

PRELIMINARY / FINAL SUBDIVISION & LAND DEVELOPMENT PLAN

ARCONA NEIGHBORHOOD 9

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OWNER / DEVELOPER
(ARCONA NEIGHBORHOOD 9):
Charter Homes at Arcona, Inc.
322 North Arch Street
Lancaster, PA 17603
Tax Map 13-10-0256-352
Inst. No.: 202421854

OWNER (REMAINING LANDS)
Ruth D. Lester
1340 Rossmoyne Road
Mechanicsburg, PA 17055
Source of Title:
Tax Map 13-10-0256-031
Inst. No.: 201729508 (1/2 interest)

OWNER (REMAINING LANDS)
Strong & Detwiler Partnership
1340 Rossmoyne Road
Mechanicsburg, PA 17055
Source of Title:
Tax Map 13-10-0256-031
Deed Book: 274, Page 1884 (1/2 interest)

SITE ACREAGE:
ARCONA NEIGHBORHOOD 9 - GROSS AREA 20.60 Ac.

SITE DATA:
ZONING:
R-2 Single-Family Residential District (TND Overlay)

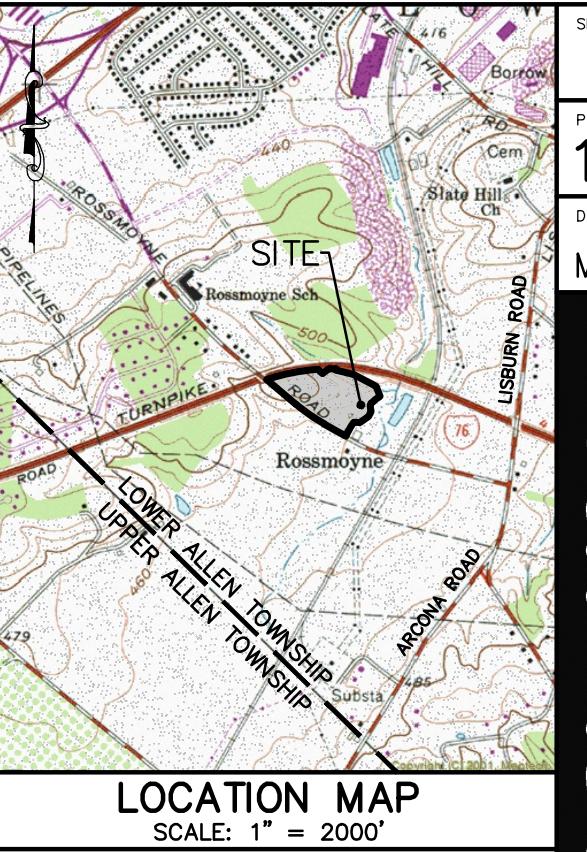
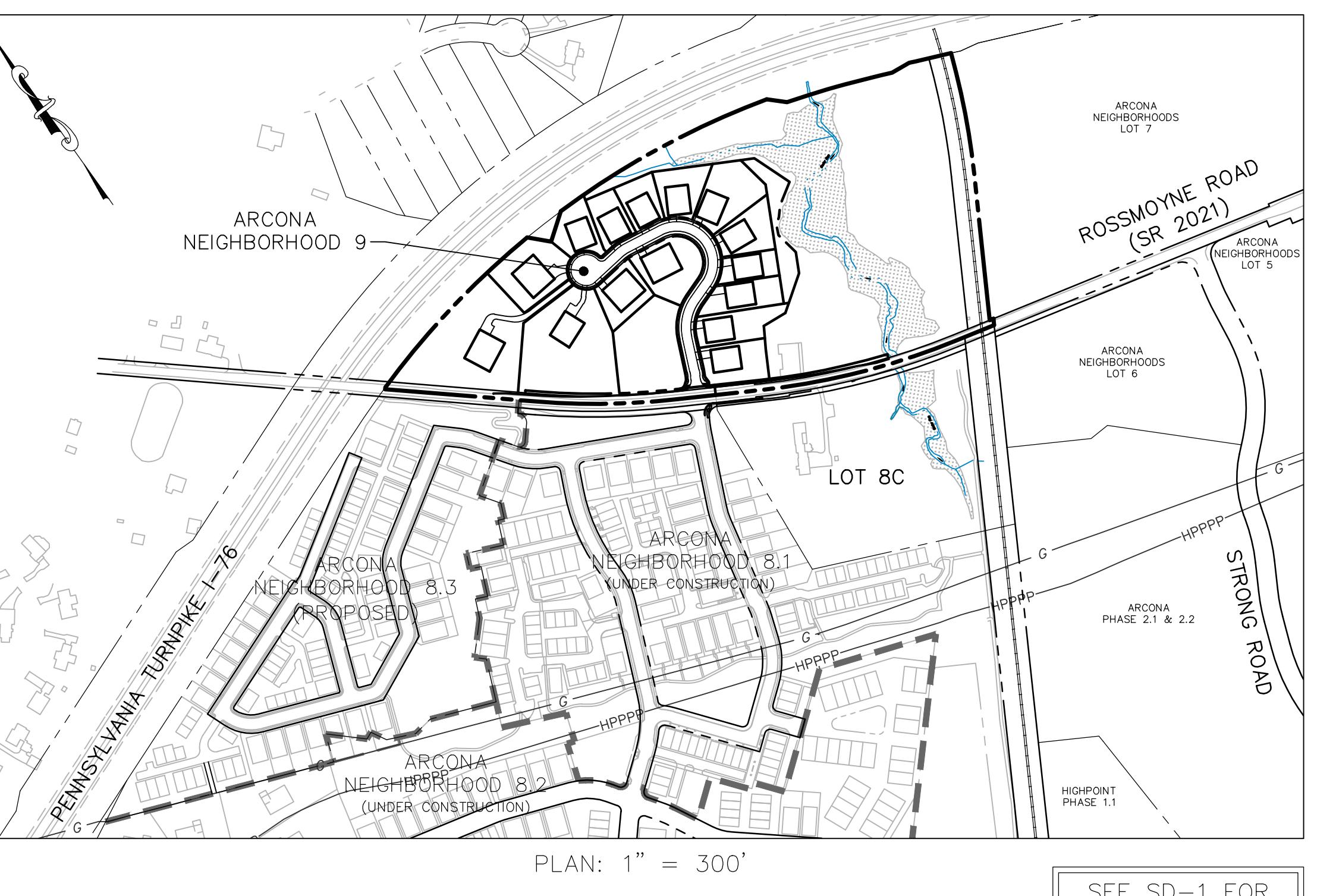
PROPOSED USE:
15 Single-Family Lots

PROPOSED WATER SERVICE:
PUBLIC

PROPOSED SEWER SERVICE:
PUBLIC

NOTES:
1. PA. ONE CALL, REQUESTED WAIVERS AND NOTES ARE LOCATED ON CV-2.
2. LEGENDS ARE LOCATED ON EX-2 & LY-2.
3. SOILS TABLE IS LOCATED ON EX-1.
4. THE OWNER(S) WILL PROVIDE A NOTARIZED CERTIFICATE OF OWNERSHIP SIGNATURE PRIOR TO FINAL PLAN RECORDATION.

* SHEET TO BE RECORDED



Sheet Number:
01 of 33
Project Number:
15-100-32
Date:
MAY 17, 2024

15-100-32

MAY 1

SURVEY NOTES:

- Boundary Survey of Tract 2, Tax Parcel 13-10-0256-009, 032, 226, & 227 is from survey by Howell Kline Surveying, LLC. Completed on April 13, 2015. Location of existing utilities taken from final subdivision land development plans for "Highpoint" Subdivision and supplemented by field locations by Howell Kline Surveying, LLC during the months of March and April, 2015.
- High point topography of Rossmoyne Road is from survey by Howell Kline Surveying, LLC. performed on December 3, & 4, 2013 and January 10, 2022.
- Contours plotted from field run topographic survey by Howell Kline Surveying, LLC. located in the HKS dashed survey area as noted on the EX-1 thru EX-5.

Datum: NAVD 88 (computed using Geod12a) & NAD 83 (2011) (Epoch:2010.0000) (as determined by GPS observation)

Site Bench: Top of sanitary manhole located along centerline of Rossmoyne Road, being approximately 60 feet northwest from center line of Norfolk-Southern Railroad crossing.

Elevation: 429.44'

Contour Interval: 2 foot

- All features shown are existing unless otherwise noted.
- Gross lot area is calculated to the title line. Net lot area will exclude existing street and railroad right-of-ways and include any internal easements or right-of-ways.
- The vertical datum is relative to NAVD88, Geod12a. Both datums were established using GPS observations. Site Benchmark #1 is a Mag Noll located within the pavement on the western side of Rossmoyne Road, being approximately 330' southeast of the southern end of the PA Turnpike overpass, elev=496.22. Site Benchmark #2 is a mag nail located within the pavement near the western curbline intersection of Herr Street and Trow Street, elev=471.09. Both benchmarks were established using the previous sanitary manhole site benchmark described on the aforementioned recorded plan for Arcona Neighborhood 8.2, elev=471.09.
- The marker designation (set) indicates that the described marker will be set as part of this survey. The designation (rnd) indicates that the marker was found during the field survey. Open circle with no designation indicates no marker found or set as part of this survey.
- Primary Control Point: 3/4" bolt found in concrete monument, Elev. 433.69 located on the property line near the intersection of Sheepfold Road (T-646) and Lisburn Road (SR-2017).
- The Site bearing orientation is referenced from Grid North based on the Pennsylvania State Plane Coordinate System (South Zone) which was derived from GPS measurements. The site Horizontal Adjustment is CORS 96.
- The soils and soils data shown on this plan are taken from the NRCS Web Soil Survey, run done on August 17, 2010.
- Marker shall be set (1) at the intersection of lines forming angles in the boundaries of the subdivision, (2) at such intermediate points as may be required by Municipal Engineer. Markers shall be set (1) at all corners except those monumented, (2) at the intersections of all street right-of-way lines, and (3) by the time the property is offered for sale.
- The intent of this plan is to:
 - Modify the Arcona Neighborhood 9 development site which includes single-family detached lots and open space areas.
 - Provide new sanitary sewer and storm sewer easements for the proposed development of Arcona Neighborhood 9.
- A FEMA designated floodplain is not present on the Arcona Neighborhood 9 property.
- Underground utilities have been shown according to information provided by others and must be field verified prior to construction. Field verification shall be performed by the developer. The actual location of these utilities have not been field verified and the locations are approximate. Towne Square Engineering does not make any representations, warranty, assurance or guarantee that the underground utility location information provided by others and reflected on these drawings is correct and accurate. Towne Square Engineering assumes no responsibility for any damage incurred as a result of underground utilities omitted or inaccurately shown.

WETLANDS NOTES:

- The Wetland Delineation on the Arcona Neighborhood 9 project report was performed by Vortex Environmental, Inc. dated July 29, 2019 and updated by Vortex Environmental, Inc. on May 10, 2024. Field location of wetland flags was performed by Howell Kline Surveying, LLC.
- No earth disturbance, fill or other encroachment shall be permitted within the wetlands. Waters of the U.S. or Waters of the Commonwealth shown on these plans without prior approval of the proper Federal, State and Local Authorities.

GENERAL DESIGN NOTES:

- Applicant submitted on Arcona Overall Master Plan to Lower Allen Township. Arcona Neighborhood 9 is part of Arcona.
- Any revisions made to these plans after the date of plan preparation or latest revision date shall not be responsible of TOWNE SQUARE ENGINEERING.
- The footprints and configurations of buildings, driveways, and their locations within lots, as depicted on these plans, are illustrative only and intended to demonstrate material compliance with Lower Allen Township ordinance requirements. The actual footprint, configuration and location of each building or driveway that is to be constructed shall be depicted in building permit plans that are submitted with the building permit application for each such building. All such buildings and driveways shall comply with all applicable Lower Allen Township ordinance requirements.
- It is the responsibility of the developer to obtain any and all permits or approvals required for the construction of the improvements shown on this plan. All construction shall be in conformance with the Lower Allen Township specifications in effect at the time of construction.
- It is the Contractor's responsibility to be aware of applicable standards and specifications as well as the required methods of construction. All deviations from the plans must be approved prior to construction.
- Any blasting will require obtaining a State Permit and prior notification to the Township.
- No building construction shall occur until the building permits are issued in accordance with Lower Allen Township.
- No permit will be issued for any additional installation or construction of impervious coverage unless Lower Allen Township has approved a Drainage Plan in accordance with the Lower Allen Township Stormwater Management Ordinance.
- No earth shall be scarified from these plans for construction purposes.
- Connection to public sewer or public water is required for all new lots and units.
- The Township is not responsible for construction or maintenance of any facility not dedicated for public use. Sanitary sewer facilities are proposed to be dedicated to Lower Allen Township Authority. Potable water facilities are proposed to be dedicated to PA American Water Company.
- It will be the Contractor's responsibility to ensure that the grading plan is implemented correctly, and that proper drainage is provided during construction.
- Lower Allen Township shall be notified in the event sinkholes are encountered during construction. The services of a registered geologist shall be retained and will report to the repair of any existing sinkholes.
- Representatives of the Township may enter, at reasonable times, upon any property, within the Township, to investigate or ascertain the condition of the subject property in regard to any aspect regulated by the Lower Allen Township Subdivision / Land Development and / or Stormwater Management Ordinance.
- Contractor shall schedule a pre-construction site meeting with the Township Engineer at least 48 hours prior to starting site construction activities.
- Site disturbance is permitted to start only if and when sufficient time is available to stabilize disturbed areas in accordance with PADEP requirements and with the approved plan.
- A Neighborhood Association (NA) will own and maintain all open space areas.
- N. Wayland Road is a private street.
- Recreational areas shall be satisfied in accordance with the recreation proposed in the Overall Master Plan accepted by the Board of Commissioners on December 14, 2015. Under SALDO Section 192-60 E. & F. and Lower Allen Township fee schedule, Charter Homes is proposing to provide a recreation fee per dwelling unit in lieu of recreation land in the amount of (i) \$1,000 when the cumulative density for the Arcona TND, is less than or equal to six dwelling units per acre, (ii) \$1,250 when such cumulative density is greater than six but less than or equal to seven dwelling units per acre, (iii) \$1,500 when such cumulative density is greater than seven units per acre. This recreation fee per dwelling unit shall be paid when individual building permits are issued for the community.
- Highpoint, Arcona Phase 2, 2.1, 2.2, 2.3, Arcona Neighborhood 8.2, 8.3, and 9 propose a total of 957 (943) dwelling units on 157.8 acres which totals to 6.1 dwelling units per acre. Pursuant to Section 220-126.A and B of the Zoning Ordinance and Section 192-68.E of the SALDO, the density is permitted because (i) cumulatively for such phases, 31.2 acres of common open space is proposed to be provided, which exceeds 150% of the amount of common open space that is required under Section 220-131 of the Zoning Ordinance, and (ii) recreation fees are to be paid upon approved cumulative density as provided in General Design Note 19 above.
- ADA compliant ramps shall be constructed at all locations where sidewalk and trails intersect vehicular traffic.
- All signage shall meet the requirements of Lower Allen Township Ordinance Article XXV.
24. Per Zoning Section 220-127.B, there are no multi-family, live-work or accessory dwelling units located in Neighborhood 9.
- Applicant and Owner acknowledge that certain site improvements depicted on this plan, including but not limited to accessible parking spaces, accessible route to the building and freestanding signs, that require approval under regulations contained in the PA uniform construction code and/or Lower Allen Township zoning code must be installed in accordance with separate permit approvals granted under those regulations.

GENERAL UTILITY NOTES:

- All easements shall be kept free of structures, fill and other encroachments that may adversely affect the function of the easement. The Owner shall not construct, plant, or maintain any structures, fences, trees, shrubbery, etc. within the sanitary sewer, stormwater or utility rights-of-way/easements, to ensure a free and clear access to all facilities.
- Electric, telephone, cable television, gas and all other utilities shall be installed underground and a minimum of five feet from sewer main center line. Developer responsible for enforcement and relocates.
- As proposed plans will be reviewed prior to depiction of public improvements including completed stormwater facilities.
- Metallic tape shall be placed 6" above the top of all installed utilities.
- Electric, communication boxes, gas meters, and water meters shall be kept a minimum of five feet from sewer main center line. Developer responsible for enforcement and relocates.

