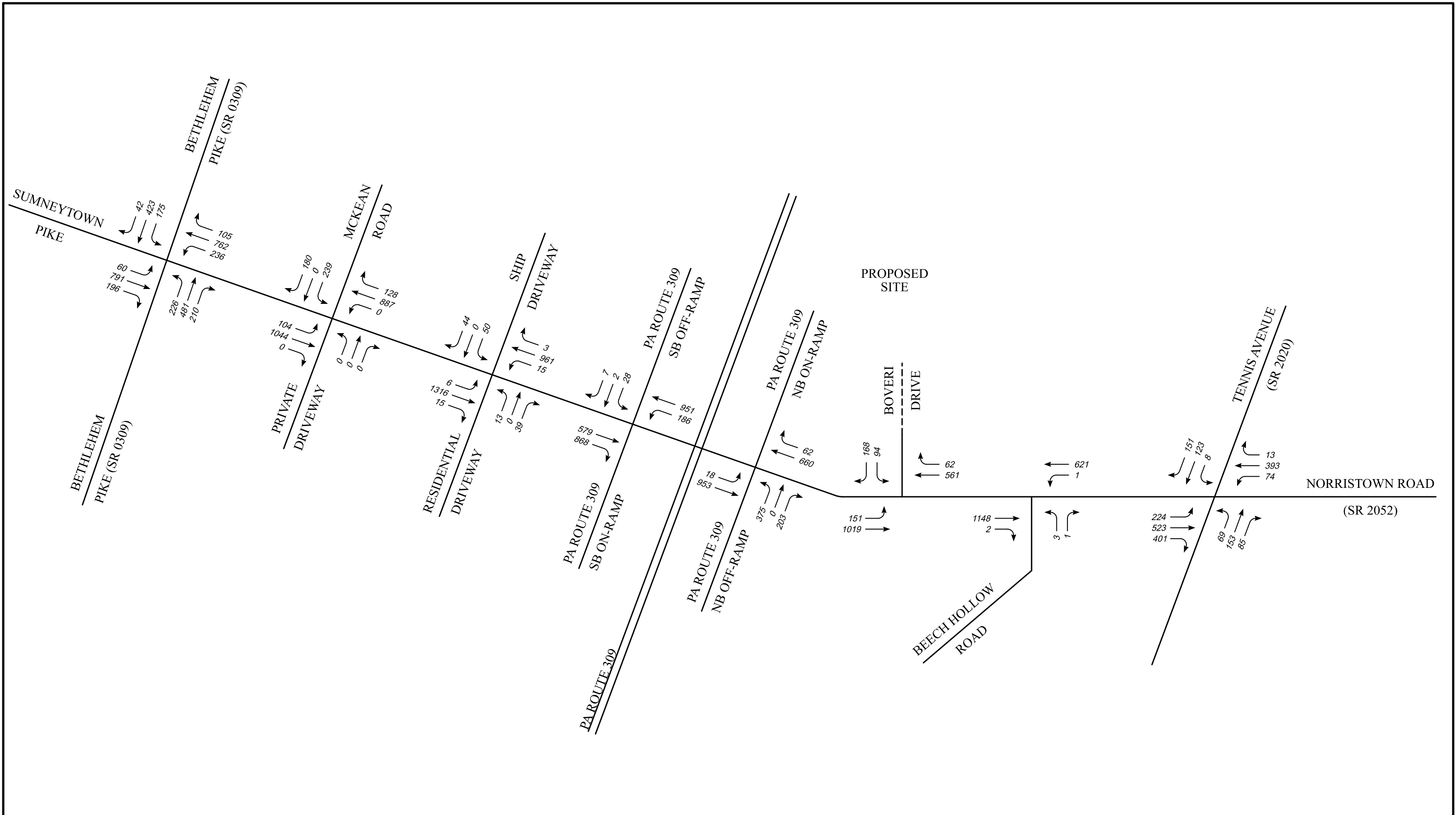
KEY:
 - - - - - PROPOSED DRIVEWAY
 NEW(PASS-BY)TRIPS
 SCHEMATIC DRAWING:NOT TO SCALE

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FIGURE 20 SPRINGHOUSE MIXED USE DEVELOPMENT MIDDAY SATURDAY PEAK HOUR TRIP DISTRIBUTION		



