



UPPER UWCHLAN TOWNSHIP
PLANNING COMMISSION
AGENDA

June 12, 2025

6:00 p.m. Workshop; 7:00 p.m. Meeting

Location: Township Building, 140 Pottstown Pike, Chester Springs PA 19425

	Packet Page #
I. 6:00 p.m. Workshop Review and discuss landscaping / screening regulation amendments drafted February 28, 2025.	2
II. 7:00 p.m. Meeting Call To Order	
III. Conditional Use Application ~ 705 N. Reeds Road Discuss the Conditional Use Application to continue short-term rentals at 705 N. Reeds Road. Make a recommendation to the Board of Supervisors.	33
IV. Byers Station Parcel 5C Lot 2B Commercial Phase 2 ~ Amended PRD Plan Introduction of amended (5/30/2025) Final PRD Plan for Prosperity Property Investments, proposing the second phase of development for an additional 10,500 SF commercial building and additional shared parking. Accept the Plan for consultants' review.	48
V. Meeting Updates ~ Reports A. Environmental Advisory Council (EAC) B. Historical Commission (HC)	
VI. Approval of Minutes: May 8, 2025 Meeting	240
VII. Next Meeting Date: July 10, 2025 7:00 p.m.	
VIII. Open Session	
IX. Adjournment	



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53 W. James St.
Suite 101
Lancaster, PA 17603
717.715.1396

YORK
221 W. Philadelphia St.
Suite 108E
York, PA 17401
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Camp Hill, PA 17001
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41 Leopard Rd.
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Paoli, PA 19301
610.408.9011

Draft Print

02/28/2025 12:27:08 PM

February 28, 2025

The Township of Upper Uwchlan has engaged RGS Associates to update the local township ordinance in respect to landscape requirements. The following text is a copy of sections of the Upper Uwchlan Ordinance that contain landscape requirements. RGS methodically read through the ordinance and noted areas that could be improved for clarity, conciseness and quantification.

The red text in this document is RGS comments and recommended changes about the noted sections.

The blue and green text in this document are recommendations pulled from other Southeastern Pennsylvania Township Ordinances RGS has found to function well in regard to producing township landscape plans.

Text that has been struck out is being recommended to be removed from the existing ordinance.

Township of Upper Uwchlan, Chapter 200. Zoning

Relevant Definitions

WOODLAND

A tree mass or plant community in which tree species are dominant or codominant. Any area, grove, or stand of mature or largely mature trees covering an area of 1/4 of an acre or more or consisting of more than 10 individual trees larger than 12 inches dbh, shall be considered a woodland. For the purposes of this chapter, the extent of any woodland plant community or any part thereof shall be measured from the outermost dripline of all the trees in the community. Woodland shall include any area where timber has been harvested within the previous three years and/or woodland disturbance has occurred within the previous three years which would have met the definition of woodland prior to timbering or disturbance. Woodlands do not include nursery stock, orchards, or old fields, except where natural succession has been allowed to occur and where most naturally occurring trees are larger than six inches dbh.

[Added 6-17-2002 by Ord. No. 02-04]

WOODLAND DISTURBANCE

Any activity which alters the existing structure of a woodland or hedgerow; alterations include the cutting or removal of canopy trees, subcanopy trees, understory shrubs and vines, woody and herbaceous woodland floor species. Also includes any activity which constitutes a land disturbance (exposes soils, alters topography) within a woodland or hedgerow. Woodland disturbance does not include the selective cutting or removal of invasive alien trees, shrubs, vines or herbaceous species, including but not limited to *Rosa multiflora* (multiflora rose), *Eleagnus umbellata* (autumn olive), *Lonicera japonica* (Japanese honeysuckle), *Celastrus orbiculatus* (oriental bittersweet), and *Polygonum perfoliatum* (mile-a-minute weed).

[Added 6-17-2002 by Ord. No. 02-04]

SPECIMEN TREE

Any tree equal to or exceeding 24 inches dbh or any other unique or otherwise specifically selected plant or tree which most typically represents a class or group in terms of shape, form, historical importance or other characteristics and which may be designated as such by the Township.

[Added 6-17-2002 by Ord. No. 02-04]

LANDSCAPE PLAN

A plan conforming to the requirements of § **162-57** of Chapter **162**, Subdivision and Land Development, required to accompany subdivision and/or land development plans, or as otherwise required pursuant to the provisions of this chapter.

[Added 6-17-2002 by Ord. No. 02-04]

LANDSCAPING

The planting of turf or other appropriate ground cover or the planting of deciduous and evergreen trees and shrubbery, including the maintenance thereof, for control of erosion, retention of precipitation, protection against the elements, and promotion of human comfort and welfare

HEDGEROW

A linear plant community dominated by trees and/or shrubs. Hedgerows often occur along roads, fence lines, property lines, or between fields, and may occur naturally or be specially planted (e.g., as a windbreak).

[Added 6-17-2002 by Ord. No. 02-04]

Article XV. Common Regulations

§ 200-77. Screening.

Add chart similar to Radnor Township to clearly identify buffer requirements between proposed and existing uses. Compare with other ordinances to use this method. Issue here is vague and leaves a lot up to interpretation.

Move This section to 162-67. Landscaping Design – reference SALDO here.

A. Screening requirements shall be applicable under the following circumstances:

- ~~(1) Where a proposed commercial, industrial or institutional use abuts an existing residential use or residential district.~~
- ~~(2) Where any proposed multifamily residential use abuts another residential district or an existing single-family or two-family dwelling.~~
- ~~(3) Any other instance where screening is required by this chapter or by the Township.~~

Screening requirements can be broken down into different “strengths”. Other ordinances use 2 or 3 buffering types like Perimeter Buffer / Screening Buffer. Each one would be described / calculated using a certain method.

See below for examples.

Example Chart - West Whiteland

Proposed Land Use	Adjoining Land Use										
	Ag	Rec	Hist	Res	Life Care	Inst	Ofc.	Com.	Util.	Junk	Ind.
Agriculture	P	P	P	S	S	S	S	S	S	S	S
Recreational	S	P	S	S	P	P	S	S	S	S	S
Historic	S	S	S	S	S	S	S	S	S	S	S
Residential	S	S	S	P	P	S	S	S	S	S	S
Life care/day care	S	P	S	P	P	P	S	S	S	S	S
Institutional	S	P	S	S	P	P	P	S	S	S	S
Office	S	S	S	S	S	S	P	S	S	S	S
Commercial	S	S	S	S	S	S	S	P	S	S	S
Utility	S	S	S	S	S	S	S	S	P	S	P
Junkyard	S	S	S	S	S	S	S	S	S	S	S
Industrial	S	S	S	S	S	S	S	S	P	S	P

i. S = screening buffer
 ii. P = perimeter buffer

B. Screening shall comply with the following requirements:

Two charts would replace the: when, where and how of screening. Would be tailored to Upper Uwchlans' Zone Names / Nomenclature.

Example Buffer Types West Whiteland

1. **Berms:**
 - a. Berms shall be a minimum of two feet in height and shall not be steeper than 3:1
2. **Screening buffers:** 50 feet in width, adjacent to the property line.
 - a. One shade tree per 50 feet of length. Up to 25% may be substituted with ornamental trees at a ratio of 2:1
 - b. Two evergreen trees per 50 feet of length.
 - c. Ten small shrubs or five large shrubs per 50 feet of length.
3. **Perimeter buffers:** 25 feet in width, placed at the property line, right-of-way line, or around the circumference of stormwater management basins.
 - a. One shade tree per 100 feet of length. Up to 25% may be substituted with ornamental trees at a ratio of 2:1
 - b. Two evergreen trees per 100 feet of length.
 - c. Ten small shrubs or five large shrubs per 100 feet of length.

Alternate example Whitemarsh Township

Following Charts from Whitemarsh Township Ordinance

SUBDIVISION AND LAND DEVELOPMENT

105 Attachment 1

Table 1
Determination of Buffer Yard Class

	Adjacent Land Use									Vacant Land				Adjacent Street Classification				
	Single-family Detached	Planned Cluster Development	Multifamily	Institutional	Office	Retail and Consumer Service	Utilities, Public Service	Industrial	Nonresidential Parking	AAAA and AAA Districts	AA, A, B, C, AD and APT Districts	CR-H, CR-L, AR and SC Districts	CLI, CLI-X, LIM, LIM-X, HVY and HVY-X Districts	Expressway	Arterial	Major Collector	Minor Collector	Local/Court
Proposed Land Use	Single-family detached	--	--	--	--	--	--	--	B	--	--	--	--	B	B	A	A	*
	Planned cluster development	--	--	A	B	B	B	B	B	--	--	--	A	B	B	A	A	*
	Multifamily	B	B	--	B	B	B	B	B	A	A	A	A	B	B	A	A	*
	Institutional	B	B	B	--	--	A	A	A	B	B	--	--	B	A	A	A	*
	Office	B	B	B	--	--	--	--	A	B	B	--	--	B	*	*	*	*
	Retail and consumer service	B	B	B	A	--	--	--	A	B	B	--	--	B	*	*	*	*
	Utilities	B	B	B	A	--	--	--	A	B	B	--	--	B	*	*	*	*
	Industrial	B	B	B	A	--	--	--	--	B	B	--	--	B	*	*	*	*
	Nonresidential parking	B	B	B	B	A	A	A	--	B	B	--	--	A	A	A	A	A
	Expressway	B	B	B	B	B	*	*	A	A								
Proposed Street	Arterial	B	B	B	A	*	*	*	A									
	Major collector	A	A	A	A	*	*	*	A									
	Minor collector	A	A	A	A	*	*	*	A									
	Local/court	*	*	*	*	*	*	*	A									

* NOTE: Street trees, as required by § 105-48.

- 1. All buffers shall have a minimum width of 50 feet.

Class	Option	Requirements
A	1	1 canopy tree per 40ft along boundary line 1 flowering tree per 60ft, informally arranged 1 evergreen tree per 60ft, informally arranged
	2	1 canopy tree per 40ft, informally arranged 1 evergreen per 30ft, informally arranged
B	1	1 evergreen per 8ft, informally arranged
	2	1 evergreen per 15ft with 4ft berm
	3	1 evergreen per 15ft, informally arranged 1 evergreen shrub per 8ft, informally arranged
	4	1 evergreen per 10ft, informally arranged 1 shrub per 4ft, informally arranged
	5	Hedgerow on property line (3ft centers)

~~(1) The portion of the tract that abuts a use or district intended to be screened shall be provided with a minimum of thirty foot planting strip which will act as an effective screen separating uses. The planting strip may be included in private yard space and shall be based upon the following criteria:~~

- ~~(a) Vegetative screening shall include a variety of evergreen species (but no more than three) which are indigenous to the area so as to provide a year-round visual barrier. Resolved by above list.~~
- ~~(b) Vegetative screening shall incorporate earthen mounds or berms, wherever possible, to improve sound as well as visual buffering, and shall be broken at points of vehicular or pedestrian access. Berming option to remain and be relocated.~~
- ~~(c) Plant materials used in the screen planting shall be at least six feet in height when planted and be of a species which will produce within two years a complete visual screen of at least eight feet in height. Will Resolved height / plant standards requirements in Section C standards.~~
- ~~(d) No plantings shall be placed with their center closer than five feet from the property line of the tract. Move this to Section C standards.~~
- ~~(e) All existing trees within the required planting strip above three inches in caliper and/or eight feet in height shall be preserved wherever possible. Not needed here, addressed in another section.~~
- ~~(f) Screening shall be designed so as not to obstruct sight distances at intersections. Move this to Section C standards. - Add more~~

information here. Height of plants allowed etc.)

- (g) Screening design, including the type of plant materials to be used, spacing of plant materials, and the use and location of earthen berms, shall be subject to review and approval by the Board of Supervisors upon the recommendation of the Planning Commission. **Berms will be addressed in the Buffer section.**
 - (h) Vegetative screens shall be perpetually maintained during the period the principal use causing the need for screening is in operation. Any plant material which does not survive shall be replaced within six months. (Move this to Section D guarantee and maintenance section in SALDO.)
- (2) Water towers, storage tanks, processing equipment, fans, skylights, cooling towers, vents and any other structures or equipment which rises above the roof line shall be architecturally compatible or effectively shielded from view from any public or private dedicated street by an architecturally sound method which shall be approved, in writing, by the Township before construction or erection of said structures or equipment. **Keep here does not pertain to landscape.**

§ 200-78. Landscaping.

[Amended 6-17-2002 by Ord. No. 02-04]

This section is fine. All of this text references SALDO / When it applies.

A. Applicability.

- (1) Except for individual lots existing at the time of adoption of this section and occupied or intended to be occupied by single-family or two-family dwellings, the provisions of § **162-57** of Chapter **162**, Subdivision and Land Development, shall apply to all uses and to any change in use in Upper Uwchlan Township, such standards incorporated herein by this reference.
- (2) Where any use or activity requires approval of any building or zoning permit, zoning variance, special exception or conditional use, such approval or permit shall be conditioned upon compliance with the provisions of said § **162-57**, including submission of a landscaping plan as set forth in § **162-57A** and **B**. Plans accompanying conditional use application may be conceptual in nature but shall demonstrate the ability to achieve the objectives of § **162-57A** and **B**.
- (3) It is the intention of this section that the provisions of said § **162-57** shall apply independently under this chapter only where Chapter **162**, Subdivision and Land Development, does not otherwise apply to the proposed use or activity. Therefore, where any use, activity, permit or approval is also subject to subdivision or land development review, there shall be no requirement for additional review under this chapter. Further, where and to the extent that modification(s) of any of the

provisions of said § **162-57** has/have been approved by the Upper Uwchlan Board of Supervisors in connection with any subdivision or land development review, the said requirements shall not be independently enforced pursuant to this chapter.

Any modifications to SALDO make sure to change references here.

B. Modifications. **No modifications suggested here.**

- (1) For any use or activity subject to subdivision or land development review, modification(s) to the provisions of § **162-57** of Chapter **162**, Subdivision and Land Development, may be requested, which modification(s) may be granted at the discretion of the Board of Supervisors pursuant to the provisions of that chapter.
- (2) For any use or activity not subject to subdivision or land development review, but where the use or activity is subject to application for approval of a conditional use, special exception, or zoning variance, modification(s) to the provisions of said § **162-57** may be requested as part of such application.
- (3) For any use or activity not otherwise subject to permit or approval as provided in Subsection **B(1)** or **(2)** above, modification(s) to the provisions of said § **162-57** may be requested in the form of an application for grant of a special exception by the Upper Uwchlan Zoning Hearing Board. Such applications shall be submitted to the Upper Uwchlan Planning Commission for review and comment prior to formal special exception application to the Zoning Hearing Board.
- (4) In approving any application pursuant to Subsection **B(2)** or **(3)** above, the Zoning Hearing Board or Board of Supervisors, as applicable, as a condition of approval of such application, may permit specific modification(s) to the provisions of said § **162-57** subject to the following:
 - (a) The Zoning Hearing Board or Board of Supervisors, as applicable, shall determine that the specific nature of the lawful use or activity, existing site conditions, and/or safety considerations warrant such modification(s); and
 - (b) Permitted modifications shall be consistent with the purposes of said § **162-57**.

Chapter 162. Subdivision and Land Development

Article VI. Development Design Standards

- § 162-44 General standards.
- § 162-45 Land requirements.
- § 162-46 Lot design.
- § 162-47 Monuments and iron pins.
- § 162-48 Wastewater treatment and disposal.
- § 162-49 Water supply.
- § 162-50 Other utilities.
- § 162-51 Erosion and sediment control.
- § 162-52 Stripping, piling, replacement or removal of topsoil.
- § 162-53 Design standards for land development.
- § 162-54 Community facilities and public open space.
- § 162-55 Natural and historic features conservation.
- § 162-56 Parking.
- § 162-57 Landscape design, installation and maintenance standards.
- § 162-58 Lighting.

§ 162-55 Natural and historic features conservation.
[Amended 12-15-2003 by Ord. No. 03-06]

A. General.

- (1) For all uses, activities, or improvements subject to this chapter or Chapter 200, Zoning, consideration shall be shown for the protection of all natural and historic features in Upper Uwchlan Township, including, but not limited to, woodlands, specimen trees, hedgerows, wetlands and watercourses, riparian buffers, prohibitive and precautionary slopes, trails, and historic resources which, if preserved, will add attractiveness and value to developed areas. The values of these natural and historic resources are documented and described in numerous Township documents and publications, most notably, Upper Uwchlan's Comprehensive Plan, as amended. The provisions of this section apply to all uses, activities, or improvements subject to this chapter or Chapter 200, Zoning, pursuant to § 200-108. Where any applicant demonstrates to the satisfaction of the Township that strict adherence to the provisions of this section will render the lot or tract unusable or unsuitable for development in accordance with applicable zoning district regulations or demonstrates that alternative design provisions shall achieve similar conservation objectives, the provisions of this section may be waived or modified as determined appropriate by the Board of Supervisors.

- (2.) Where the proposed subdivision will be subject to a site analysis and impact plan (§ 162-9D of this chapter), the applicable narrative and plan submittal requirements of this section can be made part of the site analysis and impact plan. The resource management, protection, and improvement requirements of this section can be included in the open space requirements of this chapter (§ 162-54) or Chapter 200, Zoning (§ 200-69), as applicable to the proposed project.

B. Woodlands and hedgerows. The purpose of this section is to promote conservation of woodlands, including specimen trees and hedgerows, throughout Upper Uwchlan Township through the establishment of specific provisions for land development activities, replacement requirements, and management planning.

- (1) Woodland and hedgerow disturbance resulting from any land development or land use change shall be minimized. No portions of tree masses or trees with a diameter at breast height (dbh) of six inches or greater shall be cleared unless demonstrated to be necessary and in accordance with this chapter. Applicants shall make all reasonable efforts to harmonize their plans with the preservation of existing woodlands and hedgerows. *(Typical language.)*
- (2) No **healthy and viable** specimen tree(s) shall be removed from any lot or tract except where the applicant demonstrates to the satisfaction of the Board of Supervisors that such removal is essential to eliminate hazardous condition(s) or otherwise permit lawful use of the lot or tract; where permitted, removal of specimen trees shall be minimized. **Specimen trees to be retained shall be credited toward any tree replacement required under Subsections B(6) through B(9) below. This is confusing, further discussion needed.**

Alternative Text about Tree Credits – I'm not sure it belongs in this section...
Move to Landscaping Section / Possibly standards Section C.

- (1) Credits for existing preserved healthy and viable ~~transplanted~~ vegetation. Preserved deciduous trees shall be credited toward shade and street tree requirements, evergreen trees shall be credited toward evergreen requirements, and shrubs shall be credited toward shrub requirements. No credit shall be given for weedy, brittle or invasive species unless otherwise approved by the Township.
- (2) Preserved healthy and viable trees shall be credited toward satisfying the requirements of this § 281-34 in the area that they are preserved. That is, if a tree is preserved along a property line, it shall be credited toward the buffer or screen requirements along that property line. A

- tree preserved within a parking area may not be counted toward satisfying buffer requirements.
- (3) Preserved, healthy and viable ~~transplanted~~ trees shall be credited toward satisfying the requirements of this as follows:
- Six- up to twelve-inch diameter equals two trees.
 - Twelve- up to thirty-inch diameter equals four trees.
 - Thirty-inch diameter or greater equals six trees.
- (3) Woodland and hedgerow disturbance **of healthy and viable trees** exceeding any of the following standards shall require woodland replacement in accordance with Subsections B(6) through B(9) below. (For purposes of this section, the extent of any woodland or hedgerow disturbance shall be measured to include the entire area within the dripline of any tree where any part of the area within the dripline of said tree is subject to woodland or hedgerow disturbance.)
- (a) Woodland disturbance in excess of 10,000 square feet of existing area of woodland or hedgerow for each principal use permitted on any lot or tract. As an example, where two principal uses are permitted, woodland disturbance may involve up to 20,000 square feet (10,000 x 2) before replacement is required.
 - (b) Woodland disturbance in excess of 50% of any existing area of woodland or hedgerow on any single lot that is part of a tract subject to subdivision.
 - (c) Woodland disturbance in excess of 25% of any existing area of woodland or hedgerow on any tract subject to subdivision, measured in its entirety, or on any single lot or tract subdivided prior to enactment of this section.
- (4) In determining where necessary woodland or hedgerow disturbance shall occur, applicant shall consider the following:
- (a) The location(s) and benefit of conservation of healthy mature woodland or hedgerow stands;
 - (b) The impacts, in terms of functions and values to wildlife, of separating, dividing and/or encroaching on wildlife travel corridors and/or extensive habitat areas, especially woodlands and hedgerows exceeding 10 acres in area; and
 - (c) The location of hedgerows relative to exterior or perimeter property lines as well as to existing or future trails, as consistent with applicable Township criteria such as the Open Space, Recreation, and Environmental Resources Plan (as amended), the Comprehensive Plan (as amended), or Trail Feasibility/Master Plan documents (as amended).

- (5) In areas of permitted woodland or hedgerow disturbance and areas adjacent to permitted woodland and hedgerow disturbance, care shall be exercised to protect remaining trees from damage. To the maximum extent practicable, the following procedures shall be utilized during construction in order to protect remaining trees:

Leave number 5 – Follow with note that tree protection standards follow SALDO Landscape Section C Standards.

- (a) Where existing trees are to remain, no change in existing grade shall be permitted within the dripline of the trees. Appropriate fencing four feet in height shall be placed at the dripline of trees to remain, wherever adjacent to proposed construction. Such fencing shall be maintained in place throughout the duration of construction activity. Roots shall not be cut within the dripline of any trees to remain.
- (b) Trees within 25 feet of a building, or bordering entrances or exits to building sites, shall be protected by a temporary barrier to be maintained in place throughout the duration of construction activity.
- (c) No boards or other material shall be nailed or otherwise attached to trees during construction.
- (d) Construction materials, equipment, soil and/or debris shall not be stored nor disposed of within the driplines of trees to remain, except for mulched vegetative matter used to prevent soil compaction.
- (e) Tree trunks, limbs, and exposed roots damaged during construction shall be protected from further damage through immediate treatment in accordance with accepted professional landscape procedures.

Part 5 Tree protection fence and notes should go under standards Section C because it should pertain to all trees not just woodlands and hedgerows.

- (6) Where woodland or hedgerow disturbance involves more than the maximum area permitted under Subsection B(3) above, one tree and two shrubs shall be planted for each 300 square feet of woodland or hedgerow disturbance area, or fraction thereof, in excess of the maximum permitted area of disturbance. All specimen trees to be retained on any tract proposed for subdivision or land development shall be credited toward any tree replacement requirement, at a ratio of three trees credited for each individual specimen tree retained. Further, plant materials used to comply with the required minimum number of replacement plantings shall be three-and-one-half-inch caliper, minimum (trees); and 24 to 30 inches in height, minimum (shrubs).

(7) In addition to the vegetation replacement standards established in Subsection B(6) above, and for each tree greater than six inches dbh removed, replacement trees shall be planted in accordance with the following schedule.

For Each Healthy and Viable Tree to be Removed, at the Following Sizes, dbh (inches)	Minimum Number and Caliper of Replacement Trees
One, 6 to 8 dbh	One, 3 to 3 1/2 inch caliper
One, 8 to 12 dbh	One, 4 to 4 1/2 or two 3 to 3 1/2 inch caliper
One, 12 to 18 dbh	One, 5 to 5 1/2 or three 3 to 3 1/2 inch caliper
One, 18 to 24 dbh	One, 6 to 6 1/2 or four 3 to 3 1/2 inch caliper
One, greater than 24 dbh	Two, 6 to 6 1/2 or five 3 to 3 1/2 inch caliper

This chart is very detailed. The suggestion would be to minimize the number of size categories. Possibly 3 or 4 categories.

One, 6 to 12 dbh	One, 2 1/2 to 3 inch caliper tree
One, 12 to 24 dbh	Two, 2 1/2 to 3 inch caliper tree
One, greater than 24 dbh	Three, 2 1/2 to 3 inch caliper tree

ALTERNATE CALCULATION METHOD FOR REPLACEMENTS BY DBH

The compensatory planting requirement shall be based upon the size and of trees being removed, as follows:

For deciduous trees of 6 inches up to 12 inches DBH, one inch of new tree diameter shall be provided for every four inches of existing tree diameter cut or removed.

For deciduous trees and evergreen trees of 12 inches up to 24 inches DBH, one inch of new tree diameter shall be provided for every three inches of existing tree diameter cut or removed.

For deciduous trees and evergreen trees of 24 inches and greater DBH, one inch of new tree diameter shall be provided for every two inches of existing tree

diameter cut or removed.

Reduce the size of the tree caliper required to 2.5-to-3-inch caliper.
Offer alternative replacement tree types for replacement trees: 10-12' ht. understory or 8' ht. evergreen.

Example Whitemarsh Township

- 1.) A maximum of 30% of the replacement trees may be replaced with ornamental or evergreen trees at a ratio of two flowering trees or two evergreens per required 2.5-3" caliper shade tree.
- 2.) A maximum of 20% of the replacement trees may be replaced as shrubs with a minimum size of 24" ht. at a ratio of 6 shrubs per required 2.5-3" caliper shade tree.
- 3.) A maximum of 10% of the replacement trees may be replaced as groundcover at a ratio of 40 plants to one 2.5-3" caliper shade tree. The minimum size of the ground cover shall be 1 gallon.
- 4.) A maximum of 5% of the replacement trees may be replaced with plugs at a rate of 240 plugs 1.25 inches x 1.25 inches x 2.5" deep root zone for every 2.5-3" caliper shade tree.

Number 8 shall be moved to Standards in Landscape Section C Standards.

(8) Woodland and hedgerow replacement plantings and their measurement shall conform to the standards of the publications "American or U.S.A. Standard for Nursery Stock," American National Standards Institute (ANSI) or USAS Z60.1 of the American Association of Nurserymen, as amended. All plant material used on the site shall have been grown within the same U.S. Department of Agriculture (USDA) hardiness zone as the site, shall be free of disease, and shall be nursery grown, unless it is determined by the Township that the transplanting of trees partially fulfills the requirements of this section. ~~At the discretion of the Township, replacement trees as required above may be substituted by trees of at least 1 1/2-inch caliper at a ratio of three trees for each one tree otherwise required.~~ Species of replacement plantings selected, and planting locations shall reflect careful site evaluation, and, in particular, the following considerations:

- (a) Existing and proposed site conditions and their suitability for the plant materials, based upon the site's geology, hydrology, soils, and microclimate.
- (b) Specific functional and design objectives of the plantings, which

may include but not necessarily be limited to: replacement of woodland and hedgerow area removed; enhancement of existing woodland, hedgerow, or old field area(s); reforestation of riparian buffer areas; provision for landscape buffer; visual screening, noise abatement, energy conservation, wildlife habitats, and aesthetic values (e.g., autumn coloration, type of flowers and fruit, bark and crown characteristics, amount of dieback present); or wind resistance.

- (c) Maintenance considerations such as hardiness, resistance to insects and disease, longevity, and availability.
- (d) Because of the many benefits of native plants (ease of maintenance, longevity, wildlife habitat, etc.), their use is encouraged. Species selection should reflect species diversity characteristic of the native woodland and hedgerow.

(a. through d. can be added to standards and guarantee section for all plants / landscaping. In standards I would also add % of native or diversity requirements that can be quantified to the standards)

- (9) Applicant shall include provisions, in narrative and/or graphic form, of sufficient detail to satisfy the Township, for the long-term management of any woodland and hedgerow area not subject to woodland and hedgerow disturbance and any area selected for introduction of replacement plantings in accordance with this section. The submission shall include a statement of woodland and hedgerow management objectives and shall demonstrate the feasibility of intended management practices, aiming to ensure the success of stated objectives, including the viability of introduced plantings, deterrence of invasive species, and means to minimize any future woodland and hedgerow disturbance. Additional requirements include:
 - (a) The manner in which the woodland area will be owned and by whom it will be managed, maintained, and improved (the latter as necessary).
 - (b) The conservation and/or land management techniques and practices that will be used to conserve and protect such areas, as applicable.
 - (c) The professional and personnel resources that are expected to be necessary to, and will be committed to, maintain and manage the woodland area.
 - (d) Applicants are strongly encouraged to seek woodland management assistance through the Pennsylvania "Forest Stewardship Program" administered by the Pennsylvania Bureau of Forestry.

Sections a-d has to do with maintenance / creating a maintenance plan, I'm not aware of any issues that have come up about this. Suggestion to leave as is or put in standards.

(10) Installation of woodland and hedgerow replacement plantings shall be guaranteed along with all other site improvements in accordance with §§ 162-61, 162-63, and 162-64 of this chapter. The costs of planting material and installation shall be considered in determining the amount of any performance guarantee required. At the Township's discretion, the applicant may be required to escrow sufficient additional funds for the maintenance and/or replacement of the proposed or existing vegetation in accordance with this section. In addition, an escrow may be required for the removal and replacement of woodlands, specimen trees, or hedgerows damaged during construction. These escrows shall be in addition to any financial security posted for dedication of other required improvements. At its sole discretion, the Township may remedy failure to complete installation or to maintain required woodland and hedgerow replacement plantings in accordance with the provisions of this chapter. **(Move to Guarantee and Maintenance section under Landscaping)**

~~(11) Required replacement plantings shall be in addition to and consistent with any required landscape plan, street trees, or any other landscape material, improvements, or related requirements stipulated by applicable provisions of this chapter or of Chapter 200, Zoning.~~

Change –

Any new trees placed on the property may be credited toward the compensatory tree requirement, provided that such new trees meet the following size requirements:

- a) Deciduous shade or ornamental trees shall be a minimum of two and a half inches to three-inch caliper.
- b) Multi-stem shade or ornamental trees shall have a minimum height of ten to twelve feet.
- c) Evergreen trees shall have a minimum height of eight feet.

(12) In lieu of actual tree replacement, the Township may, at its sole discretion, require the applicant to place the equivalent cash value, as agreed upon by the Township and the applicant, of some or all of the required replacement trees into a special fund established for that purpose. Such funds shall be utilized for the purchase and installation of trees elsewhere in the Township at the discretion of the Township, especially if the site in question cannot accommodate the replacement

trees required pursuant to this chapter. (Typical)

SALDO

§ 162-56 Parking.

[Amended 6-17-2002 by Ord. No. 02-04]

Any activity or use subject to this chapter shall comply with the provisions of § 200-73 of Chapter 200, Zoning.

Add a note to send you to landscape section for parking.

SALDO

§ 162-57 Landscape design, installation and maintenance standards.

[Added 6-17-2002 by Ord. No. 02-04]

A. Applicability. Landscaping conforming to the provisions of this section shall be provided in any of the following situations:

SCREENING AND BUFFERING INFORMATION TO MOVE HERE.

(1) Required screening.

(a) ~~Where any use or activity is subject to the screening requirements of § 200-77 of Chapter 200, Zoning;~~ **Move the Screening Charts and Types into Saldo here and reference the SALDO from Zoning Chapter 200-77.**

(b) ~~Any situation where screening is imposed by the Zoning Hearing Board or otherwise by the Township as a condition of any approval or permit. In consideration of any approval or permit, the Township may require screening or buffering for the purpose of providing privacy for dwellings, separating incompatible land uses, shielding unattractive structures from view, noise abatement or reduction in light or glare.~~ **This will be covered under screening and buffering requirement charts. No need for additional language about it here.**

(2) ~~Perimeter buffer requirement. The entire perimeter of any tract subject to subdivision or land development approval, or any tract occupied by a use subject to the provisions of § 200-78 of Chapter 200, Zoning, shall be provided with a minimum twenty-foot wide buffer planting strip which will act as an effective separation between uses. The perimeter buffer strip shall be designed, installed, and maintained in compliance with the requirements of this section.~~ **This will be covered under screening and buffering requirement charts. No need for additional language about it here.**

(3) General landscaping requirement. On any tract subject to subdivision or land development approval, or any lot or tract occupied by a use subject to the provisions of § 200-78 of Chapter 200, Zoning, any part or portion of such lot or tract which is not occupied by buildings nor used for loading and parking spaces and aisles, sidewalks and designated storage areas shall be landscaped according to an overall landscape plan, prepared and approved as provided in

this section or shall be left in its natural state. **What is the purpose for this section 3? Needs further clarification.**

- (4)** Parking lot landscaping requirement. On any tract subject to subdivision or land development approval, or any lot or tract occupied by a use subject to the provisions of § **200-78** of Chapter **200**, Zoning, all parking lots or areas shall be landscaped subject to the provisions of Subsection **C(7)** below. **Okay. Not sure why this needs to be added here. Section 200-78 already references the parking lot landscape requirements.**

B. Landscape plan.

- (1)** All required landscaping and screening shall be installed and maintained in accordance with a landscape plan prepared by a ~~qualified~~ **registered** landscape architect **in the Commonwealth of Pennsylvania** and approved by the Township. The landscape plan shall depict all proposed plantings required to complement, screen or accentuate building, roads, parking areas, sidewalks, walkways, sitting areas, service or maintenance structures, courtyards, entry road treatments, and other site features and/or structures. Plant sizes, spacing and types shall be in accordance with this section, especially Subsection **C**, Landscape design standards. **(Subsection C) This is where we should put all required standards and guarantees that have been mentioned previously in other sections. We can reference this section in those sections if need be.**
- (2)** All required landscape plans shall be submitted at the time when all other required applications and/or plans are submitted (e.g., sketch, preliminary, or final land development plan submission, conditional use approval application, change in use, etc.). Plans shall be based on and reflect the following objectives:
- (a)** A design which is responsive to the functional and aesthetic characteristics of the tract or lot, and existing and proposed principal and accessory buildings and other structures.
 - (b)** A design which respects/incorporates existing topography, landscape, and other natural features such as hedgerows and woodlands.
 - (c)** A design which demonstrates an effective proposal for screening the proposed use or activity from the adjoining properties.
 - (d)** A design which creates visual interest for the users and/or residents of the proposed project and enhances views.

- (e)** A design which promotes effective management of stormwater to minimize soil erosion and sedimentation and creates opportunities for infiltration to the groundwater system.
 - (f)** The use of plant material which is acclimated to local conditions; located and spaced to achieve required screening, compatible groupings and other effective purposes; and not injurious of persons or pedestrians and vehicular circulation.
- (3)** Submitted landscape plans shall include notes, diagrams, sketches or other depictions appropriate to demonstrate consideration and analysis of the following:
- (a)** Consistency with the objectives stated in Subsection **B(2)**, above, as well as the design standards of Subsection **C** below.
 - (b)** Analysis of the site in terms of existing site conditions, including topography and vegetation, and existing views to and from the areas which are proposed for development.
 - (c)** Analysis of any need(s) for screening related to the proposed development or use.
 - (d)** Consideration of the use of introduced landscaping to provide visual interest, define outdoor spaces, complement architectural features, blend into surrounding landscapes and/or other aesthetic purposes.

Add all applicable standards and guarantees to this section C below. Landscape Design Standards. Also put TPF standards here.

The tree protection and landscaping standards contained in this section shall be applicable to all subdivisions of land and any parcels undertaking land development activities. All parts of properties being redeveloped, renovated, and improved as part of a subdivision or land development application shall be brought into compliance with the requirements of this section, to the extent possible.

General standards. List Standards – keep in line with existing standards identified in Upper Uwchlan just pull them into this section.

- C.** Landscape design standards. All required landscaping shall be designed, installed and maintained in accordance with the standards herein, including specific standards for screening, street trees, perimeter buffer and parking area landscaping, replacement trees as applicable.

- (1)** Total plantings required. The minimum number of plantings required shall be determined in accordance with Subsection **D** below. Section D does not outline all required plantings. It outlines “additional required plantings.” Required plantings may be utilized anywhere on the subject site for purposes of compliance with general landscape standards as well as specific standards for screening, perimeter buffer and parking area landscaping, as applicable. Additional plantings may be provided to further the purposes of this section. Plantings provided in excess of the minimum required need not comply with the dimensional standards herein. Existing trees and shrubs to be retained and protected may be credited towards the minimum planting standards, subject to review and approval of the Township. Where existing trees have been identified for credit, the Township may require the applicant to commit to a tree replacement program for non-surviving plants.

Alternative Text about Tree Credits

- (1) Credits for existing preserved healthy and viable transplanted vegetation. Preserved deciduous trees shall be credited toward shade and street tree requirements, evergreen trees shall be credited toward evergreen requirements, and shrubs shall be credited toward shrub requirements. No credit shall be given for weedy, brittle or invasive species unless otherwise approved by the Township.
- (2) Preserved healthy and viable trees shall be credited toward satisfying the requirements of this § 281-34 in the area that they are preserved. That is, if a tree is preserved along a property line, it shall be credited toward the buffer or screen requirements along that property line. A tree preserved within a parking area may not be counted toward satisfying buffer requirements.
- (3) Preserved and healthy and viable transplanted trees shall be credited toward satisfying the requirements of this as follows:

Six- up to twelve-inch diameter equals two trees.

Twelve- up to twenty four-inch diameter equals four trees.

Twenty four inch diameter or greater equals six trees.

- ~~**(2)** Mitigation of development impacts. Consistent with the terms of this section and especially with the results of the screening analysis conducted in accordance with Subsection **B(3)(c)**, applicant shall plant trees and shrubs and make other landscape improvements (e.g., berms, fencing) as necessary to mitigate any adverse impacts of the proposed action or project, including visual impacts on the subject property, adjoining properties, and the Township in general, and~~

~~otherwise address landscape issues identified through the required landscape planning process.~~

I do not feel that the screening analysis is needed if we use the buffer charts.

(3) General landscape design.

(a) Plantings and other landscape improvements shall be provided in arrangements and locations to have an overall benefit to the landscape and in response to specific site conditions. Additional considerations shall include **feasibility of using native species**, proximity to existing dwellings, compatibility of adjacent uses and landscaping, nature of views into and across the subject site, and in consideration of privacy of neighboring residential development. **Native percentage to be added.**

Recommendation:

At least 50% of the proposed shade trees shall be native to the region.

At least 60% of the understory trees shall be native to the region.

At least 30% of the evergreen trees shall be native to the region.

At least 60% of the Shrubs shall be native to the region.

(b) Use of linear measurements for purposes of calculation is not intended to specify linear arrangement of plantings. Groupings of plantings are encouraged in lieu of linear arrangement, consistent with the provisions of this section. **Keep.**

(c) In selecting the location and mix of required plantings, consideration shall be given to the natural landscape characteristics of the setting, the environmental conditions to be created following site disturbance, and the texture, coloration and compatibility of different plant species. It is strongly encouraged that improved landscapes be designed in such a manner as to be creative and attractive while maintaining the integrity of the natural landscape within which such work is proposed. **Keep.**

(d) The locations, dimensions, and spacing of required plantings shall be adequate for their proper growth and maintenance, taking into account the sizes of such plantings at maturity and their present and future environmental requirements, such as moisture and sunlight. In selecting locations for shade trees, consideration also shall be given to aesthetic qualities of the site and to the protection of solar access. **Keep.**

(e) Plantings shall be limited or carefully selected for locations where they may be disturbed or contribute to conditions hazardous to public safety.

Examples of such locations include but shall not be limited to the edges of parking areas; public street rights-of-way; underground and aboveground utilities; and sight triangle areas required for unobstructed views at street intersections. No trees shall be planted closer than 15 feet from fire hydrants, streetlights, or stop signs. **Keep.**

BUFFER

I would have the charts for the buffers located here. In the zoning section they can reference this section. Buffer and screening section will be combined.

(4) Perimeter buffer.

- (a)** Except where screening is required, the perimeter buffer need not be planted entirely with trees and shrubs, but is intended to blend into the surrounding landscape.
- (b)** The Township may reduce or eliminate the perimeter buffer requirement where any tract abuts similar uses such that the Board agrees that buffering is not necessary or where the applicant can demonstrate to the satisfaction of the Board that existing vegetation, structural and/or topographic conditions will, on a year-round basis, buffer the subject development or use from view from adjacent tracts.
The Township can still have this option to reduce or eliminate.
- (c)** Except for post-and-rail or board fences less than four feet in height and stone landscape walls, no fences or walls shall be located within any required perimeter buffer along any public street or road. Fences and walls provided for security or access control purposes and constructed of chain link or any solid material and/or exceeding four feet in height, may be located behind the perimeter buffer and shall be screened from view in accordance with the provisions of this section.
Seem okay to keep this. Add charts and Buffer / Screen section.
- (d)** The perimeter buffer strip may include or coincide with areas where screening is otherwise required and may be included in private yard space, common open space, or a combination thereof; the perimeter buffer strip may also be part of any required setback areas as well as be part of any established usable lot area.
Seem okay to keep this.

SCREENING

Screening to be combined with buffer section.

~~(5) Screening. Where specific requirement(s) for visual screening have been identified, the following design standards shall be employed. See Appendix I for the minimum screening standards sample calculation.⁽¹⁾~~

Screening standards will be handled by new charts.

~~(a) Vegetative screening shall include a variety of evergreen species so as to provide a year-round visual barrier. Evergreen plantings shall be provided that are at least seven to eight feet in height, planted at intervals no less than 10 feet on center. Where the Township agrees that an eventual screen (in three to five years) is acceptable in lieu of an immediate screen (to buffer future development, for example), evergreen plantings shall be at least four to five feet in height, substituted at a ratio of three to one and planted at intervals of five feet on center. See Appendix I for the minimum screening sample calculation. [Amended 1-17-2006 by Ord. No. 06-01]~~

~~(b) Screening shall incorporate earthen mounds or berms where appropriate to improve sound as well as visual buffering. Where earthen berms are used, they should be designed to be low-profile, and supplemented with plantings so that an effective visual barrier of at least eight feet in height measured from the crown of the adjoining public street is created in appropriate locations, particularly where used to screen outdoor storage, truck or heavy equipment parking, storage and loading areas or trash dumpsters from public view. If berms are used as a landscape or screening feature, plantings are to be installed on both sides of the berm, not solely at the ridgeline or top of the berm and shall be subject to the review and approval of the Township. Side slopes shall not exceed a 4:1 ratio, and berms shall be designed to blend with adjoining property topographic conditions or similarly landscaped buffer rather than end abruptly at the property line. **Keep this part about the berms.**~~

~~(c) Other than street trees, no trees shall be placed with their center less than five feet from any property line, and no shrubs with their center less than two feet from any property line. **(This moves to standards Section C.)**~~

~~(d) Screening shall be designed so as not to obstruct sight distances at intersections. **Standards.**~~

~~(e) Vegetative screening shall be continuously maintained for the duration of operation of the use for which screening is required. During such period, any plant material which does not survive shall be replaced prior to the start of the next growing season. **Guarantee and Maintenance.**~~

Editor's Note: Appendix I is included as an attachment to this chapter.

STREET TREES

(6) Street trees. Any subdivision or land development shall provide street trees along the entire length of any public street. Street trees of varying species shall not be planted so close to the cartway edge that they become a maintenance problem, but close enough to the cartway edge to provide shade. The arrangements and locations of all street trees should be shown on the landscape plan and are subject to review and approval by the Township. The arrangements and locations of tree plantings shall respond to specific site conditions and development design objectives and shall comply with the following:

*Specify if you want the trees in the ROW or out of the ROW. Needs clarification.
Specify a specific max. and or min. distance from ROW or Cartway.*

(a) Selected street tree species shall be hardy indigenous varieties with minimal maintenance requirements, and shall be selected such that, at maturity, they shall provide adequate summer shade along the public road. The Township may consider approval of nonindigenous species on a case-by-case basis. Selected street tree species shall be of the nongrafted type. ~~Refer to Subsection H for a suggested species list. This list should be removed.~~

Refer to Cornell Universities Recommended Urban Trees Publication for Street Trees.

DCNR / Native Plants | Department of Conservation and Natural Resources | Commonwealth of Pennsylvania

Or alternate publication that will be updated as information / disease / invasive status changes

(b) The spacing between street trees shall be no greater than 50 feet. *Change to 40.*

(c) At the time of planting, street trees shall be at least 14 feet to 16 feet in height and three-inch to three-and-one-half-inch caliper in size. *Change size to 2.5"-3" caliper and remove height requirement. Caliper and height of trees do not always correlate in different species. Reference the standards section C.*

Add alternative notes about street trees in front of store fronts / commercial districts.
Alternative placement methods to allow signage to be visible.

PARKING – I think this section is okay – where it calls out 15' wide parking islands in the below highlighted text 10' would be an acceptable width for plantings and trees.

(7) Parking lot landscaping. All off-street parking areas, except those intended solely for use by individual single-family residences, shall be landscaped with trees and shrubs of varying species, in accordance with the following:

- (a)** Off-street parking areas shall be landscaped to reduce wind and air turbulence, heat and noise, and the glare of automobile lights; to reduce the level of carbon dioxide; to provide shade; to ameliorate stormwater drainage problems; to replenish the groundwater table using bioretention islands; to provide for a more attractive setting; to protect the character and stability of residential, business, institutional, and industrial areas; and to conserve the value of land and buildings on surrounding properties and neighborhoods.
- (b)** Any parking for five or more vehicles on a lot which abuts a residential district or a lot for residential purposes, whether single-family or multifamily, shall be screened from the adjacent property by an effective vegetative screen the entire length of said parking lot, in accordance with the requirements of this section.
- (c)** The interior of each parking area or lot shall have at least one shade tree for every five parking spaces. Such shade trees shall meet the standards provided for street trees in Subsection **C(6)** above.
- (d)** Planting areas shall be placed so as to facilitate snow removal and to provide for safe movement of traffic without interference of proper surface water drainage. Planting areas shall be bordered appropriately to prevent erosion or damage from automobiles. Bollards may be used to afford protection of trees from vehicular movement.
- (e)** Planting areas utilized for stormwater management/bioretention can count toward parking lot landscaping minimum requirements. Such planting area design and maintenance shall be clearly described in the applicant's stormwater management plan submitted as part of a subdivision or land development application.
- (f)** The landscaping and planting areas shall be reasonably dispersed throughout the parking lot, except where there are more than 20 spaces in which the following shall apply:

- [1]** Landscaped areas at least 10 feet wide shall be provided around the periphery of parking areas. Such areas shall, at a minimum, extend the full length and width of the parking areas, except for necessary access ways, to prevent the encroachment of moving vehicles into parking areas.
- [2]** Landscaped islands at least ~~15 feet~~ 10 feet wide shall be provided between each set of two parking bays, except as otherwise approved by the Township.
- [3]** Landscaped islands shall be provided at the end of each parking bay where such parking bay abuts or opens onto any street or accessway. Such landscaped islands shall be at least ~~15 feet~~ 10 feet in width and shall extend parallel to the parking spaces in each abutting parking area the length of one parking space. No more than 20 parking spaces shall occur between islands. Parking bays providing more than 20 spaces in a single bay shall be broken by a similar landscape island.
- [4]** Two feet of each parking stall adjacent to planting strips required in Subsection **C(7)(f)[1]** and **[2]** above shall be of a permeable surface (e.g., concrete paver blocks filled with stone) to allow water to percolate into the ground.
- (g)** Parking lots which do not conform to the criteria listed above shall be planted with the same ratio of trees to parking spaces as conventional parking lots but these may be planted in more varied configurations.
- (h)** All parking lots shall be designed to provide for safe, reasonable pedestrian access. Parking lots with more than 50 spaces shall include paved pedestrian walkways. Pedestrian walkways may be located along or through landscaped islands or other landscaped areas adjacent to the parking lot.

This section D below is all additional landscaping for – Building SF, Parking SF Area, Road Frontage, and tract boundary all of which are already landscaped under Parking landscaping criteria, Street Trees, and Buffer Landscaping. Building SF requirement can stay for building foundation plantings I would remove the other sections. If you are going to ask it as a requirement add it to the Parking Standards, Street Tree Standards or Buffer Standards, not as an add on at the end.

D. Minimum planting standards. All required landscaping shall meet the minimum planting standards, criteria for selection of plant material, and design standards of this section.

(1) The total number of plantings required shall be no less than the total calculated from all columns in the following table and ~~shall be in addition to any required replacement plantings due to woodland disturbance.~~ The total number of required plantings may be dispersed throughout the tract to meet the objectives of this section. Additional plantings may be provided. See Appendix II for the minimum planting standards sample calculation. ~~Appendix II to be amended as needed.~~

Improvement/Conditions	Deciduous Trees	Evergreen Trees	Shrubs
Per 1,000 square feet gross building area, ground floor only (building "footprint"); residential subdivisions exempt KEEP	2	1	8
Per 2,000 square feet off street parking or loading area, excluding driveways less than 18 feet wide; residential subdivisions exempt	1	1	4
Per 100 linear feet of new and existing public or private road frontage, measured on both sides where applicable	2	1	5
Per 100 linear feet of existing tract boundary, where not coincident with existing or proposed road frontage	1	2	8

[2] *Editor's Note: Appendix II is included as an attachment to this chapter.*

~~**(2)** Where applicant can demonstrate to the satisfaction of the Township that existing vegetation, structural and/or topographic conditions located within 100 feet of existing tract boundaries or within 100 feet of the cartway of existing or new roadway segments will conceal, on a year-round basis, adjacent development from view from such tract boundary or roadway segments, the linear footage of such tract boundary or roadway segments may be excluded from calculation of required plantings as above.~~

(3) Where calculation of the minimum number of plantings required as above results in fractions of plants required, the minimum number of plants required shall be rounded up to the nearest whole number. **Move to Buffer and Steet Tree sections.**

(4) Plantings. THIS SECTION GOES UNDERS STANDARDS and Applies to all plant material.

(a) Plantings used to comply with the minimum number of plantings required as above shall be:

[1] Deciduous trees: **two and a half inch to three inch caliper**, ~~three inch to three and one half inch caliper~~, minimum.

[2] Evergreen trees: ~~seven feet to eight feet~~ in height, minimum **Eight ft. ht. min.**

[3] Shrubs: 24 inches to 30 inches in height, minimum. **Okay.**

(b) Plantings and their measurement shall conform to the standards of the publications "American or U.S.A. Standard for Nursery Stock," American National Standards Institute (ANSI) or U.S.A.S. Z60.1 of the American Association of Nurserymen, as amended. All plant material used on the site shall have been grown within the same U.S. Department of Agriculture (USDA) hardiness zone as the site, shall be free of disease, and shall be nursery grown, unless it is determined by the Township that the transplanting of trees partially fulfills the requirements of this section. At the discretion of the Township, plantings required as above may be waived or reduced if applicant can demonstrate to the satisfaction of the Township that retaining existing plant material or other means of landscaping substantially achieves the objectives of this section. The applicant shall note, on all appropriate submittals, the location, type, extent, and condition of the existing plant materials or other means of landscaping that would be the basis for the proposed waiver or reduction. Should the Township issue a waiver or reduction, the approved, existing plant materials or other means of landscaping shall be protected during construction from impacts such as, but not limited to, root compaction, debarking, and soil stripping. The Township shall conduct a post-construction inspection, and reserves the right to require additional plantings if the existing plant material or other means of landscaping are damaged or did not survive construction. **Move to standards section C.**

E. Criteria for selection of plant material.

(1) Species selected by the applicant shall reflect careful evaluation of the required site analysis plan and in particular the following considerations:

(a) Existing and proposed site conditions and their suitability for the plant materials, based upon the site's geology, hydrology, soils, and microclimate.

(b) Specific functional and design objectives of the plantings, which may include but not necessarily be limited to provision for landscape buffer, visual screening, noise abatement, energy conservation, wildlife habitats, and aesthetic values.

(c) Maintenance considerations such as hardiness, resistance to insects and disease, longevity, availability, and drought and salt resistance.

(2) Use of native plants, because of their many benefits (such as ease of maintenance, longevity, wildlife habitat, etc.), is encouraged to meet the requirements of this section. A suggested plant list is included in Subsection **H**.

(3) Species for shade trees, including street trees, shall be selected with particular emphasis on hardiness, growing habit for pedestrian and vehicle passage, minimal need for maintenance, and compatibility with other features of the site and surrounding environs.

(4) For the purposes of promoting disease protection, minimum maintenance, diverse natural plant associations, and long-term stability of plantings, the applicant is encouraged to choose those combinations of species which may be expected to be found together under more or less natural conditions on sites comparable to those where the trees and shrubs are to be planted.

F. Conservation of existing vegetation and natural features. Consistent with § **162-55A** of this chapter, all landscape plans shall be designed to conserve woodlands, hedgerows, watercourses, specimen trees, and riparian buffer areas, and to minimize woodland disturbance. Applicants shall make all reasonable efforts to harmonize their plans with the conservation of existing vegetation and natural features. Care shall be exercised to protect remaining vegetation from damage during construction, in accordance with the procedures set forth in § **162-55**. **Keep. Move other applicable sections to this section.**

G. Site maintenance and guarantee.

(1) All landscape improvements, to be provided in accordance with this section, shall be installed and maintained by accepted practices as recognized by the American Association of Nurserymen. Planting and maintenance of vegetation shall include, as appropriate, but not necessarily be limited to, provisions for surface mulch, guy wires and stakes, irrigation, fertilization, insect and disease control, pruning, mulching, weeding, and watering.

(2) Applicant shall make arrangements acceptable to the Township that all landscaping incorporated into the landscape plan and proposed in accordance with this chapter shall be maintained in a healthy and/or sound condition, or otherwise be replaced once by equivalent improvements, for one complete growing season

after the date of construction completion. After installation and prior to Township acceptance of the site improvements, representatives of the Township shall perform an inspection of the finished site for compliance with approved landscape plan(s).

(3) Installation of landscape improvements shall be guaranteed along with all other site improvements in accordance with §§ **162-61**, **162-63**, and **162-64** of this chapter. The costs of landscape material and installation shall be considered in determining the amount of any performance guarantee required. At the Township's discretion, the applicant may be required to escrow sufficient additional funds for the maintenance and/or replacement of the proposed or existing vegetation in accordance with Subsection **G(2)** above. In addition, an escrow may be required for the removal and replacement of specimen vegetation damaged during construction. These escrows shall be in addition to any financial security posted for dedication of other required improvements. At its sole discretion, the Township may remedy failure to complete installation or to maintain required landscape improvements in accordance with the provisions of this chapter.

This will be part of Maintenance and Guarantee. Add other applicable sections found throughout this document to this section.

H. ~~Suggested plant list (not an exclusive list). Examples of species appropriate for use where screening is required are indicated with an asterisk (*). Street tree specifications, as referenced in Subsection **C(6)** of this section and § **200-78** of Chapter **200**, Zoning, include, but are not limited to, the following species, noted by "ST":~~

[Amended 1-17-2006 by Ord. No. 06-01] **Remove this plant list and reference an updated publication. DCNR or PSU or Cornell University. Must relate to PA climate conditions.**

Common Name	Latin Name
Evergreen Trees:	
Eastern redcedar*	Juniperus virginiana
Canadian Hemlock	Tsuga canadensis
Red (Eastern or Yellow) spruce*	Picea rubens
Norway spruce*	Picea abies
Eastern White Pine*	Pinus strobus
Common Name	Latin Name
Shade Trees:	
Red maple, ST	Acer rubrum
Sugar maple, ST	Acer saccharum

Common Name	Latin Name
White ash, ST	<i>Fraxinus americana</i>
Green ash, ST	<i>Fraxinus pennsylvanica</i>
Sycamore	<i>Platanus occidentalis</i>
White oak, ST	<i>Quercus alba</i>
Northern red oak, ST	<i>Quercus rubra</i>
Tulip poplar	<i>Liriodendron tulipifera</i>
Scarlet oak, ST	<i>Quercus coccinea</i>
Pin oak, ST	<i>Quercus palustris</i>
Shagbark hickory	<i>Carya ovata</i>
American basswood	<i>Tilia americana</i>
American beech	<i>Fagus grandifolia</i>
London plane tree	<i>Platanus acerifolia</i>
Common Name	Latin Name
Small Trees and Shrubs:	
Rhododendron	<i>Rhododendron sp.</i>
Black cherry	<i>Prunus serotina</i>
Shadbush/Serviceberry*	<i>Amelanchier canadensis</i>
Redbud	<i>Cercis canadensis</i>
Flowering dogwood*	<i>Cornus florida white</i>
Winterberry	<i>Ilex verticillata</i>
Washington hawthorn*	<i>Crataegus phaenopyrum</i>
Highbush blueberry	<i>Vaccinium corybosum</i>
Sourwood	<i>Oxydendrum arboreum</i>
Ironwood	<i>Ostrya virginiana</i>
Arrowwood	<i>Viburnum dentatum</i>
Black Haw	<i>Viburnum prunifolium</i>



UPPER UWCHLAN TOWNSHIP
140 Pottstown Pike
Chester Springs, PA 19425
610-458-9400 Fax 610-458-0307

RECEIVED
MAY 14 2025
UPPER UWCHLAN TWP.

CONDITIONAL USE APPLICATION

Tax Parcel Number: 32-5-15 Date: 5/13/2025
Name of Applicant: Michaela Koibe
Address: 705 N Reeds PD Downingtown PA 19335
Telephone: [REDACTED] Email: [REDACTED]

Owner of Parcel: Michaela Koibe
Address / Location of Parcel: 705 N Reeds PD Downingtown PA 19335
Zoning District: R-1 Existing Use: SHORT TERM RENTAL
Article / Section Authorizing Conditional Use: 200-17 - BC4)
Description of Proposed Conditional Use: GOING CONTINUED USE AS SHORT TERM RENTAL VIA AIRBNB - EVENTUAL SHORT TERM RENTAL OF BACK COTTAGE, WHICH IS CURRENTLY MY PRIMARY RESIDENCE

This Application shall be accompanied by:

1. A fee of \$500.00 for Non-Commercial or \$1,000.00 for Commercial/Industrial; *Check * 510*
2. Four (4) printed copies and an electronic copy of:
 - parcel plot plans (half of which can be of reduced size, i.e. 11 x 17)
3. Three (3) printed copies and an electronic copy of:
 - impact statements (if applicable pursuant to the Township's Zoning Ordinance §200-83), *N/A per Anthony*
 - and any other information pursuant to Zoning Ordinance §200-116, §200-117 (Conditional Uses, Conditional Use Standards).

- The Applicant will be responsible for reimbursing the Township for Consultants' Fees and Legal Fees, and if additional Hearings are necessary, a Fee will be charged for each Additional Hearing:
Non-Commercial \$250.00/Hearing; Commercial/Industrial \$500.00/Hearing

I hereby depose and say that all of the above statements, and the statements contained in any papers submitted herewith, are true to the best of my knowledge and belief.

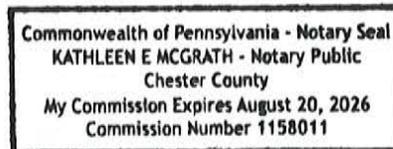
Michaela Koibe
Printed Name of Applicant

[Signature]
Signature of Applicant

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF CHESTER

Sworn to and subscribed before me this
13 day of May, 2025.

Kathleen E McGrath
Notary Public



Michaela Kolbe
705 N Reeds Rd.
Downingtown, PA 19335



Application for Conditional Use Permit (Short Term Rental)

Dear Upper Uwchlan Township,

Please find attached my Conditional Use Application Permit, as well as supporting documentation, for my short-term rental operated at 705 N Reeds Rd, Downingtown, PA 19335.

Description of the Property:

705 N Reeds Rd is a one-acre parcel located in the R-1 District with two separate cottages. The Front Cottage, which is currently operating as a short-term rental through Airbnb, is a one bedroom, one bathroom cottage. The Back Cottage, which is currently my primary residence, is also a one bedroom, one bathroom cottage. The driveway is currently shared between the cottages, with two off-street parking spots available for each cottage.

I bought this property in November of 2021, and have been working to renovate and upgrade ever since. Both cottages have brand new, energy efficient Mitsubishi mini split HVAC systems, which provide electric heating and cooling, installed by Brandywine Valley Heating and Cooling. The septic system, which was inspected prior to purchase in 2021, is pumped annually, and the well, which is a single-line jet pump, had a new pump and pressure tank installed in 2024 by Edward Powell Pump and Well Drilling. The Back Cottage's roof was replaced in 2023. My cleaner, Lindsay, does all the turnovers and laundry for the property.

Plan:

I plan to continue to upgrade the property to create a relaxing and enjoyable environment for my guests. While I currently reside in the Back Cottage, the long-term plan is for that to be used as a short-term rental once all renovations are complete.

Guests:

I permit a maximum of two guests, and the cottage is pet friendly. I do not permit parties of any kind, and any visiting guests need to be approved before arrival. Most of my guests are couples who are getting away for a short trip, a lot of times to celebrate a birthday or anniversary. Because of our proximity to Philadelphia and New York City, I end up seeing a lot of couple and solo travelers that just want to relax and enjoy nature for a few days. A lot of guests come to enjoy the State Park, since we are less than a mile from the West Side Boat Launch of Marsh Creek. I also host guests who are in town visiting family, and want to have their own space to come back to at the end of the day.

I always encourage my guests to support our local community. I have a chalkboard that lists out a ton of small, local businesses. My goal is to create a relaxing environment where people can enjoy nature and some of the incredible small businesses we have in the area.

About Me:

I grew up in Downingtown, graduated from Downingtown West High School, and went to Drexel University. In 2018, I purchased a two-unit multifamily home in the Borough of Downingtown. I renovated that property, and those units are now long-term rentals that I manage myself. I have worked at Victory Brewing Company as a bartender for over 15 years. I am also the property manager for Stonegate Properties, and remotely manage over 100 units in the Boston Area. Running a short-term rental is a great way to combine of all my experiences in hospitality and property management.

Reviews from Guests:

I pride myself on creating a great environment for my guests, and on always being available should they need anything. Please find below some of my most recent reviews! I have over 230 reviews from guests who have stayed and enjoyed the property.

Review from Mindy on 5/3/2025

“Cayla was an absolutely amazing host and everything was just as described and she was so super helpful. Everything was immaculate and the surrounding areas so beautiful tons of wildlife in that little spot. We had such a relaxing wonderful time and everything was so clean and and I really loved how Cayla had all kinds of different places to go and things to do written right on the blackboard. It was very helpful.! we booked this Airbnb last minute, and so very happy we did. It was perfect for the two of us and our dog moose. ❤️”

Review from Kelly 4/29/2025

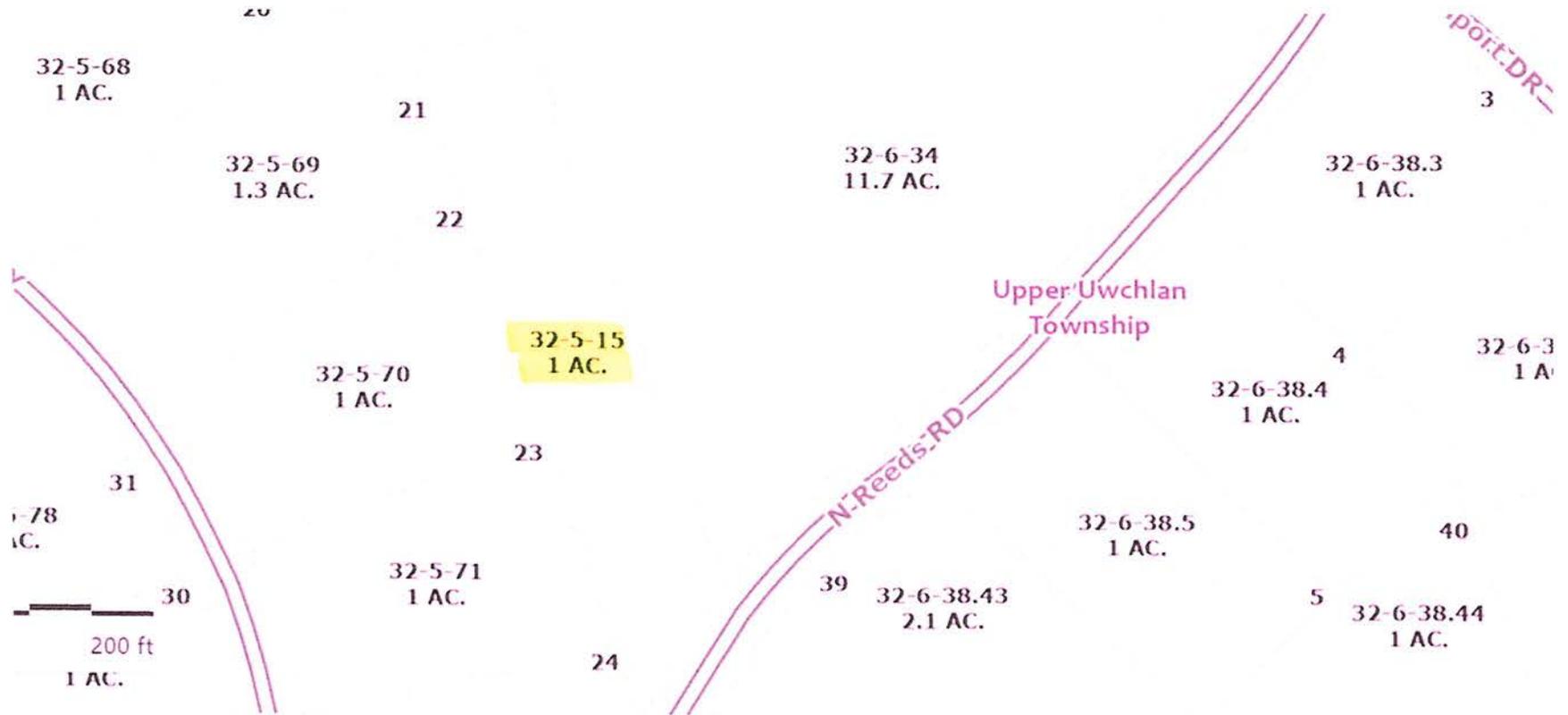
“This place is so cozy and clean! The neighborhood/ community is absolutely beautiful! It’s so quiet and peaceful and watching the deer while drinking coffee on the porch was such a bonus! The chalk board with suggestions for everything to do was great. So close to everything yet quiet and serene.”

Review from Donald 4/26/2025

“The cottage was perfect for 2 people. Very relaxing setting and close to many things to do including Marshcreek with is 5 minutes away. Cayla was very responsive, helpful and friendly. I will be staying again.”

Review from Molly in March 2025

“Cayla was an awesome host and the place is lovely. Great things around to do and Cayla was super informative about options - parks, food, drink. Was a seamless experience and we had a great time. I loved her eco focus in the cottage!”



















LAKE LIFE

Drive Chamberlain
COOK
PLAN





WELCOME
DINING @ CASH'S

COFFEE	ESPRESSO
TEA	GREEN TEA
SMOOTHIES	FRUIT SMOOTHIES
SAVORY	BRISOLLES
DESSERTS	ICE CREAM
DRINKS	WATER
ALL THINGS	...

Menu



ALYSON ZARRO
alyson@rrhc.com
extension 0202



June 4, 2025

Via email and hand delivery

Tony Scheivert, Township Manager
Upper Uwchlan Township
140 Pottstown Pike
Chester Springs, PA 19425
tscheivert@upperuwchlan-pa.gov

**Re: Byers Station Parcel 5C Lot 2B
Amended Final Planned Residential Development Plan Application – Phase 2**

Dear Tony:

As you know, I represent Chester Springs REI LLC c/o Celebree Property Investments, LLC (“Applicant”) in connection with Lot 2B of Parcel 5C in the Byers Station Planned Residential Development (“Property”). Applicant is the legal owner of the Property which is approximately 3.887 acres and is further identified as UPI Number 32-4-1090.1.

On September 22, 2022, Applicant received Amended Final Planned Residential Development Plan Approval for the development of the Property with a 1,820 sq. ft. eating and drinking establishment with a drive through, a 6,000 sq. ft. retail pad, a 7,200 sq. ft. retail pad, and a 10,500 sq. ft. daycare center with a 5,500 sq. ft. play area (“2022 Approval”). Subsequently, Applicant amended its plan to reconfigure the daycare center and play area, as well as to change the previously approved retail buildings such that a 10,500 sq. ft. building could be built along with the daycare center as a first phase of development on the Property. This amended plan was approved by the Board of Supervisors on May 20, 2024 and was subsequently recorded (“2024 Approval”). Construction pursuant to the 2024 Approval is ongoing.

Applicant now desires to amend the approvals for construction of a second phase of the development on the Property with a second 10, 500 sq. ft. commercial building and additional parking.

In connection with this amended plan, the Applicant is again proposing to utilize shared parking for the proposed uses pursuant to Section J.8 of the Tentative Approval for the Byers Station Planned Residential Development dated June 7, 1999.

Enclosed for filing in connection with this Amended Final PRD Plan Application (“Application”) for the Property are the following materials:

1. Four (4) copies of a plan entitled “ ‘Byers Station’ Amended Final PRD Plans (Final Plan for Lot 2B of Parcel 5C)” prepared by Bohler dated March 15, 2022, and last

revised May 30, 2025;

2. Four (4) copies of the General Project Description and Stormwater Management Calculations prepared by Bohler dated March 25, 2019, and last revised May 25, 2025;
3. Four (4) copies of a Parking and Traffic Analysis prepared by TPD dated June 2, 2025;
4. Four (4) copies of a Transportation Impact Assessment prepared by TPD dated June 2, 2025;
5. One (1) copy of the Township Reimbursement Agreement;
6. One (1) copy of the Chester County Act 247 Referral form;
7. A check in the amount of \$250.00 made payable to Upper Uwchlan Township, the final plan application fee;
8. A check in the amount of \$5,000.00 made payable to Upper Uwchlan Township for the Township consultant review fees escrow account; and
9. A check in the amount of \$1,194.50 made payable to the Chester County Planning Commission for its review.

The electronic version of this letter includes a link to download all of the materials comprising the Application.

As always, please feel free to contact me with any questions or if you require any additional information. Thank you for your assistance with this matter.

Very truly yours,

Alyson M. Zarro

Alyson M. Zarro

AMZ/kdj
Enclosures

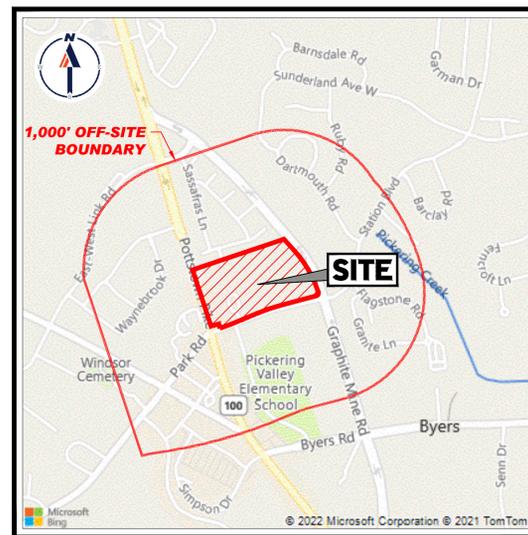
cc: Gwen Jonik, Township Secretary *(via email, w/enclosures)*
Kristin Camp, Esquire, Township Solicitor *(via email, w/enclosures)*
Allan Greenberg, Celebree Property Investments, LLC *(via email, w/enclosures)*
Gary Large *(via email, w/enclosures)*
Chris Puzinas, P.E., Bohler Engineering *(via email, w/enclosures)*
Guy DiMartino, P.E., TPD *(via email, w/enclosures)*
Weston Blaney, JAM Architecture *(via email, w/enclosures)*

'BYERS STATION' AMENDED FINAL PRD PLANS (FINAL PLAN FOR LOT 2B OF PARCEL 5C)

FOR
PROSPERITY PROPERTY INVESTMENTS, LLC
1306 BELLONA AVENUE, LUTHERVILLE-TIMONIUM, MD 21093

PROPOSED COMMERCIAL DEVELOPMENT

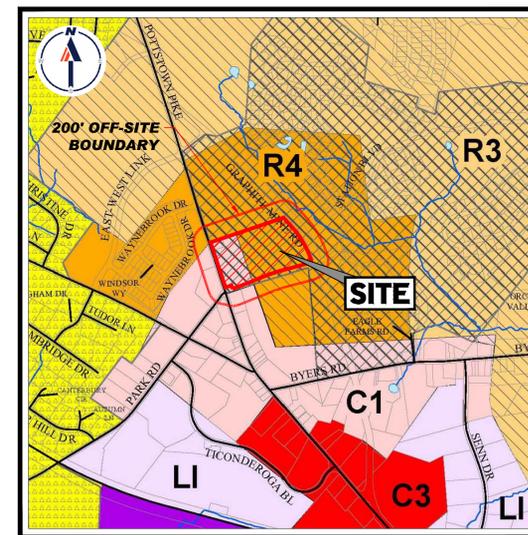
LOCATION OF SITE
GRAPHITE MINE ROAD & STATION BOULEVARD
UPPER UWCHLAN TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA, 19425



SITE LOCATION MAP
SCALE: 1"=800'



SITE AERIAL MAP
SCALE: 1"=800'



UPPER UWCHLAN ZONING MAP (REV. 10/20/05)
SCALE: 1"=1,000'

LEGEND

- C1 - VILLAGE COMMERCIAL DISTRICT
- C2 - LIMITED COMMERCIAL DISTRICT
- C3 - HIGHWAY COMMERCIAL DISTRICT
- LI - LIMITED INDUSTRIAL DISTRICT
- P1 - PLANNED INDUSTRIAL DISTRICT
- R3 - RESIDENTIAL DISTRICT (1.5 DWELLING UNITS/ACRE)
- R4 - RESIDENTIAL DISTRICT (2-4 DWELLING UNITS/ACRE)
- F2 - FLEXIBLE DEVELOPMENT OVERLAY
- PRD - PLANNED RESIDENTIAL DEVELOPMENT (ALSO PART OF F2 OVERLAY)

DRAWING SHEET INDEX

SHEET TITLE	SHEET NUMBER
COVER SHEET	C-101
PROJECT NOTES	C-102
EXISTING CONDITIONS / DEMOLITION PLAN	C-201
SITE PLAN	C-301
FIRE TRUCK CIRCULATION PLAN	C-302
DELIVERY TRUCK CIRCULATION PLAN	C-303
TRASH TRUCK CIRCULATION PLAN	C-304
GRADING PLAN	C-401
ADA GRADING DETAILS	C-402
UTILITY PLAN	C-501
OVERALL SOIL EROSION & SEDIMENT POLLUTION CONTROL PLAN	C-601
SOIL EROSION & SEDIMENT POLLUTION CONTROL PLAN	C-602
SOIL EROSION & SEDIMENT POLLUTION CONTROL NOTES	C-603, C-604
SOIL EROSION & SEDIMENT POLLUTION CONTROL DETAILS	C-605, C-606, C-607
OVERALL POST CONSTRUCTION STORMWATER MANAGEMENT PLAN	C-608
POST CONSTRUCTION STORMWATER MANAGEMENT PLAN	C-609
POST CONSTRUCTION STORMWATER MANAGEMENT NOTES	C-610
POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS	C-611, C-612, C-613
LIGHTING PLAN	C-701
LIGHTING DETAILS	C-702, C-703
LANDSCAPE PLAN	C-704
LANDSCAPE DETAILS	C-705
PROPOSED STORM SEWER PROFILES	C-801
DETAILS	C-901, C-902, C-903, C-904
PRE-DEVELOPMENT DRAINAGE AREA PLAN	C-910
POST DEVELOPMENT DRAINAGE AREA PLAN	C-911
INLET DRAINAGE AREA PLAN	C-912

* SHEETS C-101, C-102, C-301, AND C-608 THROUGH C-612 IN THIS PLAN SET ARE TO BE CONSIDERED A COMPLETE RECORD SET FOR FILING PURPOSES IN THE CHESTER COUNTY RECORDER OF DEEDS.

PCSM PLANS DATED 03/15/2022, LAST REVISED: 04/21/2023, ARE THE APPROVED NPDES PLANS. THE PCSM PLANS IN THIS SET ARE FOR CONSTRUCTION PURPOSES ONLY.

SHEETS C-201, C-302 THROUGH C-607, AND C-701 THROUGH C-912 INCLUSIVE ON RECORD AT UPPER UWCHLAN TOWNSHIP, SHALL BE CONSIDERED A PART OF THE APPROVED AMENDED FINAL PRD PLANS AS IF RECORDED WITH THE SAME.

OWNER / DEVELOPER'S ACKNOWLEDGEMENT:

STATE OF MARYLAND
COUNTY OF _____
ON THE _____ DAY OF _____, A.D. 20____, BEFORE ME, THE SUBSCRIBER, A NOTARY PUBLIC OF THE STATE OF MARYLAND, RESIDING IN _____, PERSONALLY APPEARED RICHARD O. HUFFMAN III, WHO ACKNOWLEDGED HIMSELF TO BE THE MANAGER OF CELEBREE PROPERTY INVESTMENTS, LLC, AND THAT AS MUCH TO DO SO, HE EXECUTED THE FOREGOING PLAN BY SIGNING THE NAME OF SAID LIMITED LIABILITY COMPANY BY HIMSELF AS RICHARD O. HUFFMAN III. THAT THE SAID LIMITED LIABILITY COMPANY IS THE OWNER OF THE DESIGNATED LAND, THAT ALL NECESSARY APPROVAL OF THE PLAN HAS BEEN OBTAINED AND IS ENDORSED THEREON AND THAT THE SAID LIMITED LIABILITY COMPANY DESIRES THAT THE FOREGOING PLAN MAY BE DULY RECORDED.
OWNER SIGNATURE: _____
RICHARD O. HUFFMAN III
PRINT NAME:
MANAGER
TITLE:
CELEBREE PROPERTY INVESTMENTS, LLC, FORMERLY KNOWN AS PROSPERITY PROPERTY INVESTMENTS, LLC.
WITNESS MY HAND AND NOTARIAL SEAL THE DAY AND YEAR AFORESAID.
NOTARY PUBLIC OR OTHER OFFICER
MY COMMISSION EXPIRES: _____

OWNER / DEVELOPER'S ACKNOWLEDGEMENT:

ANY REVISIONS TO THE APPROVED STORMWATER MANAGEMENT PLAN SHALL BE SUBMITTED TO, AND APPROVED, BY THE UPPER UWCHLAN TOWNSHIP, AND A REVISED EROSION AND SEDIMENT POLLUTION CONTROL PLAN SHALL BE SUBMITTED TO, AND APPROVED, BY THE CHESTER COUNTY CONSERVATION DISTRICT OR UPPER UWCHLAN TOWNSHIP (AS APPLICABLE) FOR DETERMINATION OF ADEQUACY PRIOR TO CONSTRUCTION OF THE REVISED FEATURES.
OWNER SIGNATURE: _____
RICHARD O. HUFFMAN III
PRINT NAME:
MANAGER
TITLE:
CELEBREE PROPERTY INVESTMENTS, LLC
REVIEWED BY THE PLANNING COMMISSION OF UPPER UWCHLAN TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA, THIS _____ DAY OF _____, A.D. 2024.
CHAIRMAN
VICE CHAIRMAN
MEMBER
SECRETARY
REVIEWED BY UPPER UWCHLAN TOWNSHIP ENGINEER:
SIGNED
DATE

APPROVED BY THE BOARD OF SUPERVISORS OF UPPER UWCHLAN TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA, THIS _____ DAY OF _____, A.D. 2024.
CHAIRMAN
VICE CHAIRMAN
MEMBER
REVIEWED BY THE PLANNING COMMISSION OF CHESTER COUNTY, PENNSYLVANIA, THIS _____ DAY OF _____, A.D. 2024.
CHAIRMAN
SECRETARY
REVIEWED BY UPPER UWCHLAN TOWNSHIP ENGINEER:
SIGNED
DATE

PREPARED BY

BOHLER

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

REVISIONS

REV	DATE	COMMENT	CHECKED BY
1	05/25/2022	REV. PER TOWNSHIP COMMENTS	LGU
			MJB
2	07/08/2022	REV. PER NPDES MINOR MOD	MJB
			JRK
3	12/07/2022	REV. PER TOWNSHIP COMMENTS	LGU
			JRK
4	04/21/2023	REV. PER TOWNSHIP COMMENTS	KHD
			JRK
5	04/18/2024	REV. PER CLIENT COMMENTS	LGU/BG
			CDP
6	05/31/2024	REV. PER TOWNSHIP COMMENTS	ACB
			CDP
7	12/19/2024	REV. PER RFIS	TWB
			CDP
8	05/30/2025	REV. PER NEW BUILDING	LLZ
			CDP



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SERIAL No.: 201825331377

PROJECT No.: PC211160
DRAWN BY: LGU
CHECKED BY: C.D.P.
DATE: 03/15/2022
CAD ID: PC211160-CNDS-8A

PROJECT:
**AMENDED
FINAL PRD PLANS**
FOR
**PROSPERITY PROPERTY
INVESTMENTS, LLC**
"FINAL PLAN FOR LOT 2B OF
PARCEL 5C"
PROPOSED COMMERCIAL
DEVELOPMENT
GRAPHITE MINE ROAD &
STATION BOULEVARD
UPPER UWCHLAN TOWNSHIP
CHESTER COUNTY
COMMONWEALTH OF PENNSYLVANIA

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

C.D. PUZANAS
PROFESSIONAL ENGINEER
PENNSYLVANIA LICENSE # PE-0000000

SHEET TITLE:
COVER SHEET
SHEET NUMBER:
C-101
1 OF 36
REVISION 8 - 05/30/2025



COMMUNITY ASSOCIATION, INC.
D.B. 9907, PG. 29

UTILITIES:

THE FOLLOWING COMPANIES WERE NOTIFIED BY PENNSYLVANIA ONE CALL SYSTEM, INC. (1-800-242-1776) AND REQUESTED TO MARK OUT UNDERGROUND FACILITIES AFFECTING AND SERVICING THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THIS REQUEST. SERIAL NUMBER(S): 201825331377

UTILITY COMPANY	PHONE NUMBER
AQUA PENNSYLVANIA, INC.	610-525-1400
COLUMBIA GAS TRANS.	610-380-7700
COMCAST CABLE COMMUNICATION, INC.	215-918-3137
NEON TRANSOM	202-840-4080
PECO	610-292-8057
UPPER UWCHLAN TOWNSHIP	610-458-9400
VERIZON	215-657-9260

DRAWING LEGEND

EXISTING FEATURES

- PROPERTY BOUNDARY
- LEGAL RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EASEMENT LINE
- EXISTING STREAM LINE
- RIPARIAN BUFFER LINE
- SOIL BOUNDARY LINE
- SOIL TYPE
- BUILDING
- RETAINING WALL
- CONCRETE CURB
- FLUSH CURB
- FENCE
- GUIDE RAIL
- TREELINE
- CONCRETE MONUMENT AND IRON PIN
- SIGN
- AREA LIGHT
- UTILITY POLE W/ LIGHT
- FIRE HYDRANT
- UTILITY POLE
- TREE
- DRAINAGE INLET
- STORM/SANITARY MANHOLE
- WATER/GAS VALVES
- ROOF DRAIN/CLEANOUT
- MAJOR & MINOR CONTOURS / ELEVATIONS
- OVERHEAD UTILITY WIRES
- ELECTRIC LINE
- TELEPHONE LINE
- GAS LINE
- WATER LINE
- SANITARY SEWER
- STORM PIPE

DRAWING LEGEND

TO BE REMOVED FEATURES

- RETAINING WALL
- CONCRETE CURB
- FENCE
- GUIDE RAIL
- SIGN
- AREA LIGHT
- DRAINAGE INLET
- STORM/SANITARY MANHOLE
- WATER/GAS VALVES
- ROOF DRAIN/CLEANOUT
- FIRE HYDRANT
- UTILITY POLE W/ LIGHT
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- ELECTRIC LINE
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- GAS LINE
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7	12/19/2024	REV. PER RFIS	CDP	LLZ
8	05/30/2025	REV. PER NEW BUILDING	CDP	LLZ

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PROJECT No.:	PC21160
DRAWN BY:	LGU
CHECKED BY:	C.D.P.
DATE:	03/15/2022
CAD ID.:	PC21160-LDVP-8A

AMENDED FINAL PRD PLANS
FOR
PROSPERITY PROPERTY INVESTMENTS, LLC
"FINAL PLAN FOR LOT 2B OF PARCEL 5C"
PROPOSED COMMERCIAL DEVELOPMENT
GRAPHITE MINE ROAD & STATION BOULEVARD
UPPER UWCHLAN TOWNSHIP
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C.D. PUZNAS
PROFESSIONAL ENGINEER
PENNSYLVANIA LICENSE # 150000000

SHEET TITLE:
EXISTING CONDITIONS/ DEMOLITION PLAN

SHEET NUMBER:
C-201

REVISION 8 - 05/30/2025

I:\BOHLER\NETSHARED\PA\PROJECTS\21\PC21160\CADD\DRAWINGS\PLAN SETS\SOIL SITE PLAN\PC21160-LDVP-8A-LAYOUT-C-201.BOW

UNIFORM PARCEL IDENTIFIER: 32-4-1090.1





POTTSVILLE PIKE
(A.K.A. PENNSYLVANIA STATE HIGHWAY ROUTE 400)
(VARIABLE WIDTH R.O.W.)
(SIGNAL BARRIERS)



DRAWING LEGEND

EXISTING FEATURES

- PROPERTY BOUNDARY
- PROPERTY LINE
- BUILDING SETBACK LINE
- LANDSCAPE BUFFER LINE
- LEGAL RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EASEMENT LINE
- ACCESS / UTILITY EASEMENT
- EXISTING STREAM LINE
- RIPARIAN BUFFER LINE
- BUILDING
- RETAINING WALL
- CONCRETE CURB
- FLUSH CURB
- FENCE
- GUIDE RAIL
- TREELINE
- CONCRETE MONUMENT AND IRON PIN
- SIGN
- AREA LIGHT
- UTILITY POLE W/ LIGHT
- FIRE HYDRANT
- UTILITY POLE
- TREE

DRAWING LEGEND

PROPOSED FEATURES

- BUILDING
- RETAINING WALL
- CONCRETE CURB
- FLUSH CURB
- PRIVACY FENCE
- POST & RAIL FENCE
- GUIDE RAIL
- ACCESSIBLE SYMBOL
- CROSSWALK
- CONCRETE SIDEWALK
- ADA CURB RAMP
- BOLLARD
- PARKING COUNTER
- TREELINE
- TRAFFIC SIGN
- AREA LIGHT
- DRAINAGE INLET
- MANHOLE
- ENDWALL
- RIPRAP
- CLEANOUT
- FIRE HYDRANT
- UTILITY POLE
- CONCRETE MONUMENT & IRON PIN
- DESIGNATED OFF PEAK LOADING AREA (HATCHING SHOWN FOR REFERENCE ONLY, NOT TO BE STRIPED)

SIGNAGE SYMBOL LEGEND

- (A) 'STOP' SIGN (R1-1)
- (B) 'DO NOT ENTER' SIGN (R5-1)
- (C) 'RESERVED PARKING' SIGN (R7-8) & 'RESERVED PARKING PENALTIES SIGN (R7-8F)
- (D) 'RESERVED PARKING' SIGN (R7-8) & 'RESERVED PARKING PENALTIES SIGN (R7-8F) & 'VAN ACCESSIBLE' SIGN (R7-88)
- (E) PEDESTRIAN CROSSING SIGN (W11-2) & DOWNWARD POINTING ARROW (W16-7P)
- (F) RIGHT TURN ONLY SIGN (R3-5R)
- (G) 'TO ROUTE 100 NORTHBOUND ONLY' SIGN (M1-5, M1-5A, M1-5B)
- (H) 'DESIGNATED OFF PEAK LOADING AREA' SIGN
- (I) 'STREET NAME' SIGN (D3-1)

BOHLER

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

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8	05/30/2025	REV. PER NEW BUILDING	CDP	CDP

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Call before you dig.