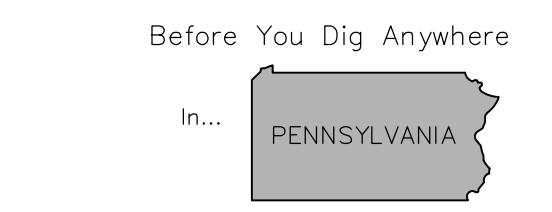
UTILITY NOTES - SANITARY SEWER:

- Public sanitary sewer service to be provided by the Lower Allen Township Authority.
- The sanitary sewer components of the Arcona Neighborhood 9 Subdivision and Land Development Plan must be approved by the Lower Allen Township Authority.
- Developer offers for dedication to the Lower Allen Township Authority all sanitary sewer collection and/or interceptor lines constructed by the Developer with appurtenances and a perpetual easement for the maintenance, repair, replacement or enlargement thereof, together with the right of ingress, egress and regress thereof as shown on this plan.
- Sanitary sewer laterals shall not be placed in driveway areas, except where no alternative exists as determined by the Lower Allen Township Authority.
- All sanitary sewer construction and materials shall be accordance with the latest edition of the Lower Allen Township Authority rules and regulations.
- Manhole frame and cover shall be Lower Allen Township Authority Standard.
- All manhole frames shall be bolted to the manhole by four (4) $\frac{1}{4}$ " stainless steel bolts spaced evenly around the frame, and imbedded at least 3" into the manhole. Manholes and sanitary sewer lines must be at least five (5') feet from the face of curb.
- Sanitary sewer pipe shall be manufactured to meet ASTM specifications D-3034-SDR35.
- Sanitary sewer pipe shall have a minimum of 5'-0" cover.
- Maximum spacing between clean-outs is 50 feet. Cleanouts shall be located 5' from building exterior.
- Existing sewer main flow and service shall be maintained during all phases of construction. The contractor shall provide a work plan prior to starting sewer construction that shows how flow will be maintained.
- Maintenance of sanitary sewer laterals off sanitary sewer mains within Arcona Neighborhood 9 will be the responsibility of the Owner(s) of Development Site lots.
- Subgrade shall be graded prior to sanitary sewer construction.
- The subgrade shall be graded to the proposed new subgrade elevation prior to starting sewer line construction.
- The Property Owner is responsible for final surface restoration in non-public paved roads after Authority sewer main external repair and backfill to sub-grade.
- Trees shall not be planted within sewer easements.
- Retaining walls shall not be placed within sewer easements without prior Authority approval.
- Manholes in non-paved areas shall have watertight frame and covers.
- All non-residential units shall have separate water meters.
- Manholes having a depth greater than 12.5 feet shall have an inside diameter of 6 feet.
- Inside drain connections at manholes are not permitted without Authority prior approval.
- Abandoned sewer pipe and manholes shall be completely removed.
- Changes to the approved plan sewer components require a revised plan submittion and approval prior to construction.
- Sanitary sewer laterals shall be installed after sewer main testing is complete, a sewer permit has been issued, and the lateral is inspected by the Authority from sewer main to building wall or outside frame.
- Sanitary sewer lateral traps between the sewer main and outside building wall are not permitted.
- Authority inspector to be present when utilities crossing the sewer main are constructed.

WAIVERS:

LIST OF REQUESTED WAIVERS & MODIFICATIONS

- At a meeting held on February 10, 2025 the Lower Allen Township Board of Commissioners approved the following waivers and modifications of the Lower Allen Township Subdivision and Land Development Ordinance:
- Waiver from Section 192-24.C requiring Preliminary plan submittal.
 - Waiver of Section 192-57-B.(2)(h)(2) and 192-57-C.(3)(c)(1) require only the right of way width and carway width that is required by PennDOT for Rossmoyne Road.
 - Waiver of Section 192-57-C.8 requiring installation of curb along Rossmoyne Road.
 - Waiver of Section 192-57-C.9 requiring installation of sidewalk along Rossmoyne Road.
 - Waiver of Section 192-68.B(3) requiring minimum street centerline radius of 165' (allow 95' radius on N. Wayland Road).



Before You Dig Anywhere
in... PENNSYLVANIA

STOP! CALL 811 (or 1-800-242-1776 outside of PA)
TOLL FREE

PA Act 287 (amended by Act 121 (2008)) requires notification to ONE CALL SYSTEM 3 working days for construction phase prior to excavation.

PAC ONE CALL SYSTEM, INC.

DESIGN PHASE SERIAL # 2022062987 (LOWER ALLEN TOWNSHIP)
(CALL MADE BY : Howell Kline Surveying, LLC)

Project Manager: DAVID B. KEGERZE PE
Project Engineer: G. MITCHELL KING PE, PLS
Project Surveyor: THOMAS K. PHILLIPS PLS

Drafting: D. TURNER
Checked by: I
Scale: AS NOTED

Seal: PENNSYLVANIA ONE CALL SYSTEM

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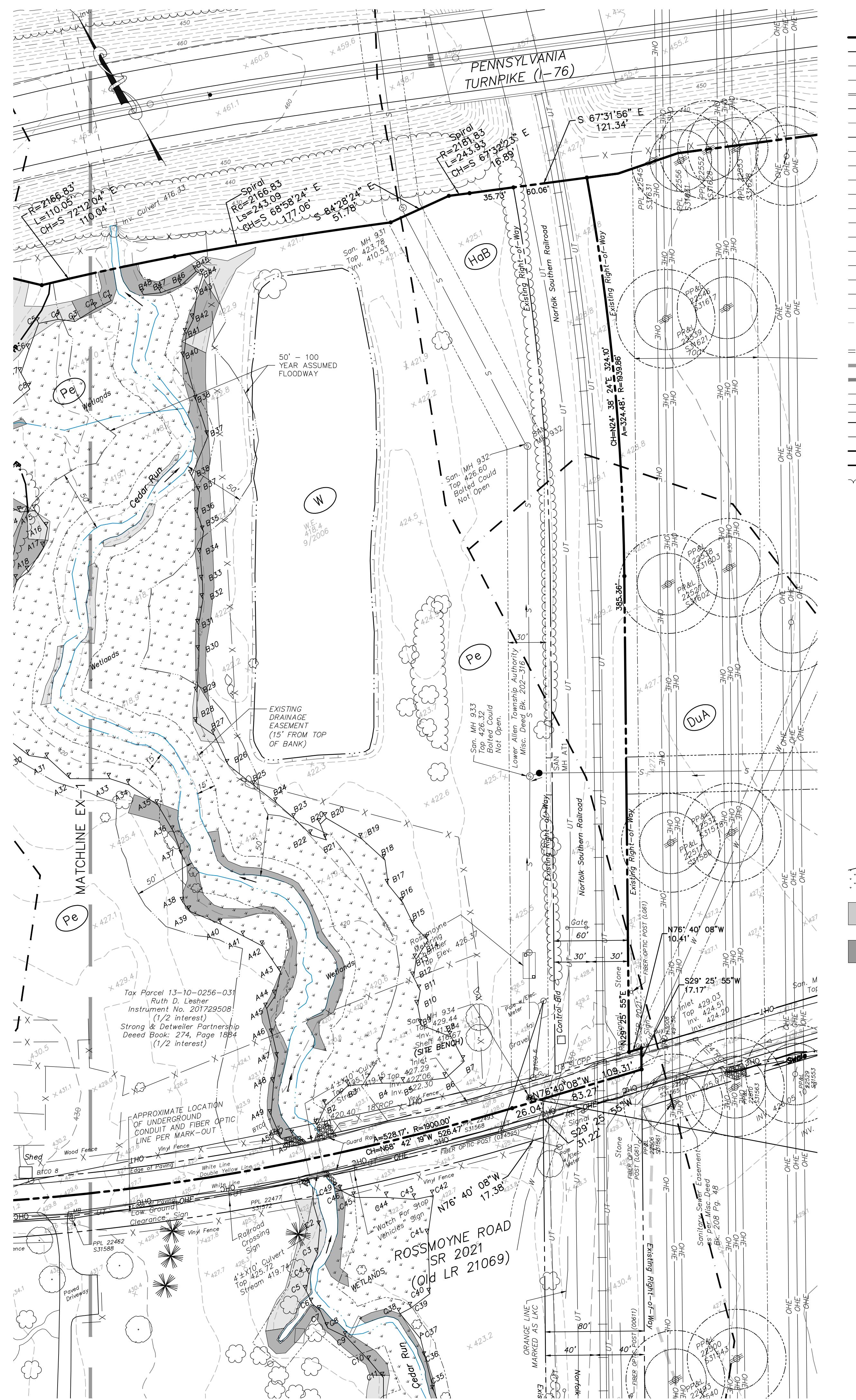
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Project Surveyor: THOMAS

Project Manager: DAVID B. KEGERIZE PE	Drafting: D. TURNER
Project Engineer: G. MITCHELL KING PE, PLS	Checked by: _____
Project Surveyor: THOMAS K. PHILLIPS PLS	Scale: 1"=50'
	0 25 50 75 100 150

10/27/25	ADRESSED 10/22/25	TMP. ENGR. LTR.
9/4/25	REV. PER PA DEP LETTER DATED 8/26/25	REV. PER CH&N
8/18/25	REV. PER OCC EMIL. DATED 5/14/25	REV. PER CH&N
1/20/25	REV. TO ADDRESS E. REV. LTR. DATED 1/20/25	REV. TO ADDRESS E. REV. LTR. DATED 1/20/25
12/18/24	REV. FOR TE. LTR. 2:1 SLOPES, PAVING PLAN	REV. FOR TE. LTR. 2:1 SLOPES, PAVING PLAN
10/17/24	REV. TO ADDRESS E. REV. LTR. DATED 7/31/24	REV. TO ADDRESS E. REV. LTR. DATED 7/31/24
DATE	REVISIONS	REVISIONS





LEGEND – EXISTING

TOWNE
SQUARE
—
ENGINEERING

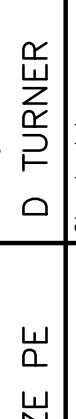
313 W. Liberty St
Suite 241
Lancaster, PA 17603
Phone: (717) 283-1200

ARCONA NEIGHBORHOOD 9

VA NEIGHBORHOOD

Sheet Number:
04 of 33

Project Number:
15 100 32

 ARCONA NEIGHBORHOOD 9	
 TOWNE SQUARE	
 ENGINEERING	
Civil Engineers & Land Planners	
EXISTING CONDITIONS PLANS	
1/27/25 ADDRESSED 1/22/25 TWP. ENGR. LTR.	
1/4/25 REV. PAPER PADEPPLER DATED 8/26/25	
1/8/25 REV. PAPER CH&N	
1/3/25 REV. PAPER CCD MAIL DATED 3/4/25	
1/20/25 REV. TO ADDRESS T.E. REV. LTR. DATED 1/20/25	
1/18/24 REV. FOR T.E. LTR. 2:1 SLOPES, PAVC PLAN	
1/17/24 REV. TO ADDRESS T.E. REV. LTR. DATED 7/31/24	
Seal: 	
Lower Allen Township - Cumberland County, PA	
CHARTER Homes & Neighborhoods	
Phone: (717) 283-4538	
313 W. Liberty St., Suite 241 Lancaster, PA 17603	
Project Manager: DAVID B. KEGERIZE PE	
Drafting: D TURNER	
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Project Engineer: G. MITCHELL KING PE, PLS	
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Date: MAY 17, 2024	

Description	Highpoint (rev.)	Strong Road	Arcona Ph. 2.1 & 2.2 (Rev.)	Arcona Ph. 2.3 (Rev.)	Arcona Ph. 8.1 (Rev.)	Arcona Ph. 8.2 (Rev.)	Arcona Ph. 8.3	Arcona Ph. 9	TND Totals to Date
Walking Trails	7,385 L.F. +/-	0 L.F. +/-	2,865 L.F. +/-	2,295 L.F. +/-	1,930 L.F. +/-	1,087 L.F. +/-	1,157 L.F. +/-	0 L.F. +/-	16,719 L.F. +/-
Site Acreage	40.1 Ac. +/-	2.6 Ac. +/-	17.0 Ac. +/-	13.3 Ac. +/-	29.7 Ac. +/-	30.9 Ac. +/-	13.6 Ac. +/-	10.6 Ac. +/-	157.8 Ac. +/-
Common OS	11.9 Ac. +/-	0.0 Ac. +/-	3.7 Ac. +/-	1.7 Ac. +/-	7.4 Ac. +/-	2.7 Ac. +/-	2.6 Ac. +/-	1.1 Ac. +/-	31.2 Ac. +/-
# Residential Units	183 (171)	0	282	107	133 (131)	144	93	15	957 (943)
Unit Density	4.27	0.00	16.61	8.03	4.41	4.66	6.82	1.42	5.98
* Length of Street (Sub-Total)	6,823 L.F. +/-	2,158 L.F. +/-	0 L.F. +/-	3,614 L.F. +/-	6,388 L.F. +/-	6,308 L.F. +/-	4,100 L.F. +/-	785 L.F. +/-	30,176 L.F. +/-
Length of Cul-de-sac (Sub-Total)	0 L.F. +/-	0 L.F. +/-	0 L.F. +/-	0 L.F. +/-	400 L.F. +/-	0 L.F. +/-	785 L.F. +/-	1,185 L.F. +/-	
Percentage of Total	0.00%	0.00%	0.00%	0.00%	6.34%	0.00%	100.00%	3.93%	
Impervious Area	16.10 Ac. +/-	1.68 Ac. +/-	8.85 Ac. +/-	7.84 Ac. +/-	9.94 Ac. +/-	12.78 Ac. +/-	7.07 Ac. +/-	2.98 Ac. +/-	67.2 Ac. +/-
Impervious Percentage	40.17%	64.34%	52.12%	58.84%	33.43%	41.33%	51.87%	28.20%	42.60%

*Includes public and private streets & alleys.

Development Site		Open Space				
Highpoint	Development Site	% Total	Rec. Lands	Common OS	Total OS Area	% Total
Highpoint Phase 1.1		17.39 Ac. +/-	40%	0.00 Ac. +/-	5.69 Ac. +/-	13%
Highpoint Phase 1.2		5.94 Ac. +/-	14%	0.00 Ac. +/-	0.71 Ac. +/-	2%
Highpoint Phase 1.3		4.94 Ac. +/-	11%	0.00 Ac. +/-	1.27 Ac. +/-	3%
Highpoint Phase 1.4		7.00 Ac. +/-	16%	0.00 Ac. +/-	1.05 Ac. +/-	2%
Highpoint Phase 1.5		8.06 Ac. +/-	19%	1.85 Ac. +/-	1.35 Ac. +/-	7%
Highpoint (rev.) sub-total =		43.33 Ac. +/-	100%	1.85 Ac. +/-	10.07 Ac. +/-	27.5%
Arcona Phase 2.1 & 2.2	Development Site	% Total	Rec. Lands	Common OS	Total OS Area	% Total
Arcona Phase 2.1		6.49 Ac. +/-	38%	0.00 Ac. +/-	0.00 Ac. +/-	0%
Arcona Phase 2.2		10.49 Ac. +/-	62%	0.00 Ac. +/-	3.68 Ac. +/-	22%
Arcona Phase 2.1 & 2.2 sub-total =		16.98 Ac. +/-	100%	0.00 Ac. +/-	3.68 Ac. +/-	21.7%
Arcona Phase 2.3	Development Site	% Total	Rec. Lands	Common OS	Total OS Area	% Total
Arcona Phase 2.3.1		10.49 Ac. +/-	79%	0.00 Ac. +/-	1.74 Ac. +/-	13%
Arcona Phase 2.3.2		2.22 Ac. +/-	17%	0.00 Ac. +/-	0.00 Ac. +/-	0%
Arcona Phase 2.3.3		0.62 Ac. +/-	5%	0.00 Ac. +/-	0.00 Ac. +/-	0%
Arcona Phase 2.3 (Rev.) sub-total =		13.33 Ac. +/-	100%	0.00 Ac. +/-	1.74 Ac. +/-	13.1%
Arcona Neighborhood 8	Development Site	% Total	Rec. Lands	Common OS	Total OS Area	% Total
Arcona Phase 8.1 (Rev.)		29.54 Ac. +/-	40%	0.00 Ac. +/-	7.41 Ac. +/-	10%
Arcona Phase 8.2 (Rev.)		30.91 Ac. +/-	42%	0.00 Ac. +/-	2.71 Ac. +/-	4%
Arcona Phase 8.3		13.63 Ac. +/-	18%	0.00 Ac. +/-	2.64 Ac. +/-	4%
Arcona Neighborhood 8 sub-total =		74.08 Ac. +/-	100%	0.00 Ac. +/-	12.76 Ac. +/-	17.2%
Arcona Neighborhood 9	Development Site	% Total	Rec. Lands	Common OS	Total OS Area	% Total
Arcona Neighborhood 9		10.58 Ac. +/-	100%	0.00 Ac. +/-	1.13 Ac. +/-	11%

LEGEND - PROPOSED

PROPERTY LINE	---
RIGHT-OF-WAY LINE	---
EASEMENT LINE	---
ROADWAY CENTERLINE	---
CURB LINE	---
EDGE OF PAVEMENT	---
EDGE OF STONE	---
MIN. BLDG SETBACK LINE	---
SANITARY SEWER LINE	---
SANITARY FORCE MAIN	---
WATER LINE	W
GAS LINE	G
OVERHEAD UTILITIES	OH
OVERHEAD ELECTRIC	OHE
UNDERGROUND ELECTRIC	UE
OVERHEAD TELEPHONE	OHT
UNDERGROUND TELEPHONE	UT
FENCE	X X X X X
INDEX CONTOUR	560
INTERMEDIATE CONTOUR	558
SPOT ELEVATION	392.15
STORM INLET & PIPING	---
GUIDE RAIL	---
TREELINE	Y Y Y Y Y
DECIDUOUS TREE	○○○○○
CONIFEROUS TREE	●●●●●
CONC. MONUMENT SET	○○○○○
PIN	○○○○○
ANGLE BREAK, PC/PT	○○○○○
EASEMENT CORNER	○○○○○
UTILITY POLE	●●●●●
LIGHT POLE	●●●●●
LIGHT	●●●●●
WELL	●●●●●
WATER SHUT-OFF VALVE (SERVICE)	●●●●●
WATER VALVE (MAIN)	●●●●●
FIRE HYDRANT	●●●●●
GAS SHUT-OFF VALVE (SERVICE)	●●●●●
GAS VALVE (MAIN)	●●●●●
SEWER VENT	●●●●●
SEWER CLEAN OUT	●●●●●
ELECTRIC MANHOLE	●●●●●
STORM MANHOLE	●●●●●
SANITARY MANHOLE	●●●●●
TELEPHONE MANHOLE	●●●●●
SIGN	●●●●●

NOTES:

1. Unit density is based on current neighborhood development site acreage.
2. Additional neighborhoods will be added to the chart as they are developed.
3. Arcona Neighborhood 9 is proposed to be developed on 10.6 acres, which equates to a density of 5.98 dwelling units per acre for Highpoint, Arcona Phase 2.1 & 2.2, Arcona Phase 2.3, Arcona Phase 8.1, 8.2, and 8.3, and Arcona Phase 9, Pursuant to Sections 220-126.A and B of the Zoning Ordinance and Section 192-68.E of the SALDO, this density is permitted because (i) cumulatively for such phases, 31.2 acres of common open space is proposed to be provided, which exceeds 150% of the amount of common open space that is required under Section 220-131 of the Zoning Ordinance, and (ii) recreation fees are to be paid based upon approved cumulative density as provided in General Design Note 19 (See Sheet CV-2).