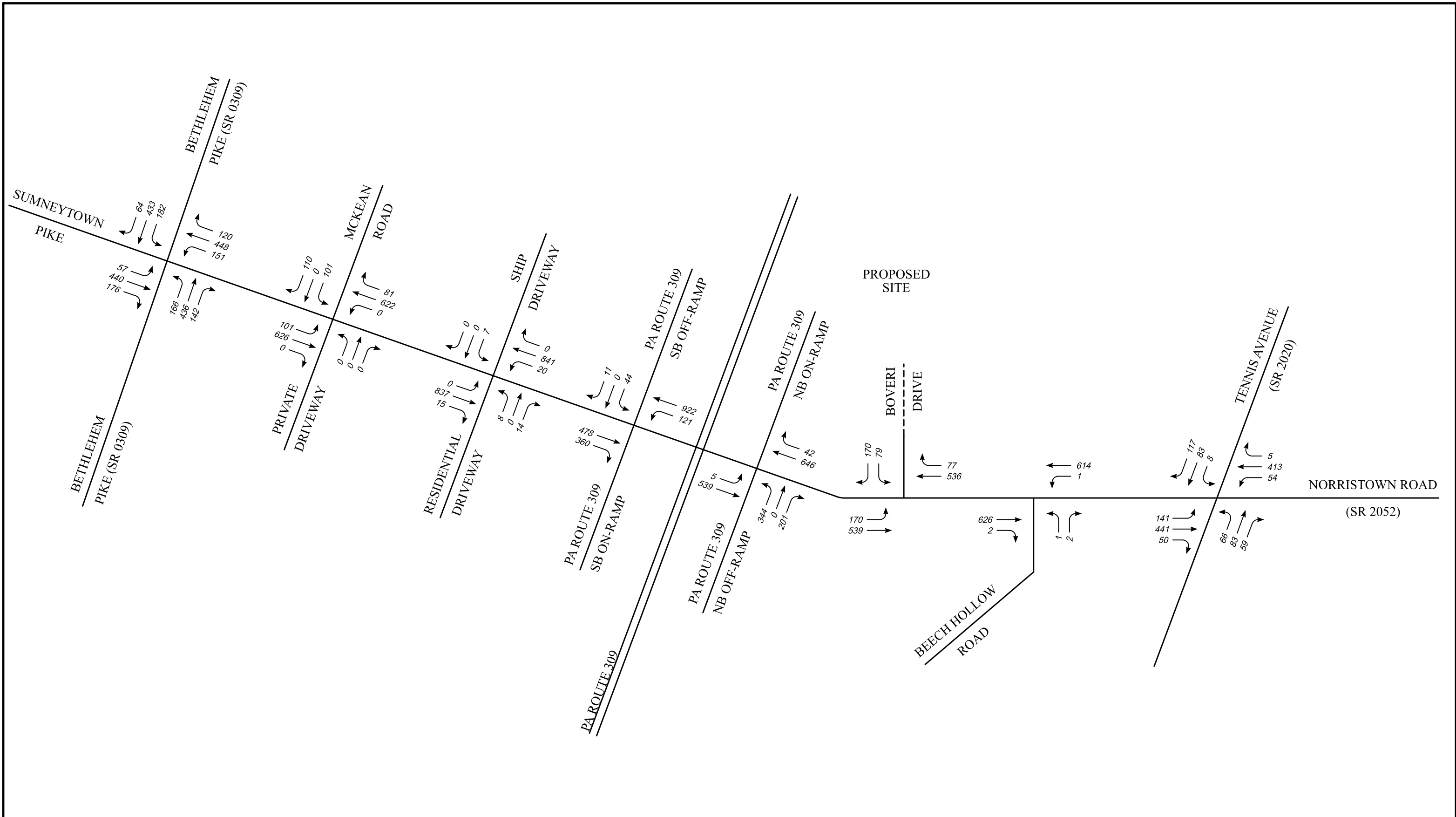
KEY:
 ----- PROPOSED DRIVEWAY
 SCHEMATIC DRAWING: NOT TO SCALE

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FIGURE 21 2027 PROJECTED CONDITIONS WEEKDAY A.M. PEAK HOUR TRAFFIC VOLUMES		