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SERIAL No.: 201825331377

PROJECT No.: PC211160
DRAWN BY: LGU
CHECKED BY: C.D.P.
DATE: 03/15/2022
CAD ID.: PC211160-LDVP-8A

AMENDED FINAL PRD PLANS

FOR

PROSPERITY PROPERTY INVESTMENTS, LLC

"FINAL PLAN FOR LOT 2B OF PARCEL 5C"

PROPOSED COMMERCIAL DEVELOPMENT

GRAPHITE MINE ROAD & STATION BOULEVARD
UPPER UWCHLAN TOWNSHIP
CHESTER COUNTY
COMMONWEALTH OF PENNSYLVANIA

BOHLER

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

C.D. PUZNAS

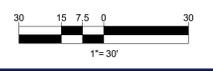
PROFESSIONAL ENGINEER
PENNSYLVANIA LICENSE # 55628000

SHEET TITLE:
SITE PLAN

SHEET NUMBER:
C-301

REVISION 8 - 05/30/2025

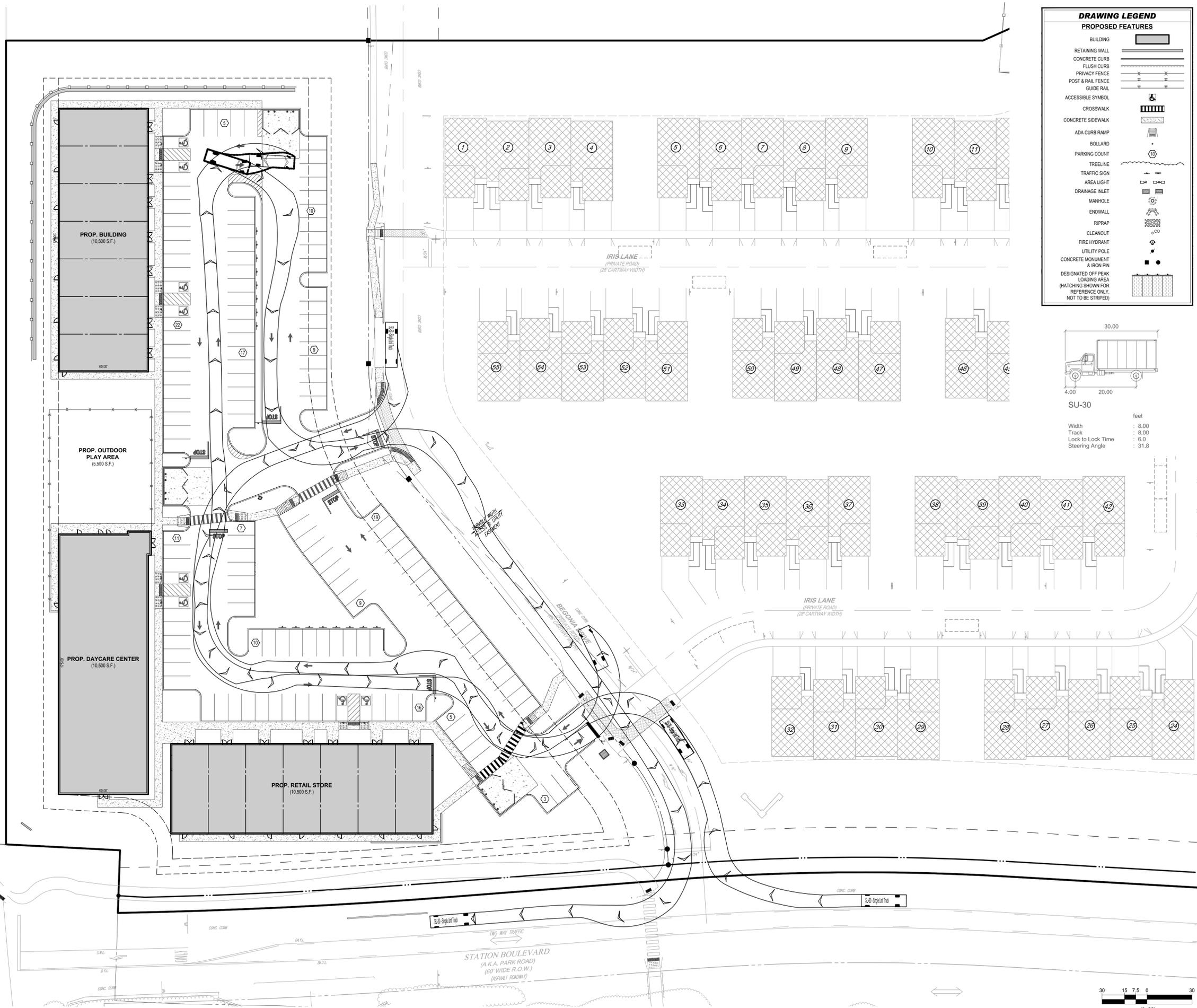
UNIFORM PARCEL IDENTIFIER: 32-4-1090.1



I:\BOHLER\NET\SHARES\PA\PROJECTS\2021\PC211160\CADD\DRAWINGS\PLAN SET\SDV\PLAN SET\PC211160-LDVP-8A-LAYOUT-C-301 SITE



POTTSTOWN PIKE
(A.K.A. PENNSYLVANIA STATE HIGHWAY ROUTE 400)
VARIABLE WIDTH (O.W.)
(SIGNAL BARRIERS)



DRAWING LEGEND

PROPOSED FEATURES

- BUILDING
- RETAINING WALL
- CONCRETE CURB
- FLUSH CURB
- PRIVACY FENCE
- POST & RAIL FENCE
- GUIDE RAIL
- ACCESSIBLE SYMBOL
- CROSSWALK
- CONCRETE SIDEWALK
- ADA CURB RAMP
- BOLLARD
- PARKING COUNT
- TREELINE
- TRAFFIC SIGN
- AREA LIGHT
- DRAINAGE INLET
- MANHOLE
- ENDWALL
- RIPRAP
- CLEANOUT
- FIRE HYDRANT
- UTILITY POLE
- CONCRETE MONUMENT & IRON PIN
- DESIGNATED OFF PEAK LOADING AREA (HATCHING SHOWN FOR REFERENCE ONLY. NOT TO BE STRIPED)



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LANDSCAPE ARCHITECTURE
SUSTAINABLE DESIGN
PERMITTING SERVICES
TRANSPORTATION SERVICES

REVISIONS

REV	DATE	COMMENT	CHECKED BY	DRAWN BY
1	05/25/2022	REV. PER TOWNSHIP COMMENTS	LGU	MBJ
2	07/08/2022	REV. PER NPDES MINOR MOD	LGU	JRK
3	12/07/2022	REV. PER TOWNSHIP COMMENTS	LGU	JRK
4	04/21/2023	REV. PER TOWNSHIP COMMENTS	LGU	JRK
5	04/18/2024	REV. PER CLIENT COMMENTS	CDP	ACB
6	05/31/2024	REV. PER TOWNSHIP COMMENTS	CDP	TWB
7	12/19/2024	REV. PER RFIS	CDP	LLZ
8	05/30/2025	REV. PER NEW BUILDING	CDP	CDP

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C.D. PUZNAS

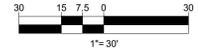
PROFESSIONAL ENGINEER
PENNSYLVANIA LICENSE # 000000000

SHEET TITLE:
DELIVERY TRUCK CIRCULATION PLAN

SHEET NUMBER:
C-303

REVISION 8 - 05/30/2025

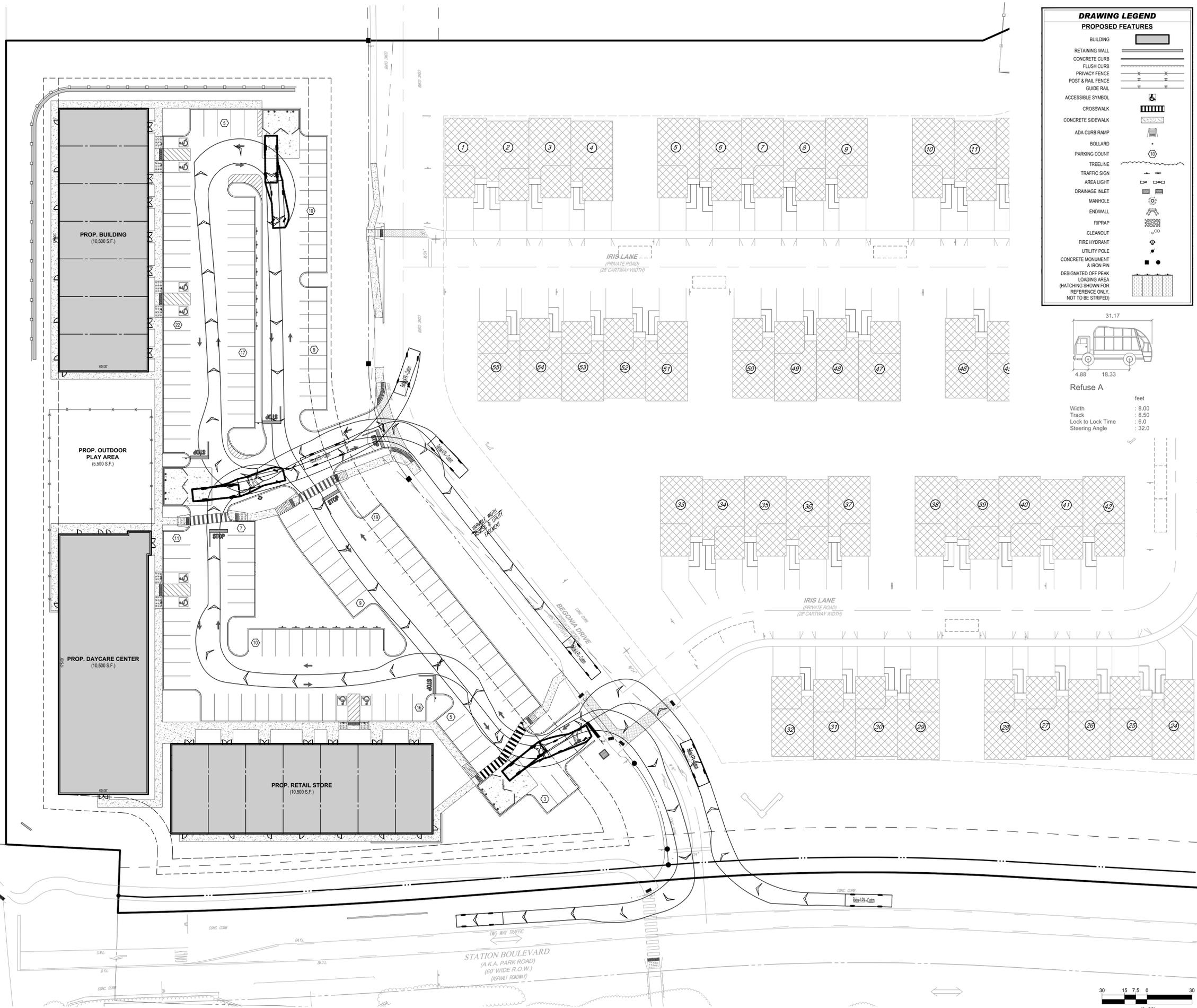
UNIFORM PARCEL IDENTIFIER: 32-4-1090.1



I:\BOHLER\NET\SHARES\PA\PROJECTS\211160\CADD\DRAWINGS\PLAN SETS\SOVIL SITE PLANS\PC211160-LDVP-8A-LAYOUT-C-303 DELIVERY TRUCK



POTTSVILLE PIKE
(A.K.A. PENNSYLVANIA STATE HIGHWAY ROUTE 400)
(VARIABLE WIDTH R.O.W.)
(SIGNAL BARRIERS)



DRAWING LEGEND

PROPOSED FEATURES

- BUILDING
- RETAINING WALL
- CONCRETE CURB
- FLUSH CURB
- PRIVACY FENCE
- POST & RAIL FENCE
- GUIDE RAIL
- ACCESSIBLE SYMBOL
- CROSSWALK
- CONCRETE SIDEWALK
- ADA CURB RAMP
- BOLLARD
- PARKING COUNT
- TREELINE
- TRAFFIC SIGN
- AREA LIGHT
- DRAINAGE INLET
- MANHOLE
- ENDWALL
- RIPRAP
- CLEANOUT
- FIRE HYDRANT
- UTILITY POLE
- CONCRETE MONUMENT & IRON PIN
- DESIGNATED OFF PEAK LOADING AREA (HATCHING SHOWN FOR REFERENCE ONLY. NOT TO BE STRIPED)



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3	12/07/2022	REV. PER TOWNSHIP COMMENTS	LGU	JRK
4	04/21/2023	REV. PER TOWNSHIP COMMENTS	KHD	JRK
5	04/18/2024	REV. PER CLIENT COMMENTS	CDP	LGU/BG
6	05/31/2024	REV. PER TOWNSHIP COMMENTS	ACB	CDP
7	12/19/2024	REV. PER RFIS	TWB	CDP
8	05/30/2025	REV. PER NEW BUILDING	LLZ	CDP

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CAD ID: PC211160-LDVP-8A

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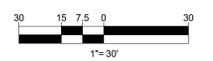
PROFESSIONAL ENGINEER
PENNSYLVANIA LICENSE # 55622000

SHEET TITLE:
TRASH TRUCK CIRCULATION PLAN

SHEET NUMBER:
C-304

REVISION 8 - 05/30/2025

UNIFORM PARCEL IDENTIFIER: 32-4-1090.1



I:\BOHLER\NET\SHARES\PA\PROJECTS\211160\CADD\DRAWINGS\PLAN SET\SET01\1160-LDVP-8A-1-1-24\1160-LDVP-8A-1-1-24-LAYOUT-C-304 TRASH TRUCK



DRAWING LEGEND

EXISTING FEATURES

- PROPERTY BOUNDARY
- LEGAL RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EASEMENT LINE
- EXISTING STREAM LINE
- RIPARIAN BUFFER LINE
- BUILDING
- RETAINING WALL
- CONCRETE CURB
- FLUSH CURB
- FENCE
- GUIDE RAIL
- TREELINE
- UTILITY POLE W LIGHT
- FIRE HYDRANT
- UTILITY POLE
- TREE
- DRAINAGE INLET
- STORM/SANITARY MANHOLE
- MAJOR & MINOR CONTOURS / ELEVATIONS
- SPOT ELEVATION
- SANITARY SEWER
- STORM PIPE

DRAWING LEGEND

PROPOSED FEATURES

- BUILDING
- RETAINING WALL
- CONCRETE CURB
- FLUSH CURB
- FENCE
- GUIDE RAIL
- ACCESSIBLE SYMBOL
- CROSSWALK
- RAMP
- BOLLARD
- TRAFFIC SIGN
- TREELINE
- AREA LIGHT
- DRAINAGE INLET
- MANHOLE
- ENDWALL
- RIPRAP
- CLEANOUT
- FIRE HYDRANT
- UTILITY POLE
- MAJOR & MINOR CONTOURS & ELEVATION
- SPOT ELEVATION
- WATER LINE
- SANITARY SEWER
- STORM PIPE



REVISIONS

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1	05/25/2022	REV. PER TOWNSHIP COMMENTS	LGU
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3	12/07/2022	REV. PER TOWNSHIP COMMENTS	JRK
4	04/21/2023	REV. PER TOWNSHIP COMMENTS	JRK
5	04/18/2024	REV. PER CLIENT COMMENTS	CDP
6	05/31/2024	REV. PER TOWNSHIP COMMENTS	ACB
7	12/19/2024	REV. PER RFIS	TWB
8	05/30/2025	REV. PER NEW BUILDING	CDP



PROJECT No.: PC211160
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SHEET TITLE:

GRADING PLAN

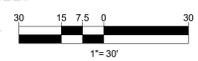
SHEET NUMBER:

C-401

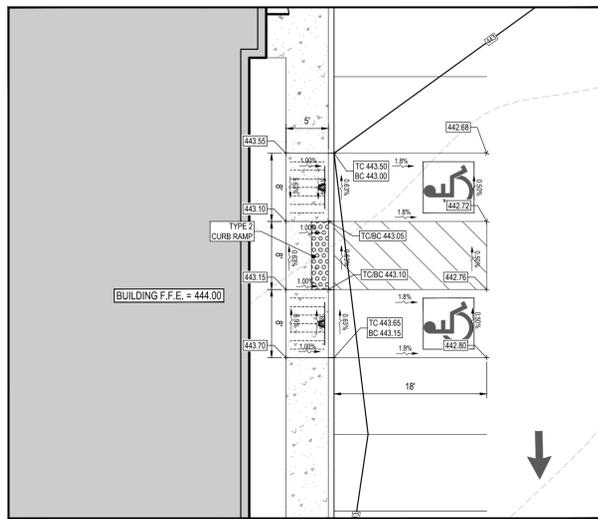
8 OF 36

REVISION 8 - 05/30/2025

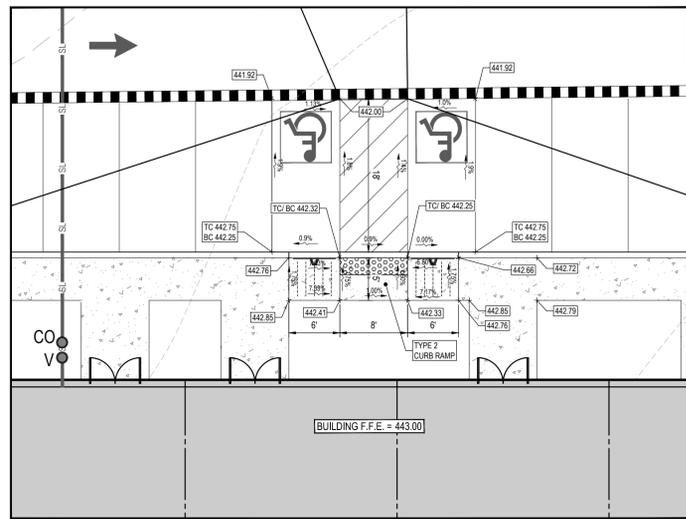
UNIFORM PARCEL IDENTIFIER: 32-4-1090.1



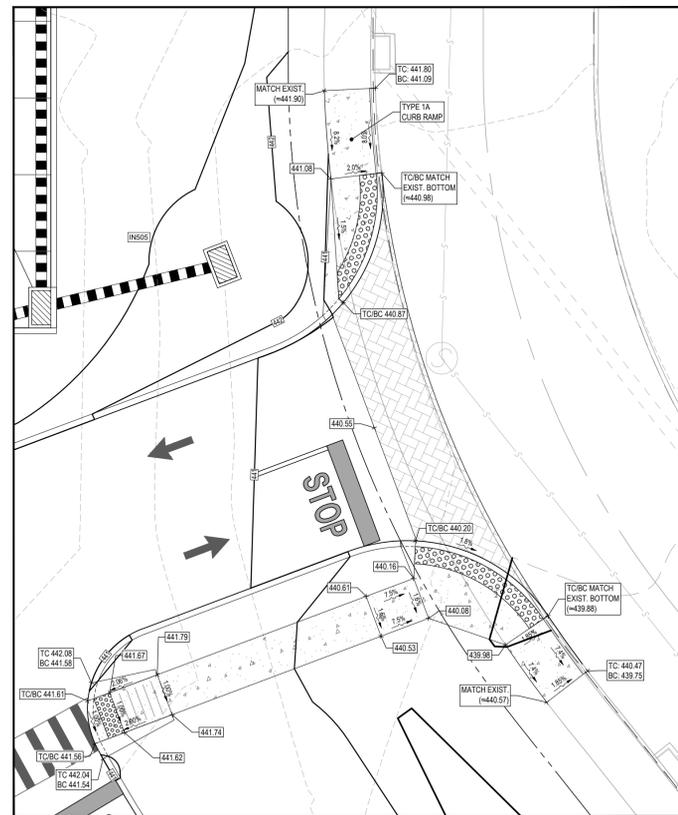
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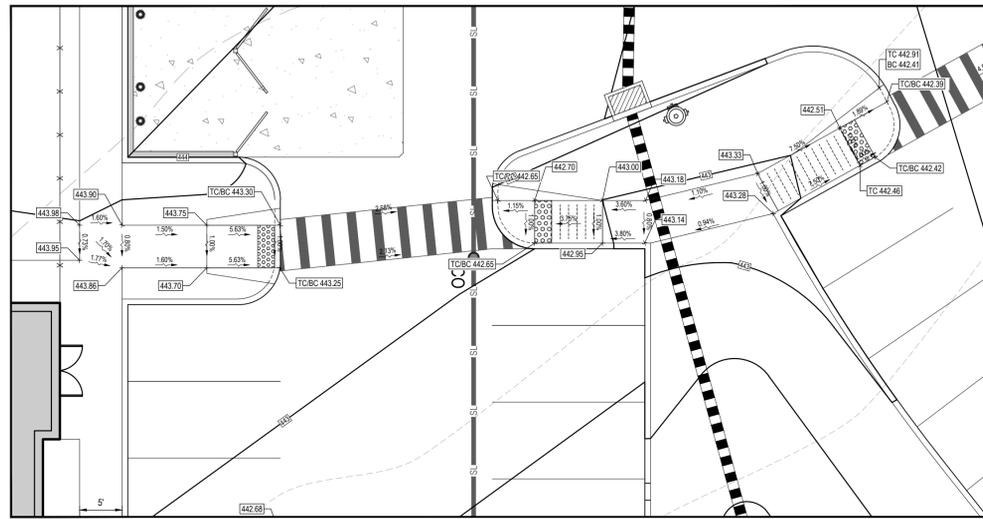
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SCALE: 1" = 10'



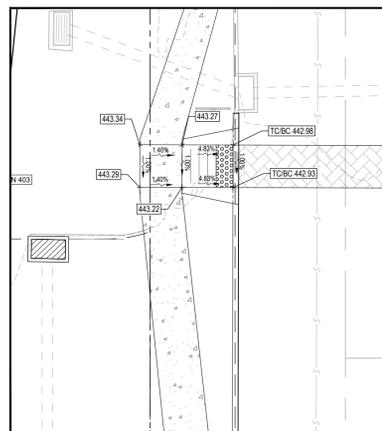
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SCALE: 1" = 10'



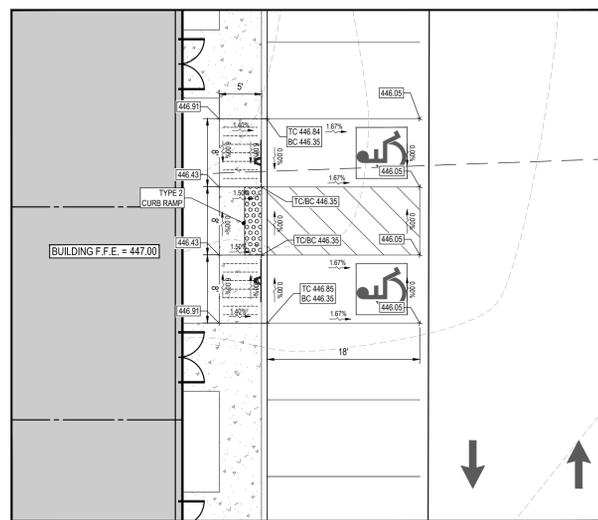
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SCALE: 1" = 10'



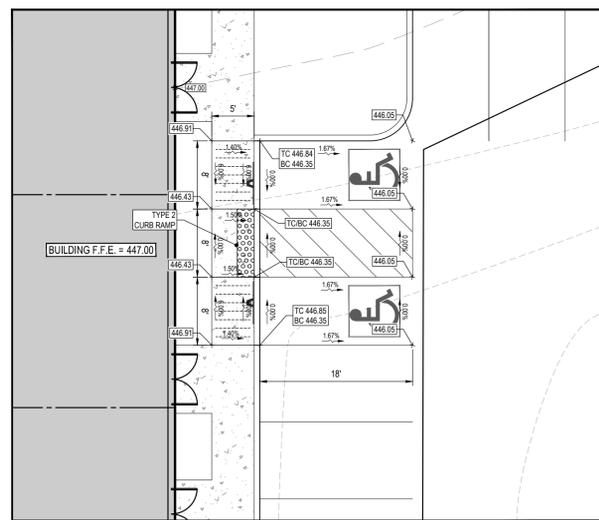
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SCALE: 1" = 10'



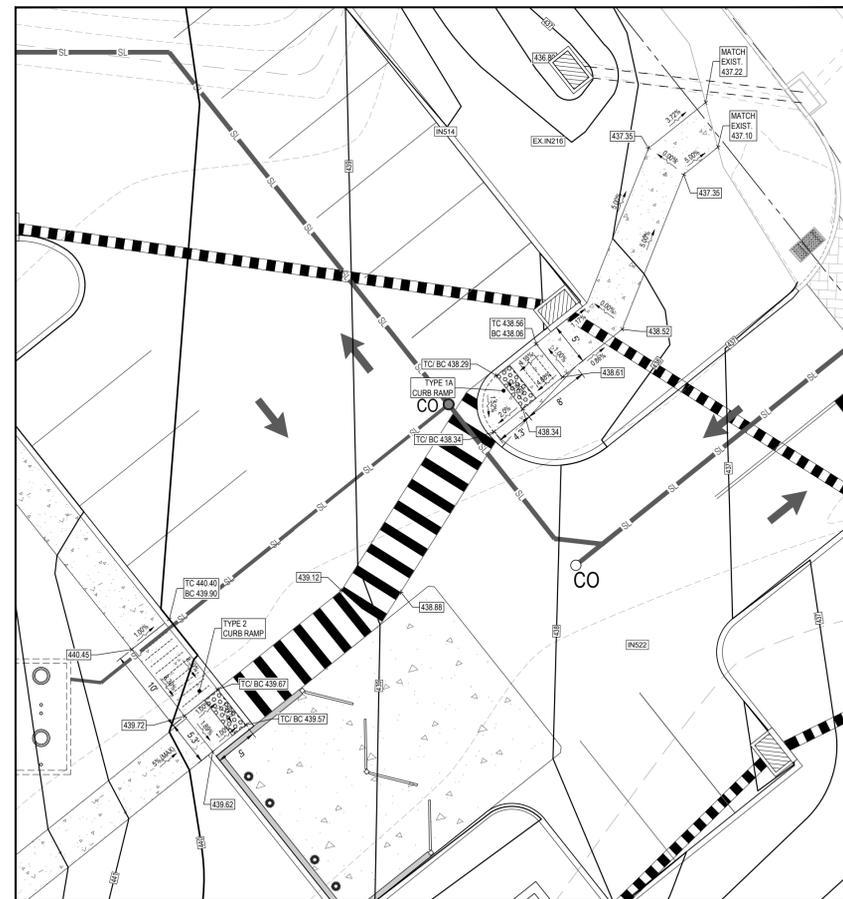
ADA GRADING DETAIL 'F'
SCALE: 1" = 10'



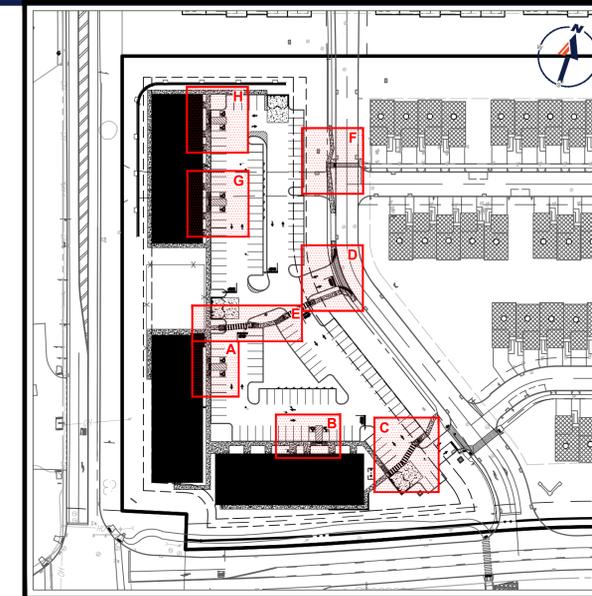
ADA GRADING DETAIL 'G'
SCALE: 1" = 10'



ADA GRADING DETAIL 'H'
SCALE: 1" = 10'



ADA GRADING DETAIL 'C'
SCALE: 1" = 10'



SITE KEY MAP
SCALE: 1"=100'

DRAWING LEGEND

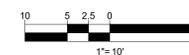
EXISTING FEATURES

PROPERTY BOUNDARY	---
LEGAL RIGHT-OF-WAY LINE	---
ADJACENT PROPERTY LINE	---
EASEMENT LINE	---
EXISTING STREAM LINE	---
RIPARIAN BUFFER LINE	---
BUILDING	▭
RETAINING WALL	▭
CONCRETE CURB	▭
FLUSH CURB	▭
FENCE	▭
GUIDE RAIL	▭
TREELINE	▭
UTILITY POLE W/ LIGHT	▭
FIRE HYDRANT	▭
UTILITY POLE	▭
TREE	▭
DRAINAGE INLET	▭
STORM/SANITARY MANHOLE	▭
MAJOR & MINOR CONTOURS / ELEVATIONS	▭
SPOT ELEVATION	▭
SANITARY SEWER	▭
STORM PIPE	▭

DRAWING LEGEND

PROPOSED FEATURES

BUILDING	▭
RETAINING WALL	▭
CONCRETE CURB	▭
FLUSH CURB	▭
FENCE	▭
GUIDE RAIL	▭
ACCESSIBLE SYMBOL	▭
CROSSWALK	▭
RAMP	▭
BOLLARD	▭
TRAFFIC SIGN	▭
TREELINE	▭
AREA LIGHT	▭
DRAINAGE INLET	▭
MANHOLE	▭
ENDWALL	▭
RIPRAP	▭
CLEANOUT	▭
FIRE HYDRANT	▭
UTILITY POLE	▭
MAJOR & MINOR CONTOURS & ELEVATIONS	▭
SPOT ELEVATION	▭
WATER LINE	▭
SANITARY SEWER	▭
STORM PIPE	▭



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REVISIONS

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5	04/18/2024	REV. PER CLIENT COMMENTS	LGU/BG	CDP
6	05/31/2024	REV. PER TOWNSHIP COMMENTS	ACB	CDP
7	12/19/2024	REV. PER RFS	TWB	CDP
8	05/30/2025	REV. PER NEW BUILDING	LLZ	CDP

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C.D. PUZANAS
Professional Engineer
PENNSYLVANIA LICENSE # 55282000

SHEET TITLE:
ADA GRADING DETAILS
SHEET NUMBER:
C-402
9 OF 36
REVISION 8 - 05/30/2025

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UTILITIES:

THE FOLLOWING COMPANIES WERE NOTIFIED BY PENNSYLVANIA ONE CALL SYSTEM, INC. (1-800-242-1776) AND REQUESTED TO MARK OUT UNDERGROUND FACILITIES AFFECTING AND SERVING THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THIS REQUEST. SERIAL NUMBER(S): 201825331377

UTILITY COMPANY	PHONE NUMBER
AQUA PENNSYLVANIA, INC.	610-525-1400
COLUMBIA GAS TRANS.	610-380-7700
COMCAST CABLE COMMUNICATION, INC.	215-918-3137
NEON TRANSCOM	202-842-4680
PECO	610-292-8057
UPPER UWCHLAN TOWNSHIP	610-458-9400
VERIZON	215-657-9260

DRAWING LEGEND

EXISTING FEATURES

PROPERTY BOUNDARY	---
LEGAL RIGHT-OF-WAY LINE	---
ADJACENT PROPERTY LINE	---
EASEMENT LINE	---
EXISTING STREAM LINE	---
RIPARIAN BUFFER LINE	---
BUILDING	▒
RETAINING WALL	---
CONCRETE CURB	---
FLUSH CURB	---
FENCE	---
GUIDE RAIL	---
TREELINE	---
SIGN	---
AREA LIGHT	---
UTILITY POLE W/ LIGHT	---
FIRE HYDRANT	---
UTILITY POLE	---
TREE	---
DRAINAGE INLET	---
STORM/SANITARY MANHOLE	---
WATER/GAS VALVES	---
ROOF DRAIN/CLEANOUT	---
MAJOR & MINOR CONTOURS / ELEVATIONS	---
OVERHEAD UTILITY WIRES	---
ELECTRIC LINE	---
TELEPHONE LINE	---
GAS LINE	---
WATER LINE	---
SANITARY SEWER	---
STORM PIPE	---

DRAWING LEGEND

PROPOSED FEATURES

BUILDING	▒
RETAINING WALL	---
CONCRETE CURB	---
FLUSH CURB	---
FENCE	---
GUIDE RAIL	---
ACCESSIBLE SYMBOL	---
CROSSWALK	---
RAMP	---
BOLLARD	---
TRAFFIC SIGN	---
TREELINE	---
AREA LIGHT	---
DRAINAGE INLET	---
MANHOLE	---
ENDWALL	---
RIPRAP	---
CLEANOUT	---
SANITARY VENT	---
FIRE HYDRANT	---
UTILITY POLE	---
OVERHEAD UTILITY WIRES	---
ELECTRIC LINE	---
TELEPHONE LINE	---
GAS LINE	---
WATER LINE	---
SANITARY SEWER	---
STORM PIPE	---



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8	05/30/2025	REV. PER NEW BUILDING	CDP



PROJECT No.: PC211160
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CAD ID: PC211160-LDVP-8A

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SHEET TITLE:
UTILITY PLAN

SHEET NUMBER:
C-501
10 OF 36

REVISION 8 - 05/30/2025

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UNIFORM PARCEL IDENTIFIER: 32-4-1090.1



DRAWING LEGEND	
EXISTING FEATURES	
PROPERTY BOUNDARY	---
LEGAL RIGHT-OF-WAY LINE	---
ADJACENT PROPERTY LINE	---
EASEMENT LINE	---
EXISTING STREAM LINE	---
RIPARIAN BUFFER LINE	---
SOIL BOUNDARY LINE	---
SOIL TYPE	<i>DsA</i>
BUILDING	▒
RETAINING WALL	▒
CONCRETE CURB	▒
FLUSH CURB	▒
FENCE	▒
GUIDE RAIL	▒
TREELINE	▒
AREA LIGHT	▒
UTILITY POLE W/ LIGHT	▒
FIRE HYDRANT	▒
UTILITY POLE	▒
TREE	▒
DRAINAGE INLET	▒
STORM/SANITARY MANHOLE	▒
WATER/GAS VALVES	▒
ROOF DRAIN/CLEANOUT	▒
MAJOR & MINOR CONTOURS / ELEVATIONS	▒
OVERHEAD UTILITY WIRES	▒
ELECTRIC LINE	▒
TELEPHONE LINE	▒
GAS LINE	▒
WATER LINE	▒
SANITARY SEWER	▒
STORM PIPE	▒

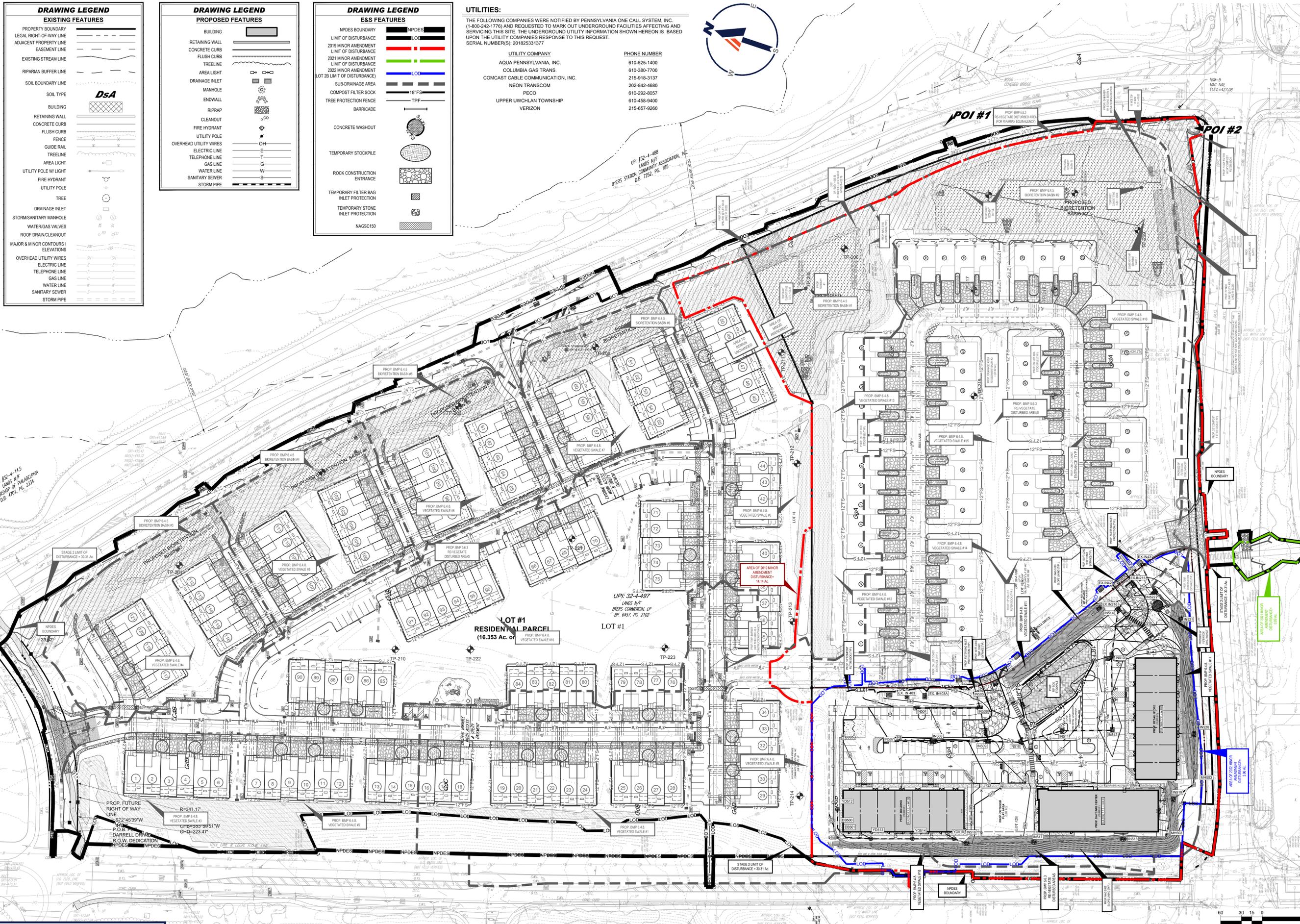
DRAWING LEGEND	
PROPOSED FEATURES	
BUILDING	▒
RETAINING WALL	▒
CONCRETE CURB	▒
FLUSH CURB	▒
TREELINE	▒
AREA LIGHT	▒
DRAINAGE INLET	▒
MANHOLE	▒
ENDWALL	▒
RIPRAP	▒
CLEANOUT	▒
FIRE HYDRANT	▒
UTILITY POLE	▒
ELECTRIC LINE	▒
TELEPHONE LINE	▒
GAS LINE	▒
WATER LINE	▒
SANITARY SEWER	▒
STORM PIPE	▒

DRAWING LEGEND	
E&S FEATURES	
NPDES BOUNDARY	---
LIMIT OF DISTURBANCE	---
2019 MINOR AMENDMENT LIMIT OF DISTURBANCE	---
2021 MINOR AMENDMENT LIMIT OF DISTURBANCE	---
2022 MINOR AMENDMENT (LOT 28 LIMIT OF DISTURBANCE)	---
SUB-DRAINAGE AREA	---
COMPOST FILTER SOCK	---
TREE PROTECTION FENCE	---
BARRICADE	---
CONCRETE WASHOUT	---
TEMPORARY STOCKPILE	---
ROCK CONSTRUCTION ENTRANCE	---
TEMPORARY FILTER BAG INLET PROTECTION	---
TEMPORARY STONE INLET PROTECTION	---
NAGS150	---

UTILITIES:

THE FOLLOWING COMPANIES WERE NOTIFIED BY PENNSYLVANIA ONE CALL SYSTEM, INC. (1-800-242-1776) AND REQUESTED TO MARK OUT UNDERGROUND FACILITIES AFFECTING AND SERVICING THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THIS REQUEST. SERIAL NUMBER(S): 201825331377

UTILITY COMPANY	PHONE NUMBER
AQUA PENNSYLVANIA, INC.	610-525-1400
COLUMBIA GAS TRANS.	610-380-7700
COMCAST CABLE COMMUNICATION, INC.	215-918-3137
NEON TRANSCOM	202-842-4680
PECO	610-292-8057
UPPER UWCHLAN TOWNSHIP	610-458-9400
VERIZON	215-657-9260



BOHLER

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

REVISIONS

REV	DATE	COMMENT	CHECKED BY
1	05/25/2022	REV. PER TOWNSHIP COMMENTS	LGU
2	07/08/2022	REV. PER NPDES COMMENTS	MJB
3	12/07/2022	REV. PER TOWNSHIP COMMENTS	JKR
4	04/21/2023	REV. PER TOWNSHIP COMMENTS	JKR
5	04/18/2024	REV. PER CLIENT COMMENTS	CDP
6	05/31/2024	REV. PER TOWNSHIP COMMENTS	ACB
7	12/19/2024	REV. PER RFS	LLZ
8	05/30/2025	REV. PER NEW BUILDING	CDP

811

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 1-800-242-1776
 www.811.org
 SERIAL No.: 201825331377

PROJECT No.: PC211160
 DRAWN BY: LGU
 CHECKED BY: C.O.P.
 DATE: 03/15/2022
 CAD ID: PC211160-LDVP-8A

AMENDED FINAL PRD PLANS

FOR
PROSPERITY PROPERTY INVESTMENTS, LLC

"FINAL PLAN FOR LOT 28 OF PARCEL 5C"
 PROPOSED COMMERCIAL DEVELOPMENT

GRAPHITE MINE ROAD & STATION BOULEVARD
 UPPER UWCHLAN TOWNSHIP
 CHESTER COUNTY
 COMMONWEALTH OF PENNSYLVANIA

BOHLER

1600 MANOR DRIVE, SUITE 200
 CHALFONT, PA 18914
 Phone: (215) 996-9100
 Fax: (215) 996-9102
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C.D. PUZNAS

PROFESSIONAL ENGINEER
 PENNSYLVANIA LICENSE # 0000000000

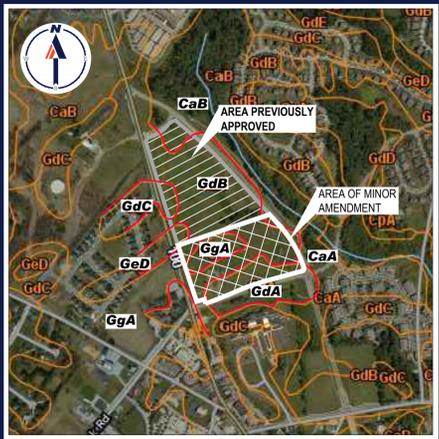
SHEET TITLE:
OVERALL SOIL EROSION & SEDIMENT POLLUTION CONTROL PLAN

SHEET NUMBER:
C-601

11 OF 36

REVISION 8 - 05/30/2025

UNIFORM PARCEL IDENTIFIER: 32-4-1090.1



LOCATION OF ALL SURFACE WATERS AND THEIR CLASSIFICATION UNDER CHAPTER 93

THE SUBJECT SITE IS LOCATED WITHIN THE PICKERING CREEK WATERSHED, WHICH HAS A HQ (HIGH QUALITY), TSF (TROUT STOCKING FISHES) & MF (MIGRATORY FISHES) CHAPTER 93 CLASSIFICATION.

E&S PLAN DESIGNED AND IMPLEMENTED TO BE CONSISTENT WITH PCSM PLAN

EXISTING RIPARIAN BUFFERS ARE WITHIN THE LIMITS OF DISTURBANCE. THE RIPARIAN BUFFER IS WITHIN THE CARTWAY OF GRAPHITE MINE ROAD WHICH WILL BE RECONFIGURED TO PROVIDE AN INGRESS/EGRESS ROUTE TO THE SITE. THE DISTURBED AREA WITHIN THE BUFFER WILL ONLY REQUIRE AN EQUIVALENCE DEMONSTRATION AS THE LIMITS OF DISTURBANCE ARE GREATER THAN 100' FROM PICKERING CREEK, BUT LESS THAN 150'.

E&S - GENERAL NOTES:

- THIS PLAN REPRESENTS THE MINIMUM LEVEL OF IMPLEMENTATION OF TEMPORARY EROSION AND SEDIMENTATION CONTROL STRUCTURES. ADDITIONAL FACILITIES OR MEASURES SHALL BE INSTALLED WHERE NECESSARY OR WHERE DIRECTED BY EITHER THE TOWNSHIP OR THE COUNTY CONSERVATION DISTRICT AS CONSTRUCTION PROGRESSES.
- THE OWNER/CONSTRUCTION MANAGER IS RESPONSIBLE FOR ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROLS AND SITE STABILIZATION. THE OWNER SHALL ASSIGN ONE INDIVIDUAL TO BE RESPONSIBLE FOR PROPER INSTALLATION AND MAINTENANCE OF ALL FACILITIES AND MEASURES.
- PROTECTION TO THE EXISTING TREES AND SHRUBS SHALL BE TAKEN BY THE CONTRACTOR TO ELIMINATE UNNECESSARY DAMAGE.
- ANY DRY FILL HAULED OFFSITE MUST BE TAKEN TO A LOCATION WITH AN EROSION AND SEDIMENTATION CONTROL PLAN WHICH HAS BEEN REVIEWED BY THE COUNTY CONSERVATION DISTRICT FOR ADEQUACY.
- EROSION AND SEDIMENTATION CONTROLS MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE WITHIN TRIBUTARY AREAS OF THOSE CONTROLS.
- STOCKPILES MUST BE STABILIZED IMMEDIATELY.
- NO CHANGES SHALL BE MADE IN THE CONTOUR OF THE LAND. NO GRADING, EXCAVATING, REMOVAL OR DESTRUCTION OF THE TOPSOIL, TREES OR OTHER VEGETATIVE COVER OF THE LAND SHALL BE COMMENCED WITHIN A PROPOSED SUBDIVISION OR LAND DEVELOPMENT TRACT UNTIL SUCH TIME THAT A PLAN FOR SEDIMENTATION CONTROL AND MINIMIZING EROSION HAS BEEN REVIEWED AND APPROVED BY THE COUNTY CONSERVATION DISTRICT AND REVIEWED AND APPROVED BY THE TOWNSHIP, OR THERE HAS BEEN A DETERMINATION BY THE TOWNSHIP, UPON RECOMMENDATION BY THE COUNTY CONSERVATION DISTRICT, THAT SUCH PLANS ARE NOT NECESSARY.
- BEFORE INITIATING ANY REVISIONS TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE COUNTY CONSERVATION DISTRICT.
- THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE COUNTY CONSERVATION DISTRICT, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATIONS.
- CONTRACTOR SHALL USE TREADED MACHINERY AND MINIMIZE SOIL COMPACTION WHEREVER POSSIBLE.

TYPES, DEPTH, SLOPE, LOCATIONS, AND LIMITATIONS OF THE SOILS §102.4(b)(5)(ii)

SOIL DESCRIPTIONS

SOILS SURVEY OF CHESTER COUNTY, PENNSYLVANIA. (NOT FIELD VERIFIED)

SOURCE OF MAP: NATURAL RESOURCES CONSERVATION SERVICE. AREA DATA: VERSION 7, 11/16/2015

SYMBOL	NAME	HYDROLOGIC SOIL GROUP	SLOPES (%)	DEPTH TO WATER TABLE	DEPTH TO RESTRICTIVE FEATURE	CONTAINS HYDRIC COMPONENTS	SURFACE RUNOFF
CaA	CALIFON LOAM	D	0-3	6-36"	20-30 INCHES TO FRAGIPAN 72-99 INCHES TO LITHE BEDROCK	NO	VERY HIGH
CaB	CALIFON LOAM	D	3-8	6-36"	20-30 INCHES TO FRAGIPAN 72-99 INCHES TO LITHE BEDROCK	NO	VERY HIGH
GdA	GLADSTONE GRAVELLY LOAM	C	0-3	>80"	60-100 INCHES TO LITHE BEDROCK	YES	LOW
GdB	GLADSTONE GRAVELLY LOAM	B	3-8	>80"	60-100 INCHES TO LITHE BEDROCK	YES	LOW
GdC	GLADSTONE GRAVELLY LOAM	A	8-15	>80"	60-100 INCHES TO LITHE BEDROCK	YES	LOW
GdD	GLADSTONE PARKER GRAVELLY LOAMS	A	15-25	>80"	60-118 INCHES TO LITHE BEDROCK	YES	MEDIUM
GgA	GLENELG SILT LOAM	B	0-3	>80"	60-120 INCHES TO LITHE BEDROCK	YES	LOW
UgB	URBAN LAND - COORHENTS, SCHIST AND GNEISS COMPLEX	C	0-8	=60"	10-89 INCHES TO LITHE BEDROCK 20-70 INCHES TO PARALITHIC BEDROCK	NO	MEDIUM

GENERAL CONSERVATION NOTES AND SPECIFICATIONS

I. GENERAL INFORMATION

- THIS EROSION AND SEDIMENT CONTROL PLAN SHALL BE AVAILABLE AT THE SITE.
- NO SEDIMENT OR SEDIMENT LADEN WATER MUST BE ALLOWED TO LEAVE THE SITE WITHOUT FIRST BEING PROPERLY FILTERED.
- ANY SEDIMENT THAT IS TRACKED ONTO THE ROAD MUST BE CLEANED OFF BEFORE THE END OF THE DAY.
- DISTURBED AREAS ON WHICH EARTHMOVING ACTIVITIES HAVE CEASED AND WHICH WILL REMAIN EXPOSED SHALL BE STABILIZED IMMEDIATELY, EITHER TEMPORARILY OR PERMANENTLY, INCLUDING THE RESTORATION OF DRIVEWAYS, STOCKPILES, OFF-SITE UNDERGROUND UTILITY LINES AND GRADED PERIMETER AREAS. DURING NON-GERMINATION PERIODS, MULCH MUST BE APPLIED AT RECOMMENDED RATES. CRUSHED STONE OR PAVED SUBGRADE IS CONSIDERED ADEQUATE PROTECTION.
- AREAS THAT FAIL TO GERMINATE MUST BE RESEED OR MULCHED.
- WHERE DISTURBED AREAS ARE DIFFICULT TO STABILIZE, NETTING SHOULD BE USED TO HOLD SEED AND MULCH IN PLACE; THIS IS ESPECIALLY IMPORTANT AROUND WATERCOURSES, IN SWALES AND AREAS OF CONCENTRATED FLOWS, STEEP SLOPES.
- UNTIL THE SITE IS STABILIZED, ALL DISTURBED AREAS SHALL BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL AFTER EACH RAINFALL EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, RE-GRADING, RE-SEEDING, RE-MULCHING, AND RE-NETTING, MUST BE PERFORMED IMMEDIATELY. IF AT ANY TIME PRIOR TO SITE STABILIZATION ANY E&SP PROBLEMS OCCUR WHICH REQUIRE ADDITIONAL CONTROLS, IMMEDIATE ACTION MUST BE TAKEN TO CORRECT THE PROBLEMS.
- THE CONTRACTOR MUST DEVELOP AND COORDINATE WITH OWNER AND HAVE APPROVED BY THE COUNTY CONSERVATION DISTRICT, A SEPARATE EROSION AND SEDIMENT POLLUTION CONTROL PLAN FOR EACH SPILL, BORROW OR OTHER WORK AREA NOT DETAILED ON THE PERMITTED PLANS, WHETHER LOCATED WITHIN OR OUTSIDE OF THE LIMITS OF CONSTRUCTION.
- CONTRACTOR SHALL NOTIFY THE COUNTY CONSERVATION DISTRICT OF DISPOSAL METHOD AND LOCATION OF MATERIALS (IF ANY) TO BE REMOVED FROM SITE.
- STANDARD FOR DISPOSAL OF MATERIALS ALL MATERIALS TO BE RECYCLED OR DISPOSED OF MUST DO SO IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL REGULATIONS. STOCKPILES TO BE HAULED OFF SITE MUST HAVE AN APPROVED EROSION AND SEDIMENT CONTROL PLAN AT THE DESTINATION LOCATION.
- THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN SOIL STABILIZATION THROUGHOUT CONSTRUCTION. ADDITIONAL MEASURES REQUIRED TO ENSURE ON-SITE AND OFF-SITE STABILIZATION IN AND ADJACENT TO CONSTRUCTION ACTIVITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE AT NO COST TO THE OWNER. IMMEDIATE NOTIFICATION SHALL BE GIVEN TO THE OWNER AND ENGINEER SHOULD ADDITIONAL STABILIZATION MEASURES BE NECESSARY, IN ACCORDANCE WITH THE NPDES AND/OR SWPPP REQUIREMENTS FOR THE PROJECT.

II. STANDARD FOR LAND GRADING

- DEFINITION: RESHAPING THE GROUND SURFACE BY GRADING TO PLAN GRADES, WHICH ARE DETERMINED BY TOPOGRAPHIC SURVEY AND LAYOUT.
 - PROVISIONS SHALL BE MADE TO SAFELY CONDUCT SURFACE WATER TO STORM DRAINS OR SUITABLE WATER COURSES AND TO PREVENT SURFACE RUNOFF FROM DAMAGING CUT FACES AND FILL SLOPES.
 - ADJOINING PROPERTY SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS.
- INSTALLATION REQUIREMENTS
 - TREES, LOGS, RUBBISH, ROCKS, STUMPS AND VEGETABLE MATTER WHICH WILL INTERFERE WITH THE GRADING OPERATION OR AFFECT THE PLANNED STABILITY OF FILL AREAS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH STANDARD FOR DISPOSAL OF MATERIALS.
 - FILL MATERIAL IS TO BE FREE OF BRUSH, RUBBISH, TIMBER, LOGS, VEGETATIVE MATTER AND STUMPS IN AMOUNTS THAT WILL BE DETRIMENTAL TO CONSTRUCTING STABLE FILLS.
 - ALL FILLS SHALL BE COMPACTED SUFFICIENTLY FOR THEIR INTENDED PURPOSE AND AS REQUIRED TO REDUCE SLIPPING, EROSION OR EXCESS SATURATION.
 - ALL DISTURBED AREAS SHALL BE LEFT WITH A NEAT AND FINISHED APPEARANCE AND SHALL BE PROTECTED FROM EROSION.
 - SEE (I.D.)

III. STANDARD FOR UTILITY TRENCH EXCAVATION

- LIMIT ADVANCE CLEARING AND GRUBBING OPERATIONS TO A DISTANCE EQUAL TO TWO TIMES THE LENGTH OF PIPE INSTALLATION THAT CAN BE COMPLETED IN ONE DAY.
- BEFORE BACKFILLING OR EXCAVATION TO THE LENGTH OF PIPE PLACEMENT, PLUG INSTALLATION AND BACKFILLING THAT CAN BE COMPLETED THE SAME DAY, DAILY BACKFILLING OF THE TRENCH MAY BE DELAYED FOR A MAX. OF SIX DAYS FOR CERTAIN CASES REQUIRING TESTING OF THE INSTALLED PIPE. WATER WHICH ACCUMULATES IN THE OPEN TRENCH WILL BE COMPLETELY REMOVED BY PUMPING TO A FACILITY FOR REMOVAL OF SEDIMENT (SEEDING FILTER BAG, SEE DETAIL) BEFORE PIPE PLACEMENT AND/OR BACKFILLING BEGINS.
- ON THE DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA WILL BE GRADED TO FINAL CONTOURS AND APPROPRIATE TEMPORARY EROSION AND SEDIMENT POLLUTION CONTROL MEASURES/FACILITIES WILL BE INSTALLED. SEEDING AND MULCHING OF ALL DISTURBED AREAS WILL BE DONE IMMEDIATELY.
- WORK CREWS AND EQUIPMENT FOR TRENCHING, PLACEMENT OF PIPE, PLUG CONSTRUCTION AND BACKFILLING WILL BE SELF CONTAINED AND SEPARATE FORM CLEARING AND GRUBBING AND SITE RESTORATION AND STABILIZATION OPERATIONS.
- ALL SOIL EXCAVATED FROM THE TRENCH WILL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.

IV. STANDARD FOR TEMPORARY STABILIZATION

- STANDARD FOR TEMPORARY STABILIZATION WITH FIBER/MULCH
 - MULCHING IS MOST APPLICABLE TO THOSE AREAS SUBJECT TO PERIODIC DISTURBANCE AND REWORKING IN ADDITION, STABILIZATION WITH FIBER MULCH SHALL BE USED DURING NON-GERMINATION PERIODS.
 - PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO THE SLOPE.
 - GRADE AS NEEDS AND FEASIBLE. SEE STANDARD FOR LAND GRADING.
 - PROTECTIVE MATERIALS TO BE USED:
 - UNROTTED SMALL-GRAIN UNCHOPPED STRAW OR HAY AT 3.0 TONS PER ACRE (4 TONS PER ACRE BETWEEN NOVEMBER 1 AND MARCH 1) SPREAD UNIFORMLY AND ANCHORED WITH LIQUID MULCH BINDER. BINDER PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE PRODUCT MANUFACTURER'S SPECIFICATIONS.
 - HYDROMULCHER. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL. LIQUID MULCH BINDERS APPLY IMMEDIATELY AFTER PLACEMENT OF HAY OR STRAW MULCH TO MINIMIZE LOSS BY WIND OR WATER. PRODUCTS TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS.
- STANDARD FOR TEMPORARY STABILIZATION WITH SEED
 - DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN TWELVE (12) MONTHS MUST BE SEEDED AND MULCHED IMMEDIATELY WITH A TEMPORARY COVER.
 - ALL AREAS TO BE PERMANENTLY SEEDED SHALL ALSO RECEIVE TEMPORARY SEEDING CONCURRENTLY.
 - SEEDED PREPARATION FOR TEMPORARY SEEDING
 - PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO SLOPE.
 - IMMEDIATELY PRIOR TO TOPSOIL DISTRIBUTION, THE SURFACE SHOULD BE SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3-5 INCHES TO PROVIDE A GOOD BOND WITH THE TOPSOIL.
 - APPLY TOPSOIL
 - TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING SOIL STRUCTURE.
 - ALL DISTURBED TOPOIL AREAS ON-SITE TO BE REDISTURBED ON-SITE AREAS NOT COVERED BY IMPROVED SURFACES. NO REMOVAL OF TOPSOIL IS ALLOWED UNLESS APPROVED BY THE TOWNSHIP. UNIFORM APPLICATION TO A DEPTH OF 4-8 INCHES (UNLESS IT IS RECOMMENDED. SOILS WITH A PH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM DEPTH OF 12 INCHES OF SOIL HAVING A PH OF 5.0 OR MORE.
 - SEEDED PREPARATION
 - A SOIL TEST SHALL BE CONDUCTED TO ACCURATELY DETERMINE NECESSARY SOIL AMENDMENTS.
 - PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO SLOPE.
 - SOIL MODIFICATIONS:
 - APPLY 10-20 RATED FERTILIZER AT A RATE OF 1000 POUNDS PER ACRE OR 25 POUNDS PER 1000 SQUARE FEET, OR AS DIRECTED BY SOIL TEST.
 - APPLY AGRICULTURAL LIME AT A RATE OF 6 TONS PER ACRE OR 240 POUNDS PER 1000 SQUARE FEET, OR AS DIRECTED BY SOIL TEST.
 - WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM FINE SEEDBED IS PREPARED.
 - REMOVE FROM THE SURFACE ALL STONES ONE INCH (1") OR LARGER IN ANY DIMENSION, REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, PIECES OF CONCRETE, CLOS, LIMBS OF OTHER UNSUITABLE MATERIAL.
 - INSPECT SEEDBED JUST BEFORE SEEDING. IF TRENCH HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED AND FIRMED AS ABOVE.
 - SEEDED SPECIFICATIONS
 - SEE SEEDING SPECIFICATIONS
- STANDARD FOR PERMANENT STABILIZATION
 - SPECIFICATION FOR SEEDING & SOIL TREATMENT FOR PERMANENT VEGETATIVE COVER
 - SITE PREPARATION
 - GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING, AND MAINTENANCE.
 - SUBSOIL SHOULD BE TESTED FOR LIME REQUIREMENT AND LIMESTONE, IF NEEDED, SHOULD BE APPLIED TO BRING SOIL PH TO BETWEEN 5.5 AND 7 AND INCORPORATED INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES.
 - IMMEDIATELY PRIOR TO TOPSOIL DISTRIBUTION, THE SURFACE SHOULD BE SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3-5 INCHES TO PROVIDE A GOOD BOND WITH THE TOPSOIL.
 - APPLY TOPSOIL
 - TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING SOIL STRUCTURE.
 - ALL DISTURBED TOPOIL AREAS ON-SITE TO BE REDISTURBED ON-SITE AREAS NOT COVERED BY IMPROVED SURFACES. NO REMOVAL OF TOPSOIL IS ALLOWED UNLESS APPROVED BY THE TOWNSHIP. UNIFORM APPLICATION TO A DEPTH OF 4-8 INCHES (UNLESS IT IS RECOMMENDED. SOILS WITH A PH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM DEPTH OF 12 INCHES OF SOIL HAVING A PH OF 5.0 OR MORE.
 - SEEDED PREPARATION
 - A SOIL TEST SHALL BE CONDUCTED TO ACCURATELY DETERMINE NECESSARY SOIL AMENDMENTS.
 - PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO SLOPE.
 - SOIL MODIFICATIONS:
 - APPLY 10-20 RATED FERTILIZER AT A RATE OF 1000 POUNDS PER ACRE OR 25 POUNDS PER 1000 SQUARE FEET, OR AS DIRECTED BY SOIL TEST.
 - APPLY AGRICULTURAL LIME AT A RATE OF 6 TONS PER ACRE OR 240 POUNDS PER 1000 SQUARE FEET, OR AS DIRECTED BY SOIL TEST.
 - WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM FINE SEEDBED IS PREPARED.
 - REMOVE FROM THE SURFACE ALL STONES ONE INCH (1") OR LARGER IN ANY DIMENSION, REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, PIECES OF CONCRETE, CLOS, LIMBS OF OTHER UNSUITABLE MATERIAL.
 - INSPECT SEEDBED JUST BEFORE SEEDING. IF TRENCH HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED AND FIRMED AS ABOVE.
 - SEEDED SPECIFICATIONS
 - SEE SEEDING SPECIFICATIONS
 - STANDARD FOR PERMANENT STABILIZATION WITH SOD
 - METHODS AND MATERIALS
 - CULTIVATED SOD IS PREFERRED OVER NATIVE OR PASTURE SOD. SPECIFY "CERTIFIED SOD," OR OTHER HIGH QUALITY CULTIVATED SOD.
 - SOD SHOULD BE FREE OF WEEDS AND UNDESIRABLE COARSE WEEDY GRASSES.
 - SOD SHOULD BE OF UNIFORM THICKNESS, APPROXIMATELY 5/8 INCH, PLUS OR MINUS 1/4 INCH, AT TIME OF CUTTING. (EXCLUDES TOP GROWTH)
 - SOD SHOULD BE VIGOROUS AND DENSE AND BE ABLE TO RETAIN ITS OWN SHAPE AND WEIGHT WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP FROM THE UPPER 0% OF THE STRIP. BROKEN PADS OR TOP AND UNVEN ENDS WILL NOT BE ACCEPTABLE.
 - A SOD OF KENTUCKY 31 TALL FESCUE WITH BLUEGRASS, OR A FESCUE BLEND IS PREFERRED.
 - FULLY MOIST, FRESH UNHEATED SOD SHOULD BE USED. SOD SHOULD BE HARVESTED, DELIVERED AND INSTALLED WITHIN A PERIOD OF 36 HOURS.
 - SITE PREPARATIONS: SEE SPECIFICATION FOR SEEDING & SOIL TREATMENT FOR PERMANENT VEGETATIVE COVER (ITEM V.A. ABOVE)
 - SOD PLACEMENT
 - SOD STRIPS SHOULD BE LAID ON THE CONTOUR, NEVER UP AND DOWN THE SLOPE, STARTING AT THE BOTTOM OF THE SLOPE AND WORKING UP, ON STEEP SLOPES. THE USE OF LADDERS WILL FACILITATE THE WORK AND PREVENT DAMAGE TO THE SOD. DURING PERIODS OF HIGH TEMPERATURE, LIGHTLY IRRIGATE THE SOIL IMMEDIATELY PRIOR TO LAYING THE SOD.
 - PLACE SOD STRIPS WITH OWNERS EVEN JOINTS THAT ARE STAGGERED. OPEN SPACES BETWEEN STRIPS SHALL BE FILLED WITH NATIVE EROSION CONTROL SOD OR TAMP SOD IMMEDIATELY FOLLOWING PLACEMENT TO INSURE SOIL CONTACT OF ROOT MAT AND SOIL SURFACE. DO NOT OVERLAP SOD. ALL JOINTS SHOULD BE BUTTED TIGHTLY IN ORDER TO PREVENT VOIDS, WHICH WOULD CAUSE DRYING OF THE ROOTS.
 - ON SLOPES GREATER THAN 3:1 TO 1, SECURE SOD TO SURFACE SOIL WITH WOOD PEGS, WIRE STAPLES OR A BIODEGRADABLE FASTENER.
 - SURFACE WATER CANNOT BE ALLOWED TO RUN OVER THE FACE OF THE SOD, BUT A CARPETING STRIP OF HEAVY WIRE OR PLASTIC NETTING, PROPERLY SECURED, ALONG THE CROWN OF THE SLOPE AND EDGES WILL PROVIDE EXTRA PROTECTION AGAINST LIFTING AND UNDERCUTTING OF SOD. THE SAME TECHNIQUE CAN BE USED TO ANCHOR SOD IN WATER-CARRYING CHANNELS AND OTHER CRITICAL AREAS. WIRE STAPLES MUST BE USED TO ANCHOR NETTING IN CHANNEL WORK.
 - IMMEDIATELY FOLLOWING INSTALLATION, SOD SHOULD BE WATERED UNTIL MOISTURE PENETRATES THE SOIL LAYER BENEATH SOD TO A DEPTH OF 4 INCHES. MAINTAIN OPTIMUM MOISTURE FOR AT LEAST TWO WEEKS.
 - FOLLOW-UP INSPECTION: AFTER THE FIRST MOWING STAGE, THE SOD SHOULD BE INSPECTED TO DETERMINE IF ADDITIONAL FERTILIZATION OR IRRIGATION IS NEEDED.

SITE SOIL MAP
SCALE: 1"=800'

USGS MAP
(DOWINGTOWN QUAD)
SCALE: 1"=1,000'

NOTES:

- SHOULD GROUNDWATER BE ENCOUNTERED DURING FOUNDATION OR UTILITY EXCAVATIONS, WATER SHALL BE PUMPED FROM TRENCH INTO FILTER BASIN.
- DUE TO GRADING LIMITATIONS OF SOILS DURING WINTER MONTHS, THE CONTRACTOR SHALL NOT GRADE THESE SOILS DURING FROSTING OR ICING CONDITIONS.
- SHOULD BEDROCK BE ENCOUNTERED DURING FOUNDATION OR UTILITY EXCAVATION, ROCK SHALL BE REMOVED AND DISPOSED OF IN A LEGAL MANNER.
- SOIL TEST SHOULD BE PERFORMED TO DETERMINE SOIL SUITABILITY FOR TOPSOIL. IF SOIL IS DETERMINED TO BE UNSUITABLE THEN TOPSOIL SHALL BE IMPORTED AND DISTURBED THROUGHOUT THE SITE AS REQUIRED.
- THE SUBJECT SITE DRAINS TO PICKERING CREEK, WHICH HAS AN HQ, TSF, MF CHAPTER 93 CLASSIFICATION.

WATERSHED NOTES:

THIS SUBJECT SITE IS LOCATED IN THE PICKERING CREEK WATERSHED. EXTREME CARE SHOULD BE EXERCISED IN ALL DISTURBANCE ACTIVITIES TO PREVENT DEGRADATION TO THE WATERS OF THE COMMONWEALTH.

UPON COMPLETION OR TEMPORARY CESSATION OF EARTH DISTURBANCE ACTIVITY, OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION.

ANY DISTURBANCE AREA ON WHICH ACTIVITY HAS CEASED MUST BE STABILIZED IMMEDIATELY. REFER TO E&S DETAILS SHEET FOR IMMEDIATE STABILIZATION CRITERIA.

THE NON-GERMINATING PERIODS ARE BETWEEN JUNE 15 THROUGH AUGUST 15 AND BETWEEN SEPTEMBER 30 THROUGH APRIL 15. AREAS DISTURBED DURING THESE PERIODS MUST BE STABILIZED IMMEDIATELY.

IF ANY SIGNIFICANT CHANGES ARE MADE TO THE EROSION AND SEDIMENTATION CONTROL PLANS, THE LANDOWNER MUST CONTACT THE CHESTER COUNTY CONSERVATION DISTRICT FOR THE ADEQUACY OF THE CHANGES.

WATERSHED NOTES:

THIS SUBJECT SITE IS LOCATED IN THE PICKERING CREEK WATERSHED. EXTREME CARE SHOULD BE EXERCISED IN ALL DISTURBANCE ACTIVITIES TO PREVENT DEGRADATION TO THE WATERS OF THE COMMONWEALTH.

UPON COMPLETION OR TEMPORARY CESSATION OF EARTH DISTURBANCE ACTIVITY, OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION.

ANY DISTURBANCE AREA ON WHICH ACTIVITY HAS CEASED MUST BE STABILIZED IMMEDIATELY. REFER TO E&S DETAILS SHEET FOR IMMEDIATE STABILIZATION CRITERIA.

THE NON-GERMINATING PERIODS ARE BETWEEN JUNE 15 THROUGH AUGUST 15 AND BETWEEN SEPTEMBER 30 THROUGH APRIL 15. AREAS DISTURBED DURING THESE PERIODS MUST BE STABILIZED IMMEDIATELY.

IF ANY SIGNIFICANT CHANGES ARE MADE TO THE EROSION AND SEDIMENTATION CONTROL PLANS, THE LANDOWNER MUST CONTACT THE CHESTER COUNTY CONSERVATION DISTRICT FOR THE ADEQUACY OF THE CHANGES.

E&S PLAN PLANNING & DESIGN §102.4(b)(4)

THE FOLLOWING MEASURES ARE TAKEN TO MINIMIZE THE EXTENT AND DURATION OF EARTH DISTURBANCE:

- ACCESS THE SITE THRU DESIGNATED CONSTRUCTION ENTRANCE.
- SEQUENCE CONSTRUCTION ACTIVITIES BY LIMITING DISTURBANCES TO A SPECIFIC TASK SUCH THAT EACH TASK IS COMPLETED BEFORE THE NEXT TASK IS INITIATED.
- TEMPORARILY STABILIZE ALL BUILDING PADS THAT REACH FINAL GRADE THAT ARE NOT TO BE BUILT OUT IMMEDIATELY.

THE FOLLOWING MEASURES ARE TAKEN TO MAXIMIZE PROTECTION OF EXISTING DRAINAGE FEATURES AND VEGETATION:

- SEDIMENT BASINS AND TRAPS ARE PROPOSED TO MANAGE RUNOFF DURING CONSTRUCTION PRIOR TO DISCHARGE TO THE EXISTING STORM SEWERS DRAINAGE SYSTEM.
- PERIMETER FILTER SOCK WITH AREAS OF THE SITE WHICH DO NOT DRAIN TO SEDIMENT BASINS OR TRAPS.
- ACCESS THE SITE THRU DESIGNATED CONSTRUCTION ENTRANCE.

THE FOLLOWING MEASURES ARE TAKEN TO MINIMIZE SOIL COMPACTION:

- ACCESS THE SITE THRU DESIGNATED CONSTRUCTION ENTRANCE.
- USE OF TREADED MACHINERY WHERE PRACTICAL DURING EARTHMOVING OPERATIONS
- CONSTRUCTION OF THE SITE IS SEQUENCED WITH APPROPRIATE TEMPORARY STABILIZATION METHODS TO MINIMIZE THE DURATION OF EARTH DISTURBANCE.
- AREAS THAT ARE NOT TO BE GRADED AS PART OF THESE LAND DEVELOPMENT ACTIVITIES SHALL BE PHYSICALLY MARKED TO AVOID MACHINERY FROM INADVERTENTLY COMPACTING THE SOILS.

THE FOLLOWING MEASURES ARE TAKEN TO PREVENT OR MINIMIZE GENERATION OF INCREASED STORM WATER RUNOFF:

- DIRECT RUNOFF TO STORM WATER BASINS TO CONTROL RUNOFF RATES
- RE-VEGETATE DISTURBED AREAS TO HELP REDUCE RUNOFF VOLUME.
- MAINTAIN GENERALLY THE SAME DRAINAGE PATTERNS AS IN THE EXISTING CONDITION

E&S - MONITORING, INSPECTION AND REPORTING REQUIREMENTS

VISUAL INSPECTIONS

THE PERMITTEE AND CO. PERMITTEE(S) MUST ENSURE THAT VISUAL SITE INSPECTIONS ARE CONDUCTED WEEKLY, AND WITHIN 24 HOURS AFTER EACH MEASURABLE RAINFALL EVENT THROUGHOUT THE DURATION OF CONSTRUCTION AND UNTIL THE RECEIPT AND ACKNOWLEDGEMENT OF THE NOT BY THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT. THE VISUAL SITE INSPECTIONS AND REPORTS SHALL BE COMPLETED IN A FORMAT PROVIDED BY THE DEPARTMENT, AND CONDUCTED BY QUALIFIED PERSONNEL, TRAINED AND EXPERIENCED IN EROSION AND SEDIMENT CONTROL. INSPECTIONS SHALL BE CONDUCTED AT REGULAR INTERVALS AND SHALL BE MAINTAINED TO EFFECTIVELY MINIMIZE POLLUTION TO THE WATERS OF THIS COMMONWEALTH. A WRITTEN REPORT OF EACH INSPECTION SHALL BE KEPT AND INCLUDE AT A MINIMUM:

- A SUMMARY OF SITE CONDITIONS.
- THE DATE, TIME, NAME AND SIGNATURE OF THE PERSON CONDUCTING THE INSPECTION.

NON-COMPLIANCE REPORTING

WHERE E&S, PCSM OR PPC BMPs ARE FOUND TO BE INOPERATIVE OR INEFFECTIVE DURING AN INSPECTION, OR ANY OTHER TIME, THE PERMITTEE AND CO. PERMITTEE(S) SHALL, WITHIN 24 HOURS, CONTACT THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT, BY PHONE OR PERSONAL CONTACT, FOLLOWED BY THE SUBMISSION OF A WRITTEN REPORT WITHIN 5 DAYS OF THE INITIAL CONTACT. NON-COMPLIANCE REPORTS SHALL INCLUDE THE FOLLOWING INFORMATION:

- ANY CONDITION ON THE PROJECT SITE WHICH MAY ENDANGER PUBLIC HEALTH, SAFETY, OR THE ENVIRONMENT, OR INVOLVE INCIDENTS WHICH CAUSE OR THREATEN POLLUTION.
- THE PERIOD OF NON-COMPLIANCE, INCLUDING EXACT DATES AND TIMES AND/OR ANTICIPATED TIME WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE.
- STEPS BEING TAKEN TO REDUCE, ELIMINATE, AND PREVENT REURRENCE OF THE NON-COMPLIANCE; AND
- THE DATE OR SCHEDULE OF DATES, AND IDENTIFYING REMEDIES FOR CORRECTING NON-COMPLIANCE CONDITIONS.

REDUCTION, LOSS, OR FAILURE OF THE BMPs

UPON REDUCTION, LOSS, OR FAILURE OF THE BMPs, THE PERMITTEE AND CO. PERMITTEE SHALL TAKE IMMEDIATE ACTION TO RESTORE THE BMPs OR PROVIDE AN ALTERNATIVE METHOD OF TREATMENT. SUCH RESTORED BMPs OR ALTERNATIVE TREATMENT SHALL BE AT LEAST AS EFFECTIVE AS THE ORIGINAL BMPs.

TERMINATION OF COVERAGE

NOT: UPON PERMANENT STABILIZATION OF EARTH DISTURBANCE ACTIVITIES ASSOCIATED WITH CONSTRUCTION ACTIVITY THAT ARE AUTHORIZED BY THIS PERMIT AND WHEN BMPs IDENTIFIED IN THE PCSM PLAN HAVE BEEN PROPERLY INSTALLED, THE PERMITTEE AND/OR CO. PERMITTEE OF THE FACILITY MUST SUBMIT A NOT FORM THAT IS SIGNED IN ACCORDANCE WITH PART B, SECTION 1.C, SIGNATORY REQUIREMENTS OF THIS PERMIT. ALL LETTERS CERTIFYING DISCHARGE TERMINATION ARE TO BE SENT TO THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT. THE NOT MUST CONTAIN THE FOLLOWING INFORMATION: FACILITY NAME, ADDRESS, AND LOCATION, OPERATOR NAME AND ADDRESS, PERMIT NUMBER, IDENTIFICATION AND PROOF OF ACKNOWLEDGMENT FROM THE PERSON(S) WHO WILL BE RESPONSIBLE FOR OPERATION AND MAINTENANCE OF THE PCSM BMPs IN ACCORDANCE WITH THE APPROVED PCSM PLAN, AND THE REASON FOR PERMIT TERMINATION. UNTIL THE PERMITTEE HAS RECEIVED WRITTEN ACKNOWLEDGEMENT OF THE NOT, THE PERMITTEE WILL REMAIN RESPONSIBLE FOR OPERATING AND MAINTAINING ALL E&S BMPs AND PCSM BMPs ON THE PROJECT SITE AND WILL BE RESPONSIBLE FOR VIOLATIONS OCCURRING ON THE PROJECT SITE.

COMPLETION CERTIFICATE AND FINAL PLANS

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 BMPs IN ACCORDANCE WITH THE APPROVED PCSM PLAN, OR UPON SUBMISSION OF THE NOT IF SOONER, 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 PERFORMED IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THIS PERMIT AND THE APPROVED E&S AND PCSM PLANS.

SEDIMENT BASINS

- APPROVAL OF THE USE OF SKIMMERS DOES NOT APPROVE USE OF ANY SKIMMERS IN VIOLATION OF ANY PATENT, PATENT RIGHTS, AND/OR PATENT LAWS.
- BAFFLES MUST BE INSTALLED TO ALLOW BASIN MAINTENANCE AND CLEAN OUT.
- UPON INSTALLATION AND REGULAR INSPECTIONS, AN IMMEDIATE INSPECTION SHALL BE DONE BY A QUALIFIED SITE REPRESENTATIVE AND THE CHESTER COUNTY CONSERVATION DISTRICT SHALL BE NOTIFIED IN WRITING THAT THE RISER IS SEALED.
- SEDIMENT BASINS MUST BE STRUCTURALLY SOUND AND PROTECTED FROM UNAUTHORIZED ACCESS OF THIRD PARTIES.

OTHER BMPs

- SEDIMENT MUST BE REMOVED FROM STORM WATER INLET PROTECTION AFTER EACH RUNOFF EVENT.
- AT STREAM CROSSINGS, 50' BUFFER AREAS SHOULD BE MAINTAINED. ON BUFFERS, CLEARING, SOD DISTURBANCES, EXCAVATION, AND EQUIPMENT TRAFFIC SHOULD BE MINIMIZED. ACTIVITIES SUCH AS STAKING, LOGS, BURNING CLEARED BRUSH, DISCHARGING RAINWATER FROM TRENCHES, WELDING PIPE SECTIONS, REFUELING AND MAINTAINING EQUIPMENT SHOULD BE ACCOMPLISHED OUTSIDE OF BUFFERS.

TEMPORARY STABILIZATION AND PERMANENT STABILIZATION

- HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.
- MULCH WITH MULCH CONTROL NETTING OR EROSION CONTROL BLANKETS MUST BE INSTALLED ON ALL SLOPES 3:1 OR STEEPER.
- STRAW STRANDS, NOT BE APPLIED IN LONG ROWS OR IN ROWS THAT ARE NOT PROPERLY ANCHORED.
- UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPs MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, AND REPAIRING AND REPAIRING. MULCHING MUST BE DONE IMMEDIATELY AFTER EACH RAINFALL EVENT TO PERFORM AS EXPECTED. REPLACEMENT BMPs, OR MODIFICATIONS TO THOSE INSTALLED WILL BE REQUIRED. E&SPCM P. 168
- SEDIMENT REMOVED FROM BMPs SHALL BE DISPOSED OF IN LANDSCAPE AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE STRIPS AND BE PLACED IN A DRAINAGE CONTROL STRUCTURE.
- THE OPERATOR SHALL REMOVE FROM THIS SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ. THE CONTRACTOR SHALL NOT LEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THIS SITE.
- AN E&S PLAN SHALL BE SUBMITTED TO THE COUNTY CONSERVATION DISTRICT AND IMPLEMENTED FOR ALL SOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATION.
- THE NPDES BOUNDARY IS EQUAL TO THE LIMITS OF DISTURBANCE OF THE SITE AND ANY OFF-SITE AREAS WITHIN THE LIMITS OF DISTURBANCE THAT ARE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL. OFF-SITE FACILITIES SUCH AS UTILITIES AND ROADWAYS.
- UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED IN ACCORDANCE WITH THE RECOMMENDATIONS CONTAINED IN THE EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL (E&S MANUAL), COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION NO. 363-2134-008, APRIL 2000, AS AMENDED AND UPDATED. EROSION AND SEDIMENT CONTROL BMPs SHALL BE IMPLEMENTED AND MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED AND PCSM BMPs ARE OPERATIONAL.

UTILITY LINE TRENCH EXCAVATION NOTES

- LIMIT ADVANCED CLEARING AND GRUBBING OPERATIONS TO A DISTANCE EQUAL TO TWO TIMES THE LENGTH OF PIPE INSTALLATION THAT CAN BE COMPLETED IN ONE DAY.
- WORK CREWS AND EQUIPMENT FOR TRENCHING, PLACEMENT OF PIPE, PLUG CONSTRUCTION AND BACKFILLING WILL BE SELF CONTAINED AND SEPARATE FROM CLEARING AND GRUBBING AND SITE RESTORATION AND STABILIZATION OPERATIONS.
- ALL SOIL EXCAVATED FROM THE TRENCH WILL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.
- LIMIT DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT, PLUG INSTALLATION AND BACKFILLING THAT CAN BE COMPLETED THE SAME DAY.
- WATER WHICH ACCUMULATES IN THE OPEN TRENCH WILL BE COMPLETELY REMOVED BY PUMPING BEFORE PIPE PLACEMENT AND/OR BACKFILLING BEGINS. WATER REMOVED FROM THE TRENCH SHALL BE PUMPED THROUGH A FILTRATION DEVICE.
- ON THE DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA WILL BE GRADED TO FINAL CONTOURS AND APPROPRIATE TEMPORARY EROSION AND SEDIMENT POLLUTION CONTROL MEASURES/FACILITIES WILL BE INSTALLED. SEEDING AND MULCHING OF ALL DISTURBED AREAS WILL BE DONE IMMEDIATELY.
- SOILS EXCAVATED FROM EXISTING SURFACE LAYER SHOULD BE STOCKPILED SEPARATELY AND RETURNED AS FINAL SURFACE LAYER FOLLOWING TRENCH BACKFILLING.

DEFINITION OF CLEAN FILL AND IMPORT/EXPORT MATERIAL NOTES TO COMPLY WITH SECTION C.3 OF NOI

IF THE SITE WILL NEED TO IMPORT OR EXPORT MATERIAL FROM THE SITE, THE RESPONSIBILITY FOR PERFORMING ENVIRONMENTAL DUE DILIGENCE AND DETERMINATION OF CLEAN FILL WILL REST WITH THE APPLICANT.

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

2. CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE: FILL MATERIALS AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE STILL QUALIFIES AS CLEAN FILL PROVIDED THE TESTING REVEALS THAT THE FILL MATERIAL CONTAINS CONCENTRATIONS OF REGULATED SUBSTANCES THAT ARE BELOW THE RESIDENTIAL LIMITS IN TABLES FP-1A AND FP-1B FOUND IN THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL".

3. ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE FORM FP-001 TO CERTIFY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL. A COPY OF FORM FP-001 CAN BE FOUND AT THE END OF THESE INSTRUCTIONS.

4. ENVIRONMENTAL DUE DILIGENCE: THE APPLICANT MUST PERFORM ENVIRONMENTAL DUE DILIGENCE TO DETERMINE IF THE FILL MATERIALS ASSOCIATED WITH THE PROJECT QUALIFY AS CLEAN FILL. ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS: INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS. ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECTED TO A SPILL OR RELEASE OF REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPENDIX A OF THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL".

FILL MATERIAL THAT DOES NOT QUALIFY AS CLEAN FILL IS REGULATED FILL. REGULATED FILL IS WASTE AND MUST BE MANAGED IN ACCORDANCE WITH THE DEPARTMENT'S MUNICIPAL OR RESIDUAL WASTE REGULATION REGULATIONS AT 25 PA. CODE CHAPTERS 287 RESIDUAL WASTE MANAGEMENT OR 271 MUNICIPAL WASTE MANAGEMENT, WHICHEVER IS APPLICABLE. THE REGULATIONS ARE AVAILABLE ON-LINE AT WWW.PACODE.COM.

E&S BMP DRAINAGE AREAS

E&S BMP	MAXIMUM DRAINAGE AREA
SEDIMENT BASIN #2	23.82 Ac.*
FOREBAY #1	9.46 Ac.
SEDIMENT TRAP #3	2.83 Ac.
SEDIMENT TRAP #4	2.83 Ac.
SEDIMENT TRAP #5	3.43 Ac.
SEDIMENT TRAP #6	3.87 Ac.

*INCLUDES AREA TO FOREBAY #1

UNIFORM PARCEL IDENTIFIER: 32-4-1090.1

SOIL USE LIMITATIONS AND THEIR RESOLUTIONS

SOIL NAME	CUTBANKS/CAVE	CONCRETE TO CONCRETE/STEEL	EROSION/ ERO
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PREVIOUSLY COMPLETED SEQUENCE OF CONSTRUCTION - STAGE 2 (RESIDENTIAL)

§102.4(b)(5)(vi)

- A. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED IN COMPLIANCE WITH CHAPTER 107 BEFORE THE FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED TO ONLY THOSE AREAS DESCRIBED IN EACH STEP. IMMEDIATELY UPON COMPLETION OR TEMPORARY CESSATION OF EARTH DISTURBANCE ACTIVITIES OR ANY STEP THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION.
B. AT LEAST SEVEN (7) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES INCLUDING, BUT NOT LIMITED TO: THE LANDOWNER, E&S PLAN PREPARER, ALL APPROPRIATE MUNICIPAL OFFICIALS AND A REPRESENTATIVE OF THE CHESTER COUNTY CONSERVATION DISTRICT FOR AN ON-SITE PRE-CONSTRUCTION MEETING. A MINIMUM OF TWO (2) DAYS (48 HOURS) NOTICE SHALL BE GIVEN TO THE TOWNSHIP SEWER ENGINEER AND AT LEAST THREE (3) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES. ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INC. AT 1-800-242-1776 FOR BURIED UTILITY LOCATIONS.
C. BEFORE INITIATING ANY REVISION TO THE APPROVED EROSION AND SEDIMENT (E&S) CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE CHESTER COUNTY CONSERVATION DISTRICT. THE OPERATOR SHALL ENSURE THAT THE APPROVED E&S CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION OR SEDIMENT POLLUTION.
D. DUST CONTROL - CONSTRUCTION TRAFFIC MUST ENTER AND EXIT THE SITE AT THE STABILIZED CONSTRUCTION ENTRANCE. THE PURPOSE IS TO TRAP DUST AND MULCH THAT WOULD OTHERWISE BE CARRIED OFF-SITE BY CONSTRUCTION TRAFFIC. WATER TRUCKS SHALL BE USED AS NEEDED DURING CONSTRUCTION TO REDUCE DUST GENERATED ON THE SITE. DUST CONTROL MUST BE PROVIDED BY THE CONTRACTOR TO A DEGREE THAT IS ACCEPTABLE TO THE CHESTER COUNTY CONSERVATION DISTRICT. AFTER CONSTRUCTION, THE SITE WILL BE STABILIZED, WHICH WILL REDUCE THE POTENTIAL FOR DUST GENERATION.
E. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 2601.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ.
1. CONTINUE ROUTINE MAINTENANCE OF THE E&S BMPs INSTALLED DURING STAGE 1, WHICH INCLUDES THE STAGE 1 CONSTRUCTION ENTRANCE, SEDIMENT BASIN #2, FOREBAY #1, SEDIMENT TRAPS #3 TO #6, ROCK FILTERS WITH COMPOST FILTER SOCKS, AND STONE INLET PROTECTION. THE STAGE 1 E&S PLANS AND SEQUENCE OF CONSTRUCTION CAN BE FOUND ON THE PLANS PREPARED BY BOHLER ENGINEERING, ENTITLED: SUBDIVISION & AMENDED FINAL PRD PLANS PARCEL 5-C - "THE VILLAGE AT BYERS STATION"; DATED 5/20/16, REVISION 6, DATED 7/5/17.
2. INSTALL STAGE 2 PERMITTER CONTROLS. THIS INCLUDES THE SILT SOCK AND A SECOND CONSTRUCTION ENTRANCE ON DARRELL DRIVE. THE TEMPORARY STAGING AREAS ARE TO BE USED AS GRADING THE AREA IS DONE. THE CONTRACTOR SHALL THEN ESTABLISH A NEW STAGING AREA AT THEIR DISCRETION. THE CONTRACTOR SHALL ALSO INSPECT ANY OTHER EXISTING INFRASTRUCTURE WITHIN THE STAGING AREA TO ENSURE IT IS FUNCTIONING PROPERLY.
3. ONLY PERSONAL VEHICLES ARE TO ENTER AND LEAVE THE SITE UNTIL SUCH TIME AS THE TEMPORARY STAGING AREA IS RELOCATED DUE TO GRADING OPERATIONS AND STORM DRAINAGE SYSTEM INSTALLATION. THIS WILL PREVENT SEDIMENT, DUST, OR MUD FROM BEING TRACKED OFF-SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING PERSONAL VEHICLES DO NOT TRACK SEDIMENT OFF-SITE.
4. COMMENCE BULK EARTH WORK NECESSARY TO ACHIEVE SURFACES FOR THE PROPOSED ACCESS DRIVEWAY, SASSAFRAS LANE, GINKGO LANE, CATAPAW LAKE, LANTZBURD LANE, JUNEBSERRY COURT, MOOREBERRY COURT, AND HICKORY COURT.
5. INSTALL UTILITIES INCLUDING STORM SEWER, SANITARY SEWER, WATER, GAS, ELECTRIC AND TELECOMMUNICATIONS. RPPR APPROX SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS PROVIDED ON THE EROSION AND SEDIMENT POLLUTION CONTROL NOTES AND DETAILS IMMEDIATELY UPON COMPLETION OF THE ENDWALL.
6. INSTALL CURBING SHOWN ON THE PLANS AS WELL AS THE STONE AND BITUMINOUS BASE COURSE IN ROADWAYS.
7. CONSTRUCTION OF THE HOMES CAN NOW COMMENCE. THE CONTRACTOR IS TO USE ON-LOT E&S CONTROLS AS SHOWN ON THE PLANS AND ON STANDARD DETAIL 10-1, 10-2 AND 10-3 IN THE E&S DETAILS. ANY LOT THAT IS NOT GOING TO BE BUILT OUT IMMEDIATELY SHALL BE TEMPORARILY STABILIZED.
8. INITIATE FINAL GRADING AND PLACEMENT OF TOP SOIL IN ALL LANDSCAPE AREAS IN ACCORDANCE WITH THE LANDSCAPE PLANS. AS SOON AS SLOPES, CHANNELS, DITCHES, AND OTHER DISTURBED AREAS REACH FINAL GRADE THEY MUST BE STABILIZED. ALL LANDSCAPE AREAS MUST BE STABILIZED AND PERMANENT SEEDING OR PLACEMENT OF SOIL MUST BE APPLIED WHEN FINAL GRADE IS ACHIEVED DURING NON-GERMINATING MONTHS. THE AREA SHOULD BE MULCHED UNTIL THE BEGINNING OF THE NEXT PLANTING SEASON. HOWEVER, THE AREA WILL NOT BE CONSIDERED STABILIZED UNTIL A MINIMUM UNIFORM 70% VEGETATIVE COVER OF EROSION RESISTANT PERENNIAL VEGETATION IS ACHIEVED. SEEDING AND MULCHING REQUIREMENTS ARE SPECIFIED IN THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS.
9. INSTALL REMAINING LAYERS OF BITUMINOUS PAVEMENT AND CONCRETE INCLUDING SIDEWALK. THE TRAIL TO BE PAVED ON THE WEST SIDE OF POTTSFOWN PIKE (RT 100) AND DARRELL DRIVE INTERSECTION SHALL ONLY DISTRIBUTE AREA THAT THE CONTRACTOR CAN BE PERMANENTLY STABILIZED WITH A MINIMUM OF THE BASE STONE LAYER PER DAY TO AVOID HAVING TO PUT IN PERMETER CONTROL IN THE AREA.
10. INITIATE FINAL VEGETATION AND LANDSCAPING IN ACCORDANCE WITH THE LANDSCAPE PLANS AND DETAILS.
11. CONVERT SEDIMENT BASIN #2; FOREBAY #1 AND SEDIMENT TRAPS #3 TO #6 TO THEIR PERMANENT BIOTRETION BASIN CONFIGURATIONS. THE CONVERSION OF THESE FACILITIES SHALL NOT COMMENT UNTIL THE TRIBUTARY AREA TO THE BMP HAS BEEN PERMANENTLY STABILIZED. FOREBAY #1 BIOTRETION BASIN #1 SHALL BE CONVERTED AND PERMANENTLY STABILIZED PRIOR TO CONVERTING SEDIMENT BASIN #2 BIOTRETION BASIN #2 SINCE BIOTRETION BASIN #1 IS TRIBUTARY TO BIOTRETION BASIN #2. CONVERSION OF THESE FACILITIES SHALL COMMENT ONLY IF THE EARTH DISTURBANCE TRIBUTARY TO THESE FACILITIES WITHIN THE COMMERCIAL AREA HAS BEEN PERMANENTLY STABILIZED.
CRITICAL STAGE: THE PERMITTEE SHALL PROVIDE ENGINEERING OVERSIGHT DURING THE CONVERSION OF THE E&S FACILITIES TO THEIR PERMANENT BIOTRETION CONFIGURATION. A LICENSED PROFESSIONAL OR DESIGNED KNOWLEDGEABLE IN THE CONVERSION OF E&S FACILITIES TO BIOTRETION BASINS, PREFERABLY THE DESIGN ENGINEER, SHALL CONDUCT THE OVERSIGHT.
CONVERSION TO A BIOTRETION FACILITY SHALL FOLLOW THE BIOTRETION BASIN SEQUENCE OF CONSTRUCTION FOUND ON THE PCSM DETAILS AND SHALL CONSIST OF THE FOLLOWING:
A. FLUSH THE TRIBUTARY STORM DRAINAGE SYSTEM AND ENSURE NO SEDIMENT ENTERS THE FACILITY ONCE THE SOLVENTION IS COMPLETE.
B. REMOVE Baffle WALLS IF REQUIRED.
C. ANY EARTHWORK NECESSARY TO REMOVE SEDIMENT FROM THE BASINS AND EXCAVATION REQUIRED TO PLACE THE SOLVENTION OR SAND DEPENDING ON THE FACILITY. AS PART OF THIS EARTHWORK BIOTRETION BASINS #4 AND #5 SHALL BE OVER EXCAVATED BY 1.0' DUE TO DEPTH OF LIMITING ZONES IN THESE FACILITIES.
D. PLACE THE SANDSTONE AND PLANTING SOLLS AND THE UNDERDRAIN IF REQUIRED.
E. THE TEMPORARY E&S BMPs (SKIMMER OR TEMPORARY RBSR) SHALL REMAIN IN PLACE AS LONG AS PRACTICAL. ONCE THESE STRUCTURES CAN NO LONGER BE LEFT IN PLACE DUE TO HAVING TO PLACE SOLLS/STONE OR SAND REMOVE THEM AND UNPLUG THE TEMPORARY DEWATERING ORIFICE AT THE BOTTOM OF THE OUTLET STRUCTURE.
F. THE FINAL FINAL VEGETATION AND LANDSCAPING SHALL BE PERMANENTLY PLUGGED AND SHALL BE WATER TIGHT.
12. UPON SITE STABILIZATION (UNIFORM COVERAGE OR DENSITY OF 70% ACROSS ALL DISTURBED AREAS) AND NOTIFICATION OF THE CHESTER COUNTY CONSERVATION DISTRICT, REMOVE E&S CONTROL FACILITIES INCLUDING SILT SOCK, INLET PROTECTION AND THE ROCK FILTER WITH COMPOST FILTER SOCK. ANY AREA DISTURBED THROUGH THE REMOVAL SHALL BE PERMANENTLY STABILIZED IMMEDIATELY.
13. CLEAR SITE OF REMAINING DEBRIS AND ALL UNWANTED MATERIALS. CONTRACTOR SHALL REMOVE FROM SITE, RECYCLE OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 2601.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTE ON SITE.
14. DEMOLISH.
15. A NOTICE OF TERMINATION FORM SHOULD BE SUBMITTED TO THE CHESTER COUNTY CONSERVATION DISTRICT UPON STABILIZATION AND FINAL COMPLETION OF THE PROJECT.

PREVIOUSLY COMPLETED SEQUENCE OF CONSTRUCTION - STAGE 2 (LOT #2A RESIDENTIAL)

§102.4(b)(5)(vii)

- A. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED IN COMPLIANCE WITH CHAPTER 107 BEFORE THE FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED TO ONLY THOSE AREAS DESCRIBED IN EACH STEP. IMMEDIATELY UPON COMPLETION OR TEMPORARY CESSATION OF EARTH DISTURBANCE ACTIVITIES OR ANY STEP THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION.
B. AT LEAST SEVEN (7) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES INCLUDING, BUT NOT LIMITED TO: THE LANDOWNER, E&S PLAN PREPARER, ALL APPROPRIATE MUNICIPAL OFFICIALS AND A REPRESENTATIVE OF THE CHESTER COUNTY CONSERVATION DISTRICT FOR AN ON-SITE PRE-CONSTRUCTION MEETING. A MINIMUM OF TWO (2) DAYS (48 HOURS) NOTICE SHALL BE GIVEN TO THE TOWNSHIP SEWER ENGINEER AND AT LEAST THREE (3) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES. ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INC. AT 1-800-242-1776 FOR BURIED UTILITY LOCATIONS.
C. BEFORE INITIATING ANY REVISION TO THE APPROVED EROSION AND SEDIMENT (E&S) CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE CHESTER COUNTY CONSERVATION DISTRICT. THE OPERATOR SHALL ENSURE THAT THE APPROVED E&S CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION OR SEDIMENT POLLUTION.
D. DUST CONTROL - CONSTRUCTION TRAFFIC MUST ENTER AND EXIT THE SITE AT THE STABILIZED CONSTRUCTION ENTRANCE. THE PURPOSE IS TO TRAP DUST AND MULCH THAT WOULD OTHERWISE BE CARRIED OFF-SITE BY CONSTRUCTION TRAFFIC. WATER TRUCKS SHALL BE USED AS NEEDED DURING CONSTRUCTION TO REDUCE DUST GENERATED ON THE SITE. DUST CONTROL MUST BE PROVIDED BY THE CONTRACTOR TO A DEGREE THAT IS ACCEPTABLE TO THE CHESTER COUNTY CONSERVATION DISTRICT. AFTER CONSTRUCTION, THE SITE WILL BE STABILIZED, WHICH WILL REDUCE THE POTENTIAL FOR DUST GENERATION.
E. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 2601.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ.
1. AS APPLICABLE, CONTINUE ROUTINE MAINTENANCE OF THE E&S BMPs INSTALLED DURING STAGE 1, WHICH INCLUDES THE STAGE 1 CONSTRUCTION ENTRANCE, SEDIMENT BASIN #2; FOREBAY #1, SEDIMENT TRAPS #3 TO #6, ROCK FILTERS WITH COMPOST FILTER SOCKS, AND STONE INLET PROTECTION. THE STAGE 1 E&S PLANS AND SEQUENCE OF CONSTRUCTION CAN BE FOUND ON THE PLANS PREPARED BY BOHLER ENGINEERING, ENTITLED: SUBDIVISION & AMENDED FINAL PRD PLANS PARCEL 5-C - "THE VILLAGE AT BYERS STATION"; DATED 5/20/16, REVISION 6, DATED 7/5/17. IN ADDITION THE Baffle WALL WITH SEDIMENT BASIN #2 SHALL BE EXTENDED AS SHOWN ON THE E&S PLAN.
2. INSTALL STAGE 2 PERMITTER CONTROLS. THIS INCLUDES THE SILT SOCK AND CONSTRUCTION ENTRANCES. THE TEMPORARY STAGING AREA CAN REMAIN IN USE UNTIL SUCH TIME AS GRADING IN THE AREA IS DONE. THE CONTRACTOR SHALL THEN ESTABLISH A NEW STAGING AREA AT THEIR DISCRETION. THE CONTRACTOR SHALL ALSO INSPECT ANY OTHER EXISTING INFRASTRUCTURE WITHIN THE STAGING AREA TO ENSURE IT IS FUNCTIONING PROPERLY.
NOTE: ONLY PERSONAL VEHICLES MAY USE THE EXISTING ENTRANCE TO ENTER AND LEAVE THE SITE UNTIL SUCH TIME AS THE TEMPORARY STAGING AREA IS RELOCATED DUE TO GRADING OPERATIONS AND STORM DRAINAGE SYSTEM INSTALLATION. THIS WILL PREVENT SEDIMENT, DUST, OR MUD FROM BEING TRACKED OFF-SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING PERSONAL VEHICLES DO NOT TRACK SEDIMENT OFF-SITE AND CONSTRUCTION VEHICLES USE THE CONSTRUCTION ENTRANCE.
3. COMMENCE BULK EARTH WORK NECESSARY TO ACHIEVE SURFACE IN REGINA DRIVE, IRIS LANE, LOT #2A AND TERMINAL GRADING ON LOT #2B. GRADING SHALL BE DONE IN ACCORDANCE WITH THE LANDSCAPE PLANS AND DETAILS. POSITIVE DRAINAGE SHALL BE ESTABLISHED AND PERMANENT SEDIMENT BASIN #2; AS SOON AS PRACTICAL THE STORM RUN FROM E5310 TO N210 SHALL BE INSTALLED. ONCE THIS STORM RUN IS INSTALLED THE EXISTING CULVERT AND HEADWALL WEST OF REGINA DRIVE SHALL BE REMOVED ALONG WITH THE E&S BMPs.
4. CONSTRUCTION OF THE HOMES CAN NOW COMMENCE. THE CONTRACTOR IS TO USE ON-LOT E&S CONTROLS AS SHOWN ON THE PLANS AND ON STANDARD DETAILS 10-1, 10-2 AND 10-3 IN THE E&S DETAILS. ANY LOT THAT IS NOT GOING TO BE BUILT OUT IMMEDIATELY SHALL BE TEMPORARILY STABILIZED.
5. INSTALL UTILITIES WITHIN BOGONA DRIVE, IRIS LANE, AND LOT #2A INCLUDING STORM SEWER, SANITARY SEWER, WATER, GAS, ELECTRIC AND TELECOMMUNICATIONS. RPPR APPROX SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS PROVIDED ON THE EROSION AND SEDIMENT POLLUTION CONTROL NOTES AND DETAILS IMMEDIATELY UPON COMPLETION OF THE ENDWALL.
6. INSTALL CURBING WITHIN BOGONA DRIVE, IRIS LANE, AND LOT #2A SHOWN ON THE PLANS AS WELL AS THE STONE AND BITUMINOUS BASE COURSE IN ROADWAYS.
7. CONSTRUCTION OF THE TOWNHOMES WITHIN LOT #2A CAN NOW COMMENCE. THE CONTRACTOR SHALL USE ON-LOT E&S CONTROLS AS SHOWN ON THE PLANS AND STANDARD DETAILS 10-1, 10-2, AND 10-3 IN THE E&S DETAILS. ANY BUILDING PLAN THAT IS NOT GOING TO BE BUILT OUT IMMEDIATELY SHALL BE TEMPORARILY STABILIZED.
8. INITIATE FINAL GRADING AND PLACEMENT OF TOP SOIL IN ALL LANDSCAPE AREAS WITHIN LOT #2A IN ACCORDANCE WITH THE LANDSCAPE PLANS. AS SOON AS SLOPES, CHANNELS, DITCHES, AND OTHER DISTURBED AREAS REACH FINAL GRADE THEY MUST BE STABILIZED. ALL LANDSCAPE AREAS MUST BE STABILIZED AND PERMANENT SEEDING OR PLACEMENT OF SOIL MUST BE APPLIED WHEN FINAL GRADE IS ACHIEVED DURING NON-GERMINATING MONTHS. THE AREA SHOULD BE MULCHED UNTIL THE BEGINNING OF THE NEXT PLANTING SEASON. HOWEVER, THE AREA WILL NOT BE CONSIDERED STABILIZED UNTIL A MINIMUM UNIFORM 70% VEGETATIVE COVER OF EROSION RESISTANT PERENNIAL VEGETATION IS ACHIEVED. SEEDING AND MULCHING REQUIREMENTS ARE SPECIFIED IN THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS.
9. INSTALL REMAINING LAYERS OF BITUMINOUS PAVEMENT AND CONCRETE INCLUDING SIDEWALK WITHIN LOT #2A.
10. INITIATE FINAL VEGETATION AND LANDSCAPING WITHIN LOT #2A IN ACCORDANCE WITH THE LANDSCAPE PLANS AND DETAILS.
11. CRITICAL STAGE: THE PERMITTEE SHALL PROVIDE OVERSIGHT FOR THE INSTALLATION OF THE LANDSCAPING. A LICENSED PROFESSIONAL OR DESIGNED KNOWLEDGEABLE IN THE INSTALLATION OF TREES AND PLANTINGS, PREFERABLY THE LANDSCAPE ARCHITECT WHO PUT THE PLAN TOGETHER, SHALL CONDUCT THE OVERSIGHT.
12. INSTALL WATER QUALITY FILTERS WITHIN LOT #2A. INSTALLATION OF THE WATER QUALITY FILTERS SHALL BE DONE IN ACCORDANCE WITH THE MANUFACTURERS DIRECTION AND RECOMMENDATIONS.
CRITICAL STAGE: THE PERMITTEE SHALL PROVIDE ENGINEERING OVERSIGHT DURING THE INSTALLATION OF THE WATER QUALITY FILTERS. A LICENSED PROFESSIONAL OR DESIGNED KNOWLEDGEABLE IN THE INSTALLATION OF WATER QUALITY FILTERS, PREFERABLY THE DESIGN ENGINEER, SHALL CONDUCT THE OVERSIGHT.
13. INSTALL WATER QUALITY FILTERS WITHIN LOT #2A. INSTALLATION OF THE WATER QUALITY FILTERS SHALL BE DONE IN ACCORDANCE WITH THE MANUFACTURERS DIRECTION AND RECOMMENDATIONS.
CRITICAL STAGE: THE PERMITTEE SHALL PROVIDE ENGINEERING OVERSIGHT DURING THE INSTALLATION OF THE WATER QUALITY FILTERS. A LICENSED PROFESSIONAL OR DESIGNED KNOWLEDGEABLE IN THE INSTALLATION OF WATER QUALITY FILTERS, PREFERABLY THE DESIGN ENGINEER, SHALL CONDUCT THE OVERSIGHT.
14. AS APPLICABLE, CONTINUE ROUTINE MAINTENANCE OF THE E&S BMPs INSTALLED DURING STAGE 1 & STAGE 2 WHICH INCLUDES CONSTRUCTION ENTRANCES, SEDIMENT BASIN #2; FOREBAY #1, ROCK FILTERS WITH COMPOST FILTER SOCKS, AND STONE INLET PROTECTION. THE STAGE 1 E&S PLANS AND SEQUENCE OF CONSTRUCTION CAN BE FOUND ON THE PLANS PREPARED BY BOHLER ENGINEERING, ENTITLED: SUBDIVISION & AMENDED FINAL PRD PLANS PARCEL 5-C - "THE VILLAGE AT BYERS STATION"; DATED 5/20/16, REVISION 6, DATED 7/5/17.
15. INSTALL PERMETER CONTROLS WITHIN LOT #2B. THIS INCLUDES THE SILT SOCK, CONSTRUCTION ENTRANCES, AND INLET PROTECTION.
16. CONSTRUCTION OF THE COMMERCIAL BUILDINGS CAN NOW COMMENCE.
17. CONSTRUCTION OF THE COMMERCIAL BUILDINGS CAN NOW COMMENCE.
18. INSTALL UTILITIES WITHIN LOT #2B INCLUDING STORM SEWER, SANITARY SEWER, WATER, GAS, ELECTRIC AND TELECOMMUNICATIONS.
19. INITIATE FINAL GRADING AND PLACEMENT OF TOP SOIL IN ALL LANDSCAPE AREAS WITHIN LOT #2B IN ACCORDANCE WITH THE LANDSCAPE PLANS. AS SOON AS SLOPES, CHANNELS, DITCHES, AND OTHER DISTURBED AREAS REACH FINAL GRADE THEY MUST BE STABILIZED. ALL LANDSCAPE AREAS MUST BE STABILIZED AND PERMANENT SEEDING OR PLACEMENT OF SOIL MUST BE APPLIED WHEN FINAL GRADE IS ACHIEVED DURING NON-GERMINATING MONTHS. THE AREA SHOULD BE MULCHED UNTIL THE BEGINNING OF THE NEXT PLANTING SEASON. HOWEVER, THE AREA WILL NOT BE CONSIDERED STABILIZED UNTIL A MINIMUM UNIFORM 70% VEGETATIVE COVER OF EROSION RESISTANT PERENNIAL VEGETATION IS ACHIEVED. SEEDING AND MULCHING REQUIREMENTS ARE SPECIFIED IN THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS.
20. INITIATE FINAL GRADING AND PLACEMENT OF TOP SOIL IN ALL LANDSCAPE AREAS WITHIN LOT #2B IN ACCORDANCE WITH THE LANDSCAPE PLANS. AS SOON AS SLOPES, CHANNELS, DITCHES, AND OTHER DISTURBED AREAS REACH FINAL GRADE THEY MUST BE STABILIZED. ALL LANDSCAPE AREAS MUST BE STABILIZED AND PERMANENT SEEDING OR PLACEMENT OF SOIL MUST BE APPLIED WHEN FINAL GRADE IS ACHIEVED DURING NON-GERMINATING MONTHS. THE AREA SHOULD BE MULCHED UNTIL THE BEGINNING OF THE NEXT PLANTING SEASON. HOWEVER, THE AREA WILL NOT BE CONSIDERED STABILIZED UNTIL A MINIMUM UNIFORM 70% VEGETATIVE COVER OF EROSION RESISTANT PERENNIAL VEGETATION IS ACHIEVED. SEEDING AND MULCHING REQUIREMENTS ARE SPECIFIED IN THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS.
21. CONSTRUCT VEGETATED SWALES #11, #17 AND #18. CONSTRUCTION OF VEGETATED SWALES SHALL NOT COMMENT UNTIL THE TRIBUTARY AREA TO THE SWALE HAS BEEN PERMANENTLY STABILIZED.
CRITICAL STAGE: THE PERMITTEE SHALL PROVIDE ENGINEERING OVERSIGHT DURING THE CONSTRUCTION OF THE VEGETATED SWALES. A LICENSED PROFESSIONAL OR DESIGNED KNOWLEDGEABLE IN THE DESIGN AND CONSTRUCTION OF VEGETATED SWALES, PREFERABLY THE DESIGN ENGINEER, SHALL CONDUCT THE OVERSIGHT.
22. INSTALL REMAINING LAYERS OF BITUMINOUS PAVEMENT AND CONCRETE INCLUDING SIDEWALK WITHIN LOT #2B.
23. INSTALL REMAINING LAYERS OF BITUMINOUS PAVEMENT AND CONCRETE INCLUDING SIDEWALK WITHIN LOT #2B.
CRITICAL STAGE: THE PERMITTEE SHALL PROVIDE OVERSIGHT FOR THE INSTALLATION OF THE LANDSCAPING. A LICENSED PROFESSIONAL OR DESIGNED KNOWLEDGEABLE IN THE INSTALLATION OF TREES AND PLANTINGS, PREFERABLY THE LANDSCAPE ARCHITECT WHO PUT THE PLAN TOGETHER, SHALL CONDUCT THE OVERSIGHT.
24. INSTALL WATER QUALITY FILTERS WITHIN LOT #2B. INSTALLATION OF THE WATER QUALITY FILTERS SHALL BE DONE IN ACCORDANCE WITH THE MANUFACTURERS DIRECTION AND RECOMMENDATIONS.
CRITICAL STAGE: THE PERMITTEE SHALL PROVIDE ENGINEERING OVERSIGHT DURING THE INSTALLATION OF THE WATER QUALITY FILTERS. A LICENSED PROFESSIONAL OR DESIGNED KNOWLEDGEABLE IN THE INSTALLATION OF WATER QUALITY FILTERS, PREFERABLY THE DESIGN ENGINEER, SHALL CONDUCT THE OVERSIGHT.
25. CONVERT SEDIMENT BASIN #2 AND FOREBAY #1 TO THEIR PERMANENT BIOTRETION BASIN CONFIGURATIONS. THE CONVERSION OF THESE FACILITIES SHALL NOT COMMENT UNTIL THE TRIBUTARY AREA TO THE BMP HAS BEEN PERMANENTLY STABILIZED. FOREBAY #1 BIOTRETION BASIN #1 SHALL BE CONVERTED AND PERMANENTLY STABILIZED PRIOR TO CONVERTING BIOTRETION BASIN #2 SINCE BIOTRETION BASIN #1 IS TRIBUTARY TO BIOTRETION BASIN #2. FOREBAY #1 AND SEDIMENT BASIN #2 SHALL ONLY BE CONVERTED IF EARTH DISTURBANCE TRIBUTARY TO THESE FACILITIES WITHIN THE RESIDENTIAL AREA HAS BEEN PERMANENTLY STABILIZED.
CRITICAL STAGE: THE PERMITTEE SHALL PROVIDE ENGINEERING OVERSIGHT DURING THE CONVERSION OF THE E&S FACILITIES TO THEIR PERMANENT BIOTRETION CONFIGURATION. A LICENSED PROFESSIONAL OR DESIGNED KNOWLEDGEABLE IN THE CONVERSION OF E&S FACILITIES TO BIOTRETION BASINS, PREFERABLY THE DESIGN ENGINEER, SHALL CONDUCT THE OVERSIGHT.
26. PRIOR TO CONVERTING ANY OF THE E&S FACILITIES TO THEIR PERMANENT CONDITION THE PERMITTEE SHALL CONTACT THE CHESTER COUNTY CONSERVATION DISTRICT AND REQUEST A SITE INSPECTION AND RECEIVE APPROVAL TO CONVERT SEDIMENT BASIN #2 OR FOREBAY #1 TO THEIR PERMANENT CONFIGURATION. CONVERSION TO A BIOTRETION FACILITY SHALL FOLLOW THE BIOTRETION BASIN SEQUENCE OF CONSTRUCTION FOUND ON THE PCSM DETAILS AND SHALL CONSIST OF THE FOLLOWING:
A. FLUSH THE TRIBUTARY STORM DRAINAGE SYSTEM AND ENSURE NO SEDIMENT ENTERS THE FACILITY ONCE THE CONVERSION IS COMPLETE.
B. REMOVE Baffle WALLS IF REQUIRED.
C. ANY EARTHWORK NECESSARY TO REMOVE SEDIMENT FROM THE BASINS AND EXCAVATION REQUIRED TO PLACE THE SOLVENTION, DEPENDING ON THE FACILITY.
D. THE TEMPORARY E&S BMPs (SKIMMER OR TEMPORARY RBSR) SHALL REMAIN IN PLACE AS LONG AS PRACTICAL. ONCE THESE STRUCTURES CAN NO LONGER BE LEFT IN PLACE DUE TO HAVING TO PLACE SOLLS/STONE, REMOVE THEM AND UNPLUG THE TEMPORARY DEWATERING ORIFICE AT THE BOTTOM OF THE OUTLET STRUCTURE.
E. PLACE THE BASINS ACCORDING TO THE LANDSCAPE PLAN AND STABILIZE IMMEDIATELY.
F. ONCE PLANT MATERIAL HAS ESTABLISHED THE TEMPORARY DEWATERING ORIFICE SHALL BE PERMANENTLY PLUGGED AND SHALL BE WATER TIGHT.
27. UPON SITE STABILIZATION (UNIFORM COVERAGE OR DENSITY OF 70% ACROSS ALL DISTURBED AREAS) AND NOTIFICATION OF THE CHESTER COUNTY CONSERVATION DISTRICT, REMOVE E&S CONTROL FACILITIES INCLUDING SILT SOCK, INLET PROTECTION AND THE ROCK FILTER WITH COMPOST FILTER SOCK. ANY AREA DISTURBED THROUGH THE REMOVAL SHALL BE PERMANENTLY STABILIZED IMMEDIATELY.
28. CLEAR SITE OF REMAINING DEBRIS AND ALL UNWANTED MATERIALS. CONTRACTOR SHALL REMOVE FROM SITE, RECYCLE OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 2601.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTE ON SITE.
29. DEMOLISH.
30. A NOTICE OF TERMINATION FORM SHOULD BE SUBMITTED TO THE CHESTER COUNTY CONSERVATION DISTRICT UPON STABILIZATION AND FINAL COMPLETION OF THE PROJECT.