NOTES:

1. SEE EA-1 FOR ALL PROPOSED EASEMENTS AND EXISTING EASEMENTS TO BE EXTINGUISHED.
2. PROPOSED EASEMENTS FOR THIS PLAN WILL BE GRANTED IN EASEMENT AGREEMENTS.
3. N. WAYLAND ROAD IS A PRIVATE STREET. "ON-STREET" PARKING ON N. WAYLAND ROAD IS NOT PERMITTED.
4. EACH SINGLE-FAMILY DETACHED DWELLING WILL HAVE A 2-CAR GARAGE.
5. EACH DWELLING UNIT WILL HAVE INDIVIDUAL REFUSE PICKUP. ALL RESIDENTIAL UNIT OWNERS ARE REQUIRED TO PLACE REFUSE AT A COLLECTION POINT ACCESSIBLE FOR TRUCK PICKUP, AS DIRECTED BY THE NEIGHBORHOOD ASSOCIATION DOCUMENTS. HOMEOWNERS WILL BE REQUIRED TO BRING REFUSE TO END OF DRIVES.
6. SEE SHEET LY-2 STREET ADDRESSES (PENDING APPROVAL).
7. SEE SHEET LY-4 FOR LOT AREAS, BEARINGS AND DISTANCES.
8. NEIGHBORHOOD ASSOCIATION TO MAINTAIN AND KEEP CLEAR ALL SNOW EASEMENTS.

Phase	15-24.9% SLOPES (MAX 30% Disturbance)			25%+ SLOPES (MAX 15% Disturbance)		
	Total Area TND	Disturbed Area	Est. % Disturbed	Total Area TND	Disturbed Area	Est. % Disturbed
Highpoint (Rev.)	0.00 Ac.	0.0%		0.00 Ac.	0.0%	
Arcona 2.1 & 2.2 (Rev.)	0.00 Ac.	0.0%		0.00 Ac.	0.0%	
Arcona 2.3	0.00 Ac.	0.0%		0.00 Ac.	0.0%	
Arcona 8.1	0.00 Ac.	0.0%		0.00 Ac.	0.0%	
Arcona 8.2	0.69 Ac.	3.6%		0.09 Ac.	1.2%	
Arcona 8.3	0.09 Ac.	0.5%		0.00 Ac.	0.0%	
Arcona 9	2.10 Ac.	10.9%		0.07 Ac.	1.0%	
Totals To Date	2.88 Ac.	15.0%		0.16 Ac.	2.2%	

Total area of slopes is inclusive of the entire TND Site, including existing and future phases.

Slopes are derived from pre-development topo and are based on natural slopes per Zoning Section 220-204.

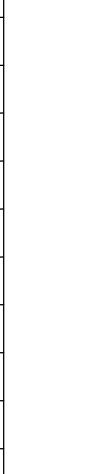
ARCONA NEIGHBORHOOD 9 - PARKING SUMMARY (Residential)

PHASE	LOT / UNIT	UNIT TYPE	DESCRIPTION	# UNITS	REQUIRED	PROPOSED
9	893-907	RESIDENTIAL (SINGLE-FAMILY DETACHED)	2.0 PER UNIT	15 (Dwelling Units)	30	30 (Garages)
9	N/A	N/A	On Street	N/A	0	0
			Total	15 (Dwelling Units)	30	30

Depth to Width Percentage of Dwelling Units - Arcona Neighborhood 9

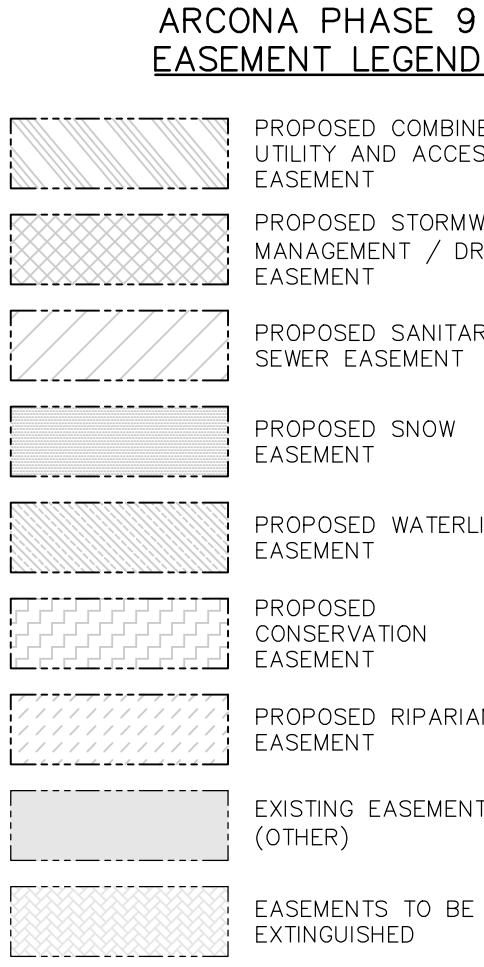
# of Residential Lots	# Wider than Deep	> 90% Deeper
15	15	100.0%

Arcona Neighborhood 9 Unit Count

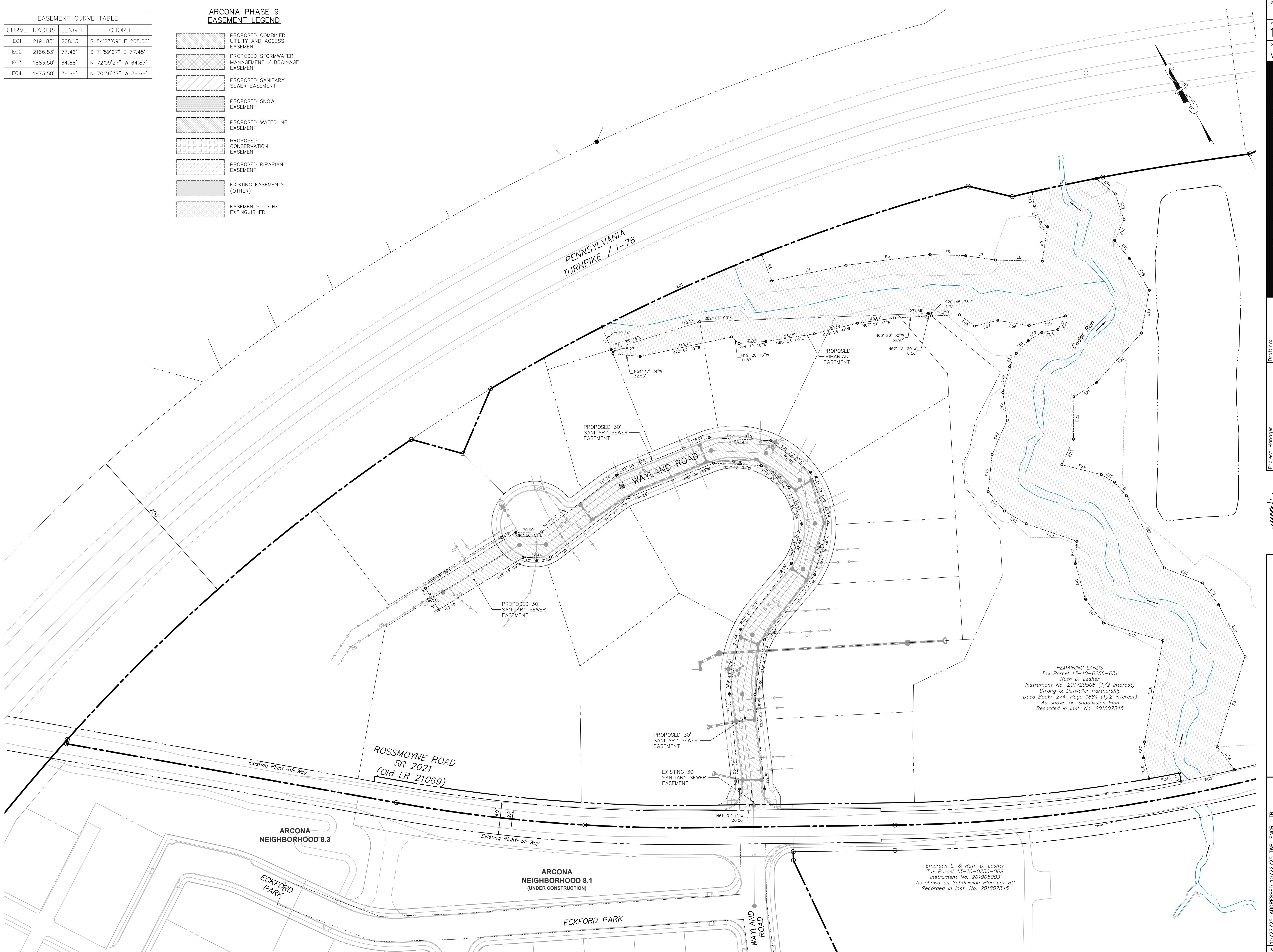
Seal: 

G. MITCHELL KING

TOWN OF LOWER ALLEN



EASEMENT LINE TABLE		
EASEMENT CURVE TABLE		
LINE	LENGTH	DIRECTION
E1	34.47'	N 7°55'30" E
E3	33.55'	S 9°09'28" W
E4	90.38'	S 71°52'14" E
E5	100.15'	S 67°15'56" E
E6	42.56'	S 58°19'23" E
E7	36.01'	S 51°33'26" E
E8	55.46'	S 58°39'46" E
E9	41.46'	N 38°40'12" E
E10	9.55'	N 26°29'09" W
E11	20.71'	N 74°47'52" E
E12	16.89'	N 21°50'51" E
E14	29.30'	S 21°16'12" E
E15	32.45'	S 11°20'40" W
E16	26.98'	S 54°35'12" W
E17	28.18'	S 9°30'13" E
E18	44.26'	S 1°54'27" E
E19	51.67'	S 40°27'31" W
E20	79.58'	S 72°20'01" W
E21	31.45'	S 87°44'26" W
E22	50.31'	S 30°34'58" W
E23	33.34'	S 54°30'06" W
E24	48.29'	S 46°03'17" E
E25	18.04'	S 30°00'45" E
E26	21.75'	S 11°23'50" E
E27	96.64'	S 2°25'31" W
E28	48.56'	S 38°34'05" E
E29	32.33'	S 6°54'59" E
E30	68.66'	S 2°49'17" W
E31	112.55'	S 47°05'53" W
E32	34.25'	S 7°05'16" E
E34	10.00'	N 18°49'45" E
E36	25.74'	N 14°54'15" E
E37	18.91'	N 33°52'57" E
E38	122.12'	N 40°10'34" E
E39	73.24'	N 43°23'54" W
E40	35.72'	N 7°35'37" W
E41	43.96'	N 14°22'39" E
E42	26.53'	N 33°34'34" E
E43	63.64'	N 40°57'06" W
E44	29.81'	N 29°26'45" W
E45	30.02'	N 10°10'15" W
E46	44.55'	N 35°57'12" E
E47	44.47'	N 53°43'26" E
E48	33.12'	N 21°05'57" E
E49	31.78'	N 44°32'07" E
E50	17.68'	N 56°39'17" E
E51	20.88'	N 73°47'26" E
E52	18.58'	N 88°29'35" E
E53	19.32'	S 70°06'55" E
E54	18.67'	N 59°42'53" E
E55	44.82'	N 75°08'16" W
E56	37.81'	N 50°05'01" W
E57	28.34'	N 74°06'15" W
E58	22.36'	N 23°14'22" W
E59	33.46'	S 62°13'30" E



TOWNE SQUARE
ENGINEERING
Civil Engineers & Land Planners
313 W. Liberty St., Suite 241
Lancaster, PA 17603
Phone: (717) 283-4538
info@townsquareengineering.com

DAVID B. KEGERIZE PE
C. MITCHELL KING PE, PLS
G. MITCHELL KING PE, PLS

Project Manager:
DAVID B. KEGERIZE PE

Project Engineer:
C. MITCHELL KING PE, PLS

Project Surveyor:
G. MITCHELL KING PE, PLS

Scale:
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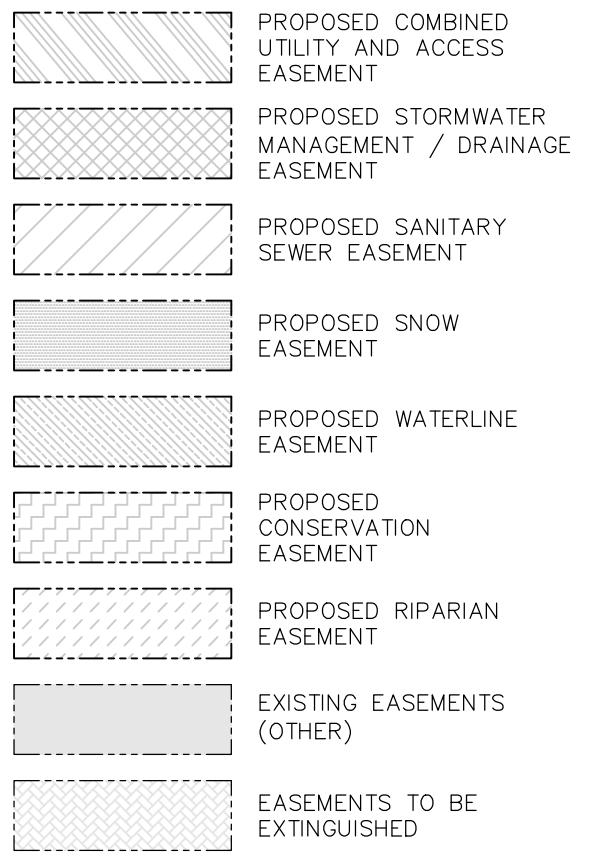
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ARCONA PHASE 9
EASEMENT LEGEND



Sheet Number:
13 of 33

Project Number:
15-100-32

Date:
MAY 17, 2024

ARCONA NEIGHBORHOOD 9
Lower Allen Township, Cumberland County, PA
CHARTER Homes & Neighborhoods



EASEMENT PLAN – DRAINAGE & SNOW EASEMENTS

PENNSYLVANIA
TURNPIKE / I-76

N. WAYLAND ROAD

N77° 36' 60" E
A=20.00', R=51.00'
CH=S25° 07' 03"E 18.87'

A=24.18', R=61.00'
CH=N25° 00' 13"W 24.03'

PROPOSED SNOW
EASEMENT

A=42.01', R=45.00'
CH=N56° 59' 57"E 40.50'

PROPOSED DRAINAGE
EASEMENT

A=11.89', R=25.00'
CH=N43° 53' 07"E 11.78'

A=6.77', R=1883.88'
CH=N80° 36' 30"W 8.77'

A=17.54', R=15.00'
CH=S85° 42' 45"W 16.58'

S29° 15' 30" W
8.75'

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8.75'

A=10.72', R=100.00'
CH=S26° 11' 04"W 10.73'

A=19.67', R=50.00'
CH=N32° 41' 50"W 19.54'

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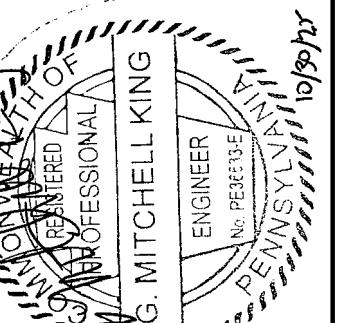
S29° 15' 30" W
8.75'

ARCONA NEIGHBORHOOD 9

Lower Allen Township - Cumberland County, PA

CHARTER Homes & Neighborhoods

TURNING MOVEMENTS



Seal:

PROFESSIONAL

C. MITCHELL KING

ENGINEER

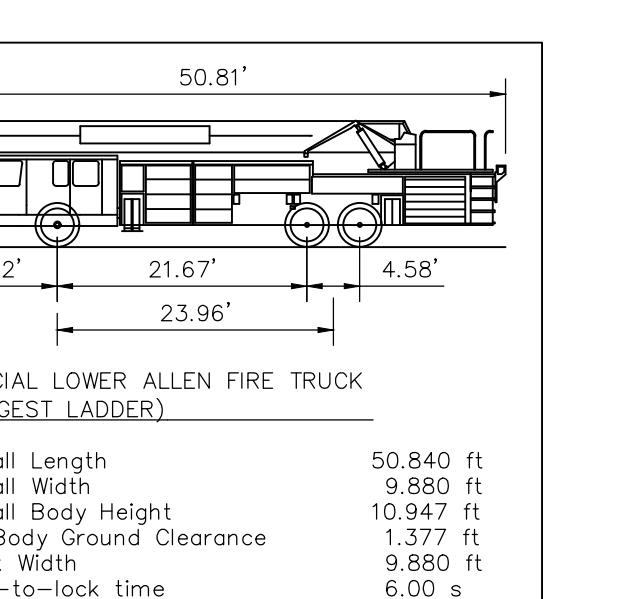
PENNSYLVANIA

LAW

CIVIL

ENGINEERING

LAW

TM-1
Section Number:
10/27/25 ADDRESSED 10/22/25 TMP. ENGR. LTR.
9/4/25 REV. PER PA DEP LETTER DATED 8/26/25
8/18/25 REV. PER CH&N
3/18/25 REV. PER OCCD EMIL. DATED 3/14/25
1/20/25 REV. TO ADDRESS E. REV. LTR. DATED 1/20/25
12/18/24 REV. FOR T.E. REV. LTR. 2:1 SLOPES, PAVING PLAN
10/17/24 REV. TO ADDRESS E. REV. LTR. DATED 7/31/24
DATE
10/30/2025 4:33 PM
L:\15-100-32\Sheets\TM-01.DWG
TM-01.DWG