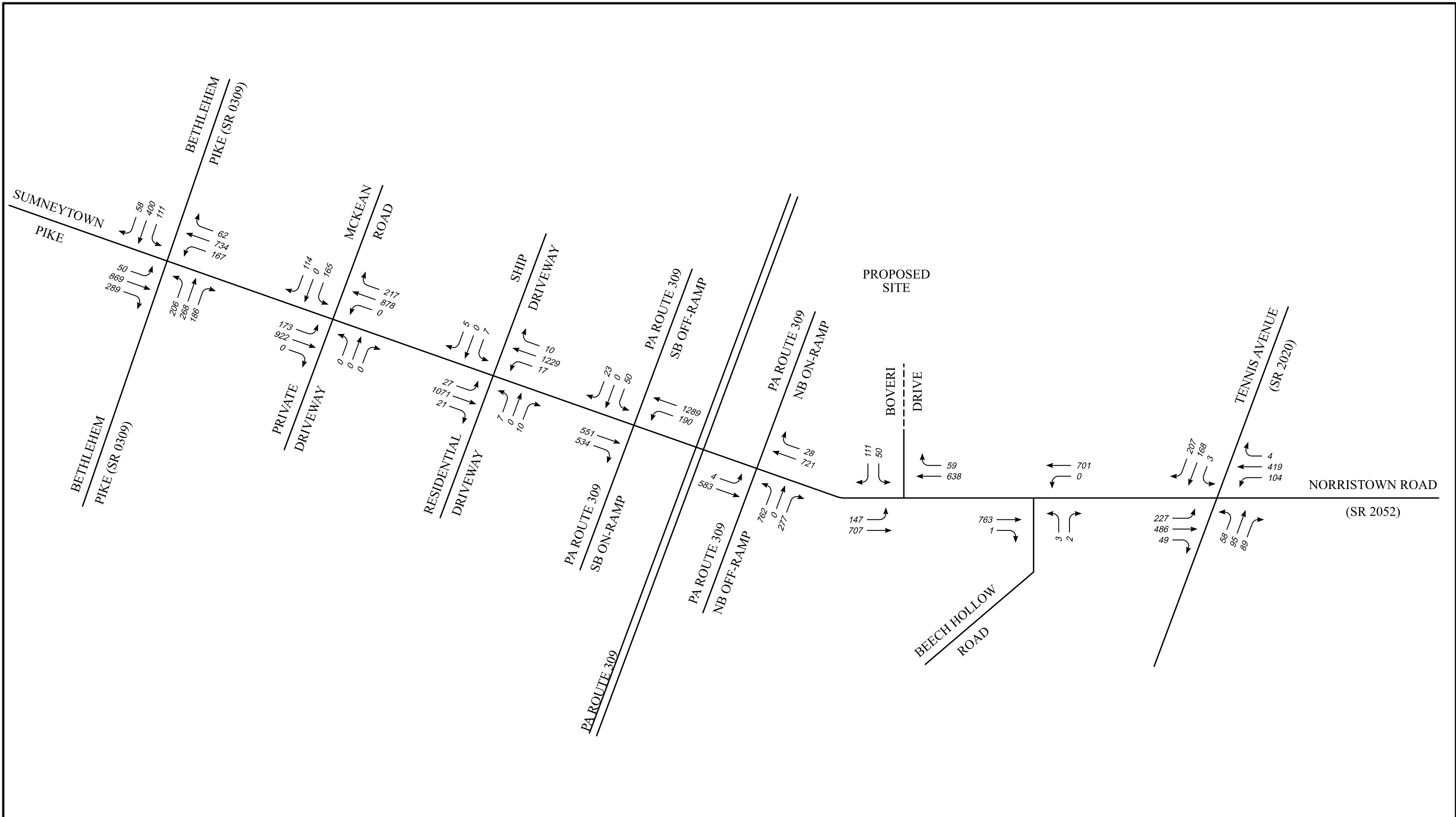
KEY:
 ----- PROPOSED DRIVEWAY
 SCHEMATIC DRAWING: NOT TO SCALE

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FIGURE 22 2027 PROJECTED CONDITIONS WEEKDAY P.M. PEAK HOUR TRAFFIC VOLUMES		