- 1. FLUSH THE TRIBUTARY STORM DRAINAGE SYSTEM AND ENSURE NO SEDIMENT ENTERS THE FACILITY ONCE THE CONVERSION IS COMPLETE.
2. REMOVE Baffle WALLS IF REQUIRED.
3. ANY EARTHWORK NECESSARY TO REMOVE SEDIMENT FROM THE BASINS AND EXCAVATION REQUIRED TO PLACE THE SOLVENTION, DEPENDING ON THE FACILITY.
4. THE TEMPORARY E&S BMPs (SKIMMER OR TEMPORARY RBSR) SHALL REMAIN IN PLACE AS LONG AS PRACTICAL. ONCE THESE STRUCTURES CAN NO LONGER BE LEFT IN PLACE DUE TO HAVING TO PLACE SOLLS/STONE, REMOVE THEM AND UNPLUG THE TEMPORARY DEWATERING ORIFICE AT THE BOTTOM OF THE OUTLET STRUCTURE.
5. PLACE THE BASINS ACCORDING TO THE LANDSCAPE PLAN AND STABILIZE IMMEDIATELY.
6. ONCE PLANT MATERIAL HAS ESTABLISHED THE TEMPORARY DEWATERING ORIFICE SHALL BE PERMANENTLY PLUGGED AND SHALL BE WATER TIGHT.

- 1. CONSTRUCTION OF THE VEGETATED SWALES #11, #17 AND #18
2. CONVERSION OF SEDIMENT BASIN #2; FOREBAY #1, AND SEDIMENT TRAPS #3 TO #6 TO BIOTRETION BASINS
3. INSTALLATION OF LANDSCAPING
4. INSTALLATION OF WATER QUALITY FILTERS

CRITICAL STAGES

- 1. CONSTRUCTION OF THE VEGETATED SWALES #11, #17 AND #18
2. CONVERSION OF SEDIMENT BASIN #2; FOREBAY #1, AND SEDIMENT TRAPS #3 TO #6 TO BIOTRETION BASINS
3. INSTALLATION OF LANDSCAPING
4. INSTALLATION OF WATER QUALITY FILTERS

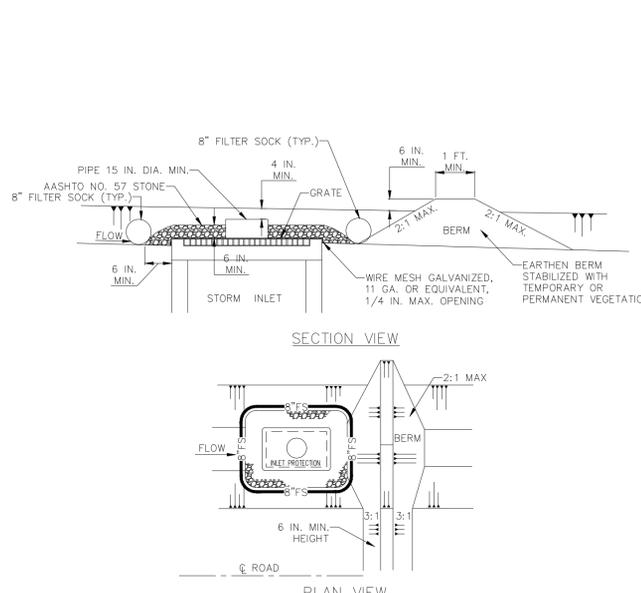
CHESTER COUNTY GENERAL EROSION AND SEDIMENTATION CONTROL NOTES:

- OWNER/OPERATOR WILL BE RESPONSIBLE FOR THE PROPER CONSTRUCTION, STABILIZATION, AND MAINTENANCE OF ALL EROSION AND SEDIMENTATION CONTROLS AND RELATED ITEMS INCLUDING THESE PLANS.
ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS, SHALL BE DONE IN ACCORDANCE WITH APPROVED E&S PLANS. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN STAMPED, SIGNED, AND DATED BY THE REVIEWING AGENCY MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO THE IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE CHESTER COUNTY CONSERVATION DISTRICT, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPILL AND BORROW AREAS, REGARDLESS OF THEIR LOCATIONS.
1. THE PROJECT SITE SHALL AT ALL TIME BE AVAILABLE FOR INSPECTION BY AUTHORIZED OFFICERS AND EMPLOYEES OF THE FOLLOWING AGENCY:
CHESTER COUNTY CONSERVATION DISTRICT (CCCD)
688 UNIONVILLE ROAD, SUITE 200, KENNETT SQUARE, PA 19348
PHONE: (610) 925-4520; FAX: (610) 925-4525
2. THE RECEIVING WATERS FOR THE PROJECT ARE THOSE OF THE PICKERING CREEK. THE CHAPTER 93 CLASSIFICATION FOR THE RECEIVING WATER DISCHARGING FROM THE PROJECT SITE IS: T5F, M1 HIGH QUALITY. TROP, STOP STOCKS, MIGRATORY FISHERS.
3. NOTIFY THE CHESTER COUNTY CONSERVATION DISTRICT AND ARRANGE A PRE-CONSTRUCTION MEETING FOR ALL INVOLVED PARTIES (INCLUDING CCOD, APPLICANT, ENGINEER, AND TOWNSHIP OFFICIALS).
4. NOTIFY THE TOWNSHIP ENGINEER AT LEAST 48 HOURS PRIOR TO ANY EARTH DISTURBANCE ACTIVITIES.
5. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN A MANNER SUCH THAT ALL EROSION AND AIR/WATER POLLUTION IS MINIMIZED. STATE AND LOCAL LAWS CONCERNING ABATEMENT SHALL BE FOLLOWED.
6. AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL.
7. THE LIMITS OF WORK SHOWN ON THIS PLAN ARE THE REAL EXIST REQUIRED FOR CONSTRUCTION. THE CONTRACTOR SHALL ADHERE TO THESE LIMITS IN MINIMIZING DISTURBANCE TO THE ADJACENT AREAS. THE LIMITS SHALL BE CONDUCTED WITHIN THESE LIMITS. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND FENCED OFF BEFORE CLEARING AND GRUBBED OPERATIONS BEGIN.
8. TOPSOIL TAKEN FROM CONSTRUCTION AREAS SHALL BE SEEDDED WITH A VEGETATIVE COVER AND STOCKPILED FOR REUSE IN FINISH GRADING. STOCKPILE HEIGHTS SHALL NOT EXCEED 10 FEET. MULCH OR FLATLIER, SILT FENCINGS SHALL BE INSTALLED ON THE LOW SIDE OF THE PILE. THESE SHALL BE EARTH DISTURBANCE WITHIN THE STOCKPILE AREA.
9. SHOULD UNFORESEEN EROSION CONDITIONS DEVELOP DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE ACTION TO REMEDY SUCH CONDITIONS AND TO PREVENT DAMAGE TO ADJACENT PROPERTIES AND STREAMS IN ACCORDANCE WITH PAODT 408, SECTION 645. STOCKPILES OF CRUSHED STONE AND MULCHES MUST BE RELOCATED AT THE SITE IN ACCORDANCE WITH EMERGENCY PROBLEMS OF EROSION.
10. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 2601.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE. CONSTRUCTION WASTES MUST BE RECYCLED TO THE EXTENT PRACTICABLE, AND DISPOSAL METHODS MUST COMPLY WITH FEDERAL, STATE AND LOCAL REQUIREMENTS.
11. ALL OFF-SITE WASH AND BORROW AREAS MUST HAVE AN E&S PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.
12. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FORM-P-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.
13. ALL PUMPS OF SEDIMENT LADEN WATER OR POTENTIALLY SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NON-DISTURBED AREAS.
14. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION BMPs MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION BMPs AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS.
15. ALL SITE INSPECTIONS WILL BE DOCUMENTED IN AN INSPECTION LOG KEPT FOR THIS PURPOSE. THE COMPLIANCE ACTIONS AND THE DATE, TIME AND NAME OF THE PERSON CONDUCTING THE INSPECTION. THE INSPECTION LOG WILL BE KEPT ON SITE AT ALL TIMES AND MADE AVAILABLE TO THE DISTRICT UPON REQUEST.
16. ALL PREVENTIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN UP, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING, MUST BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENTATION BMPs FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPs OR MODIFICATIONS OF THOSE INSTALLED WILL BE NEEDED.
17. SEDIMENT TRACKING: THE CONTRACTOR SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORKDAY OR AS NEEDED AND DIRECTED BY THE CHESTER COUNTY CONSERVATION DISTRICT OR THE LOCAL MUNICIPALITY AND DISPOSED IN A MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELLED OR SWEEP INTO ANY ROAD SIDE DITCH, STORM SEWER OR SURFACE WATER.
18. ALL SEDIMENT REMOVED FROM SOLLS SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS.
19. AREAS WHICH ARE TO BE TOP-SOILED SHALL BE SCAPIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES (6 TO 12 INCHES ON COMPACTED SOLLS) PRIOR TO THE PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING, I.E. MUDS.
20. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES, CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
21. ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.
22. FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOIL, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
23. FROZEN MATERIALS OF SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.
24. FILLS SHALL NOT BE PLACED ON SATURATED OR PROHLY SURFACES.
25. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATIONS FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.
26. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED WITHIN 90 FEET OF A SURFACE WATER, OR AS OTHERWISE SHOWN ON THE PLAN DRAWINGS, SHALL BE BLANKETED ACCORDING TO THE STANDARDS OF THE RFI.
27. ANY DISTURBED AREA, ON WHICH ACTIVITY HAS CEASED FOR ANY AMOUNT OF TIME, MUST BE SEEDDED AND MULCHED IMMEDIATELY. DURING NON-GERMINATING PERIODS, MULCH OR PROTECTIVE BLANKETING SHALL BE APPLIED AS DESCRIBED IN THE PLAN. DISTURBED AREAS WHICH ARE NOT AT FINISH GRADE SHALL BE RELOCATED TO AN AREA WITHIN THE PROJECT LIMITS. DISTURBED AREAS WHICH ARE NOT AT FINISH GRADE SHALL BE RELOCATED TO AN AREA WITHIN THE PROJECT LIMITS. DISTURBED AREAS WHICH ARE EITHER AT FINISH GRADE OR WILL NOT BE RE-DISTURBED WITHIN ONE YEAR MUST BE SEEDDED WITH A PERMANENT SEED MIXTURE AND MULCHED.
28. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED PERMANENT STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT VEGETATIVE COVER WHICH IS SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.
29. E&S BMPs SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY OTHER BMP APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT.
30. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT FOR AN INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE E&S BMPs.
31. AFTER FINAL 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 VEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING SEASON.
32. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT TO SCHEDULE A FINAL INSPECTION.
33. FAILURE TO CORRECTLY INSTALL E&S BMPs, FAILURE TO PREVENT SEDIMENT LADEN RUNOFF FROM LEAVING THE 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. PENALTIES AS DESCRIBED IN THIS PLAN WILL BE APPLIED TO ANY VIOLATIONS FOR UP TO \$10,000 PER VIOLATION FOR EACH VIOLATION. CIVIL PENALTIES, UP TO \$100,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO \$25,000 IN MISDEMEANOR OR CRIMINAL PENALTIES FOR EACH VIOLATION.
34. THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE APPENDIX 6A, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL PROTECTION, SUBPART C, PROTECTION OF NATURAL RESOURCES, ARTICLE II, WATER RESOURCES, CHAPTER 107, EROSION CONTROL.
35. THE PERMITTEE SHALL NOTIFY THE CHESTER COUNTY CONSERVATION DISTRICT IMMEDIATELY UPON ANY CESSATION IN EARTHMOVING ACTIVITIES.
36. EROSION AND SEDIMENTATION CONTROLS MUST BE CONSTRUCTED, STABILIZED AND FUNCTIONAL BEFORE GENERAL SITE DISTURBANCE WITHIN THE TRIBUTARY AREA OF THOSE CONTROLS BEGINS. RUNOFF FROM DISTURBED AREAS MUST PASS THROUGH A SEDIMENT REMOVAL OR RETENTION FACILITY BEFORE LEAVING THE SITE.
37. ONLY LIMITED UP-SLOPE DISTURBANCE WILL BE PERMITTED TO PROVIDE ACCESS TO SEDIMENT TRAPS AND CHANNELS OF CONVEYANCE FOR GRADING AND ACQUIRING BORROW TO CONSTRUCT THOSE CONTROLS.
38. WHERE BMPs ARE FOUND TO FAIL TO ALLEVATE EROSION OR SEDIMENT POLLUTION THE PERMITTEE OR CO-PERMITTEE SHALL INCLUDE THE FOLLOWING INFORMATION:
A. THE LOCATION AND SEVERITY OF THE BMPs FAILURE AND ANY POLLUTION EVENTS.
B. ALL STEPS TAKEN TO REDUCE, ELIMINATE AND PREVENT THE REOCCURENCE OF THE NON-COMPLIANCE.
C. THE TIME FRAME TO CORRECT THE NON-COMPLIANCE, INCLUDING THE EXACT DATES WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE.
39. ACCUMULATED SILT SHALL BE REMOVED ALONG SILT FENCINGS OR COMPOST FILTER SOCKS, REGRADED, AND STABILIZED ELSEWHERE ON THE SITE. SILT SHALL ALSO BE REMOVED FROM THE SEDIMENT TRAPS AT THE CLEANOUT ELEVATIONS. THE SILT SHALL BE SPREAD ELSEWHERE ON THE SITE AND SEEDDED.
40. SHOULD ANY MEASURES CONTAINED WITHIN THIS PLAN PROVE TO BE INCAPABLE OF ADEQUATELY REMOVING SEDIMENT FROM ON-SITE FLOWS PRIOR TO THE DISCHARGE (PRIOR STABILIZATION OF SURFACE FLOWS INVOLVED), ADDITIONAL MEASUREMENT MUST BE IMPLEMENTED IMMEDIATELY BY THE OWNER/DEVELOPER TO ELIMINATE SUCH PROBLEMS.
41. FILLS GREATER THAN 3'1 AND CUTS GREATER THAN 3'1 SHALL BE SEEDDED AND MULCHED, AND PROTECTED WITH EROSION CONTROL MATTING (SEE INSTALLATION INSTRUCTIONS).
42. CHANNELS, SEDIMENTATION BASINS, SEDIMENTATION TRAPS AND STOCKPILES MUST BE SEEDDED AND MULCHED IMMEDIATELY.
43. GRADED AREAS ARE TO BE TEMPORARILY SEEDDED AND MULCHED IMMEDIATELY FOLLOWING EARTHMOVING PROCEDURES. TEMPORARY SEED SHALL BE ANNUAL RYE GRASS APPLIED AT THE RATES SPECIFIED. MULCH SHALL BE HAY OR STRAW APPLIED AT THE RATE AT LEAST 3 TONS PER ACRE.
44. LIME SHALL BE APPLIED TO ALL TEMPORARILY SEEDDED AREAS AT A MINIMUM RATE AS SPECIFIED.
45. ALL TEMPORARILY SEEDDED AREAS SHALL HAVE 10-10-10 FERTILIZER APPLIED AT THE RATE OF 500 LBS /ACRE (125 LBS /1,000 SF) OR AS DIRECTED.
46. ESTABLISH PERMANENT SEEDING AS SOON AS POSSIBLE AFTER FINAL GRADING IS COMPLETED. PERMANENT SEEDING SHALL BE AT THE RATES SPECIFIED. FERTILIZER AND LIME SHALL BE APPLIED AS NECESSARY TO OBTAIN THESE CHARACTERISTICS.
47. PERMANENT SEEDDED AREAS SHALL HAVE HAY OR STRAW APPLIED AT THE RATE OF AT LEAST 3 TONS PER ACRE.
48. ANY AREAS WHERE HYDROSEED IS USED, MULCH IS NEEDED AT A MINIMUM RATE OF 3 TONS PER ACRE.
49. SILT FENCINGS AND COMPOST FILTER SOCKS ARE TO BE MAINTAINED, AND REPLACED IF NECESSARY, DURING THE ENTIRE CONSTRUCTION PERIOD UNTIL A PERMANENT VEGETATIVE COVER WITHIN THE TRIBUTARY AREAS IS ESTABLISHED.
50. THERE IS TO BE NO EARTH DISTURBANCE OR VEGETATIVE CLEARING IN AREAS OF STAKED (OR FENCED) WETLANDS. EARTH DISTURBANCE WITHIN THESE AREAS WITHOUT THE REQUIRED PERMITS WILL RESULT IN POTENTIAL VIOLATION OF COMMONWEALTH AND FEDERAL WETLANDS REGULATIONS.
51. DUST CONTROL SHALL BE PROVIDED BY THE CONTRACTOR AT ALL TIMES DURING CONSTRUCTION.
52. CONSTRUCTION VEHICLES LEAVING THE SITE SHALL NOT DEPOSIT ANY MATERIAL OUTSIDE OF THE PROJECT SITE BOUNDARIES AND/OR A PUBLIC RIGHT-OF-WAY. ANY MATERIAL DEPOSITED SHALL BE IMMEDIATELY REMOVED.
53. IF ANY SIGNIFICANT CHANGES ARE TO BE MADE TO THE EROSION AND SEDIMENTATION CONTROL PLAN, THE BUILDER OR LANDOWNER WILL CONTACT THE CHESTER COUNTY CONSERVATION DISTRICT AT (610) 925-4520 FOR THE ADEQUACY OF THESE CHANGES. THESE CHANGES WILL BE REVIEWED AND APPROVED IMMEDIATELY.
54. SEDIMENT MUST BE REMOVED FROM STORMWATER INLETS NOT DRAINING TO A SEDIMENT TRAP WITH INLET PROTECTION AFTER EACH RUNOFF EVENT.

MAINTENANCE PROGRAM

§102.4(b)(5)(x)

- THE FOLLOWING MAINTENANCE PROGRAM HAS BEEN DEVELOPED TO PROVIDE FOR THE INSPECTION OF BMPs ON A WEEKLY BASIS AND AFTER EACH MEASURABLE RUNOFF EVENT, AND TO INCLUDE THE REPAIR OF THE BMPs TO ENSURE THEIR EFFECTIVE AND EFFICIENT OPERATION.
UNTIL THE SITE IS STABILIZED AND DURING CONSTRUCTION ACTIVITIES, ALL BMPs MUST BE MAINTAINED PROPERLY BY THE CONTRACTOR. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL BMPs AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN-OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING, AND RENETTING MUST BE PERFORMED IMMEDIATELY AND IN ACCORDANCE WITH THESE PROCEDURES. PLANS AND DETAILS OF ANY AREAS DISTURBED DURING MAINTENANCE MUST BE STABILIZED IMMEDIATELY AND IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS. ALL SITE INSPECTIONS WILL BE DOCUMENTED IN AN INSPECTION LOG KEPT FOR THIS PURPOSE. NOTICING THE COMPLIANCE ACTIONS AND THE DATE, TIME AND NAME OF THE PERSON CONDUCTING THE INSPECTION. THE INSPECTION LOG MUST BE KEPT ON SITE AT ALL TIMES AND MADE AVAILABLE TO THE DISTRICT UPON REQUEST.
• COMPOST FILTER SOCK - INSPECTIONS SHALL BE CONDUCTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. NEEDED REPAIRS SHOULD BE INITIATED IMMEDIATELY AFTER THE INSPECTION. ACCUMULATED SEDIMENT SHALL BE REMOVED ONCE IT REACHES 1/2 THE ABOVE GROUND SOCK. THE SEDIMENT SHALL BE DISPOSED OF ON SITE AND/OR IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. DAMAGED SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPE



NOTES:

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS NOT LOCATED AT A LOW POINT.

ROLLED EARTHEN BERM IN ROADWAY SHALL BE PROVIDED AND MAINTAINED IMMEDIATELY DOWN GRADIENT OF THE PROTECTED INLET UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR TO REMAIN PERMANENTLY.

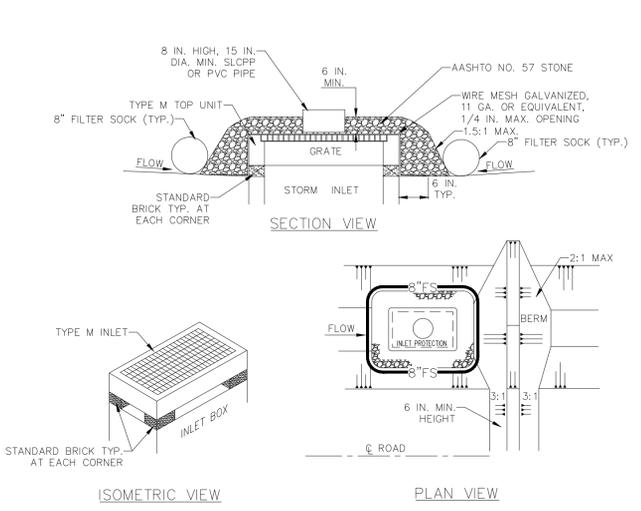
STONE INLET PROTECTION AND BERM FOR A TYPE M INLET CAN BE USED IN ONE ACRE MAXIMUM DRAINAGE AREA WITH 15 IN. OVERFLOW PIPE AND 4 IN. HEAD. A PERFORATED PLATE WELDED TO A METAL RISER MAY NOT BE SUBSTITUTED FOR THE WIRE MESH. A SLOTTED PLATE WELDED TO THE RISER MAY BE USED IN CONJUNCTION WITH THE WIRE MESH IF CALCULATIONS ARE PROVIDED TO SHOW SUFFICIENT CAPACITY OF THE INLET TO ACCEPT THE PEAK RUNOFF FOR A 2-YEAR STORM EVENT FROM THE TRIBUTARY DRAINAGE AREA. TOP OF PIPE SHALL BE AT LEAST 6 INCHES BELOW ADJACENT ROADWAY IF PONDED WATER WOULD POSE A SAFETY HAZARD TO TRAFFIC. EARTHEN BERM SHALL BE ROLLED.

SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE. DAMAGED OR CLOGGED INSTALLATIONS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

FOR SYSTEMS DISCHARGING TO HQ OR EV SURFACE WATER, PROVIDE AN 8" COMPOST FILTER SOCK AROUND, AND SECURED, THE STONE, TO MAKE PRACTICE ABACT COMPLIANT.

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

STANDARD CONSTRUCTION DETAIL #4-20
STONE INLET PROTECTION AND BERM - TYPE M INLET
NOT TO SCALE



NOTES:

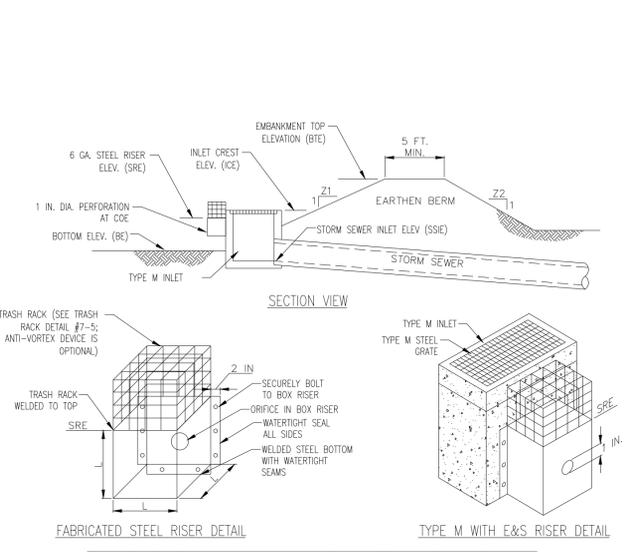
INLET PROTECTION SHALL NOT BE REQUIRED FOR INLETS TRIBUTARY TO SEDIMENT BASINS OR SEDIMENT TRAPS. ALTERNATE TYPE C INLET PROTECTION CAN BE USED ON ONE ACRE MAXIMUM DRAINAGE AREA WITH 15 IN. OVERFLOW PIPE AND 4 IN. HEAD.

BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS NOT LOCATED AT LOW POINTS. EARTHEN BERMS SHALL BE STABILIZED WITH VEGETATION AND MAINTAINED UNTIL ROADWAY IS STONED OR TRIBUTARY AREA IS PERMANENTLY VEGETATED. ROAD SUBBASE BERMS SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED.

INLETS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE. DAMAGED INSTALLATIONS SHALL BE REPAIRED OR REPLACED WITHIN 24 HOURS OF INSPECTION.

FOR SYSTEMS DISCHARGING TO HQ OR EV SURFACE WATER, AN 8" FILTER SOCK SHALL BE PLACED AROUND, AND SECURED AROUND THE STONE, TO MAKE PRACTICE ABACT COMPLIANT.

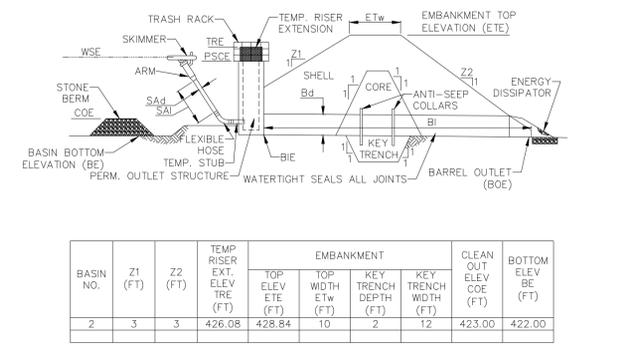
STANDARD CONSTRUCTION DETAIL #4-23
ALTERNATE TYPE M INLET PROTECTION - NOT AT GRADE
NOT TO SCALE



BASIN NO.	TEMPORARY STUB		PERMANENT RISER		RISER EXTENSION		BARREL	
	INSIDE DIA (IN)	INVERT ELEV (FT)	CREST ELEV PSCE (FT)	LENGTH (FT)	WIDTH (IN)	CREST ELEV (FT)	LENGTH (IN)	WIDTH (IN)
2	4	422.00	PVC	426.00	48	24	426.08	48

TRAP NO.	Z1 (FT)	Z2 (FT)	LENGTH (FT)	FABRICATED RISER		STORM SEWER INVERT ELEV. SSS (FT)	INLET CREST ELEV. ICE (FT)	EMBANK. TOP ELEV. BIE (FT)	BOTTOM ELEV. BE (FT)
				STEEL RISER ELEV. SRE (FT)	PERF. ELEV. COE (FT)				
3	3	3	2.0	453.00	452.00	449.27	453.10	455.00	451.00
4	3	3	2.0	448.00	447.00	442.58	447.80	449.50	446.00
5	3	3	2.0	443.00	442.00	438.08	442.75	445.00	441.00
6	3	3	2.0	440.50	439.00	435.18	439.80	442.00	438.00

STANDARD CONSTRUCTION DETAIL #7-2
SKIMMER ATTACHED TO PERMANENT RISER
NOT TO SCALE



BASIN NO.	Z1 (FT)	Z2 (FT)	TEMP RISER EXT. ELEV. TRE (FT)	EMBANKMENT			CLEAN OUT ELEV. COE (FT)	BOTTOM ELEV. BE (FT)
				TOP ELEV. ETE (FT)	TOP WIDTH ETw (FT)	KEY TRENCH DEPTH (FT)		
2	3	3	426.08	428.84	10	2	423.00	422.00

BASIN NO.	SKIMMER		OUTLET BARREL					
	DIA SAG (IN)	LENGTH SAi (FT)	DIA Bg (IN)	INLET ELEV. BIE (FT)	MAT'L	LENGTH BI (FT)	OUTLET ELEV. BOE (FT)	
2	4	5.8	PVC	18	420.23	RCP	36	420.05

NOTES:

SEDIMENT BASINS, INCLUDING ALL APPURTENANT WORKS, SHALL BE CONSTRUCTED TO THE DETAIL AND DIMENSIONS SHOWN ON THE E&S PLAN DRAWINGS.

AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED, AND STRIPPED TO THE DEPTH OF TWO FEET PRIOR TO ANY PLACEMENT AND COMPACTION OF EARTHEN FILL. IN ORDER TO FACILITATE MAINTENANCE AND RESTORATION, THE POOL AREA SHALL BE CLEARED OF ALL BRUSH, TREES, AND OBSTACLES. MATERIAL FILL MATERIAL FOR THE EMBANKMENTS SHALL BE FREE OF ROOTS, OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE COMPACTED IN LAYERED LIFTS OF NOT MORE THAN 6 TO 9 IN. IN THE MAXIMUM ROCK SIZE SHALL BE NO GREATER THAN 2/3 THE LIFT THICKNESS.

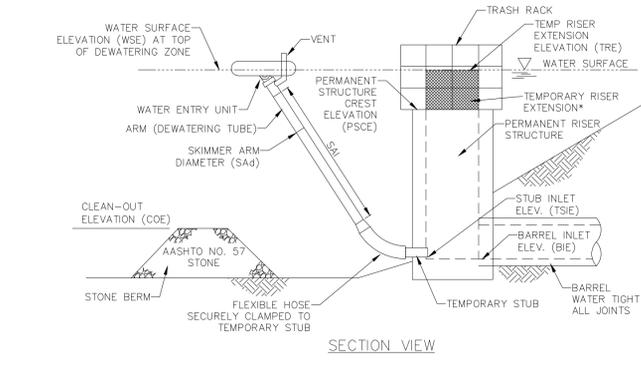
UPON COMPLETION, THE EMBANKMENT SHALL BE SEED, MULCHED, BLANKETED OR OTHERWISE STABILIZED ACCORDING TO THE SPECIFICATIONS OF THE E&S PLAN DRAWINGS. TREES SHALL NOT BE PLANTED ON THE EMBANKMENT.

INSPECT ALL SEDIMENT BASINS ON AT LEAST A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. PROVIDE ACCESS FOR SEDIMENT REMOVAL AND OTHER REQUIRED MAINTENANCE ACTIVITIES. A CLEAN OUT STAKE SHALL BE PLACED NEAR THE CENTER OF EACH BASIN. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED THE CLEAN OUT ELEVATION ON THE STAKE AND THE BASIN RESTORED TO ITS ORIGINAL DIMENSIONS. DISPOSE OF MATERIALS REMOVED FROM THE BASIN IN THE MANNER DESCRIBED IN THE E&S PLAN.

BASIN EMBANKMENTS, SPILLWAYS, AND OUTLETS SHALL BE INSPECTED FOR EROSION, PIPING AND SETTLEMENT. NECESSARY REPAIRS SHALL BE IMMEDIATELY DISPLACED RIPRAP WITHIN THE OUTLET ENERGY DISSIPATER SHALL BE REPLACED IMMEDIATELY.

ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISTURBED AREAS SHALL BE STABILIZED INSIDE THE BASIN BEFORE CONVERSION TO A STORMWATER MANAGEMENT FACILITY. THE DEVICE SHOWN IN STANDARD CONSTRUCTION DETAIL #7-16 MAY BE USED TO DEWATER SATURATED SEDIMENT PRIOR TO ITS REMOVAL. ROCK FILTERS SHALL BE ADDED AS NECESSARY.

STANDARD CONSTRUCTION DETAIL #7-16
BASIN SPILLWAY LINING DETAIL
SCALE: N.T.S.



BASIN NO.	WATER SURFACE ELEV. WSE (FT)	ORIFICE		SKIMMER		FLEXIBLE HOSE	
		DIA. (IN)	HEAD (FT)	DIA. SAG (IN)	LENGTH SAL (FT)	DIA. (IN)	LENGTH (IN)
2	426.08	4.00	4.08	4	5.8	PVC	36

NOTES:

ALL ORIFICES ON PERMANENT RISER BELOW TEMPORARY RISER EXTENSION SHALL HAVE WATER-TIGHT TEMPORARY SEALS PROVIDED. TEMPORARY STUB INVERT ELEVATION SHALL BE SET AT OR BELOW SEDIMENT CLEAN-OUT ELEVATION.

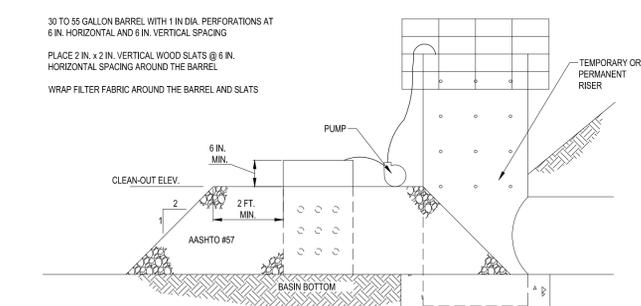
A ROPE SHALL BE ATTACHED TO THE SKIMMER ARM TO FACILITATE ACCESS TO THE SKIMMER ONCE INSTALLED.

SKIMMER SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. ANY MALFUNCTIONING SKIMMER SHALL BE REPAIRED OR REPLACED WITHIN 24 HOURS OF INSPECTION.

ICE OR SEDIMENT BUILDUP AROUND THE PRINCIPAL SPILLWAY SHALL BE REMOVED SO AS TO ALLOW THE SKIMMER TO RESPOND TO FLUCTUATING WATER ELEVATIONS.

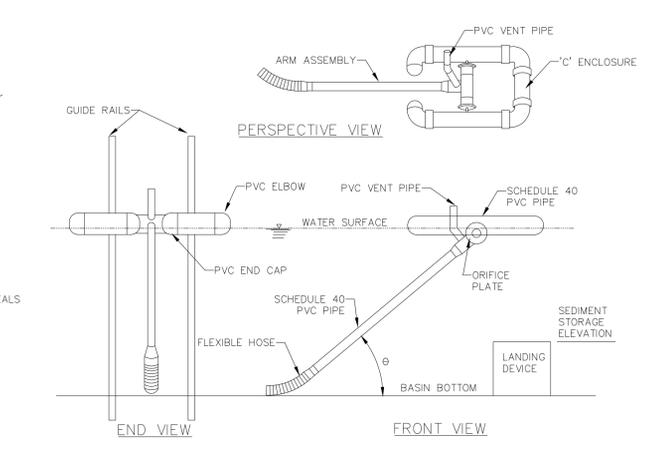
SEDIMENT SHALL BE REMOVED FROM THE BASIN WHEN IT REACHES THE LEVEL MARKED ON THE SEDIMENT CLEAN-OUT STAKE OR THE TOP OF THE STONE BERM. SEE STANDARD CONSTRUCTION DETAIL #7-3 FOR CONFIGURATION OF STONE BERM.

STANDARD CONSTRUCTION DETAIL #7-18
SEDIMENT BASIN OR SEDIMENT TRAP
SEDIMENT STORAGE DEWATERING FACILITY
NOT TO SCALE



BASIN OR TRAP NO.	PIPE SIZE (IN)	S (IN)	NO. OF COLLARS	RISER TO FIRST COLLAR (FT)	COLLAR SPACING (FT)
2	18	66	2	11	10

STANDARD CONSTRUCTION DETAIL #7-19
CONCRETE ANTI-SEEP COLLAR FOR PERMANENT BASINS OR TRAPS
NOT TO SCALE



BASIN NO.	WATER SURFACE ELEVATION (FT)	ARM LENGTH (FT)	ARM DIA. (IN)	ORIFICE DIA. (IN)	TOP OF LANDING DEVICE ELEVATION (FT)	FLEXIBLE HOSE LENGTH (IN)	FLEXIBLE HOSE ATTACHMENT ELEVATION (FT)

NOTES:

ORIFICE DIAMETER MUST BE EQUAL TO OR LESS THAN ARM DIAMETER

A ROPE SHALL BE ATTACHED TO THE SKIMMER ARM TO FACILITATE ACCESS TO THE SKIMMER ONCE INSTALLED.

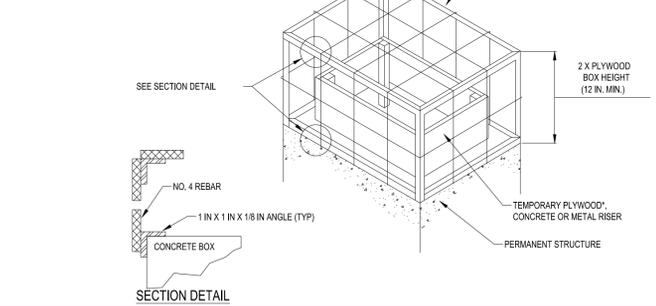
SKIMMER SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. ANY MALFUNCTIONING SKIMMER SHALL BE REPAIRED OR REPLACED WITHIN 24 HOURS OF INSPECTION.

ICE OR SEDIMENT BUILDUP AROUND THE PRINCIPAL SPILLWAY SHALL BE REMOVED SO AS TO ALLOW THE SKIMMER TO RESPOND TO FLUCTUATING WATER ELEVATIONS.

SEDIMENT SHALL BE REMOVED FROM THE BASIN WHEN IT REACHES THE LEVEL MARKED ON THE SEDIMENT CLEAN-OUT STAKE OR THE TOP OF THE LANDING DEVICE.

A SEMI-CIRCULAR LANDING ZONE MAY BE SUBSTITUTED FOR THE GUIDE RAILS (STANDARD CONSTRUCTION DETAIL # 7-3).

STANDARD CONSTRUCTION DETAIL #7-10
TEMPORARY RISER EXTENSION AND TRASH RACK FOR PERMANENT STRUCTURE
NOT TO SCALE



NOTES:

BOX SHALL BE BOLTED, STRAPPED, OR OTHERWISE SECURED TO THE PERMANENT RISER.

TOP OF TEMPORARY RISER EXTENSION SHALL BE AT LEAST AS HIGH AS SEDIMENT BASIN TEMPORARY RISER AND SHALL BE 6 IN. (MINIMUM) BELOW CREST OF EMERGENCY SPILLWAY.

ALL JOINTS SHALL BE WATER TIGHT.

CLOGGED OR DAMAGED SPILLWAYS SHALL BE REPAIRED IMMEDIATELY. TRASH AND OTHER DEBRIS SHALL BE REMOVED FROM THE BASIN AND RISER.

STANDARD CONSTRUCTION DETAIL #7-11
ORIFICE PLATE DETAIL
N.T.S.



BASIN #	SPILLWAY CREST ELEV.	TOP OF BERM ELEV.	SPILLWAY WIDTH	SPILLWAY LINING
1	434.00	436.00	50.00	NAG SC-250
2	426.51	428.04	75.00	NAG SC-250
3	453.50	455.00	75.00	NAG SC-250
4	448.00	449.50	75.00	NAG SC-250
5	443.50	445.00	40.00	NAG SC-250
6	440.50	442.00	75.00	NAG SC-250

STANDARD CONSTRUCTION DETAIL #7-12
BASIN SPILLWAY LINING DETAIL
SCALE: N.T.S.

BOHLER

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

REVISIONS

REV	DATE	COMMENT	DRAWN BY	CHECKED BY
1	05/25/2022	REV. PER TOWNSHIP COMMENTS	LGU	MJB
2	07/08/2022	REV. PER NPDES MINOR MOD COMMENTS	JRK	LGU
3	12/07/2022	REV. PER TOWNSHIP COMMENTS	JRK	KHD
4	04/21/2023	REV. PER TOWNSHIP COMMENTS	JRK	LGU/BG
5	04/18/2024	REV. PER CLIENT COMMENTS	ACB	CDP
6	05/31/2024	REV. PER TOWNSHIP COMMENTS	TWB	CDP
7	12/19/2024	REV. PER RFIS	LLZ	CDP
8	05/30/2025	REV. PER NEW BUILDING		

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AMENDED FINAL PRD PLANS

FOR

PROSPERITY PROPERTY INVESTMENTS, LLC

"FINAL PLAN FOR LOT 2B OF PARCEL 5C"

PROPOSED COMMERCIAL DEVELOPMENT

GRAPHITE MINE ROAD & STATION BOULEVARD
UPPER UWCHLAN TOWNSHIP
CHESTER COUNTY
COMMONWEALTH OF PENNSYLVANIA

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SHEET TITLE:
SOIL EROSION & SEDIMENT POLLUTION CONTROL DETAILS

SHEET NUMBER:
C-605

15 OF 36

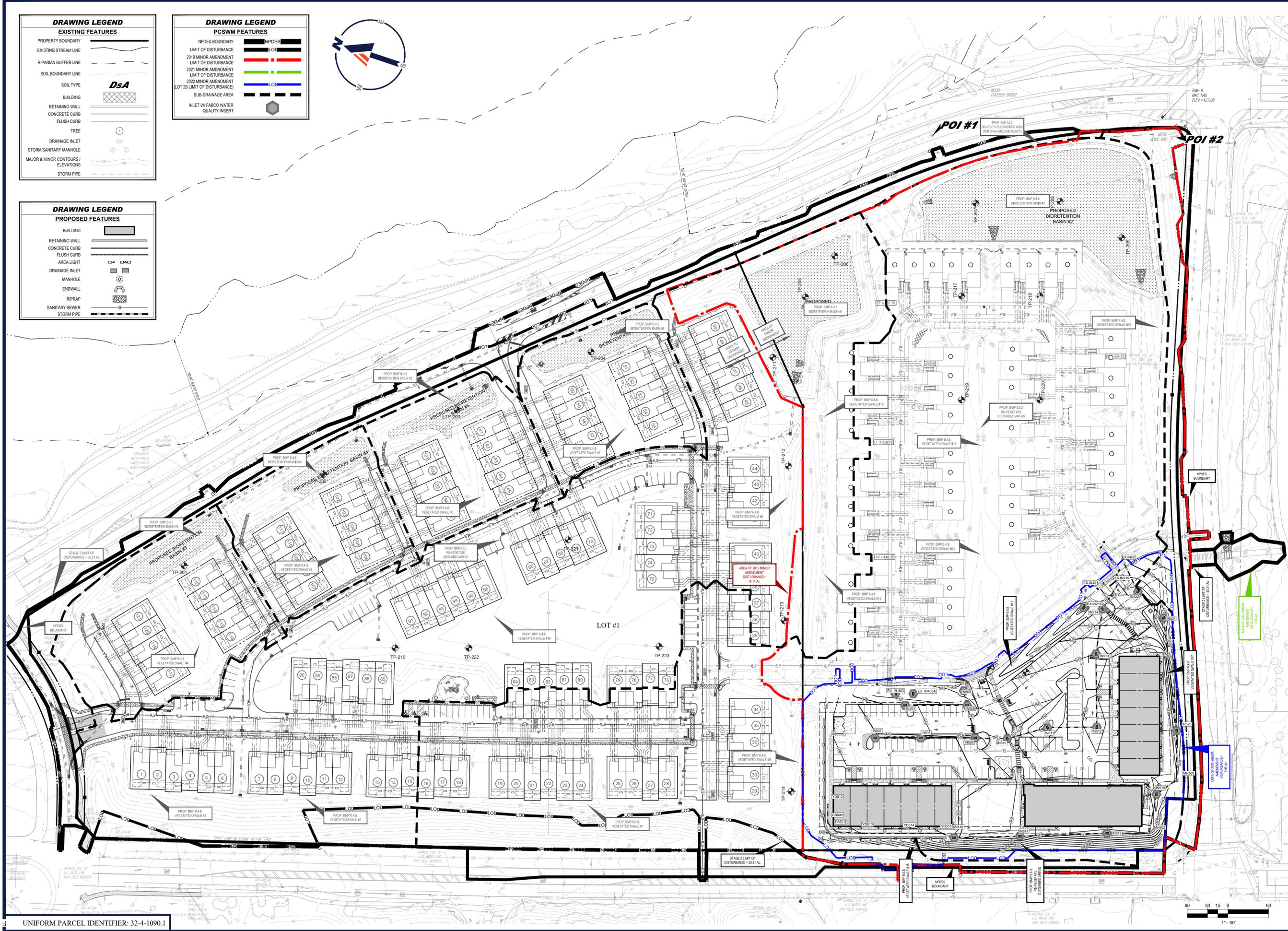
REVISION 8 - 05/30/2025

DRAWING LEGEND	
EXISTING FEATURES	
PROPERTY BOUNDARY	
EXISTING STREAM LINE	
RIPARIAN BUFFER LINE	
SOIL BOUNDARY LINE	
SOIL TYPE	
BUILDING	
RETAINING WALL	
CONCRETE CURB	
FLUSH CURB	
TREE	
DRAINAGE INLET	
STORM/SANITARY MANHOLE	
MAJOR & MINOR CONTOURS / ELEVATIONS	
STORM PIPE	

DRAWING LEGEND	
PCSWM FEATURES	
NPDES BOUNDARY	
LIMIT OF DISTURBANCE	
2019 MINOR AMENDMENT LIMIT OF DISTURBANCE	
2021 MINOR AMENDMENT LIMIT OF DISTURBANCE	
2022 MINOR AMENDMENT (LOT 2B LIMIT OF DISTURBANCE)	
SUB-DRAINAGE AREA	
INLET W/ FABCO WATER QUALITY INSERT	



DRAWING LEGEND	
PROPOSED FEATURES	
BUILDING	
RETAINING WALL	
CONCRETE CURB	
FLUSH CURB	
AREA LIGHT	
DRAINAGE INLET	
MANHOLE	
ENDWALL	
RIPRAP	
SANITARY SEWER	
STORM PIPE	



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REVISIONS				
REV	DATE	COMMENT	REV. PER TOWNSHIP COMMENTS	CHECKED BY
1	05/25/2022	REV. PER TOWNSHIP COMMENTS	LGU	MJB
2	07/08/2022	REV. PER NPDES MINOR MOD	LGU	JRK
3	12/07/2022	REV. PER TOWNSHIP COMMENTS	LGU	JRK
4	04/21/2023	REV. PER TOWNSHIP COMMENTS	KHD	JRK
5	04/18/2024	REV. PER CLIENT COMMENTS	LGU/BG	CDP
6	05/31/2024	REV. PER TOWNSHIP COMMENTS	ACB	CDP
7	12/19/2024	REV. PER RFIS	TWB	CDP
8	05/30/2025	REV. PER NEW BUILDING	LLZ	CDP

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PROJECT No.: PC211160
 DRAWN BY: LGU
 CHECKED BY: C.D.P.
 DATE: 03/15/2022
 CAD ID: PC211160-LDVP-8A

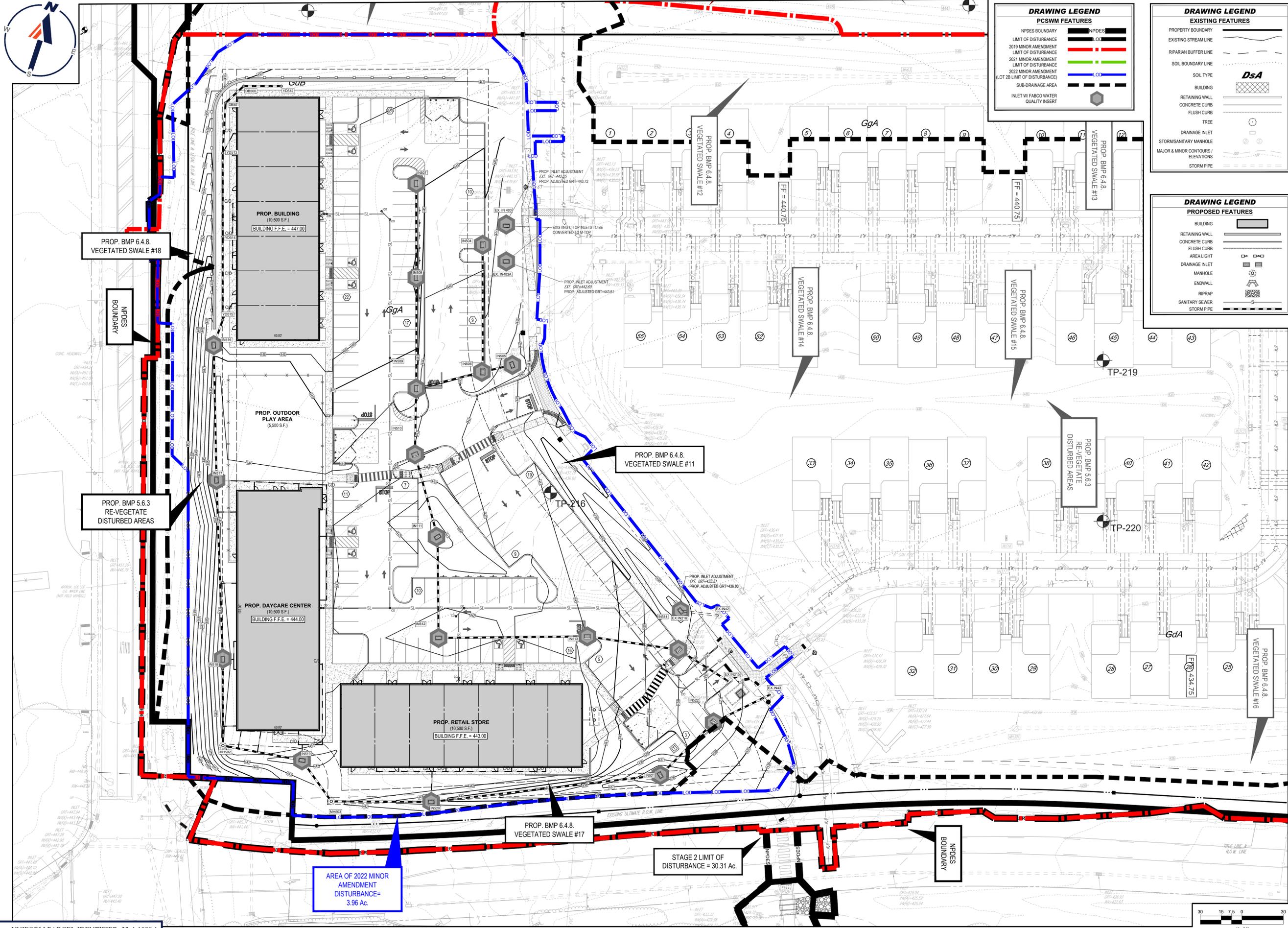
AMENDED FINAL PRD PLANS
 FOR
PROSPERITY PROPERTY INVESTMENTS, LLC
 "FINAL PLAN FOR LOT 2B OF PARCEL 5C"
 PROPOSED COMMERCIAL DEVELOPMENT
 GRAPHITE MINE ROAD & STATION BOULEVARD
 UPPER UWCHLAN TOWNSHIP
 CHESTER COUNTY
 COMMONWEALTH OF PENNSYLVANIA

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SHEET TITLE:
OVERALL POST CONSTRUCTION STORMWATER MANAGEMENT PLAN
 SHEET NUMBER:
C-608
 18 OF 36
 REVISION 8 - 05/30/2025

UNIFORM PARCEL IDENTIFIER: 32-4-1090.1



DRAWING LEGEND

PCSWM FEATURES

- NPDES BOUNDARY
- LIMIT OF DISTURBANCE
- 2019 MINOR AMENDMENT
- 2021 MINOR AMENDMENT
- 2022 MINOR AMENDMENT
- LOT 28 LIMIT OF DISTURBANCE
- SUB-DRAINAGE AREA
- INLET W/ FABCO WATER QUALITY INSERT

DRAWING LEGEND

EXISTING FEATURES

- PROPERTY BOUNDARY
- EXISTING STREAM LINE
- RIPARIAN BUFFER LINE
- SOIL BOUNDARY LINE
- SOIL TYPE
- BUILDING
- RETAINING WALL
- CONCRETE CURB
- FLUSH CURB
- TREE
- DRAINAGE INLET
- STORMSANITARY MANHOLE
- MAJOR & MINOR CONTOURS / ELEVATIONS
- STORM PIPE

DRAWING LEGEND

PROPOSED FEATURES

- BUILDING
- RETAINING WALL
- CONCRETE CURB
- FLUSH CURB
- AREA LIGHT
- DRAINAGE INLET
- MANHOLE
- ENDWALL
- RIPRAP
- SANITARY SEWER
- STORM PIPE

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REVISIONS

REV	DATE	COMMENT	CHECKED BY
1	05/25/2022	REV. PER TOWNSHIP COMMENTS	LGU
2	07/08/2022	REV. PER NPDES COMMENTS	MJB
3	12/07/2022	REV. PER TOWNSHIP COMMENTS	JRK
4	04/21/2023	REV. PER TOWNSHIP COMMENTS	KHD
5	04/18/2024	REV. PER CLIENT COMMENTS	ACB
6	05/31/2024	REV. PER TOWNSHIP COMMENTS	TWP
7	12/19/2024	REV. PER RFS COMMENTS	LLZ
8	05/30/2025	REV. PER NEW BUILDING	CDP

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AMENDED FINAL PRD PLANS

FOR
PROSPERITY PROPERTY INVESTMENTS, LLC

"FINAL PLAN FOR LOT 28 OF PARCEL 5C"
 PROPOSED COMMERCIAL DEVELOPMENT

GRAPHITE MINE ROAD & STATION BOULEVARD
 UPPER UWCHLAN TOWNSHIP
 CHESTER COUNTY
 COMMONWEALTH OF PENNSYLVANIA

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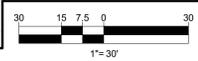
SHEET TITLE:
POST CONSTRUCTION STORMWATER MANAGEMENT PLAN

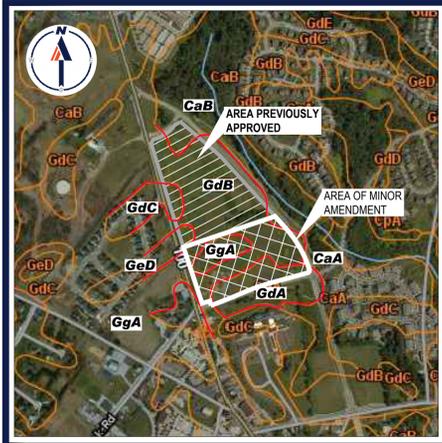
SHEET NUMBER:
C-609

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REVISION 8 - 05/30/2025

UNIFORM PARCEL IDENTIFIER: 32-4-1090.1





SITE SOIL MAP

SCALE: 1"=800'



USGS MAP

SCALE: 1"=1,000'

WATERSHED NOTES:
 THIS SUBJECT SITE IS LOCATED IN THE PICKERING CREEK WATERSHED. EXTREME CARE SHOULD BE EXERCISED IN ALL DISTURBANCE ACTIVITIES TO PREVENT DEGRADATION TO THE WATERS OF THE COMMONWEALTH.
 UPON COMPLETION OR TEMPORARY CESSATION OF EARTH DISTURBANCE ACTIVITY, OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION.
 ANY DISTURBANCE AREA ON WHICH ACTIVITY HAS CEASED MUST BE STABILIZED IMMEDIATELY. REFER TO EAS DETAILS SHEET FOR IMMEDIATE STABILIZATION CRITERIA.
 THE NON-GERMINATING PERIODS ARE BETWEEN JUNE 15 THROUGH AUGUST 15 AND BETWEEN SEPTEMBER 30 THROUGH APRIL 15. AREAS DISTURBED DURING THESE PERIODS MUST BE STABILIZED IMMEDIATELY.
 IF ANY SIGNIFICANT CHANGES ARE MADE TO THE EROSION AND SEDIMENTATION CONTROL PLANS, THE LANDOWNER MUST CONTACT THE CHESTER COUNTY CONSERVATION DISTRICT FOR THE ADEQUACY OF THE CHANGES.

- NOTES:**
1. SHOULD GROUNDWATER BE ENCOUNTERED DURING FOUNDATION OR UTILITY EXCAVATIONS, WATER SHALL BE PUMPED FROM TRENCH INTO FILTER BAGS.
 2. DUE TO GRADING LIMITATIONS OF SOILS DURING WINTER MONTHS, THE CONTRACTOR SHALL NOT GRADE THESE SOILS DURING FROSTING OR ICING CONDITIONS.
 3. SHOULD ROCK BE ENCOUNTERED DURING FOUNDATION OR UTILITY EXCAVATION, ROCK SHALL BE REMOVED AND DISPOSED OF IN A LEGAL MANNER.
 4. SOIL TEST SHOULD BE PERFORMED TO DETERMINE SOIL SUIABILITY FOR TOPSOIL, IF SOIL IS DETERMINED TO BE UNSUITABLE THEN TOPSOIL SHALL BE IMPORTED AND DISTRIBUTED THROUGHOUT THE SITE AS REQUIRED.
 5. THE SUBJECT SITE DRAINS TO PICKERING CREEK, WHICH HAS AN HQ,T5F,MF CHAPTER 93 CLASSIFICATION.

DEFINITION OF CLEAN FILL AND IMPORT/EXPORT MATERIAL NOTES TO COMPLY WITH SECTION C.3 OF NOI

IF THE SITE WILL NEED TO IMPORT OR EXPORT MATERIAL FROM THE SITE, THE RESPONSIBILITY FOR PERFORMING ENVIRONMENTAL DUE DILIGENCE AND DETERMINATION OF CLEAN FILL WILL REST WITH THE APPLICANT.

- 1) CLEAN FILL IS DEFINED AS: UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE, INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DREGGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND IS RECOGNIZABLE AS SUCH. THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH UNLESS OTHERWISE AUTHORIZED. (THE TERM "USED ASPHALT" DOES NOT INCLUDE MILLED ASPHALT OR ASPHALT THAT HAS BEEN PROCESSED FOR RE-USE.)
- 2) CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE: FILL MATERIALS AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE SHALL QUALIFY AS CLEAN FILL PROVIDED THE TESTING REVEALS THAT THE FILL MATERIAL CONTAINS CONCENTRATIONS OF REGULATED SUBSTANCES THAT ARE BELOW THE RESIDENTIAL LIMITS IN TABLES FP-1A AND FP-1B FOUND IN THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL".
- 3) ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE FORM FP-001 TO CERTIFY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUOTE THE MATERIAL AS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL. A COPY OF FORM FP-001 CAN BE FOUND AT THE END OF THESE INSTRUCTIONS.
- 4) ENVIRONMENTAL DUE DILIGENCE: THE APPLICANT MUST PERFORM ENVIRONMENTAL DUE DILIGENCE TO DETERMINE IF THE FILL MATERIALS ASSOCIATED WITH THE PROJECT QUALIFY AS CLEAN FILL. ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS: INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS. ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECTED TO A SPILL OR RELEASE OF REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPENDIX A OF THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL".

FILL MATERIAL THAT DOES NOT QUALIFY AS CLEAN FILL IS REGULATED FILL. REGULATED FILL IS WASTE AND MUST BE MANAGED IN ACCORDANCE WITH THE DEPARTMENT'S MUNICIPAL OR RESIDUAL WASTE REGULATIONS BASED ON 25 PA. CODE CHAPTERS 287 RESIDUAL WASTE MANAGEMENT OR 271 MUNICIPAL WASTE MANAGEMENT, WHICHEVER IS APPLICABLE. THE REGULATIONS ARE AVAILABLE ON-LINE AT WWW.PACODE.COM.

GEOLOGIC FORMATIONS OR SOIL CONDITIONS
 §102.8(f)(12)

THERE ARE NO KNOWN SOILS ON THE SITE WHICH COULD CAUSE POLLUTION DURING CONSTRUCTION. HOWEVER, IF SOILS ARE DISCOVERED THAT COULD CAUSE POLLUTION BELOW ARE INSTRUCTIONS FOR THE PROPER HANDLING AND/OR DISPOSAL.

- ANY HAZARDOUS OR POTENTIALLY HAZARDOUS MATERIAL THAT IS BROUGHT ONTO THE CONSTRUCTION SITE SHALL BE HANDLED PROPERLY TO REDUCE THE POTENTIAL FOR STORMWATER POLLUTION. ALL MATERIALS USED ON THIS CONSTRUCTION SITE SHALL BE PROPERLY STORED, HANDLED, DISPENSED AND DISPOSED OF FOLLOWING ALL APPLICABLE LABEL, DIRECTIONS, FLAMMABLE AND COMBUSTIBLE LIQUIDS SHALL BE STORED AND HANDLED ACCORDING TO APPLICABLE REGULATIONS, AND, AT A MINIMUM, ACCORDING TO 29 CFR 1926.152. ONLY APPROVED CONTAINERS AND PORTABLE TANKS SHALL BE USED FOR STORAGE AND HANDLING OF FLAMMABLE AND COMBUSTIBLE LIQUIDS.
- MATERIAL SAFETY DATA SHEETS (MSDS) INFORMATION SHALL BE KEPT ON SITE FOR ANY AND ALL APPLICABLE MATERIALS. HOWEVER, MSDS MAY ALSO BE ACCESSED VIA TELEPHONE OR OTHER ELECTRONIC MEANS OR APPARATUS.
- IN THE EVENT OF AN ACCIDENTAL SPILL, IMMEDIATE ACTION SHALL BE TAKEN BY THE GC TO CONTAIN AND REMOVE THE SPILLED MATERIAL. THE SPILL SHALL BE REPORTED TO THE APPROPRIATE AGENCIES IN THE REQUIRED TIME FRAMES, AS REQUIRED UNDER THE PROVISIONS OF THE CLEAN WATER ACT, ANY SPILL OR DISCHARGE ENTERING WATERS OF THE UNITED STATES SHALL BE PROPERLY REPORTED.
- ALL HAZARDOUS MATERIALS, INCLUDING CONTAMINATED SOIL AND LIQUID CONCRETE WASTE, SHALL BE DISPOSED OF BY THE CONTRACTOR IN THE MANNER SPECIFIED BY FEDERAL, STATE AND LOCAL REGULATIONS AND BY THE MANUFACTURER OF SUCH PRODUCTS.
- THE GC SHALL PREPARE A WRITTEN RECORD OF ANY SPILL AND ASSOCIATED CLEAN-UP ACTIVITIES OF PETROLEUM PRODUCTS OR HAZARDOUS MATERIALS IN EXCESS OF 1 GALLON OR REPORTABLE QUANTITIES, WHICHEVER IS LESS, ON THE DAY OF THE SPILL. THE GC SHALL PROVIDE NOTICE TO THE OWNER, VIA THE ONLINE CRITICAL INCIDENT REPORT, IMMEDIATELY UPON IDENTIFICATION OF ANY SPILL. SPILL REPORT FORMS ARE AVAILABLE IN THE ONLINE SWPPP REPORTING SYSTEM PROVIDED BY THE OWNER. COPIES OF SPILL CRITICAL INCIDENT REPORTS SHALL BE PRINTED AND MAINTAINED IN THE JOBSITE BINDER.
- ANY SPILLS OF PETROLEUM PRODUCTS OR HAZARDOUS MATERIALS IN EXCESS OF REPORTABLE QUANTITIES AS DEFINED BY EPA OR THE STATE OR LOCAL AGENCY REGULATIONS, SHALL BE IMMEDIATELY REPORTED TO THE EPA NATIONAL RESPONSE CENTER (1-800-424-8802) AND THE CHESTER COUNTY CONSERVATION DISTRICT (610-925-4920)
- AS PER THE PA GENERAL PERMIT, ANY TIME THE PERMITTEE OR CO-PERMITTEE BECOMES AWARE OF ANY INCIDENT CAUSING OR THREATENING POLLUTION AS DESCRIBED IN 25 PA. CODE SECTION 91.33, AS REQUIRED BY 25 PA. CODE SECTION 92A.41(B), THE PERMITTEE AND CO-PERMITTEE(S) SHALL, WITHIN 24 HOURS, CONTACT THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT, BY PHONE OR PERSONAL CONTACT, FOLLOWED BY SUBMISSION OF A WRITTEN REPORT WITHIN FIVE (5) DAYS OF THE INITIAL CONTACT.
- TO MINIMIZE THE POTENTIAL FOR A SPILL OF PETROLEUM PRODUCT OR HAZARDOUS MATERIALS TO COME IN CONTACT WITH STORMWATER, THE FOLLOWING STEPS SHALL BE IMPLEMENTED:

1. ALL MATERIALS WITH HAZARDOUS PROPERTIES, SUCH AS PESTICIDES, PETROLEUM PRODUCTS, FERTILIZERS, SOAPS, DETERGENTS, CONSTRUCTION CHEMICALS, ACIDS, BASES, PAINTS, PAINT SOLVENTS, STABILIZATION, CONCRETE, CURING COMPOUNDS AND ADDITIVES, ETC., SHALL BE STORED IN A SECURE LOCATION, UNDER COVER AND IN APPROPRIATE, TIGHTLY SEALED CONTAINERS WHEN NOT IN USE.
2. THE MINIMUM PRACTICAL QUANTITY OF ALL SUCH MATERIALS SHALL BE KEPT ON THE JOB SITE AND SCHEDULED FOR DELIVERY AS CLOSE TO TIME OF USE AS PRACTICAL.
3. A SPILL CONTROL AND CONTAINMENT KIT (CONTAINING FOR EXAMPLE, ABSORBENT MATERIAL SUCH AS KITTY LITTER OR SAWDUST, ACID, BASE, NEUTRALIZING AGENT, BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, PLASTIC AND METAL TRASH CONTAINERS, ETC.) SHALL BE PROVIDED AT THE CONSTRUCTION SITE AND ITS LOCATION(S) SHALL BE IDENTIFIED WITH LEGIBLE SIGNAGE AND SHOWN ON SITE MAPS.
- 3.1. THE SPILL CONTROL AND CONTAINMENT KIT SUPPLIES SHALL BE OF SUFFICIENT QUANTITIES AND APPROPRIATE CONTENT TO CONTAIN A SPILL FROM THE LARGEST ANTICIPATED PIECE OF EQUIPMENT AND FROM THE LARGEST ANTICIPATED QUANTITIES OF PRODUCTS STORED ON THE SITE AT ANY GIVEN TIME.
- 3.2. CONTENTS SHALL BE INSPECTED DAILY DURING THE DAILY STORMWATER INSPECTION.
4. ALL PRODUCTS SHALL BE STORED IN AND USED FROM THE ORIGINAL CONTAINER WITH THE ORIGINAL PRODUCT LABEL. CONTAINERS MUST BE STORED IN A MANNER TO PROTECT THEM FROM THE ELEMENTS AND INCIDENTAL DAMAGE.
5. ALL PRODUCTS SHALL BE USED IN STRICT COMPLIANCE WITH INSTRUCTIONS ON THE PRODUCT LABEL.
6. THE DISPOSAL OF EXCESS OR USED PRODUCTS SHALL BE IN STRICT COMPLIANCE WITH INSTRUCTIONS ON THE PRODUCT LABEL AND REGULATIONS.

UNIFORM PARCEL IDENTIFIER: 32-4-1090.1

PCSM - PLANNING AND DESIGN
 §102.8(d)

1. THE FOLLOWING MEASURES WERE TAKEN TO PRESERVE THE INTEGRITY OF STREAM CHANNELS AND TO MAINTAIN AND PROTECT THE PHYSICAL, BIOLOGICAL, AND CHEMICAL QUALITIES OF THE RECEIVING STREAM.
 - MAINTAIN GENERALLY THE SAME DRAINAGE PATTERNS AS IN THE EXISTING CONDITION
 - DIRECT RUNOFF FROM IMPERVIOUS SURFACES INCLUDING ROADWAYS TO BMPs.
 - THE USE OF CERTAIN NATIVE SPECIES, WHICH REQUIRES LESS FERTILIZATION AND CHEMICAL APPLICATION THAN NON-NATIVE SPECIES.
2. THE FOLLOWING MEASURES WERE TAKEN TO PREVENT AN INCREASE IN THE RATE OF STORM WATER RUNOFF.
 - DIRECT RUNOFF TO STORM WATER BASINS TO CONTROL RUNOFF RATES.
 - MAINTAIN GENERALLY THE SAME DRAINAGE PATTERNS AS IN THE EXISTING CONDITION
3. THE FOLLOWING MEASURES WERE TAKEN TO MINIMIZE ANY INCREASE IN STORM WATER RUNOFF VOLUME.
 - INTERCEPT RUNOFF & CONVEY TO BASINS.
 - RETAIN/INFILTRATE AS MUCH RUNOFF AS IS PRACTICAL FOR INFILTRATION BMPs.
 - MINIMIZE DISTURBED AREAS TO HELP REDUCE RUNOFF VOLUME.
4. THE FOLLOWING MEASURES WERE TAKEN TO MINIMIZE IMPERVIOUS AREAS:
 - MINIMIZE THE AMOUNT OF ON STREET PARKING THAT IS REQUIRED PER UPPER UPLAND TOWNSHIP CODE.
5. THE FOLLOWING MEASURES ARE TAKEN TO MAXIMIZE PROTECTION OF EXISTING DRAINAGE FEATURES AND VEGETATION.
 - SEDIMENT BASINS ARE PROPOSED TO PREVENT SEDIMENT FROM LEAVING THE SITE DURING CONSTRUCTION WHICH COULD IMPAIR DOWNSTREAM WATER COURSES.
 - INFILTRATION BASINS ARE PROPOSED TO PREVENT EXCESSIVE FLOW AND VOLUME FROM LEAVING THE SITE.
 - ONLY AREAS THAT ARE TO BE GRADED AS PART OF THIS PROJECT WILL BE DISTURBED.
 - AREAS NOT TO BE DISTURBED WILL BE PHYSICALLY MARKED TO PREVENT UNNECESSARY DISTURBANCE TO EXISTING VEGETATION.
6. THE FOLLOWING MEASURES WERE TAKEN TO MINIMIZE LAND CLEARING AND GRADING:
 - CONSTRUCTION OF THE SITE IS SEQUENCED WITH APPROPRIATE TEMPORARY STABILIZATION METHODS TO MINIMIZE THE DURATION OF EARTH DISTURBANCE.
 - ONLY AREAS THAT ARE TO BE GRADED WILL BE DISTURBED, ANY AREA THAT IS NOT TO BE GRADED WILL BE PHYSICALLY MARKED TO PREVENT UNNECESSARY DISTURBANCE.
7. THE FOLLOWING MEASURES ARE TAKEN TO MINIMIZE SOIL COMPACTION:
 - USE TREADED MACHINERY WHERE PRACTICAL DURING EARTHMOVING OPERATIONS.
 - INFILTRATION BASINS ARE USED TO PREVENT EXCESSIVE FLOWS FROM LEAVING THE SITE.
 - PHYSICALLY MARK AREAS THAT ARE NOT TO BE GRADED TO PREVENT INADVERTENT COMPACTION OF SOILS.
8. THE FOLLOWING MEASURES WERE TAKEN TO UTILIZE OTHER STRUCTURAL OR NONSTRUCTURAL BMPs THAT PREVENT OR MINIMIZE CHANGES IN STORMWATER RUNOFF:
 - INFILTRATION BASINS ARE USED TO PREVENT EXCESSIVE FLOWS FROM LEAVING THE SITE.
 - VEGETATION WILL BE INSTALLED TO PROMOTE EVAPOTRANSPIRATION OF RUNOFF IN SATURATED SOILS.

P.C.S.W.M - RECYCLING OR DISPOSAL OF MATERIALS
 §102.8(f)(11)

- 1) DUST CONTROL - CONSTRUCTION TRAFFIC MUST ENTER AND EXIT THE SITE AT THE STABILIZED CONSTRUCTION ENTRANCE. THE PURPOSE IS TO TRAP DUST AND MUD THAT WOULD OTHERWISE BE CARRIED OFF-SITE BY CONSTRUCTION TRAFFIC. WATER TRUCKS WILL BE USED AS NEEDED DURING CONSTRUCTION ON THE SITE. DUST CONTROL MUST BE PROVIDED BY THE CONTRACTOR TO A DEGREE THAT IS ACCEPTABLE TO THE LOCAL CONSERVATION DISTRICT. AFTER CONSTRUCTION, THE SITE WILL BE STABILIZED, WHICH WILL REDUCE THE POTENTIAL FOR DUST GENERATION.
- 2) SOLID WASTE DISPOSAL - NO SOLID MATERIALS, INCLUDING BUILDING MATERIALS, ARE ALLOWED TO BE DISCHARGED FROM THE SITE WITH STORMWATER. ALL SOLID WASTE, INCLUDING DISPOSABLE MATERIALS INCIDENTAL TO THE MAJOR CONSTRUCTION ACTIVITIES, MUST BE COLLECTED AND PLACED IN CONTAINERS. THE CONTAINERS WILL BE EMPTIED AS NECESSARY BY A CONTRACT TRASH DISPOSAL SERVICE AND HAULED AWAY FROM THE SITE.
- 3) SANITARY FACILITIES - ALL PERSONNEL INVOLVED WITH CONSTRUCTION ACTIVITIES MUST COMPLY WITH STATE AND LOCAL SANITARY OR SEPTIC SYSTEM REGULATIONS. TEMPORARY SANITARY FACILITIES WILL BE PROVIDED AT THE SITE THROUGHOUT THE APPROVED CONSTRUCTION PHASE. THEY MUST BE UTILIZED BY ALL CONSTRUCTION PERSONNEL AND WILL BE SERVICED BY A LICENSED COMMERCIAL OPERATOR.
- 4) WATER SOURCE - NON-STORMWATER COMPONENTS OF SITE DISCHARGE MUST BE CLEAN WATER. WATER USED FOR CONSTRUCTION WHICH DISCHARGES FROM THE SITE MUST ORIGINATE FROM A PUBLIC WATER SUPPLY OR PRIVATE WELL APPROVED BY THE STATE HEALTH DEPARTMENT. WATER USED FOR CONSTRUCTION THAT DOES NOT ORIGINATE FROM AN APPROVED PUBLIC SUPPLY MUST NOT DISCHARGE FROM THE SITE.
- 5) CONCRETE WASTE FROM CONCRETE READY-MIX TRUCKS - DISCHARGE OF EXCESS OR WASTE CONCRETE AND/OR WASH WATER FROM CONCRETE TRUCKS AND EXISTING VEGETATION. CONCRETE TRUCKS SHALL BE EQUIPPED WITH DESIGNATED DIKED AREAS PREPARED TO PREVENT CONTACT BETWEEN THE CONCRETE AND/OR WASH WATER AND STORMWATER THAT WILL BE DISCHARGED FROM THE SITE.
- 6) ALL BUILDING MATERIAL AND WASTES MUST BE REMOVED FROM THE SITE AND RECYCLED OR RECYCLED IN ACCORDANCE WITH DEPS SOLID WASTE REGULATIONS (25 PA. CODE SECS. 271.1 ET SEQ., AND 287.1 ET SEQ., AND/OR ANY ADDITIONAL LOCAL, STATE OR FEDERAL REGULATIONS. NO BUILDING MATERIALS (USED OR UNUSED) OR WASTE MATERIALS SHALL BE BURNED, BURIED, DUMPED OR DISCHARGED AT THE SITE. THE FOLLOWING IS A LIST THAT INCLUDES, BUT THAT IS NOT LIMITED TO, THE POTENTIAL CONSTRUCTION WASTES THAT MAY EXIST ON-SITE:
 - CONCRETE CURB AND SIDEWALK
 - ASPHALT & CONCRETE
 - E&S BMP - COMPOST FILTER SOCKS
 - E&S BMP - TEMPORARY RISER
 - E&S BMP - EROSION CONTROL MATTING
 - E&S BMP - REGULATED FILL MATERIALS

GENERAL NOTES:

- 1) THE POST-CONSTRUCTION BMPs ARE A MEANS FOR THIS DEVELOPMENT TO CONTRIBUTE TO THE PRESERVATION OF THE INTEGRITY OF THE STREAM CHANNELS AND MAINTAIN AND PROTECT THE PHYSICAL, BIOLOGICAL, AND CHEMICAL QUALITIES OF THE RECEIVING STREAM.
- 2) THE POST-CONSTRUCTION DESIGN IS MEANT TO PREVENT AN INCREASE IN RATE OF STORMWATER RUNOFF BY IMPLEMENTING DETENTION FACILITIES THAT WILL ATTENUATE THE FLOW.
- 3) POST-CONSTRUCTION BMPs, NAMELY THE RAINGARDENS, AND BASINS WILL MINIMIZE THE INCREASE IN STORMWATER VOLUME.
- 4) THE LAYOUT MINIMIZES THE IMPERVIOUS AREAS BY DEVELOPING IN THE SMALLEST FOOTPRINT POSSIBLE.
- 5) THE POST-CONSTRUCTION STORMWATER MANAGEMENT PLANS HAVE BEEN DESIGNED TO MAXIMIZE THE PROTECTION OF EXISTING DRAINAGE FEATURES AND EXISTING VEGETATION.
- 6) LAND CLEARING AND GRADING HAS BEEN MINIMIZED TO THE GREATEST EXTENT POSSIBLE.
- 7) SOIL COMPACTION HAS BEEN MINIMIZED TO THE GREATEST EXTENT POSSIBLE. CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO LIMIT COMPACTION IN PERVIOUS AREAS.
- 8) VARIOUS PCSWM BMPs, BOTH STRUCTURAL AND NONSTRUCTURAL, HAVE BEEN UTILIZED TO PREVENT OR MINIMIZE CHANGES IN STORMWATER RUNOFF. THESE INCLUDE RAINGARDENS, AND STORMWATER MANAGEMENT BASINS.

GENERAL MAINTENANCE AND INSPECTION NOTES

- 1) VEHICLES SHALL NOT BE PARKED OR DRIVEN ON AN INFILTRATION BASIN, AND CARE SHOULD BE TAKEN TO AVOID EXCESSIVE COMPACTION BY MOWERS.
 - 2) INSPECT THE FACILITY AFTER RUNOFF EVENTS AND MAKE SURE THAT RUNOFF DRAINS DOWN WITHIN 72 HOURS.
- ALSO INSPECT FOR ACCUMULATION OF SEDIMENT, DAMAGE TO OUTLET CONTROL STRUCTURES, EROSION CONTROL MEASURES, SIGNS OF WATER CONTAMINATION/SPILLS, AND SLOPE STABILITY IN THE BERMS.
- 3) MOW ONLY AS APPROPRIATE FOR VEGETATIVE COVER SPECIES.
 - 4) REMOVE ACCUMULATED SEDIMENT FROM FACILITY AS REQUIRED. RESTORE ORIGINAL CROSS SECTION AND INFILTRATION RATE. PROPERLY DISPOSE OF SEDIMENT. REMOVE AND REPLACE SANDSTONE LAYER IF FACILITY DEWATERING TIME EXCEEDS 72 HOURS.

GENERAL SEQUENCING NOTES FOR PCSWM BMPs

- 1) A SITE INSPECTION AND APPROVAL BY THE COUNTY CONSERVATION DISTRICT IS REQUIRED PRIOR TO THE REMOVAL OR CONVERSION OF SEDIMENT BASINS AND TRAPS.
- 2) BOHLER ENGINEERING SHALL BE NOTIFIED OF PRE-CONSTRUCTION MEETING DATE AND BMP CONSTRUCTION SCHEDULE.
- 3) THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO LIMIT THE COMPACTION IN THE PROPOSED B.M.P. BOTTOMS.
- 4) INFILTRATION TESTING SHALL BE CONDUCTED UPON SEDIMENT BASIN CONVERSION TO ENSURE THE INFILTRATION RATES HAVE NOT BEEN COMPROMISED DURING CONSTRUCTION.
- 5) REFER TO THE BMP CONSTRUCTION DETAILS FOR THE CONSTRUCTION OF ALL PROPOSED STORMWATER MANAGEMENT INFILTRATION/WATER QUALITY BMPs.
- 6) THE BOTTOM OF ALL INFILTRATION BMPs SHALL BE UNDISTURBED OR UNCOMPACTED SUBGRADE. THE CONTRACTOR SHALL TAKE ALL APPROPRIATE MEASURES DURING CONSTRUCTION TO ENSURE THAT HEAVY CONSTRUCTION VEHICLES DO NOT COMPACT INFILTRATION AREAS.
- 7) REFER TO THE PCSWM PLAN AND DETAILS FOR SPECIFIC BMP CONSTRUCTION GUIDELINES.
- 8) AS-BUILT PLANS OF THE STORMWATER BMPs FOR EACH PROJECT PHASE SHALL BE PROVIDED WITHIN SIX MONTHS FOLLOWING THE COMPLETION OF EACH PHASE. THE AS-BUILT PLANS SHALL BE SIGNED AND SEALED BY A PA REGISTERED PROFESSIONAL ENGINEER.
- 9) A NOTICE OF TERMINATION (NOT) WILL BE REQUIRED TO BE SUBMITTED FOLLOWING APPROVAL OF THE FINAL AS-BUILT PLANS. PRIOR TO ACCEPTING THE NOT, THE DEPARTMENT AND/OR CONSERVATION DISTRICT STAFF WILL PERFORM A FINAL INSPECTION TO ENSURE SITE STABILIZATION AND VERIFY ADEQUATE INSTALLATION AND FUNCTION OF STORMWATER BMPs.

RECEIVING SURFACE WATERS
 §102.8(f)(5)

THE SUBJECT SITE IS LOCATED WITHIN THE PICKERING CREEK WATERSHED, WHICH HAS A HQ (HIGH QUALITY), TSF (TROUT STOCKING FISHES) & MF (MIGRATORY FISHES) CHAPTER 93 CLASSIFICATION.
 THERE ARE NO HOVIE WATERSHED BOUNDARIES FOUND ON-SITE. FURTHER THERE ARE NO WETLANDS LOCATED ON THIS SITE EITHER

TYPES, DEPTH, SLOPE, LOCATIONS, AND LIMITATIONS OF THE SOILS
 §102.8(f)(2)

SOIL DESCRIPTIONS

SOILS SURVEY OF CHESTER COUNTY, PENNSYLVANIA. (NOT FIELD VERIFIED)
 SOURCE OF MAP: NATURAL RESOURCES CONSERVATION SERVICE. AREA DATA: VERSION 7, 11/16/2015

SYMBOL	NAME	HYDROLOGIC SOIL GROUP	SLOPES (%)	DEPTH TO WATER TABLE	DEPTH TO RESTRICTIVE FEATURE	CONTAINS HYDRIC COMPONENTS	SURFACE RUNOFF
CaA	CALIFON LOAM	D	0-3	6-36"	20-30 INCHES TO FRAGIPAN 72-99 INCHES TO LITHE BEDROCK	NO	VERY HIGH
CaB	CALIFON LOAM	D	3-8	6-36"	20-30 INCHES TO FRAGIPAN 72-99 INCHES TO LITHE BEDROCK	NO	VERY HIGH
GdA	GLADSTONE GRAVELLY LOAM	C	0-3	>80"	60-100 INCHES TO LITHE BEDROCK	YES	LOW
GdB	GLADSTONE GRAVELLY LOAM	B	3-8	>80"	60-100 INCHES TO LITHE BEDROCK	YES	LOW
GdC	GLADSTONE GRAVELLY LOAM	A	8-15	>80"	60-100 INCHES TO LITHE BEDROCK	YES	LOW
GdD	GLADSTONE PARKER GRAVELLY LOAM	A	15-25	>80"	60-118 INCHES TO LITHE BEDROCK	YES	MEDIUM
GgA	GLENELG SILT LOAM	B	0-3	>80"	60-120 INCHES TO LITHE BEDROCK	YES	LOW
UgB	LANCASTER SCHIST AND GNEISS COMPLEX	C	0-8	+60"	10-39 INCHES TO LITHE BEDROCK 20-70 INCHES TO PARALITHIC BEDROCK	NO	MEDIUM

SOIL USE LIMITATIONS AND THEIR RESOLUTIONS

SOIL NAME	CUTBANKS CAVE	CORROSIVE TO CONCRETE/STEEL	DRY/CRAZY	EARLY ERODIBLE	FLOODING	DEPTH TO SATURATED WATER TABLE	HYDROCARBON INCLUSIONS	LOW STRENGTH/LANDSLIDE PRONE	SLOW PERCOLATION	PIPING	POOR SOURCE OF TOPSOIL	FROST ACTION	SHRINK/SWELL	POTENTIAL BASKHOLE	POUNDING	WETNESS
CALFRON	X	C				X		X	X	X		X	X			
GLADSTONE	X	C		X				X	X	X	X	X	X			
GLENELG	X	C		X				X	X	X	X	X	X			X

CONTRACTOR SHALL CONSULT WITH GEOTECHNICAL ENGINEER TO DETERMINE SOIL LIMITATIONS AND THE BEST RESOLUTIONS SPECIFIC TO THIS PROJECT.

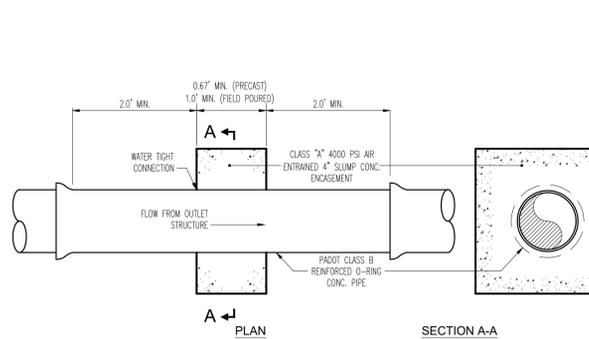
1. CUTBANKS CAVE RESOLUTIONS: CUT SLOPES SHALL BE TEMPORARILY OR PERMANENTLY STABILIZED AS SOON AS POSSIBLE IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS FOUND ON THE E&S PLANS. FINISHED SLOPES WILL NOT EXCEED 3:1. EXCAVATIONS SHALL BE PROPERLY SUPPORTED TO PREVENT CAVES.
2. CORROSIVE TO CONCRETE/STEEL RESOLUTIONS: STORM DRAIN PIPES FOR THIS SITE WILL BE HOPE.
3. EASILY ERODIBLE RESOLUTIONS: STABILIZATION SHALL TAKE PLACE UPON COMPLETION OR TEMPORARY CESSATION OF EARTH DISTURBANCE ACTIVITIES THAT WILL EXCEED FOUR DAYS, OR ANY STAGE THEREOF. STABILIZATION SHALL BE IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS FOUND ON THE E&S PLANS. E&S CONTROLS LIKE COMPOST FILTER SOCKS AND INLET PROTECTION SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT.
4. HIGH WATER TABLE RESOLUTIONS: SHOULD A HIGH GROUND WATER TABLE BE ENCOUNTERED DURING CONSTRUCTION, WATER WILL BE DRAINED FROM DISTURBED AREAS TO A WELL, VENTILATED AREA OR PLACED COMPOST FILTER SOCKS TO BEING DISCHARGED FROM SITE. SATURATED SOILS THAT REQUIRE COMPACTION SHALL BE DIED PRIOR TO BEING USED ON SITE.
5. LOW STRENGTH/LANDSLIDE PRONE RESOLUTIONS: FINISHED SLOPES WILL NOT EXCEED 3:1. PRECAUTIONS SHALL BE TAKEN DURING CONSTRUCTION TO PREVENT SLOPE FAILURES.
6. PIPING RESOLUTIONS: PIPING IS THE EROSION BY PERCOLATING WATERS OR SEEPAGE IN LAYER OF SUBSOIL RESULTING IN CAVING AND THE FORMATION OF TUNNELS OR PIPES THROUGH WHICH THE SOLUBLE OR GRANULAR MATERIAL IS REMOVED. WHERE NECESSARY, ANTI-SEEP COLLARS WILL BE USED TO PREVENT PIPING.
7. SLOW PERCOLATION RESOLUTIONS: PROVIDE DEWATERING DURING CONSTRUCTION ACTIVITIES. INFILTRATION IS NOT FEASIBLE FOR THIS PROJECT, THEREFORE, A SLOW RELEASE BASIN HAS BEEN PROPOSED.
8. POOR SOURCE OF TOPSOIL RESOLUTIONS: SOIL TEST SHOULD BE PERFORMED TO DETERMINE SOIL SUIABILITY FOR TOPSOIL. IF SOIL IS DETERMINED TO BE UNSUITABLE THEN TOPSOIL SHALL BE IMPORTED AND DISTRIBUTED THROUGHOUT THE SITE AS REQUIRED.
9. FROST ACTION RESOLUTIONS: DUE TO GRADING LIMITATIONS OF SOILS DURING WINTER MONTHS, THE CONTRACTOR SHALL NOT GRADE THESE SOILS DURING FROSTING OR ICING CONDITIONS.
10. SHRINK-SWELL RESOLUTIONS: SOILS THAT ARE PRONE TO SHRINKAGE AND SWELL DUE TO EARTH MOVING OPERATIONS SHALL BE REPLACED WHERE PRACTICAL OR NECESSARY WITH STONE SINCE STONE IS NOT PRONE TO SHRINKAGE AND SWELL. CONDITIONS ALTERNATIVELY THE CONTRACTOR SHALL UNDERSTAND THE SHRINKAGE/WELL FACTOR AND ADJUST BACKFILL OPERATIONS ACCORDINGLY.
11. WETNESS RESOLUTIONS: WET WEATHER CONSTRUCTION RECOMMENDATIONS SHALL BE PROVIDED BY A QUALIFIED GEOTECHNICAL ENGINEER AND WILL BE EMPLOYED TO MINIMIZE THE EFFECTS OF SATURATED SOILS DURING GRADING OPERATIONS. POSITIVE DRAINAGE SHALL BE PROVIDED TO PREVENT RUNOFF FROM PONDING IN A GIVEN AREA AND FURTHER PREVENTING THE SOILS FROM DRYING OUT ONCE THE STORM EVENT HAS PASSED.

WRITTEN DESCRIPTION OF PCSM BMPs
 §102.8(f)(6)

THERE ARE NO PROPRIETARY SYSTEMS USED IN THIS DESIGN.

RIPARIAN FOREST BUFFER MANAGEMENT PLAN
 §102.8(f)(14)

THERE IS A SMALL AREA ALONG GRAPHITE MINE ROAD THAT FALLS WITHIN RIPARIAN BUFFER. THE AREA IS GREATER THAN 100' AND LESS THAN 150' FROM THE PICKERING CREEK BUFFER AREA. AS SUCH A RIPARIAN BUFFER OFFSET IS NOT REQUIRED HOWEVER AN EQUIVALENCY DEMONSTRATION IS AS FOUND IN THE PCSM NARRATIVE.



NOTE: FIELD POURED COLLARS SHALL HAVE A MINIMUM THICKNESS OF TWELVE (12) INCHES. COLLARS MAY NOT BE INSTALLED WITHIN TWO (2) FEET OF PIPE JOINTS.
 REV: 2015.03.09

BMP OWNERSHIP, OPERATION, AND MAINTENANCE PROCEDURES:

1. UNTIL THE SITE IS STABILIZED AND DURING THE CONSTRUCTION ACTIVITIES, ALL BMPs MUST BE MAINTAINED PROPERLY BY CONTRACTOR. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL BMPs IN ACCORDANCE WITH THE SCHEDULE BELOW. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN-OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND REVEGETATION MUST BE PERFORMED IMMEDIATELY AND IN ACCORDANCE WITH THESE PROCEDURES, PLANS, AND DETAILS. ANY AREAS DISTURBED DURING MAINTENANCE MUST BE STABILIZED IMMEDIATELY IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES & SPECIFICATIONS. ALL PERMANENT MAINTENANCE PROCEDURES SHALL BE PERFORMED BY THE OWNER OR OWNER'S DESIGNATED OPERATOR.
 OWNER INFORMATION: BYERS RETAIL ACQUISITION, L.P. AND TOLL PA, I, L.P.
 PROPERTY INFORMATION: PARCEL UPR 32-4-407 & 32-4-1090
 SITE ADDRESS: GRAPHITE MINE ROAD & STATION BOULEVARD
2. THE LANDOWNER ACKNOWLEDGES THAT, PER THE PROVISIONS OF THE MUNICIPALITY'S STORMWATER MANAGEMENT ORDINANCE, IT IS UNLAWFUL TO MODIFY, REPAIR, FILL, LANDSCAPE, ALTER THE EFFECTIVENESS OF, OR PLACE ANY STRUCTURE, OTHER VEGETATION, YARD WASTE, BUSH CUTTINGS, OR OTHER WASTE OR DEBRIS INTO ANY PERMANENT STORMWATER MANAGEMENT BMP OR CONVEYANCE DESCRIBED IN THIS PCSWM PLAN OR TO ALLOW THE BMP OR CONVEYANCE TO EXIST IN A CONDITION WHICH DOES NOT CONFORM TO THIS PCSWM PLAN, WITHOUT WRITTEN APPROVAL FROM THE MUNICIPALITY.
3. NO BMP OR MAN-MADE CONVEYANCE MAY BE USED BY THE OWNER OR OTHERS FOR ANY PURPOSE OTHER THAN ITS INTENDED STORMWATER FUNCTION, OR, IF APPROVED BY THE MUNICIPAL ENGINEER, A STATEMENT OF SPECIFIC ALLOWABLE USES OF THE BMP.
4. THE OWNER SHALL MAKE RECORDS OF THE INSTALLATION, INSPECTION, MAINTENANCE AND OF ALL REPAIRS OF THE BMPs, AND SHALL RETAIN THE RECORDS FOR A PERIOD OF 10 YEARS. THESE RECORDS SHALL BE PROVIDED TO THE TOWNSHIP CONSERVATION DISTRICT OR PADEP FOR REVIEW AND INSPECTION UPON REQUEST. UPON FINAL INSPECTION THE MUNICIPALITY SHALL INFORM THE OWNER WHEN THE SUBMISSION OF PERIODIC (ANNUAL OR OTHER FREQUENCY) INSPECTION AND MAINTENANCE REPORTS ARE REQUIRED. THE OWNER SHALL KEEP RECORDS ON FILE WITH THE MUNICIPALITY THE NAME, ADDRESS, AND TELEPHONE NUMBER OF THE PERSON RESPONSIBLE FOR MAINTENANCE ACTIVITIES AND IMPLEMENTATION OF THE OPERATION AND MAINTENANCE PLAN. THE EVENT OF A CHANGE, NEW INFORMATION SHALL BE SUBMITTED BY THE MUNICIPALITY WITHIN 60 WORKING DAYS OF THE CHANGE. THE OWNER IS COMPLETE A WRITTEN REPORT DOCUMENTING THE EACH INSPECTION AND ALL BMP REPAIR AND MAINTENANCE ACTIVITIES.