50.81'

11.92'

21.67'

23.96'

4.58'

Overall Length 50.840 ft

Overall Width 9.880 ft

Overall Body Height 10.947 ft

Min. Body Ground Clearance 1.37 ft

Track Width 9.880 ft

Lock-to-lock time 6.00 s

Max Wheel Angle 40.00°

Official Lower Allen Fire Truck (Longest Ladder)

50.81'

11.92'

21.67'

23.96'

4.58'

Overall Length 50.840 ft

Overall Width 9.880 ft

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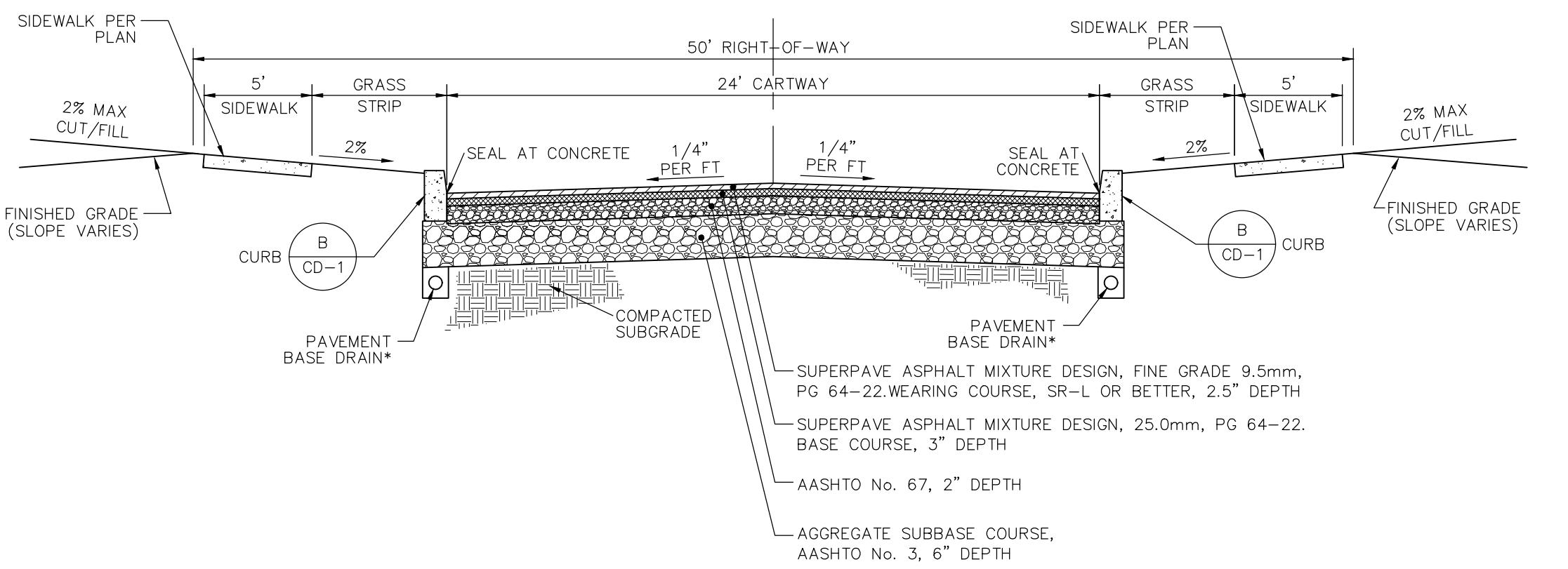
Official Lower Allen Fire Truck (Longest Ladder)

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11.92'

21.67'</div

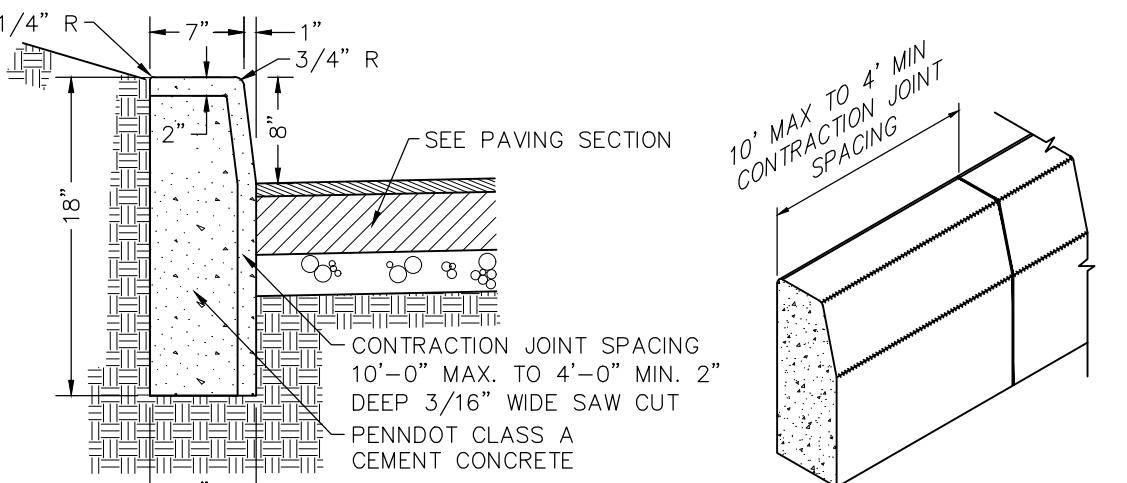
CONSTRUCTION DETAILS



NOTES:

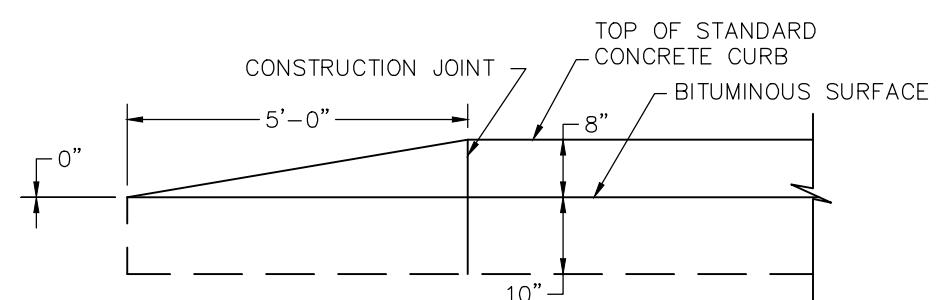
- WEARING COURSE PLACED IN TWO LIFTS, 1-INCH DEPTH FIRST LIFT, 1.5" DEPTH FINAL LIFT.
- FIRST WEARING COURSE LIFT MUST BE PLACED WITHIN 30 DAYS OF PLACING BASE COURSE.
- SECOND WEARING COURSE LIFT MUST NOT BE PLACED PRIOR TO OCCUPANCY OF 90% OF UNITS USING THE STREET FOR ACCESS.
- SUPERPAVE MIX DESIGN BASED ON ESALs MUST BE APPROVED BY THE MUNICIPALITY PRIOR TO CONSTRUCTION.
- DETAILED DESIGN FOR SUBGRADE ARE SHOWN AS THE MINIMUM FOR RESIDENTIAL CUL-DE-SAC AND LOCAL ACCESS STREETS WITH ADT LESS THAN 400. ACTUAL DEPTHS FOR OTHERS STREETS MUST BE DETERMINED BY A PAVEMENT DESIGN APPROVED BY THE MUNICIPALITY.
- 6" STANDARD REVEAL (SEE D/CD-1) 8" SUMP CONDITION AT INLETS.

A TYPICAL STREET (24' CARTWAY)
CD-1 NOT TO SCALE

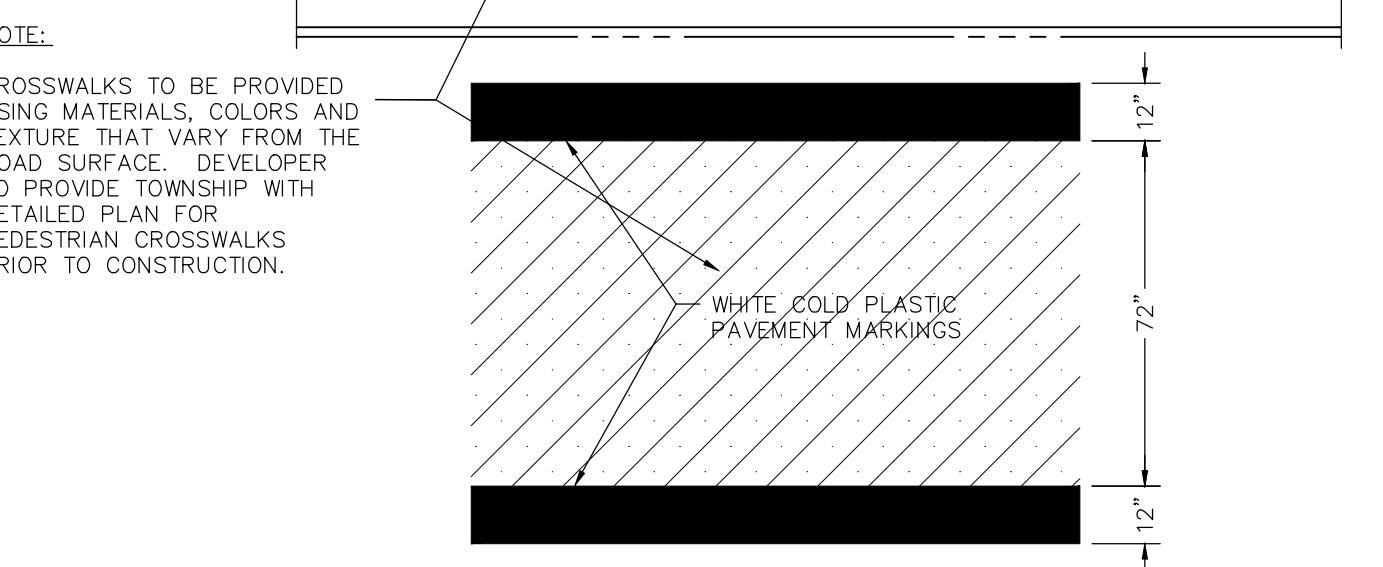


- NOTES:
- ALL MATERIALS AND WORKMANSHIP ARE TO BE IN ACCORDANCE WITH PENNDOT PUBLICATION 408 STANDARDS.
 - EXTEND ADJACENT PAVING SUBGRADE UNDER CURB. PROVIDE ADJACENT PAVING COARSE AGGREGATE BASE MATERIAL, INCIDENTAL TO CURB CONSTRUCTION, BETWEEN SUBGRADE AND BOTTOM OF CURB.

B STRAIGHT CURB DETAILS
CD-1 NOT TO SCALE

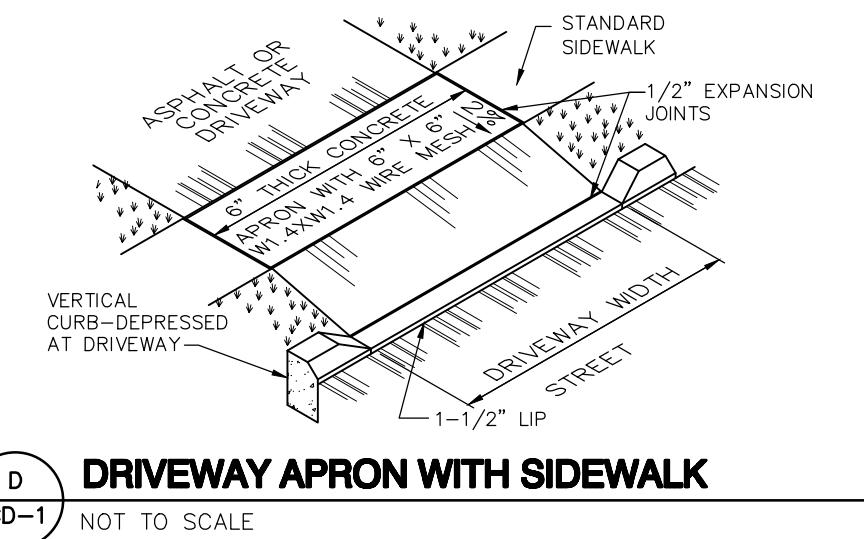


C END TRANSITION FOR STANDARD CURBING DETAIL (HOP BY OTHERS)
CD-1 NOT TO SCALE

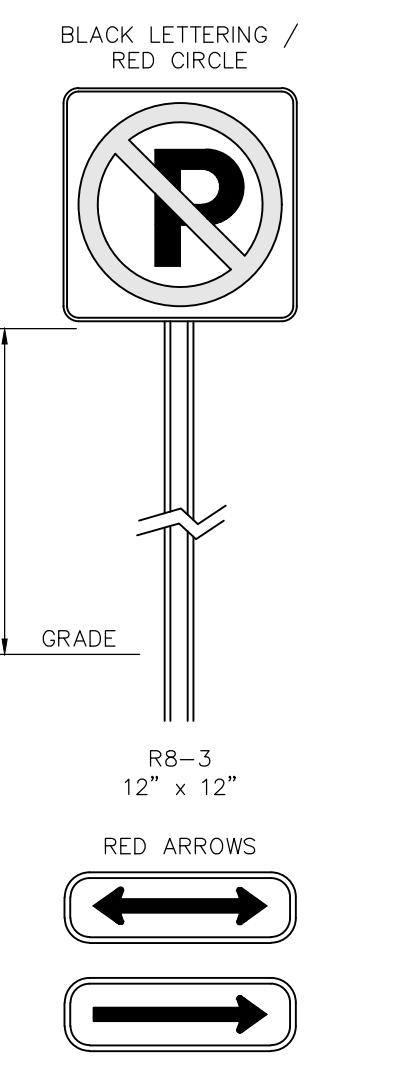


- NOTES:
- REFER TO SITE PLANS FOR LOCATIONS.
 - PROVIDE PEDESTRIAN CROSSWALK SIGNS AS PER PADOT SPECIFICATIONS.