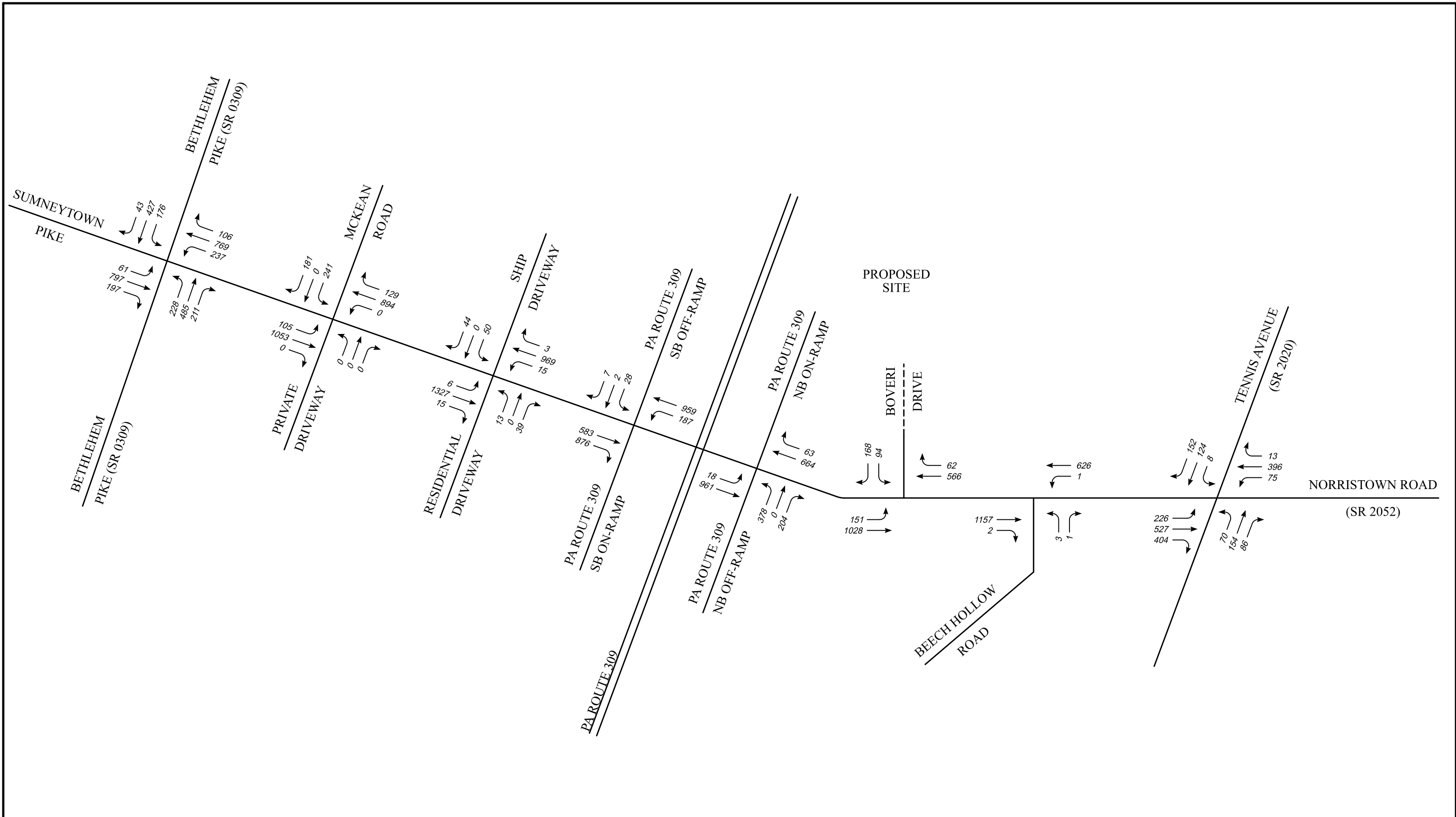
KEY:
 - - - - - PROPOSED DRIVEWAY
 SCHEMATIC DRAWING: NOT TO SCALE

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FIGURE 23 2027 PROJECTED CONDITIONS MIDDAY SATURDAY PEAK HOUR TRAFFIC VOLUMES		