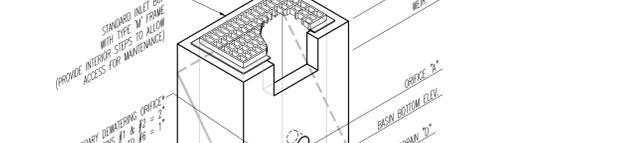
- MAINTENANCE SHALL BE PERFORMED IMMEDIATELY AFTER AN INSPECTION WHEN NECESSARY IN ACCORDANCE WITH THE FOLLOWING:
- BMP 5.8.3: REVEGETATE DISTURBED AREAS- SITES THAT REQUIRE LANDSCAPING AND RE-VEGETATION SHOULD SELECT AND USE VEGETATION OF NATIVE SPECIES THAT DO NOT REQUIRE SIGNIFICANT AMOUNT CHEMICAL MAINTENANCE BY FERTILIZERS, HERBICIDES, AND PESTICIDES.
 - VEGETATION FAILURE: FAILURE INDICATORS INCLUDE THE EXCESSIVE GROWTH OF INVASIVE SPECIES AND VEGETATION THAT FAILS TO ESTABLISH OR DIES OFF. UPON OBSERVING A FAILURE INDICATOR A QUALIFIED INDIVIDUAL, SUCH AS A LANDSCAPE ARCHITECT OR SOIL SCIENTIST/ENGINEER SHALL BE CONSULTED TO DETERMINE THE EXACT CAUSE OF THE FAILURE. REMEDIATION SHALL BE IN ACCORDANCE WITH THE QUALIFIED INDIVIDUALS RECOMMENDATIONS BASED ON THEIR INVESTIGATION.
 - BMP 6.4.5: BIORETENTION BASIN - ACCUMULATED LITTER AND SEDIMENT MUST BE REMOVED TO RESTORE DESIGN CAPACITIES. THE SEDIMENT AND LITTER SHALL BE DISPOSED OF AN APPROVED MANNER AND IN ACCORDANCE WITH STATE REGULATIONS. ANY AREAS DISTURBED DURING MAINTENANCE MUST BE STABILIZED IMMEDIATELY IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS.
 - BIORETENTION BASIN FAILURE: THESE BASINS ARE INFILTRATION FACILITIES. FAILURE INDICATORS INCLUDE THE FACILITY NOT DEWATERING IN THE ALLOTTED 72 HOURS OR WETLAND PLANTS GROWING IN AN ABUNDANCE. IF BASIN FAILS TO INFILTRATE AFTER 72 HOURS, THE SITE'S MAINTENANCE OPERATOR SHALL PUMP THE WATER OUT OF THE BASIN. UPON OBSERVING A FAILURE INDICATOR A QUALIFIED INDIVIDUAL, SUCH AS AN ENGINEER OR SOIL SCIENTIST/ENGINEER SHALL BE CONSULTED TO DETERMINE THE EXACT CAUSE OF FAILURE. UPON FURTHER INVESTIGATION PERFORMED BY A QUALIFIED INDIVIDUAL A REPAIR OR MAINTENANCE PLAN SHALL BE IMPLEMENTED TO RESTORE THE BASIN TO ITS ORIGINAL DESIGN CAPACITIES. THIS INCLUDES PERFORMING ADDITIONAL INFILTRATION TESTING TO DETERMINE WHETHER THE FACILITY HAS BEEN BROUGHT BACK TO ITS ORIGINAL DESIGN CAPACITIES.
 - BMP 6.4.8: VEGETATED SWALES - AREAS OF EROSION SHALL BE REGRADED AND STABILIZED AND SEDIMENT MUST BE REMOVED TO RESTORE DESIGN CAPACITIES. ANY REMOVED SEDIMENT SHALL BE DISPOSED OF IN AN APPROVED MANNER AND IN ACCORDANCE WITH APPLICABLE STATE REGULATIONS. ALL AREAS DISTURBED DURING MAINTENANCE MUST BE STABILIZED IMMEDIATELY IN ACCORDANCE WITH THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS.
 - VEGETATED SWALE FAILURE: FAILURE INDICATORS INCLUDE CHANNEL EROSION OR VEGETATION FAILS TO ESTABLISH OR DIES OFF. WHEN A FAILURE INDICATOR IS OBSERVED A QUALIFIED INDIVIDUAL, SUCH AS AN ENGINEER OR SOIL SCIENTIST SHALL BE CONSULTED TO DETERMINE THE EXACT CAUSE OF FAILURE. MAINTENANCE SHALL BE PERFORMED IMMEDIATELY IN ACCORDANCE WITH THE QUALIFIED INDIVIDUALS RECOMMENDATIONS OF THE QUALIFIED INDIVIDUAL BASED ON THEIR INVESTIGATION.
 - BMP 6.4.8: WATER QUALITY FILTERS - ACCUMULATION OF SEDIMENT/DEBRIS SHALL BE REMOVED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS/RECOMMENDATIONS. THE SEDIMENT/DEBRIS SHALL BE REMOVED, RECYCLED OR DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. FILTER CARTRIDGES MUST BE REPLACED AS REQUIRED OR IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND RECOMMENDATIONS.
 - WATER QUALITY FILTER FAILURE: FAILURE INDICATORS IN A FABCO FILTER INCLUDE SEDIMENT/

PREVIOUSLY COMPLETED SEQUENCE OF CONSTRUCTION - STAGE 2 (RESIDENTIAL)
§102.8(f)(7)

- ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED IN COMPLIANCE WITH CHAPTER 102 REGULATIONS AND GRUBBING SHALL BE LIMITED TO ONLY THOSE AREAS DESCRIBED IN EACH STEP. IMMEDIATELY UPON COMPLETION OR TEMPORARY CESSATION OF EARTH DISTURBANCE ACTIVITIES OR ANY STEP THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION.
- AT LEAST SEVEN (7) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES INCLUDING, BUT NOT LIMITED TO: THE LANDOWNER, E&S PLAN PREPARER, ALL APPROPRIATE MUNICIPAL OFFICIALS, AND A REPRESENTATIVE OF THE CHESTER COUNTY CONSERVATION DISTRICT FOR AN ON-SITE PRE-CONSTRUCTION MEETING. A MINIMUM OF TWO (2) DAYS (48 HOURS) NOTICE SHALL BE GIVEN TO THE TOWNSHIP SEWER ENGINEER AND AT LEAST THREE (3) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES. ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INC. AT 1-800-342-1776 FOR BURIED UTILITY LOCATIONS.
- BEFORE INITIATING ANY REVISION TO THE APPROVED EROSION AND SEDIMENT (E&S) CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE CHESTER COUNTY CONSERVATION DISTRICT. THE OPERATOR SHALL ENSURE THAT THE APPROVED E&S CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED. IMMEDIATELY UPON OCCURRENCE OF ANY UNEXPECTED POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION OR SEDIMENT POLLUTION.
- DUST CONTROL - CONSTRUCTION TRAFFIC MUST ENTER AND EXIT THE SITE AT THE STABILIZED CONSTRUCTION ENTRANCE. THE PURPOSE IS TO TRAP DUST AND MUD THAT WOULD OTHERWISE BE CARRIED OFF-SITE BY CONSTRUCTION TRAFFIC. WATER TRUCKS SHALL BE USED AS NEEDED DURING CONSTRUCTION TO REDUCE DUST GENERATED ON THE SITE. DUST CONTROL MUST BE PROVIDED BY THE CONTRACTOR TO A DEGREE THAT IS ACCEPTABLE TO THE CHESTER COUNTY CONSERVATION DISTRICT. AFTER CONSTRUCTION, THE SITE WILL BE STABILIZED, WHICH WILL REDUCE THE POTENTIAL FOR DUST GENERATION.
- THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENTS SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ.
- CONTINUE ROUTINE MAINTENANCE OF THE E&S BMPs INSTALLED DURING STAGE 1, WHICH INCLUDE THE STAGE 1 CONSTRUCTION ENTRANCE, SEDIMENT BASIN #1, FOREBAY #1, SEDIMENT TRAPS #3 TO #6, ROCK FILTER SOCKS AND STONE INLET PROTECTION. THE TEMPORARY STAGING AREA CAN REMAIN IN USE UNTIL SUCH TIME AS GRADING IN THE AREA IS DONE. THE CONTRACTOR SHALL THEN ESTABLISH A NEW STAGING AREA AT THEIR DISCRETION. THE CONTRACTOR SHALL ALSO INSPECT ANY OTHER EXISTING INFRASTRUCTURE WITHIN THE STAGE 2 LIMIT OF DISTURBANCE THAT IS TO REMAIN TO ENSURE IT IS FUNCTIONING PROPERLY. NOTE: ONLY PERSONNEL WHOSE VEHICLES ARE TO ENTER AND LEAVE THE SITE UNTIL SUCH TIME AS THE TEMPORARY STAGING AREA IS RELOCATED DUE TO GRADING OPERATIONS AND STORM DRAINAGE SYSTEM INSTALLATION. THIS WILL PREVENT SEDIMENT, DUST, OR MUD FROM BEING TRACKED OFF-SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING PERSONAL VEHICLES DO NOT TRACK SEDIMENT OFF-SITE AND CONSTRUCTION VEHICLES USE THE CONSTRUCTION ENTRANCE.
- COMMENCE BULK EARTH WORK NECESSARY TO ACHIEVE SUBGRADE FOR THE PROPOSED ACCESS DRIVEWAY, SASSAFRAS LANE, GINGKO LANE, CATALPA LANE, REDBUD LANE, JUNEBERRY COURT, MOCKERNUT COURT, AND HACKBERRY COURT.
- INSTALL UTILITIES INCLUDING STORM SEWER, SANITARY SEWER, WATER, GAS, ELECTRIC AND TELECOMMUNICATIONS. RIPRAP APRONS SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS PROVIDED ON THE EROSION AND SEDIMENT POLLUTION CONTROL NOTES AND DETAILS IMMEDIATELY UPON CONSTRUCTION OF THE ENDWALL.
- INSTALL CURBING SHOWING ON THE PLANS AS WELL AS THE STONE AND BITUMINOUS BASE COURSE IN ROADWAYS.
- CONSTRUCTION OF THE HOMES CAN NOW COMMENCE. THE CONTRACTOR IS TO USE ON LOT E&S CONTROLS AS SHOWN ON THE PLANS AND ON STANDARD DETAIL 10-1, 10-2, AND 10-3 IN THE E&S DETAILS. ANY LOT THAT IS NOT GOING TO BE BUILT OUT IMMEDIATELY SHALL BE TEMPORARILY STABILIZED.
- INITIATE FINAL GRADING AND PLACEMENT OF TOP SOIL IN ALL LANDSCAPE AREAS IN ACCORDANCE WITH THE LANDSCAPE PLANS. AS SOON AS SLOPES, CHANNELS, DITCHES, AND OTHER DISTURBED AREAS REACH FINAL GRADE THEY MUST BE STABILIZED. ALL LANDSCAPE AREAS MUST BE STABILIZED AND EROSION RESISTANT PERMANENTLY. SEEDING OR PLACEMENT OF SOIL MUST BE APPLIED WHEN FINAL GRADE IS ACHIEVED DURING NON-GERMINATING MONTHS. THE AREA SHOULD BE MULCHED UNTIL THE BEGINNING OF THE NEXT PLANTING SEASON. HOWEVER, THE AREA WILL NOT BE CONSIDERED STABILIZED UNTIL A MINIMUM UNIFORM 70% VEGETATIVE COVER OF EROSION RESISTANT PERMANENT PLANTING IS ACHIEVED. PREPARATIONS SHOULD BE MADE FOR SEEDING AND MULCHING TO BEGIN (I.E. ANTICIPATE THE COMPLETION DATE AND SCHEDULE SEEDER). IN NO CASE SHOULD AN AREA EXCEEDING 15,000 SQUARE FEET, WHICH IS TO BE STABILIZED BY VEGETATION, REACH FINAL GRADE WITHOUT BEING SEEDING AND MULCHED. WAITING UNTIL EARTHWORKING IS COMPLETED BEFORE MAKING PREPARATIONS FOR SEEDING AND MULCHING AND IS NOT ACCEPTABLE. SEEDING AND MULCHING REQUIREMENTS ARE SPECIFIED IN THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS.
- CONSTRUCT VEGETATED SWALES #1 TO #10. CONSTRUCTION OF VEGETATED SWALES SHALL NOT COMMENCE UNTIL THE TRIBUTARY AREA TO THE SWALE HAS BEEN PERMANENTLY STABILIZED. CRITICAL STAGE: THE PERMITTEE SHALL PROVIDE ENGINEERING OVERSIGHT DURING THE CONSTRUCTION OF THE VEGETATED SWALES. A LICENSED PROFESSIONAL OR DESIGNER KNOWLEDGEABLE IN THE DESIGN AND CONSTRUCTION OF VEGETATED SWALES, PREFERABLY THE DESIGN ENGINEER, SHALL CONDUCT THE OVERSIGHT.
- CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE VEGETATED SWALE SEQUENCE OF CONSTRUCTION SHOWN ON THE PCSM DETAILS AND REQUIRED LANDSCAPING PER THE LANDSCAPE PLANS.
- INSTALL REMAINING LAYERS OF BITUMINOUS PAVEMENT AND CONCRETE INCLUDING SIDEWALK. THE TRAIL TO BE PAVED ON THE WEST SIDE OF TOP/TOWN PINE (RT 100) AND DARRELL DRIVE INTERSECTION SHALL ONLY DISTURB AREA THAT THE CONTRACTOR CAN BE PERMANENTLY STABILIZED WITH A MINIMUM OF THE BASE STONE LAYER PER DAY TO AVOID HAVING TO PUT IN PERIMETER CONTROLS IN THE AREA.
- INITIATE FINAL VEGETATION AND LANDSCAPING IN ACCORDANCE WITH THE LANDSCAPE PLANS AND DETAILS. CRITICAL STAGE: THE PERMITTEE SHALL PROVIDE ENGINEERING OVERSIGHT FOR THE INSTALLATION OF THE LANDSCAPING. A LICENSED PROFESSIONAL OR DESIGNER, KNOWLEDGEABLE IN THE IN THE INSTALLATION OF TREES AND PLANTINGS, PREFERABLY THE LANDSCAPE ARCHITECT WHO PUT THE PLAN TOGETHER, SHALL CONDUCT THE OVERSIGHT.
- CONVERT SEDIMENT BASIN #2, FOREBAY #1 AND SEDIMENT TRAPS #3 TO #6 TO THEIR PERMANENT BIOTRETENTION BASIN CONFIGURATIONS. THE CONVERSION OF THESE FACILITIES SHALL NOT COMMENCE UNTIL THE TRIBUTARY AREA TO THE BMP HAS BEEN PERMANENTLY STABILIZED. FOREBAY #1/BIOTRETENTION BASIN #1 SHALL BE CONVERTED AND PERMANENTLY STABILIZED PRIOR TO CONVERTING SEDIMENT BASIN #2/BIOTRETENTION BASIN #2 SINCE BIOTRETENTION BASIN #1 IS TRIBUTARY TO BIOTRETENTION BASIN #2. CONVERSION OF THESE FACILITIES SHALL COMMENCE ONLY IF THE EARTH DISTURBANCE TRIBUTARY TO THESE FACILITIES WITHIN THE COMMERCIAL AREA HAS BEEN PERMANENTLY STABILIZED. CRITICAL STAGE: THE PERMITTEE SHALL PROVIDE ENGINEERING OVERSIGHT DURING THE CONVERSION OF THE E&S FACILITIES TO THEIR PERMANENT BIOTRETENTION CONFIGURATION. A LICENSED PROFESSIONAL OR DESIGNER KNOWLEDGEABLE IN THE CONVERSION OF E&S FACILITIES TO BIOTRETENTION BASINS, PREFERABLY THE DESIGN ENGINEER, SHALL CONDUCT THE OVERSIGHT.

PRIOR TO CONVERTING ANY OF THE E&S FACILITIES TO THEIR PERMANENT CONDITION THE PERMITTEE SHALL CONTACT THE CHESTER COUNTY CONSERVATION DISTRICT AND REQUEST A SITE INSPECTION AND RECEIVE APPROVAL TO CONVERT SEDIMENT BASIN #2, FOREBAY #1, OR SEDIMENT TRAPS #3 TO #6 TO THEIR PERMANENT CONFIGURATION.

- CONVERSION TO A BIOTRETENTION FACILITY SHALL FOLLOW THE BIOTRETENTION BASIN SEQUENCE OF CONSTRUCTION FOUND ON THE PCSM DETAILS AND SHALL CONSIST OF THE FOLLOWING:
 - FLUSH THE TRIBUTARY STORM DRAINAGE SYSTEM AND ENSURE NO SEDIMENT ENTERS THE FACILITY ONCE THE CONVERSION IS COMPLETE.
 - REMOVE BAFFLE WALLS IF REQUIRED.
 - ANY EARTHWORK NECESSARY TO REMOVE SEDIMENT FROM THE BASINS AND EXCAVATION REQUIRED TO PLACE THE SOLI/STONE OR SAND, DEPENDING ON THE FACILITY, AS PART OF THIS EARTHWORK BIOTRETENTION BASIN #4 AND #5 SHALL BE OVER EXCAVATED BY 1" DUE TO DEPTH OF LIMITING ZONES IN THESE FACILITIES.
 - PLACE THE SAND/STONE AND PLANTING SOILS AND THE UNDERDRAIN IF REQUIRED.
 - THE TEMPORARY E&S BMPs (SKIMMER OR TEMPORARY RISER) SHALL REMAIN IN PLACE AS LONG AS PRACTICAL. ONCE THESE STRUCTURES CAN NO LONGER BE LEFT IN PLACE DUE TO HAVING TO PLACE SOLI/STONE OR SAND REMOVE THEM AND UNPLUG THE TEMPORARY DEWATERING ORIFICE AT THE BOTTOM OF THE OUTLET STRUCTURE.
 - PLANT THE BASINS ACCORDING TO THE LANDSCAPE PLAN AND STABILIZE IMMEDIATELY.
 - ONCE PLANT MATERIAL HAS ESTABLISHED THE TEMPORARY DEWATERING ORIFICE SHALL BE PERMANENTLY PLUGGED AND SHALL BE WATER TIGHT.
- UPON SITE STABILIZATION (UNIFORM COVERAGE OR DENSITY OF 70% ACROSS ALL DISTURBED AREAS) AND NOTIFICATION OF THE CHESTER COUNTY CONSERVATION DISTRICT, REMOVE E&S CONTROL FACILITIES INCLUDING SILT SOCK, INLET PROTECTION AND THE ROCK FILTER WITH COMPOST FILTER SOCK. ANY AREA DISTURBED DURING THE REMOVAL SHALL BE PERMANENTLY STABILIZED IMMEDIATELY.
- CLEAR SITE OF REMAINING DEBRIS AND ALL UNWANTED MATERIALS. CONTRACTOR SHALL REMOVE FROM SITE, RECYCLE OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENTS SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTE ON SITE.
- DEMOLITIZE
- A NOTICE OF TERMINATION FORM SHOULD BE SUBMITTED TO THE CHESTER COUNTY CONSERVATION DISTRICT UPON STABILIZATION AND FINAL COMPLETION OF THE PROJECT.

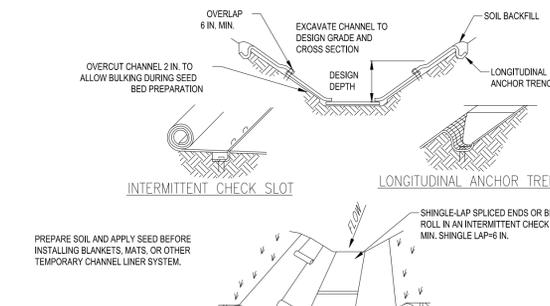
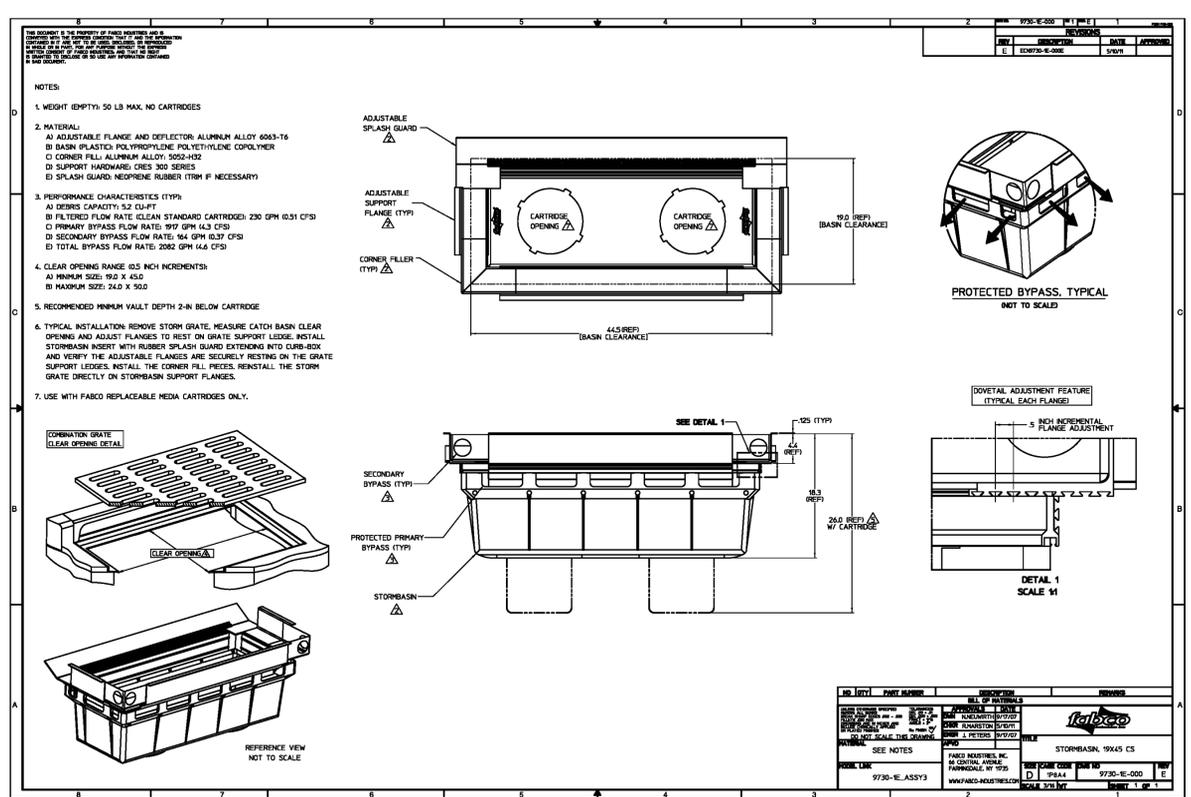


BASIN #	OUTLET STRUCTURE	BASIN BOTTOM ELEV.	ORIFICE "A"			TOP OF GRATE "B"			WEIR "C"			UNDERDRAIN "D"			OUTFLOW "E"		
			#	SIZE (IN.)	ELEV.	SIZE (FT.)	ELEV.	WIDTH (FT.)	ELEV.	SIZE (IN.)	ELEV.	SIZE (IN.)	ELEV.	SIZE (IN.)	ELEV.		
BIOTRETENTION BASIN #1	0501	429.00	1	6.0	430.95	2.0x4.0(1/2")	433.00	3.00	432.00	N/A	-	18.0	423.79				
BIOTRETENTION BASIN #2	0502	422.00	1	4.0	423.82	2.0x4.0(1/2")	426.00	3.00	425.00	N/A	-	18.0	420.23				
BIOTRETENTION BASIN #3	0503	451.00	1	3.0	452.00	2.0x4.0(1/2")	453.10	N/A	N/A	N/A	-	18.0	449.27				
BIOTRETENTION BASIN #4	0504	446.00	1	3.0	446.25	2.0x4.0(1/2")	447.80	3.00	447.00	4.0	443.75	18.0	442.58				
BIOTRETENTION BASIN #5	0505	441.00	1	3.0	441.25	2.0x4.0(1/2")	442.75	N/A	N/A	4.0	438.75	18.0	438.08				
BIOTRETENTION BASIN #6	0506	438.00	1	3.0	438.55	2.0x4.0(1/2")	439.80	N/A	N/A	-	18.0	435.18					

* THE TEMPORARY DEWATERING ORIFICE SHALL BE PLUGGED DURING CONSTRUCTION AND ONLY UNPLUGGED ONCE BASINS ARE CONVERTED TO FACILITATE TEMPORARY DEWATERING WHILE VEGETATION ESTABLISHES. ONCE VEGETATION HAS BEEN ESTABLISHED IN THE BIOTRETENTION BASIN THE TEMPORARY DEWATERING ORIFICE SHALL BE PLUGGED PERMANENTLY AND SHALL BE WATER TIGHT.
** THE 4" UNDERDRAIN SHALL BE EQUIPPED WITH A CONTROL ORIFICE TO REGULATE THE FLOW OUT OF THE BASIN. REFER TO THE UNDERDRAIN CONTROL ORIFICE DETAIL.

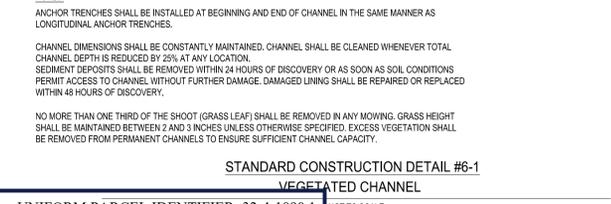
PREVIOUSLY COMPLETED SEQUENCE OF CONSTRUCTION - STAGE 2 (LOT 2A - RESIDENTIAL)
§102.8(f)(7)

- ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED IN COMPLIANCE WITH CHAPTER 102 REGULATIONS AND GRUBBING SHALL BE LIMITED TO ONLY THOSE AREAS DESCRIBED IN EACH STEP. IMMEDIATELY UPON COMPLETION OR TEMPORARY CESSATION OF EARTH DISTURBANCE ACTIVITIES OR ANY STEP THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION.
- AT LEAST SEVEN (7) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES INCLUDING, BUT NOT LIMITED TO: THE LANDOWNER, E&S PLAN PREPARER, ALL APPROPRIATE MUNICIPAL OFFICIALS, AND A REPRESENTATIVE OF THE CHESTER COUNTY CONSERVATION DISTRICT FOR AN ON-SITE PRE-CONSTRUCTION MEETING. A MINIMUM OF TWO (2) DAYS (48 HOURS) NOTICE SHALL BE GIVEN TO THE TOWNSHIP SEWER ENGINEER AND AT LEAST THREE (3) DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES. ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INC. AT 1-800-342-1776 FOR BURIED UTILITY LOCATIONS.
- BEFORE INITIATING ANY REVISION TO THE APPROVED EROSION AND SEDIMENT (E&S) CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE CHESTER COUNTY CONSERVATION DISTRICT. THE OPERATOR SHALL ENSURE THAT THE APPROVED E&S CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED. IMMEDIATELY UPON OCCURRENCE OF ANY UNEXPECTED POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION OR SEDIMENT POLLUTION.
- DUST CONTROL - CONSTRUCTION TRAFFIC MUST ENTER AND EXIT THE SITE AT THE STABILIZED CONSTRUCTION ENTRANCE. THE PURPOSE IS TO TRAP DUST AND MUD THAT WOULD OTHERWISE BE CARRIED OFF-SITE BY CONSTRUCTION TRAFFIC. WATER TRUCKS SHALL BE USED AS NEEDED DURING CONSTRUCTION TO REDUCE DUST GENERATED ON THE SITE. DUST CONTROL MUST BE PROVIDED BY THE CONTRACTOR TO A DEGREE THAT IS ACCEPTABLE TO THE CHESTER COUNTY CONSERVATION DISTRICT. AFTER CONSTRUCTION, THE SITE WILL BE STABILIZED, WHICH WILL REDUCE THE POTENTIAL FOR DUST GENERATION.
- THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENTS SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ.
- CONTINUE ROUTINE MAINTENANCE OF THE E&S BMPs INSTALLED DURING STAGE 1 WHICH INCLUDE THE STAGE 1 CONSTRUCTION ENTRANCE, SEDIMENT BASIN #2, FOREBAY #1, ROCK FILTER SOCKS AND STONE INLET PROTECTION. THE TEMPORARY STAGING AREA CAN REMAIN IN USE UNTIL SUCH TIME AS GRADING IN THE AREA IS DONE. THE CONTRACTOR SHALL THEN ESTABLISH A NEW STAGING AREA AT THEIR DISCRETION. THE CONTRACTOR SHALL ALSO INSPECT ANY OTHER EXISTING INFRASTRUCTURE WITHIN THE STAGE 2 LIMIT OF DISTURBANCE THAT IS TO REMAIN TO ENSURE IT IS FUNCTIONING PROPERLY. NOTE: ONLY PERSONNEL WHOSE VEHICLES ARE TO ENTER AND LEAVE THE SITE UNTIL SUCH TIME AS THE TEMPORARY STAGING AREA IS RELOCATED DUE TO GRADING OPERATIONS AND STORM DRAINAGE SYSTEM INSTALLATION. THIS WILL PREVENT SEDIMENT, DUST, OR MUD FROM BEING TRACKED OFF-SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING PERSONAL VEHICLES DO NOT TRACK SEDIMENT OFF-SITE AND CONSTRUCTION VEHICLES USE THE CONSTRUCTION ENTRANCE.
- COMMENCE BULK EARTH WORK NECESSARY TO ACHIEVE SUBGRADE IN BEGONIA DRIVE, IRIS LANE, LOT #2A AND INTERIM GRADING ON LOT #2B. GRADING SHALL COMMENCE AT THE NORTHERN END OF THE PROPERTY AND PROCEED SOUTH. THE EXISTING SWALE SHALL BE MAINTAINED TO THE EXISTING SWALE THAT DISCHARGES TO SEDIMENT BASIN #2. AS SOON AS PRACTICAL THE STORM RUN FROM EW304 TO IN210 SHALL BE INSTALLED. ONCE THIS STORM RUN IS INSTALLED THE EXISTING CULVERT AND HEADWALL WEST OF BEGONIA DRIVE SHALL BE REMOVED ALONG WITH THE E&S BMPs.
- CONSTRUCT THE RETAINING WALL WITHIN LOT #2A. CONSTRUCTION OF THE RETAINING WALL SHALL BE DONE IN ACCORDANCE WITH THE WALL DESIGN ENGINEER'S DRAWINGS AND MANUFACTURER'S SPECIFICATIONS UNLESS OTHERWISE NOTED IN EITHER THE RETAINING WALL DESIGN ENGINEER'S DRAWINGS OR THE MANUFACTURER'S SPECIFICATIONS.
- THE PIPE RUNS FROM EW303 TO MH303 SHALL BE INSTALLED AT THE SAME TIME THE WALL IS CONSTRUCTED. INSTALLATION OF THESE PIPE RUNS SHALL BE PER THE DIRECTOR'S RECOMMENDATION OF THE WALL DESIGNER AND AS SHOWN ON THEIR PLANS.
- AT NO POINT DURING CONSTRUCTION SHOULD THE WALL BE CONSTRUCTED ONE COURSE HIGHER THAN THE FILL MATERIAL BEHIND THE WALL THROUGHOUT WALL CONSTRUCTION AND ASSOCIATED FILLING OPERATIONS BEHIND THE WALL.
- INSTALL UTILITIES WITHIN BEGONIA DRIVE, IRIS LANE, AND LOT #2A INCLUDING STORM SEWER, SANITARY SEWER, WATER, GAS, ELECTRIC AND TELECOMMUNICATIONS. RIPRAP APRONS SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS PROVIDED ON THE EROSION AND SEDIMENT POLLUTION CONTROL NOTES AND DETAILS IMMEDIATELY UPON CONSTRUCTION OF THE ENDWALL.
- INSTALL CURBING WITHIN BEGONIA DRIVE, IRIS LANE, AND LOT #2A SHOWN ON THE PLANS AS WELL AS THE STONE AND BITUMINOUS BASE COURSE IN ROADWAYS. CONSTRUCTION OF THE TOWNHOMES WITHIN LOT #2A CAN NOW COMMENCE. THE CONTRACTOR SHALL USE ON LOT E&S CONTROLS AS SHOWN ON THE PLANS AND STANDARD DETAILS 10-1, 10-2, AND 10-3 IN THE E&S DETAILS. ANY BUILDING PAD THAT IS NOT GOING TO BE BUILT OUT IMMEDIATELY SHALL BE TEMPORARILY STABILIZED.
- INITIATE FINAL GRADING AND PLACEMENT OF TOP SOIL IN ALL LANDSCAPE AREAS WITHIN LOT #2A IN ACCORDANCE WITH THE LANDSCAPE PLANS. AS SOON AS SLOPES, CHANNELS, DITCHES, AND OTHER DISTURBED AREAS REACH FINAL GRADE THEY MUST BE STABILIZED. ALL LANDSCAPE AREAS MUST BE STABILIZED AND EROSION RESISTANT PERMANENTLY. SEEDING OR PLACEMENT OF SOIL MUST BE APPLIED WHEN FINAL GRADE IS ACHIEVED DURING NON-GERMINATING MONTHS. THE AREA SHOULD BE MULCHED UNTIL THE BEGINNING OF THE NEXT PLANTING SEASON. HOWEVER, THE AREA WILL NOT BE CONSIDERED STABILIZED UNTIL A MINIMUM UNIFORM 70% VEGETATIVE COVER OF EROSION RESISTANT PERMANENT PLANTING IS ACHIEVED. PREPARATIONS SHOULD BE MADE FOR SEEDING AND MULCHING TO BEGIN (I.E. ANTICIPATE THE COMPLETION DATE AND SCHEDULE SEEDER). IN NO CASE SHOULD AN AREA EXCEEDING 15,000 SQUARE FEET, WHICH IS TO BE STABILIZED BY VEGETATION, REACH FINAL GRADE WITHOUT BEING SEEDING AND MULCHED. WAITING UNTIL EARTHWORKING IS COMPLETED BEFORE MAKING PREPARATIONS FOR SEEDING AND MULCHING AND IS NOT ACCEPTABLE. SEEDING AND MULCHING REQUIREMENTS ARE SPECIFIED IN THE GENERAL CONSERVATION NOTES AND SPECIFICATIONS.
- CONSTRUCT VEGETATED SWALES #12 TO #16. CONSTRUCTION OF VEGETATED SWALES SHALL NOT COMMENCE UNTIL THE TRIBUTARY AREA TO THE SWALE HAS BEEN PERMANENTLY STABILIZED. CRITICAL STAGE: THE PERMITTEE SHALL PROVIDE ENGINEERING OVERSIGHT DURING THE CONSTRUCTION OF THE VEGETATED SWALES. A LICENSED PROFESSIONAL OR DESIGNER KNOWLEDGEABLE IN THE DESIGN AND CONSTRUCTION OF VEGETATED SWALES, PREFERABLY THE DESIGN ENGINEER, SHALL CONDUCT THE OVERSIGHT.
- CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE VEGETATED SWALE SEQUENCE OF CONSTRUCTION SHOWN ON THE PCSM DETAILS AND REQUIRED LANDSCAPING PER THE LANDSCAPE PLANS.
- INSTALL REMAINING LAYERS OF BITUMINOUS PAVEMENT AND CONCRETE INCLUDING SIDEWALK WITHIN LOT #2A.
- INITIATE FINAL VEGETATION AND LANDSCAPING WITHIN LOT #2A IN ACCORDANCE WITH THE LANDSCAPE PLANS AND DETAILS.
- CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE VEGETATED SWALE SEQUENCE OF CONSTRUCTION SHOWN ON THE PCSM DETAILS AND REQUIRED LANDSCAPING PER THE LANDSCAPE PLANS.
- INSTALL WATER QUALITY FILTERS WITHIN LOT #2A. INSTALLATION OF THE WATER QUALITY FILTERS SHALL BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTION AND RECOMMENDATIONS.
- CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE VEGETATED SWALE SEQUENCE OF CONSTRUCTION SHOWN ON THE PCSM DETAILS AND REQUIRED LANDSCAPING PER THE LANDSCAPE PLANS.
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- INSTALL WATER QUALITY FILTERS WITHIN LOT #2B. INSTALLATION OF THE WATER QUALITY FILTERS SHALL BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTION AND RECOMMENDATIONS.
- CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE VEGETATED SWALE SEQUENCE OF CONSTRUCTION SHOWN ON THE PCSM DETAILS AND REQUIRED LANDSCAPING PER THE LANDSCAPE PLANS.
- INSTALL REMAINING LAYERS OF BITUMINOUS PAVEMENT AND CONCRETE INCLUDING SIDEWALK WITHIN LOT #2B.
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- INSTALL WATER QUALITY FILTERS WITHIN LOT #2B. INSTALLATION OF THE WATER QUALITY FILTERS SHALL BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTION AND RECOMMENDATIONS.
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- CONSTRUCTION SHALL



- CONSTRUCTION SEQUENCE FOR VEGETATED SWALE**
- ROUGH GRADE THE VEGETATED SWALE. EQUIPMENT SHALL AVOID EXCESSIVE COMPACTION AND/OR LAND DISTURBANCE. EXCAVATING EQUIPMENT SHOULD OPERATE FROM THE SIDE OF THE SWALE AND NEVER ON THE BOTTOM.
 - EXCAVATE TO THE DEPTH OF THE SUBSOIL.
 - PLACE 12" PLANTING SOIL MIX.
 - PRE-SOAK THE PLANTING SOIL PRIOR TO PLANTING VEGETATION IN ORDER TO AID IN SETTLEMENT.
 - SEED, VEGETATE, AND INSTALL PROTECTIVE LINING AS PER THE PLANS.
- CRITICAL STAGE:** THE PERMITTEE SHALL PROVIDE ENGINEERING OVERSIGHT FOR THE INSTALLATION OF THE VEGETATED SWALE. A LICENSED PROFESSIONAL OR DESIGNER KNOWLEDGEABLE IN THE DESIGN AND CONSTRUCTION OF THE VEGETATED SWALES SHALL CONDUCT THE OVERSIGHT.

CHANNEL NO.	STATIONS	BOTTOM WIDTH B (FT)	DEPTH D (FT)	TOP WIDTH W (FT)	Z1 (FT)	Z2 (FT)	LINING *
VEGETATED SWALE 1	ENTIRE	2.75	1.00	11.25	5.5	3.0	NAG SC150
VEGETATED SWALE 2	ENTIRE	2.50	1.00	10.20	4.7	3.0	NAG SC150
VEGETATED SWALE 3	ENTIRE	2.00	1.00	7.55	2.55	3.0	NAG SC150
VEGETATED SWALE 4	ENTIRE	1.75	1.00	12.25	5.0	5.5	NAG SC150
VEGETATED SWALE 5	ENTIRE	1.50	1.00	10.00	4.0	4.5	NAG SC150
VEGETATED SWALE 6	ENTIRE	1.0	1.00	26.70	14.70	11.0	NAG SC150
VEGETATED SWALE 7	ENTIRE	1.25	1.00	19.85	3.0	15.6	NAG SC150
VEGETATED SWALE 8	ENTIRE	2.00	1.00	9.35	4.35	3.0	NAG SC150
VEGETATED SWALE 9	ENTIRE	2.00	1.00	9.35	4.35	3.0	NAG SC150
VEGETATED SWALE 10	ENTIRE	2.00	1.25	11.19	4.35	3.0	NAG SC150
VEGETATED SWALE 11	ENTIRE	2.00	1.50	11.00	3.0	3.0	NAG SC150
VEGETATED SWALE 12	ENTIRE	2.00	1.50	11.00	3.0	3.0	NAG SC150
VEGETATED SWALE 13	ENTIRE	1.75	1.50	10.75	3.0	3.0	NAG SC150
VEGETATED SWALE 14	ENTIRE	2.00	1.50	11.00	3.0	3.0	NAG SC150
VEGETATED SWALE 15	ENTIRE	2.00	1.50	11.00	3.0	3.0	NAG SC150
VEGETATED SWALE 16	ENTIRE	2.00	1.50	11.00	3.0	3.0	NAG SC150
VEGETATED SWALE 17	ENTIRE	1.50	1.50	10.50	3.0	3.0	NAG SC150
VEGETATED SWALE 18	ENTIRE	3.00	1.00	11.50	3.0	3.0	NAG SC150



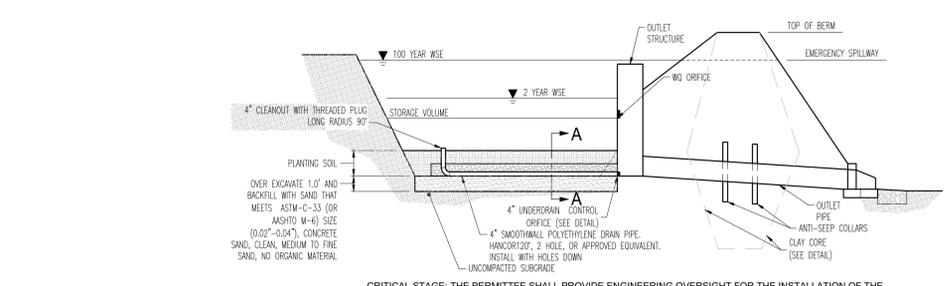
UNIFORM PARCEL IDENTIFIER: 32-4-1090.1

OUTLET NO.	PIPE DIA. P _d (IN)	RIPRAP SIZE R--	THICK. (IN)	LENGTH (FT)	INITIAL WIDTH A _{iw} (FT)	TERMINAL WIDTH A _{tw} (FT)
EW01	18	3	9.0	8.0	4.50	7.70
EW02	18	3	9.0	11.0	4.50	15.50
EW06	30	3	9.0	13.0	7.50	12.70
EW07	15	3	9.0	6.0	3.75	6.15
EW08	15	3	9.0	6.0	3.75	6.15
EW301	24	3	9.0	10.0	6.00	10.00
EW303	30	3	9.0	23.0	7.50	16.70
EW304	24	3	9.0	10.0	6.00	10.00
STATION	(3)					
BOULEVARD	2.4x36	5	18.0	27.0	27.0	54.00
CULVERT						

NOTES:

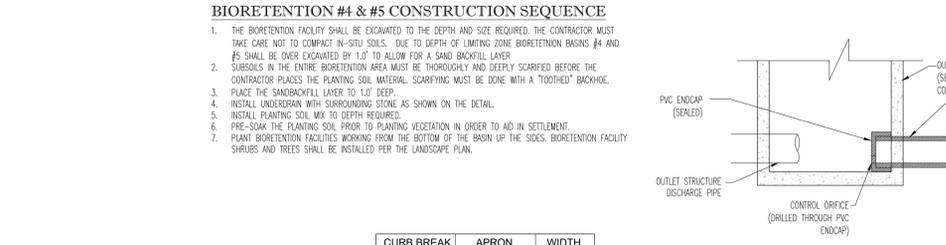
ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.

ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.

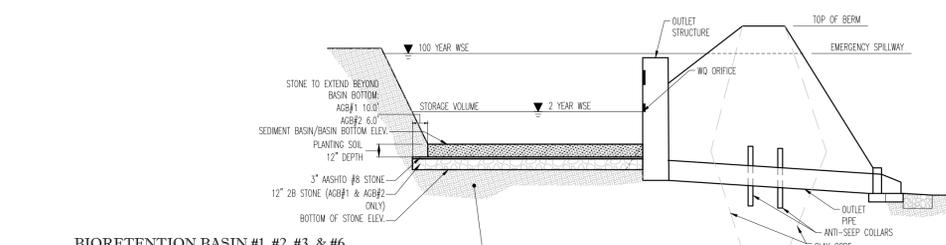
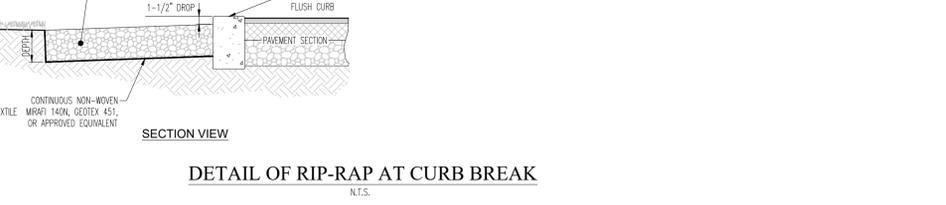


- BIORETENTION #4 & #5 CONSTRUCTION SEQUENCE**
- THE BIORETENTION FACILITY SHALL BE EXCAVATED TO THE DEPTH AND SIZE REQUIRED. THE CONTRACTOR MUST TAKE CARE NOT TO COMPACT IN-SITU SOILS. DUE TO DEPTH OF LIMITING ZONE BIORETENTION BASINS #4 AND #5 SHALL BE OVER EXCAVATED BY 1.0' TO ALLOW FOR A SAND BACKFILL LAYER.
 - SUBSOILS IN THE ENTIRE BIORETENTION AREA MUST BE THOROUGHLY AND DEEPLY SCARIFIED BEFORE THE CONTRACTOR PLACES THE PLANTING SOIL MATERIAL. SCARIFYING MUST BE DONE WITH A "TOOTHED" BACKHOE.
 - PLACE THE SAND/BACKFILL LAYER TO 1.0' DEEP.
 - INSTALL UNDERDRAIN WITH SURROUNDING STONE AS SHOWN ON THE DETAIL.
 - INSTALL PLANTING SOIL MIX TO DEPTH REQUIRED.
 - PRE-SOAK THE PLANTING SOIL PRIOR TO PLANTING VEGETATION IN ORDER TO AID IN SETTLEMENT.
 - PLANT BIORETENTION FACILITIES WORKING FROM THE BOTTOM OF THE BASIN UP THE SIDES. BIORETENTION FACILITY SHRUBS AND TREES SHALL BE INSTALLED PER THE LANDSCAPE PLAN.

BASIN	TOP OF BEAM ELEV. (FT)	EMERGENCY SPILLWAY ELEV. (FT)	2 YEAR W.S.E. (FT)	100 YEAR W.S.E. (FT)	NO ORIFICE ELEV. (FT)	BASIN BOTTOM ELEV. (FT)	SEEDING BASIN /TRAP BOTTOM ELEV. (FT)	BOTTOM OF PLANTING SOIL ELEV. (FT)	PLANTING SOIL DEPTH (FT)	BOTTOM OF SAND ELEV. (FT)	PLANTING SOIL DEPTH (FT)	UNDERDRAIN INV. ELEV. (FT)
BIORETENTION BASIN #4	449.50	448.00	446.64	447.71	446.25	446.00	446.00	445.00	1.0	444.00	1.0	443.75
BIORETENTION BASIN #5	445.00	443.50	441.78	442.94	441.25	441.00	441.00	440.00	1.0	439.00	1.0	438.75



CURB BREAK	APRON	WIDTH
CB01	RIPRAP (R-3)	4'
CB02	RIPRAP (R-3)	4'
CB03	RIPRAP (R-3)	4'
CB04	RIPRAP (R-3)	4'
CB05	RIPRAP (R-3)	4'
CB06	RIPRAP (R-3)	4'
CB07	RIPRAP (R-3)	4'
CB08	RIPRAP (R-3)	4'
CB09	RIPRAP (R-3)	4'
CB10	RIPRAP (R-3)	4'
CB11	RIPRAP (R-3)	4'

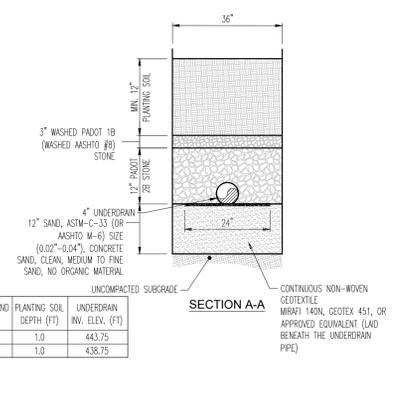
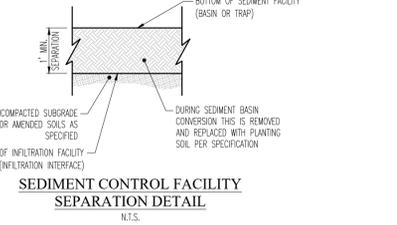


- BIORETENTION BASIN #1, #2, #3, & #6 CONSTRUCTION SEQUENCE**
- THE BIORETENTION FACILITY SHALL BE EXCAVATED TO THE DEPTH AND SIZE REQUIRED. THE CONTRACTOR MUST TAKE CARE NOT TO COMPACT IN-SITU SOILS. DUE TO DEPTH OF LIMITING ZONE BIORETENTION BASINS #1, #2, #3, & #6 TO ENSURE DESIGN RATES CAN BE ACHIEVED. PROVIDE RESULTS TO THE ENGINEER PROVIDING OVERSIGHT.
 - SUBSOILS IN THE ENTIRE BIORETENTION AREA MUST BE THOROUGHLY AND DEEPLY SCARIFIED BEFORE THE CONTRACTOR PLACES THE PLANTING SOIL MATERIAL. SCARIFYING MUST BE DONE WITH A "TOOTHED" BACKHOE.
 - CONDUCT INFILTRATION TESTING IN BIORETENTION BASINS #1, #2, #3, & #6 TO ENSURE DESIGN RATES CAN BE ACHIEVED. PROVIDE RESULTS TO THE ENGINEER PROVIDING OVERSIGHT.
 - INSTALL THE 28" STONE TO THE DEPTH REQUIRED IN BIORETENTION BASIN #1 AND #2, FOR BIORETENTION BASINS #3 & #6 SKIP THIS STEP AND PROCEED TO STEP 5. ONCE THE 28" STONE HAS BEEN INSTALLED PLACE THE 1" OF ASHDO #8 STONE.
 - INSTALL PLANTING SOIL MIX TO DEPTH REQUIRED.
 - PRE-SOAK THE PLANTING SOIL PRIOR TO PLANTING VEGETATION IN ORDER TO AID IN SETTLEMENT.
 - PLANT BIORETENTION FACILITIES WORKING FROM THE BOTTOM OF THE BASIN UP THE SIDES. BIORETENTION FACILITY SHRUBS AND TREES SHALL BE INSTALLED PER THE LANDSCAPE PLAN.

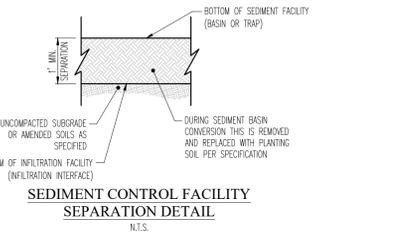
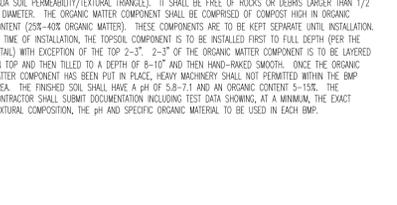
BASIN	TOP OF BEAM ELEV. (FT)	EMERGENCY SPILLWAY ELEV. (FT)	2 YEAR W.S.E. (FT)	100 YEAR W.S.E. (FT)	NO ORIFICE ELEV. (FT)	BASIN BOTTOM ELEV. (FT)	SEEDING BASIN /TRAP BOTTOM ELEV. (FT)	BOTTOM OF PLANTING SOIL ELEV. (FT)	PLANTING SOIL DEPTH (FT)	BOTTOM OF STONE ELEV. (FT)	STONE DEPTH SOIL DEPTH (FT)
BIORETENTION BASIN #1	436.00	434.00	430.16	432.74	430.95	429.00	429.00	428.00	1.0	427.00	1.0
BIORETENTION BASIN #2	428.84	426.51	424.00	426.29	423.82	422.00	422.00	421.00	1.0	420.00	1.0
BIORETENTION BASIN #3	455.00	453.50	452.09	453.29	452.00	451.00	451.00	450.00	1.0	N/A	N/A
BIORETENTION BASIN #6	442.00	440.50	438.68	439.89	438.55	438.00	438.00	437.00	1.0	N/A	N/A

NOTES:

- THE AREA DESIGNATED FOR INFILTRATION SHALL BE ENCLOSED WITH HI-VIS ORANGE FENCE TO MINIMIZE THE IMPACTS OF SURROUNDING CONSTRUCTION ACTIVITIES ON THE INFILTRATION CAPABILITIES OF THE NATIVE SOIL.
- CARE MUST BE TAKEN DURING THE EXCAVATION PROCESS TO MAKE SURE THAT SOIL COMPACTION DOES NOT OCCUR WITHIN THE BIORETENTION BASIN. FOLLOWING CONSTRUCTION AND SITE STABILIZATION, SEDIMENT SHALL BE REMOVED FROM THE BASIN AND FINAL GRADES ESTABLISHED USING NON-MECHANICAL METHODS.
- ONCE THE BIORETENTION BASIN IS READY TO BE CONVERTED ALL INLETS, MANHOLES AND STORM SEWER PIPE SHALL BE FLUSHED TO PREVENT ANY SEDIMENT FROM ENTERING THE INFILTRATION BASIN ONCE IT HAS BEEN CONVERTED. ONCE ALL INLET/MANHOLES/PIPING HAS BEEN FLUSHED ALL SEDIMENT SHALL BE REMOVED FROM THE BASIN TO THE ELEVATIONS SPECIFIED TO PROVIDE THE 1" OF PLANTING SOIL AND 1" OF STONE.
- BIORETENTION BASINS SHALL BE PLANTED AS INDICATED ON THE PROJECT LANDSCAPE PLAN.



BASIN	CONTROL ORIFICE DIAMETER (INCHES)	INVERT OUT (FT)
ASB #4	0.50"	443.75
ASB #5	0.50"	438.75



- BIORETENTION BASIN #1, #2, #3, & #6 CONSTRUCTION SEQUENCE**
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BASIN	TOP OF BEAM ELEV. (FT)	EMERGENCY SPILLWAY ELEV. (FT)	2 YEAR W.S.E. (FT)	100 YEAR W.S.E. (FT)	NO ORIFICE ELEV. (FT)	BASIN BOTTOM ELEV. (FT)	SEEDING BASIN /TRAP BOTTOM ELEV. (FT)	BOTTOM OF PLANTING SOIL ELEV. (FT)	PLANTING SOIL DEPTH (FT)	BOTTOM OF STONE ELEV. (FT)	STONE DEPTH SOIL DEPTH (FT)
BIORETENTION BASIN #1	436.00	434.00	430.16	432.74	430.95	429.00	429.00	428.00	1.0	427.00	1.0
BIORETENTION BASIN #2	428.84	426.51	424.00	426.29	423.82	422.00	422.00	421.00	1.0	420.00	1.0
BIORETENTION BASIN #3	455.00	453.50	452.09	453.29	452.00	451.00	451.00	450.00	1.0	N/A	N/A
BIORETENTION BASIN #6	442.00	440.50	438.68	439.89	438.55	438.00	438.00	437.00	1.0	N/A	N/A

NOTES:

- THE AREA DESIGNATED FOR INFILTRATION SHALL BE ENCLOSED WITH HI-VIS ORANGE FENCE TO MINIMIZE THE IMPACTS OF SURROUNDING CONSTRUCTION ACTIVITIES ON THE INFILTRATION CAPABILITIES OF THE NATIVE SOIL.
- CARE MUST BE TAKEN DURING THE EXCAVATION PROCESS TO MAKE SURE THAT SOIL COMPACTION DOES NOT OCCUR WITHIN THE BIORETENTION BASIN. FOLLOWING CONSTRUCTION AND SITE STABILIZATION, SEDIMENT SHALL BE REMOVED FROM THE BASIN AND FINAL GRADES ESTABLISHED USING NON-MECHANICAL METHODS.
- ONCE THE BIORETENTION BASIN IS READY TO BE CONVERTED ALL INLETS, MANHOLES AND STORM SEWER PIPE SHALL BE FLUSHED TO PREVENT ANY SEDIMENT FROM ENTERING THE INFILTRATION BASIN ONCE IT HAS BEEN CONVERTED. ONCE ALL INLET/MANHOLES/PIPING HAS BEEN FLUSHED ALL SEDIMENT SHALL BE REMOVED FROM THE BASIN TO THE ELEVATIONS SPECIFIED TO PROVIDE THE 1" OF PLANTING SOIL AND 1" OF STONE.
- BIORETENTION BASINS SHALL BE PLANTED AS INDICATED ON THE PROJECT LANDSCAPE PLAN.

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 PROGRAM MANAGEMENT
 LANDSCAPE ARCHITECTURE
 SUSTAINABLE DESIGN
 PERMITTING SERVICES
 TRANSPORTATION SERVICES

REVISIONS

REV	DATE	COMMENT	DRAWN BY	CHECKED BY
1	05/25/2022	REV PER TOWNSHIP COMMENTS	LGU	MJB
2	07/08/2022	REV PER NPDES MINOR MOD	JRK	LGU
3	12/07/2022	REV PER TOWNSHIP COMMENTS	JRK	KHD
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5	04/18/2024	REV PER CLIENT COMMENTS	LGU/BG	CDP
6	05/31/2024	REV PER TOWNSHIP COMMENTS	ACB	CDP
7	12/19/2024	REV PER RFIS	TWB	CDP
8	05/30/2025	REV PER NEW BUILDING	LLZ	CDP

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SERIAL No.: 201825331377

PROJECT No.: PC211160
 DRAWN BY: LGU
 CHECKED BY: C.O.P
 DATE: 03/15/2022
 CAD LDR: PC211160-CMDS-BA

AMENDED FINAL PRD PLANS

FOR

PROSPERITY PROPERTY INVESTMENTS, LLC

"FINAL PLAN FOR LOT 2B OF PARCEL 5C"

PROPOSED COMMERCIAL DEVELOPMENT

GRAPHITE MINE ROAD & STATION BOULEVARD
 UPPER UCHLAN TOWNSHIP
 CHESTER COUNTY
 COMMONWEALTH OF PENNSYLVANIA

BOHLER

1600 MANOR DRIVE, SUITE 200
 CHALFONT, PA 18914
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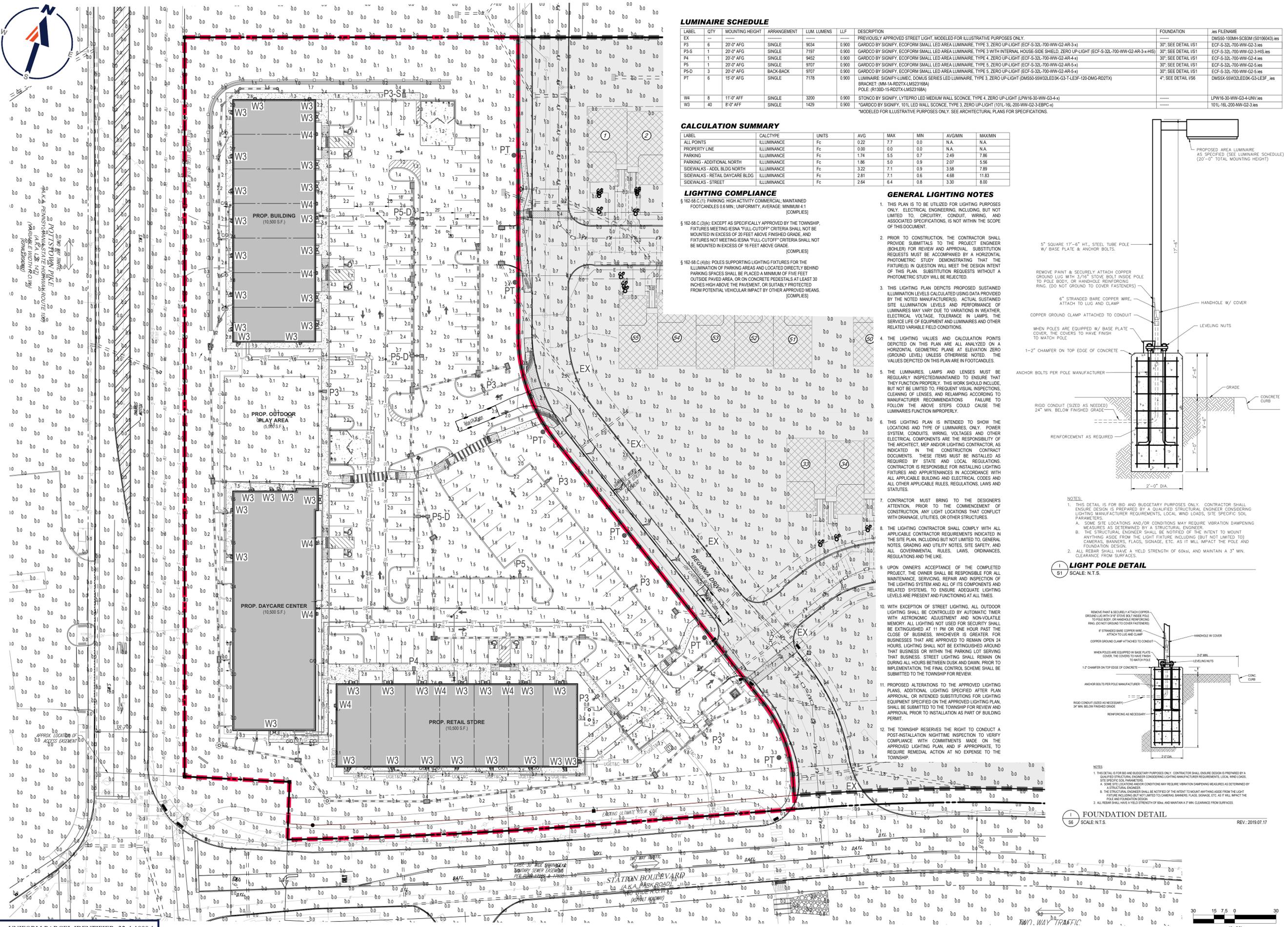
PROFESSIONAL ENGINEER
 PENNSYLVANIA LICENSE # 0000000000

SHEET TITLE: **POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS**

SHEET NUMBER: **C-612**

22 OF 36

REVISION 8 - 05/30/2025



LUMINAIRE SCHEDULE

LABEL	QTY	MOUNTING HEIGHT	ARRANGEMENT	LUM. LUMENS	LLF	DESCRIPTION	FOUNDATION	FILE NAME
EX	6	20'-0" AFF	SINGLE	9034	0.900	GARDO BY SIGNIFY, ECOFORM SMALL LED AREA LUMINAIRE, TYPE 3, ZERO UP-LIGHT (ECF-S-32L-700-WW-G2-AR-3-X)	-----	DMS50-100MH-SCB3M (S0106043).ies
P3	6	20'-0" AFF	SINGLE	9034	0.900	GARDO BY SIGNIFY, ECOFORM SMALL LED AREA LUMINAIRE, TYPE 3, ZERO UP-LIGHT (ECF-S-32L-700-WW-G2-AR-3-X)	-----	ECF-S-32L-700-WW-G2-3.ies
P3-S	1	20'-0" AFF	SINGLE	7197	0.900	GARDO BY SIGNIFY, ECOFORM SMALL LED AREA LUMINAIRE, TYPE 3, ZERO UP-LIGHT (ECF-S-32L-700-WW-G2-3-HS)	-----	ECF-S-32L-700-WW-G2-3-HS.ies
P4	1	20'-0" AFF	SINGLE	9452	0.900	GARDO BY SIGNIFY, ECOFORM SMALL LED AREA LUMINAIRE, TYPE 4, ZERO UP-LIGHT (ECF-S-32L-700-WW-G2-AR-4-X)	-----	ECF-S-32L-700-WW-G2-4.ies
P5	1	20'-0" AFF	SINGLE	9707	0.900	GARDO BY SIGNIFY, ECOFORM SMALL LED AREA LUMINAIRE, TYPE 5, ZERO UP-LIGHT (ECF-S-32L-700-WW-G2-AR-5-X)	-----	ECF-S-32L-700-WW-G2-5.ies
P5-D	3	20'-0" AFF	BACK-BACK	9707	0.900	GARDO BY SIGNIFY, ECOFORM SMALL LED AREA LUMINAIRE, TYPE 5, ZERO UP-LIGHT (ECF-S-32L-700-WW-G2-AR-5-X)	-----	ECF-S-32L-700-WW-G2-5.ies
PT	6	15'-0" AFF	SINGLE	7178	0.900	LUMINAIRE: SIGNIFY LUMEC, DOMUS SERIES LED LUMINAIRE, TYPE 3, ZERO UP-LIGHT (DMS50-SW32LED3K-G3-L1E3F-120-DMG-RD2TX) BRACKET: MM-1A-RD2TX-LMS2198A POLE: RW-150-RD2TX-LMS2198A	-----	ECF-S-32L-700-WW-G2-3.ies
W4	8	11'-0" AFF	SINGLE	3200	0.900	STONCO BY SIGNIFY, LITPRO LED MEDIUM WALL SCENE, TYPE 4, ZERO UP-LIGHT (LPM16-30-WW-G3-4-X)	-----	LPM16-30-WW-G3-4-LUM.ies
W3	40	8'-0" AFF	SINGLE	1429	0.900	GARDO BY SIGNIFY, 101 LED WALL SCENE, TYPE 3, ZERO UP-LIGHT (101L-16L-200-WW-G2-3-E8PC-X)	-----	101L-16L-200-WW-G2-3.ies

CALCULATION SUMMARY

LABEL	CALCTYPE	UNITS	AVG	MAX	MIN	AVGMIN	MAXMIN
ALL POINTS	ILLUMINANCE	Fc	0.22	7.7	0.0	N.A.	N.A.
PROPERTY LINE	ILLUMINANCE	Fc	0.00	0.0	0.0	N.A.	N.A.
PARKING	ILLUMINANCE	Fc	1.74	5.5	0.7	2.49	7.86
PARKING - ADDITIONAL NORTH	ILLUMINANCE	Fc	1.86	5.0	0.9	2.07	5.56
SIDEWALKS - ADDL BLDG NORTH	ILLUMINANCE	Fc	3.22	7.1	0.9	3.58	7.89
SIDEWALKS - RETAIL DAYCARE BLDG	ILLUMINANCE	Fc	2.81	7.1	0.5	4.68	11.83
SIDEWALKS - STREET	ILLUMINANCE	Fc	2.64	6.4	0.8	3.30	8.00

LIGHTING COMPLIANCE

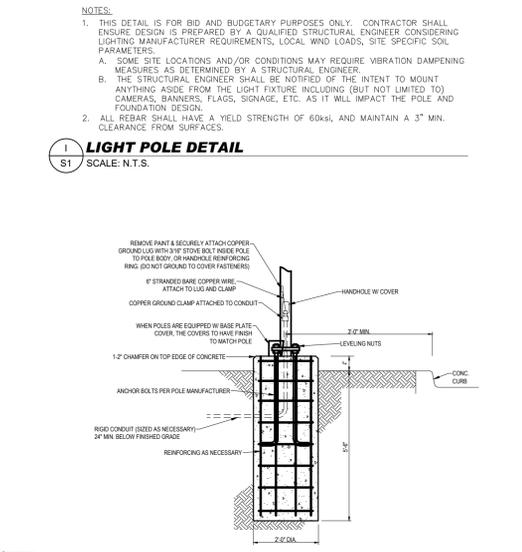
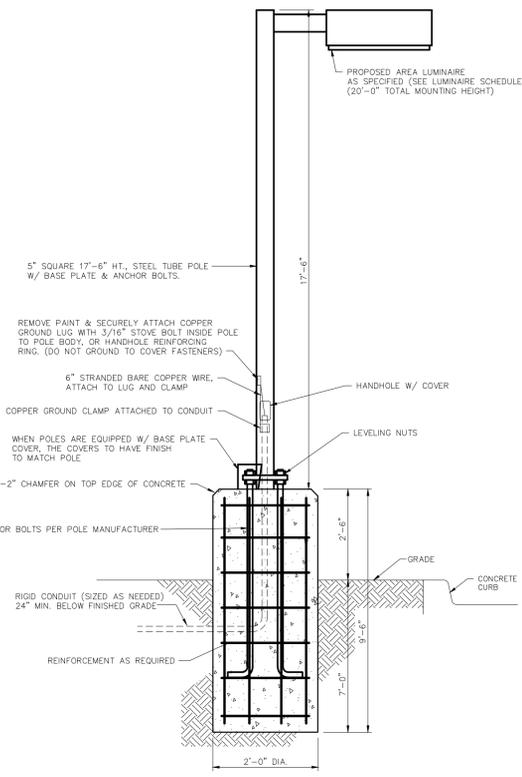
§ 162.58 C(1): PARKING: HIGH ACTIVITY COMMERCIAL: MAINTAINED FOOTCANDLES 0.8 MIN.; UNIFORMITY, AVERAGE MINIMUM 4:1 (COMPLIES)

§ 162.58 C(2)(a): EXCEPT AS SPECIFICALLY APPROVED BY THE TOWNSHIP, FIXTURES MEETING IESNA "FULL-CUTOFF" CRITERIA SHALL NOT BE MOUNTED IN EXCESS OF 20 FEET ABOVE FINISHED GRADE, AND FIXTURES NOT MEETING IESNA "FULL-CUTOFF" CRITERIA SHALL NOT BE MOUNTED IN EXCESS OF 10 FEET ABOVE GRADE. (COMPLIES)

§ 162.58 C(4)(b): POLES SUPPORTING LIGHTING FIXTURES FOR THE ILLUMINATION OF PARKING AREAS AND LOCATED DIRECTLY BEHIND PARKING SPACES SHALL BE PLACED A MINIMUM OF FIVE FEET OUTSIDE PAVED AREA, OR ON CONCRETE PEDESTALS AT LEAST 30 INCHES HIGH ABOVE THE PAVEMENT, OR FULLY PROTECTED FROM POTENTIAL VEHICULAR IMPACT BY OTHER APPROVED MEANS. (COMPLIES)

GENERAL LIGHTING NOTES

- THIS PLAN IS TO BE UTILIZED FOR LIGHTING PURPOSES ONLY. ELECTRICAL ENGINEERING, INCLUDING, BUT NOT LIMITED TO, CIRCUITRY, CONTROL, WIRING, AND ASSOCIATED SPECIFICATIONS, IS NOT WITHIN THE SCOPE OF THIS DOCUMENT.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE SUBMITTALS TO THE PROJECT ENGINEER (BOHLER) FOR REVIEW AND APPROVAL. SUBSTITUTION REQUESTS MUST BE ACCOMPANIED BY A HORIZONTAL PHOTOMETRIC STUDY DEMONSTRATING THAT THE FIXTURE(S) IN QUESTION WILL MEET THE DESIGN INTENT OF THIS PLAN. SUBSTITUTION REQUESTS WITHOUT A PHOTOMETRIC STUDY WILL BE REJECTED.
- THIS LIGHTING PLAN DEPICTS PROPOSED SUSTAINED ILLUMINATION LEVELS CALCULATED USING DATA PROVIDED BY THE NOTED MANUFACTURER. ACTUAL SUSTAINED SITE ILLUMINATION LEVELS AND PERFORMANCE OF LUMINAIRES MAY VARY DUE TO VARIATIONS IN WEATHER, ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, THE SERVICE LIFE OF EQUIPMENT AND LUMINAIRES AND OTHER RELATED VARIABLE FIELD CONDITIONS.
- THE LIGHTING VALUES AND CALCULATION POINTS DEPICTED ON THIS PLAN ARE ALL ANALYZED ON A HORIZONTAL GEOMETRIC PLANE AT ELEVATION ZERO (GROUND LEVEL), UNLESS OTHERWISE NOTED. THE VALUES DEPICTED ON THIS PLAN ARE IN FOOT-CANDLES.
- THE LUMINAIRES, LAMPS AND LENSES MUST BE REGULARLY INSPECTED/MAINTAINED TO ENSURE THAT THEY FUNCTION PROPERLY. THIS WORK SHOULD INCLUDE, BUT NOT BE LIMITED TO, FREQUENT VISUAL INSPECTIONS, CLEANING OF LENSES, AND RELAXING ACCORDING TO MANUFACTURER RECOMMENDATIONS. FAILURE TO FOLLOW THE ABOVE STEPS COULD CAUSE THE LUMINAIRES FUNCTION IMPROPERLY.
- THIS LIGHTING PLAN IS INTENDED TO SHOW THE LOCATIONS AND TYPE OF LUMINAIRES ONLY. POWER SYSTEM, CONDUITS, WIRING, VOLTAGES AND OTHER ELECTRICAL COMPONENTS ARE THE RESPONSIBILITY OF THE ARCHITECT, MEP AND/OR LIGHTING CONTRACTOR, AS INDICATED IN THE CONSTRUCTION CONTRACT DOCUMENTS. THESE ITEMS MUST BE INSTALLED AS REQUIRED BY STATE AND LOCAL REGULATIONS. CONTRACTOR IS RESPONSIBLE FOR INSTALLING LIGHTING FIXTURES AND APPURTENANCES IN ACCORDANCE WITH ALL APPLICABLE BUILDING AND ELECTRICAL CODES AND ALL OTHER APPLICABLE RULES, REGULATIONS, LAWS AND STATUTES.
- CONTRACTOR MUST BRING TO THE DESIGNER'S ATTENTION, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, ANY LIGHT LOCATIONS THAT CONFLICT WITH DRAINAGE, UTILITIES, OR OTHER STRUCTURES.
- THE LIGHTING CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CONTRACTOR REQUIREMENTS INDICATED IN THE SITE PLAN, INCLUDING BUT NOT LIMITED TO, GENERAL NOTES, GRADING AND UTILITY NOTES, SITE SAFETY, AND ALL GOVERNMENTAL RULES, LAWS, ORDINANCES, REGULATIONS AND THE LIKE.
- UPON OWNER'S ACCEPTANCE OF THE COMPLETED PROJECT, THE OWNER SHALL BE RESPONSIBLE FOR ALL MAINTENANCE, SERVICING, REPAIR AND INSPECTION OF THE LIGHTING SYSTEM AND ALL OF ITS COMPONENTS AND RELATED SYSTEMS, TO ENSURE ADEQUATE LIGHTING LEVELS ARE PRESENT AND FUNCTIONING AT ALL TIMES.
- WITH EXCEPTION OF STREET LIGHTING, ALL OUTDOOR LIGHTING SHALL BE CONTROLLED BY AUTOMATIC TIMER WITH ASTRONOMIC ADJUSTMENT AND NON-VOLATILE MEMORY. ALL LIGHTING NOT USED FOR SECURITY SHALL BE EXTINGUISHED AT 11 PM OR ONE HOUR PAST THE CLOSE OF BUSINESS, WHICHEVER IS GREATER. FOR BUSINESSES THAT ARE APPROVED TO REMAIN OPEN 24 HOURS, LIGHTING SHALL NOT BE EXTINGUISHED AROUND THAT BUSINESS OR WITHIN THE PARKING LOT SERVING THAT BUSINESS. STREET LIGHTING SHALL REMAIN ON DURING ALL HOURS BETWEEN DUSK AND DAWN. PRIOR TO IMPLEMENTATION, THE FINAL CONTROL SCHEME SHALL BE SUBMITTED TO THE TOWNSHIP FOR REVIEW.
- PROPOSED ALTERATIONS TO THE APPROVED LIGHTING PLANS, ADDITIONAL LIGHTING SPECIFIED AFTER PLAN APPROVAL, OR INTENDED SUBSTITUTIONS FOR LIGHTING EQUIPMENT SPECIFIED ON THE APPROVED LIGHTING PLAN, SHALL BE SUBMITTED TO THE TOWNSHIP FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION AS PART OF BUILDING PERMIT.
- THE TOWNSHIP RESERVES THE RIGHT TO CONDUCT A POST-INSTALLATION NIGHTTIME INSPECTION TO VERIFY COMPLIANCE WITH COMMITMENTS MADE ON THE APPROVED LIGHTING PLAN, AND IF APPROPRIATE, TO REQUIRE REMEDIAL ACTION AT NO EXPENSE TO THE TOWNSHIP.



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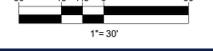
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D.W. NORTH
REGISTERED LANDSCAPE ARCHITECT
PENNSYLVANIA LICENSE # LA002729

SHEET TITLE:
LIGHTING PLAN
SHEET NUMBER:
C-701
23 OF 36
REVISION 8 - 05/30/2025

UNIFORM PARCEL IDENTIFIER: 32-4-1090.1



Gardco EcoForm Gen-2 combines economy with performance in an LED area luminaire. Capable of delivering up to 27,000 lumens or more in a compact, low profile LED luminaire, EcoForm offers a new level of customer value. EcoForm features an innovative retrofit arm kit, simplifying site conversions to LED by eliminating the need to drill additional holes in most existing poles. Integral control systems available for further energy savings. Includes Service Tag, our innovative way to provide assistance throughout the life of the product.

Ordering guide

ECF-S	ECF-S	ECF-S	ECF-S	ECF-S	ECF-S
ECF-S-30L-1A-NW-Q2-AR-3-UNV-BK	ECF-S-30L-1A-NW-Q2-AR-3-UNV-MOY	ECF-S-30L-1A-NW-Q2-AR-3-UNV-BK	ECF-S-30L-1A-NW-Q2-AR-3-UNV-MOY	ECF-S-30L-1A-NW-Q2-AR-3-UNV-BK	ECF-S-30L-1A-NW-Q2-AR-3-UNV-MOY

Option	Description	Part Number
001	0-10V dimming	001-001
002	0-10V dimming, 7 hours	002-001
003	0-10V dimming, 2 hours	003-001
004	0-10V dimming, 1 hour	004-001

Option	Description	Part Number
005	0-10V dimming, 7 hours	005-001
006	0-10V dimming, 2 hours	006-001
007	0-10V dimming, 1 hour	007-001

ECF-S_EcoForm_small_01/22 page 1 of 9

ECF-S EcoForm small
Area luminaire

EcoForm Accessories* (ordered separately, field installed)

Accessory	Description
ECF-ACC-01	0-10V dimming
ECF-ACC-02	0-10V dimming, 7 hours
ECF-ACC-03	0-10V dimming, 2 hours
ECF-ACC-04	0-10V dimming, 1 hour

Option	Description	Part Number
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002	0-10V dimming, 7 hours	002-001
003	0-10V dimming, 2 hours	003-001
004	0-10V dimming, 1 hour	004-001

Option	Description	Part Number
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006	0-10V dimming, 2 hours	006-001
007	0-10V dimming, 1 hour	007-001

ECF-S_EcoForm_small_01/22 page 2 of 9

ECF-S EcoForm small
Area luminaire

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007	0-10V dimming, 1 hour	007-001

ECF-S_EcoForm_small_01/22 page 3 of 9

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ECF-S_EcoForm_small_01/22 page 4 of 9

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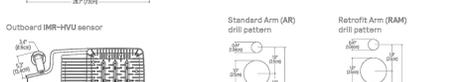
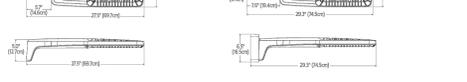
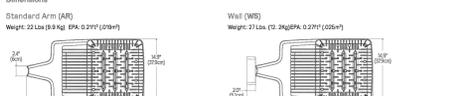
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ECF-S_EcoForm_small_01/22 page 5 of 9

ECF-S EcoForm small
Area luminaire

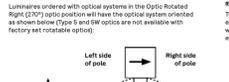
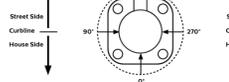
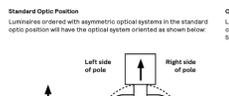
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ECF-S_EcoForm_small_01/22 page 6 of 9

ECF-S EcoForm small
Area luminaire

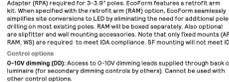
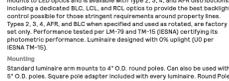
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ECF-S_EcoForm_small_01/22 page 7 of 9

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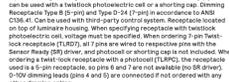
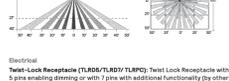
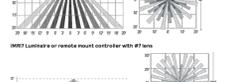
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ECF-S_EcoForm_small_01/22 page 8 of 9

ECF-S EcoForm small
Area luminaire

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ECF-S_EcoForm_small_01/22 page 9 of 9

ECF-S EcoForm small
Area luminaire

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ECF-S_EcoForm_small_01/22 page 10 of 9



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SHEET TITLE:
LIGHTING DETAILS
SHEET NUMBER:
C-702
24 OF 36
REVISION 8 - 05/30/2025

R:\P\21160\CAD\DRAWINGS\PLAN SET\CIVIL SITE PLANS\PC21160-LGT-8A.dwg - LAYOUT - C-702 LIGHT DETAILS

UNIFORM PARCEL IDENTIFIER: 32-4-1090.1



POTTSVILLE PIKE
A.K.A. PENNSYLVANIA STATE HIGHWAY ROUTE 100
(A.K.A. L.R. 147)
(VARIABLE WIDTH C.O.W.)
(SIGNAL BARRIERS)

R:\31\PC21160\CADD\DRAWINGS\PLAN SET\BOHLER SITE PLANS\PC21160-L107-01.dwg - LAYOUT: C:\7\ML\LSBP



COMPLIANCE CHART

SECTION	REQUIREMENT	CALCULATIONS (REQUIRED / PROVIDED)	COMPLIANCE
SALDO: 162.57' LANDSCAPE DESIGN.	C.(6) STREET TREES: ANY SUBDIVISION OR LAND DEVELOPMENT SHALL PROVIDE STREET TREES ALONG THE ENTIRE LENGTH OF ANY PUBLIC STREET. (8) THE SPACING BETWEEN STREET TREES SHALL BE NO GREATER THAN 50 FEET.	ALONG STATION BOULEVARD AND POTTSVILLE PIKE 18 TREES PROVIDED PER PREVIOUSLY APPROVED PLANS. LOCATIONS MODIFIED, SEE GENERAL NOTE 7.	COMPLIES
INSTALLATION AND MAINTENANCE STANDARDS	C.(7) PARKING LOT LANDSCAPING: (G) THE INTERIOR OF EACH PARKING AREA OR LOT SHALL HAVE AT LEAST ONE SHADE TREE FOR EVERY FIVE PARKING SPACES.	TOTAL COMMERCIAL PARKING SPACES = 147 REQUIRED: 147 / 5 = 29.4 OR 30 SHADE TREES PROVIDED: 10 AROG, 12 GTIK, 8 LSR, 30 SHADE TREES	COMPLIES
	D.(1) MINIMUM PLANTING STANDARDS PER 1,000 SQUARE FEET GROSS BUILDING AREA, GROUND FLOOR ONLY (BUILDING "FOOTPRINT"), RESIDENTIAL SUBDIVISIONS EXEMPT	TOTAL COMMERCIAL BUILDING AREA = 31,500 S.F. REQUIRED: 31,500 / 1,000 = 31.5 31.5 x 2 = 63 DECIDUOUS TREES 31.5 x 1 = 31.5 OR 32 EVERGREEN TREES 31.5 x 8 = 252 SHRUBS	COMPLIES
	PER 2,000 SQUARE FEET OFF-STREET PARKING OR LOADING AREA, EXCLUDING DRIVEWAYS LESS THAN 18 FEET WIDE. RESIDENTIAL SUBDIVISIONS EXEMPT	TOTAL COMMERCIAL PARKING AREA = 53,297 S.F. 26.64 x 1 = 26.64 OR 27 DECIDUOUS TREES 26.64 x 4 = 106.6 OR 107 SHRUBS	COMPLIES
	PER 100 LINEAR FEET OF NEW AND EXISTING PUBLIC OR PRIVATE ROAD FRONTAGE. MEASURE ON BOTH SIDES WHERE APPLICABLE	18 PAB, 9 PP (27 EVERGREEN TREES); 11 AAB, 8 CSK, 20 ISS, 52 IV, 3 VDC, 18 VR (112 SHRUBS)	COMPLIES
	PER 100 LINEAR FEET OF EXISTING TRACT BOUNDARY, WHERE NOT COINCIDENT WITH EXISTING OR PROPOSED ROAD FRONTAGE	TOTAL LINEAR FEET OF IMPROVED ROAD FRONTAGE = 1,640 S.F. REQUIRED: 1,640 / 100 = 16.40 16.40 x 2 = 32.80 OR 33 DECIDUOUS TREES 16.40 x 1 = 16.40 OR 17 EVERGREEN TREES 16.40 x 5 = 82 SHRUBS	COMPLIES
		PROVIDED: 18 TREES PROVIDED PER PREVIOUSLY APPROVED PLANS, PLUS 10 AAB, 3 CC, 2 LSR (33 DECIDUOUS TREES); 9 PGL, 8 PP (17 EVERGREEN TREES); 19 CS, 17 IGS, 6 IAW, 3 IVD, 15 PXOL, 22 VDC (85 SHRUBS)	COMPLIES
		TRACT BOUNDARY LENGTH (NORTH PROPERTY LINE) = 242 L.F. REQUIRED: 242 / 100 = 2.42 2.42 x 1 = 2.42 OR 3 DECIDUOUS TREES 2.42 x 2 = 4.84 OR 5 EVERGREEN TREES 2.42 x 8 = 19.36 OR 20 SHRUBS	COMPLIES
		PROVIDED: 3 QA (3 DECIDUOUS TREES); 5 PGL (5 EVERGREEN TREES); 7 AAB, 13 VR (20 SHRUBS)	COMPLIES

PLANT SCHEDULE

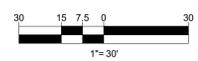
CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
CANOPY TREES					
AROG	10	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	3'-3.5" CAL.	B&B
GTIK	14	GLADIOLUS TRIACANTHOS 'NEMIS' 'SKYCOLE'	SKYLINE THORNLESS HONEY LOCUST	3'-3.5" CAL.	B&B
LSR	19	LIQUIDAMBAR STYRACIFLUA 'ROTUNDOLOBA'	ROUND-LEBED SEEDLESS SWEET GUM	3'-3.5" CAL.	B&B
PXAB	11	PLATANUS X ACERIFOLIA 'BLOODGOOD'	LONDON PLANE TREE	3'-3.5" CAL.	B&B
QA	3	QUERCUS ALBA	WHITE OAK	3'-3.5" CAL.	B&B
EVERGREEN TREES					
PGL	26	PICEA GLAUCA	WHITE SPRUCE	8' HT.	B&B
PIAB	35	PICEA ABIES	NORWAY SPRUCE	8' HT.	B&B
PP	20	PICEA PUNGENS	COLORADO SPRUCE	8' HT.	B&B
ORNAMENTAL TREES					
AGB	12	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	3'-3.5" CAL.	B&B
CC	12	CERCIS CANADENSIS	EASTERN REDBUD	3'-3.5" CAL.	B&B
CV	16	CRATAEGUS VIRIDIS 'WINTER KING'	WINTER KING HAWTHORN	3'-3.5" CAL.	B&B
PSC	14	PRUNUS SARGENTII 'COLUMNARIS'	COLUMNAR SARGENT CHERRY	3'-3.5" CAL.	B&B
SHRUBS					
AAB	18	ARONIA ARBUTIFOLIA 'BRILLIANTISSIMA'	BRILLIANT RED CHERRYBERRY	3-4'	B&B
CS	30	CORNUS SERICEA	RED TWIG DOGWOOD	3-3'	B&B
CSK	40	CORNUS SERICEA 'KEISEY'	KEISEY DOGWOOD	15-18"	CONTAINER
HOSQ	21	HYDRANGEA QUERCIFOLIA 'SNOW QUEEN'	SNOW QUEEN OAKLEAF HYDRANGEA	24-30"	CONTAINER
IGS	74	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERY	24-30"	CONTAINER
IV	92	ITEA VIRGINICA 'HENRY'S GARNET'	HENRY'S GARNET SWEETSPIRE	24-30"	CONTAINER
IWAW	6	ILEX VERTICILLATA 'AFTERGLOW'	AFTERGLOW WINTERBERRY	3-4'	CONTAINER
IVD	5	ILEX VERTICILLATA 'JIM DANDY'	JIM DANDY WINTERBERRY	30-36"	CONTAINER
IVRS	15	ILEX VERTICILLATA 'RED SPRITE'	RED SPRITE WINTERBERRY	24-30"	CONTAINER
JHB	166	JUNIPERUS HORIZONTALIS 'MONBER'	ICE BLUE JUNIPER	15-18" SPDR	CONTAINER
KLE	41	KALIMA LATIFOLIA 'ELF'	DWARF MOUNTAIN LAUREL	24-30"	B&B
PXOL	15	PRUNUS LAUROCEPES 'OTTO LUYKEN'	OTTO LUYKEN CHERRY LAUREL	24-30"	CONTAINER
RDW	42	RHOODOENDRON AZALEA 'DELAWARE VALLEY WHITE'	DELAWARE VALLEY WHITE AZALEA	24-30"	CONTAINER
VDC	25	VIBURNUM DENTATUM 'CHRISTOM'	BLUE MUFFIN VIBURNUM	3-4'	B&B
VR	42	VIBURNUM RHYTHOPHYLLUM	LEATHERLEAF VIBURNUM	3-4'	B&B
GRASSES					
CAKF	28	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'	FEATHER REED GRASS	1 GAL.	CONTAINER

GENERAL NOTES:

- THIS PLAN IS TO BE UTILIZED FOR LANDSCAPE PURPOSES ONLY.
- ALL DISTURBED UNPAVED AREAS, EXCLUDING PLANTING BEDS, ARE TO BE INSTALLED AS LAWN IN ACCORDANCE WITH LANDSCAPE SPECIFICATION 6.2, UNLESS OTHERWISE STATED ON THIS PLAN.
- SHRUBS PLANTED ALONG HEAD-IN PARKING STALLS SHALL BE INSTALLED TO ALLOW A CLEARANCE OF TWO FEET FROM FACE OF CURB TO ALLOW FOR BUMPER OVERHANG.
- IF IRRIGATION IS REQUIRED BY THE OWNER OR APPROVING MUNICIPALITY, THE CONTRACTOR SHALL PROVIDE AN IRRIGATION SYSTEM MEETING THE SPECIFICATIONS OF THE CHOSEN PRODUCTS MANUFACTURER. THE IRRIGATION DESIGN SHALL ACCOMMODATE LAWN AND BED AREAS EACH UNDER SEPARATE ZONES TO MAXIMIZE WATER EFFICIENCY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ANY PERMITS REQUIRED FOR THE INSTALLATION OF AN IRRIGATION SYSTEM.
- PLANT MATERIAL SUBSTITUTIONS MUST BE FORMALLY SUBMITTED TO BOHLER ENGINEERING AND THE MUNICIPAL ENGINEER AND LANDSCAPE CONSULTANTS FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. ANY PLANT MATERIAL THAT ARE TO BE INSTALLED WITHIN STORMWATER BMP FEATURES MUST BE NATIVE SPECIES.
- WITHOUT EXCEPTION, WEED BARRIER FABRIC SHALL NOT BE INSTALLED WITHIN ANY BMP FACILITY. BMP FACILITIES INCLUDE RANGARDENS, INFILTRATION TRENCHES, VEGETATIVE SWALES AND STORMWATER BASINS.
- STREET TREES AND OTHER PREVIOUSLY APPROVED PLANT MATERIAL SHOWN ON THIS SITE WERE PROPOSED - AND APPROVED AS PART OF THE RESIDENTIAL APPLICATION. THE PROPOSED LOCATIONS OF SOME OF THE PLANT MATERIAL HAS BEEN SHIFTED TO ACCOMMODATE CHANGES IN THE OVERALL DESIGN. THE SAME QUANTITY AND DESIGN INTENT HAS BEEN MAINTAINED. THESE PLANTS WILL NOT BE ACCOUNTED FOR IN THE LANDSCAPE SCHEDULE.

LEGEND

- PREVIOUSLY APPROVED PLANT MATERIAL (RELOCATED)
- PROPOSED PLANT MATERIAL PER THIS APPLICATION
- PREVIOUSLY APPROVED PLANT MATERIAL
- PROPOSED LED AREA LUMINAIRE
- PROPOSED LED STREET LUMINAIRE



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

REVISIONS

REV	DATE	COMMENT	DRAWN BY
1	05/25/2022	REV. PER TOWNSHIP COMMENTS	LGU
2	07/08/2022	REV. PER NPDES COMMENTS	MJB
3	12/07/2022	MINOR MOD	JRK
3	12/07/2022	REV. PER TOWNSHIP COMMENTS	LGU
4	04/21/2023	REV. PER TOWNSHIP COMMENTS	KHD
4	04/21/2023	REV. PER CLIENT COMMENTS	JRK
5	04/18/2024	REV. PER TOWNSHIP COMMENTS	LGU
5	04/18/2024	REV. PER TOWNSHIP COMMENTS	CDP
6	05/31/2024	REV. PER TOWNSHIP COMMENTS	ACB
7	12/19/2024	REV. PER RFI	TWB
8	05/30/2025	REV. PER NEW BUILDING	CDP
			LLZ
			CDP

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PROJECT No.: PC211160
DRAWN BY: LGU
CHECKED BY: C.D.P.
DATE: 03/15/2022
CAD ID.: PC211160-L107-01

AMENDED FINAL PRD PLANS
FOR
PROSPERITY PROPERTY INVESTMENTS, LLC
"FINAL PLAN FOR LOT 2B OF PARCEL 5C"
PROPOSED COMMERCIAL DEVELOPMENT
GRAPHITE MINE ROAD & STATION BOULEVARD
UPPER UWCHLAN TOWNSHIP
CHESTER COUNTY
COMMONWEALTH OF PENNSYLVANIA

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D.T. NORTH
REGISTERED LANDSCAPE ARCHITECT
PENNSYLVANIA LICENSE NO. LA002729
LANDSCAPE

SHEET TITLE:
LANDSCAPE PLAN
SHEET NUMBER:
C-704
26 OF 36
REVISION 8 - 05/30/2025

LANDSCAPE SPECIFICATIONS:

1. SCOPE OF WORK:
THE LANDSCAPE CONTRACTOR SHALL BE REQUIRED TO PERFORM ALL CLEARING, FINISH GRADING, SOIL PREPARATION, REMAINING SEEDING OR SOILING, PLANTING AND MULCHING INCLUDING ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT NECESSARY FOR THE COMPLETION OF THIS PROJECT, UNLESS OTHERWISE STATED BY THE GENERAL CONTRACTOR.

2. MATERIALS
A. GENERAL: ALL HARDSCAPE MATERIALS SHALL MEET OR EXCEED SPECIFICATIONS AS OUTLINED IN THE STATE DEPARTMENT OF TRANSPORTATION'S SPECIFICATIONS.
B. TOPSOIL: NATURAL, FIBRILL, LOAMY SILT SOIL HAVING AN ORGANIC CONTENT NOT LESS THAN 5% A PH RANGE BETWEEN 6.5 TO 7.5 SHALL BE FREE OF DEBRIS, ROCKS LARGER THAN ONE INCH (1"), WOODS, VEGETABLE MATTER AND CLAY CLODS.
C. LAWN: LAWN AREAS SHALL BE SEEDED OR SOILED ACCORDANCE WITH THE PERMANENT STABILIZATION METHODS INDICATED WITHIN THE SOIL EROSION AND SEDIMENT CONTROL NOTES. FOR SOIL BED PREPARATIONS, REFER TO ITEM BELOW.
I. LAWN SEED MATURE SHALL BE FRESH, CLEAN NEW CROP SEED.
II. SOIL SHALL BE STRONGLY ROOTED, FREE AND GASEOUS FREE WITH A UNIFORM THICKNESS. SEED INSTALLED ON SLOPES GREATER THAN 4:1 SHALL BE PEGGED TO HOLD IN PLACE.
D. MULCH: ALL PLANTING BEDS SHALL BE MULCHED WITH A 3" THICK LAYER OF DOUBLE SHREDDED HARDWOOD BARK MULCH UNLESS OTHERWISE STATED ON THE LANDSCAPE PLAN.
E. FERTILIZER
I. FERTILIZER SHALL BE DELIVERED TO THE SITE MIXED AS SPECIFIED IN THE ORIGINAL UNOPENED STANDARD BAGS SHOWING WEIGHT ANALYSIS AND NAME OF MANUFACTURER. FERTILIZER SHALL BE STORED IN A WEATHERPROOF PLACE SO THAT IT CAN BE KEPT DRY PRIOR TO USE.
II. FOR THE PURPOSE OF SOILING, ASSUME THAT FERTILIZER SHALL BE 10% NITROGEN, 0% PHOSPHORUS AND 4% POTASSIUM BY WEIGHT. A FERTILIZER SHOULD NOT BE SELECTED WITHOUT A SOIL TEST PERFORMED BY A CERTIFIED SOIL LABORATORY.
F. PLANT MATERIAL
I. ALL PLANTS SHALL IN ALL CASES CONFORM TO THE REQUIREMENTS OF THE "AMERICAN STANDARD FOR NURSERY STOCK" (ANSI Z60.1), LATEST EDITION, AS PUBLISHED BY AMERICAN NURSERY PROPAGATORS, THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION.
II. IN ALL CASES, BOTANICAL NAMES SHALL TAKE PRECEDENCE OVER COMMON NAMES.
III. FOR ANY AND ALL PLANT MATERIAL:
A. PLANTS SHALL BE LEGIBLY TAGGED WITH THE PROPER NAME AND SIZE. TAGS ARE TO REMAIN ON AT LEAST ONE PLANT OF EACH SPECIES FOR VERIFICATION PURPOSES DURING THE FINAL INSPECTION.
B. TREES WITH ABRASSION OF THE BARK, SUN SCALDS, DISFIGURATION OR FRESH CUTS OF LIMBS OVER 1/4" WHICH HAVE NOT BEEN COMPLETELY CALLEDUS, SHALL BE REJECTED.
C. PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANY TIME SO AS TO DAMAGE THE BARK OR BREAK BRANCHES.
D. ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY AND SHALL HAVE A NORMAL HABIT OF GROWTH WITH WELL DEVELOPED BRANCHES, GENERALLY GLABER, UNBROKEN ROOT SYSTEMS AND BE FREE OF DISEASE, INSECTS, PESTS, EGGS OR LARVAE.
E. CALIPER MEASUREMENTS FOR NURSERY GROWN TREES SHALL BE TAKEN AT A POINT ON THE TRUNK OR BRANCHES 4" ABOVE THE NATURAL GRADE FOR TREES UP TO AND INCLUDING A FOUR INCH CALIPER SIZE. IF THE CALIPER AT SIX INCHES IS ABOVE THE GROUND EXCEEDS FOUR INCHES (4") IN CALIPER, THE CALIPER SHALL BE MEASURED AT A POINT "12" ABOVE THE NATURAL GRADE.
F. SPREADS SHALL BE MEASURED TO THE AVERAGE HEIGHT OR SPREAD OF THE SHRUB AND NOT TO THE LONGEST BRANCH.
G. TREES AND SHRUBS SHALL BE HANDED WITH CARE BY THE ROOT BALL.
3. GENERAL WORK PROCEDURES
A. CONTRACTOR TO UTILIZE WORKMANLIKE INDUSTRY STANDARDS IN PERFORMING ALL LANDSCAPE CONSTRUCTION. THE SITE IS TO BE LEFT IN CLEAN STATE AT THE END OF EACH WORK DAY. ALL DEBRIS, MATERIALS AND TOOLS SHALL BE PROPERLY STORED, STOCKPILED OR DISPOSED OF.
B. WASTE MATERIALS AND DEBRIS SHALL BE COMPLETELY DISPOSED OF AT THE CONTRACTOR'S EXPENSE. DEBRIS SHALL NOT BE BURED, INCLUDING ORGANIC MATERIALS, BUT SHALL BE REMOVED COMPLETELY FROM THE SITE.
4. SITE PREPARATIONS
A. BEFORE AND DURING PRELIMINARY GRADING AND FINISHED GRADING, ALL WEEDS AND GRASSES SHALL BE DUG OUT BY THE ROOTS AND DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES OUTLINED HEREIN.
**B. ALL EXISTING TREES TO REMAIN SHALL BE PRUNED TO REMOVE ANY DAMAGED BRANCHES. THE ENTIRE LIMB OF ANY DAMAGED BRANCH SHALL BE CUT AT THE BRANCH COLLAR. CONTRACTOR SHALL ENSURE THAT CUTS ARE SMOOTH AND STRAIGHT. ANY EXPOSED ROOTS SHALL BE CUT BACK WITH CLEAN, SHARP TOOLS AND TOPSOIL SHALL BE PLACED AROUND THE REMAINDER OF THE ROOTS. EXISTING TREES SHALL BE MONITORED ON A REGULAR BASIS FOR ADDITIONAL ROOT OR BRANCH DAMAGE, AS A RESULT OF CONSTRUCTION. ROOTS SHALL NOT BE LEFT EXPOSED FOR MORE THAN ONE (1) DAY. CONTRACTOR SHALL WATER EXISTING TREES AS NEEDED TO PREVENT SHOCK OR DIEBACK.
C. CONTRACTOR SHALL ARRANGE TO HAVE A UTILITY STAKE-OUT TO LOCATE ALL UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF ANY LANDSCAPE MATERIAL. UTILITY COMPANIES SHALL BE CONTACTED THREE (3) DAYS PRIOR TO THE BEGINNING OF WORK.
5. TREE PROTECTION
**A. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING TREES TO REMAIN. A TREE PROTECTION ZONE SHALL BE ESTABLISHED AT THE CRIP LINE OR 10 FEET FROM THE TRUNK OR AT THE LIMIT OF CONSTRUCTION DISTURBANCE, WHICHEVER IS GREATER. LOCAL STANDARDS THAT MAY REQUIRE A MORE STRICT TREE PROTECTION ZONE SHALL BE HONORED.
**B. A FORTY EIGHT (48) INCH HIGH WOODEN SIGN (OR GRANGE COLORED HIGH-VISIBILITY VESTIBULE, OR APPROVED EQUAL, MOUNTED ON STEEL POSTS SHALL BE PLACED ALONG THE BOUNDARY OF THE TREE PROTECTION ZONE. POSTS SHALL BE LOCATED AT A MAXIMUM OF EIGHT FEET (8') ON CENTER OR AS INDICATED WITHIN THE TREE PROTECTION DETAIL.
**C. WHEN THE TREE PROTECTION FENCING HAS BEEN INSTALLED, IT SHALL BE INSPECTED BY THE APPROVING AGENCY PRIOR TO DEMOLITION, GRADING, TREE CLEARING OR ANY OTHER CONSTRUCTION. THE FENCING ALONG THE TREE PROTECTION ZONE SHALL BE REGULARLY INSPECTED BY THE LANDSCAPE CONTRACTOR AND MAINTAINED UNTIL ALL CONSTRUCTION ACTIVITY HAS BEEN COMPLETED.
D. AT NO TIME SHALL MACHINERY, DEBRIS, FALLEN TREES OR OTHER MATERIALS BE PLACED, STOCKPILED OR LEFT STANDING IN THE TREE PROTECTION ZONE.
6. SOIL MODIFICATIONS
**A. CONTRACTOR SHALL ATTAIN A SOIL TEST FOR ALL AREAS OF THE SITE PRIOR TO CONDUCTING ANY PLANTING. SOIL TESTS SHALL BE PERFORMED BY A CERTIFIED SOIL LABORATORY.
**B. LANDSCAPE CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITIONS CONSIDERED DETRIMENTAL TO THE GROWTH OF PLANT MATERIAL. SOIL MODIFICATIONS AS SPECIFIED HEREIN MAY NEED TO BE CONDUCTED BY THE LANDSCAPE CONTRACTOR DEPENDING ON SITE CONDITIONS.
**C. THE FOLLOWING AMENDMENTS AND QUANTITIES ARE APPROXIMATE AND ARE FOR BEADING PURPOSES ONLY. COMPOSITION OF AMENDMENTS SHOULD BE REVISED DEPENDING ON THE OUTCOME OF A TOPSOIL ANALYSIS PERFORMED BY A CERTIFIED SOIL LABORATORY.
I. TO INCREASE SANDY SOIL'S ABILITY TO RETAIN WATER AND NUTRIENTS, THOROUGHLY TILL ORGANIC MATTER INTO THE TOP 6"-12". USE COMPOSTED BARK, COMPOSTED LEAF MULCH OR PEAT MOSS. ALL PRODUCTS SHOULD BE COMPOSTED TO A LOW COLOR AND BE FREE OF PIECES WITH IDENTIFIABLE LEAF OR WOOD STRUCTURE. AVOID MATERIAL WITH A PH HIGHER THAN 7.5.
II. TO INCREASE DRAINAGE, MOOPLY HEAVY CLAY OR SILT, MORE THAN 40% CLAY SILT, BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) AND/OR AGRICULTURAL GYPSUM. GYPSUM SANDS MAY BE USED IF ENOUGH IS ADDED TO BRING THE SAND CONTENT TO MORE THAN 60% OF THE TOTAL MIX. SUBSURFACE DRAINAGE LINES MAY NEED TO BE ADDED TO INCREASE DRAINAGE.
III. MOOPLY EXTREMELY SANDY SOILS MORE THAN 80% BULK BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LUMP UP TO 30% OF THE TOTAL MIX.
7. FINISHED GRADING
**A. UNLESS OTHERWISE CONTRACTED, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF TOPSOIL AND THE ESTABLISHMENT OF FINISH GRADING WITHIN THE DISTURBANCE AREA OF THE SITE.
**B. LANDSCAPE CONTRACTOR SHALL VERIFY THAT SUBGRADE FOR INSTALLATION OF TOPSOIL HAS BEEN ESTABLISHED. THE SUBGRADE OF THE SITE MUST MEET THE FINISHED GRADE LESS THE REQUIRED TOPSOIL THICKNESS (1").
**C. ALL LAWN AND PLANTING AREAS SHALL BE GRADED TO A SMOOTH, EVEN AND UNIFORM PLANE WITH NO ABRUPT CHANGE OF SURFACE AS DEPICTED WITHIN THIS SET OF CONSTRUCTION PLANS, UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER OR LANDSCAPE ARCHITECT.
**D. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW FREE FLOW OF SURFACE WATER IN AND AROUND THE PLANTING BEDS. STANDING WATER SHALL NOT BE PERMITTED IN PLANTING BEDS.
8. TOPSOILING
**A. CONTRACTOR SHALL PROVIDE A SIX (6) INCH (1.5") THICK MINIMUM LAYER OF TOPSOIL, OR AS DIRECTED BY THE LOCAL ORDINANCE OR ELEVATION. ALL PLANTING AND LAWN AREAS. TOPSOIL SHOULD BE SPREAD OVER A PREPARED SURFACE IN A UNIFORM LAYER TO ACHIEVE THE DESIRED COMPACTED THICKNESS.
**B. ON SITE TOPSOIL MAY BE USED TO SUPPLEMENT THE TOTAL AMOUNT REQUIRED. TOPSOIL FROM THE SITE MAY BE REJECTED IF IT HAS NOT BEEN PROPERLY REMOVED, STORED AND PROTECTED PRIOR TO CONSTRUCTION.
C. CONTRACTOR SHALL FURNISH TO THE APPROVING AGENCY AN ANALYSIS OF BOTH IMPORTED AND ON-SITE TOPSOIL TO BE UTILIZED IN ALL PLANTING AREAS. THE PH AND NUTRIENT LEVELS MAY NEED TO BE ADJUSTED THROUGH SOIL MODIFICATIONS AS NEEDED TO ACHIEVE THE REQUIRED LEVELS AS SPECIFIED IN THE MATERIALS SECTION ABOVE.
9. WATERING
**A. NEW PLANTINGS OR LAWN AREAS SHALL BE ADEQUATELY IRRIGATED BEGINNING IMMEDIATELY AFTER PLANTING. WATER SHALL BE APPLIED TO EACH TREE AND SHRUB IN SUCH MANNER AS NOT TO DISTURB BACKFILL AND TO THE EXTENT THAT ALL MATERIALS IN THE PLANTING HOLE ARE THOROUGHLY SATURATED. WATERING SHALL CONTINUE AT LEAST UNTIL PLANTS ARE ESTABLISHED.
**B. SITE OWNER SHALL PROVIDE WATER IF AVAILABLE ON SITE AT THE TIME OF PLANTING. IF WATER IS NOT AVAILABLE ON SITE, CONTRACTOR SHALL SUPPLY ALL NECESSARY WATER. THE USE OF WATERING BASKS IS RECOMMENDED FOR ALL NEWLY PLANTED TREES.
**C. IF AN IRRIGATION SYSTEM HAS BEEN INSTALLED ON THE SITE, IT SHALL BE USED TO WATER PROPOSED PLANT MATERIAL, BUT ANY FAILURE OF THE SYSTEM DOES NOT ELIMINATE THE CONTRACTOR'S RESPONSIBILITY OF MAINTAINING THE REQUIRED MOISTURE LEVEL FOR VIGOROUS, HEALTHY GROWTH.
10. GUARANTEE
**A. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANTS FOR A PERIOD OF EIGHTEEN (18) MONTHS FROM APPROVAL OF LANDSCAPE INSTALLATION BY THE APPROVING AGENCY. CONTRACTOR SHALL SUPPLY THE OWNER WITH A MAINTENANCE BOND FOR TEN PERCENT (10%) OF THE VALUE OF THE LANDSCAPE INSTALLATION WHICH WILL BE RELEASED AT THE CONCLUSION OF THE GUARANTEED PERIOD AND WHEN A FINAL INSPECTION HAS BEEN COMPLETED AND APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE.
**B. ANY DEAD OR DYING PLANT MATERIAL SHALL BE REPLACED FOR THE LENGTH OF THE GUARANTEED PERIOD. REPLACEMENT OF PLANT MATERIAL SHALL BE CONDUCTED AT THE FIRST SUCCEEDING PLANTING SEASON. ANY DEBRIS SHALL BE DISPOSED OF OFF-SITE, WITHOUT EXCEPTION.
**C. TREES AND SHRUBS SHALL BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION AND UNTIL TURNOVER TO THE OWNER/OPERATOR. CULTIVATION, WEEDING, WATERING AND THE PREVENTATIVE TREATMENTS SHALL BE PERFORMED AS NECESSARY TO KEEP PLANT MATERIAL IN GOOD CONDITION AND FREE OF INSECTS AND DISEASE.
**D. LAWN SHALL BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION AND UNTIL TURNOVER TO THE OWNER/OPERATOR THROUGH WATERING, FERTILIZING, WEEDING, MOWING, TRIMMING AND OTHER OPERATIONS SUCH AS ROLLING, REGRADING AND REPLANTING AS REQUIRED TO ESTABLISH A SMOOTH ACCEPTABLE LAWN, FREE OF ERODED OR BARE AREAS.
11. CLEANUP
**A. UPON COMPLETION OF ALL LANDSCAPE INSTALLATION AND BEFORE THE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL UNUSED MATERIALS, EQUIPMENT AND DEBRIS FROM THE SITE. ALL PAVED AREAS ARE TO BE CLEANED.
B. THE SITE SHALL BE CLEANED AND LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE.