E TYPICAL CROSSWALK DETAIL
CD-1 NOT TO SCALE

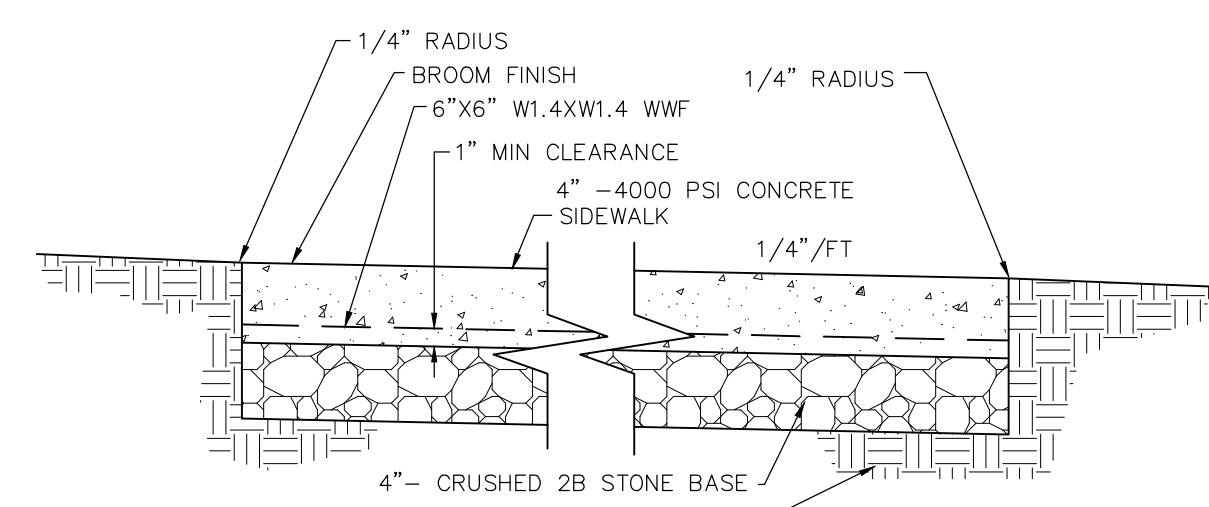


D DRIVEWAY APRON WITH SIDEWALK
CD-1 NOT TO SCALE

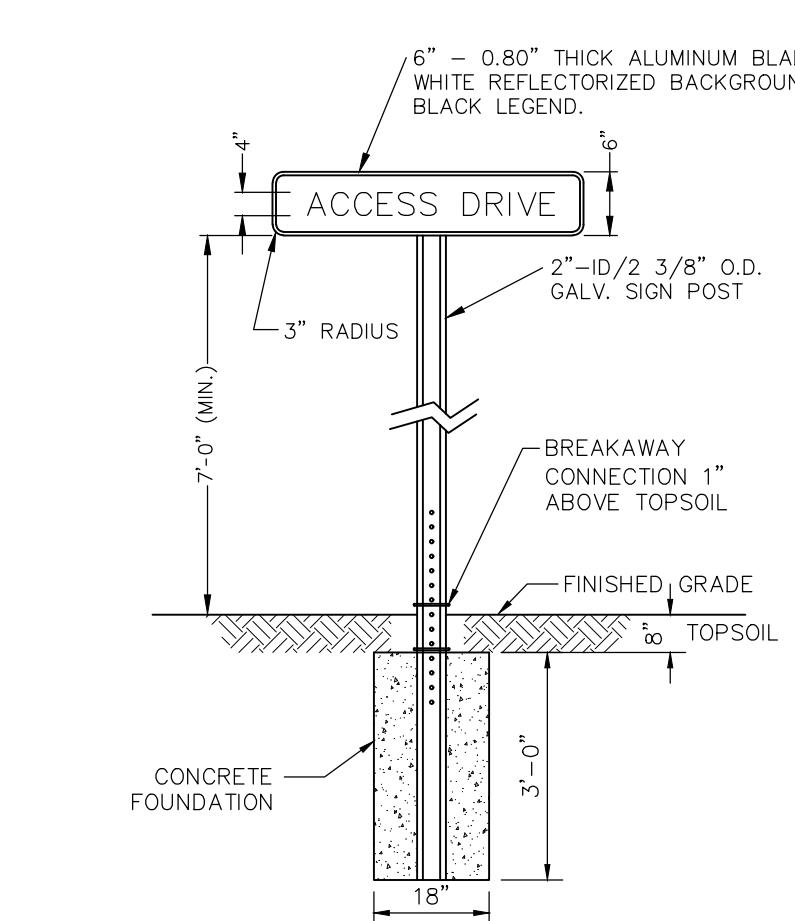


M TYPICAL SIGN DETAIL
CD-1 NOT TO SCALE

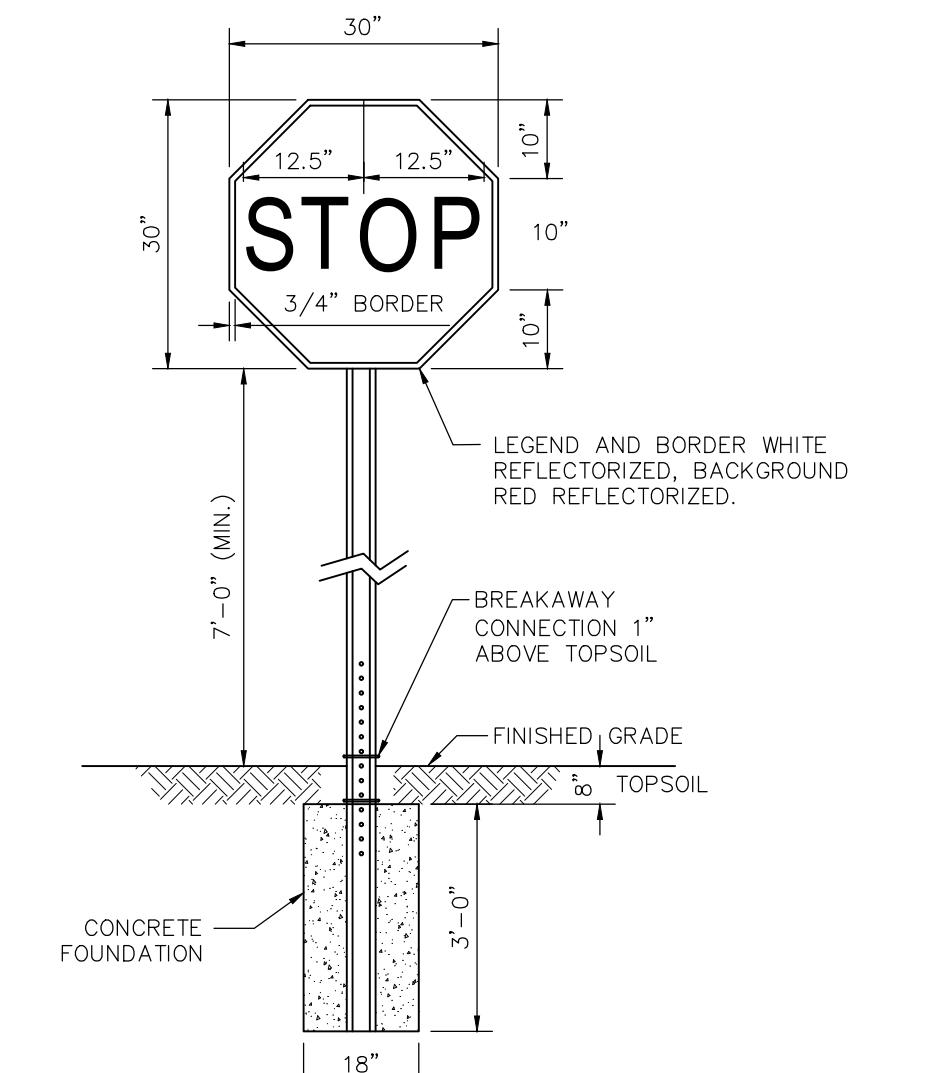
- SIGN NOTES:
- ALL SIGNS SHALL MEET PENNDOT PUBLICATION 408 STANDARDS.
 - ALL SIGNS SHALL MEET THE REQUIREMENTS OF SECTION 220-132.2, 220-245, 220-252, AND 220-254 OF THE TOWNSHIP ZONING ORDINANCE.
 - ALL SIGNS SHALL MEET MUTCD STANDARDS.



N CONCRETE SIDEWALK DETAIL
CD-1 NOT TO SCALE



O TYPICAL SIGN DETAIL
CD-1 NOT TO SCALE



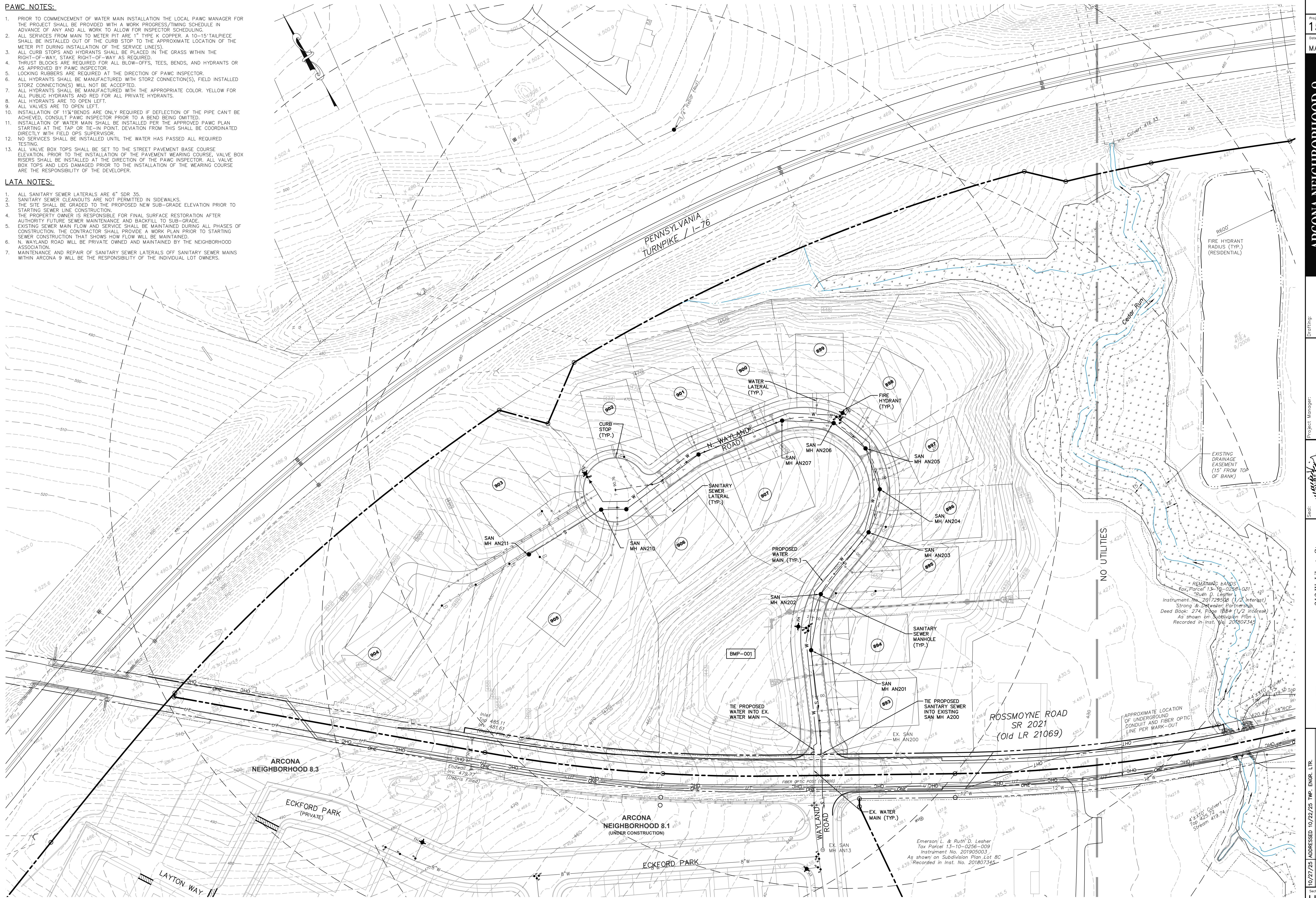
P TYPICAL STOP SIGN DETAIL
CD-1 NOT TO SCALE

PAWC NOTES:

- PRIOR TO COMMENCEMENT OF WATER MAIN INSTALLATION THE LOCAL PAWC MANAGER FOR THE PROJECT SHALL BE PROVIDED WITH A WORK PROGRESS/TIMING SCHEDULE IN ADVANCE OF ANY AND ALL WORK TO ALLOW FOR INSPECTOR SCHEDULING.
- ALL SERVICES FROM MAIN TO METER PIT ARE 1" TYPE K COPPER A 10-15' TAILPIECE SHALL BE INSTALLED ON THE CURB TOP OF THE APPROXIMATE LOCATION OF THE METER PIT DURING INSTALLATION OF SERVICE LINE(S).
- ALL CURB STOPS AND HYDRANTS SHALL BE PLACED IN THE GRASS WITHIN THE RIGHT-OF-WAY, STAKE RIGHT-OF-WAY AS REQUIRED.
- THRUST BLOCKS ARE REQUIRED FOR ALL BLOW-OFFS, TEES, BENDS, AND HYDRANTS AS APPROVED BY PAWC INSPECTOR.
- ALL HYDRANTS SHALL BE MANUFACTURED WITH STORZ CONNECTION(S), FIELD INSTALLED STORZ CONNECTION(S) WILL NOT BE ACCEPTED.
- ALL HYDRANTS SHALL BE MANUFACTURED WITH THE APPROPRIATE COLOR, YELLOW FOR ALL PUBLIC HYDRANTS AND RED FOR ALL PRIVATE HYDRANTS.
- ALL HYDRANTS ARE TO OPEN LEFT.
- ALL VALVE BOXES ARE TO OPEN LEFT.
- INSTALLATION OF BENDS ARE ONLY REQUIRED IF DEFLECTION OF THE PIPE CAN'T BE ACHIEVED, CONSULT PAWC INSPECTOR PRIOR TO A BEND BEING OMITTED.
- INSTALLATION OF WATER MAIN SHALL BE INSTALLED PER THE APPROVED PAWC PLAN STARTING AT THE TAP OR TIE-IN POINT. DEVIATION FROM THIS SHALL BE COORDINATED DIRECTLY WITH FIELD OPS SUPERVISOR.
- NO SERVICES SHALL BE INSTALLED UNTIL THE WATER HAS PASSED ALL REQUIRED TESTS.
- ALL VALVE BOX TOPS SHALL BE SET TO THE STREET PAVEMENT BASE COURSE ELEVATION PRIOR TO THE INSTALLATION OF THE PAVEMENT WEARING COURSE, VALVE BOX RISERS SHALL BE INSTALLED AT THE DIRECTION OF THE PAWC INSPECTOR. ALL VALVE BOX TOPS AND LIDS DAMAGED PRIOR TO THE INSTALLATION OF THE WEARING COURSE ARE THE RESPONSIBILITY OF THE DEVELOPER.

LATA NOTES:

- ALL SANITARY SEWER LATERALS ARE 6" SDR 35.
- SANITARY SEWER CLEANOUTS ARE NOT PERMITTED IN SIDEWALKS.
- THE SHALE IS GRADED TO THE PROPOSED NEW SUB-GRADE ELEVATION PRIOR TO STARTING PAVEMENT LAYER CONSTRUCTION.
- THE PROPERTY OWNER IS RESPONSIBLE FOR FINAL SURFACE RESTORATION AFTER AUTHORITY FUTURE SEWER MAINTENANCE AND BACKFILL TO SUB-GRADE.
- EXISTING SEWER MAIN FLOW AND SERVICE SHALL BE MAINTAINED DURING ALL PHASES OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE A WORK PLAN PRIOR TO STARTING SANITARY CONSTRUCTION THAT SHOWS FLOW WILL BE MAINTAINED.
- N. WAYLAND ROAD MILL BE PRIVATE OWNED AND MAINTAINED BY THE NEIGHBORHOOD ASSOCIATION.
- MAINTENANCE AND REPAIR OF SANITARY SEWER LATERALS OFF SANITARY SEWER MAINS WITHIN ARCONA 9 WILL BE THE RESPONSIBILITY OF THE INDIVIDUAL LOT OWNERS.

Sheet Number:
17 of 33Project Number:
15-100-32Date:
MAY 17, 2024

Page 17 of 33

CHARTER Homes & Neighborhoods

Lower Allen Township - Cumberland County, PA

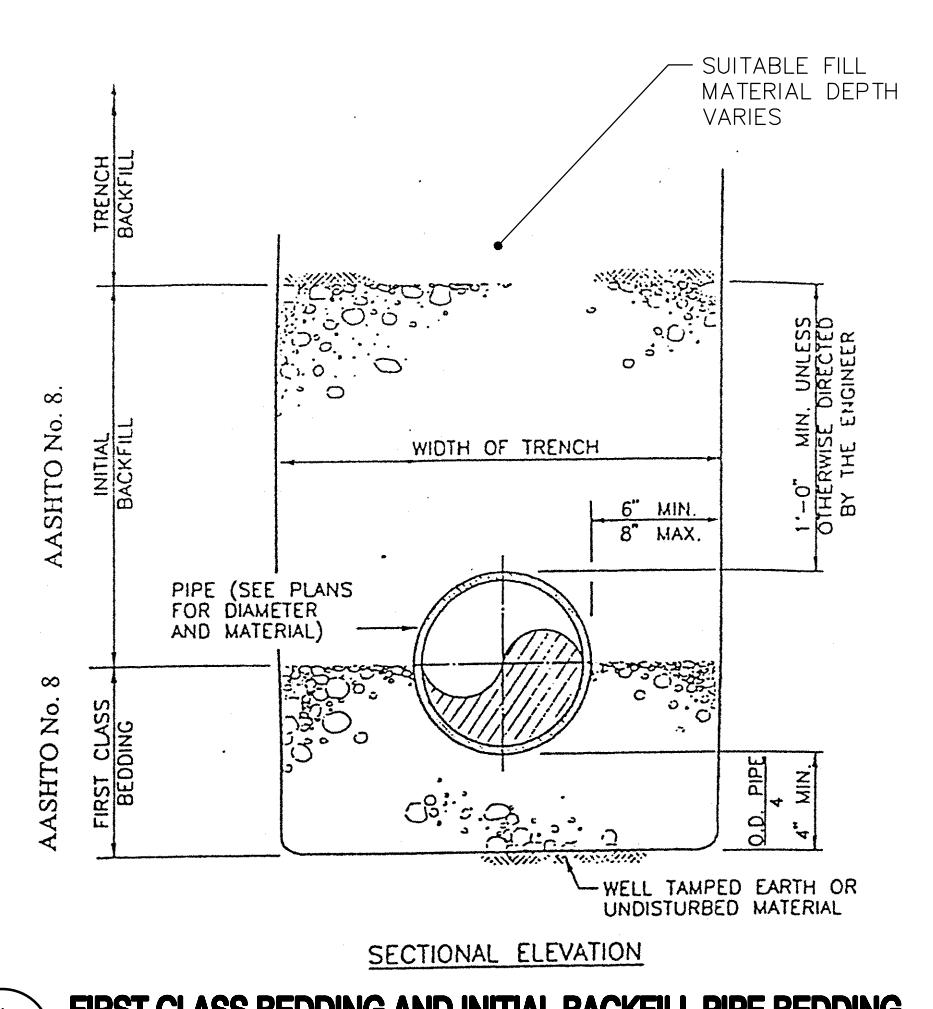
www.charterhomesandneighborhoods.com



ARCONA NEIGHBORHOOD 9

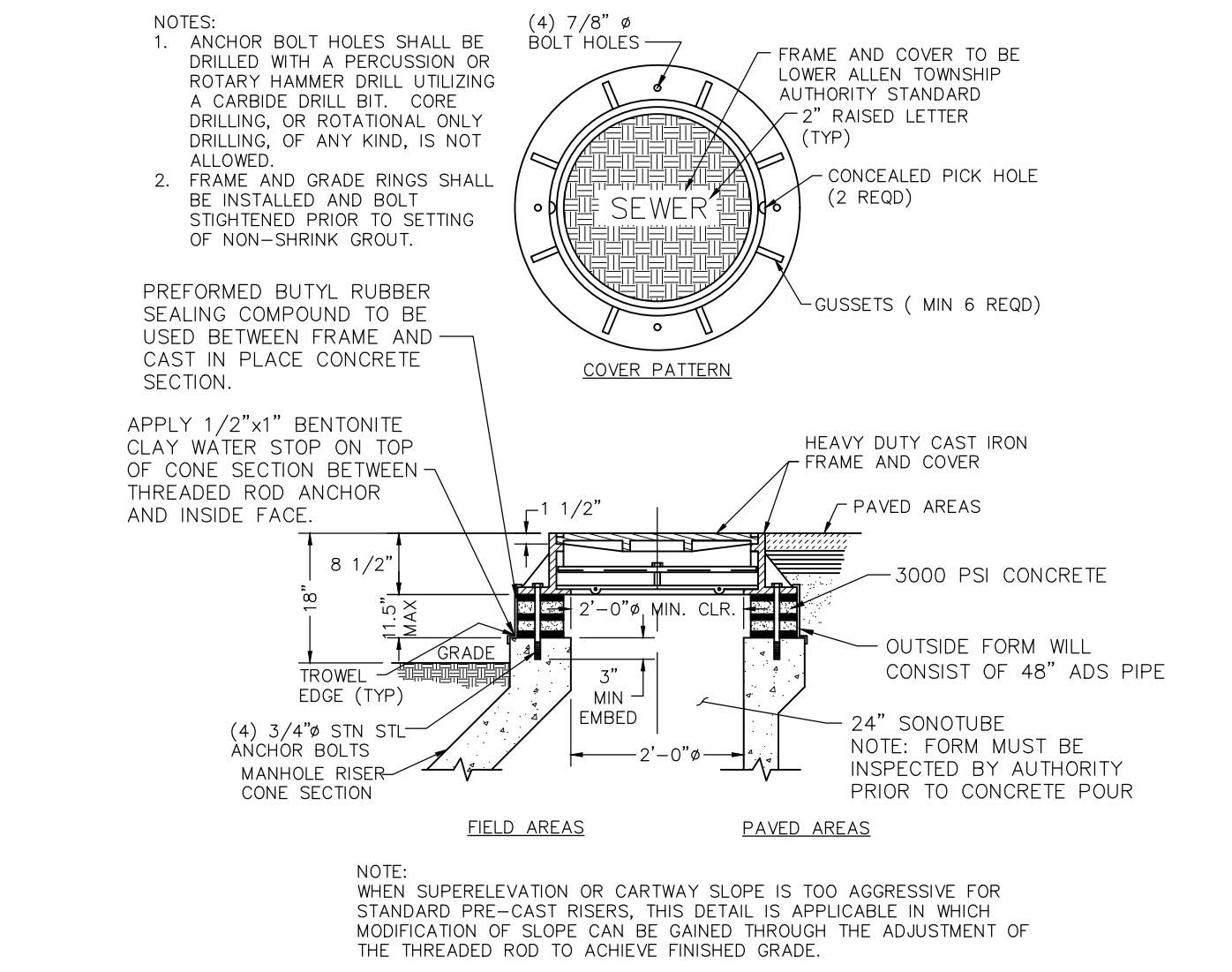
Lower Allen Township - Cumberland County, PA