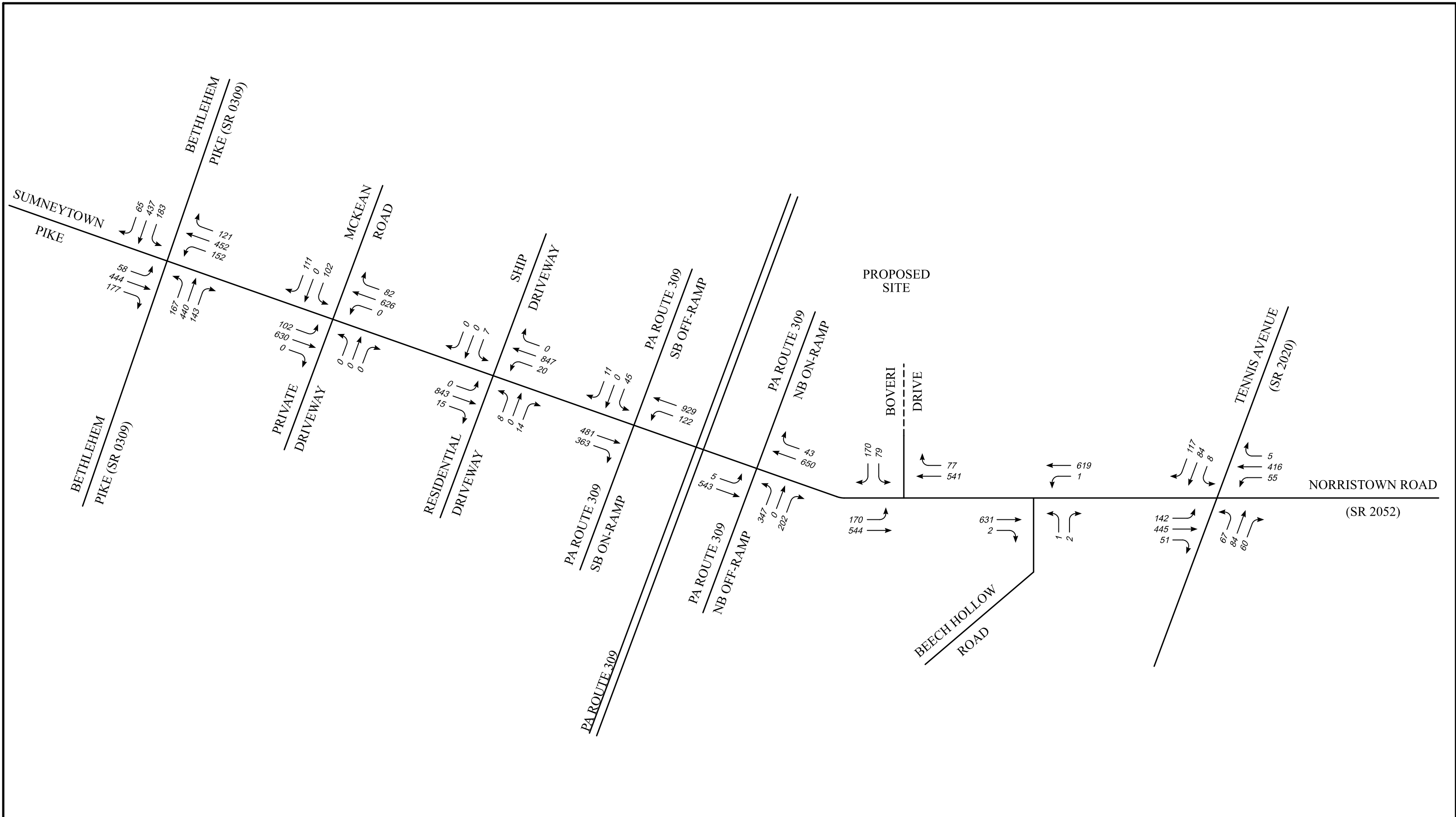
KEY:
 ----- PROPOSED DRIVEWAY
 SCHEMATIC DRAWING: NOT TO SCALE

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FIGURE 24 2032 PROJECTED CONDITIONS WITHOUT SHIP WEEKDAY A.M. PEAK HOUR TRAFFIC VOLUMES		