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

REVISIONS

REV	DATE	COMMENT	DRAWN BY	CHECKED BY
1	05/25/2022	REV PER TOWNSHIP COMMENTS	LGU	MJB
2	07/08/2022	REV PER NPDES COMMENTS	MJB	JRK
3	12/07/2022	REV PER TOWNSHIP COMMENTS	LGU	JRK
4	04/21/2023	REV PER TOWNSHIP COMMENTS	KHD	JRK
5	04/18/2024	REV PER CLIENT COMMENTS	LGU	CDP
6	05/31/2024	REV PER TOWNSHIP COMMENTS	ACB	CDP
7	12/19/2024	REV PER RFRS COMMENTS	TWB	CDP
8	05/30/2025	REV PER NEW BUILDING	LLZ	CDP

811
Know what's below.
Call before you dig.
PENNSYLVANIA
YOU MUST CALL 811 BEFORE ANY EXCAVATION WHETHER ITS ON PRIVATE OR PUBLIC LAND.
1-800-244-1779
www.811pa.org
SERIAL No.: 201825331377

PROJECT No.: PC211160
DRAWN BY: LGU
CHECKED BY: C.D.P
DATE: 03/15/2022
CAD LID: PC211160-LIGT-SA

AMENDED FINAL PRD PLANS
FOR
PROSPERITY PROPERTY INVESTMENTS, LLC
"FINAL PLAN FOR LOT 2B OF PARCEL 5C"
PROPOSED COMMERCIAL DEVELOPMENT
GRAPHITE MINE ROAD & STATION BOULEVARD
UPPER UCHLAN TOWNSHIP
CHESTER COUNTY
COMMONWEALTH OF PENNSYLVANIA

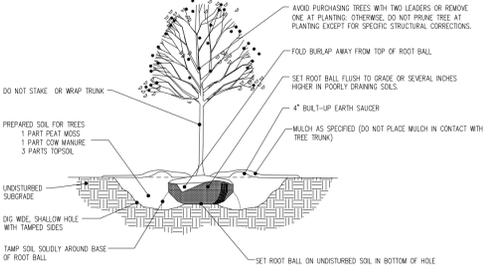
BOHLER
1600 MANOR DRIVE, SUITE 200
CHALFONT, PA 18914
Phone: (215) 996-9100
Fax: (215) 996-9102
www.BohlerEngineering.com

D. J. NORTH
REGISTERED LANDSCAPE ARCHITECT
PENNSYLVANIA LICENSE NO. LA002729

LANDSCAPE DETAILS
SHEET NUMBER:
C-705
27 OF 36
REVISION 8 - 05/30/2025

NOTES:

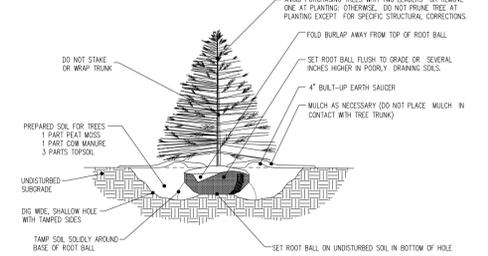
- NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT.
- REMOVE ALL NON-Biodegradable MATERIAL AND ROPE FROM TRUNK & TOP OF ROOT BALL. FOLD OR CUT BURLAP BACK FROM TOP 1/3 OF ROOT BALL.
- PLANTING DEPTH SHALL BE THE SAME AS GROWN IN NURSERY.
- THOROUGHLY SOAK THE TREE ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
- THE BOTTOM OF PLANTING PIT EXCAVATIONS SHOULD BE ROUGH TO AVOID MATING OF SOIL LAYERS AS NEW SOIL IS ADDED. IT IS PREFERABLE TO TILL THE FIRST 1 FT (2 TO 3 IN.) OF PLANTING SOIL AND THE SUBSOIL.
- THE MINIMUM DIAMETER OF THE TREE PIT SHALL BE 3 TIMES THE DIAMETER OF THE ROOT BALL.



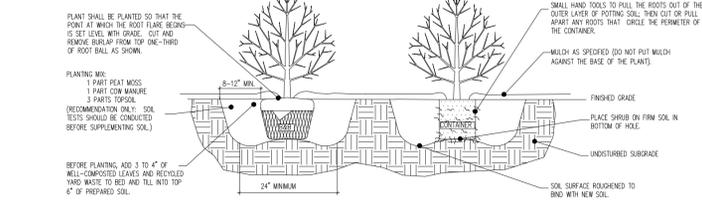
L S1

NOTES:

- NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT.
- REMOVE ALL NON-Biodegradable MATERIAL AND ROPE FROM TRUNK & TOP OF ROOT BALL. FOLD BURLAP BACK 1/3 FROM ROOT BALL.
- PLANTING DEPTH SHALL BE THE SAME AS GROWN IN NURSERY.
- THOROUGHLY SOAK THE TREE ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
- THE BOTTOM OF PLANTING PIT EXCAVATIONS SHOULD BE ROUGH TO AVOID MATING OF SOIL LAYERS AS NEW SOIL IS ADDED. IT IS PREFERABLE TO TILL THE FIRST 1 FT (2 TO 3 IN.) OF PLANTING SOIL AND THE SUBSOIL.
- THE MINIMUM DIAMETER OF THE TREE PIT SHALL BE 3 TIMES THE DIAMETER OF THE ROOT BALL.



L S2

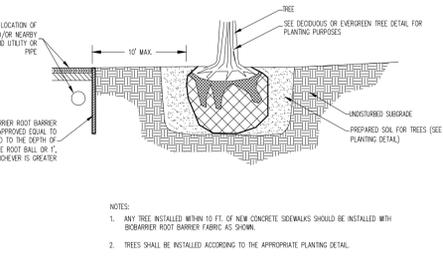


L S5

R:\P\PC211160\CADD\DRAWINGS\PLAN SET\CIVIL SITE PLAN\PC211160-LIGT-SA.dwg - LAYOUT - C:\705-LS0P.DETAILS

UNIFORM PARCEL IDENTIFIER: 32-4-1090.1

L S12 **BIOBARRIER ROOT BARRIER DETAIL**
SCALE: N.T.S. REV: 2015.03.19



L S12 **BIOBARRIER ROOT BARRIER DETAIL**
SCALE: N.T.S. REV: 2015.03.19

LIST OF APPLICABLE PADOT DETAILS & STANDARDS

SIGNAGE: P.A.D.O.T. PUBLICATION 236
 PEDESTRIAN SIGN - W11-2 (30" x 30" w/ FLUORESCENT YELLOW-GREEN BACKGROUND)
 DOWNWARD POINTING ARROW SIGN - W16-7P (24" x 12" w/ FLUORESCENT YELLOW-GREEN BACKGROUND)

ADDITIONAL DETAILS ASSOCIATED WITH PADOT ROAD IMPROVEMENTS ARE ON THE FOLLOWING STANDARD DETAILS FROM THE LATEST EDITION OF PennDOT PUBLICATION 72M:
 (THE PERMITTEE IS REQUIRED TO PROVIDE THE CONTRACTOR WITH COPIES OF THE MOST CURRENT APPLICABLE RC DRAWINGS)

STANDARD DRAWING NUMBER	DRAWING NAME
RC - 26M	CONCRETE PAVEMENT REHABILITATION
RC - 28M	OVERLAY TRANSITIONS AND PAVING NOTCHES
RC - 30M	SUBSURFACE DRAINS
RC - 39M	STORMWATER MANHOLES
RC - 45M	INLET TOPS, GRATES AND FRAMES
RC - 46M	INLET BOXES
RC - 64M	CURBS AND GUTTERS
RC - 65M	CONCRETE MOUNTABLE CURBS
RC - 67M	CURB RAMPS AND SIDEWALKS



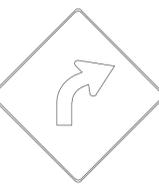
PEDESTRIAN SIGN (W11-2)
 30"x30"



DIAGONAL DOWNWARD POINTING ARROW (W16-7P)
 24"x12"



SPEED ADVISORY PLAQUE (W13-1P)
 18"x18"



DO NOT ENTER SIGN (R5-1)
 30"x30"



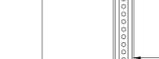
RIGHT CURVE SIGN (W1-2R)
 18"x18"



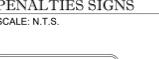
LEFT CURVE SIGN (W1-2L)
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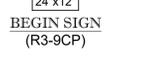
SPEED LIMIT SIGN (R2-1)
 24"x30"



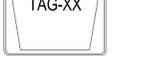
HORIZONTAL RIGHT ONE WAY SIGN (R6-1L)
 36"x12"



HORIZONTAL RIGHT ONE WAY SIGN (R6-1R)
 36"x12"



RIGHT LANE MUST TURN RIGHT SIGN (R3-5R)
 30"x36"



RIGHT TURN SIGN (R3-7R)
 30"x36"



LEFT LANE MUST TURN LEFT SIGN (R3-7L)
 30"x30"



NO PARKING SIGN (R8-3a)
 24"x30"

BEGIN SIGN (R3-9CP)
 24"x12"

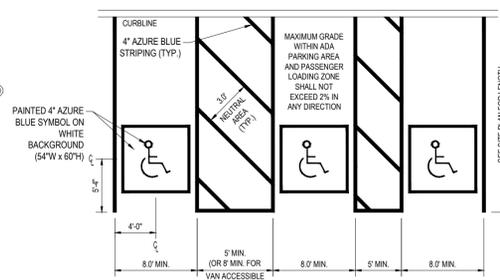
END SIGN (R3-9DP)
 24"x12"

TAG-XX (M1-5)
 24"x24"

NORTH MARKER (M3-1)
 24"x12"

TO MARKER (M4-5)
 24"x12"

PENNSYLVANIA ROUTE MARKER (M1-5)
 24"x24"



ADA ACCESSIBLE PARKING SPACE STRIPING (3 SPACES) (S10)
 SCALE: N.T.S. REV: 2019.07.17



WHITE PAINTED STOP BAR DETAIL (S4)
 SCALE: N.T.S. REV: 2015.03.09



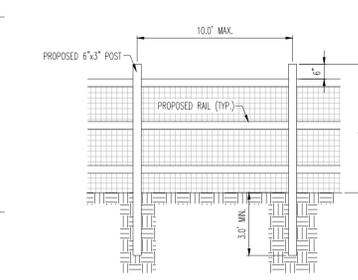
HERE TO CORNER SIGN (S12)
 24"x12" SCALE: N.T.S. REV: 2015.03.09



CONCRETE DRIVEWAY APRON DETAIL (P)
 SCALE: N.T.S. REV: 2015.03.09



"TRAFFIC PATTERNS XD" ASPHALT IMPRINTED TEXTURED MEDIANS (S5)
 N.T.S. REV: 2015.03.09



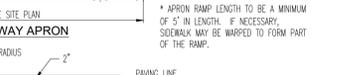
POST & RAIL FENCE DETAIL (A)
 SCALE: N.T.S. REV: 2015.03.09



WHITE PAINTED TRAFFIC ARROW DETAIL (T)
 SCALE: N.T.S. REV: 2015.03.09



HIGH VISIBILITY CROSSWALK DETAIL (PERPENDICULAR TO INTERSECTION) (T)
 SCALE: N.T.S. REV: 2015.03.09



STANDARD POLE MOUNTED SIGN INSTALLATION DETAIL (T)
 SCALE: N.T.S. REV: 2015.03.09



RESERVED PARKING SIGN (R7-8)
 12"x18"



RESERVED PARKING SIGN (R7-8P)
 12"x18"



RESERVED PARKING SIGN (R7-8)
 12"x18"



RESERVED PARKING SIGN (R7-8)
 12"x18"



RESERVED PARKING SIGN (R7-8)
 12"x18"



RESERVED PARKING SIGN (R7-8)
 12"x18"



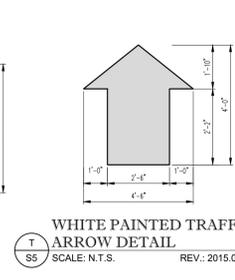
RESERVED PARKING SIGN (R7-8)
 12"x18"



RESERVED PARKING SIGN (R7-8)
 12"x18"



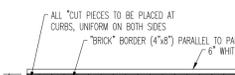
RESERVED PARKING SIGN (R7-8)
 12"x18"



CONCRETE MOUNTABLE CURBS (S5)
 SCALE: N.T.S. REV: 2015.03.09



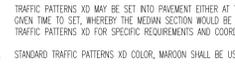
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 SCALE: N.T.S. REV: 2015.03.09



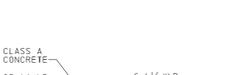
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 SCALE: N.T.S. REV: 2015.03.09



CONCRETE MOUNTABLE CURBS (S5)
 SCALE: N.T.S. REV: 2015.03.09



CONCRETE MOUNTABLE CURBS (S5)
 SCALE: N.T.S. REV: 2015.03.09



CONCRETE MOUNTABLE CURBS (S5)
 SCALE: N.T.S. REV: 2015.03.09



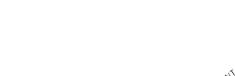
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 SCALE: N.T.S. REV: 2015.03.09



CONCRETE MOUNTABLE CURBS (S5)
 SCALE: N.T.S. REV: 2015.03.09



CONCRETE MOUNTABLE CURBS (S5)
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CONCRETE MOUNTABLE CURBS (S5)
 SCALE: N.T.S. REV: 2015.03.09



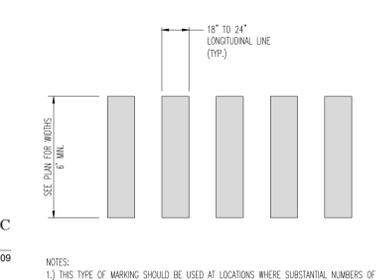
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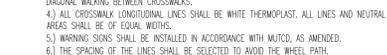
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CONCRETE MOUNTABLE CURBS (S5)
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CONCRETE MOUNTABLE CURBS (S5)
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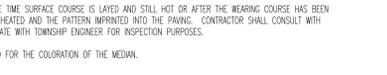
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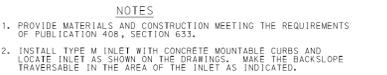
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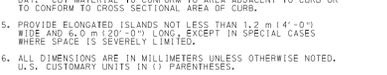
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 SCALE: N.T.S. REV: 2015.03.09



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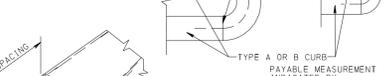
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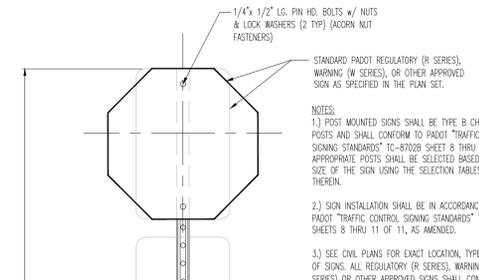
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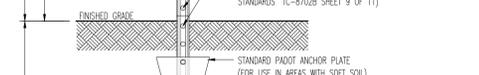
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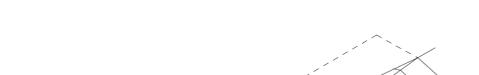
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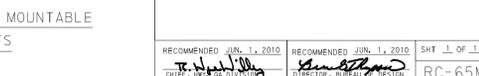
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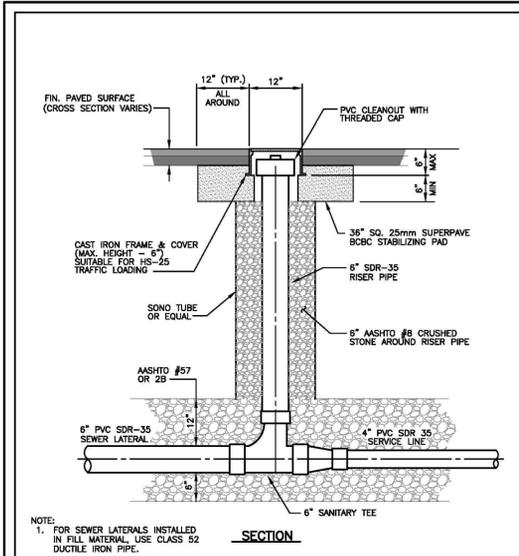


CONCRETE MOUNTABLE CURBS (S5)
 SCALE: N.T.S. REV: 2015.03.09

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

REVISIONS

REV	DATE	COMMENT	DRAWN BY
1	05/25/2022	REV PER TOWNSHIP COMMENTS	MJB
2</			

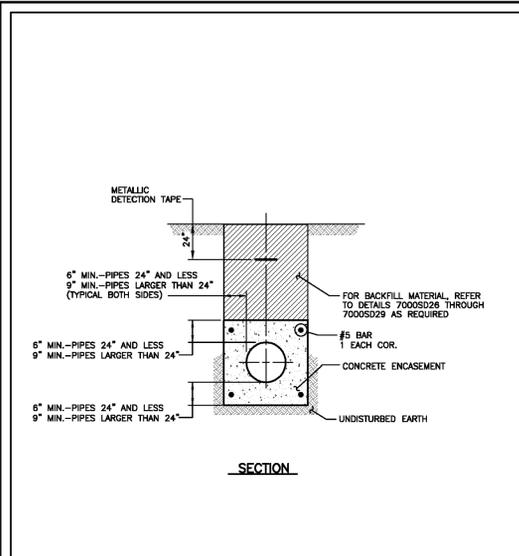


Upper Uwchlan Township Municipal Authority
STANDARD DETAIL - SEWER SYSTEM

ARRO
Suite 200, 331 N. Furness St.
Bristol, PA 19008
Tel: 610.374.5288
Fax: 610.374.5287

DATE: APRIL 2021
DETAIL: 70005020

REVISION	DATE	DESCRIPTION
3	4/21	
2	1/13	
1	6/05	

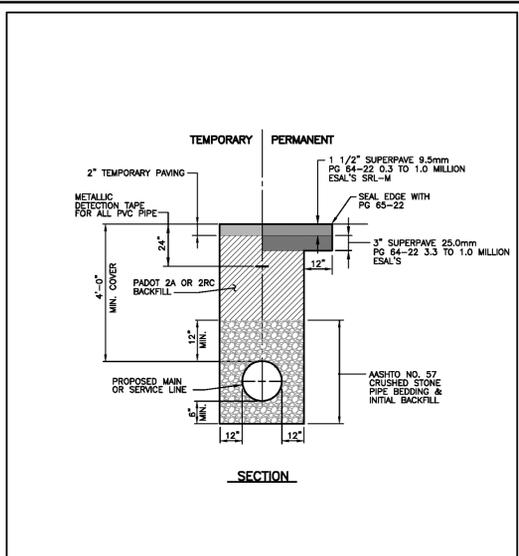


Upper Uwchlan Township Municipal Authority
STANDARD DETAIL - SEWER SYSTEM

ARRO
Suite 200, 331 N. Furness St.
Bristol, PA 19008
Tel: 610.374.5288
Fax: 610.374.5287

DATE: APRIL 2021
DETAIL: 70005024

REVISION	DATE	DESCRIPTION
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3	1/13	
2	6/05	
1	11/04	

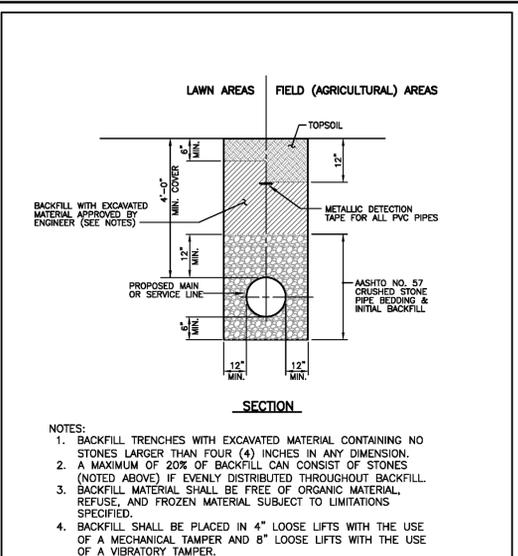


Upper Uwchlan Township Municipal Authority
STANDARD DETAIL - SEWER SYSTEM

ARRO
Suite 200, 331 N. Furness St.
Bristol, PA 19008
Tel: 610.374.5288
Fax: 610.374.5287

DATE: APRIL 2021
DETAIL: 70005028

REVISION	DATE	DESCRIPTION
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2	6/05	
1	11/04	

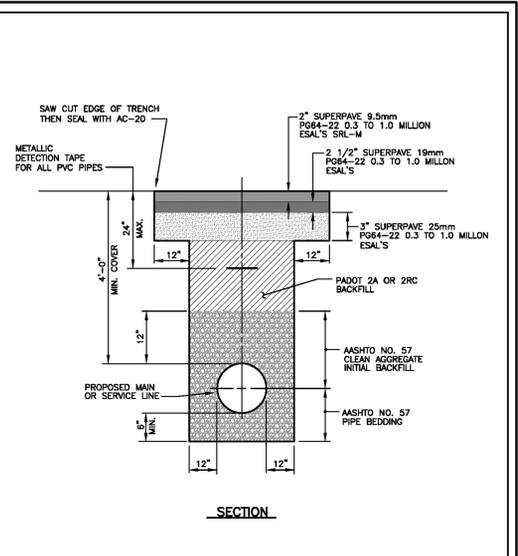


Upper Uwchlan Township Municipal Authority
STANDARD DETAIL - SEWER SYSTEM

ARRO
Suite 200, 331 N. Furness St.
Bristol, PA 19008
Tel: 610.374.5288
Fax: 610.374.5287

DATE: APRIL 2021
DETAIL: 70005029

REVISION	DATE	DESCRIPTION
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1	11/04	

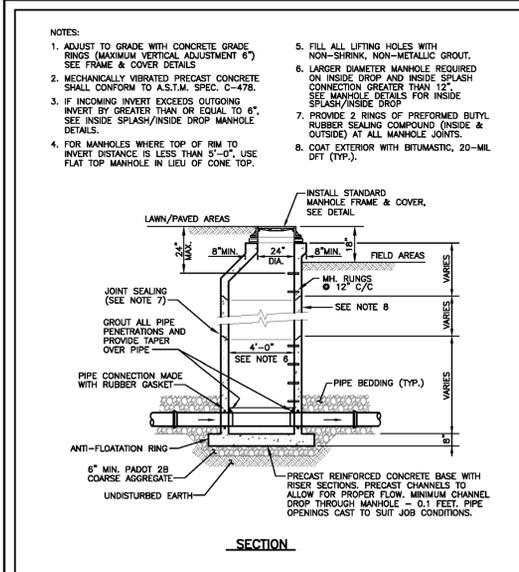


Upper Uwchlan Township Municipal Authority
STANDARD DETAIL - SEWER SYSTEM

ARRO
Suite 200, 331 N. Furness St.
Bristol, PA 19008
Tel: 610.374.5288
Fax: 610.374.5287

DATE: APRIL 2021
DETAIL: 70005027

REVISION	DATE	DESCRIPTION
4	4/21	
3	1/13	
2	6/05	
1	11/04	

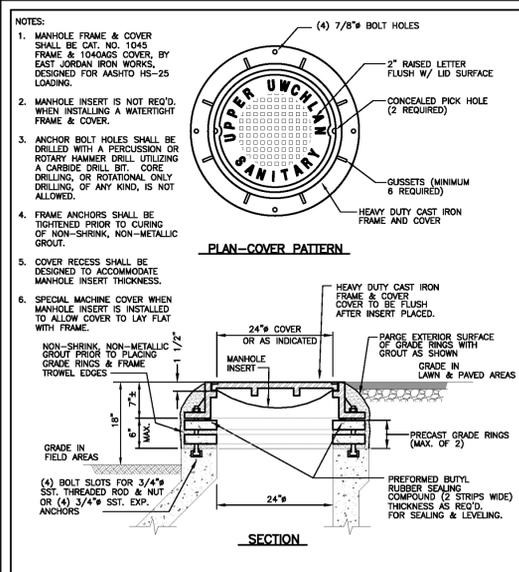


Upper Uwchlan Township Municipal Authority
STANDARD DETAIL - SEWER SYSTEM

ARRO
Suite 200, 331 N. Furness St.
Bristol, PA 19008
Tel: 610.374.5288
Fax: 610.374.5287

DATE: APRIL 2021
DETAIL: 70005001

REVISION	DATE	DESCRIPTION
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3	1/13	
2	6/05	
1	11/04	

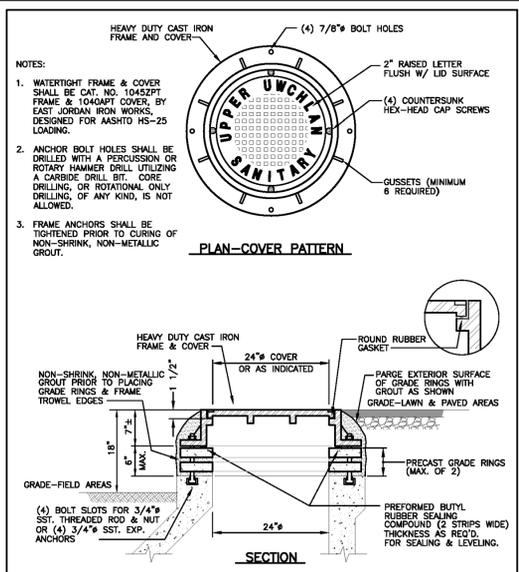


Upper Uwchlan Township Municipal Authority
STANDARD DETAIL - SEWER SYSTEM

ARRO
Suite 200, 331 N. Furness St.
Bristol, PA 19008
Tel: 610.374.5288
Fax: 610.374.5287

DATE: APRIL 2021
DETAIL: 70005004

REVISION	DATE	DESCRIPTION
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2	6/05	
1	11/04	

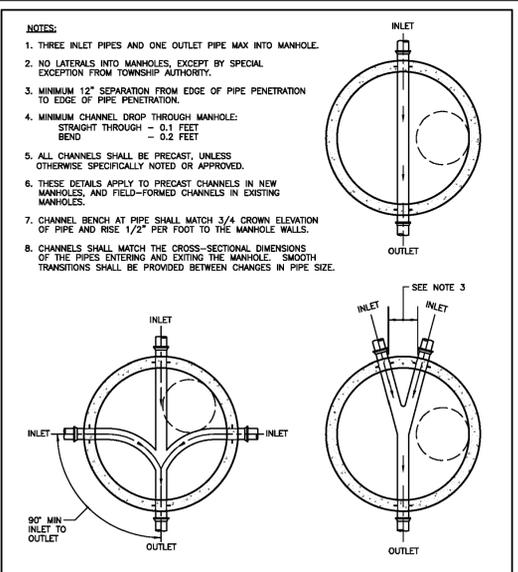


Upper Uwchlan Township Municipal Authority
STANDARD DETAIL - SEWER SYSTEM

ARRO
Suite 200, 331 N. Furness St.
Bristol, PA 19008
Tel: 610.374.5288
Fax: 610.374.5287

DATE: APRIL 2021
DETAIL: 70005005

REVISION	DATE	DESCRIPTION
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1	11/04	

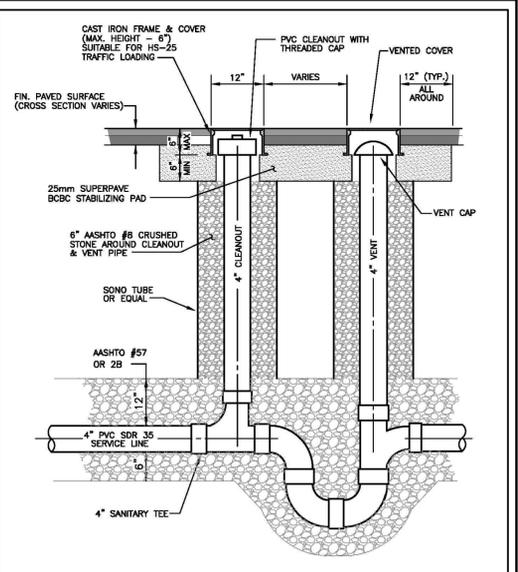


Upper Uwchlan Township Municipal Authority
STANDARD DETAIL - SEWER SYSTEM

ARRO
Suite 200, 331 N. Furness St.
Bristol, PA 19008
Tel: 610.374.5288
Fax: 610.374.5287

DATE: APRIL 2021
DETAIL: 70005006

REVISION	DATE	DESCRIPTION
4	4/21	
3	1/13	
2	6/05	
1	11/04	



Upper Uwchlan Township Municipal Authority
STANDARD DETAIL - SEWER SYSTEM

ARRO
Suite 200, 331 N. Furness St.
Bristol, PA 19008
Tel: 610.374.5288
Fax: 610.374.5287

DATE: APRIL 2021
DETAIL: 70005019

REVISION	DATE	DESCRIPTION
3	4/21	
2	1/13	
1	6/05	



REVISIONS

REV	DATE	COMMENT	CHECKED BY
1	05/25/2022	REV. PER TOWNSHIP COMMENTS	LGU
2	07/08/2022	REV. PER NPDES MINOR MOD.	MJB
3	12/07/2022	REV. PER TOWNSHIP COMMENTS	JRK
4	04/21/2023	REV. PER TOWNSHIP COMMENTS	KHD
5	04/18/2024	REV. PER CLIENT COMMENTS	LGU
6	05/31/2024	REV. PER TOWNSHIP COMMENTS	ACB
7	12/19/2024	REV. PER RFI'S	CDP
8	05/30/2025	REV. PER NEW BUILDING	CDP



PROJECT No.: PC211160
DRAWN BY: LGU
CHECKED BY: C.D.P.
DATE: 03/15/2022
CAD ID: PC211160-CND5-8A

PROJECT:
AMENDED FINAL PRD PLANS
FOR
PROSPERITY PROPERTY INVESTMENTS, LLC
"FINAL PLAN FOR LOT 2B OF PARCEL 5C"
PROPOSED COMMERCIAL DEVELOPMENT

GRAPHITE MINE ROAD & STATION BOULEVARD
UPPER UWCHLAN TOWNSHIP
CHESTER COUNTY
COMMONWEALTH OF PENNSYLVANIA



SHEET TITLE:
DETAILS
SHEET NUMBER:
C-903
31 OF 36
REVISION 8 - 05/30/2025

DRAWING LEGEND
EXISTING FEATURES

PROPERTY BOUNDARY	---
EXISTING STREAM LINE	---
RIPARIAN BUFFER LINE	---
SOIL BOUNDARY LINE	---
SOIL TYPE	DsA
BUILDING	▭
RETAINING WALL	▬
CONCRETE CURB	▬
FLUSH CURB	▬
TREE	○
DRAINAGE INLET	○
STORM/SANITARY MANHOLE	○
MAJOR & MINOR CONTOURS / ELEVATIONS	---
STORM PIPE	---

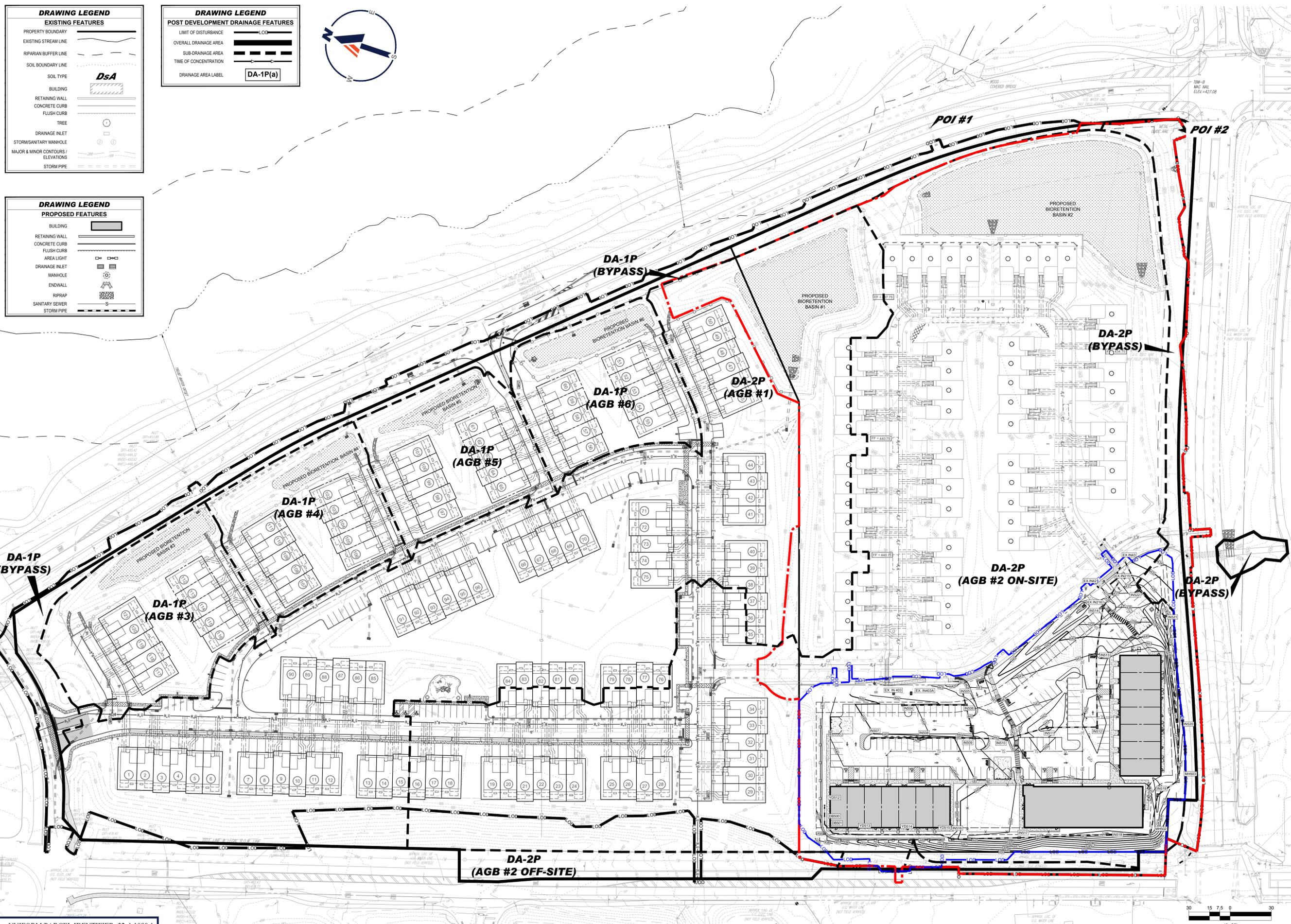
DRAWING LEGEND
POST DEVELOPMENT DRAINAGE FEATURES

LIMIT OF DISTURBANCE	LOD
OVERALL DRAINAGE AREA	---
SUB-DRAINAGE AREA	---
TIME OF CONCENTRATION	---
DRAINAGE AREA LABEL	DA-1P(a)



DRAWING LEGEND
PROPOSED FEATURES

BUILDING	▭
RETAINING WALL	▬
CONCRETE CURB	▬
FLUSH CURB	▬
AREA LIGHT	○
DRAINAGE INLET	○
MANHOLE	○
ENDWALL	▬
RIPRAP	▬
SANITARY SEWER	---
STORM PIPE	---



UNIFORM PARCEL IDENTIFIER: 32-4-1090.1

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

REVISIONS

REV	DATE	COMMENT	CHECKED BY	DRAWN BY
1	05/25/2022	REV. PER TOWNSHIP COMMENTS	LGU	MJB
2	07/08/2022	REV. PER NPDES MINOR MOD	LGU	JRK
3	12/07/2022	REV. PER TOWNSHIP COMMENTS	LGU	JRK
4	04/21/2023	REV. PER TOWNSHIP COMMENTS	KHD	JRK
5	04/18/2024	REV. PER CLIENT COMMENTS	CDP	ACB
6	05/31/2024	REV. PER TOWNSHIP COMMENTS	CDP	TWB
7	12/19/2024	REV. PER RFIS	CDP	LLZ
8	05/30/2025	REV. PER NEW BUILDING	CDP	LLZ

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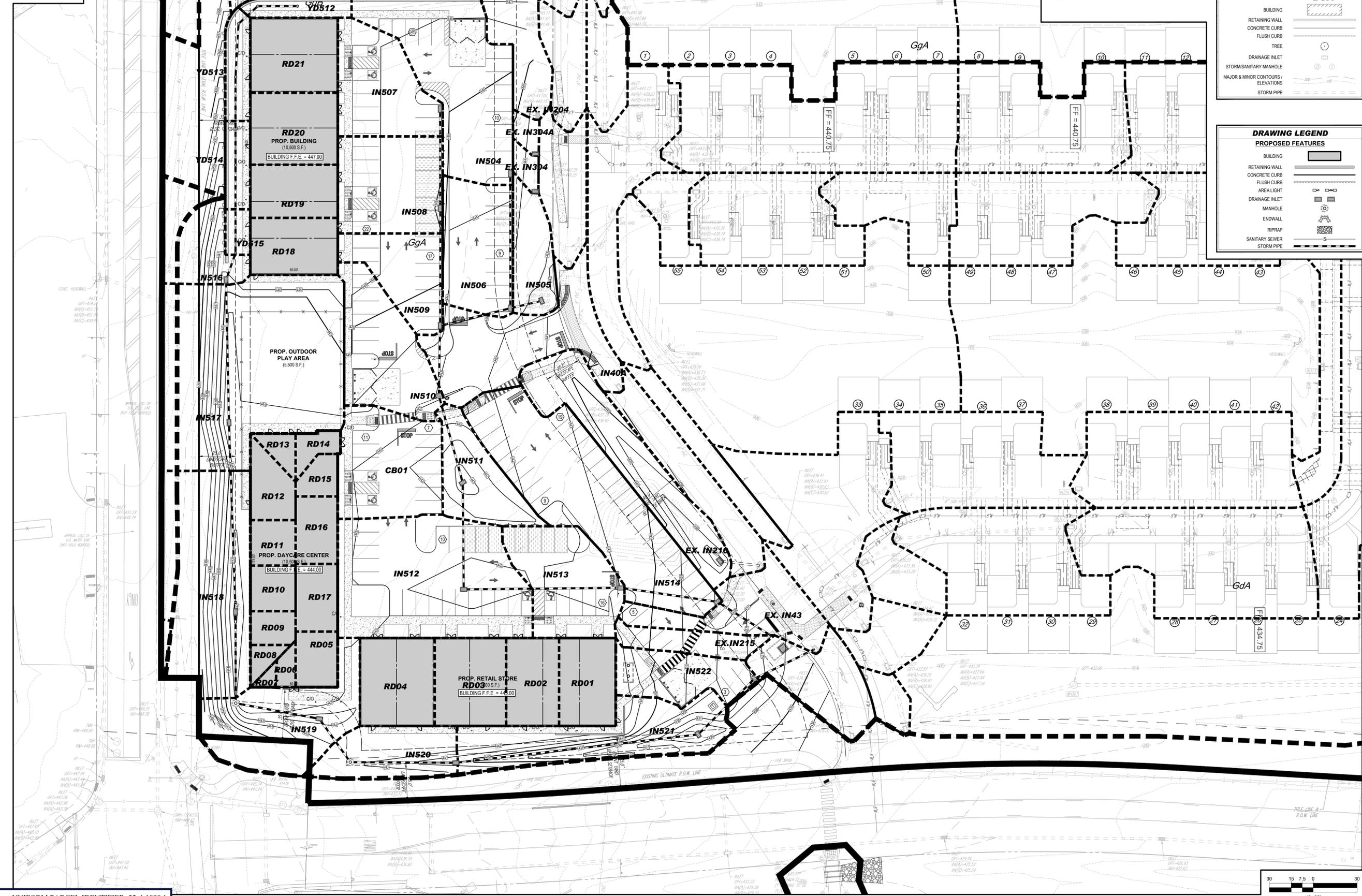
PROJECT No.:	PC211160
DRAWN BY:	LGU
CHECKED BY:	C.D.P.
DATE:	03/15/2022
CAD ID.:	PC211160-LDVP-8A

AMENDED FINAL PRD PLANS
FOR
PROSPERITY PROPERTY INVESTMENTS, LLC
"FINAL PLAN FOR LOT 2B OF PARCEL 5C"
PROPOSED COMMERCIAL DEVELOPMENT
GRAPHITE MINE ROAD & STATION BOULEVARD
UPPER UWCHLAN TOWNSHIP
CHESTER COUNTY
COMMONWEALTH OF PENNSYLVANIA

BOHLER
1600 MANOR DRIVE, SUITE 200
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C.D. PUZNAS
PROFESSIONAL ENGINEER
PENNSYLVANIA LICENSE # 2522-0000

SHEET TITLE:
POST DEVELOPMENT DRAINAGE PLAN
SHEET NUMBER:
C-911
44 OF 36
REVISION 8 - 05/30/2025



DRAWING LEGEND
INLET DRAINAGE FEATURES

- OVERALL DRAINAGE AREA
- SUB-DRAINAGE AREA
- INLET DRAINAGE AREA
- INLET DRAINAGE AREA LABEL

DRAWING LEGEND
EXISTING FEATURES

- PROPERTY BOUNDARY
- EXISTING STREAM LINE
- RIPARIAN BUFFER LINE
- SOIL BOUNDARY LINE
- SOIL TYPE
- BUILDING
- RETAINING WALL
- CONCRETE CURB
- FLUSH CURB
- TREE
- DRAINAGE INLET
- STORM/SANITARY MANHOLE
- MAJOR & MINOR CONTOURS / ELEVATIONS
- STORM PIPE

DRAWING LEGEND
PROPOSED FEATURES

- BUILDING
- RETAINING WALL
- CONCRETE CURB
- FLUSH CURB
- AREA LIGHT
- DRAINAGE INLET
- MANHOLE
- ENDWALL
- RIPRAP
- SANITARY SEWER
- STORM PIPE

BOHLER
 SITE CIVIL AND CONSULTING ENGINEERING
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REVISIONS

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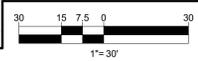
C.D. PUZANAS
 PROFESSIONAL ENGINEER
 PENNSYLVANIA LICENSE # 5522000

SHEET TITLE:
INLET DRAINAGE PLAN

SHEET NUMBER:
C-912

REVISION 8 - 05/30/2025

UNIFORM PARCEL IDENTIFIER: 32-4-1090.1



I:\BOHLER\NET\SHARES\PA\PROJECTS\211160\CADD\DRAWINGS\PLAN SET\SET\SOVIL SITE PLANS\PC211160-LDVP-8A-LAYOUT-C-912 INLET DRAINAGE



June 2, 2025

Allan Greenberg, CFO
CELEBREE, Inc.
1306 Bellona Avenue
Lutherville, MD 21093

RE: Byers Station Lot 2B, Parcel 5C – Parking and Traffic Analysis

Upper Uwchlan Township, Chester County, PA
TPD No. CELE.00001

Dear Allan:

Traffic Planning and Design, Inc. (TPD) has completed a parking and traffic analysis for the proposed Byers Station Lot 2B, Parcel 5C, located on the northeast corner of the intersection of Pottstown Pike and Station Boulevard in Upper Uwchlan Township, Chester County, Pennsylvania. Land development approvals were previously obtained for the subject site, with the most recent approval in 2024 being for a daycare and a 10,500 s.f. of commercial/retail space. Under the current plan, a 10,500 s.f. medical office building (MOB) is proposed in addition to the daycare and 10,500 s.f. commercial/retail building. As such, the purpose of this analysis is to evaluate the parking and traffic for the currently proposed development of the site.

PARKING ANALYSIS

Under the current site plan proposes a total of 143 parking spaces. To determine if the proposed parking is sufficient to support the site, the peak demand of each use was evaluated based on the Institute of Transportation Engineers’ (ITE) Parking Generation Manual, 6th Edition, 2023. For the current plan, Land Use Code 565 (Day Care), Land Use Code 930 (Fast Casual Restaurant), and Land Use Code 822 (Strip Retail Plaza) were used to calculate the peak parking demand. **Please note, the parking analysis assumes that the 10,500 s.f. commercial/retail building will include two (2) restaurants at 1,500 s.f. each. In addition, although the MOB use is proposed for one of the 10,500 s.f. buildings, this parking analysis utilizes the Retail land use (#822), as this results in a higher peak parking demand than a MOB use (#720).**

Table 1 shows the average peak parking demand rates for each use, including the MOB rates for information/comparison purposes.

TABLE 1
ITE PEAK PARKING DEMAND

Land Use	ITE #	X	Average Rate	Peak Parking Demand
Day Care	565	140 students	$P = 0.25*(X)$	35
Restaurants	930	3.0 ksf	$P = 9.77*(X)$	29
Strip Retail	822	18.0 ksf	$P = 2.79*(X)$	51
MOB	720	---	$P = 2.63*(X)$	---
Total Peak Parking Demand				115

P = Peak Parking Demand; X = Size

As shown in **Table 1**, if all the uses on-site experienced their peak parking demand simultaneously, the peak parking demand for the site would be 115 occupied spaces. However, mixed-use sites such as the proposed development have opportunities for shared parking. As such, the parking occupancy time of day from the ITE Parking Generation Manual methodology was utilized to evaluate the shared parking for the site. As shown in **Table 2**, the time-of-day parking demand distribution is summarized for the proposed uses. **Table 3** applies the time-of-day distributions to peak parking demand noted in **Table 1**, in order to determine the shared parking demand on an hourly basis.

TABLE 2
WEEKDAY TIME-OF-DAY VARIATION IN PARKING DEMAND (%)

Hour of Day	Percent of Peak Period		
	Day Care ¹	Restaurants ²	Retail ³
6:00 AM	11%	--	--
7:00 AM	45%	--	--
8:00 AM	89%	--	19%
9:00 AM	93%	--	33%
10:00 AM	100%	14%	47%
11:00 AM	100%	22%	55%
12:00 PM	97%	100%	89%
1:00 PM	93%	78%	100%
2:00 PM	88%	40%	73%
3:00 PM	82%	32%	73%
4:00 PM	88%	26%	66%
5:00 PM	96%	46%	70%
6:00 PM	61%	77%	75%
7:00 PM	30%	63%	70%
8:00 PM	--	34%	54%
9:00 PM	--	22%	48%
10:00 PM	--	14%	--
11:00 PM	--	--	--

1. Time-of-day data provided from 6 AM – 6 PM. 7 PM assumed to be 50% of 6PM.

2. Time-of-day data provided from 8 AM – 10 PM, but assumed 0% for 8-10 AM since the store is not typically open.

3. Time-of-day data provided from 8 AM – 9 PM.

TABLE 3
WEEKDAY TIME-OF-DAY VARIATION IN PARKING DEMAND

Hour of Day	Occupied Parking Spaces			
	Day Care	Restaurants	Retail	Total
6:00 AM	4	0	0	4
7:00 AM	16	0	0	16
8:00 AM	31	1	10	42
9:00 AM	33	3	17	53
10:00 AM	35	4	24	63
11:00 AM	35	6	28	69
12:00 PM	34	29	45	108
1:00 PM	33	23	51	107
2:00 PM	31	12	37	80
3:00 PM	29	9	37	75
4:00 PM	31	8	34	73
5:00 PM	34	13	36	83
6:00 PM	21	22	38	81
7:00 PM	11	18	36	65
8:00 PM	0	10	28	38
9:00 PM	0	6	24	30
10:00 PM	0	4	0	4
11:00 PM	0	0	0	0

As shown in **Table 3**, per the referenced data, the maximum peak parking demand at any point during the day is anticipated to be 108 spaces, which is less than the proposed 143 parking spaces proposed for the current site.

If you have any questions or comments, please feel free to contact us.

Sincerely,

TPD

Guido W. DiMartino, P.E.

Regional Leader – Transportation Planning



June 2, 2025
TPD# CELE.00001

BYERS STATION

Transportation Impact Assessment

Upper Uwchlan Township, Chester County, PA

For Submission To:

Upper Uwchlan Township

BYERS STATION TRANSPORTATION IMPACT ASSESSMENT

FOR SUBMISSION TO:

Upper Uwchlan Township, Chester County, PA

Prepared For:
Celebree
8029 Corporate Drive
Nottingham, MD 21236

June 2, 2025
TPD # CELE.00001



Prepared By:
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West Chester, Pennsylvania 19380

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FIGURES 1 – 14

TECHNICAL APPENDICES

- Appendix A: Study Area Photographs
- Appendix B: Manual Traffic Count Printouts
- Appendix C: Volume Development Spreadsheets
- Appendix D: Capacity Analyses
- Appendix E: Traffic Signal Plans
- Appendix F: Turn Lane Warrants

EXECUTIVE SUMMARY

The purpose of this study is to examine the potential traffic impact associated with the proposed Byers Station development on the roadway network in Upper Uwchlan Township, Chester County, PA. Based on this evaluation, the following conclusions were reached:

- » The project site is located on the northeast corner of Pottstown Pike (SR 0100) and Station Boulevard/Park Road and is comprised of three (3) 10,500 s.f. buildings. One building is proposed as a daycare for 140 students, with the other buildings planned for commercial/retail space. One commercial building is planned as medical office building (MOB) space, and the other is planned a 7,500 s.f. of retail and 3,000 s.f. of restaurant space.
- » The site will be served by driveways to Begonia Drive, with external access to Station Boulevard via Begonia Drive. No direct access to Route 100 is proposed.
- » The proposed development is expected to generate 108 new external trips during the weekday A.M. peak hour, 144 new external trips during the weekday P.M. peak hour, and 133 new external trips during the Saturday midday peak hour.
- » Under all projected (build) conditions with the development of the proposed site and with site-related recommendations, 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	Time Period	Existing	2026 Conditions		Meets LOS Requirements?
			Base	Projected	
Pottstown Pike (SR 0100) & Park Road/Station Boulevard	Weekday AM Peak	C (25.6)	C (27.4)	C (29.4)	YES
	Weekday PM Peak	C (22.8)	C (25.1)	C (27.2)	
	Saturday Peak	C (21.7)	C (24.3)	C (24.5)	
Graphite Mine Road & Station Boulevard	Weekday AM Peak	C (28.0)	C (27.9)	C (28.1)	YES
	Weekday PM Peak	B (15.8)	B (16.1)	B (17.4)	
	Saturday Peak	A (9.6)	A (9.7)	B (10.2)	
Station Boulevard & Begonia Drive	Weekday AM Peak	A (4.2)	A (4.1)	A (7.5)	YES
	Weekday PM Peak	A (1.3)	A (1.2)	A (5.0)	
	Saturday Peak	A (1.4)	A (1.3)	A (4.8)	

Base = No-Build scenario, Projected = Build scenario

INTRODUCTION

Traffic Planning and Design, Inc. (TPD) has completed a Transportation Impact Assessment (TIA) for the proposed Village at Byers Station development (formerly known as Byers Station Parcel 5C) on the roadway network in Upper Uwchlan Township, Chester County, PA. As shown in **Figure 1**, the project site is located on the northeast corner of Pottstown Pike (SR 0100) and Station Boulevard/Park Road. As shown in **Figure 2**, the proposed development is comprised of three (3) 10,500 s.f. buildings. One building is proposed as a daycare for 140 students, with the other buildings planned for commercial/retail space. One commercial building is planned as medical office building (MOB) space, and the other is planned a 7,500 s.f. of retail and 3,000 s.f. of restaurant space.

The subject site is part of the overall Byers Station PRD that was approved by the Township in 1999. Byers Station funded and constructed much of the roadway improvements in the area that are currently in place, including Graphite Mine Road, Route 100 widening, Park Road extension, etc. These roadway improvements in the PRD approval were developed based on a maximum of 311,000 s.f. of retail/office space, or 175,000 s.f. of retail/office space and 220 multi-family units.

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 February 2024.

Site Access Locations

The proposed development will primarily be served by the driveways to Begonia Drive, with external access to Station Boulevard via Begonia Drive.

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 A**.

TABLE 1
ROADWAY CHARACTERISTICS WITHIN STUDY AREA

Roadway	Ownership	Functional Classification/ Roadway Type	Predominant Directional Orientation	Average Daily Traffic ¹	Posted Speed Limit
Pottstown Pike	State (SR 0100)	Principal Arterial Highway	North-South	12,936	35 mph
Graphite Mine Road		Local	North-South	12,080	40 mph
Station Boulevard		Local	East-West	6,230	30 mph

¹ = Based on PennDOT TIRe data or peak hour traffic counts and a k-factor

Land Use Context

In Section 1.2 of the Design Manual, Part 2, there is guidance pertaining to defining the land use context(s) for a given area. Based upon review of this information, the land uses surrounding the proposed site best fits Suburban Neighborhood designation, as described below:

Suburban Neighborhood, "predominately low density residential communities... typically arranged in a curvilinear internal system of streets with limited connections to regional road network or surrounding streets. . . .Neighborhoods can include community facilities such as schools, churches, recreational facilities, and some other stores and offices. When suburban houses line and arterial roadway but have their primary access to frontage roads or rear access roads, it is possible to classify this area as a suburban corridor."

Roadway Type

In Section 1.2 of the Design Manual, Part 2, there is guidance pertaining to defining the transportation context(s) for a given area. Comparing the existing condition roadway characteristics to the various options presented in Table 1.2, the study area roadways best fit the following categories, as described below:

Regional Arterial, traffic volumes of 10,000 to 40,000 vehicles per day, intersection spacing of 660 to 1,320 feet, a desired operating speed of 30-55 mph, and a description as follows: "Roadways in this category would be considered "Principal Arterial" in traditional functional classification."

» Pottstown Pike (SR 0100)

Community Collector, traffic volumes of 5,000 to 15,000 vehicles per day, intersection spacing of 300 to 660 feet, a desired operating speed of 25-55 mph, and a description as follows: "often similar in appearance to a community arterial. Typically classified as Major Collector."

» Graphite Mine Road

Local Road, traffic volumes of <3,000 vehicles per day, intersection spacing of 000 to 660 feet, a desired operating speed of 20-30 mph.

» Station Boulevard

Bicycle and Pedestrian Facilities

Based on observations during field visits at the study area intersections, there are no bicycle specific accommodations present. The pedestrian accommodations are detailed below:

- » Pottstown Pike (SR 0100) and Station Boulevard/Park Road – The traffic signal is provided with pedestrian push buttons, pedestrian hand-man signals, pedestrian ramps, and marked crosswalks on all four legs of the intersection.
- » Graphite Mine Road and Station Boulevard – The traffic signal is provided with pedestrian push buttons, pedestrian hand-man signals, pedestrian ramps, and marked crosswalks on the westbound approach of the intersection. Pedestrian activity is restricted via signage on the eastbound, northbound, and southbound approaches.

Mass Transit Facilities

Chester County is provided with public transportation by SEPTA. There is no public transportation via train within ½ mile of the site, and none serving Upper Uwchlan Township.

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 01/01/2020 and ending 12/31/2024. 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				
	2020	2021	2022	2023	2024
Pottstown Pike (SR 0100) & Station Boulevard/Park Road	0	1	1	1	0
Graphite Mine Road & Station Boulevard	0	1	2	4	0
Station Boulevard & Begonia Drive	0	0	0	0	0

Based on a review of the crash data, there was one continuous twelve-month period during the past five years where 5 or more crashes occurred that were deemed correctable at the Graphite Mine Road/Station Boulevard intersection:

- » Graphite Mine Road & Station Boulevard – The signalized intersection had 5 or more crashes that had occurred between October 2022 and September 2023. The primary type of crash was the angle crash. The primary causations of the crashes were driver error, such as running redlight, distracted driving or inexperienced driver.

EXISTING TRAFFIC CONDITIONS

Manual traffic counts were conducted on 15-minute intervals during the weekday morning (7:00 to 9:00 A.M.), weekday evening (4:00 to 6:00 P.M.) and Saturday midday (11:00 A.M. to 1:00 P.M.) peak periods. Peak hours and count dates for the study area intersections are identified in **Table 3**.

TABLE 3
MANUAL TRAFFIC COUNT INFORMATION

Intersection	Date of Traffic Counts	Time Period	Intersection Peak Hour ¹
Pottstown Pike (SR 0100) & Station Boulevard/Park Road	Thursday, May 1, 2025	Weekday A.M.	8:00 to 9:00 A.M.
		Weekday P.M.	4:30 to 5:30 P.M.
	Saturday, May 3, 2025	Saturday Midday	12:00 A.M. to 1:00 P.M.
Station Boulevard & Begonia Drive	Thursday, May 1, 2025	Weekday A.M.	7:30 to 8:30 A.M.
		Weekday P.M.	5:00 to 6:00 P.M.
	Saturday, May 3, 2025	Saturday Midday	12:00 A.M. to 1:00 P.M.
Graphite Mine Road & Station Boulevard	Thursday, May 1, 2025	Weekday A.M.	8:00 to 9:00 A.M.
		Weekday P.M.	4:45 to 5:45 P.M.
	Saturday, May 3, 2025	Saturday Midday	12:00 A.M. to 1:00 P.M.

1. 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. Manual traffic count data sheets are provided in **Appendix B**.

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 0.44% per year in Chester County for urban non-interstate roadways.

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 (2026) of the proposed development. The following nearby planned developments were specifically included in this study:

Automotive Service Center is a proposed development consisting of 45,774 s.f. service center space with a 300 space car storage lot. The site is located on the eastern side of Pottstown Pike (SR 0100), opposite Font Road. Trip generation and distribution for this site were developed based on the 4/10/25 TIS prepared by TPD.

Byers Station Parcel 6C is a 100-unit Continuing Care Retirement Facility. The project site is located on the northeast corner of the intersection of Byers Road (SR 1022) and Graphite Mine Road. Trip generation and distribution for this site was developed based on the 3/30/17 TIA prepared by TPD.

100 Greenridge Road is a proposed residential development consisting of 64 single-family homes. The site is located on the north side of Greenridge Road, west of Font Road. Trip generation and distribution for this site were developed based ITE data and existing travel patterns, respectively.

McKee-Fetters Tract is a proposed age-restricted residential development consisting of 97 senior-adult detached homes, and 156 senior adult townhomes. The site is located on the eastern side of Milford Road, south of Patricia Drive and opposite Krauser Road. Trip generation and distributions for this site were obtained from the Transportation Impact Study prepared by TPD, last revised 5/18/17.

The additional traffic volumes due to background growth and background developments were added to the existing traffic data to produce 2026 base (no-build) condition traffic volumes. Base condition volumes for the weekday A.M., weekday P.M., and Saturday midday peak hours are illustrated in **Figures 6-8** for the 2026 future no-build conditions. Trip distributions for the background developments are shown in the volume development worksheets provided in **Appendix C**.

SCHEDULED ROADWAY IMPROVEMENTS

Upper Uwchlan Township Traffic Capital Improvement Program

The following is a summary of roadway improvements identified in the Township's Transportation Capital Improvement Plan at the study area intersection for the Act 209 pre-development and post-development conditions:

Pottstown Pike & Park Road/Station Boulevard

- *Post-Development Conditions*
 - Widen southbound Pottstown Pike to provide a separate right-turn lane
 - Widen westbound Station Boulevard to provide a separate right-turn lane.

Graphite Mine Road & Station Boulevard

- *Post-Development Conditions*
 - Widen northbound Graphite Mine Road for a second through lane;
 - Widen southbound Graphite Mine Road for a second through lane.

In order to provide a conservative evaluation, the above improvements were not included in the evaluation of the study area intersections.

PROPOSED SITE ACCESS

The site will be served by driveways to Begonia Drive, with external access to Station Boulevard via Begonia Drive. No direct access to Route 100 is proposed.

TRIP GENERATION

The trip generation rates for the proposed development were obtained from the manual *Trip Generation*, Eleventh Edition, 2021, an Institute of Transportation Engineers (ITE) Informational Report. For the proposed development, Land Use Codes 565 (Daycare), 822 (Strip Retail Plaza <40k), and 930 (Fast Casual Restaurant) from *Trip Generation* was used to calculate the number of vehicular trips the development will generate during the following time periods: (1) average weekday; (2) weekday A.M. peak hour; (3) weekday P.M. peak hour; and (4) Saturday midday peak hour.

Please note, this analysis assumes that the 10,500 s.f. commercial/retail building will include two (2) restaurants at 1,500 s.f. each. In addition, although the MOB use is proposed for one of the 10,500 s.f. buildings, this analysis utilizes the Retail land use (#822), as this results in a higher trip generation than a MOB use (#720) during the weekday P.M. peak hour and Saturday midday peak hour. During the weekday A.M. peak hour, the MOB use generates slightly more, yet a comparable number of trips, than the retail land use.

In addition, according to the *Trip Generation* manual, not all of the trips generated by the proposed development will be new to the surrounding area. A distinction was made between “new” trips, which are trips made to/from the study area for the express purpose of visiting the site, “pass-by” trips, which are trips made to the site by traffic passing the retail center on the adjacent roadways en route to another destination. The pass-by trips do not add any additional traffic to the study area intersections but will result in shifts in turning movement at the site driveway intersections. **Table 4** shows the trip generation rates, directional and pass-by percentages for the analyzed time periods.

TABLE 4
ITE TRIP GENERATION DATA

Land Use	ITE #	Time Period	Rate/Equation	Entering %	Pass By %
Day Care	565	Average Weekday	$T = 47.62(X)$	50%	--
		Weekday A.M. Peak Hour	$T = 0.66(X) + 8.42$	53%	34% ¹
		Weekday P.M. Peak Hour	$\ln(T) = 0.87\ln(X) + 0.29$	47%	44%
		Saturday Midday Peak Hour	$T = 0.11(X)$	63%	34% ¹
Fast Casual Restaurant	930	Average Weekday	$T = 97.14(X)$	50%	--
		Weekday A.M. Peak Hour	$T = 1.43(X)$	50%	33% ¹
		Weekday P.M. Peak Hour	$T = 12.55(X)$	55%	43% ²
		Saturday Midday Peak Hour	$T = 32.64(X)$	55%	33% ¹
Strip Retail Plaza (<40k)	822	Average Weekday	$T = 42.2(X) + 229.68$	50%	--
		Weekday A.M. Peak Hour	$\ln(T) = 0.66\ln(X) + 1.84$	60%	30% ³
		Weekday P.M. Peak Hour	$T = 6.59(X)$	50%	40% ³
		Saturday Midday Peak Hour	$T = 6.57(X)$	51%	31% ³

T = total trips; X = independent variable, ksf = 1000 square feet

1 = No data available, used 10% less than PM Peak Hour

2 = No data available, utilized pass-by rate for LUC 932

3 = No data available, utilized pass-by rate for LUC 821

Internal Trips

For mixed-use developments, the *Trip Generation* manual recommends applying an interaction factor to the site trip generation to determine the quantity of “external trips” (trips from external roadways) and “internal capture trips” (trips between the various uses onsite that do not utilize the external roadways). The calculated trip generation for the proposed development is shown in **Table 5**. Interaction worksheets are provided in **Appendix C**. Please note, this trip generation for this study does not account for any interaction between the adjacent Byers Station homes and proposed development. Interaction between the residential uses and the proposed development would result in a reduced external trip generation when compared to the values in **Table 5**.

**TABLE 5
TRIP GENERATION SUMMARY**

Land Use	Size	Total Trips	Internal Trips		External Trips			Pass By Trips			New External Trips		
			Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit
Weekday A.M. Peak Hour													
Fast Casual Restaurant	3 ksf	4	1	0	3	1	2	1	1	0	2	0	2
Day Care	10.5 ksf	116	0	0	116	61	55	39	20	19	77	41	36
Strip Retail Plaza (<40k)	18 ksf	42	0	1	41	25	16	12	6	6	29	19	10
Total	--	162	1	1	160	87	73	52	27	25	108	60	48
Weekday P.M. Peak Hour													
Fast Casual Restaurant	3 ksf	38	6	7	25	15	10	11	6	5	14	9	5
Day Care	10.5 ksf	117	0	0	117	55	62	51	26	25	66	29	37
Strip Retail Plaza (<40k)	18 ksf	119	7	6	106	52	54	42	21	21	64	31	33
Total	--	274	13	13	248	122	126	104	53	51	144	69	75
Saturday Midday Peak Hour													
Fast Casual Restaurant	3 ksf	98	21	9	68	33	35	22	11	11	46	22	24
Day Care	10.5 ksf	18	0	0	18	11	7	6	3	3	12	8	4
Strip Retail Plaza (<40k)	18 ksf	118	4	5	110	56	53	34	17	17	76	39	36
Total	--	234	25	14	195	100	95	62	31	31	133	69	64
Average Weekday Peak Hour													
Fast Casual Restaurant	3 ksf	291	54	41	196	92	104	--	--	--	--	--	--
Day Care	10.5 ksf	500	0	0	500	250	250	--	--	--	--	--	--
Strip Retail Plaza (<40k)	18 ksf	989	35	54	900	460	440	--	--	--	--	--	--
Total	--	1780	89	95	1596	802	794	--	--	--	--	--	--

Based on the trip generation analysis summarized in **Table 5**, the proposed development will generate approximately 108 new trips during the weekday A.M. peak hour, 144 new trips during the weekday P.M. peak hour, and 133 new trips during the Saturday midday peak hour.

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 6**.

TABLE 6
TRIP DISTRIBUTION PERCENTAGES – NEW TRIPS

Direction - To/From	Assignment (To/From)	Distribution Percentage
North	via Pottstown Pike	36%
	via Graphite Mine Road	
South	via Pottstown Pike	44%
	via Graphite Mine Road	
East	via Station Boulevard	8%
West	via Park Road	12%

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 driveways. The percentages used for the distribution of pass-by trips to the project site are shown below in **Table 7**.

TABLE 7
TRIP DISTRIBUTION PERCENTAGES – PASS-BY TRIPS

Direction - To/From	Pass-by Trip Distribution Percentages		
	Weekday A.M.	Weekday P.M.	Saturday Midday
North via Pottstown Pike	24%	42%	32%
South via Pottstown Pike	62%	46%	58%
East via Station Boulevard	8%	4%	5%
West via Station Boulevard	6%	8%	5%

The assignment of site-generated trips for the proposed development during the weekday A.M., weekday P.M., and Saturday midday peak hours are shown in **Figures 9-11**, respectively.

PROJECTED (BUILD) CONDITION TRAFFIC VOLUMES

The site-generated trips for the proposed development were added to the 2026 base (no-build) condition traffic volumes to develop the 2026 projected (build) condition traffic volumes. The 2026 projected condition traffic volumes for the weekday A.M., weekday P.M., and Saturday midday peak hours are shown in **Figure 12-14** respectively.

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 8**. 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 8
LEVEL OF SERVICE CRITERIA
UNSIGNALIZED AND SIGNALIZED INTERSECTIONS ¹

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 18-4 and 19-1 of the Transportation Research Board’s Highway Capacity Manual 2010

CAPACITY ANALYSIS METHODOLOGY

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

The following conditions were analyzed, as applicable:

- Existing Conditions;
- 2026 Base Conditions (Build-out year without development);
- 2026 Projected Conditions (Build-out year with development).

It should be noted that based on methodologies contained in Chapter 10 of PennDOT’s Publication 46, TPD adjusted the following 6th edition 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.

In addition, capacity analyses were conducted at the proposed site driveway intersections under the 2026 projected conditions. The capacity analysis worksheets are included in **Appendix D**. The PennDOT-approved signal plans are included in **Appendix E**.

PennDOT's Transportation Impact Study Guidelines outlined 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 **Table 10** for the weekday A.M., weekday P.M., and Saturday midday peak hours. Per PennDOT standards, the signal timings at the signalized study area intersections have been optimized under base conditions and projected conditions. Please note, the two (2) signalized study area intersections currently operate with traffic adaptive signal equipment which adjusts the signal timings in real-time based on the current traffic patterns.

TABLE 10
LEVEL OF SERVICE DELAY (SECONDS) SUMMARY

Intersection	Approach/ Movement	Weekday A.M. Peak Hour			Weekday P.M. Peak Hour			Saturday Midday Peak Hour		
		Existing	2026 Conditions		Existing	2026 Conditions		Existing	2026 Conditions	
			Base	Projected		Base	Projected		Base	Projected
Pottstown Pike & Park Road/Station Boulevard	EB L	D	D	D	D	D	D	D	D	D
	EB TR	D	D	D	D	D	C	C	C	C
	WB L	D	D	D	C	C	C	C	C	C
	WB TR	D	D	D	C	C	C	C	C	C
	NB L	B	C	C	B	C	C	B	C	C
	NB TR	A	A	A	A	A	A	A	A	A
	SB L	A	B	B	B	B	B	A	A	A
	SB TR	C	C	C	C	C	C	C	C	C
ILOS	C (25.6)	C (27.4)	C (29.4)	C (22.8)	C (25.1)	C (27.2)	C (21.7)	C (24.3)	C (24.5)	
Graphite Mine & Station Boulevard	EB L	C	C	C	A	A	A	C	C	C
	EB TR	C	C	C	D	D	D	C	C	C
	WB L	D	D	D	E	E	E	C	C	C
	WB TR	C	C	C	D	D	D	C	C	C
	NB L	B	B	B	A	A	A	A	A	A
	NB T	B	B	B	A	A	A	A	A	A
	NB R	B	B	B	A	A	A	A	A	A
	SB L	C	C	C	B	B	B	A	A	A
	SB TR	B	B	B	A	A	A	A	A	A
ILOS	C (28.0)	C (27.9)	C (28.1)	B (15.8)	B (16.1)	B (17.4)	A (9.6)	A (9.7)	B (10.2)	
Station Boulevard & Begonia Drive	EB L	A	A	A	A	A	A	A	A	A
	SB LR	B	B	C	A	A	B	A	A	B
	ILOS	A (4.2)	A (4.1)	A (7.5)	A (1.3)	A (1.2)	A (5.0)	A (1.4)	A (1.3)	A (4.8)

Base = No-Build scenario; Projected = Build scenario; ILOS = Overall Intersection Level of Service

As shown in **Table 10**, all levels of service at the study area intersection comply with the requirements outlined in PennDOT’s TIS Guidelines.

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 **Tables 11** for the analyzed peak hours.

TABLE 11
95TH PERCENTILE QUEUE ANALYSIS

Intersection	Movement	Available Storage	2026 Conditions					
			Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
			Base	Projected	Base	Projected	Base	Projected
Pottstown Pike & Park Road/Station Boulevard	EB L	75	203	203	208	208	148	158
	EB TR	200+	115	120	70	75	65	73
	WB L	114	25	68	10	40	13	43
	WB TR	200+	103	148	83	118	53	93
	NB L	355	93	93	205	200	123	115
	NB TR	300+	83	100	195	225	80	90
	SB L	200	33	55	3	30	3	18
	SB TR	700+	663	685	578	605	533	523
Graphite Mine & Station Boulevard	EB L	100	0	0	0	0	0	0
	EB TR	200+	163	178	85	113	53	63
	WB L	210	398	400	243	258	85	85
	WB TR	100+	55	60	63	70	23	25
	NB L	95	33	43	25	30	13	20
	NB T	400+	255	260	353	353	133	143
	NB R	95	65	68	58	58	25	28
	SB L	90	0	0	5	5	5	5
	SB TR	200+	40	48	48	50	60	68
Station Boulevard & Begonia Drive	EB L	100+	3	8	0	8	0	5
	SB LR	100+	23	63	3	20	3	13

Base = No-Build scenario; Projected = Build scenario

As shown in **Table 11**, adequate queue storage will be provided for the turn lanes in 2026 with the proposed development or there will be no discernable change between base and projected conditions (i.e. one to two vehicles). In addition, the existing traffic adaptive signal equipment can adjust the signal timings in real-time based on the current traffic patterns. Queue analysis worksheets are included with the capacity analysis worksheets provided in **Appendix E**.

AUXILIARY TURN LANE WARRANT ANALYSIS

TPD evaluated auxiliary turn lane warrants at the Begonia Drive intersection with Station Boulevard. The warrant analysis methodology contained within Chapter 11 of PennDOT's *Publication 46*, Section 11.16 and Strike-Off Letter 470-08-07 was utilized for this evaluation. **Table 12** summarizes the results of the auxiliary turn lane analysis. The calculations for the auxiliary turn lane warrants are included in **Appendix F**.

TABLE 12
AUXILIARY TURN LANE ANALYSIS SUMMARY

Intersection	Auxiliary Lane	Warrant Satisfied?	Required Lane Length	Proposed Lane Length
Station Boulevard & Begonia Drive	EB Left-Turn Lane	No	--	Exists as a TWLTL
	WB Right-Turn Lane	No	--	--

CONCLUSIONS

The conclusions for this Transportation Impact Assessment are identified in the Executive Summary.

APPENDIX A:

Study Area Photographs





Direction / Road: Nb. Route 100
Approach / Departure: Approach
Distance: 50 feet



Direction / Road: Nb. Route 100
Approach / Departure: Approach
Distance: 200 Feet



Direction / Road: Sb. Route 100
Approach / Departure: Approach
Distance: 50 feet



Direction / Road: Sb. Route 100
Approach / Departure: Approach
Distance: 200 Feet



Direction / Road: Eb. Park Road
Approach / Departure: Approach
Distance: 50 feet



Direction / Road: Eb. Park Road
Approach / Departure: Approach
Distance: 200 Feet



Direction / Road: Wb. Station Blvd
Approach / Departure: Approach
Distance: 50 feet



Direction / Road: Wb. Station Blvd
Approach / Departure: Approach
Distance: 200 Feet



Direction / Road: Sb. Begonia Drive
Approach / Departure: Approach
Distance: 50 feet



Direction / Road: Sb. Begonia Drive
Approach / Departure: Approach
Distance: 200 Feet



Direction / Road: Eb. Station Blvd
Approach / Departure: Approach
Distance: 50 feet



Direction / Road: Eb. Station Blvd
Approach / Departure: Approach
Distance: 200 Feet



Direction / Road: Wb. Station Blvd
Approach / Departure: Approach
Distance: 50 feet



Direction / Road: Wb. Station Blvd
Approach / Departure: Approach
Distance: 200 Feet



Direction / Road: Nb. Graphite Mill Road
Approach / Departure: Approach
Distance: 50 feet



Direction / Road: Nb. Graphite Mill Road
Approach / Departure: Approach
Distance: 200 Feet



Direction / Road: Sb. Graphite Mill Road
Approach / Departure: Approach
Distance: 50 feet



Direction / Road: Sb. Graphite Mill Road
Approach / Departure: Approach
Distance: 200 Feet



Direction / Road: Eb. Station Blvd
Approach / Departure: Approach
Distance: 50 feet



Direction / Road: Eb. Station Blvd
Approach / Departure: Approach
Distance: 200 Feet



Direction / Road: Wb. Station Blvd
Approach / Departure: Approach
Distance: 50 feet



Direction / Road: Wb. Station Blvd
Approach / Departure: Approach
Distance: 200 Feet

APPENDIX B:

Manual Traffic Count Printouts





Traffic Planning and Design, Inc
 2500 East High Street
 Suite 650
 Pottstown, Pennsylvania, United States 19464
 610.326.3100

Count Name: 1 Route 100 &
 Station Blvd-Park Road
 Site Code:
 Start Date: 05/01/2025
 Page No: 1

Counter: MIO:
 Set up By JH::

Turning Movement Data

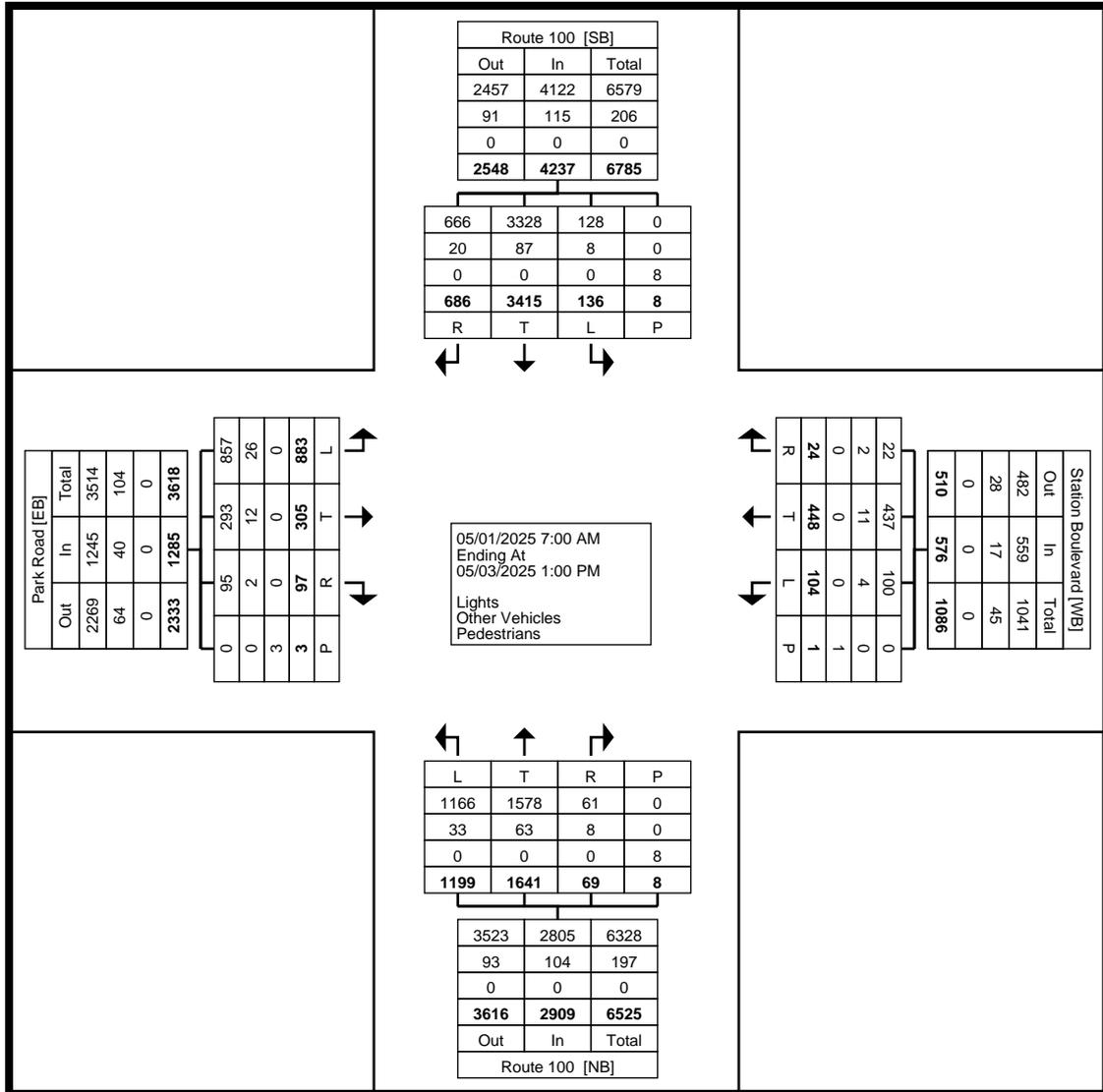
Start Time	Park Road Eastbound						Station Boulevard Westbound						Route 100 Northbound						Route 100 Southbound						Int. Total	
	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total		
7:00 AM	12	5	3	1	0	21	4	15	1	0	0	20	21	24	1	0	0	46	15	187	28	0	3	230	317	
7:15 AM	31	11	2	0	0	44	6	17	1	0	0	24	7	32	0	0	0	39	13	151	19	2	0	185	292	
7:30 AM	23	12	1	0	0	36	11	26	0	0	0	37	23	34	2	0	0	59	18	141	23	3	0	185	317	
7:45 AM	32	18	4	0	0	54	5	18	0	0	0	23	17	50	0	0	0	67	8	160	13	2	0	183	327	
Hourly Total	98	46	10	1	0	155	26	76	2	0	0	104	68	140	3	0	0	211	54	639	83	7	3	783	1253	
8:00 AM	35	12	9	0	0	56	2	14	1	0	1	17	27	43	4	0	0	74	6	182	18	0	0	206	353	
8:15 AM	31	20	5	0	0	56	3	13	0	0	0	16	31	45	0	0	0	76	18	171	13	0	0	202	350	
8:30 AM	33	12	5	0	0	50	10	21	0	0	0	31	35	44	3	0	0	82	17	153	30	1	0	201	364	
8:45 AM	43	14	8	0	0	65	3	21	0	0	0	24	33	50	10	0	0	93	18	164	19	3	0	204	386	
Hourly Total	142	58	27	0	0	227	18	69	1	0	1	88	126	182	17	0	0	325	59	670	80	4	0	813	1453	
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	42	18	3	0	0	63	9	27	1	2	0	39	78	92	6	0	2	176	3	107	23	1	0	134	412	
4:15 PM	47	11	0	0	0	58	2	18	2	1	0	23	74	110	1	0	3	185	1	116	40	1	0	158	424	
4:30 PM	45	16	3	0	0	64	4	19	2	1	0	26	72	102	3	0	0	177	0	123	32	1	0	156	423	
4:45 PM	37	10	0	0	0	47	6	24	0	0	0	30	82	107	4	1	0	194	1	136	35	2	0	174	445	
Hourly Total	171	55	6	0	0	232	21	88	5	4	0	118	306	411	14	1	5	732	5	482	130	5	0	622	1704	
5:00 PM	34	17	3	0	0	54	1	36	1	0	0	38	65	107	5	0	0	177	0	141	34	0	0	175	444	
5:15 PM	53	10	6	0	0	69	3	17	0	0	0	20	67	117	1	0	0	185	2	136	27	1	0	166	440	
5:30 PM	36	14	2	0	0	52	5	28	0	0	0	33	79	78	6	0	1	163	2	111	38	0	0	151	399	
5:45 PM	53	18	2	1	0	74	2	32	2	0	0	36	86	81	1	0	1	168	2	119	35	0	0	156	434	
Hourly Total	176	59	13	1	0	249	11	113	3	0	0	127	297	383	13	0	2	693	6	507	134	1	0	648	1717	
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	44	10	8	0	0	62	3	15	3	0	0	21	61	62	1	0	0	124	3	129	25	4	0	161	368	
11:15 AM	48	10	8	0	0	66	7	12	0	0	0	19	49	66	0	0	0	115	1	129	27	1	5	158	358	
11:30 AM	27	10	4	1	0	42	3	10	0	0	0	13	56	72	2	0	0	130	1	129	29	3	0	162	347	
11:45 AM	34	7	1	0	0	42	2	13	0	2	0	17	45	67	4	1	0	117	1	130	18	1	0	150	326	
Hourly Total	153	37	21	1	0	212	15	50	3	2	0	70	211	267	7	1	0	486	6	517	99	9	5	631	1399	
12:00 PM	40	13	3	0	0	56	5	9	2	1	0	17	45	66	0	1	0	112	2	166	29	1	0	198	383	
12:15 PM	35	9	6	0	0	50	5	15	1	0	0	21	60	56	3	0	0	119	2	157	30	0	0	189	379	
12:30 PM	33	15	4	0	0	52	3	12	0	0	0	15	40	70	3	1	0	114	1	134	43	2	0	180	361	
12:45 PM	35	13	4	0	3	52	0	16	0	0	0	16	46	66	5	0	1	117	1	143	27	2	0	173	358	
Hourly Total	143	50	17	0	3	210	13	52	3	1	0	69	191	258	11	2	1	462	6	600	129	5	0	740	1481	
Grand Total	883	305	94	3	3	1285	104	448	17	7	1	576	1199	1641	65	4	8	2909	136	3415	655	31	8	4237	9007	
Approach %	68.7	23.7	7.3	0.2	-	-	18.1	77.8	3.0	1.2	-	-	41.2	56.4	2.2	0.1	-	-	3.2	80.6	15.5	0.7	-	-	-	-
Total %	9.8	3.4	1.0	0.0	-	14.3	1.2	5.0	0.2	0.1	-	6.4	13.3	18.2	0.7	0.0	-	32.3	1.5	37.9	7.3	0.3	-	47.0	-	
Lights	857	293	92	3	-	1245	100	437	15	7	-	559	1166	1578	58	3	-	2805	128	3328	637	29	-	4122	8731	
% Lights	97.1	96.1	97.9	100.0	-	96.9	96.2	97.5	88.2	100.0	-	97.0	97.2	96.2	89.2	75.0	-	96.4	94.1	97.5	97.3	93.5	-	97.3	96.9	
Other Vehicles	26	12	2	0	-	40	4	11	2	0	-	17	33	63	7	1	-	104	8	87	18	2	-	115	276	
% Other Vehicles	2.9	3.9	2.1	0.0	-	3.1	3.8	2.5	11.8	0.0	-	3.0	2.8	3.8	10.8	25.0	-	3.6	5.9	2.5	2.7	6.5	-	2.7	3.1	
Pedestrians	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	8	-	-	-	-	-	8	-	-	
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	



Traffic Planning and Design, Inc
 2500 East High Street
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 610.326.3100

Count Name: 1 Route 100 &
 Station Blvd-Park Road
 Site Code:
 Start Date: 05/01/2025
 Page No: 2

Counter: MIO:
 Set up By JH.:



Turning Movement Data Plot



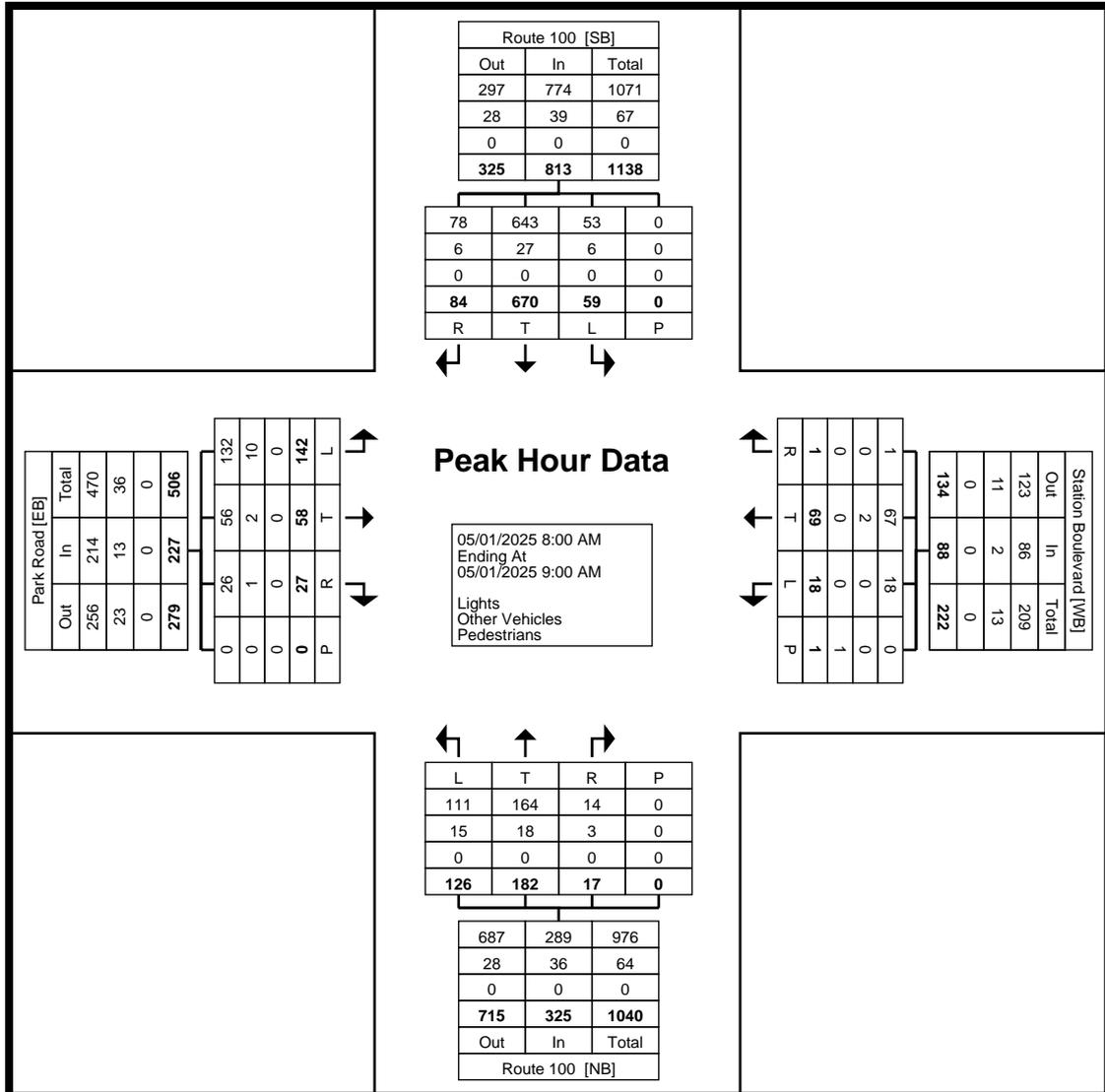
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Count Name: 1 Route 100 &
 Station Blvd-Park Road
 Site Code:
 Start Date: 05/01/2025
 Page No: 3

Counter: MIO:
 Set up By JH::

Turning Movement Peak Hour Data (8:00 AM)

Start Time	Park Road Eastbound						Station Boulevard Westbound						Route 100 Northbound						Route 100 Southbound						Int. Total
	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	
8:00 AM	35	12	9	0	0	56	2	14	1	0	1	17	27	43	4	0	0	74	6	182	18	0	0	206	353
8:15 AM	31	20	5	0	0	56	3	13	0	0	0	16	31	45	0	0	0	76	18	171	13	0	0	202	350
8:30 AM	33	12	5	0	0	50	10	21	0	0	0	31	35	44	3	0	0	82	17	153	30	1	0	201	364
8:45 AM	43	14	8	0	0	65	3	21	0	0	0	24	33	50	10	0	0	93	18	164	19	3	0	204	386
Total	142	58	27	0	0	227	18	69	1	0	1	88	126	182	17	0	0	325	59	670	80	4	0	813	1453
Approach %	62.6	25.6	11.9	0.0	-	-	20.5	78.4	1.1	0.0	-	-	38.8	56.0	5.2	0.0	-	-	7.3	82.4	9.8	0.5	-	-	-
Total %	9.8	4.0	1.9	0.0	-	15.6	1.2	4.7	0.1	0.0	-	6.1	8.7	12.5	1.2	0.0	-	22.4	4.1	46.1	5.5	0.3	-	56.0	-
PHF	0.826	0.725	0.750	0.000	-	0.873	0.450	0.821	0.250	0.000	-	0.710	0.900	0.910	0.425	0.000	-	0.874	0.819	0.920	0.667	0.333	-	0.987	0.941
Lights	132	56	26	0	-	214	18	67	1	0	-	86	111	164	14	0	-	289	53	643	75	3	-	774	1363
% Lights	93.0	96.6	96.3	-	-	94.3	100.0	97.1	100.0	-	-	97.7	88.1	90.1	82.4	-	-	88.9	89.8	96.0	93.8	75.0	-	95.2	93.8
Other Vehicles	10	2	1	0	-	13	0	2	0	0	-	2	15	18	3	0	-	36	6	27	5	1	-	39	90
% Other Vehicles	7.0	3.4	3.7	-	-	5.7	0.0	2.9	0.0	-	-	2.3	11.9	9.9	17.6	-	-	11.1	10.2	4.0	6.3	25.0	-	4.8	6.2
Pedestrians	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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



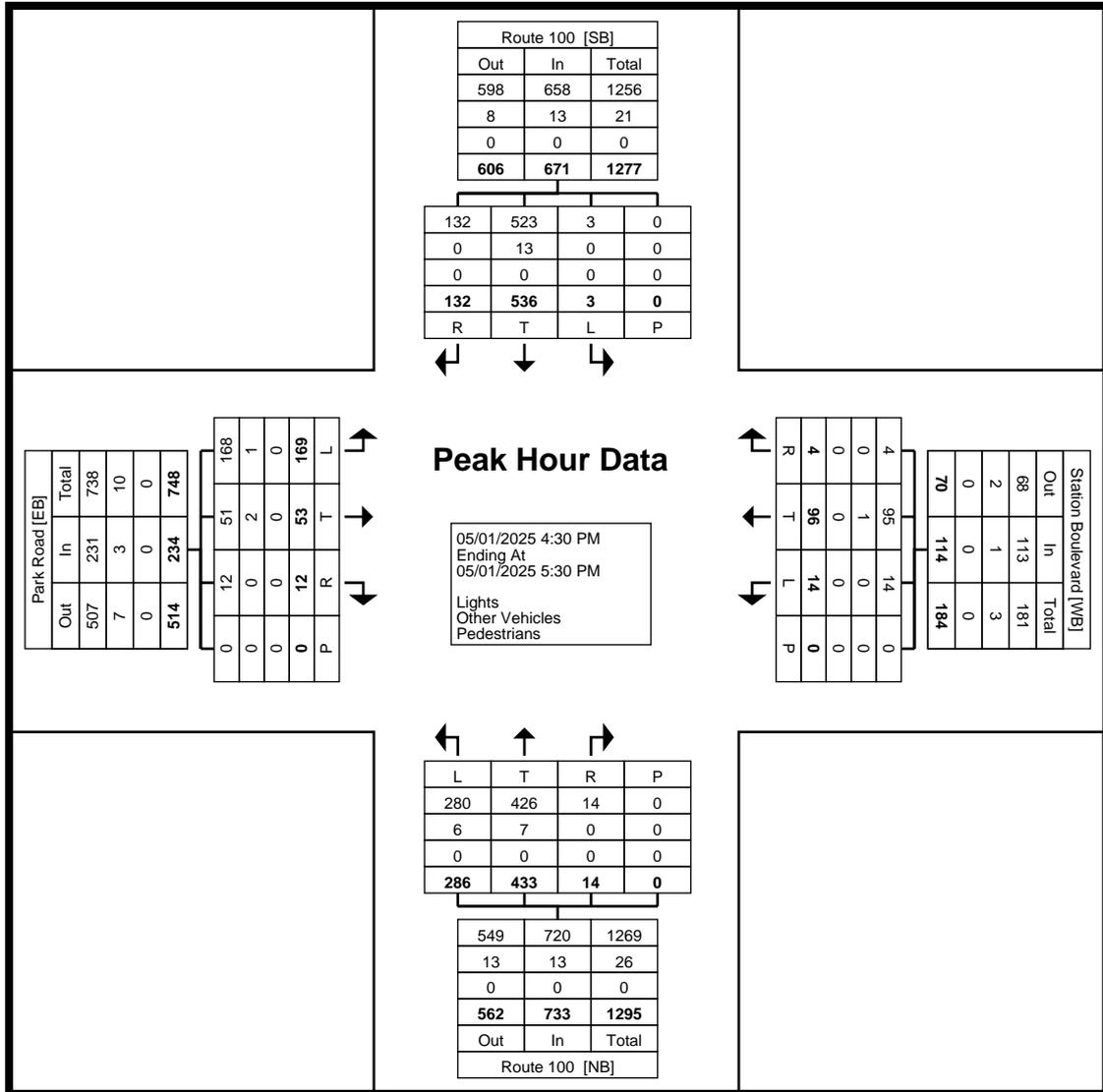
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Count Name: 1 Route 100 &
 Station Blvd-Park Road
 Site Code:
 Start Date: 05/01/2025
 Page No: 5