www.charterhomesandneighborhoods.com



FIRST CLASS BEDDING AND INITIAL BACKFILL PIPE BEDDING

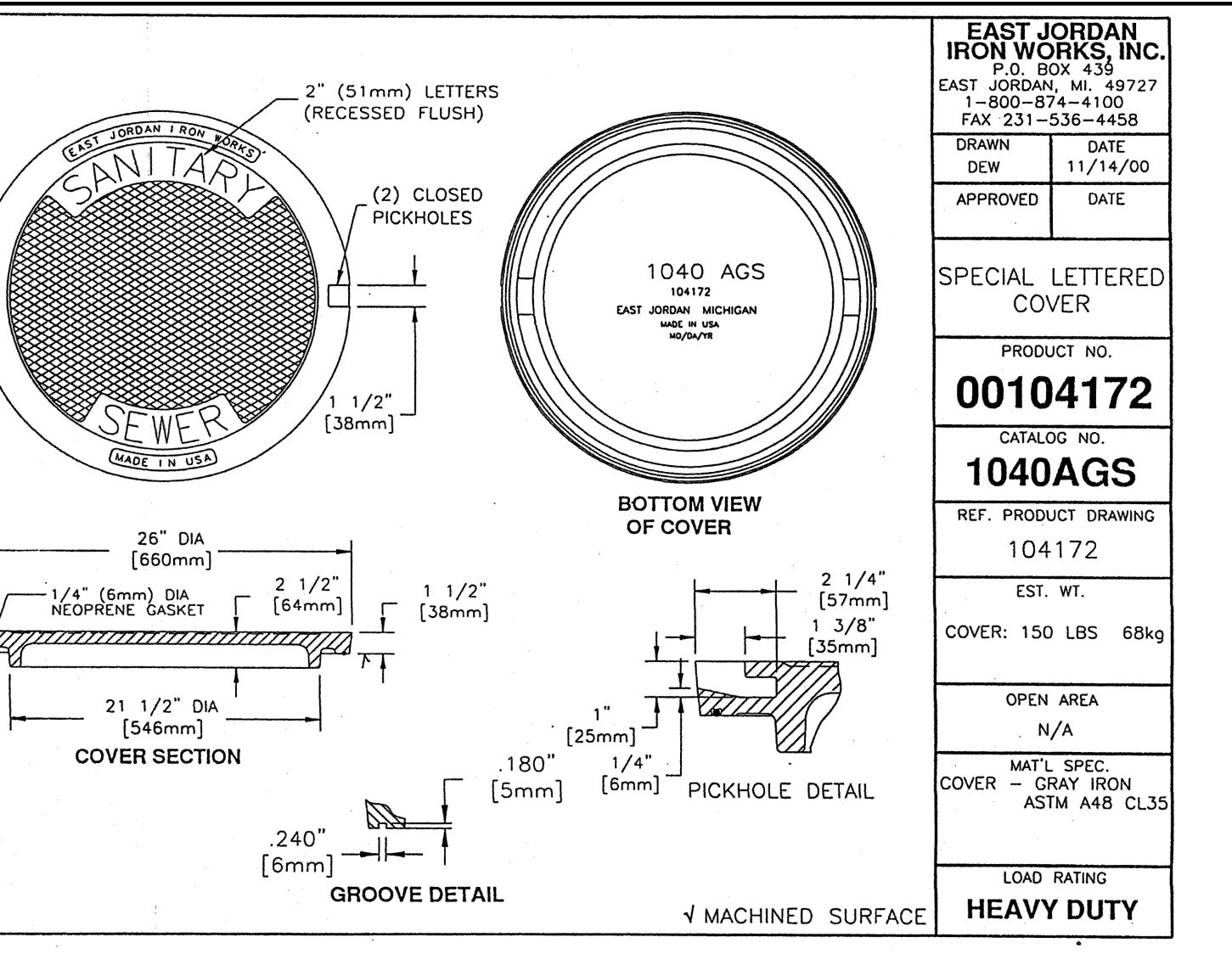
UT-2 NOT TO SCALE



NOTE: WHEN SUPERELEVATION OR CARTWAY SLOPE IS TOO AGGRESSIVE FOR STANDARD PRE-CAST RISERS, THIS DETAIL IS APPLICABLE IN WHICH MODIFICATION OF THE SLOPE IS BEING MADE THROUGH THE ADJUSTMENT OF THE THREADED ROD TO ACHIEVE FINISHED GRADE.

MANHOLE FRAME & COVER

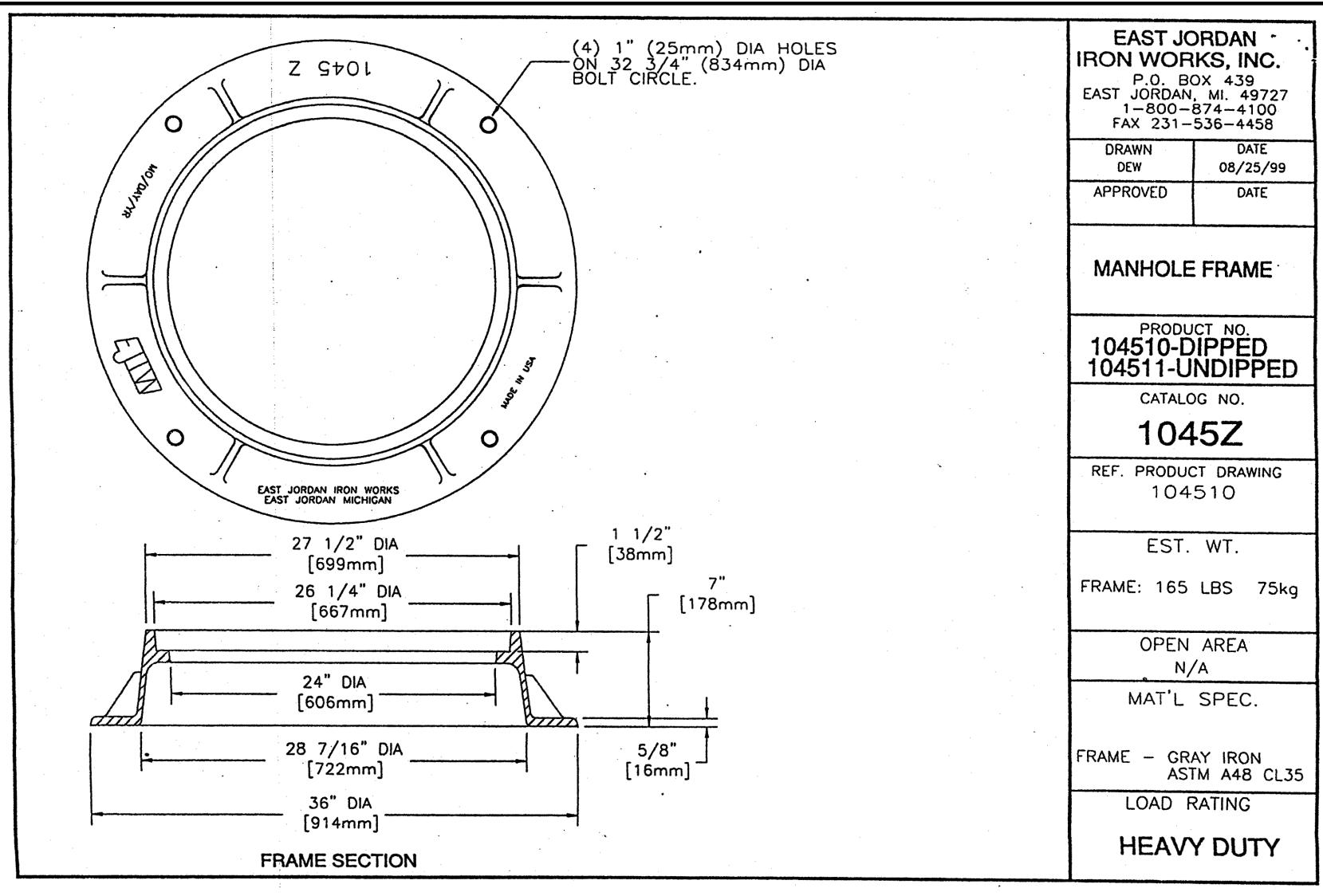
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NOTE: FORM MUST BE ADJUSTED TO ACHIEVE FINISHED GRADE.

MANHOLE FRAME & COVER

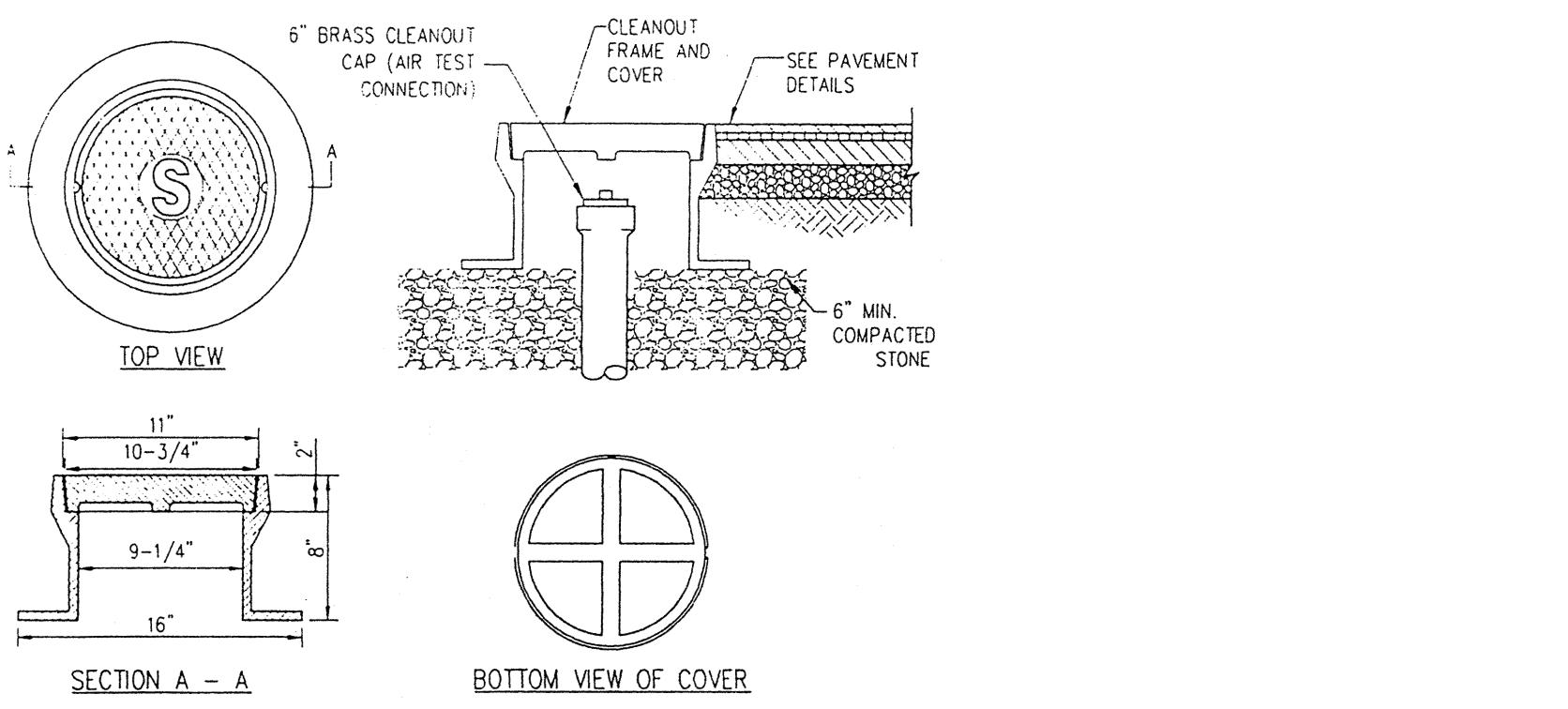
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NOTE: FORM MUST BE ADJUSTED TO ACHIEVE FINISHED GRADE.

MANHOLE FRAME

UT-2 NOT TO SCALE



HEAVY DUTY CLEANOUT FRAME AND COVER

UT-2 NOT TO SCALE

NOTES:
 1. ALL GRAY IRON SHALL CONFORM TO ASTM A-48, CLASS 30 AND SHALL BE OF UNIFORM QUALITY.
 2. ALL CASTING DIMENSIONS SHALL HAVE A TOLERANCE OF 1/8".
 3. ALL CASTINGS SHALL BE CLEANED BY SHOT BLASTING AND HAND CHIPPING USING STANDARD INDUSTRY PRACTICES PRIOR TO SHOP APPLICATION OF ASPHALTIC COATING, BY DIPPING.
 4. FRAME AND COVER SHALL BE H-20 LOAD RATED FOR PARKING LOTS, ETC.