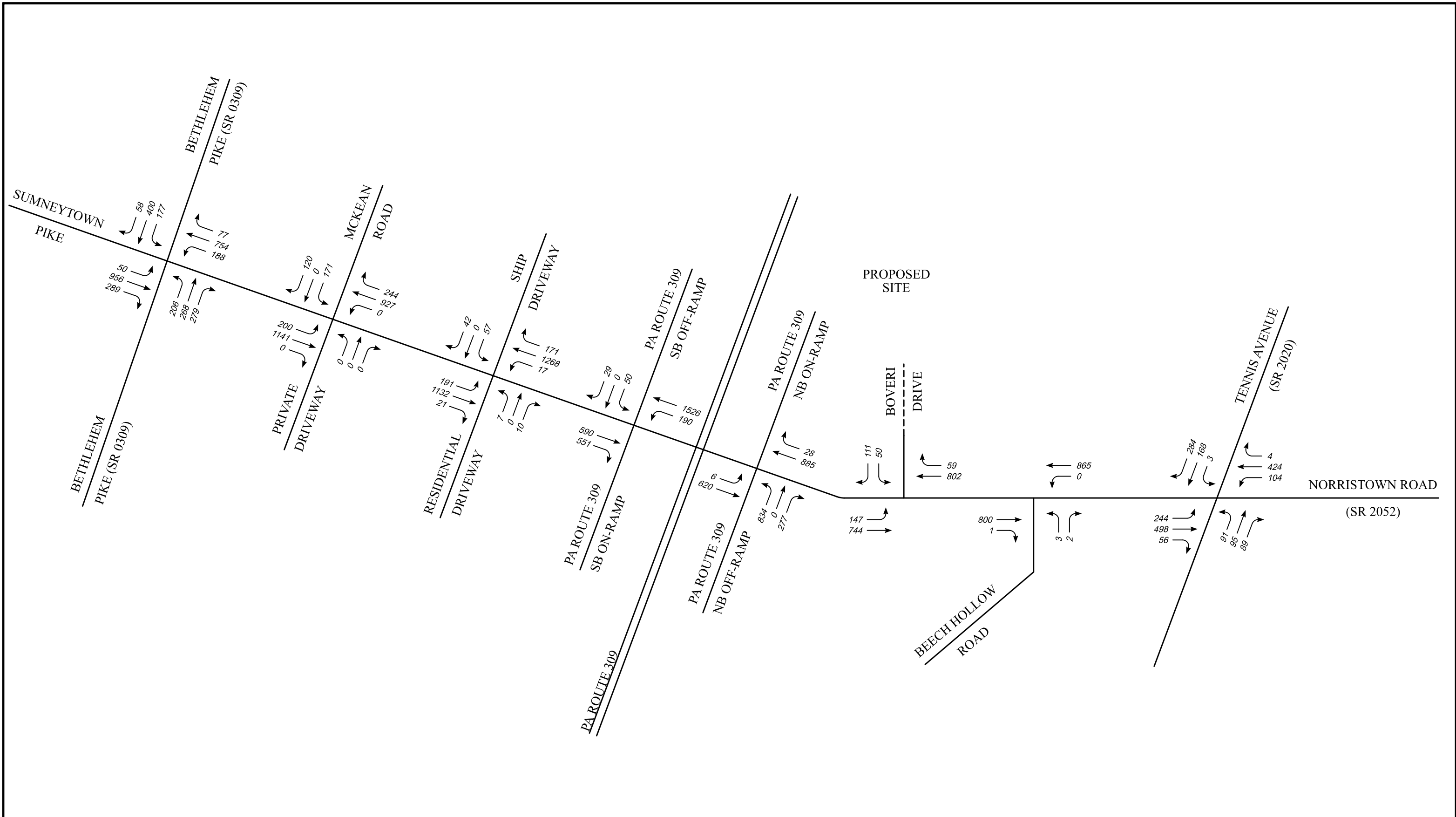
KEY:
 - - - - - PROPOSED DRIVEWAY
 SCHEMATIC DRAWING: NOT TO SCALE

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FIGURE 25 2032 PROJECTED CONDITIONS WITHOUT SHIP WEEKDAY P.M. PEAK HOUR TRAFFIC VOLUMES		