Counter: MIO:
 Set up By JH::

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Park Road Eastbound						Station Boulevard Westbound						Route 100 Northbound						Route 100 Southbound						Int. Total
	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	
4:30 PM	45	16	3	0	0	64	4	19	2	1	0	26	72	102	3	0	0	177	0	123	32	1	0	156	423
4:45 PM	37	10	0	0	0	47	6	24	0	0	0	30	82	107	4	1	0	194	1	136	35	2	0	174	445
5:00 PM	34	17	3	0	0	54	1	36	1	0	0	38	65	107	5	0	0	177	0	141	34	0	0	175	444
5:15 PM	53	10	6	0	0	69	3	17	0	0	0	20	67	117	1	0	0	185	2	136	27	1	0	166	440
Total	169	53	12	0	0	234	14	96	3	1	0	114	286	433	13	1	0	733	3	536	128	4	0	671	1752
Approach %	72.2	22.6	5.1	0.0	-	-	12.3	84.2	2.6	0.9	-	-	39.0	59.1	1.8	0.1	-	-	0.4	79.9	19.1	0.6	-	-	-
Total %	9.6	3.0	0.7	0.0	-	13.4	0.8	5.5	0.2	0.1	-	6.5	16.3	24.7	0.7	0.1	-	41.8	0.2	30.6	7.3	0.2	-	38.3	-
PHF	0.797	0.779	0.500	0.000	-	0.848	0.583	0.667	0.375	0.250	-	0.750	0.872	0.925	0.650	0.250	-	0.945	0.375	0.950	0.914	0.500	-	0.959	0.984
Lights	168	51	12	0	-	231	14	95	3	1	-	113	280	426	13	1	-	720	3	523	128	4	-	658	1722
% Lights	99.4	96.2	100.0	-	-	98.7	100.0	99.0	100.0	100.0	-	99.1	97.9	98.4	100.0	100.0	-	98.2	100.0	97.6	100.0	100.0	-	98.1	98.3
Other Vehicles	1	2	0	0	-	3	0	1	0	0	-	1	6	7	0	0	-	13	0	13	0	0	-	13	30
% Other Vehicles	0.6	3.8	0.0	-	-	1.3	0.0	1.0	0.0	0.0	-	0.9	2.1	1.6	0.0	0.0	-	1.8	0.0	2.4	0.0	0.0	-	1.9	1.7
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Turning Movement Peak Hour Data Plot (4:30 PM)



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Count Name: 1 Route 100 &
 Station Blvd-Park Road
 Site Code:
 Start Date: 05/01/2025
 Page No: 7

Counter: MIO:
 Set up By JH::

Turning Movement Peak Hour Data (12:00 PM)

Start Time	Park Road Eastbound						Station Boulevard Westbound						Route 100 Northbound						Route 100 Southbound						Int. Total
	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	
12:00 PM	40	13	3	0	0	56	5	9	2	1	0	17	45	66	0	1	0	112	2	166	29	1	0	198	383
12:15 PM	35	9	6	0	0	50	5	15	1	0	0	21	60	56	3	0	0	119	2	157	30	0	0	189	379
12:30 PM	33	15	4	0	0	52	3	12	0	0	0	15	40	70	3	1	0	114	1	134	43	2	0	180	361
12:45 PM	35	13	4	0	3	52	0	16	0	0	0	16	46	66	5	0	1	117	1	143	27	2	0	173	358
Total	143	50	17	0	3	210	13	52	3	1	0	69	191	258	11	2	1	462	6	600	129	5	0	740	1481
Approach %	68.1	23.8	8.1	0.0	-	-	18.8	75.4	4.3	1.4	-	-	41.3	55.8	2.4	0.4	-	-	0.8	81.1	17.4	0.7	-	-	-
Total %	9.7	3.4	1.1	0.0	-	14.2	0.9	3.5	0.2	0.1	-	4.7	12.9	17.4	0.7	0.1	-	31.2	0.4	40.5	8.7	0.3	-	50.0	-
PHF	0.894	0.833	0.708	0.000	-	0.938	0.650	0.813	0.375	0.250	-	0.821	0.796	0.921	0.550	0.500	-	0.971	0.750	0.904	0.750	0.625	-	0.934	0.967
Lights	140	50	17	0	-	207	13	52	3	1	-	69	191	257	10	2	-	460	6	596	126	5	-	733	1469
% Lights	97.9	100.0	100.0	-	-	98.6	100.0	100.0	100.0	100.0	-	100.0	100.0	99.6	90.9	100.0	-	99.6	100.0	99.3	97.7	100.0	-	99.1	99.2
Other Vehicles	3	0	0	0	-	3	0	0	0	0	-	0	0	1	1	0	-	2	0	4	3	0	-	7	12
% Other Vehicles	2.1	0.0	0.0	-	-	1.4	0.0	0.0	0.0	0.0	-	0.0	0.0	0.4	9.1	0.0	-	0.4	0.0	0.7	2.3	0.0	-	0.9	0.8
Pedestrians	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-



Traffic Planning and Design, Inc
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Count Name: 2 Begonia Drive &
 Station Blvd
 Site Code:
 Start Date: 05/01/2025
 Page No: 1

Counter: MIO:
 Set up By JH::

Turning Movement Data

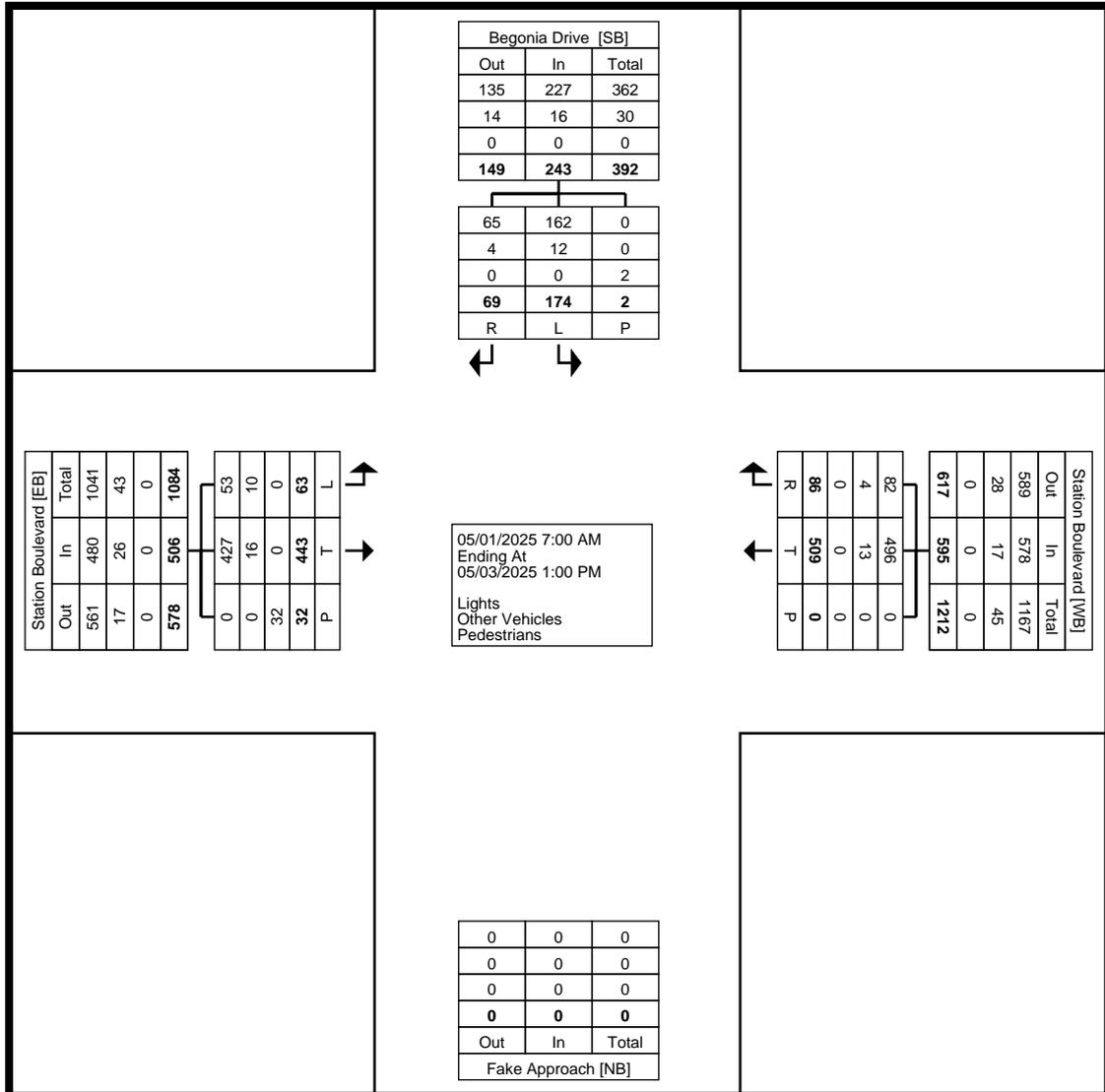
Start Time	Station Boulevard Eastbound				Station Boulevard Westbound				Begonia Drive Southbound				Int. Total
	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Right	Peds	App. Total	
7:00 AM	2	19	4	21	20	2	0	22	6	0	1	6	49
7:15 AM	0	23	2	23	17	2	0	19	11	8	0	19	61
7:30 AM	3	32	2	35	24	0	0	24	48	11	0	59	118
7:45 AM	5	22	2	27	21	8	0	29	6	1	0	7	63
Hourly Total	10	96	10	106	82	12	0	94	71	20	1	91	291
8:00 AM	6	16	1	22	17	3	0	20	12	2	0	14	56
8:15 AM	2	35	0	37	14	3	0	17	14	3	0	17	71
8:30 AM	3	25	2	28	22	2	0	24	16	7	0	23	75
8:45 AM	8	33	4	41	25	6	0	31	12	1	1	13	85
Hourly Total	19	109	7	128	78	14	0	92	54	13	1	67	287
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	3	24	4	27	28	7	0	35	1	6	0	7	69
4:15 PM	2	11	0	13	26	3	0	29	4	2	0	6	48
4:30 PM	2	17	0	19	22	7	0	29	2	3	0	5	53
4:45 PM	3	14	1	17	26	1	0	27	3	3	0	6	50
Hourly Total	10	66	5	76	102	18	0	120	10	14	0	24	220
5:00 PM	2	19	0	21	35	4	0	39	5	0	0	5	65
5:15 PM	3	9	1	12	22	7	0	29	2	1	0	3	44
5:30 PM	3	19	1	22	25	5	0	30	3	6	0	9	61
5:45 PM	2	18	2	20	36	4	0	40	2	4	0	6	66
Hourly Total	10	65	4	75	118	20	0	138	12	11	0	23	236
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	1	13	0	14	21	6	0	27	3	2	0	5	46
11:15 AM	0	12	0	12	16	4	0	20	5	1	0	6	38
11:30 AM	3	10	0	13	12	0	0	12	3	1	0	4	29
11:45 AM	2	10	0	12	14	4	0	18	2	3	0	5	35
Hourly Total	6	45	0	51	63	14	0	77	13	7	0	20	148
12:00 PM	3	15	5	18	13	3	0	16	5	3	0	8	42
12:15 PM	2	10	0	12	22	3	0	25	3	0	0	3	40
12:30 PM	3	17	0	20	13	1	0	14	5	1	0	6	40
12:45 PM	0	20	1	20	18	1	0	19	1	0	0	1	40
Hourly Total	8	62	6	70	66	8	0	74	14	4	0	18	162
Grand Total	63	443	32	506	509	86	0	595	174	69	2	243	1344
Approach %	12.5	87.5	-	-	85.5	14.5	-	-	71.6	28.4	-	-	-
Total %	4.7	33.0	-	37.6	37.9	6.4	-	44.3	12.9	5.1	-	18.1	-
Lights	53	427	-	480	496	82	-	578	162	65	-	227	1285
% Lights	84.1	96.4	-	94.9	97.4	95.3	-	97.1	93.1	94.2	-	93.4	95.6
Other Vehicles	10	16	-	26	13	4	-	17	12	4	-	16	59
% Other Vehicles	15.9	3.6	-	5.1	2.6	4.7	-	2.9	6.9	5.8	-	6.6	4.4
Pedestrians	-	-	32	-	-	-	0	-	-	-	2	-	-
% Pedestrians	-	-	100.0	-	-	-	-	-	-	-	100.0	-	-



Traffic Planning and Design, Inc
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Count Name: 2 Begonia Drive &
 Station Blvd
 Site Code:
 Start Date: 05/01/2025
 Page No: 2

Counter: MIO:
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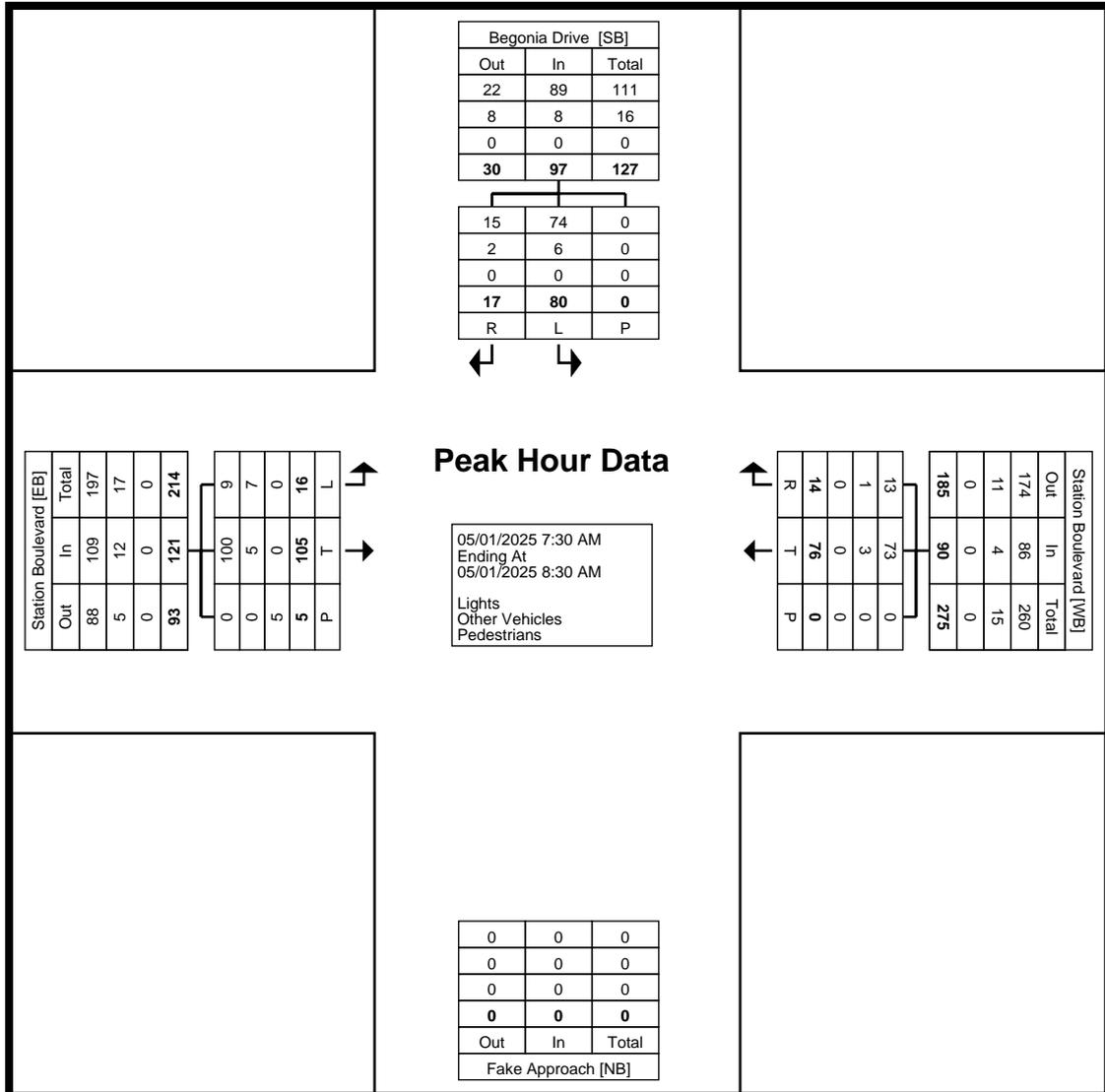
Turning Movement Data Plot



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Count Name: 2 Begonia Drive &
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 Site Code:
 Start Date: 05/01/2025
 Page No: 4

Counter: MIO:
 Set up By JH::



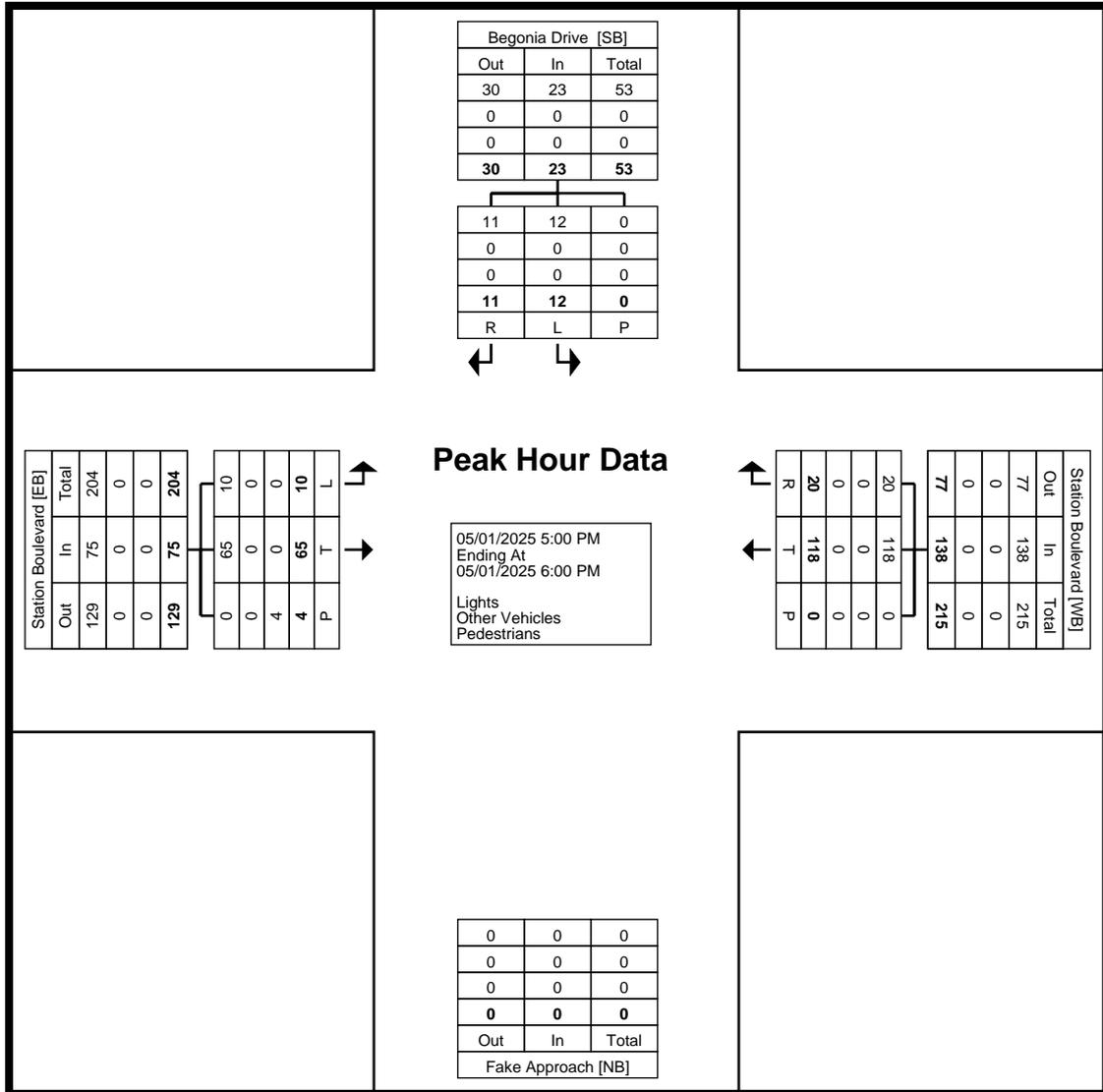
Turning Movement Peak Hour Data Plot (7:30 AM)



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Count Name: 2 Begonia Drive &
 Station Blvd
 Site Code:
 Start Date: 05/01/2025
 Page No: 6

Counter: MIO:
 Set up By JH::



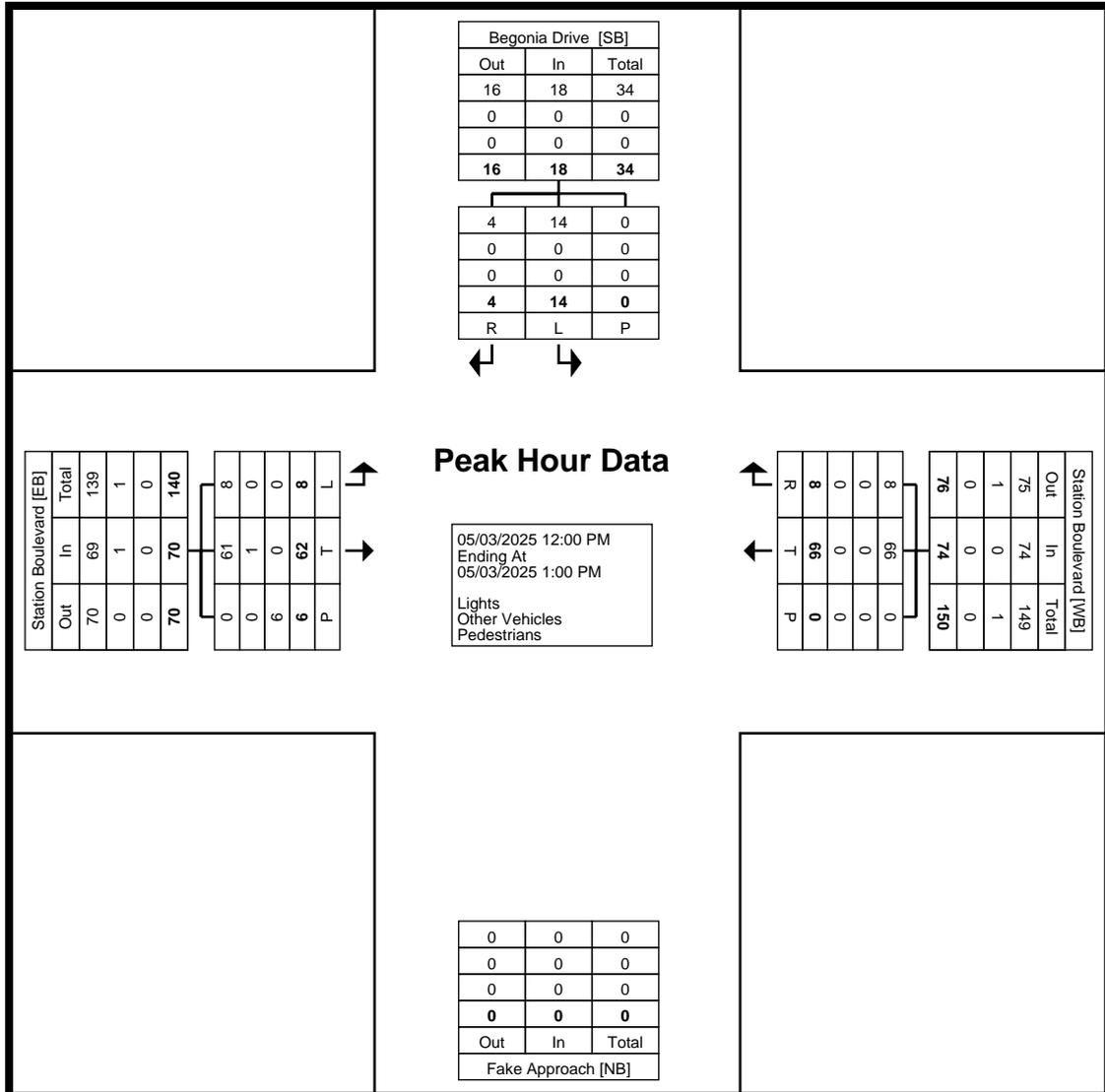
Turning Movement Peak Hour Data Plot (5:00 PM)



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Count Name: 2 Begonia Drive &
 Station Blvd
 Site Code:
 Start Date: 05/01/2025
 Page No: 8

Counter: MIO:
 Set up By JH::



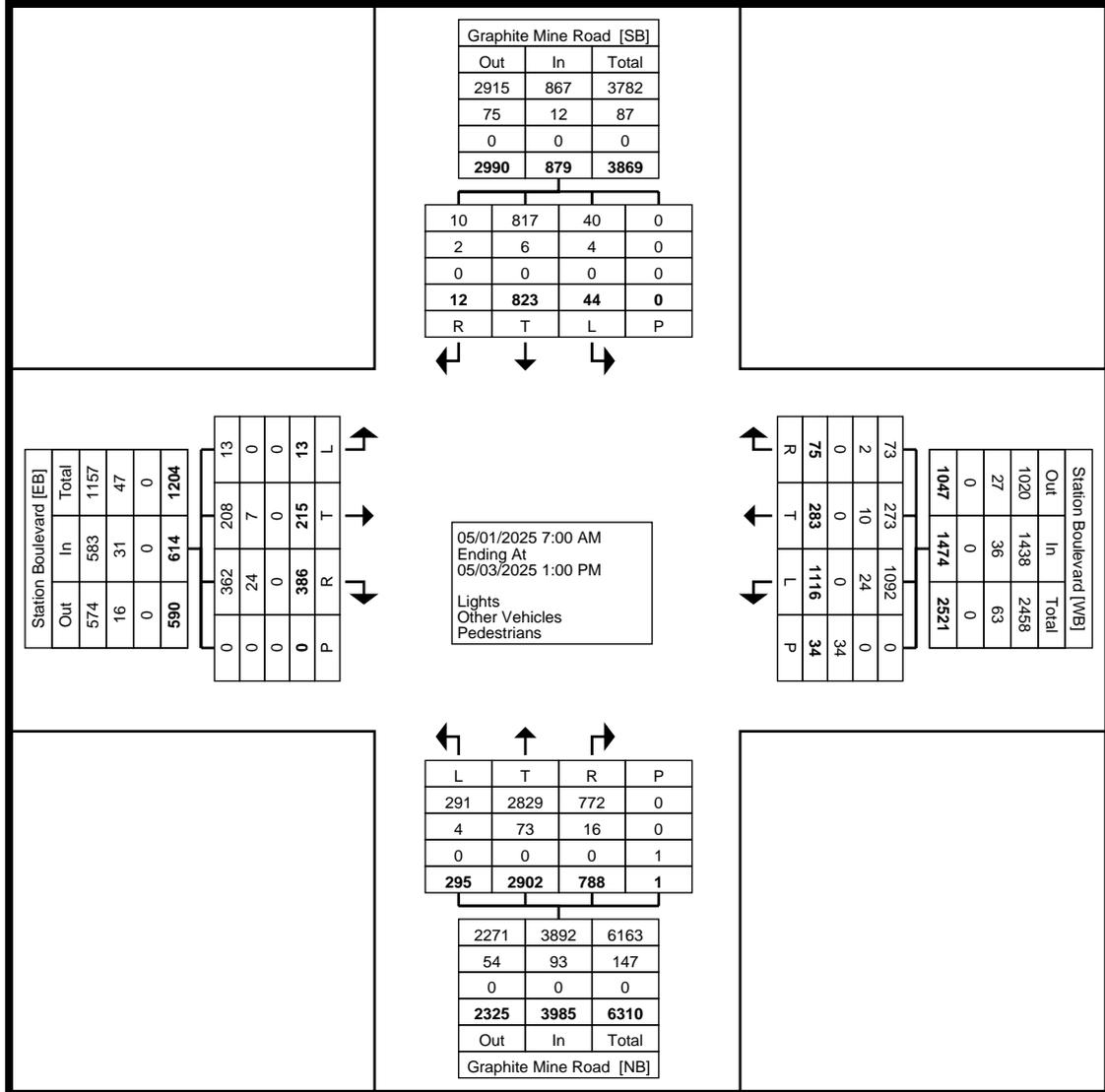
Turning Movement Peak Hour Data Plot (12:00 PM)



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Count Name: 3 Graphite Mine Road
 & Station Blvd
 Site Code:
 Start Date: 05/01/2025
 Page No: 2

Counter: MIO:
 Set up By JH::



Turning Movement Data Plot



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Count Name: 3 Graphite Mine Road
 & Station Blvd
 Site Code:
 Start Date: 05/01/2025
 Page No: 3

Counter: MIO:
 Set up By JH::

Turning Movement Peak Hour Data (8:00 AM)

Start Time	Station Boulevard Eastbound						Station Boulevard Westbound						Graphite Mine Road Northbound						Graphite Mine Road Southbound						Int. Total
	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	
8:00 AM	0	6	9	13	0	28	66	7	1	1	0	75	11	73	21	8	0	113	0	15	1	0	0	16	232
8:15 AM	0	8	26	10	0	44	65	8	3	2	1	78	10	71	15	4	0	100	1	5	0	0	0	6	228
8:30 AM	0	11	27	4	0	42	81	16	3	0	0	100	5	81	17	2	0	105	0	18	0	0	0	18	265
8:45 AM	1	7	28	9	0	45	86	15	3	1	1	105	16	74	22	3	0	115	0	12	0	0	0	12	277
Total	1	32	90	36	0	159	298	46	10	4	2	358	42	299	75	17	0	433	1	50	1	0	0	52	1002
Approach %	0.6	20.1	56.6	22.6	-	-	83.2	12.8	2.8	1.1	-	-	9.7	69.1	17.3	3.9	-	-	1.9	96.2	1.9	0.0	-	-	-
Total %	0.1	3.2	9.0	3.6	-	15.9	29.7	4.6	1.0	0.4	-	35.7	4.2	29.8	7.5	1.7	-	43.2	0.1	5.0	0.1	0.0	-	5.2	-
PHF	0.250	0.727	0.804	0.692	-	0.883	0.866	0.719	0.833	0.500	-	0.852	0.656	0.923	0.852	0.531	-	0.941	0.250	0.694	0.250	0.000	-	0.722	0.904
Lights	1	28	82	31	-	142	291	44	10	4	-	349	39	274	73	15	-	401	1	49	1	0	-	51	943
% Lights	100.0	87.5	91.1	86.1	-	89.3	97.7	95.7	100.0	100.0	-	97.5	92.9	91.6	97.3	88.2	-	92.6	100.0	98.0	100.0	-	-	98.1	94.1
Other Vehicles	0	4	8	5	-	17	7	2	0	0	-	9	3	25	2	2	-	32	0	1	0	0	-	1	59
% Other Vehicles	0.0	12.5	8.9	13.9	-	10.7	2.3	4.3	0.0	0.0	-	2.5	7.1	8.4	2.7	11.8	-	7.4	0.0	2.0	0.0	-	-	1.9	5.9
Pedestrians	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Traffic Planning and Design, Inc
 2500 East High Street
 Suite 650
 Pottstown, Pennsylvania, United States 19464
 610.326.3100

Count Name: 3 Graphite Mine Road
 & Station Blvd
 Site Code:
 Start Date: 05/01/2025
 Page No: 5

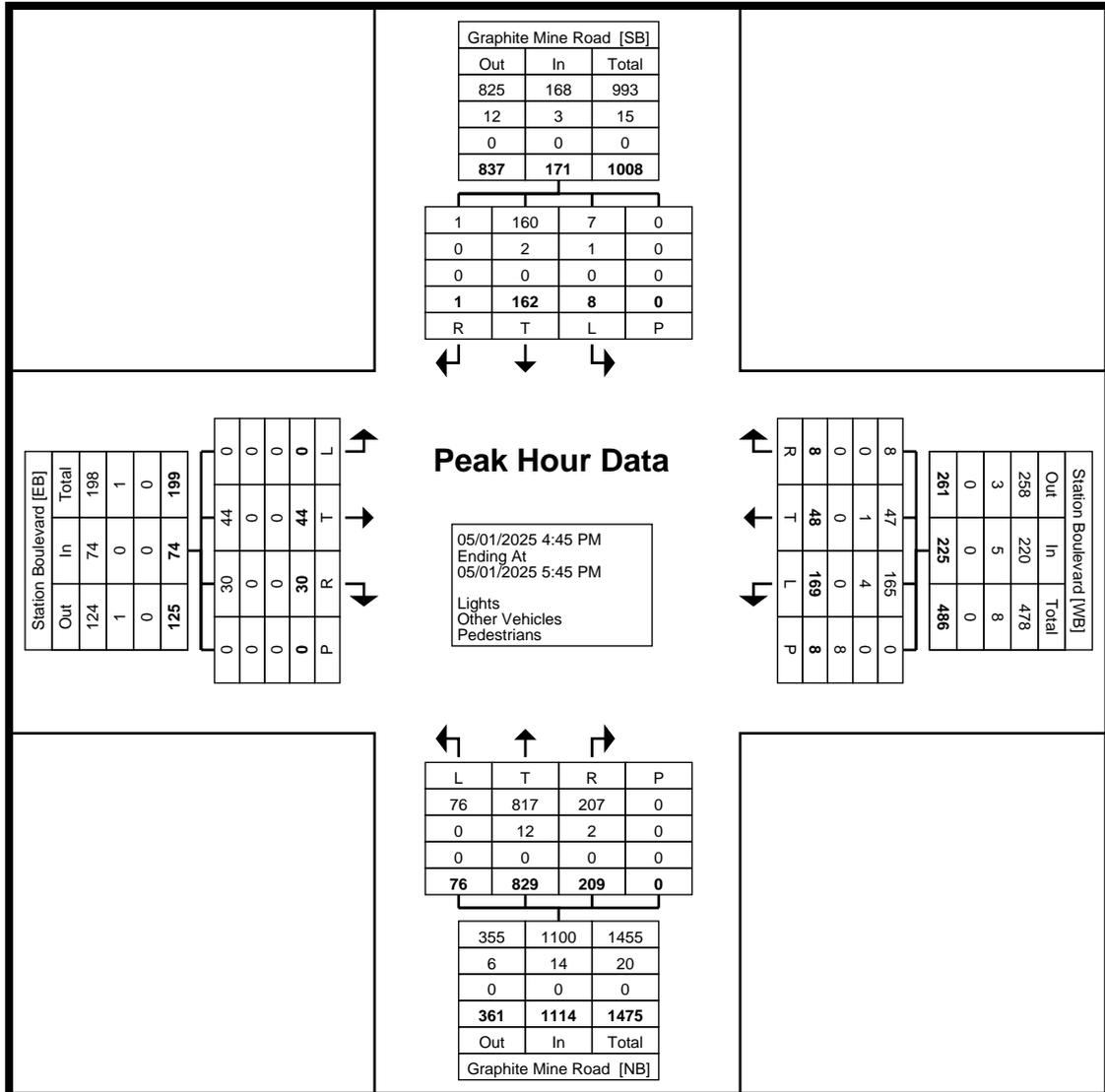
Counter: MIO:
 Set up By JH::

Turning Movement Peak Hour Data (4:45 PM)

Start Time	Station Boulevard Eastbound						Station Boulevard Westbound						Graphite Mine Road Northbound						Graphite Mine Road Southbound						Int. Total
	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	
4:45 PM	0	10	5	2	0	17	49	14	0	1	1	64	13	216	37	11	0	277	3	41	0	1	0	45	403
5:00 PM	0	14	4	6	0	24	37	12	3	0	2	52	29	202	46	7	0	284	3	42	0	0	0	45	405
5:15 PM	0	7	4	1	0	12	46	10	1	0	2	57	16	225	44	11	0	296	0	48	0	0	0	48	413
5:30 PM	0	13	4	4	0	21	37	12	3	0	3	52	18	186	45	8	0	257	2	31	0	0	0	33	363
Total	0	44	17	13	0	74	169	48	7	1	8	225	76	829	172	37	0	1114	8	162	0	1	0	171	1584
Approach %	0.0	59.5	23.0	17.6	-	-	75.1	21.3	3.1	0.4	-	-	6.8	74.4	15.4	3.3	-	-	4.7	94.7	0.0	0.6	-	-	-
Total %	0.0	2.8	1.1	0.8	-	4.7	10.7	3.0	0.4	0.1	-	14.2	4.8	52.3	10.9	2.3	-	70.3	0.5	10.2	0.0	0.1	-	10.8	-
PHF	0.000	0.786	0.850	0.542	-	0.771	0.862	0.857	0.583	0.250	-	0.879	0.655	0.921	0.935	0.841	-	0.941	0.667	0.844	0.000	0.250	-	0.891	0.959
Lights	0	44	17	13	-	74	165	47	7	1	-	220	76	817	170	37	-	1100	7	160	0	1	-	168	1562
% Lights	-	100.0	100.0	100.0	-	100.0	97.6	97.9	100.0	100.0	-	97.8	100.0	98.6	98.8	100.0	-	98.7	87.5	98.8	-	100.0	-	98.2	98.6
Other Vehicles	0	0	0	0	-	0	4	1	0	0	-	5	0	12	2	0	-	14	1	2	0	0	-	3	22
% Other Vehicles	-	0.0	0.0	0.0	-	0.0	2.4	2.1	0.0	0.0	-	2.2	0.0	1.4	1.2	0.0	-	1.3	12.5	1.2	-	0.0	-	1.8	1.4
Pedestrians	-	-	-	-	0	-	-	-	-	-	8	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Counter: MIO:
 Set up By JH.:



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



Traffic Planning and Design, Inc
 2500 East High Street
 Suite 650
 Pottstown, Pennsylvania, United States 19464
 610.326.3100

Count Name: 3 Graphite Mine Road
 & Station Blvd
 Site Code:
 Start Date: 05/01/2025
 Page No: 7

Counter: MIO:
 Set up By JH::

Turning Movement Peak Hour Data (12:00 PM)

Start Time	Station Boulevard Eastbound						Station Boulevard Westbound						Graphite Mine Road Northbound						Graphite Mine Road Southbound						Int. Total
	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	
12:00 PM	0	10	6	4	0	20	28	5	2	0	1	35	10	119	34	0	0	163	2	49	1	0	0	52	270
12:15 PM	1	8	3	3	0	15	31	9	1	1	2	42	12	122	32	0	0	166	3	104	4	0	0	111	334
12:30 PM	1	12	3	5	0	21	21	7	1	1	0	30	8	113	26	0	0	147	2	56	0	0	0	58	256
12:45 PM	0	17	2	3	0	22	32	4	1	2	1	39	14	114	33	0	0	161	7	45	0	0	0	52	274
Total	2	47	14	15	0	78	112	25	5	4	4	146	44	468	125	0	0	637	14	254	5	0	0	273	1134
Approach %	2.6	60.3	17.9	19.2	-	-	76.7	17.1	3.4	2.7	-	-	6.9	73.5	19.6	0.0	-	-	5.1	93.0	1.8	0.0	-	-	-
Total %	0.2	4.1	1.2	1.3	-	6.9	9.9	2.2	0.4	0.4	-	12.9	3.9	41.3	11.0	0.0	-	56.2	1.2	22.4	0.4	0.0	-	24.1	-
PHF	0.500	0.691	0.583	0.750	-	0.886	0.875	0.694	0.625	0.500	-	0.869	0.786	0.959	0.919	0.000	-	0.959	0.500	0.611	0.313	0.000	-	0.615	0.849
Lights	2	47	14	14	-	77	112	25	5	4	-	146	44	462	123	0	-	629	13	252	5	0	-	270	1122
% Lights	100.0	100.0	100.0	93.3	-	98.7	100.0	100.0	100.0	100.0	-	100.0	100.0	98.7	98.4	-	-	98.7	92.9	99.2	100.0	-	-	98.9	98.9
Other Vehicles	0	0	0	1	-	1	0	0	0	0	-	0	0	6	2	0	-	8	1	2	0	0	-	3	12
% Other Vehicles	0.0	0.0	0.0	6.7	-	1.3	0.0	0.0	0.0	0.0	-	0.0	0.0	1.3	1.6	-	-	1.3	7.1	0.8	0.0	-	-	1.1	1.1
Pedestrians	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX C:

Volume Development Spreadsheets



TPD# CELE.00001
 5/27/2025
 Traffic Volumes Worksheet
 Intersection:
 Synchro Node:

Route 100 & Station Boulevard/Park Road									
1	Adjacent intersections:	West	0	East	2	North	0	South	5

Time Period: Weekday A.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
2025 Existing Counts	142	58	27	18	69	1	126	182	17	59	670	84	1453
Balancing													0
Existing Volumes (Balanced)	142	58	27	18	69	1	126	182	17	59	670	84	1453
Base growth (0.44% per year over 1 year)	1	0	0	0	0	0	1	1	0	0	3	0	6
Automotive Service Center								13			12		25
McKee-Fetters Tract	3	2	4		1		4	5			6		24
Byers Station Parcel 6C		1			1								2
100 Greenridge Road Residential Development								2			14		16
2026 Base (No-Build) Volumes	146	61	31	18	71	1	131	203	17	59	705	84	1526
New Trips		7		11	6	17			13	14			
Pass By Trips				16	6	6		-6	6	17	-17		
Total Trip Distribution	0	7	0	27	6	23	0	-6	19	31	-17	0	90
2026 Projected (Build) Volumes	146	68	31	45	77	24	131	197	36	90	688	84	1616

Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
2025 Existing Counts	169	53	12	14	96	4	286	433	14	3	536	132	1752
Balancing													0
Existing Volumes (Balanced)	169	53	12	14	96	4	286	433	14	3	536	132	1752
Base growth (0.44% per year over 1 year)	1	0	0	0	0	0	1	2	0	0	2	1	7
Automotive Service Center								7			23		30
McKee-Fetters Tract	2	1	2		2		7	9			5	1	29
Byers Station Parcel 6C		1			2								3
100 Greenridge Road Residential Development								7			9		16
2026 Base (No-Build) Volumes	172	55	14	14	100	4	294	458	14	3	575	134	1837
New Trips		8		17	9	27			15	16			
Pass By Trips				24	21	21		-22	22	25	-25		
Total Trip Distribution	0	8	0	41	9	48	0	-22	37	41	-25	0	137
2026 Projected (Build) Volumes	172	63	14	55	109	52	294	436	51	44	550	134	1974

Time Period: Saturday Midday Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
2025 Existing Counts	143	50	17	13	52	4	191	258	13	6	600	134	1481
Balancing													0
Existing Volumes (Balanced)	143	50	17	13	52	4	191	258	13	6	600	134	1481
Base growth (1.75% per year over 3 years)	1	0	0	0	0	0	1	1	0	0	3	1	7
Automotive Service Center								7			21		28
McKee-Fetters Tract	3	2	4		2		7	9			6		33
Byers Station Parcel 6C		1			2								3
100 Greenridge Road Residential Development								6			10		16
2026 Base (No-Build) Volumes	147	53	21	13	56	4	199	281	13	6	640	135	1568
New Trips		8		14	8	15			15	16			
Pass By Trips				18	10	10		-10	10	18	-18		
Total Trip Distribution	0	8	0	32	8	25	0	-10	25	34	-18	0	104
2026 Projected (Build) Volumes	147	61	21	45	64	29	199	271	38	40	622	135	1672

TPD# CELE.00001
 5/27/2025
 Traffic Volumes Worksheet
 Intersection:
 Synchro Node:

Graphite Mine Road & Station Boulevard												
2	Adjacent intersections:		West	0	East	2	North	0	South	5		

Time Period: Weekday A.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
2025 Existing Counts	1	32	126	298	46	14	42	299	92	1	50	1	1002
Balancing													0
Existing Volumes (Balanced)	1	32	126	298	46	14	42	299	92	1	50	1	1002
Base growth (0.44% per year over 1 year)	0	0	1	1	0	0	0	1	0	0	0	0	3
Automotive Service Center								21			1		22
McKee-Fetters Tract			2				1						3
Byers Station Parcel 6C			1	1			1	3	1		5		12
100 Greenridge Road Residential Development							4				1		5
2026 Base (No-Build) Volumes	1	32	130	300	46	14	44	328	93	1	57	1	1047
New Trips		4	10		5		13					8	
Pass By Trips													
Total Trip Distribution	0	4	10	0	5	0	13	0	0	0	0	8	40
2026 Projected (Build) Volumes	1	36	140	300	51	14	57	328	93	1	57	9	1087

Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
2025 Existing Counts	0	44	30	169	48	8	76	829	209	8	162	1	1584
Balancing													0
Existing Volumes (Balanced)	0	44	30	169	48	8	76	829	209	8	162	1	1584
Base growth (0.44% per year over 1 year)	0	0	0	1	0	0	0	4	1	0	1	0	7
Automotive Service Center								13			7		20
McKee-Fetters Tract			1				2						3
Byers Station Parcel 6C			1	1			2	6			4		14
100 Greenridge Road Residential Development							13				3		16
2026 Base (No-Build) Volumes	0	44	32	171	48	8	80	865	210	8	177	1	1644
New Trips		6	16		6		15					9	
Pass By Trips													
Total Trip Distribution	0	6	16	0	6	0	15	0	0	0	0	9	52
2026 Projected (Build) Volumes	0	50	48	171	54	8	95	865	210	8	177	10	1696

Time Period: Saturday Midday Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
2025 Existing Counts	2	47	29	112	25	9	44	468	125	14	254	5	1134
Balancing													0
Existing Volumes (Balanced)	2	47	29	112	25	9	44	468	125	14	254	5	1134
Base growth (0.44% per year over 1 year)	0	0	0	0	0	0	0	2	1	0	1	0	4
Automotive Service Center								13			9		22
McKee-Fetters Tract			2				2						4
Byers Station Parcel 6C			1	1			2	6	1		5		16
100 Greenridge Road Residential Development							10				4		14
2026 Base (No-Build) Volumes	2	47	32	113	25	9	48	499	127	14	273	5	1194
New Trips	8	5	14		6		15					9	
Pass By Trips													
Total Trip Distribution	8	5	14	0	6	0	15	0	0	0	0	9	57
2026 Projected (Build) Volumes	10	52	46	113	31	9	63	499	127	14	273	14	1251

TPD# CELE.00001
 5/27/2025
 Traffic Volumes Worksheet
 Intersection:
 Synchro Node:

Station Boulevard & Begonia Drive									
3	Adjacent intersections:	West	0	East	2	North	0	South	5

Time Period: Weekday A.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
2025 Existing Counts	16	105			76	14				80		17	308
Balancing													0
Existing Volumes (Balanced)	16	105	0	0	76	14	0	0	0	80	0	17	308
Base growth (0.44% per year over 1 year)	0	0	0	0	0	0	0	0	0	0	0	0	0
Automotive Service Center													0
McKee-Fetters Tract		2			1								3
Byers Station Parcel 6C		1			1								2
100 Greenridge Road Residential Development													0
2026 Base (No-Build) Volumes	16	108	0	0	78	14	0	0	0	80	0	17	313
New Trips	34					26				14		34	
Pass By Trips	25	-2			-2	2				2		23	
Total Trip Distribution	59	-2	0	0	-2	28	0	0	0	16	0	57	156
2026 Projected (Build) Volumes	75	106	0	0	76	42	0	0	0	96	0	74	469

Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
2025 Existing Counts	10	65			118	20				12		11	236
Balancing													0
Existing Volumes (Balanced)	10	65	0	0	118	20	0	0	0	12	0	11	236
Base growth (0.44% per year over 1 year)	0	0	0	0	1	0	0	0	0	0	0	0	1
Automotive Service Center													0
McKee-Fetters Tract		1			2								3
Byers Station Parcel 6C		1			2								3
100 Greenridge Road Residential Development													0
2026 Base (No-Build) Volumes	10	67	0	0	123	20	0	0	0	12	0	11	243
New Trips	39					30				22		53	
Pass By Trips	49	-2			-4	4				2		49	
Total Trip Distribution	88	-2	0	0	-4	34	0	0	0	24	0	102	242
2026 Projected (Build) Volumes	98	65	0	0	119	54	0	0	0	36	0	113	485

Time Period: Saturday Midday Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
2025 Existing Counts	8	62			66	8				14		4	162
Balancing													0
Existing Volumes (Balanced)	8	62	0	0	66	8	0	0	0	14	0	4	162
Base growth (0.44% per year over 1 year)	0	0	0	0	0	0	0	0	0	0	0	0	0
Automotive Service Center													0
McKee-Fetters Tract		2			2								4
Byers Station Parcel 6C		1			2								3
100 Greenridge Road Residential Development													0
2026 Base (No-Build) Volumes	8	65	0	0	70	8	0	0	0	14	0	4	169
New Trips	39					30				27		37	
Pass By Trips	30	-2			-1	1				1		30	
Total Trip Distribution	69	-2	0	0	-1	31	0	0	0	28	0	67	192
2026 Projected (Build) Volumes	77	63	0	0	69	39	0	0	0	42	0	71	361

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	CELE.01	Organization:	TPD
Project Location:	Upper Uwchlan Township	Performed By:	PG
Scenario Description:		Date:	
Analysis Year:		Checked By:	
Analysis Period:	AM Street Peak Hour	Date:	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office						
Retail	822	18	KSF	989	495	494
Restaurant	930	3	KSF	291	146	145
Cinema/Entertainment				0		
Residential				0		
Hotel				0		
All Other Land Uses ²	565	11	KSF	85	42	43
				1,365	683	682

Table 2-A: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses ²						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		64	0	0	0
Restaurant	0	20		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	1,365	683	682
Internal Capture Percentage	12%	12%	12%
External Vehicle-Trips ⁵	1,197	599	598
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	4%	13%
Restaurant	44%	14%
Cinema/Entertainment	N/A	N/A
Residential	N/A	N/A
Hotel	N/A	N/A

¹Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

²Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

³Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

⁴Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

⁵Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

⁶Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

NCHRP 684 Internal Trip Capture Estimation Tool					
Project Name:	CELE.01			Organization:	TPD
Project Location:	Upper Uwchlan Township			Performed By:	PG
Scenario Description:	Projected Conditions			Date:	
Analysis Year:	2026			Checked By:	
Analysis Period:	PM Street Peak Hour			Date:	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office						
Retail	822	18	KSF	989	495	494
Restaurant	930	3	KSF	291	146	145
Cinema/Entertainment				0		
Residential				0		
Hotel				0		
All Other Land Uses ²	565	11	KSF	85	42	43
				1,365	683	682

Table 2-P: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses ²						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		42	0	0	0
Restaurant	0	59		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	1,365	683	682
Internal Capture Percentage	15%	15%	15%
External Vehicle-Trips ⁵	1,163	582	581
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	12%	9%
Restaurant	29%	41%
Cinema/Entertainment	N/A	N/A
Residential	N/A	N/A
Hotel	N/A	N/A

¹Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

²Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

³Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

⁴Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made.

⁵Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

⁶Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

APPENDIX D:

Capacity Analysis Worksheets



Existing Conditions



1: Pottstown Pike & Park Road/Station Boulevard

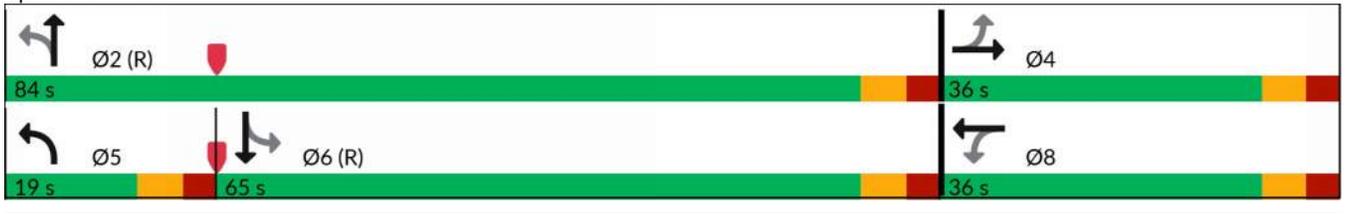
Existing Conditions
Timing Plan: Weekday AM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	142	58	27	18	69	1	126	182	17	59	670	84
Future Volume (vph)	142	58	27	18	69	1	126	182	17	59	670	84
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	13	13	12	14	14	11	11	11	11	11	11
Grade (%)		-4%			3%			-4%			3%	
Storage Length (ft)	75		0	114		0	355		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes				Yes			Yes		Yes
Link Speed (mph)		35			30			35			35	
Link Distance (ft)		650			405			444			409	
Travel Time (s)		12.7			9.2			8.6			8.0	
Confl. Peds. (#/hr)									1	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	7%	3%	4%	0%	3%	0%	12%	10%	18%	10%	4%	7%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8			5		2		6
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	15.0		15.0	15.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		10.0	30.0		30.0	30.0	
Total Split (s)	36.0	36.0		36.0	36.0		19.0	84.0		65.0	65.0	
Total Split (%)	30.0%	30.0%		30.0%	30.0%		15.8%	70.0%		54.2%	54.2%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		C-Min	C-Min	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 74 (62%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Pottstown Pike & Park Road/Station Boulevard



Lanes, Volumes, Timings

C:\Box\Active\CELE\00001 - Byers Station\Planning\TIA\2025-05-19 Modified Trip Gen\CapAnal\XAM.syn

Synchro 12 Report

05/27/2025

1: Pottstown Pike & Park Road/Station Boulevard

Existing Conditions
Timing Plan: Weekday AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	58	27	18	69	1	126	182	17	59	670	84
Future Volume (veh/h)	142	58	27	18	69	1	126	182	17	59	670	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1850	1983	1968	1750	1776	1820	1778	1807	1693	1609	1694	1652
Adj Flow Rate, veh/h	151	62	29	19	73	1	134	194	18	63	713	89
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	7	3	4	0	3	0	12	10	18	10	4	7
Cap, veh/h	251	231	108	235	316	4	320	1171	109	676	904	113
Arrive On Green	0.18	0.18	0.17	0.06	0.06	0.06	0.06	0.72	0.71	0.61	0.61	0.60
Sat Flow, veh/h	1311	1278	598	1221	1748	24	1694	1628	151	1006	1476	184
Grp Volume(v), veh/h	151	0	91	19	0	74	134	0	212	63	0	802
Grp Sat Flow(s),veh/h/ln	1311	0	1875	1221	0	1772	1694	0	1780	1006	0	1660
Q Serve(g_s), s	13.3	0.0	5.0	1.8	0.0	4.8	3.2	0.0	4.6	3.1	0.0	43.5
Cycle Q Clear(g_c), s	17.6	0.0	5.0	6.3	0.0	4.8	3.2	0.0	4.6	3.1	0.0	43.5
Prop In Lane	1.00		0.32	1.00		0.01	1.00		0.08	1.00		0.11
Lane Grp Cap(c), veh/h	251	0	339	235	0	321	320	0	1279	676	0	1017
V/C Ratio(X)	0.60	0.00	0.27	0.08	0.00	0.23	0.42	0.00	0.17	0.09	0.00	0.79
Avail Cap(c_a), veh/h	341	0	469	319	0	443	407	0	1279	676	0	1017
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.5	0.0	42.4	51.3	0.0	48.5	17.2	0.0	5.4	9.6	0.0	17.5
Incr Delay (d2), s/veh	2.3	0.0	0.4	0.1	0.0	0.4	0.9	0.0	0.3	0.3	0.0	6.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.0	0.0	4.2	1.0	0.0	4.0	3.0	0.0	2.9	1.3	0.0	23.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	51.8	0.0	42.9	51.5	0.0	48.8	18.0	0.0	5.7	9.9	0.0	23.7
LnGrp LOS	D		D	D		D	B		A	A		C
Approach Vol, veh/h		242			93			346				865
Approach Delay, s/veh		48.5			49.4			10.5				22.7
Approach LOS		D			D			B				C
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		92.3		27.7	12.8	79.5		27.7				
Change Period (Y+Rc), s		7.0		7.0	7.0	7.0		7.0				
Max Green Setting (Gmax), s		77.0		29.0	12.0	58.0		29.0				
Max Q Clear Time (g_c+I1), s		6.6		20.1	5.7	45.5		8.8				
Green Ext Time (p_c), s		1.3		0.6	0.2	4.8		0.4				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			25.6									
HCM 6th LOS			C									

2: Graphite Mine Road & Station Boulevard

Existing Conditions
Timing Plan: Weekday AM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	32	126	298	46	14	42	299	92	1	50	1
Future Volume (vph)	1	32	126	298	46	14	42	299	92	1	50	1
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	14	14	12	14	14	12	12	14	11	12	12
Grade (%)		0%			1%			-2%			2%	
Storage Length (ft)	100		0	210		0	95		95	90		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes				Yes			Yes		
Link Speed (mph)		30			25			40			40	
Link Distance (ft)		601			192			486			211	
Travel Time (s)		13.7			5.2			8.3			3.6	
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	13%	10%	2%	4%	0%	7%	8%	4%	0%	2%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		33.0	33.0	33.0	33.0	33.0	
Total Split (s)	55.0	55.0		55.0	55.0		65.0	65.0	65.0	65.0	65.0	
Total Split (%)	45.8%	45.8%		45.8%	45.8%		54.2%	54.2%	54.2%	54.2%	54.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min	C-Min	C-Min	C-Min	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 9 (8%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 2: Graphite Mine Road & Station Boulevard



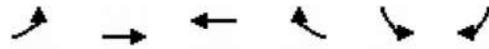
2: Graphite Mine Road & Station Boulevard

Existing Conditions
Timing Plan: Weekday AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	32	126	298	46	14	42	299	92	1	50	1
Future Volume (veh/h)	1	32	126	298	46	14	42	299	92	1	50	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1682	1726	1766	1808	1866	1775	1761	1890	1778	1750	1778
Adj Flow Rate, veh/h	1	36	140	331	51	16	47	332	102	1	56	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	13	10	2	4	0	7	8	4	0	2	0
Cap, veh/h	539	118	460	419	519	163	712	922	837	434	897	16
Arrive On Green	0.39	0.39	0.38	0.39	0.39	0.38	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1284	301	1171	1141	1319	414	1276	1761	1599	907	1713	31
Grp Volume(v), veh/h	1	0	176	331	0	67	47	332	102	1	0	57
Grp Sat Flow(s),veh/h/ln	1284	0	1471	1141	0	1733	1276	1761	1599	907	0	1744
Q Serve(g_s), s	0.1	0.0	10.0	33.6	0.0	2.9	2.2	13.3	3.9	0.1	0.0	1.9
Cycle Q Clear(g_c), s	2.5	0.0	10.0	43.1	0.0	2.9	3.7	13.3	3.9	13.4	0.0	1.9
Prop In Lane	1.00		0.80	1.00		0.24	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	539	0	579	419	0	682	712	922	837	434	0	913
V/C Ratio(X)	0.00	0.00	0.30	0.79	0.00	0.10	0.07	0.36	0.12	0.00	0.00	0.06
Avail Cap(c_a), veh/h	569	0	613	445	0	722	712	922	837	434	0	913
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.6	0.0	25.4	39.7	0.0	23.1	14.9	16.8	14.6	20.7	0.0	14.1
Incr Delay (d2), s/veh	0.0	0.0	0.3	8.9	0.0	0.1	0.2	1.1	0.3	0.0	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	6.4	15.7	0.0	2.2	1.2	9.2	2.6	0.0	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.6	0.0	25.7	48.6	0.0	23.1	15.0	17.9	14.9	20.7	0.0	14.2
LnGrp LOS	C		C	D		C	B	B	B	C		B
Approach Vol, veh/h		177			398			481				58
Approach Delay, s/veh		25.7			44.3			17.0				14.3
Approach LOS		C			D			B				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		67.8		52.2		67.8		52.2				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		59.0		49.0		59.0		49.0				
Max Q Clear Time (g_c+I1), s		15.8		12.0		15.9		45.6				
Green Ext Time (p_c), s		2.5		1.2		0.3		0.6				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				28.0								
HCM 6th LOS				C								
Notes												
User approved pedestrian interval to be less than phase max green.												

3: Station Boulevard & Driveway

Existing Conditions
Timing Plan: Weekday AM Peak



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	16	105	76	14	80	17
Future Volume (vph)	16	105	76	14	80	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	3%		0%	
Link Speed (mph)		30	25		30	
Link Distance (ft)		405	601		221	
Travel Time (s)		9.2	16.4		5.0	
Confl. Peds. (#/hr)						5
Peak Hour Factor	0.65	0.65	0.65	0.65	0.65	0.65
Heavy Vehicles (%)	44%	5%	4%	7%	8%	12%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

3: Station Boulevard & Driveway

Existing Conditions
Timing Plan: Weekday AM Peak

Intersection						
Int Delay, s/veh	4.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	105	76	14	80	17
Future Vol, veh/h	16	105	76	14	80	17
Conflicting Peds, #/hr	0	0	0	0	0	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	3	-	0	-
Peak Hour Factor	65	65	65	65	65	65
Heavy Vehicles, %	44	5	4	7	8	12
Mvmt Flow	25	162	117	22	123	26

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	139	0	-	0	340
Stage 1	-	-	-	-	128
Stage 2	-	-	-	-	212
Critical Hdwy	4.54	-	-	-	6.48
Critical Hdwy Stg 1	-	-	-	-	5.48
Critical Hdwy Stg 2	-	-	-	-	5.48
Follow-up Hdwy	2.596	-	-	-	3.572
Pot Cap-1 Maneuver	1223	-	-	-	644
Stage 1	-	-	-	-	883
Stage 2	-	-	-	-	809
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1223	-	-	-	631
Mov Cap-2 Maneuver	-	-	-	-	631
Stage 1	-	-	-	-	865
Stage 2	-	-	-	-	809

Approach	EB	WB	SB
HCM Control Delay, s/v	1.1	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1223	-	-	-	665
HCM Lane V/C Ratio	0.02	-	-	-	0.224
HCM Control Delay (s/veh)	8	-	-	-	12
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q (veh)	0.1	-	-	-	0.9

1: Pottstown Pike & Park Road/Station Boulevard

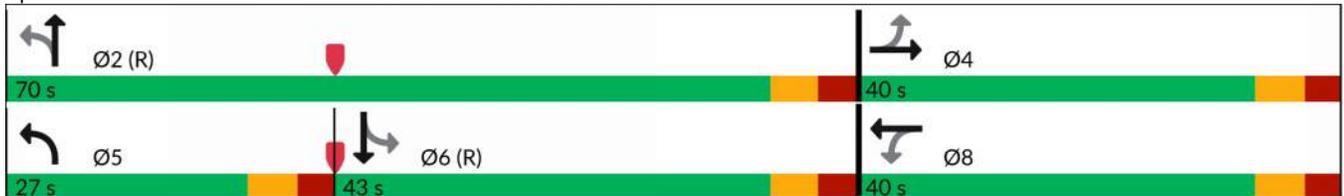
Existing Conditions
Timing Plan: Weekday PM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	169	53	12	14	96	4	286	433	14	3	536	132
Future Volume (vph)	169	53	12	14	96	4	286	433	14	3	536	132
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	13	13	12	14	14	11	11	11	11	11	11
Grade (%)		-4%			3%			-4%			3%	
Storage Length (ft)	75		0	114		0	355		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes				Yes			Yes		
Link Speed (mph)		35			30			35			35	
Link Distance (ft)		650			344			444			499	
Travel Time (s)		12.7			7.8			8.6			9.7	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	4%	0%	0%	1%	0%	2%	2%	0%	0%	2%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8			5		2		
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	15.0		15.0	15.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	30.0		30.0	30.0	
Total Split (s)	40.0	40.0		40.0	40.0		27.0	70.0		43.0	43.0	
Total Split (%)	36.4%	36.4%		36.4%	36.4%		24.5%	63.6%		39.1%	39.1%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag		Lag
Lead-Lag Optimize?							Yes			Yes		Yes
Recall Mode	None	None		None	None		None	C-Min		C-Min	C-Min	

Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 12 (11%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Pottstown Pike & Park Road/Station Boulevard



1: Pottstown Pike & Park Road/Station Boulevard

Existing Conditions
Timing Plan: Weekday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	169	53	12	14	96	4	286	433	14	3	536	132
Future Volume (veh/h)	169	53	12	14	96	4	286	433	14	3	536	132
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1935	1968	2027	1750	1805	1820	1921	1921	1949	1750	1722	1750
Adj Flow Rate, veh/h	172	54	12	14	98	4	292	442	14	3	547	135
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	4	0	0	1	0	2	2	0	0	2	0
Cap, veh/h	282	306	68	280	338	14	424	1286	41	537	718	177
Arrive On Green	0.20	0.20	0.19	0.39	0.39	0.37	0.10	0.69	0.69	0.54	0.54	0.53
Sat Flow, veh/h	1337	1559	346	1249	1722	70	1829	1851	59	875	1333	329
Grp Volume(v), veh/h	172	0	66	14	0	102	292	0	456	3	0	682
Grp Sat Flow(s),veh/h/ln	1337	0	1905	1249	0	1793	1829	0	1910	875	0	1662
Q Serve(g_s), s	13.6	0.0	3.2	0.8	0.0	4.3	7.0	0.0	10.5	0.2	0.0	35.4
Cycle Q Clear(g_c), s	17.4	0.0	3.2	3.5	0.0	4.3	7.0	0.0	10.5	0.2	0.0	35.4
Prop In Lane	1.00		0.18	1.00		0.04	1.00		0.03	1.00		0.20
Lane Grp Cap(c), veh/h	282	0	374	280	0	352	424	0	1327	537	0	896
V/C Ratio(X)	0.61	0.00	0.18	0.05	0.00	0.29	0.69	0.00	0.34	0.01	0.00	0.76
Avail Cap(c_a), veh/h	433	0	589	421	0	554	587	0	1327	537	0	896
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.4	0.0	36.9	28.8	0.0	28.2	17.6	0.0	6.7	11.7	0.0	19.9
Incr Delay (d2), s/veh	2.1	0.0	0.2	0.1	0.0	0.5	2.0	0.0	0.7	0.0	0.0	6.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.1	0.0	2.7	0.4	0.0	3.2	6.5	0.0	7.2	0.1	0.0	20.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	46.5	0.0	37.1	28.9	0.0	28.7	19.6	0.0	7.4	11.8	0.0	26.0
LnGrp LOS	D		D	C		C	B		A	B		C
Approach Vol, veh/h		238			116			748				685
Approach Delay, s/veh		43.9			28.7			12.2				26.0
Approach LOS		D			C			B				C
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		82.4		27.6	17.2	65.3		27.6				
Change Period (Y+Rc), s		7.0		7.0	7.0	7.0		7.0				
Max Green Setting (Gmax), s		63.0		33.0	20.0	36.0		33.0				
Max Q Clear Time (g_c+I1), s		12.5		19.9	9.5	37.4		6.3				
Green Ext Time (p_c), s		3.1		0.7	0.6	0.0		0.6				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			22.8									
HCM 6th LOS			C									

2: Graphite Mine Road & Station Boulevard

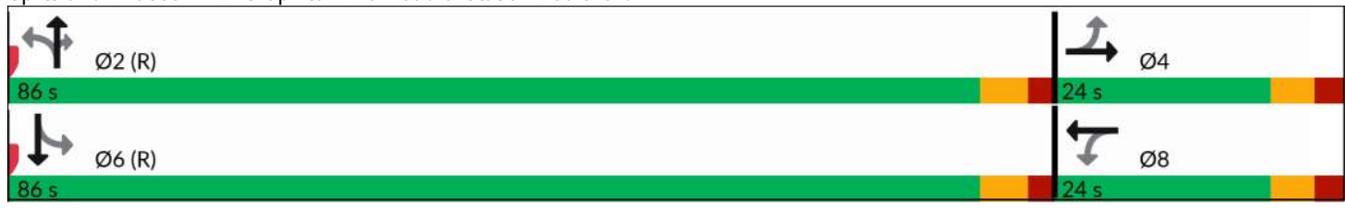
Existing Conditions
Timing Plan: Weekday PM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	44	30	169	48	8	76	829	209	8	162	1
Future Volume (vph)	0	44	30	169	48	8	76	829	209	8	162	1
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	14	14	12	14	14	12	12	14	11	12	12
Grade (%)		0%			1%			-2%			2%	
Storage Length (ft)	100		0	210		0	95		95	90		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			40			40	
Link Distance (ft)		661			192			486			211	
Travel Time (s)		15.0			5.2			8.3			3.6	
Confl. Peds. (#/hr)									8	8		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	2%	2%	0%	0%	1%	1%	13%	1%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		33.0	33.0	33.0	33.0	33.0	
Total Split (s)	24.0	24.0		24.0	24.0		86.0	86.0	86.0	86.0	86.0	
Total Split (%)	21.8%	21.8%		21.8%	21.8%		78.2%	78.2%	78.2%	78.2%	78.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min	C-Min	C-Min	C-Min	

Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 53 (48%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 2: Graphite Mine Road & Station Boulevard



Lanes, Volumes, Timings

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Synchro 12 Report

05/27/2025

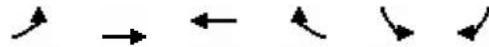
2: Graphite Mine Road & Station Boulevard

Existing Conditions
Timing Plan: Weekday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	44	30	169	48	8	76	829	209	8	162	1
Future Volume (veh/h)	0	44	30	169	48	8	76	829	209	8	162	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1872	1872	1766	1837	1866	1875	1860	1935	1595	1764	1778
Adj Flow Rate, veh/h	0	46	31	176	50	8	79	864	218	8	169	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	2	2	0	0	1	1	13	1	0
Cap, veh/h	65	180	121	239	267	43	930	1370	1201	291	1290	8
Arrive On Green	0.00	0.17	0.16	0.17	0.17	0.16	0.74	0.74	0.74	0.74	0.74	0.73
Sat Flow, veh/h	1295	1043	703	1249	1545	247	1213	1860	1631	445	1751	10
Grp Volume(v), veh/h	0	0	77	176	0	58	79	864	218	8	0	170
Grp Sat Flow(s),veh/h/ln	1295	0	1746	1249	0	1792	1213	1860	1631	445	0	1762
Q Serve(g_s), s	0.0	0.0	4.2	15.3	0.0	3.0	2.2	25.1	4.5	1.0	0.0	3.1
Cycle Q Clear(g_c), s	0.0	0.0	4.2	19.0	0.0	3.0	4.8	25.1	4.5	26.1	0.0	3.1
Prop In Lane	1.00		0.40	1.00		0.14	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	65	0	301	239	0	310	930	1370	1201	291	0	1297
V/C Ratio(X)	0.00	0.00	0.26	0.74	0.00	0.19	0.08	0.63	0.18	0.03	0.00	0.13
Avail Cap(c_a), veh/h	65	0	301	239	0	310	930	1370	1201	291	0	1297
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	39.6	47.5	0.0	39.0	4.9	7.1	4.4	13.6	0.0	4.2
Incr Delay (d2), s/veh	0.0	0.0	0.4	11.3	0.0	0.3	0.2	2.2	0.3	0.2	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	3.3	9.5	0.0	2.5	0.9	13.2	2.3	0.2	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	40.0	58.7	0.0	39.2	5.0	9.4	4.7	13.7	0.0	4.4
LnGrp LOS			D	E		D	A	A	A	B		A
Approach Vol, veh/h		77			234			1161				178
Approach Delay, s/veh		40.0			53.9			8.2				4.9
Approach LOS		D			D			A				A
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		86.0		24.0		86.0		24.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		80.0		18.0		80.0		18.0				
Max Q Clear Time (g_c+I1), s		27.6		6.2		28.6		21.5				
Green Ext Time (p_c), s		9.1		0.2		1.1		0.0				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				15.8								
HCM 6th LOS				B								

3: Station Boulevard & Driveway

Existing Conditions
Timing Plan: Weekday PM Peak



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	65	118	20	12	11
Future Volume (vph)	10	65	118	20	12	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	3%		0%	
Link Speed (mph)		30	25		30	
Link Distance (ft)		344	661		224	
Travel Time (s)		7.8	18.0		5.1	
Confl. Peds. (#/hr)						4
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized

3: Station Boulevard & Driveway

Existing Conditions
Timing Plan: Weekday PM Peak

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	65	118	20	12	11
Future Vol, veh/h	10	65	118	20	12	11
Conflicting Peds, #/hr	0	0	0	0	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	3	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	73	133	22	13	12

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	155	0	-	0	239 148
Stage 1	-	-	-	-	144 -
Stage 2	-	-	-	-	95 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1438	-	-	-	754 904
Stage 1	-	-	-	-	888 -
Stage 2	-	-	-	-	934 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1438	-	-	-	748 901
Mov Cap-2 Maneuver	-	-	-	-	748 -
Stage 1	-	-	-	-	881 -
Stage 2	-	-	-	-	934 -

Approach	EB	WB	SB
HCM Control Delay, s/v	1	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1438	-	-	-	814
HCM Lane V/C Ratio	0.008	-	-	-	0.032
HCM Control Delay (s/veh)	7.5	-	-	-	9.6
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q (veh)	0	-	-	-	0.1

1: Pottstown Pike & Park Road/Station Boulevard

Existing Conditions

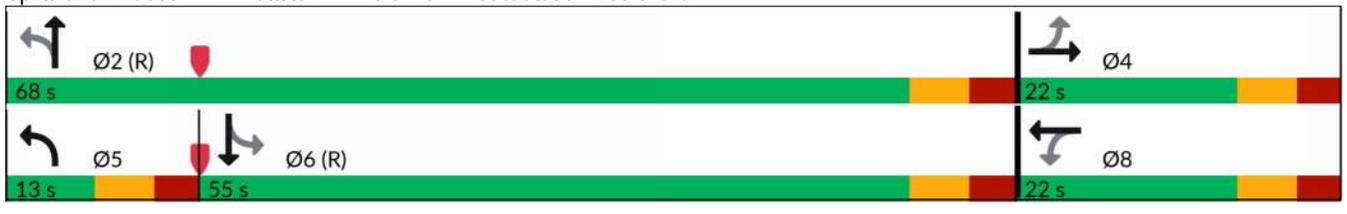
Timing Plan: Saturday MIDDAY

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	143	50	17	13	52	4	191	258	13	6	600	134
Future Volume (vph)	143	50	17	13	52	4	191	258	13	6	600	134
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	13	13	12	14	14	11	11	11	11	11	11
Grade (%)		-4%			3%			0%			3%	
Storage Length (ft)	75		0	114		0	355		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes				Yes			Yes		Yes
Link Speed (mph)		35			25			35			35	
Link Distance (ft)		650			383			444			509	
Travel Time (s)		12.7			10.4			8.6			9.9	
Confl. Peds. (#/hr)			1	1			3					3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	1%	8%	0%	1%	2%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8			5	2		6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	15.0		15.0	15.0	
Minimum Split (s)	10.0	10.0		10.0	10.0		11.0	23.0		23.0	23.0	
Total Split (s)	22.0	22.0		22.0	22.0		13.0	68.0		55.0	55.0	
Total Split (%)	24.4%	24.4%		24.4%	24.4%		14.4%	75.6%		61.1%	61.1%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		C-Min	C-Min	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 26 (29%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Pottstown Pike & Park Road/Station Boulevard



Lanes, Volumes, Timings

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Synchro 12 Report

05/27/2025

1: Pottstown Pike & Park Road/Station Boulevard

Existing Conditions

Timing Plan: Saturday Midday

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	50	17	13	52	4	191	258	13	6	600	134
Future Volume (veh/h)	143	50	17	13	52	4	191	258	13	6	600	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1921	2027	2027	1750	1820	1820	1800	1786	1688	1750	1736	1722
Adj Flow Rate, veh/h	147	52	18	13	54	4	197	266	13	6	619	138
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	0	0	0	0	0	0	1	8	0	1	2
Cap, veh/h	276	237	82	252	275	20	349	1185	58	653	766	171
Arrive On Green	0.16	0.16	0.15	0.16	0.16	0.15	0.08	0.70	0.69	0.56	0.56	0.55
Sat Flow, veh/h	1378	1438	498	1242	1673	124	1714	1688	83	1027	1373	306
Grp Volume(v), veh/h	147	0	70	13	0	58	197	0	279	6	0	757
Grp Sat Flow(s),veh/h/ln	1378	0	1935	1242	0	1797	1714	0	1771	1027	0	1680
Q Serve(g_s), s	9.2	0.0	2.8	0.8	0.0	2.5	3.9	0.0	5.0	0.2	0.0	32.7
Cycle Q Clear(g_c), s	11.2	0.0	2.8	3.1	0.0	2.5	3.9	0.0	5.0	0.2	0.0	32.7
Prop In Lane	1.00		0.26	1.00		0.07	1.00		0.05	1.00		0.18
Lane Grp Cap(c), veh/h	276	0	319	252	0	296	349	0	1243	653	0	937
V/C Ratio(X)	0.53	0.00	0.22	0.05	0.00	0.20	0.56	0.00	0.22	0.01	0.00	0.81
Avail Cap(c_a), veh/h	294	0	344	269	0	319	349	0	1243	653	0	937
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.1	0.0	32.7	33.7	0.0	32.5	15.2	0.0	4.8	8.9	0.0	16.1
Incr Delay (d2), s/veh	1.6	0.0	0.3	0.1	0.0	0.3	2.1	0.0	0.4	0.0	0.0	7.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.6	0.0	2.4	0.5	0.0	2.0	3.6	0.0	2.9	0.1	0.0	18.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.7	0.0	33.0	33.8	0.0	32.8	17.3	0.0	5.2	8.9	0.0	23.6
LnGrp LOS	D		C	C		C	B		A	A		C
Approach Vol, veh/h		217			71			476				763
Approach Delay, s/veh		36.8			33.0			10.2				23.5
Approach LOS		D			C			B				C
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		69.2		20.8	13.0	56.2		20.8				
Change Period (Y+Rc), s		7.0		7.0	7.0	7.0		7.0				
Max Green Setting (Gmax), s		61.0		15.0	6.0	48.0		15.0				
Max Q Clear Time (g_c+I1), s		7.0		13.7	6.4	34.7		5.6				
Green Ext Time (p_c), s		1.7		0.1	0.0	4.5		0.2				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				21.7								
HCM 6th LOS				C								

2: Graphite Mine Road & Station Boulevard

Existing Conditions

Timing Plan: Saturday Midday

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	47	29	112	25	9	44	468	125	14	254	5
Future Volume (vph)	2	47	29	112	25	9	44	468	125	14	254	5
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	14	14	12	14	14	12	12	14	11	12	12
Grade (%)		0%			1%			-2%			2%	
Storage Length (ft)	100		0	210		0	95		95	90		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			40			40	
Link Distance (ft)		623			192			486			211	
Travel Time (s)		14.2			5.2			8.3			3.6	
Confl. Peds. (#/hr)									4	4		
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	3%	0%	0%	0%	0%	1%	2%	7%	1%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	22.0	22.0		22.0	22.0		41.0	41.0	41.0	41.0	41.0	
Total Split (%)	34.9%	34.9%		34.9%	34.9%		65.1%	65.1%	65.1%	65.1%	65.1%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min	C-Min	C-Min	C-Min	

Intersection Summary

Area Type: Other

Cycle Length: 63

Actuated Cycle Length: 63

Offset: 14 (22%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

Splits and Phases: 2: Graphite Mine Road & Station Boulevard



Lanes, Volumes, Timings

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Synchro 12 Report

05/27/2025

2: Graphite Mine Road & Station Boulevard

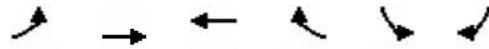
Existing Conditions

Timing Plan: Saturday MIDDAY

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	47	29	112	25	9	44	468	125	14	254	5
Future Volume (veh/h)	2	47	29	112	25	9	44	468	125	14	254	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1872	1828	1794	1866	1866	1875	1860	1920	1679	1764	1778
Adj Flow Rate, veh/h	2	55	34	132	29	11	52	551	147	16	299	6
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	3	0	0	0	0	1	2	7	1	0
Cap, veh/h	353	208	129	311	248	94	741	1207	1052	450	1118	22
Arrive On Green	0.19	0.19	0.18	0.19	0.19	0.18	0.65	0.65	0.65	0.65	0.65	0.63
Sat Flow, veh/h	1316	1082	669	1255	1289	489	1075	1860	1622	671	1723	35
Grp Volume(v), veh/h	2	0	89	132	0	40	52	551	147	16	0	305
Grp Sat Flow(s),veh/h/ln	1316	0	1752	1255	0	1778	1075	1860	1622	671	0	1757
Q Serve(g_s), s	0.1	0.0	2.7	6.2	0.0	1.2	1.3	9.3	2.2	0.8	0.0	4.6
Cycle Q Clear(g_c), s	0.8	0.0	2.7	8.5	0.0	1.2	5.5	9.3	2.2	10.1	0.0	4.6
Prop In Lane	1.00		0.38	1.00		0.28	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	353	0	337	311	0	342	741	1207	1052	450	0	1140
V/C Ratio(X)	0.01	0.00	0.26	0.42	0.00	0.12	0.07	0.46	0.14	0.04	0.00	0.27
Avail Cap(c_a), veh/h	455	0	473	408	0	480	741	1207	1052	450	0	1140
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.1	0.0	21.8	25.0	0.0	21.1	5.8	5.5	4.3	8.0	0.0	4.7
Incr Delay (d2), s/veh	0.0	0.0	0.4	0.9	0.0	0.2	0.2	1.2	0.3	0.1	0.0	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	2.0	3.4	0.0	0.9	0.5	4.7	1.0	0.2	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.1	0.0	22.2	25.9	0.0	21.3	5.9	6.8	4.5	8.2	0.0	5.3
LnGrp LOS	C		C	C		C	A	A	A	A		A
Approach Vol, veh/h		91			172			750				321
Approach Delay, s/veh		22.2			24.9			6.3				5.4
Approach LOS		C			C			A				A
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.9		17.1		45.9		17.1				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		35.0		16.0		35.0		16.0				
Max Q Clear Time (g_c+I1), s		11.8		4.7		12.6		11.0				
Green Ext Time (p_c), s		4.2		0.3		1.8		0.3				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				9.6								
HCM 6th LOS				A								

3: Station Boulevard & Driveway

Existing Conditions
Timing Plan: Saturday MIDDAY



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	8	62	66	8	14	4
Future Volume (vph)	8	62	66	8	14	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	3%		0%	
Link Speed (mph)		30	25		30	
Link Distance (ft)		383	623		277	
Travel Time (s)		8.7	17.0		6.3	
Confl. Peds. (#/hr)						6
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

3: Station Boulevard & Driveway

Existing Conditions

Timing Plan: Saturday MIDDAY

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↙	↑	↗		↘	
Traffic Vol, veh/h	8	62	66	8	14	4
Future Vol, veh/h	8	62	66	8	14	4
Conflicting Peds, #/hr	0	0	0	0	0	6
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	3	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	2	0	0	0	0
Mvmt Flow	8	65	69	8	15	4

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	77	0	-	0	154 79
Stage 1	-	-	-	-	73 -
Stage 2	-	-	-	-	81 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1535	-	-	-	842 987
Stage 1	-	-	-	-	955 -
Stage 2	-	-	-	-	947 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1535	-	-	-	838 982
Mov Cap-2 Maneuver	-	-	-	-	838 -
Stage 1	-	-	-	-	950 -
Stage 2	-	-	-	-	947 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.8	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1535	-	-	-	866
HCM Lane V/C Ratio	0.005	-	-	-	0.022
HCM Control Delay (s/veh)	7.4	-	-	-	9.2
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q (veh)	0	-	-	-	0.1

Base Conditions



1: Pottstown Pike & Park Road/Station Boulevard

2026 Base Conditions

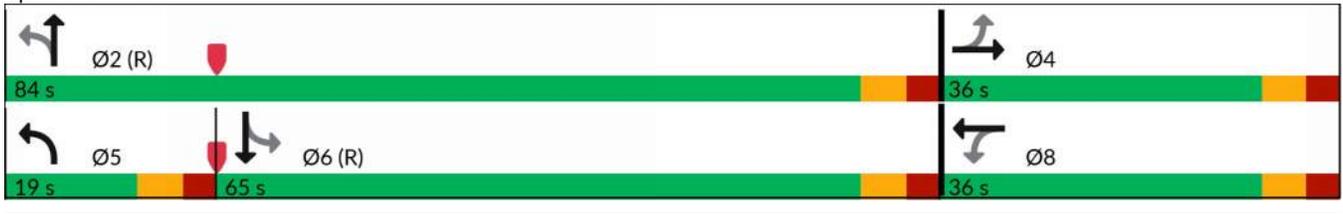
Timing Plan: Weekday AM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	61	31	18	71	1	131	203	17	59	705	84
Future Volume (vph)	146	61	31	18	71	1	131	203	17	59	705	84
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	13	13	12	14	14	11	11	11	11	11	11
Grade (%)		-4%			3%			-4%			3%	
Storage Length (ft)	75		0	114		0	355		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes				Yes			Yes		
Link Speed (mph)		35			30			35			35	
Link Distance (ft)		650			405			444			409	
Travel Time (s)		12.7			9.2			8.6			8.0	
Confl. Peds. (#/hr)									1	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	7%	3%	4%	0%	3%	0%	12%	10%	18%	10%	4%	7%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8			5		2		
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	15.0		15.0	15.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		10.0	30.0		30.0	30.0	
Total Split (s)	36.0	36.0		36.0	36.0		19.0	84.0		65.0	65.0	
Total Split (%)	30.0%	30.0%		30.0%	30.0%		15.8%	70.0%		54.2%	54.2%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag		Lag
Lead-Lag Optimize?							Yes			Yes		Yes
Recall Mode	None	None		None	None		None	C-Min		C-Min	C-Min	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	74 (62%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	90
Control Type:	Actuated-Coordinated

Splits and Phases: 1: Pottstown Pike & Park Road/Station Boulevard



Lanes, Volumes, Timings

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Synchro 12 Report

05/27/2025

1: Pottstown Pike & Park Road/Station Boulevard

2026 Base Conditions

Timing Plan: Weekday AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	146	61	31	18	71	1	131	203	17	59	705	84
Future Volume (veh/h)	146	61	31	18	71	1	131	203	17	59	705	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1850	1983	1968	1750	1776	1820	1778	1807	1693	1609	1694	1652
Adj Flow Rate, veh/h	155	65	33	19	76	1	139	216	18	63	750	89
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	7	3	4	0	3	0	12	10	18	10	4	7
Cap, veh/h	254	231	117	236	325	4	288	1175	98	657	900	107
Arrive On Green	0.19	0.19	0.18	0.06	0.06	0.06	0.06	0.71	0.71	0.61	0.61	0.60
Sat Flow, veh/h	1307	1240	629	1214	1749	23	1694	1645	137	986	1485	176
Grp Volume(v), veh/h	155	0	98	19	0	77	139	0	234	63	0	839
Grp Sat Flow(s),veh/h/ln	1307	0	1869	1214	0	1772	1694	0	1782	986	0	1662
Q Serve(g_s), s	13.7	0.0	5.4	1.8	0.0	5.0	3.4	0.0	5.2	3.2	0.0	48.3
Cycle Q Clear(g_c), s	18.2	0.0	5.4	6.7	0.0	5.0	3.4	0.0	5.2	3.2	0.0	48.3
Prop In Lane	1.00		0.34	1.00		0.01	1.00		0.08	1.00		0.11
Lane Grp Cap(c), veh/h	254	0	348	236	0	329	288	0	1272	657	0	1007
V/C Ratio(X)	0.61	0.00	0.28	0.08	0.00	0.23	0.48	0.00	0.18	0.10	0.00	0.83
Avail Cap(c_a), veh/h	338	0	467	314	0	443	373	0	1272	657	0	1007
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.3	0.0	42.1	51.4	0.0	48.2	20.0	0.0	5.7	10.0	0.0	18.9
Incr Delay (d2), s/veh	2.3	0.0	0.4	0.1	0.0	0.4	1.3	0.0	0.3	0.3	0.0	8.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.1	0.0	4.6	1.0	0.0	4.1	3.7	0.0	3.3	1.3	0.0	26.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	51.7	0.0	42.5	51.5	0.0	48.5	21.3	0.0	6.0	10.2	0.0	27.0
LnGrp LOS	D		D	D		D	C		A	B		C
Approach Vol, veh/h		253			96			373				902
Approach Delay, s/veh		48.1			49.1			11.7				25.8
Approach LOS		D			D			B				C
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		91.7		28.3	13.0	78.7		28.3				
Change Period (Y+Rc), s		7.0		7.0	7.0	7.0		7.0				
Max Green Setting (Gmax), s		77.0		29.0	12.0	58.0		29.0				
Max Q Clear Time (g_c+I1), s		7.2		20.7	5.9	50.3		9.2				
Green Ext Time (p_c), s		1.5		0.6	0.2	3.7		0.4				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				27.4								
HCM 6th LOS				C								

2: Graphite Mine Road & Station Boulevard

2026 Base Conditions

Timing Plan: Weekday AM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	32	130	300	46	14	44	328	93	1	57	1
Future Volume (vph)	1	32	130	300	46	14	44	328	93	1	57	1
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	14	14	12	14	14	12	12	14	11	12	12
Grade (%)		0%			1%			-2%			2%	
Storage Length (ft)	100		0	210		0	95		95	90		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			40			40	
Link Distance (ft)		601			192			486			211	
Travel Time (s)		13.7			5.2			8.3			3.6	
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	13%	10%	2%	4%	0%	7%	8%	4%	0%	2%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		33.0	33.0	33.0	33.0	33.0	
Total Split (s)	55.0	55.0		55.0	55.0		65.0	65.0	65.0	65.0	65.0	
Total Split (%)	45.8%	45.8%		45.8%	45.8%		54.2%	54.2%	54.2%	54.2%	54.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min	C-Min	C-Min	C-Min	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 9 (8%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 2: Graphite Mine Road & Station Boulevard



Lanes, Volumes, Timings

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Synchro 12 Report

05/27/2025

2: Graphite Mine Road & Station Boulevard

2026 Base Conditions

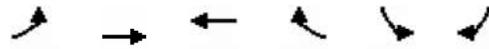
Timing Plan: Weekday AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	32	130	300	46	14	44	328	93	1	57	1
Future Volume (veh/h)	1	32	130	300	46	14	44	328	93	1	57	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1682	1726	1766	1808	1866	1775	1761	1890	1778	1750	1778
Adj Flow Rate, veh/h	1	36	144	333	51	16	49	364	103	1	63	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	13	10	2	4	0	7	8	4	0	2	0
Cap, veh/h	544	117	467	420	524	164	700	915	831	407	892	14
Arrive On Green	0.40	0.40	0.39	0.40	0.40	0.39	0.52	0.52	0.52	0.52	0.52	0.51
Sat Flow, veh/h	1284	294	1176	1137	1319	414	1268	1761	1599	880	1717	27
Grp Volume(v), veh/h	1	0	180	333	0	67	49	364	103	1	0	64
Grp Sat Flow(s),veh/h/ln	1284	0	1470	1137	0	1733	1268	1761	1599	880	0	1745
Q Serve(g_s), s	0.1	0.0	10.2	34.0	0.0	2.9	2.4	15.0	4.0	0.1	0.0	2.2
Cycle Q Clear(g_c), s	2.5	0.0	10.2	43.6	0.0	2.9	4.1	15.0	4.0	15.1	0.0	2.2
Prop In Lane	1.00		0.80	1.00		0.24	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	544	0	584	420	0	689	700	915	831	407	0	906
V/C Ratio(X)	0.00	0.00	0.31	0.79	0.00	0.10	0.07	0.40	0.12	0.00	0.00	0.07
Avail Cap(c_a), veh/h	569	0	613	442	0	722	700	915	831	407	0	906
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.3	0.0	25.1	39.6	0.0	22.8	15.3	17.5	14.8	22.0	0.0	14.4
Incr Delay (d2), s/veh	0.0	0.0	0.3	9.2	0.0	0.1	0.2	1.3	0.3	0.0	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	6.5	15.9	0.0	2.2	1.3	10.2	2.6	0.0	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.3	0.0	25.4	48.8	0.0	22.8	15.5	18.8	15.1	22.1	0.0	14.5
LnGrp LOS	C		C	D		C	B	B	B	C		B
Approach Vol, veh/h		181			400			516				65
Approach Delay, s/veh		25.4			44.4			17.7				14.7
Approach LOS		C			D			B				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		67.3		52.7		67.3		52.7				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		59.0		49.0		59.0		49.0				
Max Q Clear Time (g_c+I1), s		17.5		12.2		17.6		46.1				
Green Ext Time (p_c), s		2.7		1.2		0.3		0.5				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				27.9								
HCM 6th LOS				C								
Notes												
User approved pedestrian interval to be less than phase max green.												