MANHOLE FRAME & COVER PROTECTION DETAIL PRIOR TO FINAL PAVING

UT-2 NOT TO SCALE

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MANHOLE FRAME/COVER PROTECTION DETAIL PRIOR TO FINAL PAVING

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MANHOLE FRAME/COVER PROTECTION DETAIL PRIOR TO FINAL PAVING

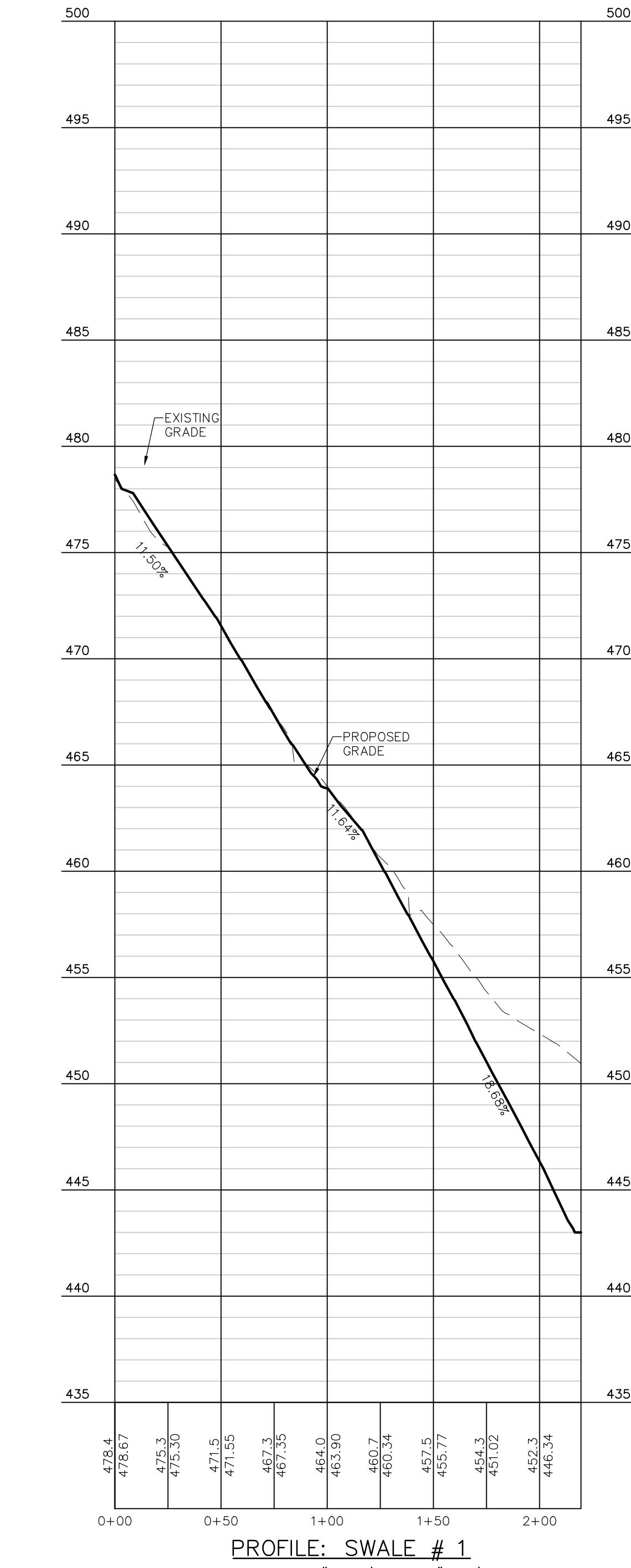
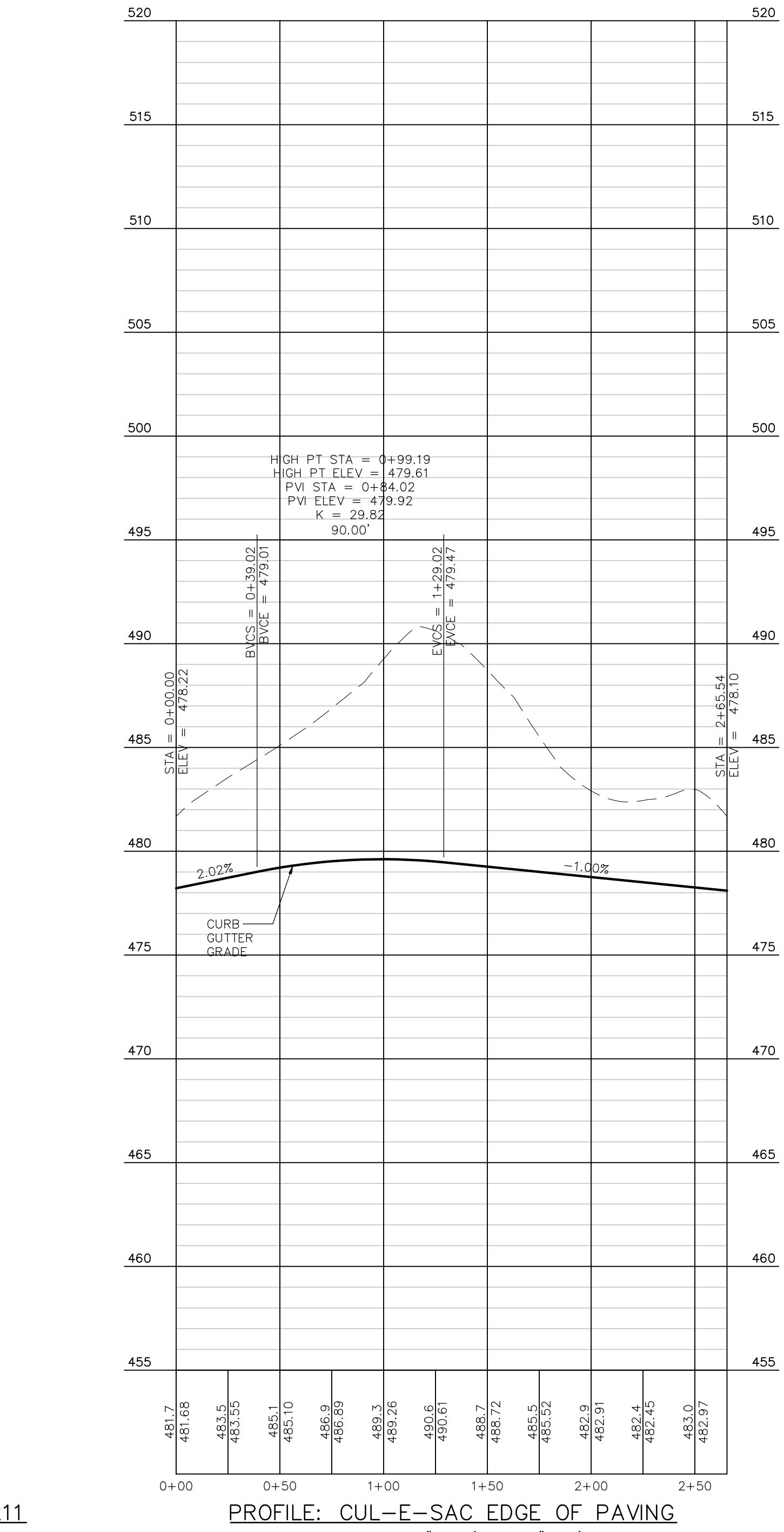
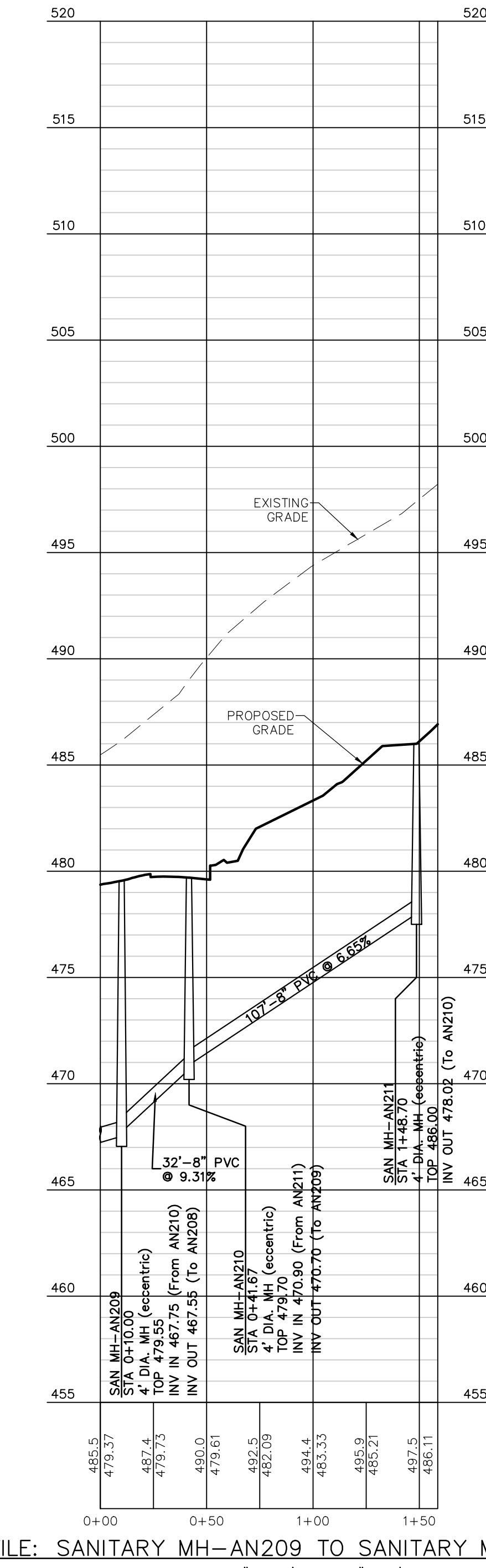
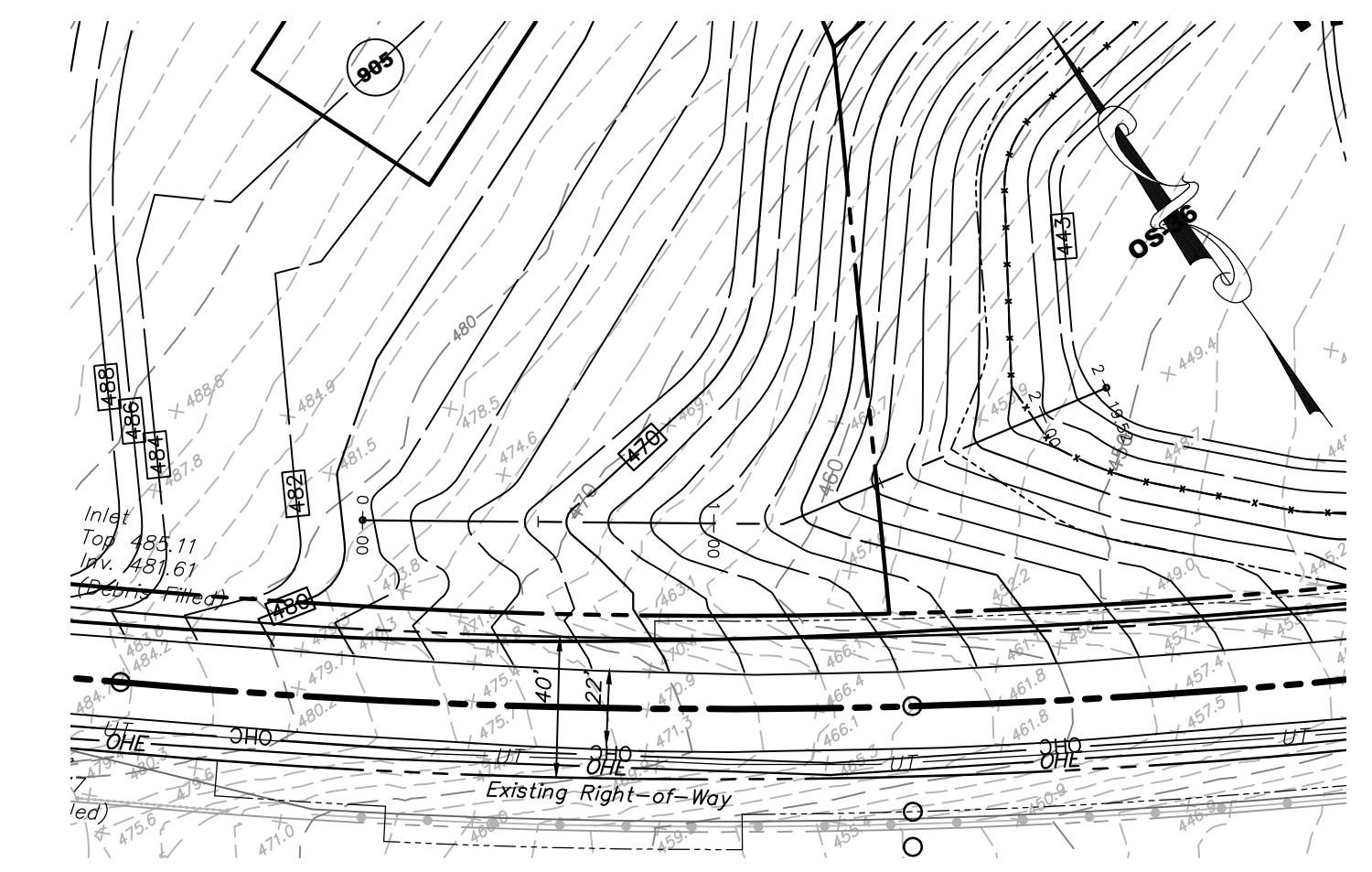
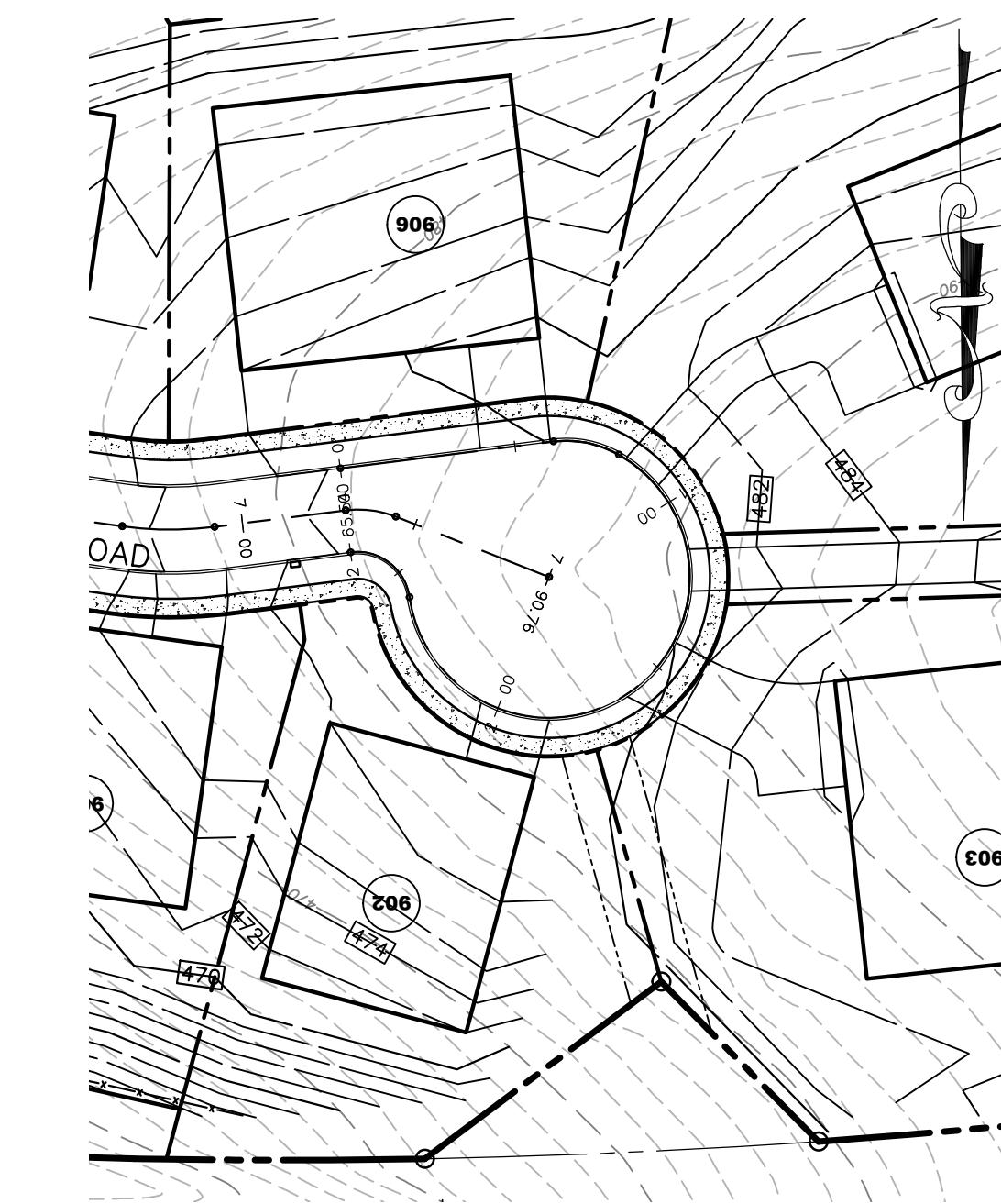
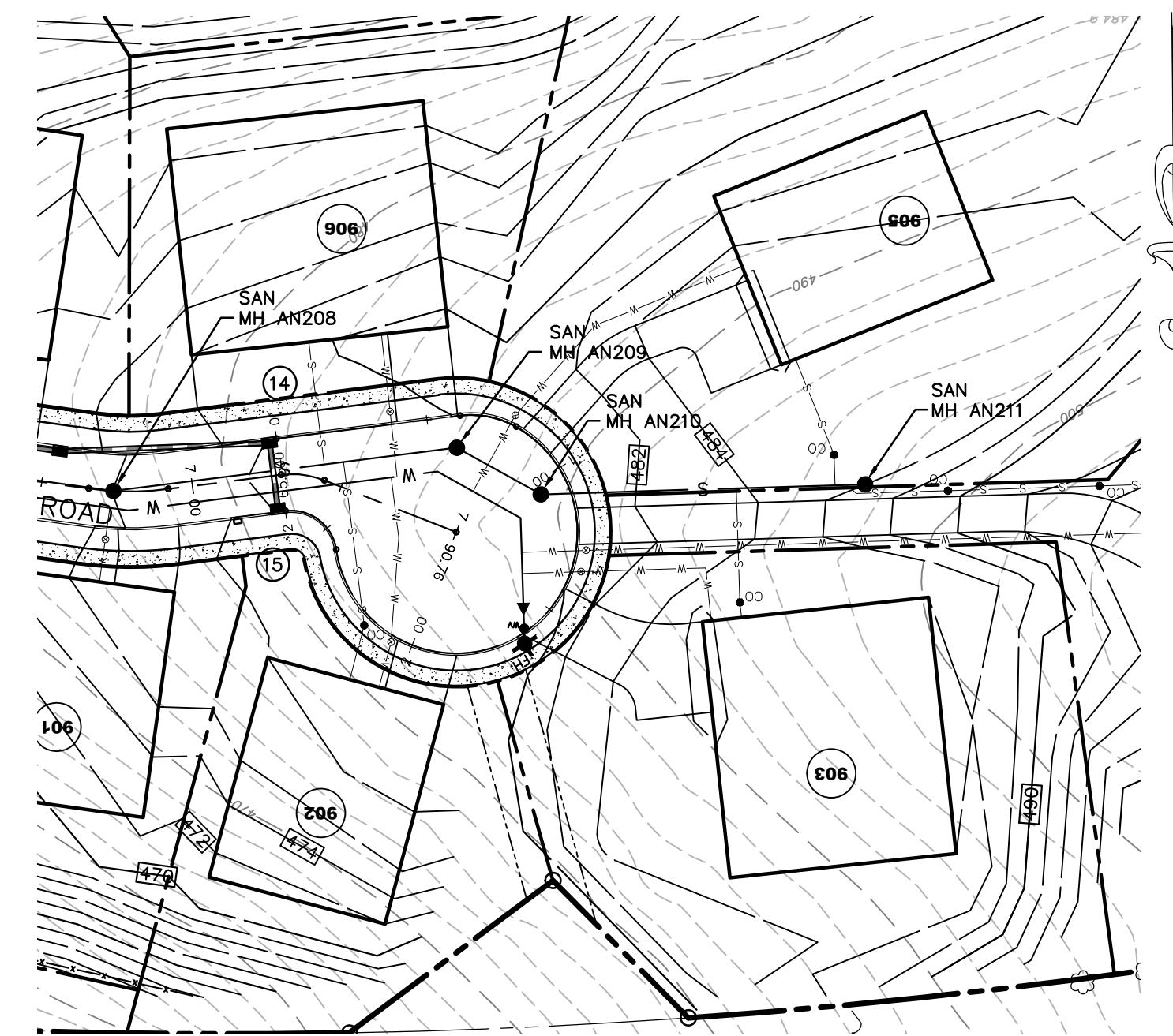
UT-2 NOT TO SCALE