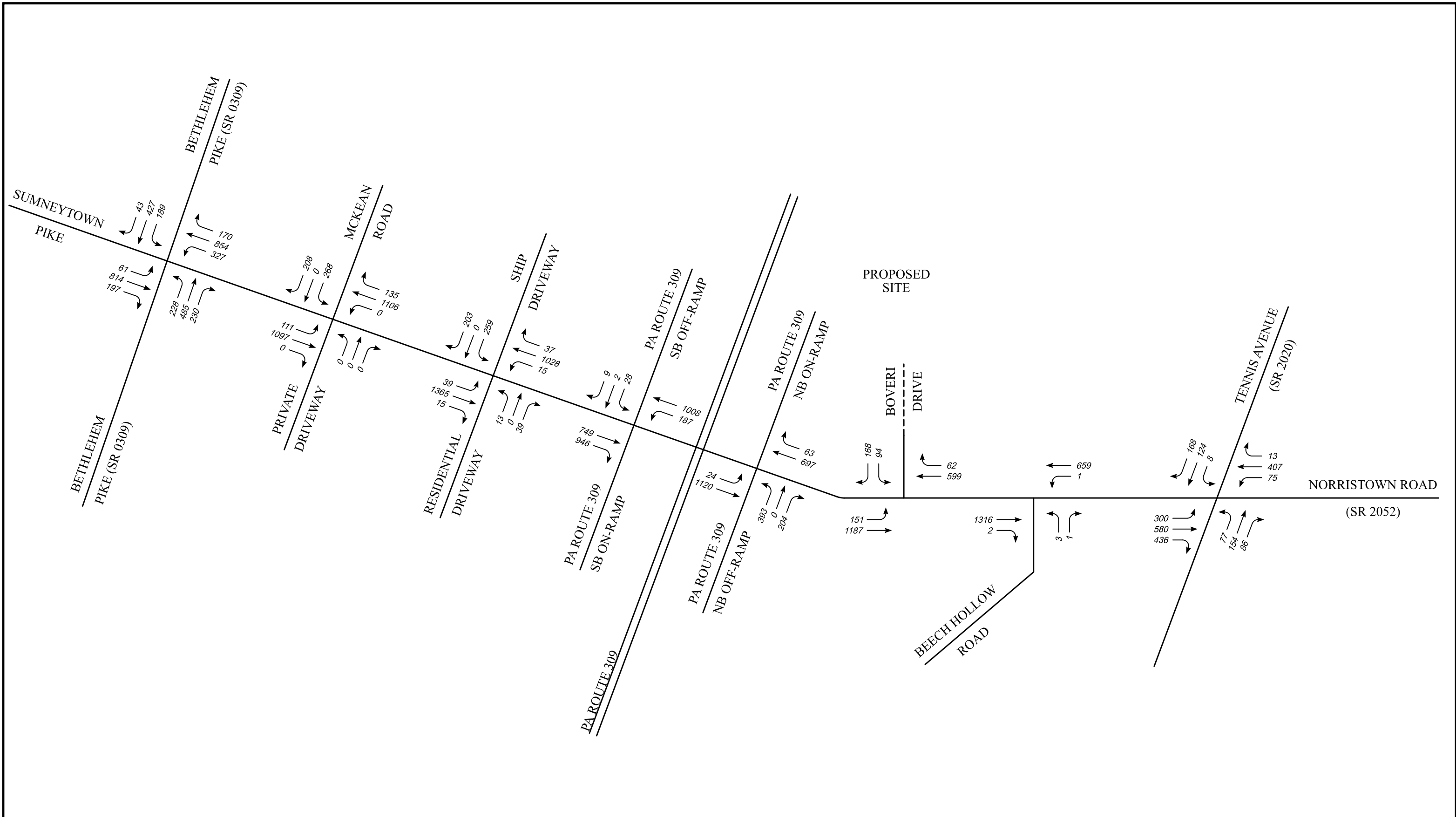
KEY:
 ----- PROPOSED DRIVEWAY
 SCHEMATIC DRAWING: NOT TO SCALE

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FIGURE 26 2032 PROJECTED CONDITIONS WITHOUT SHIP MIDDAY SATURDAY PEAK HOUR TRAFFIC VOLUMES		