3: Station Boulevard & Driveway

2026 Base Conditions

Timing Plan: Weekday AM Peak



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	16	108	78	14	80	17
Future Volume (vph)	16	108	78	14	80	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	3%		0%	
Link Speed (mph)		30	25		30	
Link Distance (ft)		405	601		221	
Travel Time (s)		9.2	16.4		5.0	
Confl. Peds. (#/hr)						5
Peak Hour Factor	0.65	0.65	0.65	0.65	0.65	0.65
Heavy Vehicles (%)	44%	5%	4%	7%	8%	12%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

3: Station Boulevard & Driveway

2026 Base Conditions

Timing Plan: Weekday AM Peak

Intersection						
Int Delay, s/veh	4.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	108	78	14	80	17
Future Vol, veh/h	16	108	78	14	80	17
Conflicting Peds, #/hr	0	0	0	0	0	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	3	-	0	-
Peak Hour Factor	65	65	65	65	65	65
Heavy Vehicles, %	44	5	4	7	8	12
Mvmt Flow	25	166	120	22	123	26

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	142	0	-	0	347
Stage 1	-	-	-	-	131
Stage 2	-	-	-	-	216
Critical Hdwy	4.54	-	-	-	6.48
Critical Hdwy Stg 1	-	-	-	-	5.48
Critical Hdwy Stg 2	-	-	-	-	5.48
Follow-up Hdwy	2.596	-	-	-	3.572
Pot Cap-1 Maneuver	1220	-	-	-	638
Stage 1	-	-	-	-	880
Stage 2	-	-	-	-	806
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1220	-	-	-	625
Mov Cap-2 Maneuver	-	-	-	-	625
Stage 1	-	-	-	-	862
Stage 2	-	-	-	-	806

Approach	EB	WB	SB
HCM Control Delay, s/v	1	0	12.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1220	-	-	-	659
HCM Lane V/C Ratio	0.02	-	-	-	0.226
HCM Control Delay (s/veh)	8	-	-	-	12.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q (veh)	0.1	-	-	-	0.9

1: Pottstown Pike & Park Road/Station Boulevard

2026 Base Conditions

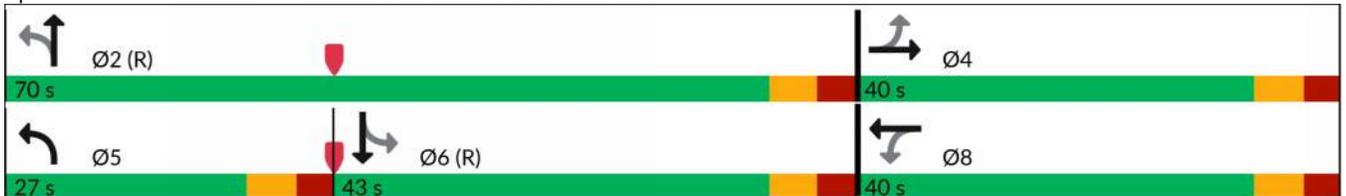
Timing Plan: Weekday PM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	172	55	14	14	100	4	294	458	14	3	575	134
Future Volume (vph)	172	55	14	14	100	4	294	458	14	3	575	134
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	13	13	12	14	14	11	11	11	11	11	11
Grade (%)		-4%			3%			-4%			3%	
Storage Length (ft)	75		0	114		0	355		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes				Yes			Yes		Yes
Link Speed (mph)		35			30			35			35	
Link Distance (ft)		650			344			444			499	
Travel Time (s)		12.7			7.8			8.6			9.7	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	4%	0%	0%	1%	0%	2%	2%	0%	0%	2%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8			5		2		6
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	15.0		15.0	15.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	30.0		30.0	30.0	
Total Split (s)	40.0	40.0		40.0	40.0		27.0	70.0		43.0	43.0	
Total Split (%)	36.4%	36.4%		36.4%	36.4%		24.5%	63.6%		39.1%	39.1%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag		Lag
Lead-Lag Optimize?							Yes			Yes		Yes
Recall Mode	None	None		None	None		None	C-Min		C-Min	C-Min	

Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 12 (11%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Pottstown Pike & Park Road/Station Boulevard



1: Pottstown Pike & Park Road/Station Boulevard

2026 Base Conditions

Timing Plan: Weekday PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	172	55	14	14	100	4	294	458	14	3	575	134
Future Volume (veh/h)	172	55	14	14	100	4	294	458	14	3	575	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1935	1968	2027	1750	1805	1820	1921	1921	1949	1750	1722	1750
Adj Flow Rate, veh/h	176	56	14	14	102	4	300	467	14	3	587	137
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	4	0	0	1	0	2	2	0	0	2	0
Cap, veh/h	285	305	76	283	346	14	387	1280	38	519	717	167
Arrive On Green	0.20	0.20	0.19	0.40	0.40	0.38	0.10	0.69	0.68	0.53	0.53	0.52
Sat Flow, veh/h	1332	1520	380	1245	1725	68	1829	1855	56	855	1350	315
Grp Volume(v), veh/h	176	0	70	14	0	106	300	0	481	3	0	724
Grp Sat Flow(s),veh/h/ln	1332	0	1899	1245	0	1793	1829	0	1911	855	0	1665
Q Serve(g_s), s	14.0	0.0	3.4	0.8	0.0	4.4	7.4	0.0	11.5	0.2	0.0	39.7
Cycle Q Clear(g_c), s	17.9	0.0	3.4	3.7	0.0	4.4	7.4	0.0	11.5	0.2	0.0	39.7
Prop In Lane	1.00		0.20	1.00		0.04	1.00		0.03	1.00		0.19
Lane Grp Cap(c), veh/h	285	0	381	283	0	360	387	0	1319	519	0	884
V/C Ratio(X)	0.62	0.00	0.18	0.05	0.00	0.29	0.77	0.00	0.36	0.01	0.00	0.82
Avail Cap(c_a), veh/h	430	0	587	418	0	554	545	0	1319	519	0	884
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.2	0.0	36.6	28.4	0.0	27.7	20.4	0.0	7.1	12.1	0.0	21.5
Incr Delay (d2), s/veh	2.2	0.0	0.2	0.1	0.0	0.5	4.5	0.0	0.8	0.0	0.0	8.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.3	0.0	2.8	0.4	0.0	3.3	8.2	0.0	7.8	0.1	0.0	23.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	46.3	0.0	36.8	28.4	0.0	28.1	24.9	0.0	7.8	12.2	0.0	29.9
LnGrp LOS	D		D	C		C	C		A	B		C
Approach Vol, veh/h		246			120			781			727	
Approach Delay, s/veh		43.6			28.2			14.4			29.8	
Approach LOS		D			C			B			C	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		81.9		28.1	17.5	64.4		28.1				
Change Period (Y+Rc), s		7.0		7.0	7.0	7.0		7.0				
Max Green Setting (Gmax), s		63.0		33.0	20.0	36.0		33.0				
Max Q Clear Time (g_c+I1), s		13.5		20.4	9.9	41.7		6.4				
Green Ext Time (p_c), s		3.3		0.7	0.6	0.0		0.6				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			25.1									
HCM 6th LOS			C									

2: Graphite Mine Road & Station Boulevard

2026 Base Conditions

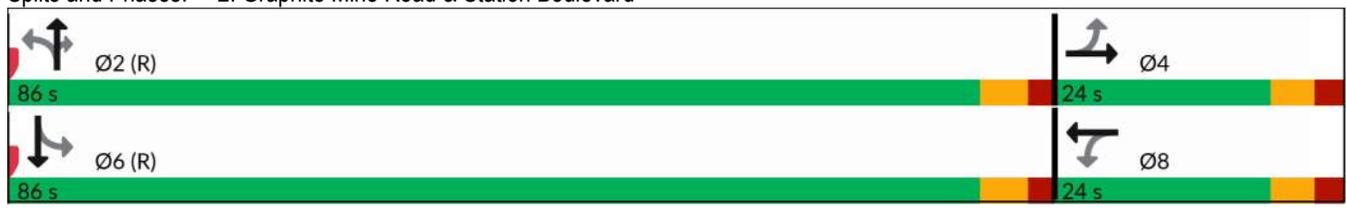
Timing Plan: Weekday PM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	44	32	171	48	8	80	865	210	8	177	1
Future Volume (vph)	0	44	32	171	48	8	80	865	210	8	177	1
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	14	14	12	14	14	12	12	14	11	12	12
Grade (%)		0%			1%			-2%			2%	
Storage Length (ft)	100		0	210		0	95		95	90		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			40			40	
Link Distance (ft)		661			192			486			211	
Travel Time (s)		15.0			5.2			8.3			3.6	
Confl. Peds. (#/hr)									8	8		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	2%	2%	0%	0%	1%	1%	13%	1%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		33.0	33.0	33.0	33.0	33.0	
Total Split (s)	24.0	24.0		24.0	24.0		86.0	86.0	86.0	86.0	86.0	
Total Split (%)	21.8%	21.8%		21.8%	21.8%		78.2%	78.2%	78.2%	78.2%	78.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min	C-Min	C-Min	C-Min	

Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 53 (48%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 2: Graphite Mine Road & Station Boulevard



Lanes, Volumes, Timings

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Synchro 12 Report

05/27/2025

2: Graphite Mine Road & Station Boulevard

2026 Base Conditions

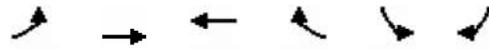
Timing Plan: Weekday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	44	32	171	48	8	80	865	210	8	177	1
Future Volume (veh/h)	0	44	32	171	48	8	80	865	210	8	177	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1872	1872	1766	1837	1866	1875	1860	1935	1595	1764	1778
Adj Flow Rate, veh/h	0	46	33	178	50	8	83	901	219	8	184	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	2	2	0	0	1	1	13	1	0
Cap, veh/h	65	175	126	237	267	43	915	1370	1201	275	1290	7
Arrive On Green	0.00	0.17	0.16	0.17	0.17	0.16	0.74	0.74	0.74	0.74	0.74	0.73
Sat Flow, veh/h	1295	1014	727	1246	1545	247	1197	1860	1631	429	1752	10
Grp Volume(v), veh/h	0	0	79	178	0	58	83	901	219	8	0	185
Grp Sat Flow(s),veh/h/ln	1295	0	1741	1246	0	1792	1197	1860	1631	429	0	1762
Q Serve(g_s), s	0.0	0.0	4.3	15.2	0.0	3.0	2.4	27.2	4.5	1.1	0.0	3.4
Cycle Q Clear(g_c), s	0.0	0.0	4.3	19.0	0.0	3.0	5.3	27.2	4.5	28.3	0.0	3.4
Prop In Lane	1.00		0.42	1.00		0.14	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	65	0	301	237	0	310	915	1370	1201	275	0	1297
V/C Ratio(X)	0.00	0.00	0.26	0.75	0.00	0.19	0.09	0.66	0.18	0.03	0.00	0.14
Avail Cap(c_a), veh/h	65	0	301	237	0	310	915	1370	1201	275	0	1297
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	39.6	47.7	0.0	39.0	5.0	7.4	4.4	14.6	0.0	4.3
Incr Delay (d2), s/veh	0.0	0.0	0.5	12.5	0.0	0.3	0.2	2.5	0.3	0.2	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	3.4	9.7	0.0	2.5	1.0	14.1	2.3	0.2	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	40.1	60.2	0.0	39.2	5.2	9.9	4.7	14.8	0.0	4.5
LnGrp LOS			D	E		D	A	A	A	B		A
Approach Vol, veh/h		79			236			1203				193
Approach Delay, s/veh		40.1			55.0			8.6				4.9
Approach LOS		D			E			A				A
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		86.0		24.0		86.0		24.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		80.0		18.0		80.0		18.0				
Max Q Clear Time (g_c+I1), s		29.7		6.3		30.8		21.5				
Green Ext Time (p_c), s		9.8		0.2		1.2		0.0				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				16.1								
HCM 6th LOS				B								

3: Station Boulevard & Driveway

2026 Base Conditions

Timing Plan: Weekday PM Peak



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	67	123	20	12	11
Future Volume (vph)	10	67	123	20	12	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	3%		0%	
Link Speed (mph)		30	25		30	
Link Distance (ft)		344	661		224	
Travel Time (s)		7.8	18.0		5.1	
Confl. Peds. (#/hr)						4
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

3: Station Boulevard & Driveway

2026 Base Conditions

Timing Plan: Weekday PM Peak

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	67	123	20	12	11
Future Vol, veh/h	10	67	123	20	12	11
Conflicting Peds, #/hr	0	0	0	0	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	3	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	75	138	22	13	12

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	160	0	-	0	246 153
Stage 1	-	-	-	-	149 -
Stage 2	-	-	-	-	97 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1432	-	-	-	747 898
Stage 1	-	-	-	-	884 -
Stage 2	-	-	-	-	932 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1432	-	-	-	741 895
Mov Cap-2 Maneuver	-	-	-	-	741 -
Stage 1	-	-	-	-	877 -
Stage 2	-	-	-	-	932 -

Approach	EB	WB	SB
HCM Control Delay, s/v	1	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1432	-	-	-	807
HCM Lane V/C Ratio	0.008	-	-	-	0.032
HCM Control Delay (s/veh)	7.5	-	-	-	9.6
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q (veh)	0	-	-	-	0.1

1: Pottstown Pike & Park Road/Station Boulevard

2026 Base Conditions

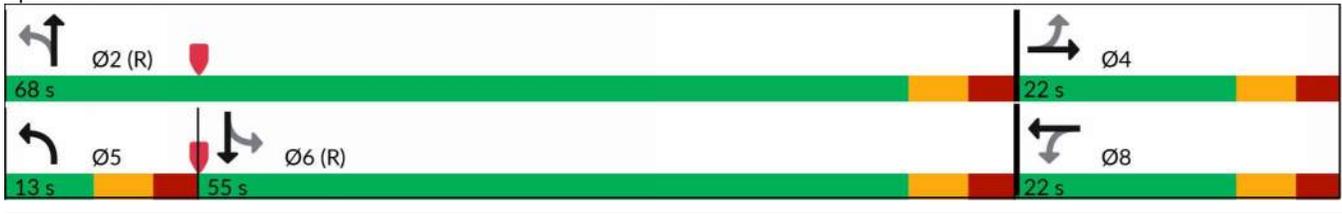
Timing Plan: Saturday Midday

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	53	21	13	56	4	199	281	13	6	640	135
Future Volume (vph)	147	53	21	13	56	4	199	281	13	6	640	135
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	13	13	12	14	14	11	11	11	11	11	11
Grade (%)		-4%			3%			0%			3%	
Storage Length (ft)	75		0	114		0	355		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes				Yes			Yes		
Link Speed (mph)		35			25			35			35	
Link Distance (ft)		650			383			444			509	
Travel Time (s)		12.7			10.4			8.6			9.9	
Confl. Peds. (#/hr)			1	1			3					3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	1%	8%	0%	1%	2%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8			5		2		
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	15.0		15.0	15.0	
Minimum Split (s)	10.0	10.0		10.0	10.0		11.0	23.0		23.0	23.0	
Total Split (s)	22.0	22.0		22.0	22.0		13.0	68.0		55.0	55.0	
Total Split (%)	24.4%	24.4%		24.4%	24.4%		14.4%	75.6%		61.1%	61.1%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag		Lag
Lead-Lag Optimize?							Yes			Yes		Yes
Recall Mode	None	None		None	None		None	C-Min		C-Min	C-Min	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 26 (29%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Pottstown Pike & Park Road/Station Boulevard



Lanes, Volumes, Timings

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Synchro 12 Report

05/27/2025

1: Pottstown Pike & Park Road/Station Boulevard

2026 Base Conditions

Timing Plan: Saturday Midday

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	53	21	13	56	4	199	281	13	6	640	135
Future Volume (veh/h)	147	53	21	13	56	4	199	281	13	6	640	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1921	2027	2027	1750	1820	1820	1800	1786	1688	1750	1736	1722
Adj Flow Rate, veh/h	152	55	22	13	58	4	205	290	13	6	660	139
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	0	0	0	0	0	0	1	8	0	1	2
Cap, veh/h	280	234	94	254	286	20	313	1182	53	635	767	162
Arrive On Green	0.17	0.17	0.16	0.17	0.17	0.16	0.08	0.70	0.69	0.55	0.55	0.54
Sat Flow, veh/h	1373	1376	550	1234	1682	116	1714	1696	76	1005	1389	293
Grp Volume(v), veh/h	152	0	77	13	0	62	205	0	303	6	0	799
Grp Sat Flow(s),veh/h/ln	1373	0	1926	1234	0	1798	1714	0	1772	1005	0	1682
Q Serve(g_s), s	9.6	0.0	3.1	0.8	0.0	2.7	4.2	0.0	5.6	0.2	0.0	36.5
Cycle Q Clear(g_c), s	11.7	0.0	3.1	3.4	0.0	2.7	4.2	0.0	5.6	0.2	0.0	36.5
Prop In Lane	1.00		0.29	1.00		0.06	1.00		0.04	1.00		0.17
Lane Grp Cap(c), veh/h	280	0	327	254	0	306	313	0	1235	635	0	929
V/C Ratio(X)	0.54	0.00	0.24	0.05	0.00	0.20	0.66	0.00	0.25	0.01	0.00	0.86
Avail Cap(c_a), veh/h	291	0	342	263	0	320	313	0	1235	635	0	929
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.9	0.0	32.4	33.6	0.0	32.1	17.8	0.0	5.0	9.1	0.0	17.3
Incr Delay (d2), s/veh	1.9	0.0	0.4	0.1	0.0	0.3	4.9	0.0	0.5	0.0	0.0	10.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.9	0.0	2.6	0.5	0.0	2.1	4.9	0.0	3.2	0.1	0.0	21.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.8	0.0	32.8	33.7	0.0	32.5	22.7	0.0	5.5	9.1	0.0	27.5
LnGrp LOS	D		C	C		C	C		A	A		C
Approach Vol, veh/h		229			75			508				805
Approach Delay, s/veh		36.8			32.7			12.4				27.4
Approach LOS		D			C			B				C
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		68.7		21.3	13.0	55.7		21.3				
Change Period (Y+Rc), s		7.0		7.0	7.0	7.0		7.0				
Max Green Setting (Gmax), s		61.0		15.0	6.0	48.0		15.0				
Max Q Clear Time (g_c+I1), s		7.6		14.2	6.7	38.5		5.9				
Green Ext Time (p_c), s		1.9		0.1	0.0	3.9		0.2				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			24.3									
HCM 6th LOS			C									

2: Graphite Mine Road & Station Boulevard

2026 Base Conditions

Timing Plan: Saturday MIDDAY

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	47	32	113	25	9	48	499	127	14	273	5
Future Volume (vph)	2	47	32	113	25	9	48	499	127	14	273	5
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	14	14	12	14	14	12	12	14	11	12	12
Grade (%)		0%			1%			-2%			2%	
Storage Length (ft)	100		0	210		0	95		95	90		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			40			40	
Link Distance (ft)		623			192			486			211	
Travel Time (s)		14.2			5.2			8.3			3.6	
Confl. Peds. (#/hr)									4	4		
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	3%	0%	0%	0%	0%	1%	2%	7%	1%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	22.0	22.0		22.0	22.0		41.0	41.0	41.0	41.0	41.0	
Total Split (%)	34.9%	34.9%		34.9%	34.9%		65.1%	65.1%	65.1%	65.1%	65.1%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min	C-Min	C-Min	C-Min	

Intersection Summary

Area Type: Other
 Cycle Length: 63
 Actuated Cycle Length: 63
 Offset: 14 (22%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 50
 Control Type: Actuated-Coordinated

Splits and Phases: 2: Graphite Mine Road & Station Boulevard



Lanes, Volumes, Timings

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Synchro 12 Report

05/27/2025

2: Graphite Mine Road & Station Boulevard

2026 Base Conditions

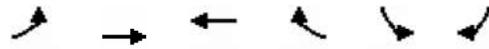
Timing Plan: Saturday MIDDAY

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	47	32	113	25	9	48	499	127	14	273	5
Future Volume (veh/h)	2	47	32	113	25	9	48	499	127	14	273	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1872	1828	1794	1866	1866	1875	1860	1920	1679	1764	1778
Adj Flow Rate, veh/h	2	55	38	133	29	11	56	587	149	16	321	6
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	3	0	0	0	0	1	2	7	1	0
Cap, veh/h	358	202	139	312	252	96	718	1201	1047	427	1114	21
Arrive On Green	0.20	0.20	0.18	0.20	0.20	0.18	0.65	0.65	0.65	0.65	0.65	0.63
Sat Flow, veh/h	1316	1031	713	1250	1289	489	1054	1860	1622	648	1725	32
Grp Volume(v), veh/h	2	0	93	133	0	40	56	587	149	16	0	327
Grp Sat Flow(s),veh/h/ln	1316	0	1744	1250	0	1778	1054	1860	1622	648	0	1758
Q Serve(g_s), s	0.1	0.0	2.9	6.3	0.0	1.2	1.5	10.3	2.3	0.8	0.0	5.1
Cycle Q Clear(g_c), s	0.8	0.0	2.9	8.7	0.0	1.2	6.1	10.3	2.3	11.1	0.0	5.1
Prop In Lane	1.00		0.41	1.00		0.28	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	358	0	341	312	0	348	718	1201	1047	427	0	1135
V/C Ratio(X)	0.01	0.00	0.27	0.43	0.00	0.11	0.08	0.49	0.14	0.04	0.00	0.29
Avail Cap(c_a), veh/h	455	0	471	405	0	480	718	1201	1047	427	0	1135
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.0	0.0	21.7	25.0	0.0	21.0	6.1	5.8	4.4	8.7	0.0	4.9
Incr Delay (d2), s/veh	0.0	0.0	0.4	0.9	0.0	0.1	0.2	1.4	0.3	0.2	0.0	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	2.1	3.4	0.0	0.9	0.5	5.3	1.0	0.2	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.0	0.0	22.1	25.9	0.0	21.1	6.3	7.2	4.6	8.8	0.0	5.5
LnGrp LOS	C		C	C		C	A	A	A	A		A
Approach Vol, veh/h		95			173			792				343
Approach Delay, s/veh		22.1			24.8			6.7				5.7
Approach LOS		C			C			A				A
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.7		17.3		45.7		17.3				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		35.0		16.0		35.0		16.0				
Max Q Clear Time (g_c+I1), s		12.8		4.9		13.6		11.2				
Green Ext Time (p_c), s		4.4		0.3		1.9		0.2				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				9.7								
HCM 6th LOS				A								

3: Station Boulevard & Driveway

2026 Base Conditions

Timing Plan: Saturday MIDDAY



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	8	65	70	8	14	4
Future Volume (vph)	8	65	70	8	14	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	3%		0%	
Link Speed (mph)		30	25		30	
Link Distance (ft)		383	623		277	
Travel Time (s)		8.7	17.0		6.3	
Confl. Peds. (#/hr)						6
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

3: Station Boulevard & Driveway

2026 Base Conditions

Timing Plan: Saturday MIDDAY

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	65	70	8	14	4
Future Vol, veh/h	8	65	70	8	14	4
Conflicting Peds, #/hr	0	0	0	0	0	6
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	3	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	2	0	0	0	0
Mvmt Flow	8	68	73	8	15	4

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	81	0	-	0	161 83
Stage 1	-	-	-	-	77 -
Stage 2	-	-	-	-	84 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1529	-	-	-	835 982
Stage 1	-	-	-	-	951 -
Stage 2	-	-	-	-	944 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1529	-	-	-	831 977
Mov Cap-2 Maneuver	-	-	-	-	831 -
Stage 1	-	-	-	-	946 -
Stage 2	-	-	-	-	944 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.8	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1529	-	-	-	860
HCM Lane V/C Ratio	0.005	-	-	-	0.022
HCM Control Delay (s/veh)	7.4	-	-	-	9.3
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q (veh)	0	-	-	-	0.1

Projected Conditions



1: Pottstown Pike & Park Road/Station Boulevard

2026 Projected Conditions

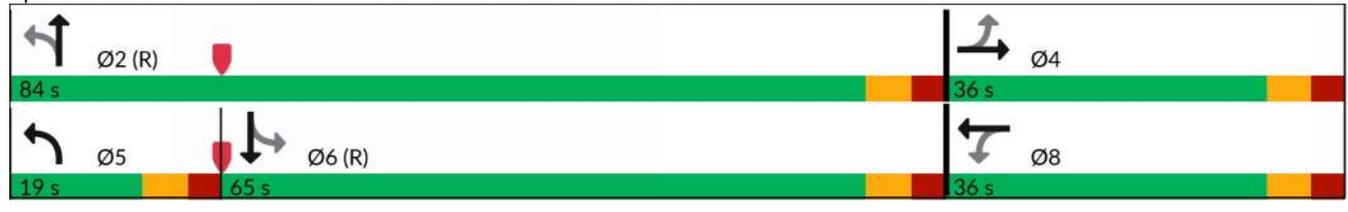
Timing Plan: Weekday AM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	68	31	45	77	24	131	197	36	90	688	84
Future Volume (vph)	146	68	31	45	77	24	131	197	36	90	688	84
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	13	13	12	14	14	11	11	11	11	11	11
Grade (%)		-4%			3%			-4%			3%	
Storage Length (ft)	75		0	114		0	355		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes				Yes			Yes		
Link Speed (mph)		35			30			35			35	
Link Distance (ft)		650			405			444			409	
Travel Time (s)		12.7			9.2			8.6			8.0	
Confl. Peds. (#/hr)									1	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	7%	3%	4%	0%	3%	0%	12%	10%	18%	10%	4%	7%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8			5		2		
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	15.0		15.0	15.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		10.0	30.0		30.0	30.0	
Total Split (s)	36.0	36.0		36.0	36.0		19.0	84.0		65.0	65.0	
Total Split (%)	30.0%	30.0%		30.0%	30.0%		15.8%	70.0%		54.2%	54.2%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag		Lag
Lead-Lag Optimize?							Yes			Yes		Yes
Recall Mode	None	None		None	None		None	C-Min		C-Min	C-Min	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	74 (62%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	90
Control Type:	Actuated-Coordinated

Splits and Phases: 1: Pottstown Pike & Park Road/Station Boulevard



Lanes, Volumes, Timings

1: Pottstown Pike & Park Road/Station Boulevard

2026 Projected Conditions

Timing Plan: Weekday AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	146	68	31	45	77	24	131	197	36	90	688	84
Future Volume (veh/h)	146	68	31	45	77	24	131	197	36	90	688	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1850	1983	1968	1750	1776	1820	1778	1807	1693	1609	1694	1652
Adj Flow Rate, veh/h	155	72	33	48	82	26	139	210	38	96	732	89
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	7	3	4	0	3	0	12	10	18	10	4	7
Cap, veh/h	252	267	122	258	268	85	275	1031	187	627	863	105
Arrive On Green	0.21	0.21	0.20	0.07	0.07	0.07	0.06	0.69	0.68	0.58	0.58	0.57
Sat Flow, veh/h	1271	1287	590	1206	1292	410	1694	1489	269	973	1481	180
Grp Volume(v), veh/h	155	0	105	48	0	108	139	0	248	96	0	821
Grp Sat Flow(s),veh/h/ln	1271	0	1876	1206	0	1702	1694	0	1758	973	0	1661
Q Serve(g_s), s	14.1	0.0	5.7	4.6	0.0	7.2	3.6	0.0	6.1	5.5	0.0	49.0
Cycle Q Clear(g_c), s	20.9	0.0	5.7	9.7	0.0	7.2	3.6	0.0	6.1	5.5	0.0	49.0
Prop In Lane	1.00		0.31	1.00		0.24	1.00		0.15	1.00		0.11
Lane Grp Cap(c), veh/h	252	0	389	258	0	353	275	0	1218	627	0	968
V/C Ratio(X)	0.61	0.00	0.27	0.19	0.00	0.31	0.51	0.00	0.20	0.15	0.00	0.85
Avail Cap(c_a), veh/h	306	0	469	310	0	426	357	0	1218	627	0	968
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.2	0.0	40.1	51.3	0.0	47.7	21.3	0.0	6.6	11.6	0.0	20.7
Incr Delay (d2), s/veh	2.5	0.0	0.4	0.3	0.0	0.5	1.4	0.0	0.4	0.5	0.0	9.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.1	0.0	4.8	2.7	0.0	5.9	3.7	0.0	4.0	2.2	0.0	27.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	51.8	0.0	40.4	51.6	0.0	48.2	22.7	0.0	7.0	12.1	0.0	29.9
LnGrp LOS	D		D	D		D	C		A	B		C
Approach Vol, veh/h		260			156			387				917
Approach Delay, s/veh		47.2			49.3			12.7				28.0
Approach LOS		D			D			B				C
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		89.1		30.9	13.2	75.9		30.9				
Change Period (Y+Rc), s		7.0		7.0	7.0	7.0		7.0				
Max Green Setting (Gmax), s		77.0		29.0	12.0	58.0		29.0				
Max Q Clear Time (g_c+I1), s		8.1		23.4	6.1	51.0		12.2				
Green Ext Time (p_c), s		1.6		0.5	0.2	3.5		0.6				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				29.4								
HCM 6th LOS				C								

2: Graphite Mine Road & Station Boulevard

2026 Projected Conditions

Timing Plan: Weekday AM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	36	140	300	51	14	57	328	93	1	57	9
Future Volume (vph)	1	36	140	300	51	14	57	328	93	1	57	9
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	14	14	12	14	14	12	12	14	11	12	12
Grade (%)		0%			1%			-2%			2%	
Storage Length (ft)	100		0	210		0	95		95	90		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes				Yes			Yes		Yes
Link Speed (mph)		30			25			40			40	
Link Distance (ft)		601			192			486			211	
Travel Time (s)		13.7			5.2			8.3			3.6	
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	13%	10%	2%	4%	0%	7%	8%	4%	0%	2%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		33.0	33.0	33.0	33.0	33.0	
Total Split (s)	55.0	55.0		55.0	55.0		65.0	65.0	65.0	65.0	65.0	
Total Split (%)	45.8%	45.8%		45.8%	45.8%		54.2%	54.2%	54.2%	54.2%	54.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min	C-Min	C-Min	C-Min	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 9 (8%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 2: Graphite Mine Road & Station Boulevard



Lanes, Volumes, Timings

C:\Box\Active\CELE\00001 - Byers Station\Planning\TIA\2025-05-19 Modified Trip Gen\CapAnal\2025-05 PAM.syn

Synchro 12 Report

05/27/2025

2: Graphite Mine Road & Station Boulevard

2026 Projected Conditions

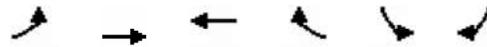
Timing Plan: Weekday AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	36	140	300	51	14	57	328	93	1	57	9
Future Volume (veh/h)	1	36	140	300	51	14	57	328	93	1	57	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1682	1726	1766	1808	1866	1775	1761	1890	1778	1750	1778
Adj Flow Rate, veh/h	1	40	156	333	57	16	63	364	103	1	63	10
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	13	10	2	4	0	7	8	4	0	2	0
Cap, veh/h	552	122	477	418	553	155	678	897	815	396	751	119
Arrive On Green	0.41	0.41	0.40	0.41	0.41	0.40	0.51	0.51	0.51	0.51	0.51	0.50
Sat Flow, veh/h	1277	300	1171	1121	1358	381	1257	1761	1599	880	1473	234
Grp Volume(v), veh/h	1	0	196	333	0	73	63	364	103	1	0	73
Grp Sat Flow(s),veh/h/ln	1277	0	1471	1121	0	1739	1257	1761	1599	880	0	1707
Q Serve(g_s), s	0.1	0.0	11.0	34.5	0.0	3.1	3.2	15.3	4.1	0.1	0.0	2.6
Cycle Q Clear(g_c), s	2.7	0.0	11.0	45.1	0.0	3.1	5.4	15.3	4.1	15.4	0.0	2.6
Prop In Lane	1.00		0.80	1.00		0.22	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	552	0	599	418	0	708	678	897	815	396	0	870
V/C Ratio(X)	0.00	0.00	0.33	0.80	0.00	0.10	0.09	0.41	0.13	0.00	0.00	0.08
Avail Cap(c_a), veh/h	564	0	613	429	0	725	678	897	815	396	0	870
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.7	0.0	24.6	39.5	0.0	22.1	16.3	18.2	15.4	23.0	0.0	15.1
Incr Delay (d2), s/veh	0.0	0.0	0.3	9.9	0.0	0.1	0.3	1.4	0.3	0.0	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	7.1	16.0	0.0	2.4	1.7	10.4	2.7	0.0	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.7	0.0	24.9	49.4	0.0	22.1	16.6	19.6	15.7	23.0	0.0	15.3
LnGrp LOS	C		C	D		C	B	B	B	C		B
Approach Vol, veh/h		197			406			530				74
Approach Delay, s/veh		24.9			44.5			18.5				15.4
Approach LOS		C			D			B				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		66.1		53.9		66.1		53.9				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		59.0		49.0		59.0		49.0				
Max Q Clear Time (g_c+I1), s		17.8		13.0		17.9		47.6				
Green Ext Time (p_c), s		2.8		1.3		0.4		0.3				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			28.1									
HCM 6th LOS			C									
Notes												
User approved pedestrian interval to be less than phase max green.												

3: Station Boulevard & Driveway

2026 Projected Conditions

Timing Plan: Weekday AM Peak



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	75	106	77	42	96	74
Future Volume (vph)	75	106	77	42	96	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	3%		0%	
Link Speed (mph)		30	25		30	
Link Distance (ft)		405	601		221	
Travel Time (s)		9.2	16.4		5.0	
Confl. Peds. (#/hr)						5
Peak Hour Factor	0.65	0.65	0.65	0.65	0.65	0.65
Heavy Vehicles (%)	44%	5%	4%	7%	8%	12%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

3: Station Boulevard & Driveway

2026 Projected Conditions

Timing Plan: Weekday AM Peak

Intersection						
Int Delay, s/veh	7.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	75	106	77	42	96	74
Future Vol, veh/h	75	106	77	42	96	74
Conflicting Peds, #/hr	0	0	0	0	0	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	3	-	0	-
Peak Hour Factor	65	65	65	65	65	65
Heavy Vehicles, %	44	5	4	7	8	12
Mvmt Flow	115	163	118	65	148	114

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	183	0	-	0	544 156
Stage 1	-	-	-	-	151 -
Stage 2	-	-	-	-	393 -
Critical Hdwy	4.54	-	-	-	6.48 6.32
Critical Hdwy Stg 1	-	-	-	-	5.48 -
Critical Hdwy Stg 2	-	-	-	-	5.48 -
Follow-up Hdwy	2.596	-	-	-	3.572 3.408
Pot Cap-1 Maneuver	1175	-	-	-	490 864
Stage 1	-	-	-	-	862 -
Stage 2	-	-	-	-	669 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1175	-	-	-	442 860
Mov Cap-2 Maneuver	-	-	-	-	442 -
Stage 1	-	-	-	-	778 -
Stage 2	-	-	-	-	669 -

Approach	EB	WB	SB
HCM Control Delay, s/v	3.5	0	16.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1175	-	-	-	561
HCM Lane V/C Ratio	0.098	-	-	-	0.466
HCM Control Delay (s/veh)	8.4	-	-	-	16.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q (veh)	0.3	-	-	-	2.5

1: Pottstown Pike & Park Road/Station Boulevard

2026 Projected Conditions

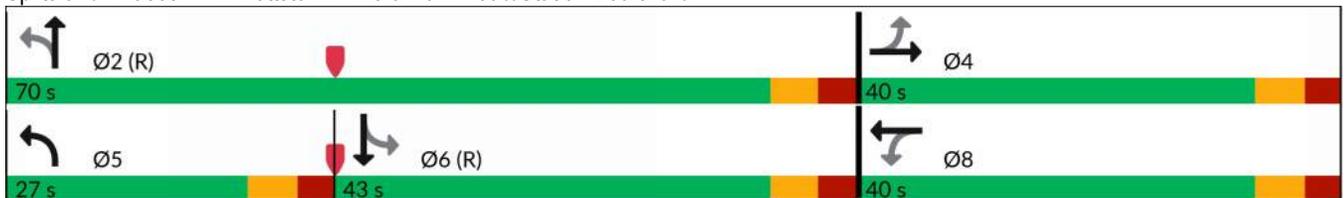
Timing Plan: Weekday PM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	169	63	14	55	109	52	294	436	51	44	550	134
Future Volume (vph)	169	63	14	55	109	52	294	436	51	44	550	134
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	13	13	12	14	14	11	11	11	11	11	11
Grade (%)		-4%			3%			-4%			3%	
Storage Length (ft)	75		0	114		0	355		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes				Yes			Yes		
Link Speed (mph)		35			30			35			35	
Link Distance (ft)		650			344			444			499	
Travel Time (s)		12.7			7.8			8.6			9.7	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	4%	0%	0%	1%	0%	2%	2%	0%	0%	2%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8			5		2		
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	15.0		15.0	15.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	30.0		30.0	30.0	
Total Split (s)	40.0	40.0		40.0	40.0		27.0	70.0		43.0	43.0	
Total Split (%)	36.4%	36.4%		36.4%	36.4%		24.5%	63.6%		39.1%	39.1%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag		Lag
Lead-Lag Optimize?							Yes			Yes		Yes
Recall Mode	None	None		None	None		None	C-Min		C-Min	C-Min	

Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 12 (11%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Pottstown Pike & Park Road/Station Boulevard



1: Pottstown Pike & Park Road/Station Boulevard

2026 Projected Conditions

Timing Plan: Weekday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	169	63	14	55	109	52	294	436	51	44	550	134
Future Volume (veh/h)	169	63	14	55	109	52	294	436	51	44	550	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1935	1968	2027	1750	1805	1820	1921	1921	1949	1750	1722	1750
Adj Flow Rate, veh/h	172	64	14	56	111	53	300	445	52	45	561	137
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	4	0	0	1	0	2	2	0	0	2	0
Cap, veh/h	279	358	78	313	264	126	373	1117	131	484	665	162
Arrive On Green	0.23	0.23	0.22	0.46	0.46	0.44	0.11	0.66	0.65	0.50	0.50	0.49
Sat Flow, veh/h	1264	1564	342	1236	1155	551	1829	1688	197	843	1337	326
Grp Volume(v), veh/h	172	0	78	56	0	164	300	0	497	45	0	698
Grp Sat Flow(s),veh/h/ln	1264	0	1906	1236	0	1706	1829	0	1885	843	0	1663
Q Serve(g_s), s	14.4	0.0	3.6	3.3	0.0	7.2	8.0	0.0	13.3	3.1	0.0	40.0
Cycle Q Clear(g_c), s	21.1	0.0	3.6	6.4	0.0	7.2	8.0	0.0	13.3	3.1	0.0	40.0
Prop In Lane	1.00		0.18	1.00		0.32	1.00		0.10	1.00		0.20
Lane Grp Cap(c), veh/h	279	0	437	313	0	391	373	0	1248	484	0	827
V/C Ratio(X)	0.62	0.00	0.18	0.18	0.00	0.42	0.81	0.00	0.40	0.09	0.00	0.84
Avail Cap(c_a), veh/h	380	0	589	412	0	527	521	0	1248	484	0	827
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.0	0.0	34.2	25.7	0.0	25.2	21.2	0.0	8.6	14.7	0.0	24.0
Incr Delay (d2), s/veh	2.2	0.0	0.2	0.3	0.0	0.7	6.3	0.0	1.0	0.4	0.0	10.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.1	0.0	3.0	1.6	0.0	4.8	8.0	0.0	9.0	1.1	0.0	23.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	46.2	0.0	34.4	26.0	0.0	25.9	27.5	0.0	9.5	15.1	0.0	34.3
LnGrp LOS	D		C	C		C	C		A	B		C
Approach Vol, veh/h		250			220			797			743	
Approach Delay, s/veh		42.5			25.9			16.3			33.2	
Approach LOS		D			C			B			C	
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		78.8		31.2	18.1	60.7		31.2				
Change Period (Y+Rc), s		7.0		7.0	7.0	7.0		7.0				
Max Green Setting (Gmax), s		63.0		33.0	20.0	36.0		33.0				
Max Q Clear Time (g_c+I1), s		15.3		23.6	10.5	42.0		9.2				
Green Ext Time (p_c), s		3.5		0.6	0.6	0.0		1.1				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			26.8									
HCM 6th LOS			C									

2: Graphite Mine Road & Station Boulevard

2026 Projected Conditions

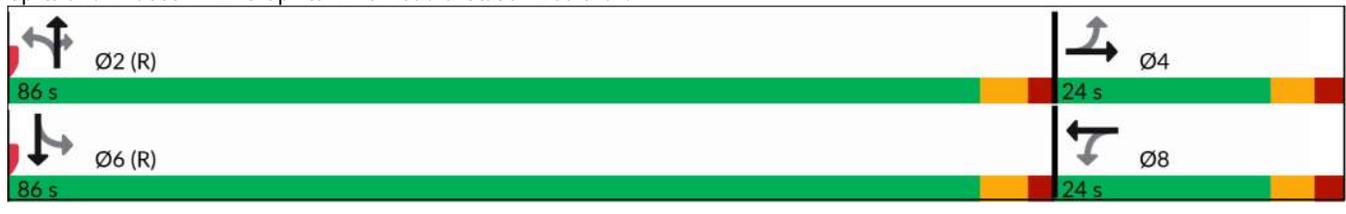
Timing Plan: Weekday PM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	50	48	171	54	8	95	865	210	8	177	10
Future Volume (vph)	0	50	48	171	54	8	95	865	210	8	177	10
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	14	14	12	14	14	12	12	14	11	12	12
Grade (%)		0%			1%			-2%			2%	
Storage Length (ft)	100		0	210		0	95		95	90		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			40			40	
Link Distance (ft)		661			192			486			211	
Travel Time (s)		15.0			5.2			8.3			3.6	
Confl. Peds. (#/hr)									8	8		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	2%	2%	0%	0%	1%	1%	13%	1%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		33.0	33.0	33.0	33.0	33.0	
Total Split (s)	24.0	24.0		24.0	24.0		86.0	86.0	86.0	86.0	86.0	
Total Split (%)	21.8%	21.8%		21.8%	21.8%		78.2%	78.2%	78.2%	78.2%	78.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min	C-Min	C-Min	C-Min	

Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 53 (48%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 2: Graphite Mine Road & Station Boulevard



2: Graphite Mine Road & Station Boulevard

2026 Projected Conditions

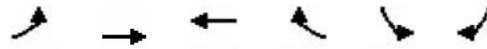
Timing Plan: Weekday PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	50	48	171	54	8	95	865	210	8	177	10
Future Volume (veh/h)	0	50	48	171	54	8	95	865	210	8	177	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1872	1872	1766	1837	1866	1875	1860	1935	1595	1764	1778
Adj Flow Rate, veh/h	0	52	50	178	56	8	99	901	219	8	184	10
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	2	2	0	0	1	1	13	1	0
Cap, veh/h	65	151	146	218	272	39	906	1370	1201	275	1220	66
Arrive On Green	0.00	0.17	0.16	0.17	0.17	0.16	0.74	0.74	0.74	0.74	0.74	0.73
Sat Flow, veh/h	1288	877	843	1221	1572	225	1187	1860	1631	429	1657	90
Grp Volume(v), veh/h	0	0	102	178	0	64	99	901	219	8	0	194
Grp Sat Flow(s),veh/h/ln	1288	0	1720	1221	0	1797	1187	1860	1631	429	0	1747
Q Serve(g_s), s	0.0	0.0	5.8	13.7	0.0	3.4	2.9	27.2	4.5	1.1	0.0	3.6
Cycle Q Clear(g_c), s	0.0	0.0	5.8	19.0	0.0	3.4	6.1	27.2	4.5	28.3	0.0	3.6
Prop In Lane	1.00		0.49	1.00		0.13	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	65	0	297	218	0	310	906	1370	1201	275	0	1286
V/C Ratio(X)	0.00	0.00	0.34	0.82	0.00	0.21	0.11	0.66	0.18	0.03	0.00	0.15
Avail Cap(c_a), veh/h	65	0	297	218	0	310	906	1370	1201	275	0	1286
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	40.2	49.1	0.0	39.1	5.1	7.4	4.4	14.6	0.0	4.3
Incr Delay (d2), s/veh	0.0	0.0	0.7	20.9	0.0	0.3	0.2	2.5	0.3	0.2	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	4.5	10.3	0.0	2.8	1.2	14.1	2.3	0.2	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	40.9	70.0	0.0	39.4	5.4	9.9	4.7	14.8	0.0	4.6
LnGrp LOS			D	E		D	A	A	A	B		A
Approach Vol, veh/h		102			242			1219				202
Approach Delay, s/veh		40.9			61.9			8.6				5.0
Approach LOS		D			E			A				A
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		86.0		24.0		86.0		24.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		80.0		18.0		80.0		18.0				
Max Q Clear Time (g_c+I1), s		29.7		7.8		30.8		21.5				
Green Ext Time (p_c), s		9.9		0.3		1.2		0.0				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				17.4								
HCM 6th LOS				B								

3: Station Boulevard & Driveway

2026 Projected Conditions

Timing Plan: Weekday PM Peak



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	98	65	119	54	36	113
Future Volume (vph)	98	65	119	54	36	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	3%		0%	
Link Speed (mph)		30	25		30	
Link Distance (ft)		344	661		224	
Travel Time (s)		7.8	18.0		5.1	
Confl. Peds. (#/hr)						4
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

3: Station Boulevard & Driveway

2026 Projected Conditions

Timing Plan: Weekday PM Peak

Intersection						
Int Delay, s/veh	5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	98	65	119	54	36	113
Future Vol, veh/h	98	65	119	54	36	113
Conflicting Peds, #/hr	0	0	0	0	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	3	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	110	73	134	61	40	127

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	195	0	-	0	458 169
Stage 1	-	-	-	-	165 -
Stage 2	-	-	-	-	293 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1390	-	-	-	565 880
Stage 1	-	-	-	-	869 -
Stage 2	-	-	-	-	762 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1390	-	-	-	520 877
Mov Cap-2 Maneuver	-	-	-	-	520 -
Stage 1	-	-	-	-	800 -
Stage 2	-	-	-	-	762 -

Approach	EB	WB	SB
HCM Control Delay, s/v	4.7	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1390	-	-	-	752
HCM Lane V/C Ratio	0.079	-	-	-	0.223
HCM Control Delay (s/veh)	7.8	-	-	-	11.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q (veh)	0.3	-	-	-	0.8

1: Pottstown Pike & Park Road/Station Boulevard

2026 Projected Conditions

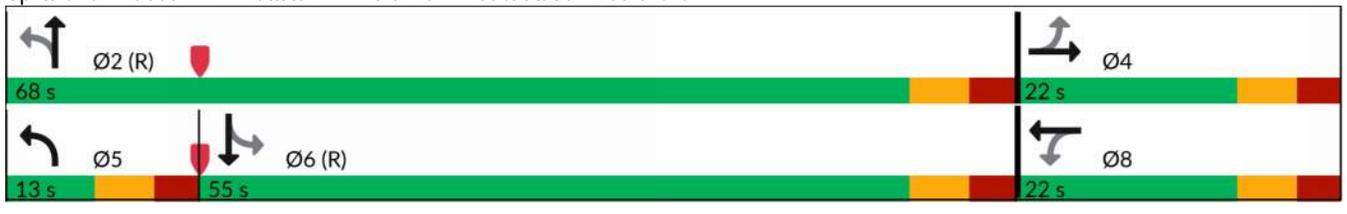
Timing Plan: Saturday MIDDAY

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	61	21	45	64	29	199	271	38	40	622	135
Future Volume (vph)	147	61	21	45	64	29	199	271	38	40	622	135
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	13	13	12	14	14	11	11	11	11	11	11
Grade (%)		-4%			3%			0%			3%	
Storage Length (ft)	75		0	114		0	355		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes				Yes			Yes		
Link Speed (mph)		35			25			35			35	
Link Distance (ft)		650			383			444			509	
Travel Time (s)		12.7			10.4			8.6			9.9	
Confl. Peds. (#/hr)			1	1			3					3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	1%	8%	0%	1%	2%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8			5		2		
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		3.0	15.0		15.0	15.0	
Minimum Split (s)	10.0	10.0		10.0	10.0		11.0	23.0		23.0	23.0	
Total Split (s)	22.0	22.0		22.0	22.0		13.0	68.0		55.0	55.0	
Total Split (%)	24.4%	24.4%		24.4%	24.4%		14.4%	75.6%		61.1%	61.1%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead			Lag		Lag
Lead-Lag Optimize?							Yes			Yes		Yes
Recall Mode	None	None		None	None		None	C-Min		C-Min	C-Min	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 26 (29%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Pottstown Pike & Park Road/Station Boulevard



Lanes, Volumes, Timings

1: Pottstown Pike & Park Road/Station Boulevard

2026 Projected Conditions

Timing Plan: Saturday Midday

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	61	21	45	64	29	199	271	38	40	622	135
Future Volume (veh/h)	147	61	21	45	64	29	199	271	38	40	622	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1921	2027	2027	1750	1820	1820	1800	1786	1688	1750	1736	1722
Adj Flow Rate, veh/h	152	63	22	46	66	30	205	279	39	41	641	139
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	0	0	0	0	0	0	1	8	0	1	2
Cap, veh/h	259	255	89	258	210	96	317	1056	148	620	752	163
Arrive On Green	0.18	0.18	0.17	0.18	0.18	0.17	0.08	0.69	0.68	0.54	0.54	0.53
Sat Flow, veh/h	1332	1434	501	1225	1183	538	1714	1533	214	991	1381	300
Grp Volume(v), veh/h	152	0	85	46	0	96	205	0	318	41	0	780
Grp Sat Flow(s),veh/h/ln	1332	0	1935	1225	0	1721	1714	0	1747	991	0	1681
Q Serve(g_s), s	10.0	0.0	3.4	3.0	0.0	4.4	4.3	0.0	6.3	1.8	0.0	35.5
Cycle Q Clear(g_c), s	13.9	0.0	3.4	5.9	0.0	4.4	4.3	0.0	6.3	1.8	0.0	35.5
Prop In Lane	1.00		0.26	1.00		0.31	1.00		0.12	1.00		0.18
Lane Grp Cap(c), veh/h	259	0	344	258	0	306	317	0	1203	620	0	915
V/C Ratio(X)	0.59	0.00	0.25	0.18	0.00	0.31	0.65	0.00	0.26	0.07	0.00	0.85
Avail Cap(c_a), veh/h	259	0	344	258	0	306	317	0	1203	620	0	915
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.0	0.0	31.9	34.1	0.0	32.4	17.5	0.0	5.4	9.7	0.0	17.5
Incr Delay (d2), s/veh	3.4	0.0	0.4	0.3	0.0	0.6	4.5	0.0	0.5	0.2	0.0	9.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.2	0.0	2.9	1.7	0.0	3.4	4.6	0.0	3.6	0.7	0.0	20.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	41.4	0.0	32.3	34.5	0.0	32.9	22.0	0.0	5.9	9.9	0.0	27.4
LnGrp LOS	D		C	C		C	C		A	A		C
Approach Vol, veh/h		237			142			523				821
Approach Delay, s/veh		38.2			33.4			12.2				26.5
Approach LOS		D			C			B				C
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		68.0		22.0	13.0	55.0		22.0				
Change Period (Y+Rc), s		7.0		7.0	7.0	7.0		7.0				
Max Green Setting (Gmax), s		61.0		15.0	6.0	48.0		15.0				
Max Q Clear Time (g_c+I1), s		8.3		16.4	6.8	37.5		8.4				
Green Ext Time (p_c), s		2.0		0.0	0.0	4.1		0.3				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			24.3									
HCM 6th LOS			C									

2: Graphite Mine Road & Station Boulevard

2026 Projected Conditions

Timing Plan: Saturday Midday

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	52	46	113	31	9	63	499	127	14	273	14
Future Volume (vph)	10	52	46	113	31	9	63	499	127	14	273	14
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	14	14	12	14	14	12	12	14	11	12	12
Grade (%)		0%			1%			-2%			2%	
Storage Length (ft)	100		0	210		0	95		95	90		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			40			40	
Link Distance (ft)		623			192			486			211	
Travel Time (s)		14.2			5.2			8.3			3.6	
Confl. Peds. (#/hr)									4	4		
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	3%	0%	0%	0%	0%	1%	2%	7%	1%	0%
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	22.0	22.0		22.0	22.0		41.0	41.0	41.0	41.0	41.0	
Total Split (%)	34.9%	34.9%		34.9%	34.9%		65.1%	65.1%	65.1%	65.1%	65.1%	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min	C-Min	C-Min	C-Min	

Intersection Summary

Area Type: Other
 Cycle Length: 63
 Actuated Cycle Length: 63
 Offset: 14 (22%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 50
 Control Type: Actuated-Coordinated

Splits and Phases: 2: Graphite Mine Road & Station Boulevard



2: Graphite Mine Road & Station Boulevard

2026 Projected Conditions

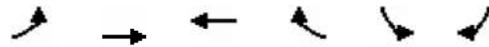
Timing Plan: Saturday MIDDAY

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	52	46	113	31	9	63	499	127	14	273	14
Future Volume (veh/h)	10	52	46	113	31	9	63	499	127	14	273	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1872	1828	1794	1866	1866	1875	1860	1920	1679	1764	1778
Adj Flow Rate, veh/h	12	61	54	133	36	11	74	587	149	16	321	16
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	3	0	0	0	0	1	2	7	1	0
Cap, veh/h	370	192	170	311	287	88	690	1176	1025	414	1052	52
Arrive On Green	0.21	0.21	0.19	0.21	0.21	0.19	0.63	0.63	0.63	0.63	0.63	0.62
Sat Flow, veh/h	1307	916	811	1226	1372	419	1044	1860	1622	648	1665	83
Grp Volume(v), veh/h	12	0	115	133	0	47	74	587	149	16	0	337
Grp Sat Flow(s),veh/h/ln	1307	0	1726	1226	0	1791	1044	1860	1622	648	0	1748
Q Serve(g_s), s	0.5	0.0	3.6	6.4	0.0	1.3	2.2	10.7	2.3	0.9	0.0	5.5
Cycle Q Clear(g_c), s	1.3	0.0	3.6	9.5	0.0	1.3	7.2	10.7	2.3	11.5	0.0	5.5
Prop In Lane	1.00		0.47	1.00		0.23	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	370	0	361	311	0	375	690	1176	1025	414	0	1105
V/C Ratio(X)	0.03	0.00	0.32	0.43	0.00	0.13	0.11	0.50	0.15	0.04	0.00	0.31
Avail Cap(c_a), veh/h	449	0	466	385	0	483	690	1176	1025	414	0	1105
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.6	0.0	21.3	24.9	0.0	20.3	6.8	6.2	4.7	9.3	0.0	5.3
Incr Delay (d2), s/veh	0.0	0.0	0.5	0.9	0.0	0.1	0.3	1.5	0.3	0.2	0.0	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	0.0	2.5	3.4	0.0	1.0	0.8	5.7	1.1	0.2	0.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.6	0.0	21.8	25.8	0.0	20.5	7.1	7.8	5.0	9.5	0.0	6.0
LnGrp LOS	C		C	C		C	A	A	A	A		A
Approach Vol, veh/h		127			180			810				353
Approach Delay, s/veh		21.7			24.4			7.2				6.2
Approach LOS		C			C			A				A
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		44.8		18.2		44.8		18.2				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		35.0		16.0		35.0		16.0				
Max Q Clear Time (g_c+I1), s		13.2		5.6		14.0		12.0				
Green Ext Time (p_c), s		4.5		0.4		1.9		0.2				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				10.3								
HCM 6th LOS				B								

3: Station Boulevard & Driveway

2026 Projected Conditions

Timing Plan: Saturday MIDDAY



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	77	63	69	39	42	71
Future Volume (vph)	77	63	69	39	42	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		0%	3%		0%	
Link Speed (mph)		30	25		30	
Link Distance (ft)		383	623		277	
Travel Time (s)		8.7	17.0		6.3	
Confl. Peds. (#/hr)						6
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

3: Station Boulevard & Driveway

2026 Projected Conditions

Timing Plan: Saturday MIDDAY

Intersection						
Int Delay, s/veh	4.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	77	63	69	39	42	71
Future Vol, veh/h	77	63	69	39	42	71
Conflicting Peds, #/hr	0	0	0	0	0	6
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	3	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	2	0	0	0	0
Mvmt Flow	80	66	72	41	44	74

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	113	0	-	0	319 99
Stage 1	-	-	-	-	93 -
Stage 2	-	-	-	-	226 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1489	-	-	-	678 962
Stage 1	-	-	-	-	936 -
Stage 2	-	-	-	-	816 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1489	-	-	-	641 957
Mov Cap-2 Maneuver	-	-	-	-	641 -
Stage 1	-	-	-	-	885 -
Stage 2	-	-	-	-	816 -

Approach	EB	WB	SB
HCM Control Delay, s/v	4.2	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1489	-	-	-	809
HCM Lane V/C Ratio	0.054	-	-	-	0.145
HCM Control Delay (s/veh)	7.6	-	-	-	10.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q (veh)	0.2	-	-	-	0.5

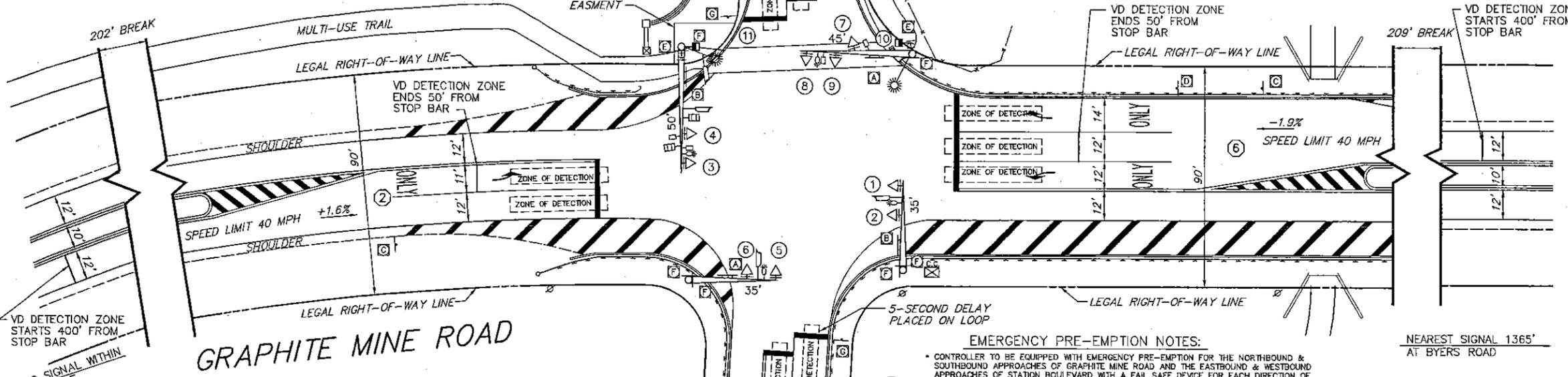
APPENDIX E:

Traffic Signal Plans



TIME INTERVAL	STATION BLVD	GRAPHITE MINE RD	TOTALS
1. 7:00AM TO 8:00AM	34	34	53
2. 8:00AM TO 9:00AM			
3. 9:00AM TO 10:00AM			
4. 10:00AM TO 11:00AM			
5. 11:00AM TO 12:00PM			
6. 12:00PM TO 1:00PM			
7. 1:00PM TO 2:00PM			
8. 2:00PM TO 3:00PM			
9. 3:00PM TO 4:00PM	36*	20*	21*
10. 4:00PM TO 5:00PM			
11. 5:00PM TO 6:00PM			
12. 6:00PM TO 7:00PM			
TOTALS	12	52	227

TIME INTERVAL	STATION BLVD	GRAPHITE MINE RD	TOTALS
1. 7:00AM TO 8:00AM	19	34	33
2. 8:00AM TO 9:00AM			
3. 9:00AM TO 10:00AM			
4. 10:00AM TO 11:00AM			
5. 11:00AM TO 12:00PM			
6. 12:00PM TO 1:00PM			
7. 1:00PM TO 2:00PM			
8. 2:00PM TO 3:00PM			
9. 3:00PM TO 4:00PM	7*	40*	13*
10. 4:00PM TO 5:00PM			
11. 5:00PM TO 6:00PM			
12. 6:00PM TO 7:00PM			
TOTALS	12	43	50



EMERGENCY PRE-EMPTION PHASING
MOVEMENT, SEQUENCE AND TIMING DIAGRAM

PHASE	INTERVAL	1	2	3	4	5	6	7	FLASH
1,2	G G Y R	R	R	R	R	R	R	R	Y
3,4	G G Y R	R	R	R	R	R	R	R	Y
5,6,7	R R R R	G	Y	R	R	R	R	R	R
8,9	R R R R	G	Y	R	R	R	R	R	R
10,11*	M FH H H	H	H	H	H	H	H	H	OFF

FIXED	INTERVAL	4	2	3.5	2.5
MINIMUM		10		3	
PASSAGE	**			3	
MAXIMUM		60		30	
PEDESTRIAN*		7	20		
MEMORY		MN		NL	

EMERGENCY PRE-EMPTION PHASING
MOVEMENT, SEQUENCE AND TIMING DIAGRAM

PHASE	INTERVAL	2	4	6	8
1,2	G Y R R	R	R	R	R
3,4	R R R R	R	R	R	R
5,6,7	R R R R	G	Y	R	R
8,9	R R R R	R	R	R	R
10,11	H H H H	H	H	H	H
FIXED	** + 2	** 3.5	2.5	** 4	2

** FOR DURATION OF PRE-EMPTION

NOTE:
IF PRE-EMPTION EQUIPMENT HAS ENCODING CAPABILITIES FOR VEHICLE IDENTIFICATION, IT IS RECOMMENDED TO HAVE THE ZERO "00" FEATURE ON, TO GIVE UNCODED EMITTERS THE ABILITY TO ACTIVATE THE EMERGENCY PRE-EMPTION.

ⓐ G WHEN RETURNING TO NORMAL OPERATION

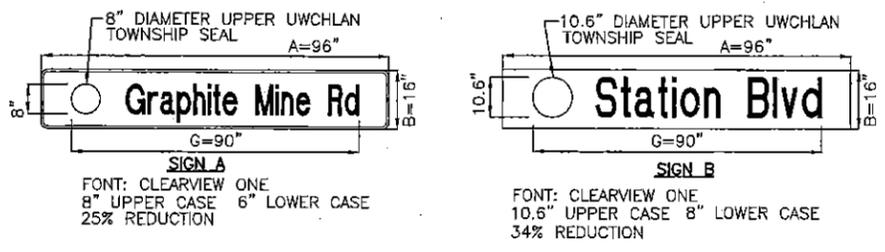
****ADVANCE DILEMMA ZONE RADAR DETECTION SYSTEM NOTES**
EST. TIME OF ARRIVAL: MIN. 1.5 - MAX. 5.5 SEC.
RANGE OF PROTECTION: MIN. 50 - MAX. 400 FT. FROM STOP BAR
SPEED BOUNDARY: MIN. 30 MPH

****DENSITY ZONE NOTES**
RANGE OF DETECTION: 30 - 50 FEET FROM STOP BAR
MINIMUM SPEED BOUNDARY: 1 MPH

SIGN TABULATION

PLAN SYMBOL	SERIES NUMBER	SIZE	REMARKS
ⓐ	D3-4	96X16	OVERHEAD STREET NAME SIGN (SEE DETAIL)
ⓑ	D3-4	96X16	OVERHEAD STREET NAME SIGN (SEE DETAIL)
ⓒ	R3-7L	30X30	LEFT LANE MUST TURN LEFT
ⓓ	R3-7R	30X30	RIGHT LANE MUST TURN RIGHT
ⓔ	R10-3E(R)	9X12	EDUCATIONAL PUSH BUTTON FOR WALKING PERSON
ⓕ	R9-3A	18X18	NO PEDESTRIAN CROSSING
ⓖ	R10-6AL	24X30	STOP HERE ON RED

SIGN DETAILS
NOT TO SCALE



GENERAL NOTES

NO MODIFICATIONS OF THIS INSTALLATION ARE PERMITTED UNLESS PRIOR APPROVAL IS GRANTED IN WRITING BY A REPRESENTATIVE OF THE DEPARTMENT OF TRANSPORTATION.

ALL MAINTENANCE WORK INCLUDING TRIMMING OF TREES, NECESSARY FOR PROPER VISIBILITY OF THE SIGNALS IS THE RESPONSIBILITY OF THE PERMITTEE.

ALL SIGNS AND PAVEMENT MARKINGS INDICATED ON THIS DRAWING ARE CONSIDERED PART OF THE PERMIT AND SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH PUBLICATION NO. 212.

POST MOUNTED SIGNALS SHALL BE INSTALLED WITH THE SIGNAL HEADS A MINIMUM OF 2 FEET BEHIND THE FACE OF CURB OR THE EDGE OF THE SHOULDER. SUPPORT POLES FOR OVERHEAD SIGNALS SHALL ALSO HAVE A MINIMUM CLEARANCE HORIZONTALLY OF 2 FEET.

SIGNALS ERECTED OVER THE ROADWAY SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 16 FT. ABOVE THE ROADWAY. POST MOUNTED SIGNALS SHALL BE A MINIMUM OF 8 FT. ABOVE THE SIDEWALK OR PAVEMENT.

ALL OVERHEAD SIGNALS MUST BE RIGIDLY MOUNTED, TOP AND BOTTOM, AND EQUIPPED WITH BACKPLATES.

THE MINIMUM HORIZONTAL DISTANCE BETWEEN SIGNALS MEASURED AT RIGHT ANGLES TO THE APPROACH SHALL BE 8 FEET.

EXACT LOCATION OF DETECTORS SHALL BE DETERMINED PRIOR TO INSTALLATION BY A REPRESENTATIVE OF PENNDOT.

CURBING TO BE INSTALLED BY MUNICIPALITY AND WHERE NOTED, SHALL BE PLAIN CEMENT CONCRETE CURB OR GRANITE CURB, INSTALLED IN ACCORDANCE WITH DEPARTMENT SPECIFICATIONS FORM 408.

PRIOR TO INSTALLATION THE CONTRACTOR SHALL CONSULT WITH THE LOCAL OFFICIALS AND UTILITY COMPANIES TO RESOLVE ANY PROBLEMS WHICH MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.

THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLIES WITH THE PROVISIONS OF THE LATEST AMENDMENT TO ACT 287, PREVENTION OF DAMAGE TO UNDERGROUND UTILITIES, DATED DECEMBER 20, 1974.

WHEN LIQUID FUELS MONEY IS USED, SIGNAL INSTALLATION MUST CONFORM TO FORM 408 AND A COPY OF THE PROPOSED SPECIFICATIONS MUST BE SUBMITTED TO THE DISTRICT TRAFFIC UNIT, FOR REVIEW, PRIOR TO BIDDING.

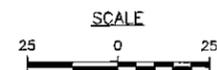
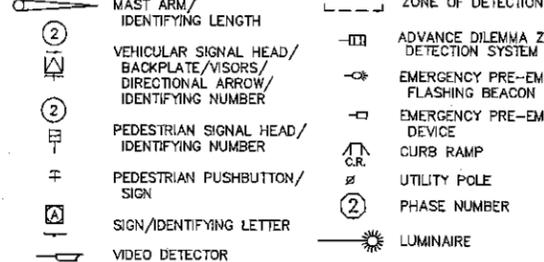
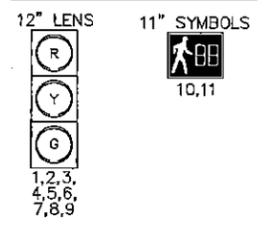
PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR ANY CHANGES IN INTERSECTION GEOMETRY REGARDING EXCAVATION.

CONDUIT INSTALLED IN BITUMINOUS ROADWAY LESS THAN 5 YEARS OLD, OR CONCRETE ROADWAY REGARDLESS OF AGE, MUST BE BORED OR JACKED UNDER THE ROADWAY. INSTALL IN ACCORDANCE WITH TRAFFIC SIGNAL STANDARDS TC-8800 SERIES.

EMERGENCY PRE-EMPTION NOTES:

- CONTROLLER TO BE EQUIPPED WITH EMERGENCY PRE-EMPTION FOR THE NORTHBOUND & SOUTHBOUND APPROACHES OF GRAPHITE MINE ROAD AND THE EASTBOUND & WESTBOUND APPROACHES OF STATION BOULEVARD WITH A FAIL SAFE DEVICE FOR EACH DIRECTION OF OPERATION. THIS EMERGENCY BEACON SHALL CONSIST OF A FLASHING WHITE FLOOD LIGHT, AND SHALL FLASH WHEN THE EMERGENCY VEHICLE HAS CONTROL OF THE INTERSECTION FOR THE APPROPRIATE APPROACH. LOCATION OF EMERGENCY VEHICLE DETECTORS ARE TO BE FIELD ADJUSTED TO ACHIEVE MAXIMUM OPERATION.
- THE SIGNALS SHALL TERMINATE ALL GREEN INDICATIONS IMMEDIATELY, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, FOLLOWED BY THE COMPLETE YELLOW AND RED CLEARANCE INTERVALS, ACCORDINGLY, THEN THE GREEN INTERVAL FOR THE PRE-EMPTED PHASE SHALL FOLLOW.
- THE SIGNALS SHALL TIME OUT ALL YELLOW AND RED INDICATIONS, WHEN ACTIVATED BY EMERGENCY VEHICLE, FOLLOWED BY THE GREEN INTERVAL OF THE PRE-EMPTION PHASE GOVERNED BY THE APPROACHING EMERGENCY VEHICLE.
- IF SIGNALS HAS BEEN ACTIVATED BY PEDESTRIAN PUSH BUTTON AND THE SIGNAL IS PRE-EMPTED DURING THE MAN INTERVAL, THE "MAN" INTERVAL SHALL TERMINATE IMMEDIATELY FOLLOWED BY THE "FLASHING HAND" INDICATION IN ITS ENTIRETY, FOLLOWED BY THE APPROPRIATE SELECTIVE CLEARANCES BEFORE PROCEEDING INTO THE PRE-EMPTION PHASE.
- IF THE SIGNALS ARE FLASHING WHEN ACTIVATED BY AN EMERGENCY VEHICLE, ALL SIGNALS SHALL REMAIN FLASHING.
- IF ADDITIONAL PRE-EMPTION PHASES ARE ACTIVATED WHILE IN PRE-EMPTION, THE ORIGINAL PRE-EMPTION PHASE SHALL TIME OUT BEFORE PROCEEDING TO THE NEXT PRE-EMPTION PHASE.
- UPON COMPLETION OF PRE-EMPTION, PHASE 2,4,6 OR 8 IN RETURNING TO NORMAL OPERATION, PHASE 2+6 INTERVAL 1 SHALL FOLLOW.
- IN EMERGENCY PRE-EMPTION, NO PRIORITY SHALL BE ESTABLISHED, PRE-EMPTION SHALL BE A "FIRST COME, FIRST SERVE" OPERATION.

SIGNAL INDICATIONS



SYSTEM PERMIT # -0014

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
ENGINEERING DISTRICT 6-0

COUNTY: CHESTER
MUNICIPALITY: UPPER UWCHLAN TOWNSHIP
INTERSECTION: GRAPHITE MINE ROAD AND STATION BOULEVARD

REVIEWED: _____ DATE _____

GWEN JONIK MUNICIPAL OFFICIAL **JUNE 12, 2009** DATE

RECOMMENDED: **PAUL LUTZ** 6/11/09

ASHWIN B. PATEL, P.E. 6/11/09 DISTRICT TRAFFIC ENGINEER

NO.	REVISION	DES./REV.	DATE	REVW.	DATE	RECOM.	DATE
1	AS BUILT PLAN	McM	01/12/10	Lutz	1/13/10	LRB	1/13/10
2	ADAPTIVE SIGNAL SYSTEM	McM	1/28/12	JPB	3/9/12		
3							
4							
5							
6							
7							
8							

SHEET 2 OF 2 PERMIT # 62-3760 FILE # 3760

GENERAL NOTES

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REFER TO TRAFFIC SIGNAL PERMIT DRAWING FOR INDIVIDUAL INTERSECTION OPERATION, GEOMETRY, PHASING AND CRITICAL TIMES.

FOR CONSTRUCTION AND INSPECTION THE SYSTEM PERMIT SHOULD ALWAYS BE ACCOMPANIED WITH TRAFFIC SIGNAL PERMIT DRAWING.

TEST THE SYSTEM AT LOCAL INTERSECTION LEVEL, SUBSYSTEM LEVEL, MASTER CONTROLLER LEVEL, AND PERSONAL COMPUTER REMOTE DIAL UP LEVEL.

GATHER THE SYSTEM FAILURE CRITICAL ALARMS REPORT AND ARCHIVE THEM WHERE APPLICABLE.

SET UP PENNDOT DISTRICT 6-0 COMPUTER WITH THE SYSTEM DATABASE AND GRAPHICS. MODIFY THE DATABASE AND GRAPHICS FOR SYSTEMS REVISIONS.

ASSIGN LOOP DETECTORS AND PROGRAM THE CONTROLLERS TO GATHER TRAFFIC VOLUMES IN 15 MINUTE INTERVALS, WHERE APPLICABLE.

EXACT LOCATION OF DETECTORS SHALL BE DETERMINED PRIOR TO INSTALLATION BY A REPRESENTATIVE OF PENNDOT.

OBTAIN POLE ATTACHMENT PERMIT FOR AERIAL FIBER OPTIC INSTALLATION.

MAINTAIN MASTER CONTROLLER COMMUNICATION SUCH AS PHONE DROPS.

PRIOR TO INSTALLATION THE CONTRACTOR SHALL CONSULT WITH THE LOCAL OFFICIALS AND UTILITY COMPANIES TO RESOLVE ANY PROBLEMS WHICH MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.

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PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR ANY CHANGES IN INTERSECTION GEOMETRY REGARDING EXCAVATION.

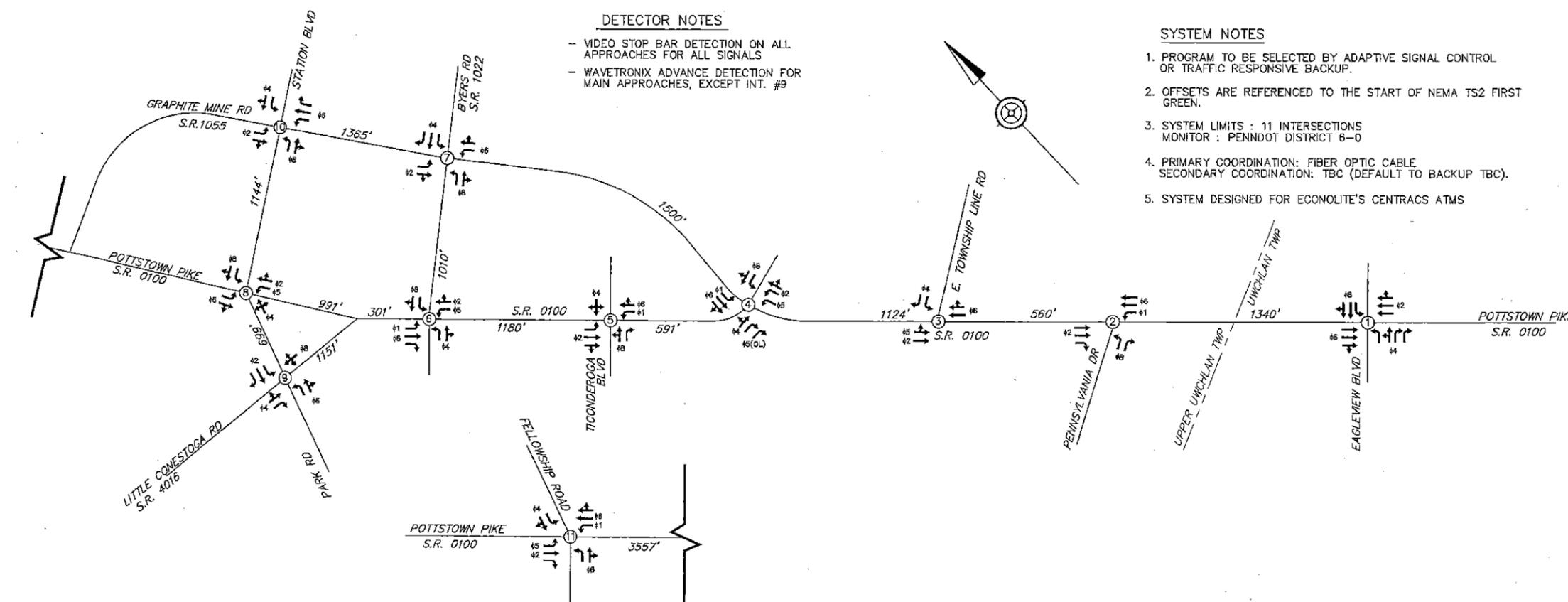
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SYSTEM NOTES

- PROGRAM TO BE SELECTED BY ADAPTIVE SIGNAL CONTROL OR TRAFFIC RESPONSIVE BACKUP.
- OFFSETS ARE REFERENCED TO THE START OF NEMA TS2 FIRST GREEN.
- SYSTEM LIMITS : 11 INTERSECTIONS
MONITOR : PENNDOT DISTRICT 6-0
- PRIMARY COORDINATION: FIBER OPTIC CABLE
SECONDARY COORDINATION: TBC (DEFAULT TO BACKUP TBC).
- SYSTEM DESIGNED FOR ECONOLITE'S CENTRACS ATMS

DETECTOR NOTES

- VIDEO STOP BAR DETECTION ON ALL APPROACHES FOR ALL SIGNALS
- WAVETRONIX ADVANCE DETECTION FOR MAIN APPROACHES, EXCEPT INT. #9



WEEKLY PROGRAM CHART

EVENT	DAY	TIME	PROGRAM	REMARKS
1	1-5	06:00	5*	AM PEAK
2	1-5	07:00	5	AM PEAK
3	1-5	09:00	6*	MIDDAY
4	1-5	13:30	7	PM PEAK
5	1-5	19:00	6*	EVENINGS
6	1-7	22:00	MAX 1	OVERNIGHTS
7	6-7	09:00	6*	WEEKENDS

MONDAY = DAY 1
 OFFSETS IN SECONDS
 * DURING EVENTS 1, 3, 5, AND 7 INTERSECTIONS 7 AND 10 TO RUN MAX 1 DURING EVENT 1 INTERSECTIONS 6 AND 8 TO RUN MAX 1

NOTES:
 - ALL SPLIT TIMES INCLUDE YELLOW AND RED TIMES FOR A GIVEN PHASE.
 - REFER TO SIGNAL PERMIT PLAN FOR MAX 1, MAX 2, CLEARANCE, AND PEDESTRIAN TIMES.

LEGEND
 PHASE
 SCALE: NOT TO SCALE

CYCLE/SPLIT/OFFSET

Program 5

Intersections	File #	Master	1	2	3	4	5	6	7	8	Cycle	Offset
1 POTTSTOWN PIKE & EAGLEVIEW BLVD	2527			64		23(SPLIT)		64		23(SPLIT)	110	62
2 POTTSTOWN PIKE & PENNSYLVANIA DR	2931		28(LEAD)	58				66		24	110	106
3 POTTSTOWN PIKE & E. TWP LINE RD	3040			79		31	17(LEAD)	62			110	21
4 POTTSTOWN PIKE & GRAPHITE MINE RD	3570		13(LAG)	81		16	48(LEAD)	46		16	110	0
5 POTTSTOWN PIKE & TICONDEROGA BLVD	3319		16(LEAD)	72		22		88		22	110	11
6 POTTSTOWN PIKE & BYERS RD	3076		12(LEAD)	27		16	12(LEAD)	27		16	55	19
7 GRAPHITE MINE RD & BYERS RD	3608			81		29		81		29	110	35
8 POTTSTOWN PIKE & PARK RD	2756			36		19	13(LEAD)	23		19	55	54
9 PARK RD & LITTLE CONESTOGA RD	2756										FREE	FREE
10 GRAPHITE MINE RD & STATION BLVD	3760			70				70		40	110	22
11 POTTSTOWN PIKE & FELLOWSHIP ROAD	3346					40				40	FREE	FREE

Program 6

Intersections	File #	Master	1	2	3	4	5	6	7	8	Cycle	Offset
1 POTTSTOWN PIKE & EAGLEVIEW BLVD	2527			48		21(SPLIT)		48		21(SPLIT)	90	14
2 POTTSTOWN PIKE & PENNSYLVANIA DR	2931		20(LEAD)	48				68		22	90	23
3 POTTSTOWN PIKE & E. TWP LINE RD	3040			67		23	13(LEAD)	54			90	16
4 POTTSTOWN PIKE & GRAPHITE MINE RD	3570		13(LAG)	81		16	45(LEAD)	29		16	90	0
5 POTTSTOWN PIKE & TICONDEROGA BLVD	3319		16(LEAD)	55		19		71		19	90	11
6 POTTSTOWN PIKE & BYERS RD	3076		12(LEAD)	30		18	12(LEAD)	30		18	60	50
7 GRAPHITE MINE RD & BYERS RD	3608										FREE	FREE
8 POTTSTOWN PIKE & PARK RD	2756			39		21	13(LEAD)	26		21	60	12
9 PARK RD & LITTLE CONESTOGA RD	2756										FREE	FREE
10 GRAPHITE MINE RD & STATION BLVD	3760										FREE	FREE
11 POTTSTOWN PIKE & FELLOWSHIP ROAD	3346										FREE	FREE

Program 7

Intersections	File #	Master	1	2	3	4	5	6	7	8	Cycle	Offset
1 POTTSTOWN PIKE & EAGLEVIEW BLVD	2527			58		21(SPLIT)		56		33(SPLIT)	110	10
2 POTTSTOWN PIKE & PENNSYLVANIA DR	2931		28(LEAD)	52				80		30	110	81
3 POTTSTOWN PIKE & E. TWP LINE RD	3040			83		27	13(LEAD)	70			110	77
4 POTTSTOWN PIKE & GRAPHITE MINE RD	3570		13(LAG)	81		16	57(LEAD)	37		16	110	0
5 POTTSTOWN PIKE & TICONDEROGA BLVD	3319		24(LEAD)	64		22		88		22	110	11
6 POTTSTOWN PIKE & BYERS RD	3076		12(LEAD)	29		14	12(LEAD)	29		14	55	35
7 GRAPHITE MINE RD & BYERS RD	3608			86		24		86		24	110	30
8 POTTSTOWN PIKE & PARK RD	2756			36		19	13(LEAD)	23		19	55	53
9 PARK RD & LITTLE CONESTOGA RD	2756										FREE	FREE
10 GRAPHITE MINE RD & STATION BLVD	3760			86		24		86		24	110	53
11 POTTSTOWN PIKE & FELLOWSHIP ROAD	3346										FREE	FREE

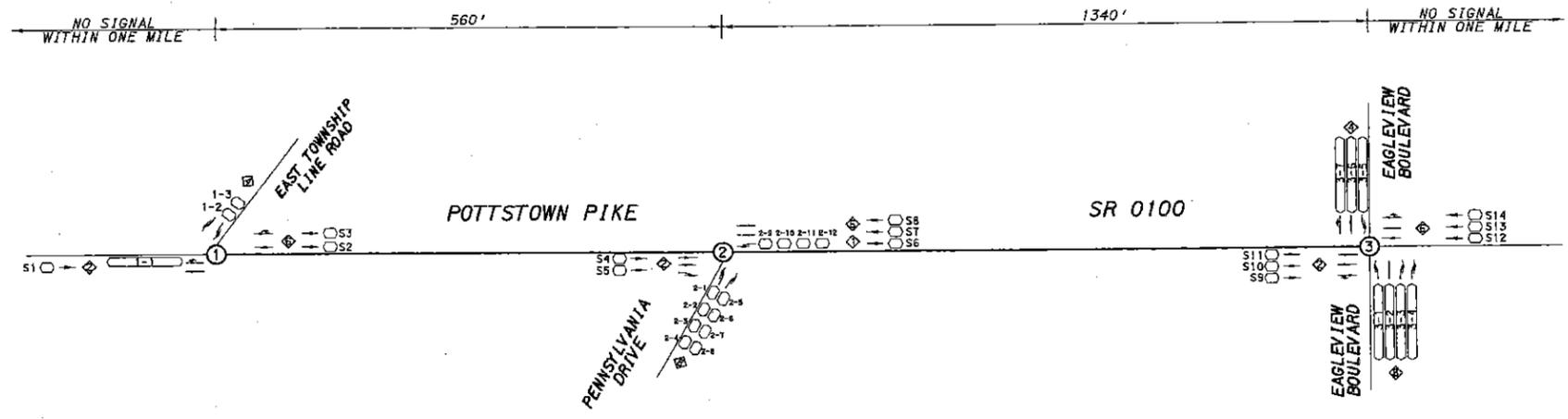
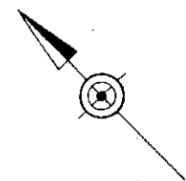
PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
 ENGINEERING DISTRICT 6-0

COUNTY: CHESTER
 MUNICIPALITY: UPPER UWCHLAN TOWNSHIP
 INTERSECTION: UPPER UWCHLAN SYSTEM PLAN

REVIEWED: _____ DATE _____
 MUNICIPAL OFFICIAL _____ DATE _____

RECOMMENDED: _____
 DISTRICT TRAFFIC ENGINEER _____ DATE _____

NO.	REVISION	DES/REV	DATE	REVW	DATE	REC'D	DATE
1	ADAPTIVE SIGNAL SYSTEM	MCM	1/25/12	488	4/12		
2							
3							
4							
5							
6							
7							
8							



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TEST THE SYSTEM AT LOCAL INTERSECTION LEVEL, SUBSYSTEM LEVEL MASTER CONTROLLER LEVEL AND PERSONAL COMPUTER REMOTE DIAL UP LEVEL.

GATHER THE SYSTEM FAILURE CRITICAL ALARMS REPORT AND ARCHIVE THEM WHERE APPLICABLE.

SET UP PENNDOT DISTRICT 6-0 COMPUTER WITH THE SYSTEM DATABASE AND GRAPHICS. MODIFY THE DATABASE AND GRAPHICS FOR SYSTEMS REVISIONS.

ASSIGN LOOP DETECTORS AND PROGRAM THE CONTROLLERS TO GATHER TRAFFIC VOLUMES IN 15 MINUTE INTERVAL, WHERE APPLICABLE.

EXACT LOCATION OF DETECTORS SHALL BE DETERMINED PRIOR TO INSTALLATION BY A REPRESENTATIVE OF PENNDOT.

OBTAIN POLE ATTACHMENT PERMIT FOR AERIAL FIBER OPTIC INSTALLATION.

MAINTAIN MASTER CONTROLLER COMMUNICATION SUCH AS PHONE DROPS.

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**PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
ENGINEERING DISTRICT 6-0**

COUNTY: CHESTER
 MUNICIPALITY: UPPER UWCHLAN AND UWCHLAN TOWNSHIPS
 INTERSECTION: POTTSTOWN PIKE (SR 0100) FROM EAST TOWNSHIP LINE ROAD TO EAGLEVIEW BOULEVARD

REVIEWED: _____ DATE _____
 MUNICIPAL OFFICIAL _____ DATE _____

RECOMMENDED: MARK L. KRAY 4-27-99
 DOUGLAS MAY 4-28-99
 DISTRICT TRAFFIC ENGINEER _____ DATE _____

NO	REVISION	DES/REVW	DATE	REVW	DATE	RECOM	DATE
1	RETIMING	TPD	3/10/09	LUTZ	3/10/09	LRB	3/10/09
2	RETIME INTERSECTION 2	TPD	4/27/09	LUTZ	4/27/09	LRB	4/27/09
3							
4							
5							
6							
7							
8							

SYSTEM PERMIT # I-0014

CYCLE / SPLIT / OFFSET														
PROGRAM 1 = INTERSECTIONS		FILE #	PHASE								CYCLE	OFFSET#1	OFFSET#2	OFFSET#3
11	10		1	2	3	4	5	6	7	8				
3		POTTSTOWN PIKE / EAGLEVIEW BOULEVARD	2527		70		22		70		28	120	24	
2		POTTSTOWN PIKE / PENNSYLVANIA DRIVE	2931	32					96	24	120	0		
1		POTTSTOWN PIKE / EAST TOWNSHIP LINE ROAD	3040	17(LEAD)					89	31	120	14		
PROGRAM 2 = INTERSECTIONS		FILE #	PHASE								CYCLE	OFFSET#1	OFFSET#2	OFFSET#3
3		POTTSTOWN PIKE / EAGLEVIEW BOULEVARD	2527		65		33		65		22	120	1	
2		POTTSTOWN PIKE / PENNSYLVANIA DRIVE	2931	28					90	30	120	0		
1		POTTSTOWN PIKE / EAST TOWNSHIP LINE ROAD	3040	13(LEAD)					89	24	120	11S		
PROGRAM 3 = INTERSECTIONS		FILE #	PHASE								CYCLE	OFFSET#1	OFFSET#2	OFFSET#3
3		POTTSTOWN PIKE / EAGLEVIEW BOULEVARD	2527		65		33		65		22	120	3	
2		POTTSTOWN PIKE / PENNSYLVANIA DRIVE	2931	30					89	31	120	0		
1		POTTSTOWN PIKE / EAST TOWNSHIP LINE ROAD	3040	17(LEAD)					89	31	120	6		
PROGRAM 4 = INTERSECTIONS		FILE #	PHASE								CYCLE	OFFSET#1	OFFSET#2	OFFSET#3
3		POTTSTOWN PIKE / EAGLEVIEW BOULEVARD	2527		65		33		65		22	120	3	
2		POTTSTOWN PIKE / PENNSYLVANIA DRIVE	2931	30					89	31	120	0		
1		POTTSTOWN PIKE / EAST TOWNSHIP LINE ROAD	3040	17(LEAD)					89	31	120	6		

CLOSED LOOP SYSTEM NOTES
TRAFFIC RESPONSIVE OPERATION

- PROGRAMS TO BE SELECTED BY CLOSED LOOP SYSTEM OR TBC BACKUP.
- SYSTEM 1: POTTSTOWN PIKE (3 INTERSECTIONS).
- SYSTEM 1 LIMITS: EAGLEVIEW BOULEVARD AND EAST TOWNSHIP LINE ROAD.
- MASTER CONTROLLER LOCATION: POTTSTOWN PIKE AND PENNSYLVANIA DRIVE.
- PRIMARY COORDINATION: CLOSED LOOP SYSTEM/HARD-WIRE COMMUNICATION CABLE (FIBER OPTIC)
- SECONDARY COORDINATION: TIME BASED COORDINATION (DEFAULT TO BACKUP TBC PROGRAM CHART)
- OFFSETS REFERENCED TO THE BEGINNING OF TS-2 1ST GREEN

EVENT	DAY	TIME	PROGRAM	REMARKS
1	1-7	0000	FREE	VOLUME DENSITY
2	1-5	0600	1	AM PEAK
3	1-5	0900	2	OFF PEAK
4	1-5	1500	3	PM PEAK
5	1-7	1900	2	OFF PEAK
6	6,7	0600	2	OFF PEAK

* DAY 1 = MONDAY
 ■ MAX / FREE WHERE NOTED IN CYCLE / SPLIT / OFFSET MATRIX.

LEGEND

- ① INTERSECTION ADDRESS
- ⊗ SYSTEM LOOP/IDENTIFYING NUMBER
- ⊞ LOOP SENSOR / INTERSECTION X - LOOP NUMBER Y
- ⊞ MICROWAVE DETECTION AREA
- ⊞ PHASE NUMBER
- ⊞ NOT TO SCALE

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 4/10/2009 11:08:43 AM JPL:rl Traffic Engineering and Design, Inc.

Notes:
 - ALL SPLIT TIMES INCLUDE YELLOW AND RED TIMES FOR A GIVEN PHASE.
 - REFER TO SIGNAL PERMIT PLAN FOR MAX 1, MAX 2 AND CLEARANCE AND PED TIMES.

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TOTALS		TOTALS	
1. 7:00AM TO 8:00AM		12.	
2. 8:00AM TO 9:00AM		11.	
3. 9:00AM TO 10:00AM		10.	
4. 10:00AM TO 11:00AM		9.	
5. 11:00AM TO 12:00N		8.	
6. 12:00N TO 1:00PM		7.	
7. 1:00PM TO 2:00PM		6.	
8. 2:00PM TO 3:00PM		5.	
9. 3:00PM TO 4:00PM		4.	
10. 4:00PM TO 5:00PM		3.	
11. 5:00PM TO 6:00PM		2.	
12. 6:00PM TO 7:00PM		1.	

SIGN TABULATION			
PLAN SYMBOL	SERIES NUMBER	SIZE	REMARKS
A	R10-12	30X36	LEFT TURN YIELD ON GREEN
B	D3-5	96X28	OVERHEAD STREET NAME SIGN (SEE DETAIL)
C	R3-7L	30X30	LEFT LANE MUST TURN LEFT
D	R10-6L	24X30	STOP HERE ON RED, (LEFT)
E	R10-11	30X36	NO TURN ON RED
F	D3-4	96X16	OVERHEAD STREET NAME SIGN (SEE DETAIL)
G	R10-3E(L)	9X15	EDUCATIONAL PUSH BUTTON FOR WALK SIGNAL WITH COUNTDOWN TIMER
H	R10-3E(R)	9X15	EDUCATIONAL PUSH BUTTON FOR WALK SIGNAL WITH COUNTDOWN TIMER
I	R10-11	24X30	NO TURN ON RED
J	D3-5	96X28	OVERHEAD STREET NAME SIGN (SEE DETAIL)
K	R10-15R	30X30	TURNING TRAFFIC MUST YIELD TO PEDESTRIANS (RIGHT) SIGN
L	R3-7R	30X30	RIGHT LANE MUST TURN RIGHT
M	R3-2	24X24	NO LEFT TURN
N	W11-2	30X30	PEDESTRIAN SIGN
O	W16-7P	24X12	DIAGONAL DOWNWARD POINT ARROW
P	R5-1	30X30	DO NOT ENTER
Q	R6-1R	36X12	HORIZONTAL RIGHT ONE-WAY SIGN
R	R6-1L	36X12	HORIZONTAL LEFT ONE-WAY SIGN
S	R1-1	30X30	STOP SIGN

GENERAL NOTES

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POST MOUNTED SIGNALS SHALL BE INSTALLED WITH THE SIGNAL HEADS A MINIMUM OF 2 FEET BEHIND THE FACE OF CURB OR THE EDGE OF THE SHOULDER. SUPPORT POLES FOR OVERHEAD SIGNALS SHALL ALSO HAVE A MINIMUM CLEARANCE HORIZONTALLY OF 2 FEET.

SIGNALS ERECTED OVER THE ROADWAY SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 16 FT. ABOVE THE ROADWAY. POST MOUNTED SIGNALS SHALL BE A MINIMUM OF 8 FT. ABOVE THE SIDEWALK OR PAVEMENT.

ALL OVERHEAD SIGNALS MUST BE RIGIDLY MOUNTED, TOP AND BOTTOM, AND EQUIPPED WITH BACKPLATES.

THE MINIMUM HORIZONTAL DISTANCE BETWEEN SIGNALS MEASURED AT RIGHT ANGLES TO THE APPROACH SHALL BE 8 FEET.

EXACT LOCATION OF DETECTORS SHALL BE DETERMINED PRIOR TO INSTALLATION BY A REPRESENTATIVE OF PENNDOT.

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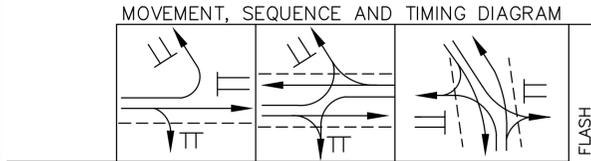
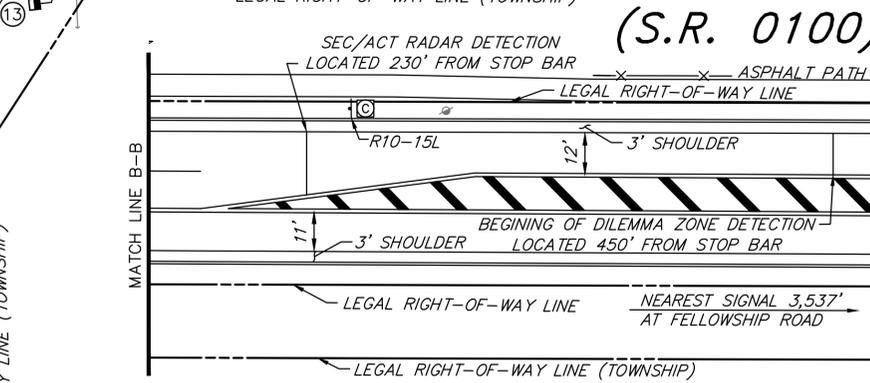
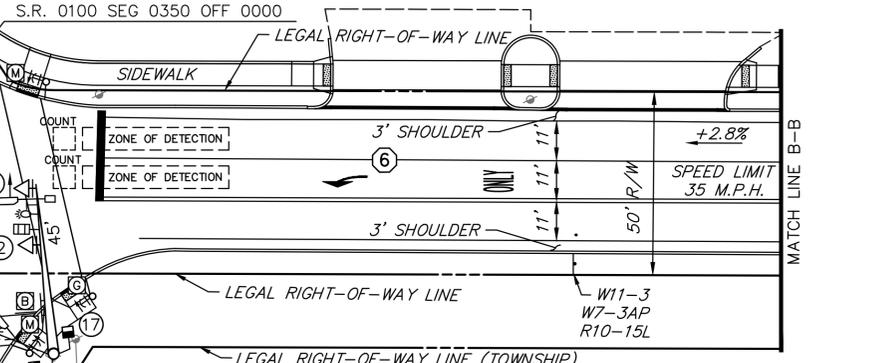
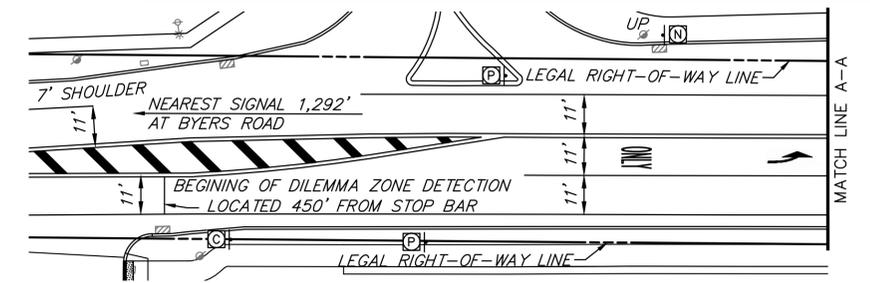
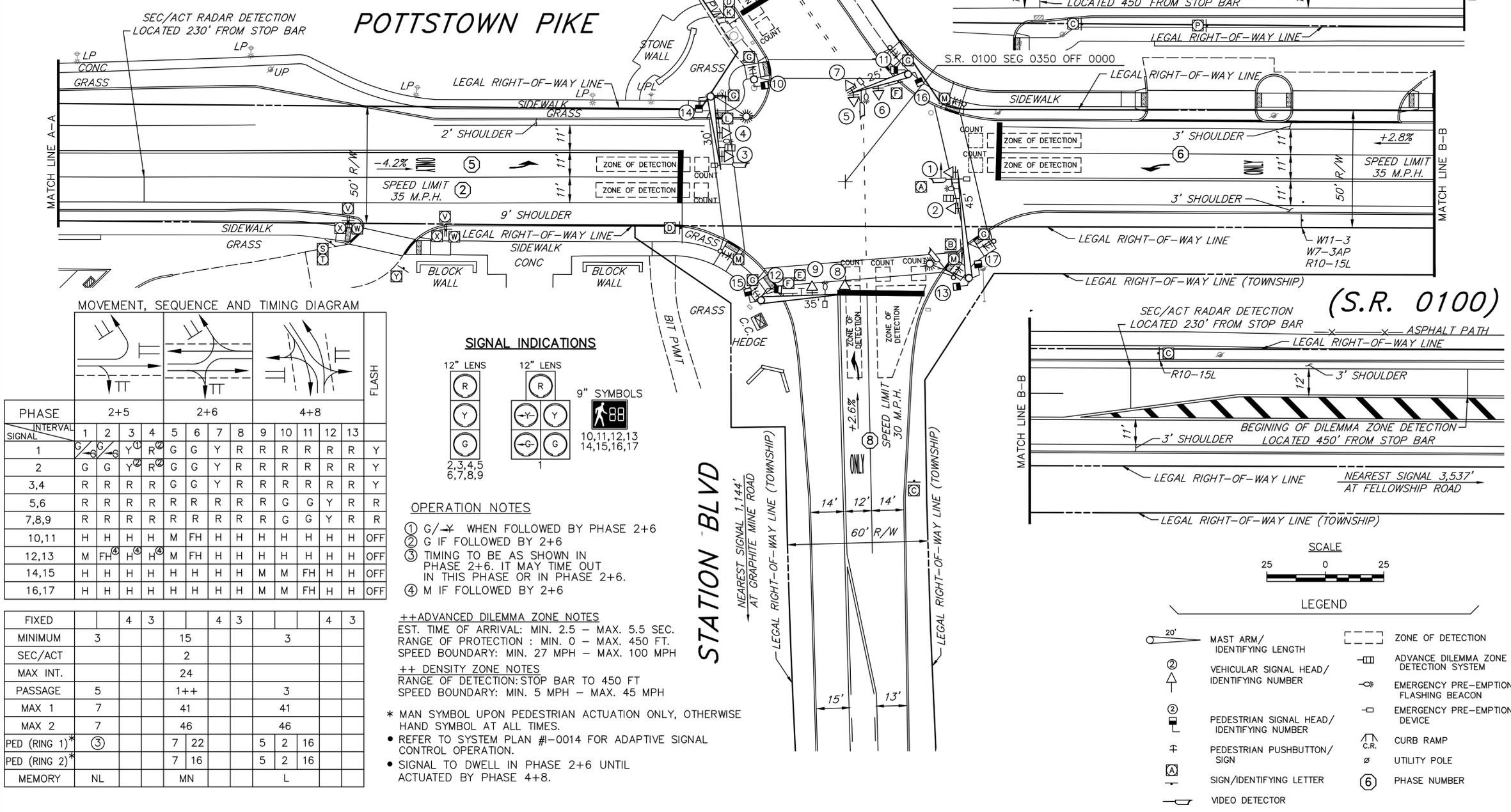
PRIOR TO INSTALLATION THE CONTRACTOR SHALL CONSULT WITH THE LOCAL OFFICIALS AND UTILITY COMPANIES TO RESOLVE ANY PROBLEMS WHICH MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.

THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLIES WITH THE PROVISIONS OF THE LATEST AMENDMENT TO ACT 287, PREVENTION OF DAMAGE TO UNDERGROUND UTILITIES, DATED DECEMBER 20, 1974.

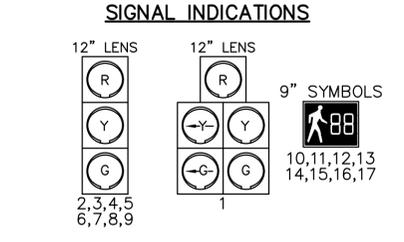
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PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR ANY CHANGES IN INTERSECTION GEOMETRY REGARDING EXCAVATION.

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PHASE	2+5			2+6			4+8			FLASH				
SIGNAL	1	2	3	4	5	6	7	8	9	10	11	12	13	
1	C	C	Y	R	G	G	Y	R	R	R	R	R	R	Y
2	G	G	Y	R	G	G	Y	R	R	R	R	R	R	Y
3,4	R	R	R	R	G	G	Y	R	R	R	R	R	R	Y
5,6	R	R	R	R	R	R	R	R	R	G	G	Y	R	R
7,8,9	R	R	R	R	R	R	R	R	R	R	G	Y	R	R
10,11	H	H	H	H	M	FH	H	H	H	H	H	H	H	OFF
12,13	M	FH	H	H	M	FH	H	H	H	H	H	H	H	OFF
14,15	H	H	H	H	H	H	H	H	M	M	FH	H	H	OFF
16,17	H	H	H	H	H	H	H	M	M	FH	H	H	OFF	



OPERATION NOTES

- G/≠ WHEN FOLLOWED BY PHASE 2+6
- G IF FOLLOWED BY 2+6
- TIMING TO BE AS SHOWN IN PHASE 2+6. IT MAY TIME OUT IN THIS PHASE OR IN PHASE 2+6.
- M IF FOLLOWED BY 2+6

++ADVANCED DILEMMA ZONE NOTES
 EST. TIME OF ARRIVAL: MIN. 2.5 - MAX. 5.5 SEC.
 RANGE OF PROTECTION : MIN. 0 - MAX. 450 FT.
 SPEED BOUNDARY: MIN. 27 MPH - MAX. 100 MPH

++ DENSITY ZONE NOTES
 RANGE OF DETECTION: STOP BAR TO 450 FT
 SPEED BOUNDARY: MIN. 5 MPH - MAX. 45 MPH

- * MAN SYMBOL UPON PEDESTRIAN ACTUATION ONLY, OTHERWISE HAND SYMBOL AT ALL TIMES.
- REFER TO SYSTEM PLAN #-0014 FOR ADAPTIVE SIGNAL CONTROL OPERATION.
- SIGNAL TO DWELL IN PHASE 2+6 UNTIL ACTUATED BY PHASE 4+8.