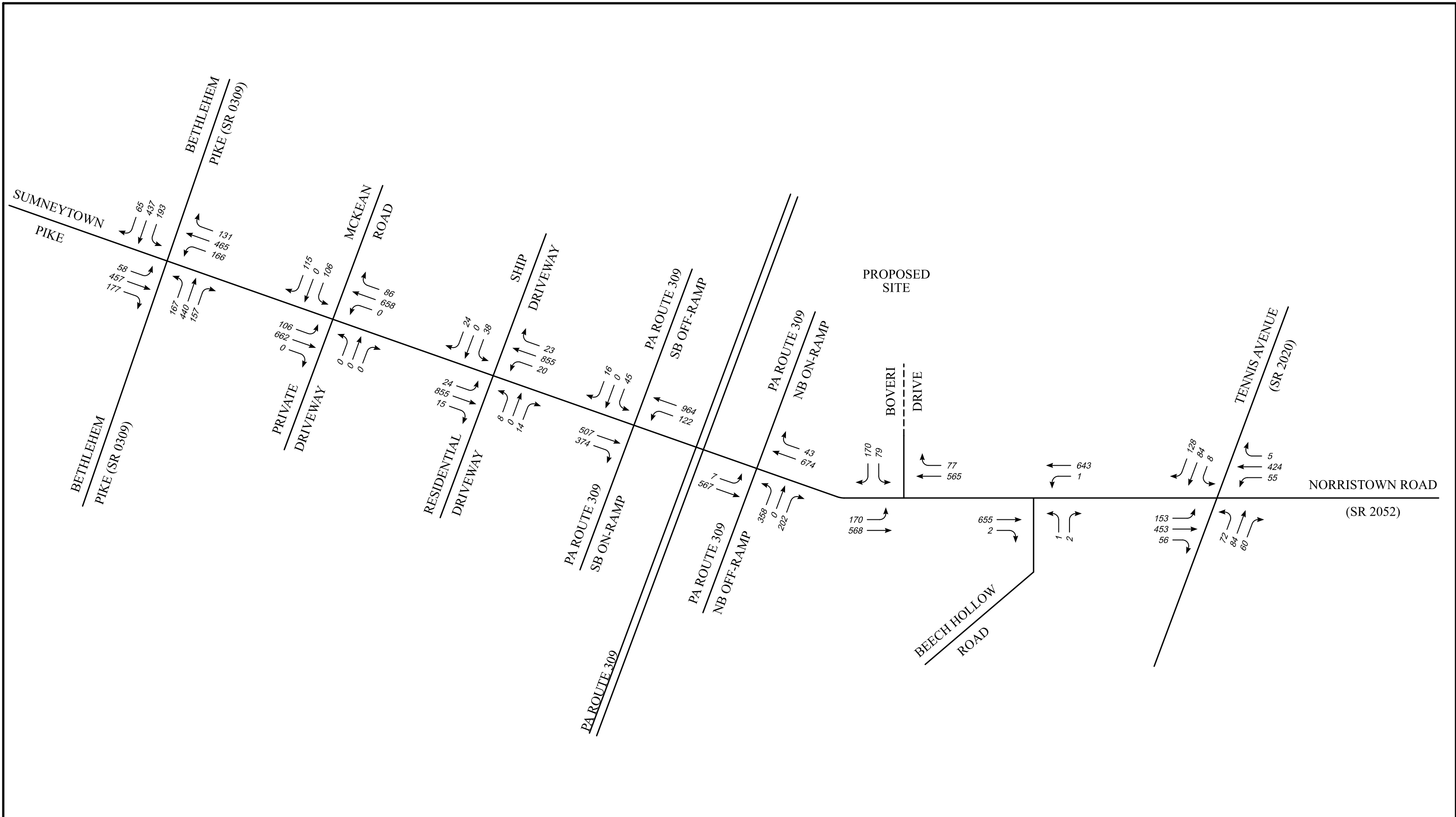
KEY:
 - - - - - PROPOSED DRIVEWAY
 SCHEMATIC DRAWING: NOT TO SCALE

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FIGURE 27 2032 PROJECTED CONDITIONS WITH SHIP WEEKDAY A.M. PEAK HOUR TRAFFIC VOLUMES		



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 - - - - - PROPOSED DRIVEWAY
 SCHEMATIC DRAWING: NOT TO SCALE

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FIGURE 28 2032 PROJECTED CONDITIONS WITH SHIP WEEKDAY P.M. PEAK HOUR TRAFFIC VOLUMES		



KEY:
 - - - - - PROPOSED DRIVEWAY
 SCHEMATIC DRAWING: NOT TO SCALE

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FIGURE 29 2032 PROJECTED CONDITIONS WITH SHIP MIDDAY SATURDAY PEAK HOUR TRAFFIC VOLUMES		