FIXED	4	3	4	3	4	3
MINIMUM	3		15		3	
SEC/ACT			2			
MAX INT.			24			
PASSAGE	5		1++		3	
MAX 1	7		41		41	
MAX 2	7		46		46	
PED (RING 1)*	③		7 22		5 2 16	
PED (RING 2)*			7 16		5 2 16	
MEMORY	NL		MN		L	

SYSTEM PERMIT #-0014

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
 ENGINEERING DISTRICT 6-0

COUNTY: **CHESTER**
 MUNICIPALITY: **UPPER UWCHLAN TOWNSHIP**
 INTERSECTION: **POTTSTOWN PIKE (S.R. 0100) AND PARK ROAD/STATION BLVD**

REVIEWED: _____ DATE _____
 MUNICIPAL OFFICIAL _____ DATE _____
 RECOMMENDED: _____

LOUIS R. BELMONTE 10/27/04
 DISTRICT TRAFFIC ENGINEER DATE

NO.	REVISION	DES./REVW.	DATE	REVW.	DATE	RECOM.	DATE
1	AS-BUILT, REV. PED TIMES	MCM	6/8/09	LUTZ	6/8/09	LRB	6/8/09
2	ADAPTIVE SIGNAL SYSTEM	MCM	2/28/12	LUTZ	2/28/12	LRB	7/10/13
3	ADD LEFT TURN LANE TO EB PARK RD	MCM	7/10/13	ABP	7/10/13	LRB	7/10/13
4	AS-BUILTS	MCM	8/12/14	LUTZ	9/8/14	LRB	9/22/14
5	PROPOSED TRAIL AT NORTH WEST CORNER	MCM	4/28/16	LUTZ	5/4/16	ABP	5/10/16
6	ADAPTIVE SIGNAL SYSTEM REVISION	MCM	2/22/17	LUTZ	3/23/17	ABP	3/31/17
7	ADA CURB RAMP UPGRADES, RADAR DEL. PARAMETERS UPDATED	MCM	4/19/19	LUTZ	5/15/19	ABP	5/25/19
8	ADD LEAD PED INTERVAL 9, REV. PED TIMES	MCM	6/23/20				

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SYSTEM PERMIT #1-0014

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
ENGINEERING DISTRICT 6-0

COUNTY: CHESTER
MUNICIPALITY: UPPER UWCHLAN TOWNSHIP
INTERSECTION: POTTSTOWN PIKE (S.R. 0100) AND
PARK ROAD/STATION BLVD

REVIEWED: _____ DATE _____
MUNICIPAL OFFICIAL _____ DATE _____
RECOMMENDED: _____

LOUIS R. BELMONTE 10/27/04
DISTRICT TRAFFIC ENGINEER DATE

NO.	REVISION	DES./REVW.	DATE	REVW.	DATE	RECOM.	DATE
1	AS-BUILT, REV. PED TIMES	MCM	6/8/09	LUTZ	6/8/09	LRB	6/8/09
2	ADAPTIVE SIGNAL SYSTEM	MCM	2/28/12	LUTZ	2/28/12	LRB	7/10/13
3	ADD LEFT TURN LANE TO EB PARK RD	MCM		ABP	7/10/13	LRB	7/10/13
4	AS-BUILTS	MCM	8/12/14	LUTZ	9/8/14	LRB	9/22/14
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8	ADD LEAD PED INTERVAL 9, REV. PED TIMES.	MCM	6/23/20				

SHEET 3 OF 3 | PERMIT # 62-2680 | FILE # 2680

EMERGENCY PRE-EMPTION PHASING MOVEMENT, SEQUENCE AND TIMING DIAGRAM

PHASE	6			2			4			8		
INTERVAL	14	15	16	17	18	19	20	21	22	23	24	25
1	R	R	R	-Y/G	Y	R	R	R	R	R	R	R
2	R	R	R	G	Y	R	R	R	R	R	R	R
3,4	G	Y	R	R	R	R	R	R	R	R	R	R
7,8,9	R	R	R	R	R	R	G	Y	R	R	R	R
5,6	R	R	R	R	R	R	R	R	R	G	Y	R
10,11	H	H	H	H	H	H	H	H	H	H	H	H
12,13	H	H	H	H	H	H	H	H	H	H	H	H
14,15	H	H	H	H	H	H	H	H	H	H	H	H
16,17	H	H	H	H	H	H	H	H	H	H	H	H
FIXED TIME	*	4	3	*	4	3	*	4	3	*	4	3

* FOR DURATION OF PRE-EMPTION

* NOTE: IF PRE-EMPTION EQUIPMENT HAS ENCODING CAPABILITIES FOR VEHICLE IDENTIFICATION, IT IS RECOMMENDED TO HAVE THE ZERO "00" FEATURE ON, TO GIVE UNCODED EMITTERS THE ABILITY TO ACTIVATE THE EMERGENCY PRE-EMPTION.

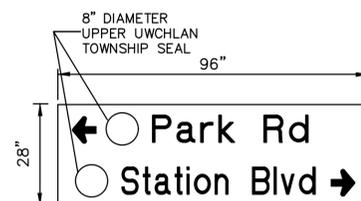
NOTES:

- ① G WHEN RETURNING TO NORMAL OPERATION.
- ② -Y/G WHEN RETURNING TO NORMAL OPERATION.

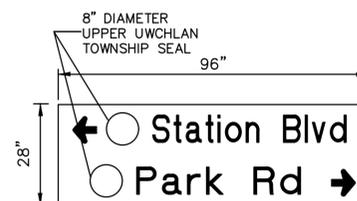
EMERGENCY PRE-EMPTION NOTES:

- CONTROLLER TO BE EQUIPPED WITH EMERGENCY PRE-EMPTION FOR THE NORTHBOUND & SOUTHBOUND APPROACHES OF S.R. 0100 AND THE EASTBOUND APPROACH OF PARK ROAD & EASTBOUND APPROACH OF STATION BLVD. WITH A FAIL SAFE DEVICE FOR EACH DIRECTION OF OPERATION. THIS EMERGENCY BEACON SHALL CONSIST OF A FLASHING WHITE FLOOD LIGHT, AND SHALL FLASH WHEN THE EMERGENCY VEHICLE HAS CONTROL OF THE INTERSECTION FOR THE APPROPRIATE APPROACH. LOCATION OF EMERGENCY VEHICLE DETECTORS ARE TO BE FIELD ADJUSTED TO ACHIEVE MAXIMUM OPERATION.
- THE SIGNALS SHALL TERMINATE ALL GREEN INDICATIONS IMMEDIATELY, WHEN ACTIVATED BY AN EMERGENCY VEHICLE, FOLLOWED BY THE COMPLETE YELLOW AND RED CLEARANCE INTERVALS, ACCORDINGLY. THEN THE GREEN INTERVAL FOR THE PRE-EMPTED PHASE SHALL FOLLOW. ONLY THOSE PHASES NOT POSING A YELLOW TRAP CONDITION MAY REMAIN GREEN (2+5) WHEN GOVERNED BY THE APPROACHING EMERGENCY VEHICLE.
- THE SIGNALS SHALL TIME OUT ALL YELLOW AND RED INDICATIONS, WHEN ACTIVATED BY EMERGENCY VEHICLE, FOLLOWED BY THE GREEN INTERVAL OF THE PRE-EMPTION PHASE GOVERNED BY THE APPROACHING EMERGENCY VEHICLE.
- IF SIGNALS HAS BEEN ACTUATED BY PEDESTRIAN PUSH BUTTON AND THE SIGNAL IS PRE-EMPTED DURING THE MAIN INTERVAL, THE "MAIN" INTERVAL SHALL TERMINATE IMMEDIATELY FOLLOWED BY THE "FLASHING HAND" INDICATION IN ITS ENTIRETY, FOLLOWED BY THE APPROPRIATE SELECTIVE CLEARANCES BEFORE PROCEEDING INTO THE PRE-EMPTION PHASE.
- IF THE SIGNALS ARE FLASHING WHEN ACTIVATED BY AN EMERGENCY VEHICLE, ALL SIGNALS SHALL REMAIN FLASHING.
- IF ADDITIONAL PRE-EMPTION PHASES ARE ACTIVATED WHILE IN PRE-EMPTION, THE ORIGINAL PRE-EMPTION PHASE SHALL TIME OUT BEFORE PROCEEDING TO THE NEXT PRE-EMPTION PHASE.
- UPON COMPLETION OF PRE-EMPTION, PHASE 2,4,6 OR 8 IN RETURNING TO NORMAL OPERATION, PHASE 2+6 INTERVAL 5 SHALL FOLLOW.
- IN EMERGENCY PRE-EMPTION, NO PRIORITY SHALL BE ESTABLISHED, PRE-EMPTION SHALL BE A "FIRST COME, FIRST SERVE" OPERATION.

SIGN DETAILS NOT TO SCALE



SIGN B
FONT: CLEARVIEW ONE
U.C. LET. 8"
L.C. LET. 6"
LEGEND: WHITE
BACKGROUND: GREEN



SIGN L
FONT: CLEARVIEW ONE
U.C. LET. 8"
L.C. LET. 6"
LEGEND: WHITE
BACKGROUND: GREEN



SIGN F
FONT: CLEARVIEW ONE
10% REDUCTION
U.C. LET. 8"
L.C. LET. 6"
LEGEND: WHITE
BACKGROUND: GREEN

APPENDIX F: Turn Lane Warrant Analysis



Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality: Upper Uwchlan Township	Analysis Date: 5/28/2025
County: Chester County	Conducted By: PG
PennDOT Engineering District: 6	Checked By:
	Agency/Company Name: Traffic Planning and Design, Inc.
Intersection & Approach Description: Station Boulevard & Site Driveway	
Analysis Period: 2026 Projected (Build)	Number of Approach Lanes: 1
Design Hour: AM Peak Hour	Undivided or Divided Highway: Undivided
Intersection Control: Unsignalized	
Posted Speed Limit (MPH): 30	Type of Analysis
Type of Terrain: Level	Left or Right-Turn Lane Analysis?: Left Turn Lane

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations					
Movement	Include?	Volume	% Trucks	PCEV	
Advancing	Left	75	44.0%	92	Advancing Volume: 201
	Through	106	5.0%	109	Opposing Volume: 122
	Right	0		0	Left Turn Volume: 92
Opposing	Left	0		0	
	Through	76	4.0%	78	
	Right	42	7.0%	44	% Left Turns in Advancing Volume: 45.77%

Right Turn Lane Volume Calculations					
Movement	Include?	Volume	% Trucks	PCEV	
Advancing	Left	0		N/A	Advancing Volume: N/A
	Through	76	4.0%	N/A	Right Turn Volume: N/A
	Right	42	7.0%	N/A	

TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings	Right Turn Lane Warrant Findings
Applicable Warrant Figure: Figure 1	Applicable Warrant Figure: N/A
Warrant Met?: No	Warrant Met?: N/A

TURN LANE LENGTH CALCULATIONS

Intersection Control: Unsignalized	
Design Hour Volume of Turning Lane: 92	
Cycles Per Hour (Assumed): 60	
Cycles Per Hour (If Known):	Average # of Vehicles/Cycle: N/A

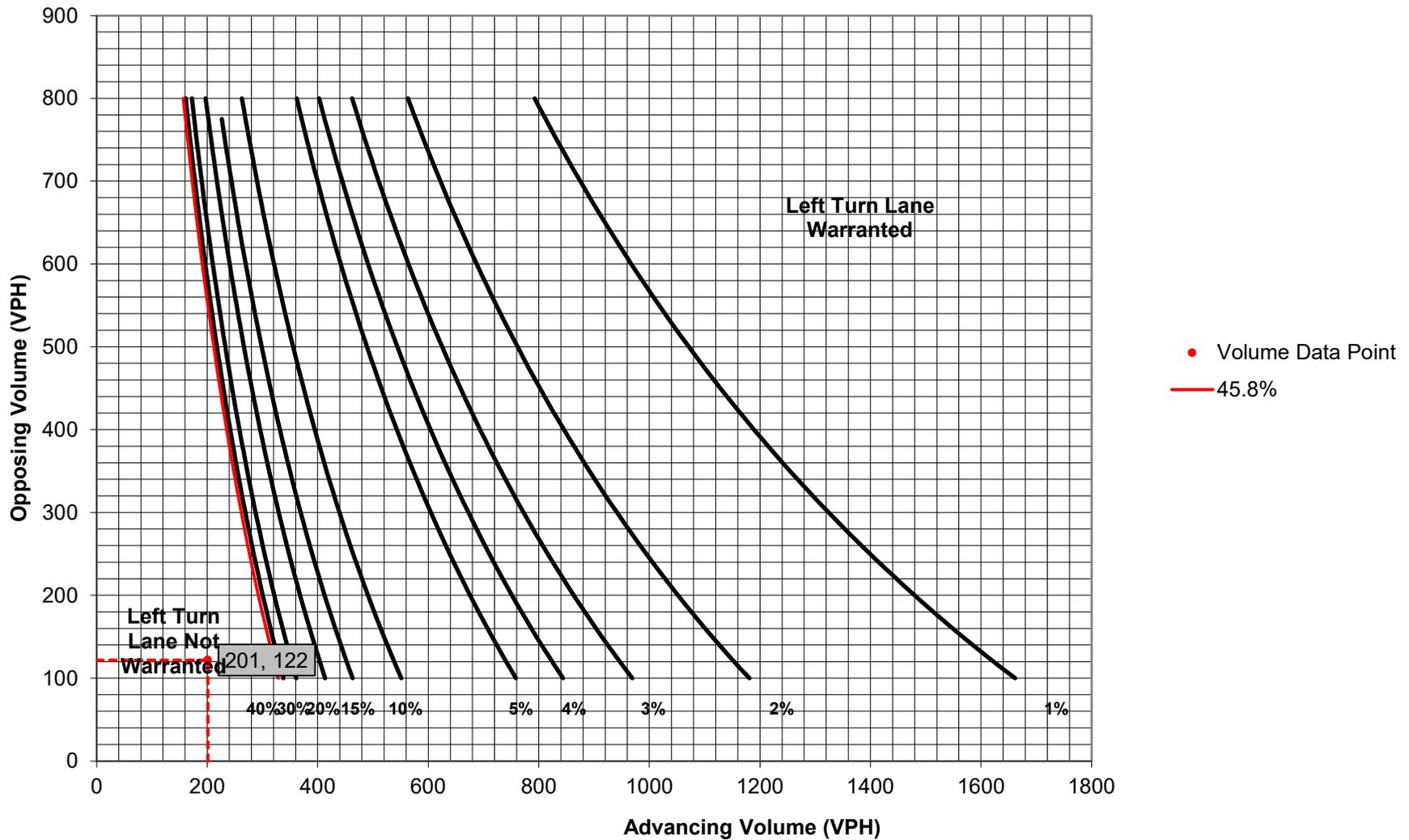
Type of Traffic Control	PennDOT Publication 46, Exhibit 11-6					
	Speed (MPH)					
	25-35		40-45		50-60	
	Turn Demand Volume					
	High	Low	High	Low	High	Low
Signalized	A	A	B or C	B or C	B or C	B or C
Unsignalized	A	A	C	B	B or C	B

Left Turn Lane Storage Length, Condition A:	N/A	Feet
Condition B:	N/A	Feet
Condition C:	N/A	Feet
Required Left Turn Lane Storage Length:	N/A	Feet

Additional Findings: N/A

Additional Comments / Justifications:

Figure 1. Warrant for left turn lanes on two-lane roadways
 (speeds to 35 mph, unsignalized and signalized intersections)
 (L = % Left Turns in Advancing Volume)



Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality: <input type="text" value="Upper Uwchlan Township"/> County: <input type="text" value="Chester County"/> PennDOT Engineering District: <input type="text" value="6"/>	Analysis Date: <input type="text" value="5/28/2025"/> Conducted By: <input type="text" value="PG"/> Checked By: <input type="text" value=""/> Agency/Company Name: <input type="text" value="Traffic Planning and Design, Inc."/>
Intersection & Approach Description: <input type="text" value="Station Boulevard & Site Driveway"/>	
Analysis Period: <input type="text" value="2026 Projected (Build)"/> Design Hour: <input type="text" value="AM Peak Hour"/> Intersection Control: <input type="text" value="Unsignalized"/> Posted Speed Limit (MPH): <input type="text" value="30"/> Type of Terrain: <input type="text" value="Level"/>	Number of Approach Lanes: <input type="text" value="1"/> Undivided or Divided Highway: <input type="text" value="Undivided"/> <div style="border: 2px solid red; padding: 2px; display: inline-block;"> Type of Analysis: <input type="text" value="Right Turn Lane"/> </div> Left or Right-Turn Lane Analysis?: <input type="text" value="Right Turn Lane"/>

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations						
Movement	Include?	Volume	% Trucks	PCEV		
Advancing	Left	Yes	75	44.0%	N/A	Advancing Volume: <input type="text" value="N/A"/> Opposing Volume: <input type="text" value="N/A"/> Left Turn Volume: <input type="text" value="N/A"/>
	Through	-	106	5.0%	N/A	
	Right	Yes	0		N/A	
Opposing	Left	Yes	0		N/A	% Left Turns in Advancing Volume: <input type="text" value="N/A"/>
	Through	-	76	4.0%	N/A	
	Right	Yes	42	7.0%	N/A	

Right Turn Lane Volume Calculations						
Movement	Include?	Volume	% Trucks	PCEV		
Advancing	Left	Yes	0		0	Advancing Volume: <input type="text" value="122"/> Right Turn Volume: <input type="text" value="44"/>
	Through	-	76	4.0%	78	
	Right	-	42	7.0%	44	

TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings	Right Turn Lane Warrant Findings
Applicable Warrant Figure: <input type="text" value="N/A"/> Warrant Met?: <input type="text" value="N/A"/>	Applicable Warrant Figure: <input type="text" value="Figure 9"/> Warrant Met?: <input type="text" value="No"/>

TURN LANE LENGTH CALCULATIONS

Intersection Control: <input type="text" value="Unsignalized"/> Design Hour Volume of Turning Lane: <input type="text" value="44"/> Cycles Per Hour (Assumed): <input type="text" value="60"/> Cycles Per Hour (If Known): <input type="text" value=""/>	Average # of Vehicles/Cycle: <input type="text" value="N/A"/>
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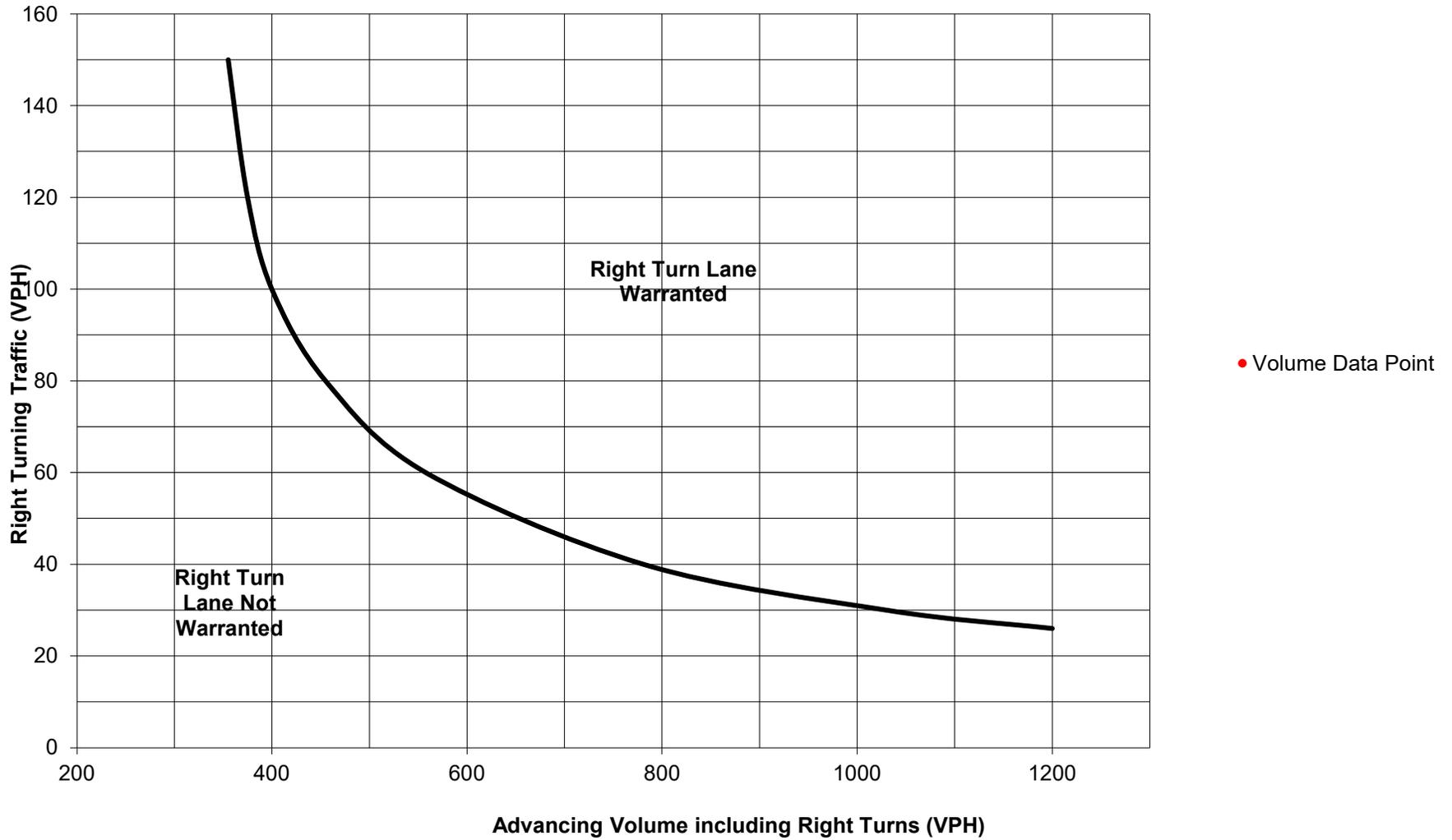
Type of Traffic Control	PennDOT Publication 46, Exhibit 11-6					
	Speed (MPH)					
	25-35		40-45		50-60	
	Turn Demand Volume					
	High	Low	High	Low	High	Low
Signalized	A	A	B or C	B or C	B or C	B or C
Unsignalized	A	A	C	B	B or C	B

Right Turn Lane Storage Length, Condition A: <input type="text" value="N/A"/> Feet Condition B: <input type="text" value="N/A"/> Feet Condition C: <input type="text" value="N/A"/> Feet Required Right Turn Lane Storage Length: <input type="text" value="N/A"/> Feet
--

Additional Findings:

Additional Comments / Justifications:

**Figure 9. Warrant for right turn lanes on two-lane roadways
(40 mph or lower speeds, unsignalized and signalized intersections)**



Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality: <input type="text" value="Upper Uwchlan Township"/> County: <input type="text" value="Chester County"/> PennDOT Engineering District: <input type="text" value="6"/>	Analysis Date: <input type="text" value="5/28/2025"/> Conducted By: <input type="text" value="SL"/> Checked By: <input type="text" value=""/> Agency/Company Name: <input type="text" value="Traffic Planning and Design, Inc."/>
Intersection & Approach Description: <input type="text" value="Station Boulevard & Site Driveway"/>	
Analysis Period: <input type="text" value="2026 Projected (Build)"/> Design Hour: <input type="text" value="PM Peak Hour"/> Intersection Control: <input type="text" value="Unsignalized"/> Posted Speed Limit (MPH): <input type="text" value="30"/> Type of Terrain: <input type="text" value="Level"/>	Number of Approach Lanes: <input type="text" value="1"/> Undivided or Divided Highway: <input type="text" value="Undivided"/> <div style="border: 2px solid red; padding: 2px; display: inline-block;"> Type of Analysis: <input type="text" value="Left Turn Lane"/> </div> Left or Right-Turn Lane Analysis?: <input type="text" value="Left Turn Lane"/>

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations					
Movement	Include?	Volume	% Trucks	PCEV	
Advancing	Left	98	0.0%	98	Advancing Volume: <input type="text" value="163"/> Opposing Volume: <input type="text" value="173"/> Left Turn Volume: <input type="text" value="98"/>
	Through	-	0.0%	65	
	Right	Yes	0	0	
Opposing	Left	0	0.0%	0	% Left Turns in Advancing Volume: <input type="text" value="60.12%"/>
	Through	-	0.0%	119	
	Right	Yes	54	0.0%	

Right Turn Lane Volume Calculations						
Movement	Include?	Volume	% Trucks	PCEV		
Advancing	Left	Yes	0	N/A	Advancing Volume: <input type="text" value="N/A"/> Right Turn Volume: <input type="text" value="N/A"/>	
	Through	-	119	0.0%		N/A
	Right	-	54	0.0%		N/A

TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings	Right Turn Lane Warrant Findings
Applicable Warrant Figure: <input type="text" value="Figure 1"/> Warrant Met?: <input type="text" value="No"/>	Applicable Warrant Figure: <input type="text" value="N/A"/> Warrant Met?: <input type="text" value="N/A"/>

TURN LANE LENGTH CALCULATIONS

Intersection Control: <input type="text" value="Unsignalized"/> Design Hour Volume of Turning Lane: <input type="text" value="98"/> Cycles Per Hour (Assumed): <input type="text" value="60"/> Cycles Per Hour (If Known): <input type="text" value=""/>	Average # of Vehicles/Cycle: <input type="text" value="N/A"/>
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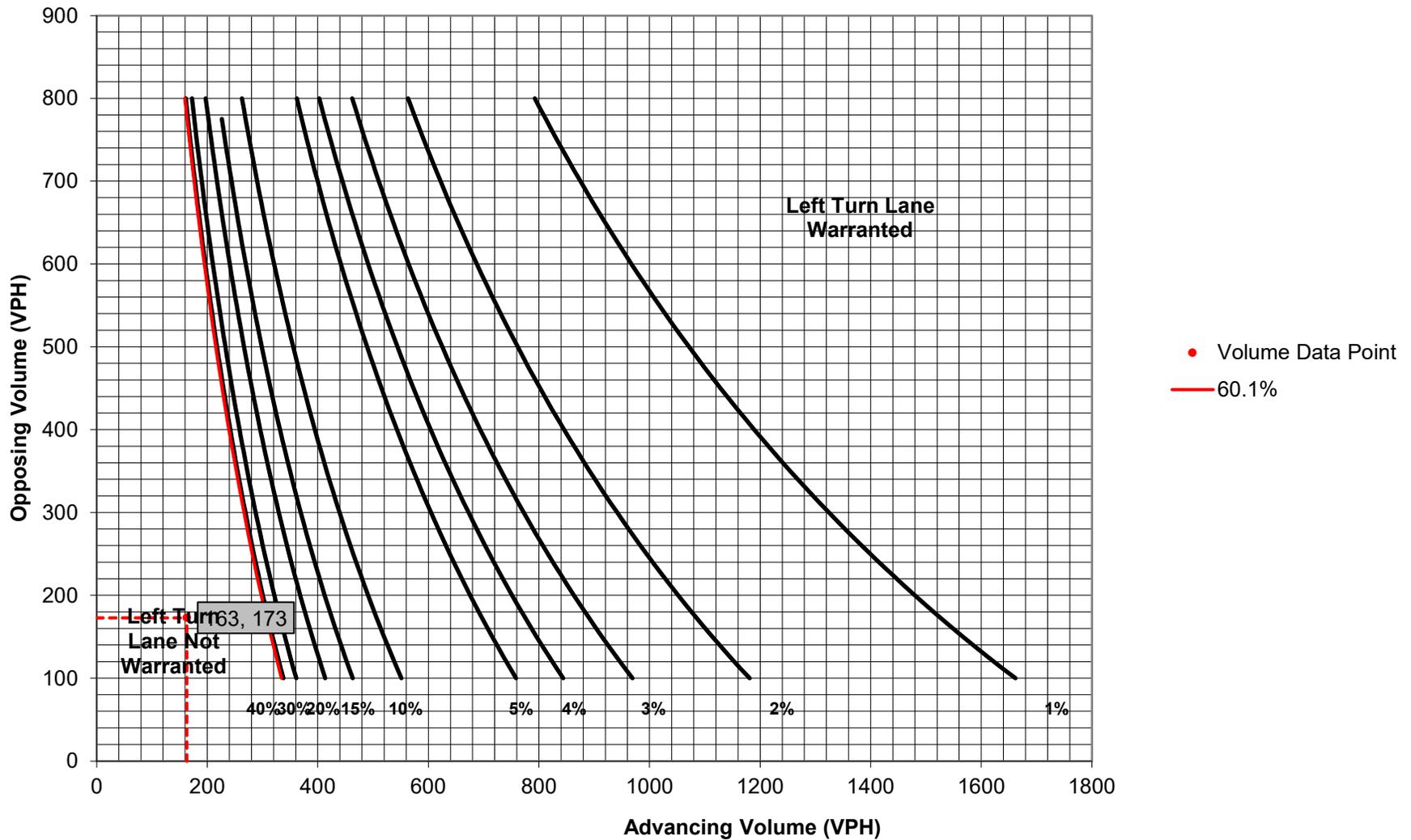
Type of Traffic Control	PennDOT Publication 46, Exhibit 11-6					
	Speed (MPH)					
	25-35		40-45		50-60	
	Turn Demand Volume					
	High	Low	High	Low	High	Low
Signalized	A	A	B or C	B or C	B or C	B or C
Unsignalized	A	A	C	B	B or C	B

Left Turn Lane Storage Length, Condition A: <input type="text" value="N/A"/> Feet Condition B: <input type="text" value="N/A"/> Feet Condition C: <input type="text" value="N/A"/> Feet Required Left Turn Lane Storage Length: <input type="text" value="N/A"/> Feet
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Additional Findings:

Additional Comments / Justifications:

Figure 1. Warrant for left turn lanes on two-lane roadways
 (speeds to 35 mph, unsignalized and signalized intersections)
 (L = % Left Turns in Advancing Volume)



Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality: <input type="text" value="Upper Uwchlan Township"/> County: <input type="text" value="Chester County"/> PennDOT Engineering District: <input type="text" value="6"/>	Analysis Date: <input type="text" value="5/28/2025"/> Conducted By: <input type="text" value="SL"/> Checked By: <input type="text" value=""/> Agency/Company Name: <input type="text" value="Traffic Planning and Design, Inc."/>
Intersection & Approach Description: <input type="text" value="Station Boulevard & Site Driveway"/>	
Analysis Period: <input type="text" value="2026 Projected (Build)"/> Design Hour: <input type="text" value="PM Peak Hour"/> Intersection Control: <input type="text" value="Unsignalized"/> Posted Speed Limit (MPH): <input type="text" value="30"/> Type of Terrain: <input type="text" value="Level"/>	Number of Approach Lanes: <input type="text" value="1"/> Undivided or Divided Highway: <input type="text" value="Undivided"/> <div style="border: 2px solid red; padding: 2px; display: inline-block;">Type of Analysis</div> Left or Right-Turn Lane Analysis?: <input type="text" value="Right Turn Lane"/>

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations						
Movement	Include?	Volume	% Trucks	PCEV		
Advancing	Left	Yes	98	0.0%	N/A	Advancing Volume: <input type="text" value="N/A"/> Opposing Volume: <input type="text" value="N/A"/> Left Turn Volume: <input type="text" value="N/A"/>
	Through	-	65	0.0%	N/A	
	Right	Yes	0		N/A	
Opposing	Left	Yes	0		N/A	% Left Turns in Advancing Volume: <input type="text" value="N/A"/>
	Through	-	119	0.0%	N/A	
	Right	Yes	54	0.0%	N/A	

Right Turn Lane Volume Calculations						
Movement	Include?	Volume	% Trucks	PCEV		
Advancing	Left	Yes	0		0	Advancing Volume: <input type="text" value="173"/> Right Turn Volume: <input type="text" value="54"/>
	Through	-	119	0.0%	119	
	Right	-	54	0.0%	54	

TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings	Right Turn Lane Warrant Findings
Applicable Warrant Figure: <input type="text" value="N/A"/> Warrant Met?: <input type="text" value="N/A"/>	Applicable Warrant Figure: <input type="text" value="Figure 9"/> Warrant Met?: <input type="text" value="No"/>

TURN LANE LENGTH CALCULATIONS

Intersection Control: <input type="text" value="Unsignalized"/> Design Hour Volume of Turning Lane: <input type="text" value="54"/> Cycles Per Hour (Assumed): <input type="text" value="60"/> Cycles Per Hour (If Known): <input type="text" value=""/>	Average # of Vehicles/Cycle: <input type="text" value="N/A"/>
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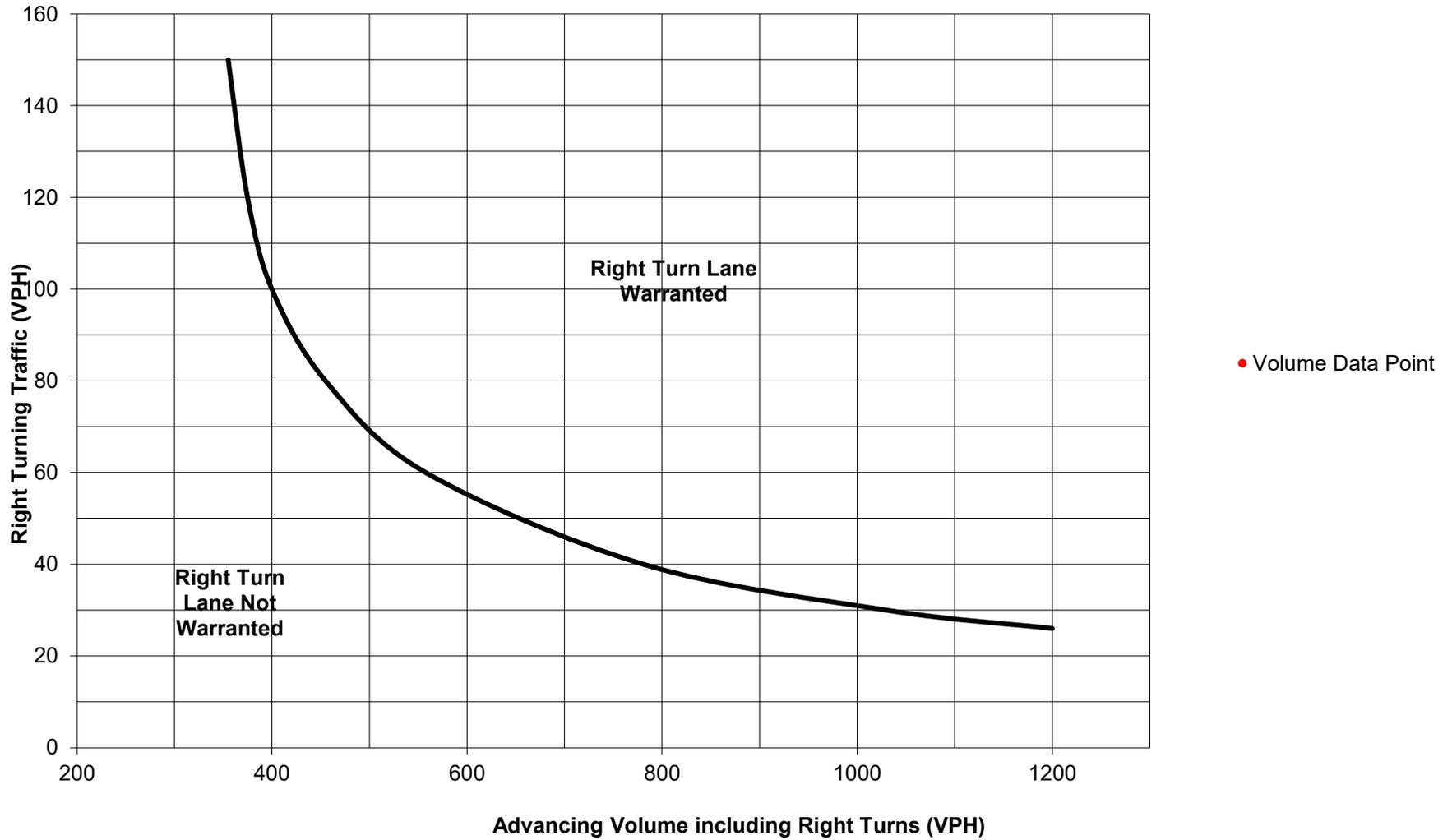
Type of Traffic Control	PennDOT Publication 46, Exhibit 11-6					
	Speed (MPH)					
	25-35		40-45		50-60	
	Turn Demand Volume					
	High	Low	High	Low	High	Low
Signalized	A	A	B or C	B or C	B or C	B or C
Unsignalized	A	A	C	B	B or C	B

Right Turn Lane Storage Length, Condition A: <input type="text" value="N/A"/> Feet Condition B: <input type="text" value="N/A"/> Feet Condition C: <input type="text" value="N/A"/> Feet Required Right Turn Lane Storage Length: <input type="text" value="N/A"/> Feet
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Additional Findings:

Additional Comments / Justifications:

**Figure 9. Warrant for right turn lanes on two-lane roadways
(40 mph or lower speeds, unsignalized and signalized intersections)**



Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality: Upper Uwchlan Township	Analysis Date: 5/28/2025
County: Chester County	Conducted By: SL
PennDOT Engineering District: 6	Checked By:
	Agency/Company Name: Traffic Planning and Design, Inc.
Intersection & Approach Description: Station Boulevard & Site Driveway	
Analysis Period: 2026 Projected (Build)	Number of Approach Lanes: 1
Design Hour: Sat Peak Hour	Undivided or Divided Highway: Undivided
Intersection Control: Unsignalized	
Posted Speed Limit (MPH): 30	Type of Analysis
Type of Terrain: Level	Left or Right-Turn Lane Analysis?: Left Turn Lane

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations					
Movement	Include?	Volume	% Trucks	PCEV	
Advancing	Left	77	0.0%	77	Advancing Volume: 141
	Through	63	2.0%	64	Opposing Volume: 108
	Right	0		0	Left Turn Volume: 77
Opposing	Left	0		0	
	Through	69	0.0%	69	
	Right	39	0.0%	39	% Left Turns in Advancing Volume: 54.61%

Right Turn Lane Volume Calculations					
Movement	Include?	Volume	% Trucks	PCEV	
Advancing	Left	0		N/A	Advancing Volume: N/A
	Through	69	0.0%	N/A	Right Turn Volume: N/A
	Right	31	0.0%	N/A	

TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings	Right Turn Lane Warrant Findings
Applicable Warrant Figure: Figure 1	Applicable Warrant Figure: N/A
Warrant Met?: No	Warrant Met?: N/A

TURN LANE LENGTH CALCULATIONS

Intersection Control: Unsignalized	
Design Hour Volume of Turning Lane: 77	
Cycles Per Hour (Assumed): 60	
Cycles Per Hour (If Known):	Average # of Vehicles/Cycle: N/A

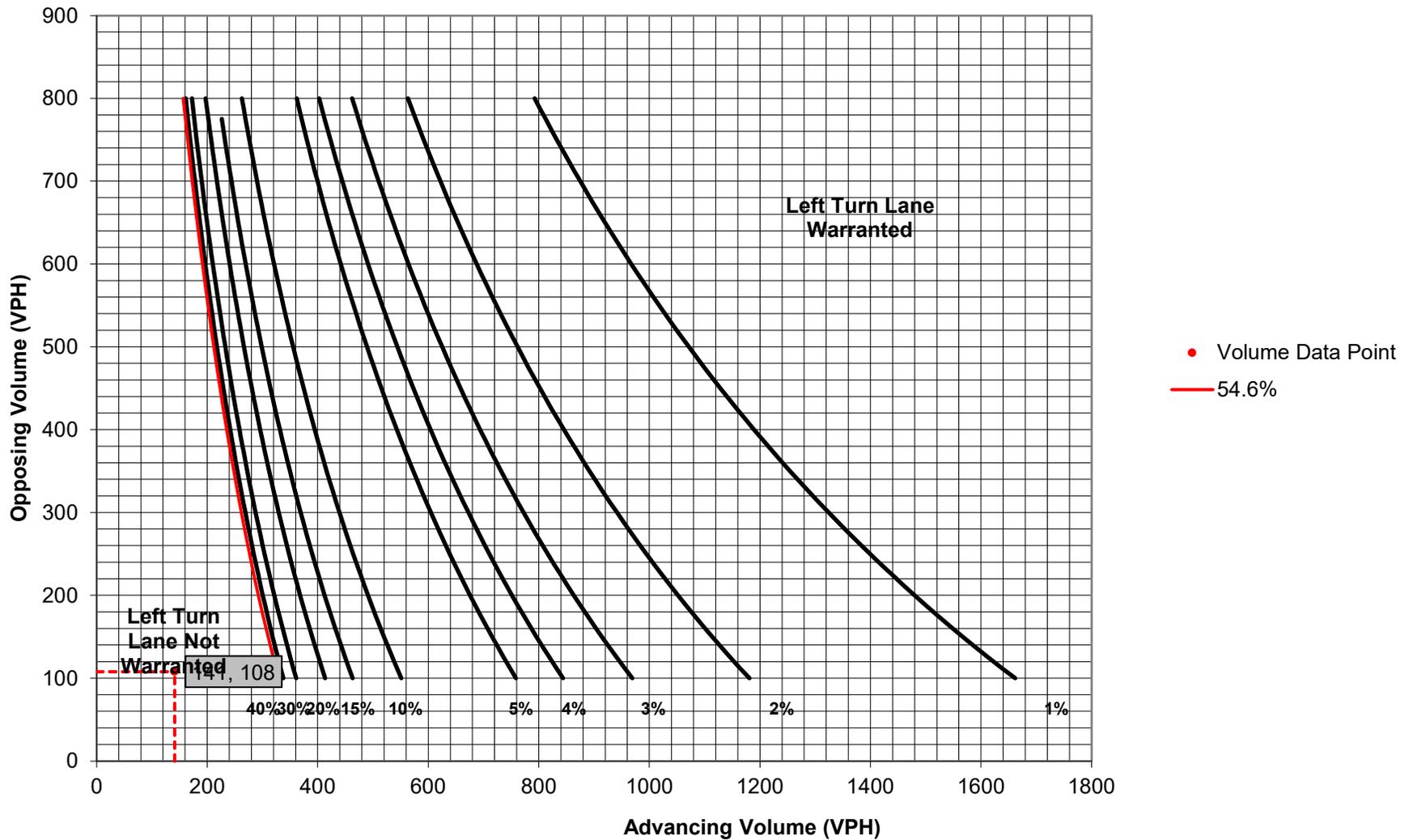
Type of Traffic Control	PennDOT Publication 46, Exhibit 11-6					
	Speed (MPH)					
	25-35		40-45		50-60	
	Turn Demand Volume					
	High	Low	High	Low	High	Low
Signalized	A	A	B or C	B or C	B or C	B or C
Unsignalized	A	A	C	B	B or C	B

Left Turn Lane Storage Length, Condition A:	N/A	Feet
Condition B:	N/A	Feet
Condition C:	N/A	Feet
Required Left Turn Lane Storage Length:	N/A	Feet

Additional Findings: N/A

Additional Comments / Justifications:

Figure 1. Warrant for left turn lanes on two-lane roadways
 (speeds to 35 mph, unsignalized and signalized intersections)
 (L = % Left Turns in Advancing Volume)



Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality: <input type="text" value="Upper Uwchlan Township"/> County: <input type="text" value="Chester County"/> PennDOT Engineering District: <input type="text" value="6"/>	Analysis Date: <input type="text" value="5/28/2025"/> Conducted By: <input type="text" value="SL"/> Checked By: <input type="text"/> Agency/Company Name: <input type="text" value="Traffic Planning and Design, Inc."/>
Intersection & Approach Description: <input type="text" value="Station Boulevard & Site Driveway"/>	
Analysis Period: <input type="text" value="2026 Projected (Build)"/> Design Hour: <input type="text" value="Sat Peak Hour"/> Intersection Control: <input type="text" value="Unsignalized"/> Posted Speed Limit (MPH): <input type="text" value="30"/> Type of Terrain: <input type="text" value="Level"/>	Number of Approach Lanes: <input type="text" value="1"/> Undivided or Divided Highway: <input type="text" value="Undivided"/> <div style="border: 2px solid red; padding: 2px; display: inline-block;"> Type of Analysis: <input type="text" value="Right Turn Lane"/> </div> Left or Right-Turn Lane Analysis?: <input type="text" value="Right Turn Lane"/>

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations						
Movement	Include?	Volume	% Trucks	PCEV		
Advancing	Left	Yes	77	0.0%	N/A	Advancing Volume: <input type="text" value="N/A"/> Opposing Volume: <input type="text" value="N/A"/> Left Turn Volume: <input type="text" value="N/A"/>
	Through	-	63	2.0%	N/A	
	Right	Yes	0		N/A	
Opposing	Left	Yes	0		N/A	% Left Turns in Advancing Volume: <input type="text" value="N/A"/>
	Through	-	69	0.0%	N/A	
	Right	Yes	39	0.0%	N/A	

Right Turn Lane Volume Calculations						
Movement	Include?	Volume	% Trucks	PCEV		
Advancing	Left	Yes	0		0	Advancing Volume: <input type="text" value="100"/> Right Turn Volume: <input type="text" value="31"/>
	Through	-	69	0.0%	69	
	Right	-	31	0.0%	31	

TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings	Right Turn Lane Warrant Findings
Applicable Warrant Figure: <input type="text" value="N/A"/> Warrant Met?: <input type="text" value="N/A"/>	Applicable Warrant Figure: <input type="text" value="Figure 9"/> Warrant Met?: <input type="text" value="No"/>

TURN LANE LENGTH CALCULATIONS

Intersection Control: <input type="text" value="Unsignalized"/> Design Hour Volume of Turning Lane: <input type="text" value="31"/> Cycles Per Hour (Assumed): <input type="text" value="60"/> Cycles Per Hour (If Known): <input type="text"/>	Average # of Vehicles/Cycle: <input type="text" value="N/A"/>
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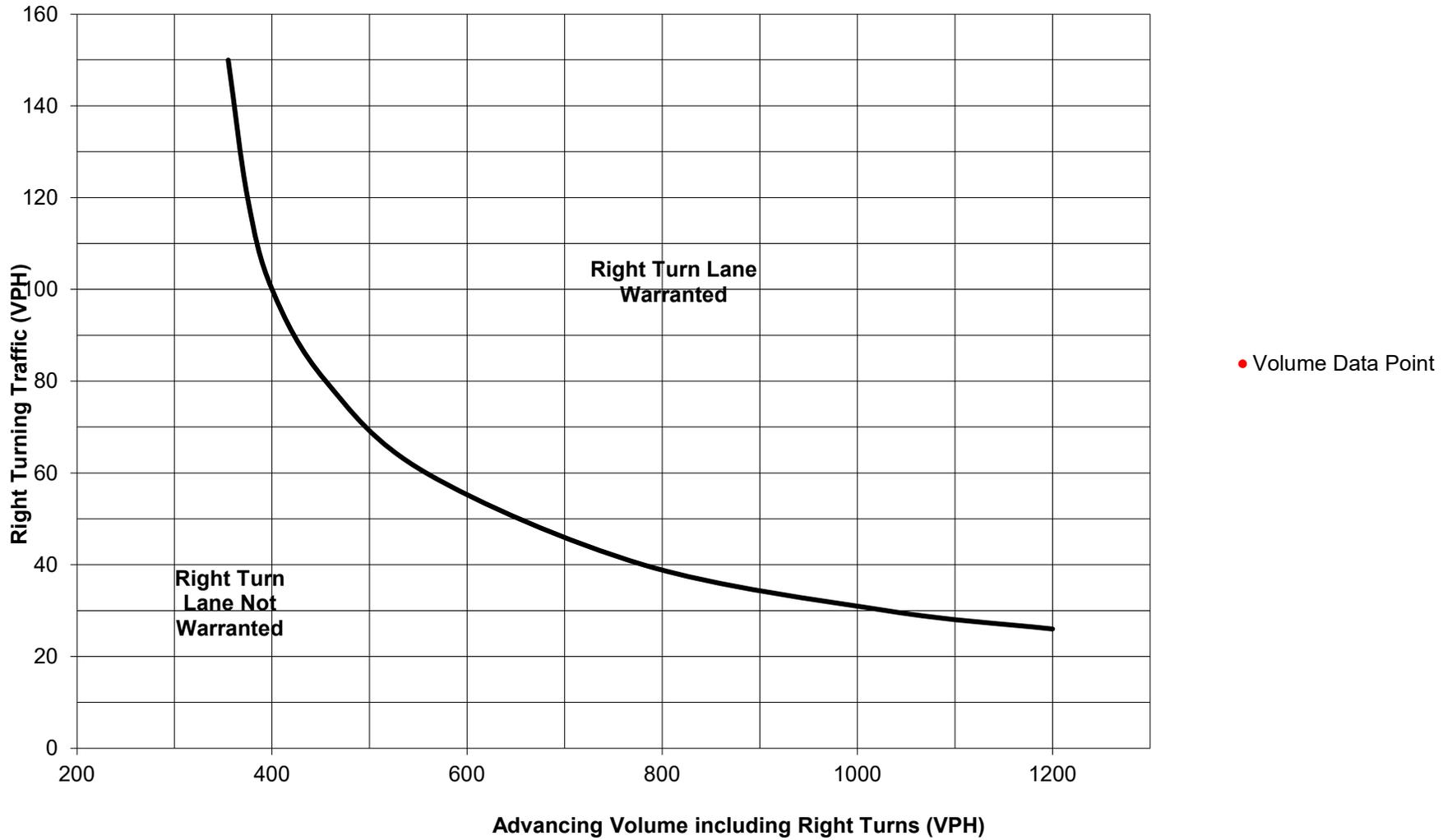
Type of Traffic Control	PennDOT Publication 46, Exhibit 11-6					
	Speed (MPH)					
	25-35		40-45		50-60	
	Turn Demand Volume					
	High	Low	High	Low	High	Low
Signalized	A	A	B or C	B or C	B or C	B or C
Unsignalized	A	A	C	B	B or C	B

Right Turn Lane Storage Length, Condition A: <input type="text" value="N/A"/> Feet Condition B: <input type="text" value="N/A"/> Feet Condition C: <input type="text" value="N/A"/> Feet Required Right Turn Lane Storage Length: <input type="text" value="N/A"/> Feet
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Additional Findings:

Additional Comments / Justifications:

**Figure 9. Warrant for right turn lanes on two-lane roadways
(40 mph or lower speeds, unsignalized and signalized intersections)**



General Project Description & Stormwater Management Calculations

Project: **Final Plan for Lot 2B of Parcel 5C**
Graphite Mine Road & Station Boulevard
Upper Uwchlan Township
Chester County, PA

Client: **Prosperity Property Investments, LLC**
1306 Bellona Avenue
Lutherville-Timonium, MD 21093

Project Number: **PC211160**

Date: **March 25, 2019**

Last Revised: **May 30, 2025**

Plans Referenced:

- "Preliminary / Final PRD Plans (Final Plan for Lot 2B of Parcel 5C) for Prosperity Property Investments, LLC" by Bohler, dated 03/15/2022, Revision 8, dated 05/30/25.

Professional Engineer: Chris Puzinas
PA License #PE083200



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General Project Description/Stormwater Management

GENERAL PROJECT DESCRIPTION

Byers Retail Acquisition, L.P. proposes to develop Lot #2B of Parcel 5C of the existing 29.79-acre tract at Graphite Mine Road & Station Boulevard known as parcel 5C. The existing 29.79-acre tract was subdivided into two lots – Lot #1 and Lot #2. Lot #1, which consists of 16.35 acres, contains 121 unit townhomes and was previously approved by the township and currently under construction.

Lot #2, the subject of this application, consists of 13.44 acres, and will be subdivided further into Lots #2A and #2B. Lot #2A will contain 55 Townhome units, bringing the total number of residential units for Parcel 5C to 176 residential units.

Lot #2B will be developed into 31,500 square feet of commercial space consisting of a daycare and retail space. The proposal includes the installation of parking, utilities, landscaping and stormwater management controls necessary to support the development. Pertinent data characterizing the existing and future site conditions are shown on the accompanying plans.

STORMWATER MANAGEMENT

Pre-Development

The pre-development condition of Lot #2 consists of one Point of Interest (POI#2) which is indicated on the Pre-Development Drainage Area Plan. POI #2 is located across Graphite Mine Road near the southeast corner of the site at endwalls which discharge into Pickering Creek, which is part of the Delaware River Basin. The on-site area tributary to the point of interest has been delineated. The pre-development conditions were analyzed based on existing conditions for all areas tributary to the points of interest. There are currently two (2) existing sediment basins located on the site. Since these sediment basins were meant to only be on the site temporarily, they were disregarded in the pre-development stormwater analysis.

The development of Lot #2B does not have any impact to the pre-development conditions.

Post-Development

The post-development condition of the site maintains the same Point of Interest and relative drainage patterns. There is an increase in the total impervious surface coverage with a subsequent increase in runoff rates and volume. Therefore, above ground stormwater management basins (AGBs) have been designed to reduce peak rates of runoff and runoff volume. The area tributary to each basin has been delineated and hydrographs have been generated for the 1, 2, 5, 10, 25, 50 and 100 year storms. The inflow hydrographs to each basin have been routed and peak flow rate from each routed basin has been added to the hydrographs generated for any bypass areas to determine the total post-development discharge rate.

The development of Lot #2B does not alter any of the stormwater design for POI #1. The previously approved plan for Lot #2B had allocated 103,038 square feet of impervious coverage, while the current plan proposes only 101,100 square feet of impervious coverage (difference of 1,938 square feet). Since Bioretention Basin 2 was previously designed to manage the entire drainage area, including Lot #2B, the reduction of impervious area results in a reduced volume of runoff getting to the basin. As such, no adjustments are necessary for Bioretention Basin 2. As such, calculations are only provided for conveyance of stormwater to ensure the proposed stormwater conveyance pipes and inlets have the required design capacity.

Requirements

The following requirements are from Chapter 152 "Stormwater Management" of the Upper Uwchlan Ordinances.

§152-311. Conveyance and System Design Standards

- §152-311.F(1) Storm drain system(s), where provided, shall be designed to carry a 25-year peak flow rate, and a 50-year peak flow rate at the sump area.
- §152-311.F(3)(a) All inlets must be designed to accommodate the 25-year peak flow rate.
- §152-311.G(1) All pipe within the paved cartway shall be reinforced concrete or high-density polyethylene pipe.
- §152-311.G(2) All pipe outside of the paved cartway can consist of interior polyethylene pipe.
- §152-311.G(4) Minimum pipe size is 15 inches and have a minimum pipe slope of 0.50%.
- §152-311.G(9) Minimum pipe cover of 18 inches.
- §152-311.J(2) A fence or suitable vegetation shall be provided around all detention basins upon recommendation of the Township Engineer. All fencing shall be at least 3'-6" in height.

STORM DRAINAGE

The storm drainage system has been designed to intercept runoff at topographic low points and areas of significant runoff quantities and convey stormwater to the stormwater management basins. StormCAD Version V8i has been utilized for designing the storm conveyance system. Conveyance design precipitation amounts are based on NOAA Atlas 14, Volume 2, Version 3 obtained on April 28, 2016 for Chester Springs, PA for the 100-year storm event.

CONCLUSIONS

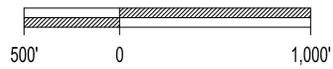
The proposed stormwater management program described above has been designed to comply with the Upper Uwchlan Township Subdivision and Land Development and Stormwater Management Ordinances, Chapter 102 CG-1 Guidelines, and the Stormwater Management Act of 1978.

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USGS MAP
(DOWNINGTOWN QUAD)

1"=1,000'



Storm Drainage



NOAA Atlas 14, Volume 2, Version 3
Location name: Chester Springs, Pennsylvania,
USA*

Latitude: 40.0831°, Longitude: -75.6887°

Elevation: m/ft**

* source: ESRI Maps

** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M. Yekta, and D. Riley

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aerials](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.347 (0.317-0.381)	0.413 (0.377-0.454)	0.482 (0.439-0.529)	0.531 (0.483-0.581)	0.585 (0.530-0.641)	0.622 (0.560-0.681)	0.657 (0.589-0.720)	0.687 (0.614-0.754)	0.720 (0.638-0.790)	0.743 (0.654-0.819)
10-min	0.555 (0.506-0.608)	0.661 (0.604-0.726)	0.772 (0.704-0.847)	0.848 (0.772-0.929)	0.933 (0.845-1.02)	0.990 (0.892-1.08)	1.04 (0.936-1.14)	1.09 (0.973-1.20)	1.14 (1.01-1.25)	1.17 (1.03-1.29)
15-min	0.693 (0.633-0.761)	0.830 (0.759-0.912)	0.976 (0.890-1.07)	1.07 (0.977-1.18)	1.18 (1.07-1.30)	1.25 (1.13-1.37)	1.32 (1.18-1.45)	1.37 (1.23-1.51)	1.43 (1.27-1.57)	1.47 (1.29-1.62)
30-min	0.950 (0.868-1.04)	1.15 (1.05-1.26)	1.39 (1.26-1.52)	1.56 (1.42-1.70)	1.75 (1.59-1.92)	1.89 (1.70-2.07)	2.02 (1.81-2.22)	2.14 (1.91-2.35)	2.28 (2.02-2.50)	2.38 (2.10-2.62)
60-min	1.18 (1.08-1.30)	1.44 (1.32-1.58)	1.78 (1.62-1.95)	2.02 (1.84-2.22)	2.33 (2.11-2.55)	2.56 (2.30-2.80)	2.79 (2.50-3.05)	3.00 (2.68-3.29)	3.27 (2.90-3.59)	3.47 (3.06-3.82)
2-hr	1.41 (1.28-1.57)	1.72 (1.55-1.90)	2.13 (1.92-2.36)	2.45 (2.20-2.72)	2.87 (2.56-3.17)	3.20 (2.84-3.54)	3.52 (3.12-3.90)	3.86 (3.38-4.26)	4.30 (3.73-4.76)	4.64 (3.99-5.14)
3-hr	1.54 (1.39-1.71)	1.86 (1.68-2.07)	2.32 (2.09-2.58)	2.67 (2.40-2.96)	3.13 (2.80-3.46)	3.48 (3.10-3.85)	3.85 (3.40-4.25)	4.21 (3.69-4.66)	4.69 (4.07-5.20)	5.06 (4.35-5.62)
6-hr	1.90 (1.72-2.12)	2.30 (2.08-2.56)	2.86 (2.58-3.18)	3.30 (2.97-3.67)	3.92 (3.50-4.34)	4.42 (3.92-4.88)	4.94 (4.34-5.45)	5.48 (4.77-6.05)	6.22 (5.35-6.88)	6.82 (5.78-7.55)
12-hr	2.31 (2.08-2.59)	2.78 (2.52-3.13)	3.48 (3.14-3.89)	4.05 (3.63-4.53)	4.87 (4.33-5.42)	5.56 (4.89-6.17)	6.30 (5.48-6.99)	7.09 (6.10-7.86)	8.23 (6.94-9.13)	9.16 (7.61-10.2)
24-hr	2.69 (2.47-2.96)	3.24 (2.97-3.56)	4.06 (3.71-4.45)	4.74 (4.32-5.19)	5.72 (5.19-6.25)	6.54 (5.91-7.14)	7.42 (6.67-8.09)	8.37 (7.48-9.12)	9.75 (8.61-10.6)	10.9 (9.54-11.9)
2-day	3.12 (2.85-3.45)	3.77 (3.44-4.16)	4.73 (4.30-5.21)	5.50 (5.00-6.07)	6.60 (5.97-7.26)	7.51 (6.76-8.26)	8.47 (7.58-9.31)	9.50 (8.45-10.4)	11.0 (9.66-12.0)	12.1 (10.6-13.4)
3-day	3.29 (3.00-3.64)	3.97 (3.62-4.39)	4.97 (4.52-5.49)	5.77 (5.24-6.37)	6.92 (6.25-7.62)	7.86 (7.07-8.65)	8.85 (7.93-9.74)	9.91 (8.82-10.9)	11.4 (10.1-12.6)	12.6 (11.1-13.9)
4-day	3.46 (3.16-3.83)	4.17 (3.80-4.62)	5.21 (4.74-5.76)	6.05 (5.49-6.68)	7.23 (6.54-7.98)	8.21 (7.38-9.04)	9.24 (8.27-10.2)	10.3 (9.20-11.4)	11.9 (10.5-13.1)	13.1 (11.5-14.5)
7-day	4.06 (3.72-4.44)	4.86 (4.46-5.32)	6.00 (5.50-6.57)	6.94 (6.34-7.59)	8.28 (7.54-9.04)	9.38 (8.50-10.2)	10.5 (9.51-11.5)	11.8 (10.6-12.8)	13.5 (12.1-14.8)	15.0 (13.2-16.4)
10-day	4.62 (4.27-5.03)	5.52 (5.09-6.01)	6.73 (6.20-7.31)	7.70 (7.07-8.35)	9.04 (8.28-9.80)	10.1 (9.24-11.0)	11.2 (10.2-12.2)	12.4 (11.2-13.4)	14.0 (12.6-15.2)	15.3 (13.7-16.6)
20-day	6.25 (5.81-6.73)	7.41 (6.90-7.99)	8.84 (8.21-9.52)	9.96 (9.24-10.7)	11.5 (10.6-12.3)	12.6 (11.7-13.6)	13.8 (12.7-14.8)	15.0 (13.8-16.1)	16.6 (15.2-17.9)	17.8 (16.2-19.2)
30-day	7.77 (7.30-8.28)	9.16 (8.61-9.76)	10.7 (10.0-11.4)	11.8 (11.1-12.6)	13.4 (12.5-14.2)	14.5 (13.6-15.5)	15.7 (14.6-16.7)	16.8 (15.6-17.9)	18.3 (16.9-19.5)	19.3 (17.8-20.7)
45-day	9.86 (9.33-10.5)	11.6 (11.0-12.3)	13.3 (12.6-14.1)	14.6 (13.8-15.5)	16.2 (15.3-17.2)	17.5 (16.5-18.5)	18.6 (17.5-19.7)	19.7 (18.5-20.8)	21.0 (19.7-22.3)	22.0 (20.5-23.3)
60-day	11.8 (11.2-12.5)	13.8 (13.1-14.6)	15.8 (15.0-16.7)	17.2 (16.4-18.2)	19.1 (18.1-20.1)	20.4 (19.3-21.5)	21.6 (20.4-22.8)	22.7 (21.4-24.0)	24.1 (22.7-25.5)	25.1 (23.6-26.6)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical

Peak Discharge Calculations

Project: Byers Station

Description: Conveyance

Runoff Coefficients

Impervious	0.99
Lawn	0.25

PennDOT Region

Conversion Factor, k^*

* $Q = k \text{ CIA}$

Catchment Areas

Name	Tc (min.)	Groundcover Areas (Ac.)				Total Area (Ac)	C	Q (cfs)
		Impervious	Lawn					100-year
RD01	5.00	0.05	0.00			0.05	0.99	0.44
RD02	5.00	0.05	0.00			0.05	0.99	0.41
RD03	5.00	0.07	0.00			0.07	0.99	0.55
RD04	5.00	0.07	0.00			0.07	0.99	0.58
RD05	5.00	0.03	0.00			0.03	0.99	0.21
RD06	5.00	0.01	0.00			0.01	0.99	0.06
RD07	6.00	0.00	0.00			0.00	0.99	0.03
RD08	7.00	0.01	0.00			0.01	0.99	0.07
RD09	8.00	0.02	0.00			0.02	0.99	0.12
RD10	9.00	0.02	0.00			0.02	0.99	0.16
RD11	10.00	0.02	0.00			0.02	0.99	0.16
RD12	11.00	0.03	0.00			0.03	0.99	0.21
RD13	12.00	0.01	0.00			0.01	0.99	0.08
RD14	13.00	0.01	0.00			0.01	0.99	0.09
RD15	14.00	0.02	0.00			0.02	0.99	0.10
RD16	15.00	0.03	0.00			0.03	0.99	0.19
RD17	16.00	0.03	0.00			0.03	0.99	0.18
RD18	17.00	0.05	0.00			0.05	0.99	0.31
RD19	18.00	0.05	0.00			0.05	0.99	0.29
RD20	19.00	0.07	0.00			0.07	0.99	0.38
RD21	20.00	0.07	0.00			0.07	0.99	0.39
CB01	5.00	0.11	0.01			0.11	0.99	0.95
IN40A	5.00	0.12	0.02			0.15	0.87	1.07
IN43	5.00	0.08	0.01			0.09	0.87	0.66
IN204	5.00	0.00	0.16			0.16	0.25	0.33
IN215	5.00	0.03	0.00			0.04	0.95	0.29
IN216	5.00	0.01	0.12			0.13	0.29	0.31
IN304	5.00	0.00	0.01			0.01	0.25	0.02
IN304A	5.00	0.00	0.01			0.01	0.25	0.02
IN504	5.00	0.15	0.05			0.20	0.82	1.36
IN505	5.00	0.00	0.05			0.05	0.25	0.11
IN506	5.00	0.09	0.01			0.10	0.91	0.74
IN507	5.00	0.08	0.01			0.10	0.89	0.73
IN508	5.00	0.10	0.00			0.11	0.96	0.87
IN509	5.00	0.07	0.00			0.07	0.97	0.59
IN510	5.00	0.10	0.01			0.11	0.94	0.86
IN511	5.00	0.00	0.07			0.07	0.27	0.16
IN512	5.00	0.19	0.05			0.23	0.84	1.62
IN513	5.00	0.09	0.02			0.11	0.88	0.79
IN514	5.00	0.22	0.01			0.23	0.97	1.87
YD515	5.00	0.00	0.01			0.01	0.55	0.06
YD514	5.00	0.01	0.01			0.02	0.55	0.11
YD513	5.00	0.01	0.02			0.03	0.56	0.13
YD512	5.00	0.01	0.01			0.02	0.65	0.12
IN516	5.00	0.00	0.65			0.65	0.25	1.35
IN517	5.00	0.02	0.31			0.33	0.30	0.83
IN518	5.00	0.00	0.20			0.20	0.26	0.44
IN519	5.00	0.01	0.12			0.13	0.31	0.34
IN520	5.00	0.01	0.07			0.07	0.33	0.21
IN521	5.00	0.02	0.11			0.13	0.34	0.37
IN522	5.00	0.05	0.02			0.07	0.79	0.43
IN520+(RD01+RD02+RD03+RD04)	5.00	0.25	0.07			0.32	0.83	2.18
IN519+(RD05+RD06+RD07+RD08+RD17)	5.00	0.09	0.12			0.21	0.56	0.97
IN518+(RD09+RD10+RD11+RD12)	5.00	0.09	0.20			0.29	0.49	1.19
IN517+(RD13+RD14+RD15+RD16)	5.00	0.09	0.31			0.41	0.42	1.42
YD515+(RD18)	6.00	0.06	0.01			0.07	0.91	0.48
YD514+(RD19+RD20)	7.00	0.13	0.01			0.14	0.92	1.02
YD513+(RD21)	5.00	0.08	0.01			0.08	0.93	0.64

The provided calculations demonstrate the inlets have capacity to handle the flow draining to them. None of the inlets receive a flow that exceeds 4 cfs in the 100 year storm event. Please refer to plans entitled "Final Plan for Lot 2B of Parcel 5C", dated 03/15/2022, last revised, 05/30/2025, for the associated inlet drainage areas.

Scenario: 100-Year
 Current Time Step: 0.000Hr
 Catch Basin FlexTable: Gutter Spread

Label	Inlet	Inlet Location	Ground Elevation (ft)	Rim Elevation (ft)	Local Surface Flow (ft ² /s)	Carryover Rational Flow (ft ² /s)	Total Surface Flow to Inlet (ft ² /s)	Capture Efficiency (Calculated) (%)	Intercepted Rational Flow (ft ² /s)	Bypassed Rational Flow (ft ² /s)	Bypass Target	Gutter Depth (in)	Gutter Spread (ft)	Cross Slope (ft/ft)	Longitudinal Slope (ft/ft)
EX.IN216	PADOT Type 'M'	In Sag	437.00	437.00	0.30	0.00	0.30	100.0	0.30	0.00	(N/A)	1.0	4.2	0.0200	(N/A)
HW01	PADOT Type 'C'	In Sag	437.00	437.00	1.99	0.00	1.99	100.0	1.99	0.00	(N/A)	2.2	9.0	0.0200	(N/A)
HW02	PADOT Type 'C'	In Sag	437.00	437.00	2.44	0.00	2.44	100.0	2.44	0.00	(N/A)	2.5	10.3	0.0200	(N/A)
IN35	PADOT Type 'C'	On Grade	445.11	445.11	0.72	0.00	0.72	82.5	0.59	0.13	IN38	1.2	5.2	0.0200	0.0200
IN36	PADOT Type 'C'	On Grade	445.08	445.08	0.39	0.00	0.39	90.0	0.35	0.04	IN37	1.0	4.1	0.0200	0.0200
IN37	PADOT Type 'C'	On Grade	443.13	443.13	0.22	0.04	0.26	94.3	0.24	0.01	IN39	0.8	3.5	0.0200	0.0200
IN38	PADOT Type 'C'	On Grade	443.50	443.50	0.27	0.13	0.40	89.9	0.36	0.04	IN40	1.0	4.2	0.0200	0.0200
IN39	PADOT Type 'C'	On Grade	439.56	439.56	1.02	0.80	1.82	68.5	1.25	0.57	IN41	1.8	7.3	0.0200	0.0200
IN40	PADOT Type 'C'	On Grade	441.27	441.27	0.51	0.04	0.56	85.9	0.48	0.08	IN40A	1.1	4.7	0.0200	0.0200
IN40A	PADOT Type 'C'	On Grade	439.52	439.52	1.04	0.08	1.11	76.1	0.85	0.27	IN42	1.5	6.1	0.0200	0.0200
IN41	PADOT Type 'C'	On Grade	436.41	436.41	0.39	0.57	0.97	78.2	0.76	0.21	IN44A	1.4	5.8	0.0200	0.0200
IN42	PADOT Type 'C'	On Grade	436.40	436.40	0.57	0.27	0.84	80.3	0.67	0.17	IN43	1.3	5.5	0.0200	0.0200
IN43	PADOT Type 'C'	On Grade	434.78	434.78	0.62	0.17	0.79	81.2	0.64	0.15	IN46	1.3	5.4	0.0200	0.0200
IN44	PADOT Type 'C'	On Grade	433.57	433.57	0.17	0.70	0.87	79.7	0.69	0.18	IN45	1.3	5.6	0.0200	0.0200
IN44A	PADOT Type 'C'	On Grade	434.47	434.47	1.15	0.93	2.08	66.5	1.38	0.70	IN44	1.8	7.7	0.0200	0.0200
IN45	PADOT Type 'C'	On Grade	432.24	432.24	0.16	0.18	0.33	91.8	0.31	0.03	(N/A)	0.9	3.9	0.0200	0.0200
IN46	PADOT Type 'C'	On Grade	432.40	432.40	0.39	0.15	0.54	86.2	0.47	0.07	(N/A)	1.1	4.7	0.0200	0.0200
IN49	PADOT Type 'M'	In Sag	451.25	451.25	0.89	0.00	0.89	100.0	0.89	0.00	(N/A)	1.7	7.1	0.0200	(N/A)
IN204	PADOT Type 'M'	In Sag	443.50	443.50	0.32	0.00	0.32	100.0	0.32	0.00	(N/A)	1.0	4.3	0.0200	(N/A)
IN215	PADOT Type 'C'	In Sag	435.97	435.97	0.30	0.00	0.30	100.0	0.30	0.00	(N/A)	0.5	2.1	0.0200	(N/A)
IN304	PADOT Type 'C'	On Grade	442.69	442.69	0.02	0.00	0.02	100.0	0.02	0.00	IN40	0.3	1.3	0.0200	0.0200
IN304A	PADOT Type 'C'	In Sag	442.25	442.25	0.02	0.00	0.02	100.0	0.02	0.00	(N/A)	0.0	0.1	0.0200	(N/A)
IN305	PADOT Type 'C'	On Grade	442.50	442.50	0.28	0.27	0.55	86.0	0.47	0.08	IN39	1.1	4.7	0.0200	0.0200
IN306	PADOT Type 'C'	On Grade	443.09	443.09	2.09	0.00	2.09	66.4	1.39	0.70	IN39	1.9	7.7	0.0200	0.0200
IN307	PADOT Type 'C'	On Grade	443.26	443.26	1.02	0.11	1.13	75.9	0.86	0.27	IN305	1.5	6.1	0.0200	0.0200
IN308	PADOT Type 'C'	On Grade	444.58	444.58	0.65	0.00	0.65	83.8	0.55	0.11	IN307	1.2	5.0	0.0200	0.0200
IN309	PADOT Type 'C'	On Grade	444.18	444.18	1.24	0.00	1.24	74.4	0.93	0.32	IN314	1.5	6.4	0.0200	0.0200
IN310	PADOT Type 'C'	On Grade	443.90	443.90	1.09	0.00	1.09	76.4	0.83	0.26	IN311	1.5	6.1	0.0200	0.0200
IN311	PADOT Type 'C'	On Grade	442.53	442.53	1.05	0.26	1.31	73.7	0.96	0.34	IN313	1.6	6.5	0.0200	0.0200
IN313	PADOT Type 'C'	In Sag	440.56	440.56	0.73	0.34	1.08	100.0	1.08	0.00	(N/A)	1.4	5.9	0.0200	(N/A)
IN314	PADOT Type 'C'	In Sag	440.56	440.56	3.54	0.32	3.85	100.0	3.85	0.00	(N/A)	3.4	14.0	0.0200	(N/A)
IN315	PADOT Type 'C'	In Sag	442.32	442.32	1.42	0.00	1.42	100.0	1.42	0.00	(N/A)	1.7	7.2	0.0200	(N/A)
IN316	PADOT Type 'C'	On Grade	439.22	439.22	1.54	0.00	1.54	71.2	1.09	0.44	IN318	1.7	6.9	0.0200	0.0200
IN317	PADOT Type 'C'	On Grade	439.12	439.12	1.56	0.00	1.56	70.9	1.11	0.45	IN319	1.7	6.9	0.0200	0.0200
IN318	PADOT Type 'C'	On Grade	436.94	436.94	0.76	0.44	1.21	74.9	0.90	0.30	IN44A	1.5	6.3	0.0200	0.0200
IN319	PADOT Type 'C'	On Grade	436.83	436.83	1.29	0.45	1.74	69.2	1.21	0.54	IN320	1.7	7.2	0.0200	0.0200
IN320	PADOT Type 'C'	On Grade	436.23	436.23	0.94	0.54	1.47	71.8	1.06	0.41	IN44A	1.6	6.8	0.0200	0.0200
IN322	PADOT Type 'C'	In Sag	439.00	439.00	1.47	0.00	1.47	100.0	1.47	0.00	(N/A)	1.8	7.3	0.0200	(N/A)
IN504	PADOT Type 'C'	In Sag	444.16	444.16	1.30	0.00	1.30	100.0	1.30	0.00	(N/A)	1.6	6.8	0.0200	(N/A)
IN505	PADOT Type 'C'	In Sag	442.08	442.08	0.10	0.00	0.10	100.0	0.10	0.00	(N/A)	0.0	0.1	0.0200	(N/A)
IN506	PADOT Type 'C'	In Sag	443.04	443.04	0.72	0.00	0.72	100.0	0.72	0.00	(N/A)	1.1	4.4	0.0200	(N/A)
IN507	PADOT Type 'C'	In Sag	444.96	444.96	0.71	0.00	0.71	100.0	0.71	0.00	(N/A)	1.0	4.4	0.0200	(N/A)
IN508	PADOT Type 'C'	In Sag	444.86	444.86	0.84	0.00	0.84	100.0	0.84	0.00	(N/A)	1.2	5.0	0.0200	(N/A)
IN509	PADOT Type 'C'	In Sag	444.00	444.00	0.54	0.00	0.54	100.0	0.54	0.00	(N/A)	0.9	3.6	0.0200	(N/A)
IN510	PADOT Type 'C'	In Sag	442.33	442.33	0.82	0.00	0.82	100.0	0.82	0.00	(N/A)	1.2	4.9	0.0200	(N/A)
IN511	PADOT Type 'M'	In Sag	440.81	440.81	1.02	0.00	1.02	100.0	1.02	0.00	(N/A)	1.8	7.6	0.0200	(N/A)
IN512	PADOT Type 'M'	In Sag	441.50	441.50	1.53	0.00	1.53	100.0	1.53	0.00	(N/A)	2.3	9.5	0.0200	(N/A)
IN513	PADOT Type 'C'	On Grade	441.00	441.00	0.77	0.00	0.77	81.5	0.63	0.14	IN514	1.3	5.3	0.0200	0.0200
IN514	PADOT Type 'C'	In Sag	437.85	437.85	1.77	0.14	1.91	100.0	1.91	0.00	(N/A)	2.1	8.8	0.0200	(N/A)
IN516	PADOT Type 'C'	In Sag	445.60	445.60	1.29	0.00	1.29	100.0	1.29	0.00	(N/A)	1.6	6.7	0.0200	(N/A)
IN517	PADOT Type 'M'	In Sag	443.00	443.00	0.79	0.00	0.79	100.0	0.79	0.00	(N/A)	1.6	6.6	0.0200	(N/A)
IN518	PADOT Type 'M'	In Sag	441.85	441.85	0.41	0.00	0.41	100.0	0.41	0.00	(N/A)	1.2	4.8	0.0200	(N/A)
IN519	PADOT Type 'M'	In Sag	441.50	441.50	0.32	0.00	0.32	100.0	0.32	0.00	(N/A)	1.0	4.3	0.0200	(N/A)
IN520	PADOT Type 'M'	In Sag	441.00	441.00	0.18	0.00	0.18	100.0	0.18	0.00	(N/A)	0.8	3.4	0.0200	(N/A)
IN521	PADOT Type 'M'	In Sag	435.60	435.60	0.35	0.00	0.35	100.0	0.35	0.00	(N/A)	1.1	4.5	0.0200	(N/A)
IN522	PADOT Type 'C'	In Sag	437.32	437.32	0.44	0.00	0.44	100.0	0.44	0.00	(N/A)	0.7	3.0	0.0200	(N/A)
YD512	Grate 18 Nylonplast	In Sag	445.70	445.70	0.10	0.00	0.10	100.0	0.10	0.00	(N/A)	46.5	193.6	0.0200	(N/A)
YD513	PADOT Type 'C'	In Sag	446.20	446.20	0.13	0.00	0.13	100.0	0.13	0.00	(N/A)	0.0	0.1	0.0200	(N/A)
YD514	PADOT Type 'C'	In Sag	446.20	446.20	0.09	0.00	0.09	100.0	0.09	0.00	(N/A)	0.0	0.1	0.0200	(N/A)
YD515	PADOT Type 'M'	In Sag	446.20	446.20	0.04	0.00	0.04	100.0	0.04	0.00	(N/A)	0.5	2.1	0.0200	(N/A)

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Scenario: 100-Year
Current Time Step: 0.000Hr
Catch Basin FlexTable: Inlet Report

Label	Inlet	Inlet Location	Ground Elevation (ft)	Rim Elevation (ft)	Invert Out (ft)	Inlet DA (acres)	Inlet C	Inlet Intensity (in/h)	Inlet Tc (min)
EX.IN216	PADOT Type 'M'	In Sag	437.00	437.00	433.75	0.130	0.290	7.880	5.000
HW01	PADOT Type 'C'	In Sag	437.00	437.00	432.47	0.610	0.410	7.880	5.000
HW02	PADOT Type 'C'	In Sag	437.00	437.00	431.76	0.640	0.480	7.880	5.000
IN35	PADOT Type 'C'	On Grade	445.11	445.11	441.46	0.210	0.430	7.880	5.000
IN36	PADOT Type 'C'	On Grade	445.08	445.08	440.84	0.080	0.620	7.880	5.000
IN37	PADOT Type 'C'	On Grade	443.13	443.13	438.83	0.050	0.550	7.880	5.000
IN38	PADOT Type 'C'	On Grade	443.50	443.50	439.87	0.050	0.690	7.880	5.000
IN39	PADOT Type 'C'	On Grade	439.56	439.56	431.31	0.150	0.860	7.880	5.000
IN40	PADOT Type 'C'	On Grade	441.27	441.27	437.07	0.080	0.810	7.880	5.000
IN40A	PADOT Type 'C'	On Grade	439.52	439.52	436.92	0.150	0.870	7.880	5.000
IN41	PADOT Type 'C'	On Grade	436.41	436.41	430.53	0.050	0.990	7.880	5.000
IN42	PADOT Type 'C'	On Grade	436.40	436.40	432.00	0.080	0.900	7.880	5.000
IN43	PADOT Type 'C'	On Grade	434.78	434.78	431.66	0.090	0.870	7.880	5.000
IN44	PADOT Type 'C'	On Grade	433.57	433.57	428.90	0.050	0.440	7.880	5.000
IN44A	PADOT Type 'C'	On Grade	434.47	434.47	429.32	0.210	0.690	7.880	5.000
IN45	PADOT Type 'C'	On Grade	432.24	432.24	427.39	0.020	0.990	7.880	5.000
IN46	PADOT Type 'C'	On Grade	432.40	432.40	429.00	0.080	0.620	7.880	5.000
IN49	PADOT Type 'M'	In Sag	451.25	451.25	447.03	0.450	0.250	7.880	5.000
IN204	PADOT Type 'M'	In Sag	443.50	443.50	440.54	0.160	0.250	7.880	5.000
IN215	PADOT Type 'C'	In Sag	435.97	435.97	433.10	0.040	0.950	7.880	5.000
IN304	PADOT Type 'C'	On Grade	442.69	442.69	439.72	0.010	0.250	7.880	5.000
IN304A	PADOT Type 'C'	In Sag	442.25	442.25	440.25	0.010	0.250	7.880	5.000
IN305	PADOT Type 'C'	On Grade	442.50	442.50	439.33	0.040	0.880	7.880	5.000
IN306	PADOT Type 'C'	On Grade	443.09	443.09	438.44	0.310	0.850	7.880	5.000
IN307	PADOT Type 'C'	On Grade	443.26	443.26	438.19	0.150	0.860	7.880	5.000
IN308	PADOT Type 'C'	On Grade	444.58	444.58	437.59	0.090	0.910	7.880	5.000
IN309	PADOT Type 'C'	On Grade	444.18	444.18	441.43	0.180	0.870	7.880	5.000
IN310	PADOT Type 'C'	On Grade	443.90	443.90	436.32	0.160	0.860	7.880	5.000
IN311	PADOT Type 'C'	On Grade	442.53	442.53	435.70	0.150	0.880	7.880	5.000
IN313	PADOT Type 'C'	In Sag	440.56	440.56	425.22	0.110	0.840	7.880	5.000
IN314	PADOT Type 'C'	In Sag	440.56	440.56	424.94	0.530	0.840	7.880	5.000
IN315	PADOT Type 'C'	In Sag	442.32	442.32	439.28	0.210	0.850	7.880	5.000
IN316	PADOT Type 'C'	On Grade	439.22	439.22	436.47	0.220	0.880	7.880	5.000
IN317	PADOT Type 'C'	On Grade	439.12	439.12	436.18	0.240	0.820	7.880	5.000
IN318	PADOT Type 'C'	On Grade	436.94	436.94	434.19	0.120	0.800	7.880	5.000
IN319	PADOT Type 'C'	On Grade	436.83	436.83	433.90	0.180	0.900	7.880	5.000
IN320	PADOT Type 'C'	On Grade	436.23	436.23	433.28	0.190	0.620	7.880	5.000
IN322	PADOT Type 'C'	In Sag	439.00	439.00	435.50	0.450	0.410	7.880	5.000
IN504	PADOT Type 'C'	In Sag	444.16	444.16	439.68	0.200	0.820	7.880	5.000
IN505	PADOT Type 'C'	In Sag	442.08	442.08	439.33	0.050	0.250	7.880	5.000
IN506	PADOT Type 'C'	In Sag	443.04	443.04	439.05	0.100	0.910	7.880	5.000
IN507	PADOT Type 'C'	In Sag	444.96	444.96	441.04	0.100	0.890	7.880	5.000
IN508	PADOT Type 'C'	In Sag	444.86	444.86	439.85	0.110	0.960	7.880	5.000
IN509	PADOT Type 'C'	In Sag	444.00	444.00	438.64	0.070	0.970	7.880	5.000
IN510	PADOT Type 'C'	In Sag	442.33	442.33	438.23	0.110	0.940	7.880	5.000
IN511	PADOT Type 'M'	In Sag	440.81	440.81	437.75	0.180	0.710	7.880	5.000
IN512	PADOT Type 'M'	In Sag	441.50	441.50	436.94	0.230	0.840	7.880	5.000
IN513	PADOT Type 'C'	On Grade	441.00	441.00	436.23	0.110	0.880	7.880	5.000
IN514	PADOT Type 'C'	In Sag	437.85	437.85	434.93	0.230	0.970	7.880	5.000

IN516	PADOT Type 'C'	In Sag	445.60	445.60	441.70	0.650	0.250	7.880	5.000
IN517	PADOT Type 'M'	In Sag	443.00	443.00	436.54	0.330	0.300	7.880	5.000
IN518	PADOT Type 'M'	In Sag	441.85	441.85	435.73	0.200	0.260	7.880	5.000
IN519	PADOT Type 'M'	In Sag	441.50	441.50	434.79	0.130	0.310	7.880	5.000
IN520	PADOT Type 'M'	In Sag	441.00	441.00	433.91	0.070	0.330	7.880	5.000
IN521	PADOT Type 'M'	In Sag	435.60	435.60	432.68	0.130	0.340	7.880	5.000
IN522	PADOT Type 'C'	In Sag	437.32	437.32	432.06	0.070	0.790	7.880	5.000
YD512	Grate 18 Nyloplast	In Sag	445.70	445.70	443.82	0.020	0.650	7.880	5.000
YD513	PADOT Type 'C'	In Sag	446.20	446.20	442.90	0.030	0.560	7.880	5.000
YD514	PADOT Type 'C'	In Sag	446.20	446.20	442.43	0.020	0.550	7.880	5.000
YD515	PADOT Type 'M'	In Sag	446.20	446.20	441.96	0.010	0.550	7.880	5.000

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Scenario: 100-Year
 Current Time Step: 0.000Hr
 Conduit FlexTable: Pipe Report

Start Node	Stop Node	Section Size (Catalog Conduit)	Material	Length (User Defined) (ft)	Slope (ft/ft)	Capacity (Full Flow) (ft³/s)	Flow (Link) (ft³/s)	Velocity (Average) (ft/s)	Elevation Ground (Start) (ft)	Elevation Ground (Stop) (ft)	Invert (Upstream) (ft)	Invert (Downstream) (ft)	Cover (Start) (ft)	Cover (Stop) (ft)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Energy Grade Line (In Link) (ft)
DB500	DB501	15 inch	HDPE	16.0	0.0050	4.95	0.10	1.61	446.81	446.55	443.51	443.43	2.05	1.87	443.63	443.55	443.67
DB501	YD513	15 inch	HDPE	36.0	0.0053	5.08	0.10	1.64	446.55	446.20	443.26	443.07	2.04	1.88	443.38	443.27	443.42
YD512	DB500	15 inch	HDPE	27.0	0.0052	5.04	0.10	1.64	445.70	446.81	443.82	443.68	0.63	1.88	443.94	443.80	443.99
IN504	IN506	15 inch	HDPE	91.4	0.0050	4.96	1.30	3.41	444.16	443.04	439.68	439.22	3.23	2.57	440.47	440.45	440.51
IN505	IN506	15 inch	HDPE	21.9	0.0050	4.96	0.10	1.60	442.08	443.04	439.33	439.22	1.50	2.57	440.45	440.45	440.45
IN507	IN508	15 inch	HDPE	67.6	0.0151	8.60	0.71	4.23	444.96	444.86	441.04	440.02	2.67	3.59	441.37	440.37	441.49
IN506	IN509	15 inch	HDPE	49.4	0.0049	4.88	2.09	1.70	443.04	444.00	439.05	438.81	2.74	3.94	440.43	440.38	440.47
IN508	IN509	15 inch	HDPE	79.9	0.0130	7.98	1.53	5.02	444.86	444.00	439.85	438.81	3.76	3.94	440.34	440.36	440.52
IN509	IN510	15 inch	HDPE	47.3	0.0051	5.01	4.05	3.30	444.00	442.33	438.64	438.40	4.11	2.68	440.29	440.13	440.46
IN510	IN511	15 inch	HDPE	61.6	0.0050	4.96	4.79	3.90	442.33	440.81	438.23	437.92	2.85	1.64	440.03	439.74	440.26
YD513	YD514	15 inch	HDPE	60.0	0.0050	4.95	0.81	2.97	446.20	446.20	442.90	442.60	2.05	2.35	443.25	442.94	443.38
YD514	YD515	15 inch	HDPE	60.0	0.0050	4.95	1.27	3.38	446.20	446.20	442.43	442.13	2.52	2.82	442.87	442.56	443.04
IN522	IN43	15 inch	HDPE	45.8	0.0083	6.37	5.47	5.84	437.32	434.78	432.06	431.68	4.01	1.85	433.09	432.93	433.49
IN521	IN522	15 inch	HDPE	54.1	0.0050	4.94	5.13	4.58	435.60	437.32	432.68	432.41	1.67	3.66	433.72	433.33	434.07
IN520	IN521	15 inch	HDPE	166.7	0.0064	5.58	4.91	5.13	441.00	435.60	433.91	432.85	5.84	1.50	434.82	433.90	435.23
MH503	IN520	15 inch	HDPE	72.2	0.0050	4.94	3.42	4.35	443.15	441.00	434.44	434.08	7.46	5.67	435.21	434.91	435.50
IN519	MH503	15 inch	HDPE	36.3	0.0050	4.93	3.44	4.34	441.50	443.15	434.79	434.61	5.46	7.29	435.56	435.36	435.85
MH502	IN519	15 inch	HDPE	58.2	0.0050	4.94	3.31	4.31	442.97	441.50	435.25	434.96	6.47	5.29	436.00	435.70	436.29
IN518	MH502	15 inch	HDPE	62.0	0.0050	4.95	3.33	4.33	441.85	442.97	435.73	435.42	4.87	6.30	436.48	436.17	436.77
IN517	IN518	15 inch	HDPE	129.1	0.0050	4.93	2.86	4.17	443.00	441.85	436.54	435.90	5.21	4.70	437.22	436.58	437.49
EX.IN216	IN42	15 inch	HDPE	27.5	0.0564	16.62	0.30	5.21	437.00	436.40	433.75	432.20	2.00	2.95	433.96	432.44	434.04
IN514	IN215	15 inch	HDPE	42.6	0.0390	13.81	9.24	12.06	437.85	435.97	434.93	433.27	1.67	1.45	436.09	435.01	437.03
IN513	IN514	15 inch	HDPE	66.6	0.0170	9.12	7.53	8.30	441.00	437.85	436.23	435.10	3.52	1.50	437.32	436.47	438.00
IN512	IN513	15 inch	HDPE	107.5	0.0050	4.96	7.06	5.75	441.50	441.00	436.94	436.40	3.31	3.35	438.65	437.50	439.16
IN511	IN512	15 inch	HDPE	72.7	0.0051	4.99	5.69	4.64	440.81	441.50	437.75	437.38	1.81	2.87	439.66	439.17	439.99
IN516	IN517	15 inch	HDPE	97.0	0.0149	8.55	1.99	5.68	445.60	443.00	441.70	440.25	2.65	1.50	442.26	440.66	442.48
YD515	IN516	15 inch	HDPE	19.3	0.0047	4.78	0.79	2.88	446.20	445.60	441.96	441.87	2.99	2.48	442.31	442.29	442.43
IN304A	IN304	15 inch	HDPE	24.0	0.0108	7.28	0.02	1.28	442.25	442.69	440.25	439.99	0.75	1.45	440.30	440.04	440.32
IN215	MH305	15 inch	HDPE	48.0	0.0429	14.50	9.49	12.59	435.97	435.42	433.10	431.04	1.62	3.13	434.27	432.48	435.25
IN204	IN38	15 inch	HDPE	21.0	0.0186	9.54	0.32	3.59	443.50	443.50	440.54	440.15	1.71	2.10	440.76	440.31	440.83
MH305	IN44A	24 inch	HDPE	29.0	0.0328	44.35	20.07	13.77	435.42	434.47	430.29	429.34	3.13	3.13	431.90	431.44	432.75
MH304	IN313	24 inch	HDPE	116.0	0.0100	24.51	9.26	7.26	442.29	440.56	435.32	434.16	4.97	4.40	436.41	435.01	436.84
MH303	EW303	30 inch	HDPE	15.0	0.0067	36.28	16.68	3.40	436.75	434.71	422.60	422.50	11.65	9.71	426.27	426.25	426.45
EXMH63	EXMH62	24 inch	HDPE	188.0	0.0106	25.28	1.42	4.34	442.59	440.40	433.13	431.13	7.46	7.27	433.54	431.45	433.69
EXMH62	EW301	24 inch	HDPE	28.0	0.0300	42.45	1.38	6.18	440.40	430.00	430.34	429.50	8.06	2.50	430.75	429.75	430.89
IN309	IN310	15 inch	HDPE	29.0	0.0097	6.88	0.93	3.91	444.18	443.90	441.43	441.15	1.50	1.50	441.81	441.46	441.94
IN308	IN310	24 inch	HDPE	221.0	0.0050	17.29	5.75	4.95	444.58	443.90	437.59	436.49	4.99	5.41	438.44	437.28	438.76
IN305	IN307	15 inch	HDPE	35.0	0.0111	7.39	0.47	3.38	442.50	443.26	439.33	438.94	1.92	3.07	439.60	439.15	439.69
IN307	IN308	24 inch	HDPE	85.0	0.0051	17.43	5.30	4.87	443.26	444.58	438.19	437.76	3.07	4.82	439.00	438.52	439.31
IN310	IN311	24 inch	HDPE	89.0	0.0051	17.43	7.20	5.28	443.90	442.53	436.32	435.87	5.58	4.66	437.27	436.77	437.64
HW02	IN313	15 inch	HDPE	21.0	0.0100	7.00	2.44	5.19	437.00	440.56	431.76	431.55	3.99	7.76	432.39	432.07	432.63
IN319	IN320	15 inch	HDPE	24.0	0.0217	10.30	4.24	7.98	436.83	436.23	433.90	433.38	1.68	1.60	434.73	434.30	435.10
IN320	MH305	15 inch	HDPE	25.0	0.0268	11.46	5.26	9.14	436.23	435.42	433.28	432.61	1.70	1.56	434.21	433.26	434.66
IN44A	IN44	24 inch	HDPE	30.0	0.0133	28.30	21.30	9.89	434.47	433.57	429.32	428.92	3.15	2.65	431.26	431.05	431.99
MH08	IN35	18 inch	HDPE	66.0	0.0259	18.32	0.89	5.36	450.13	445.11	443.68	441.97	4.95	1.64	444.03	442.20	444.16
MH302	EW304	24 inch	HDPE	21.0	0.0052	17.74	26.00	8.28	430.22	426.00	422.61	422.50	5.61	1.50	424.64	424.29	425.70
MH301	MH302	24 inch	HDPE	207.0	0.0140	28.96	26.40	10.45	433.00	430.22	425.67	422.78	5.33	5.44	427.47	424.76	428.69
IN322	EXMH63	24 inch	HDPE	206.0	0.0107	25.33	1.47	4.39	439.00	442.59	435.50	433.30	1.50	7.29	435.92	433.63	436.07
IN315	MH304	15 inch	HDPE	22.0	0.0050	4.95	1.42	3.48	442.32	442.29	439.28	439.17	1.79	1.87	439.75	439.63	439.93
IN311	MH304	24 inch	HDPE	21.0	0.0100	24.51	7.99	6.97	442.53	442.29	435.70	435.49	4.83	4.80	436.71	436.70	437.10
IN313	IN314	30 inch	HDPE	22.0	0.0050	31.42	12.31	6.01	440.56	440.56	425.22	425.11	12.84	12.95	426.40	426.37	426.85
IN314	MH303	30 inch	HDPE	83.0	0.0065	35.84	16.82	7.18	440.56	436.75	424.94	424.40	13.12	9.85	426.33	426.30	426.89
IN316	IN317	15 inch	HDPE	24.0	0.0050	4.95	1.09	3.24	439.22	439.12	436.47	436.35	1.50	1.52	436.88	436.89	437.03
IN317	IN319	15 inch	HDPE	115.0	0.0183	9.46	2.19	6.27	439.12	436.83	436.18	434.08	1.69	1.50	436.77	434.88	437.00
IN306	IN307	24 inch	HDPE	29.0	0.0028	12.87	4.03	3.62	443.09	443.26	438.44	438.36	2.65	2.90	439.21	439.11	439.41
HW01	IN39	15 inch	HDPE	21.0	0.0386	13.74	1.99	7.97	437.00	439.56	432.47	431.66	3.28	6.65	433.03	432.24	433.25
IN318	IN319	15 inch	HDPE	24.0	0.0050	4.95	0.90	3.07	436.94	436.83	434.19	434.07	1.50	1.51	434.80	434.80	434.84
IN304	IN40	15 inch	HDPE	51.0	0.0490	15.49	0.04	2.66	442.69	441.27	439.72	437.22	1.72	2.80	439.80	437.36	439.82
IN40A	IN39	15 inch	HDPE	22.0	0.0314	12.39	0.85	5.78	439.52	439.56	436.92	436.23	1.35	2.08	437.28	436.45	437.41
IN49	MH08	15 inch	HDPE	20.0	0.0140	8.28	0.89	4.41	451.25	450.13	447.03	446.75	2.97	2.13	447.40	447.03	447.53
IN45	MH301	24 inch	HDPE	116.0	0.0134	28.33	26.63	10.25	432.24	433.00	427.39	425.84	2.85	5.16	429.19	427.78	430.43
IN46	IN45	15 inch	HDPE	34.0	0.0400	14.00	0.47	5.28	432.40	432.24	429.00	427.64	2.15	3.35	429.59	429.60	429.60
IN44	IN45	24 inch	HDPE	38.0	0.0384	48.04	26.04	15.60	433.57	432.24	428.90	427.44	2.67	2.80	430.69	430.05	431.89
IN41	MH305	24 inch	HDPE	40.0	0.0017	10.25	5.94	3.38	436.41	435.42	430.53	430.46	3.88	2.96	432.01	431.99	432.10
IN42	IN41	15 inch	HDPE	22.0	0.0041	4.48	0.97	2.91	436.40	436.41	432.00	431.91	3.15	3.25	432.40	432.30	432.53
IN43	IN44	15 inch	HDPE	50.0	0.0482	15.36	5.98	11.73	434.78	433.57	431.66	429.25	1.87	3.07	432.65	431.00	433.16
IN39	IN41	24 inch	HDPE	151.0	0.0045	16.45	4.42										

IN35	IN36	24 inch	HDPE	22.0	0.0195	34.26	1.47	5.43	445.11	445.08	441.46	441.03	1.65	2.05	441.88	441.32	442.03
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UPPER UWCHLAN TOWNSHIP
PLANNING COMMISSION WORKSHOP, MEETING
May 8, 2025
Minutes
DRAFT

LOCATION: Township Building, 140 Pottstown Pike, Chester Springs 19425

Attendees:

Sally Winterton, Chair; Joe Stoyack, Vice-Chair; Jim Dewees, Stephen Fean, Jessica Wilhide, Jeff Smith, David Colajezzi, Taylor Young, Chad Adams

Mary Lou Flickinger, P.E. – Gilmore & Associates
Anthony Campbell, Zoning Officer (Workshop)
Kristin Camp, Esq., Township Solicitor (Workshop)
Sandy Diffendal

Gerry Stein (liaison to H.C), Neal Fisher (Hankin), Alyson Zarro, Esq., Jake Tackett

6:00 Workshop

Sally Winterton called the workshop to order at 6:05 pm. There were no citizens in attendance.

Sign Ordinance Amendments

Kristin reviewed the most recent sign ordinance changes, noting it is complex, and people will interpret the regulations differently. The Township Zoning Officer will determine if signs are following the Ordinance when possible. Every situation cannot be addressed.

Jim Dewees moved to recommend approval to the Board of Supervisors. Taylor Young seconded. No opposition, no abstentions, motion carried.

Short-Term Rental Ordinance

The Short-Term Rental Ordinance was discussed. The Board wants to add a few more regulations in the ordinance, such as the number of animals allowed on a rental property, and that guests should be 25+ years to rent. It was stated that a majority of the renters are those who travel for business and to visit family. Neal Fisher asked how we would enforce the age limit.

The Board of Supervisors is not signing any ordinances until after the Comprehensive Plan, which was approved in April, has been posted to the website.

Landscaping/Screening Regulations

Chris Garrity from RGS was not able to attend.

Discussion about the landscaping ordinance amendments included that the County Planning Commission came out with guidelines recently that landscaping should be concentrated on more urban, Exton-type things.

Do we replace trees due to removal, carbon dioxide or due to streetscape?

An overgrowth of trees causes poor vision and potential of power lines down.

A tree credit account was discussed, stating in lieu of replacing trees that would eventually make the land overgrown, contribute to a fund.

500 Pottstown Pike – Porsche Service Center

Gilmore reviewed the Preliminary Land Development Plan by T&M. Many comments were made regarding the Subdivision and Land Development Ordinance, the Zoning Ordinance, and the Stormwater Management Ordinance.

Alyson Zarro reviewed the consultants' comments regarding the 500 Pottstown Pike Land Development Plan. All were read by Alyson and most responses were that the Applicant would comply with the comments.

However, there were a few comments for discussion:

1. Several conditions in the Conditional Use Decision & Order;
2. Jake Tackett said there were internal workshops to address the location of a public trail to provide a connection to the trails at Fellowship Field. Jake stated that they concluded there was not enough room to connect the trails;
3. Regarding the monument sign, it was proposed that the Porsche sign be a stone wall. They're still working on it;
4. All waivers will have a formal letter;
5. Tree clearing will be updated on the Conservation Plan.
6. The Historical Commission asked for photos for clarification.

A tree survey will be done, and all landscaping comments will be updated.

Gerry Stein, liaison to the Historical Commission, noted that the pathway on the adjacent property was not a walkway to Fellowship Fields. He asked if in the vegetative plan, could a farm wall be incorporated so it can be seen?

Approval of Minutes

Jim Dewees moved, seconded by Jeff Smith, to approve as presented the minutes of the April 10, 2025 Planning Commission Meeting. The motion carried unanimously.

Sally Winterton announced that the next meeting is scheduled for June 12, 2025, 7:00 pm.

Adjournment

Sally Winterton moved to adjourn the Meeting at 7:05 pm. All were in favor.

Respectfully submitted,

Sandy Diffendal