SECTION

MANHOLE FRAME/COVER PROTECTION DETAIL PRIOR TO FINAL PAVING

UT-2 NOT TO SCALE

SECTION



10/27/25	ADDRESSED 10/22/25 TWP. ENGR. LTR.	Seal:	Project Manager: DAVID B. KEGERIZE PE	D. TURNER
9/4/25	REV. PER PA DEP LETTER DATED 8/26/25	Project Engineer: G. MITCHELL KING	Checked by: G. MITCHELL KING	—
8/18/25	REV. PER CH&N	Project Surveyor: THOMAS K. PHILLIPS PLS	Scale: 1" = 50'	—
3/18/25	REV. PER OCCD EMIL. DATED 3/14/25	Engineering: THOMAS K. PHILLIPS PLS	—	—
1/20/25	REV. TO ADDRESS I.E. REV. LTR. DATED 1/20/25	Surveying: THOMAS K. PHILLIPS PLS	—	—
12/18/24	REV. FOR TE. LTR. 2:1 SLOPES, PAVING PLAN	—	—	—
10/17/24	REV. TO ADDRESS I.E. REV. LTR. DATED 7/31/24	—	—	—
DATE	REVISIONS	—	—	—

PF-2

Section Number: PF-2

10/30/2025 4:35 PM L:\15-100-32\Sheets\PF\15-100-32\PF-02.DWG

Post Construction Storm Water BMP Operation & Maintenance Procedures

Inspections detailed below shall employ a qualified registered professional to conduct the inspections and prepare reports. The entity conducting the inspection shall be required to submit a report to the Municipality annually. Reports shall be submitted by February 1 for inspections completed the previous year. The report shall document the condition of the facilities and recommend needed repairs. Recommended repairs and other corrective actions shall be implemented by the Arcona Neighborhood Association, Inc. within thirty days of the report date.

Bioretention Basin (BMP-001)

The Neighborhood Association shall own and maintain BMP-001, Bioretention Basin.

The general objective of maintenance is to prevent clogging of the outlets and to prevent the growth of weeds and nonnative invasive vegetation. The basin berm and side should be maintained as upland meadow turf grass. The grass should be mowed regularly to maintain a grass height of 6–8 inches. Any seedlings or plantings should be removed from the basin side slopes and berm.

Sediment tends to accumulate over time. The collected sediment in the bottom of the basin must be removed every five to ten years. Clean accumulated silt, sand, mud, and debris. Remove from the site and dispose of in an appropriate approved facility. Seed and mulch the disturbed areas immediately.

During the first growing season, vegetation should be inspected every 2 to 3 weeks. During the first 2 years, the basin should be inspected at least 4 times per year and after major storms (greater than 2 inches in 24 hours). Inspections should assess vegetation, erosion, bank stability, inlet/outlet conditions, and sediment/debris accumulation. Problems should be corrected as soon as possible. Vegetation may require supplemental watering, weeding, mulching, replanting, etc. – during the first 3 years. Undesirable species should be removed and desirable replacements planted as necessary.

The basin should be inspected at least semiannually and after major storms as well as rapid ice breakup. Vegetation should maintain at least 85 percent cover of the emergent vegetation zone. Harvesting of vegetation may increase the nutrient removal of the facility, it should generally be done in the spring so that there is adequate regrowth before winter. Care should be taken to minimize disturbance, especially of bottom sediments, during harvesting. The potential disturbance from harvesting may outweigh its benefits unless the facility receives a particularly high nutrient load or from discharges to a nutrient sensitive waterbody.

The BMP has failed if water remains ponded in the basin more than 72 hours after the end of a storm. Contact the design engineer for repair solutions if this is observed.

Grass Swales

Grass swales shall be maintained with turf grass. The swales should be mowed regularly to maintain a grass height of 3 to 5 inches. Debris should be removed from the swales. If erosion occurs uphill of the swales, any sediment deposited in the swales should be removed. The eroded areas should be repaired and stabilized with seed and mulch. Apply seed & mulch to disturbed areas of the swales after sediment is removed. Grass swales shall be maintained by the Arcona Neighborhood 8 Association, Inc.

Rip Rap Aprons

The outlet structures should be inspected quarterly and after each major storm. If the soil has eroded around or below the rip rap pad, the area should be repaired with top soil, seed and mulch.

GEOLOGIC EVALUATION:

See "Arcona Neighborhood 9 Carbonate Geology Evaluation Report," prepared by ARM Group LLC, dated May 2024 for full analyses of site geology and recommendations.

SUMMARY

- According to the Pennsylvania Department of Conservation and Natural Resources' Geologic Date Exploration Map, the site is located in the Wissahickon Limestone and Myerstown Formations. The Wissahickon Limestone is the northern portion of the site, and the Epler Formation is in the southeastern portions of the site. The Epler Formation is characterized as very finely crystalline, medium–gray limestone interbedded with gray dolomite and some coarsely-crystalline limestone lenses. The Myerstown Formation is characterized as medium-crystalline, medium to dark gray limestone, with dark gray to black carbonaceous limestone at base. The Hershey Formation is characterized as finely crystalline, dark gray to black, argillaceous limestone, with base conglomerate that contains angular boulders of dolomite.
- Review of the Sinkholes and Karst-Related Features of Cumberland County, Pennsylvania (W.E. Kochanov, 1989) showed no sinkholes are mapped within approximately 3,000 feet of the site limits; however, there are two closed depressions mapped along the fault contact between the unindicated Hershey and Myerstown Formations with the Epler Formation near the southern limits of Arcona Neighborhood 8.3 and several more closed depressions to the east of the Norfolk Southern to the east of Neighborhood 9.
- The site was evaluated using geophysical testing performed by ARM Group, Inc. personnel revealed no closed depressions, topographic lineaments or fracture traces, caverns, intermittent lakes, ephemeral streams, or other carbonate geology hazards.

RECOMMENDATIONS

- Based on the test results, the measured infiltration capacity of the soils across the site ranged from 0.00 to 18.72 in/hr. ARM recommends that design rates should not incorporate test values that exceed the slower of the following:
 - Half of the measured rate for a given test
 - The average of the minimum and maximum range limits for the hydraulic conductivity of the most limiting layer as published for the associated NRCS soil unit (1.10 for Edom silty clay loam and 1.30 for the Bedington shaly silt loam)
 - The geometric mean of all measured rates tested at the site for the mapped NRCS soil unit (0.72 for Edom silty clay loam and 5.77 for the Bedington shaly silt loam)
- Additionally, based on ARM's field observations and other available information, concentrated stormwater infiltration is acceptable, but sinkhole avoidance and mitigation measures should be observed and incorporated into the design and construction of the project. Please refer to the "Recommendations" section of the ARM report.
- ARM has determined that the site is situated within a potential karst area, which is potentially subject to the development of sinkholes. While no existing sinkholes, closed depressions, or other carbonate geology hazards were visually observed at the existing ground surface by ARM within the investigation area, and were not identified through a review of available surface photographs and topographic maps, the area could potentially be considered to present a possible risk for sinkhole development. Concentrated stormwater infiltration would potentially increase the risk for sinkhole development. Concentrated stormwater infiltration systems should be constructed using appropriate sinkhole mitigation and/or stabilization methods to minimize the potential for sinkhole development.

OWNER / DEVELOPER (ARCONA NEIGHBORHOOD 9):

Charter Homes at Arcona, Inc.
322 North Arch Street
Lancaster, PA 17603

Tax Map 13-10-0256-352
Inst. No.: 202421854

OWNER (REMAINING LANDS):

Ruth D. Lesh
1340 Rossmoyne Road
Mechanicsburg, PA 17055

SOURCE OF TITLE:

Tax Map 13-10-0256-031
Inst. No.: 201729508 (1/2 interest)

OWNER (REMAINING LANDS):

Strong & Detwiler Partnership
1340 Rossmoyne Road
Mechanicsburg, PA 17055

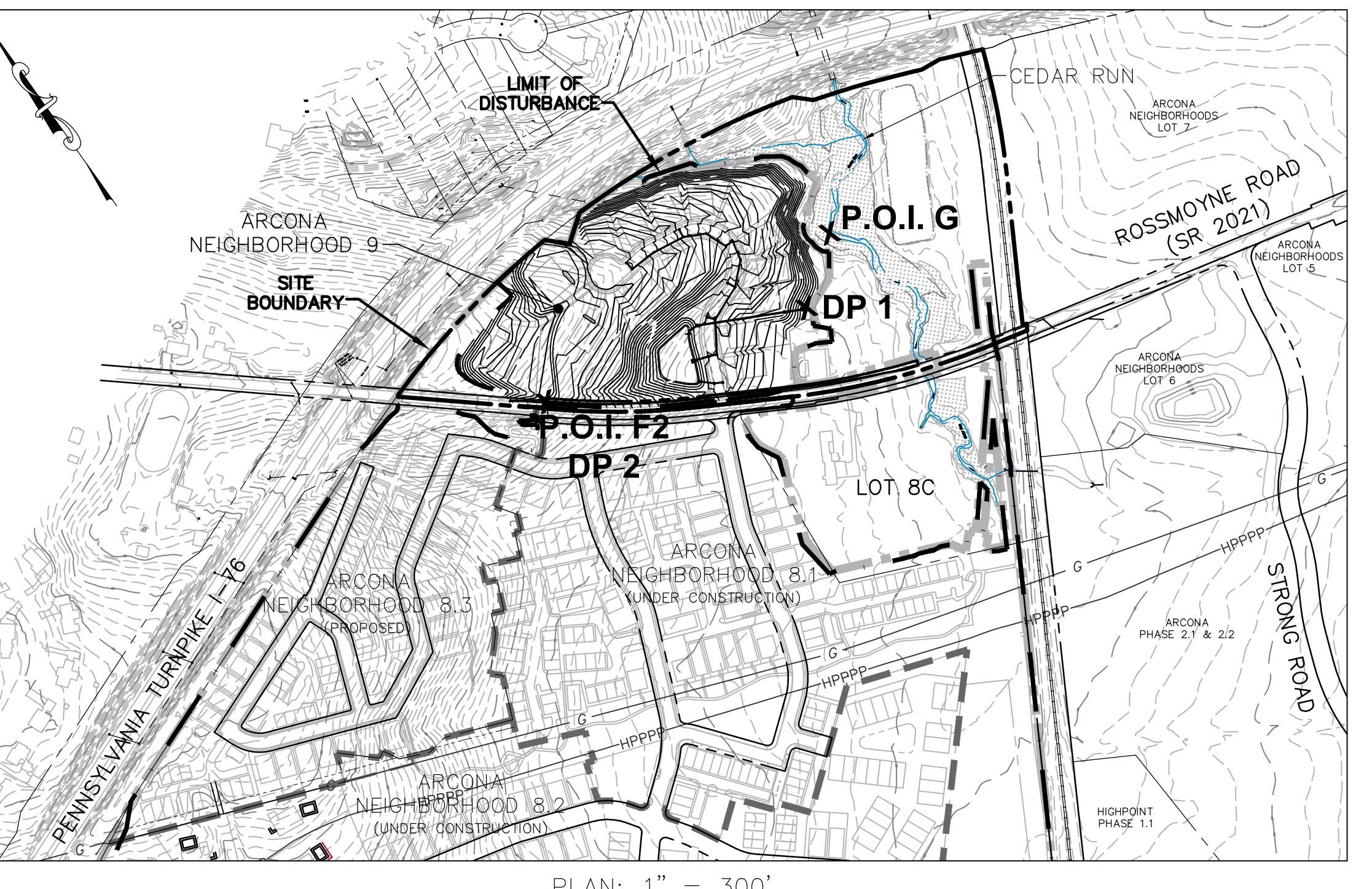
SOURCE OF TITLE:

Tax Map 13-10-0256-031
Deed Book: 274, Page 1884 (1/2 interest)

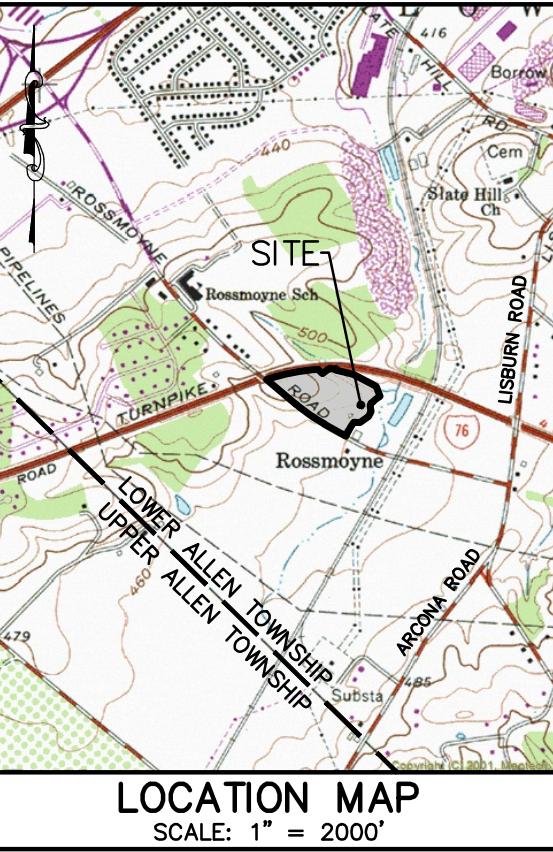
SITE ACREAGE:

ARCONA NEIGHBORHOOD 9 – GROSS AREA 20.60 Ac.

POST CONSTRUCTION STORMWATER MANAGEMENT PLAN ARCONA NEIGHBORHOOD 9

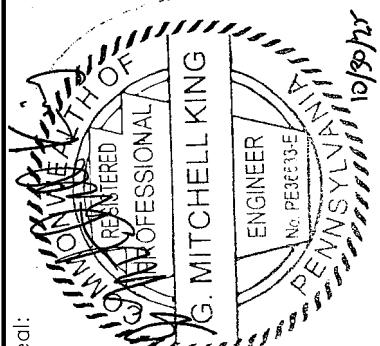


This site is on Cedar Run. Cedar Run is classified as Cold Water Fisheries (CWF). The wetlands on this site are classified as Exceptional Value (EV). Limit of Disturbance = 164.16 Ac. (includes all of Highpoint / Arcona, 9.70 Ac. added for Phase 9 with this Major Amendment) NPDES Boundary = 183.95 Ac.



ARCONA NEIGHBORHOOD 9	
Lower Allen Township - Neighborhoods	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN COVER

PLAN INDEX					
NO.	SEC.	TITLE	Drafting:	Checked by:	Project Manager:
21	SM-1	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN COVER	D. TURNER		
22	SM-2	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN			
23	SM-3	POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS			
24	SM-4	POST CONSTRUCTION STORMWATER MANAGEMENT BASIN DETAILS			
25	SM-5	POST CONSTRUCTION STORMWATER MANAGEMENT NOTES			



Project Manager: DAVID B. KEGERIZE PE
Project Engineer: J.C. MITCHELL KING PE, PLS
Project Surveyor: THOMAS K. PHILLIPS PLS

Seal: TOWNE SQUARE ENGINEERING, INC.

SOILS LIMITATIONS & RESOLUTIONS				
Symbol	Name	Slope	Limitations	Resolution
BdB	Bedington shaly silt loam	3-8%	Dusty	Water dry disturbed areas
			Unstable excavation walls	Slope excavation walls or mechanically support
			Piping	Clay liner, water-tight pipe joints
BdC	Bedington shaly silt loam	8-15%	Dusty	Water dry disturbed areas
			Unstable excavation walls	Slope excavation walls or mechanically support
			Piping	Clay liner, water-tight pipe joints
BdD	Bedington shaly silt loam	15-25%	Dusty	Water dry disturbed areas
			Unstable excavation walls	Slope excavation walls or mechanically support
			Piping	Clay liner, water-tight pipe joints
DuA	Duffield silt loam	0-3%	High clay content	Minimize construction in this soil
			Dusty	Water dry disturbed areas
			Unstable excavation walls	Slope excavation wall or mechanically support
EdB	Edom silty clay loam	3-8%	High clay content	Minimize construction in this soil
			Dusty	Water dry disturbed areas
			Piping	Clay liner, water-tight pipe joints
HaB	Hagerstown silt loam	3-8%	High clay content	Minimize construction in this soil
			Dusty	Water dry disturbed areas
			Unstable excavation walls	Slope excavation walls or mechanically support
Pe	Penlaw silt loam	-	Depth to saturated zone	Minimize cut
			Dusty	Water dry disturbed areas
			Piping	Clay liner, water-tight pipe joints

NPDES NARRATIVE

Charter Homes at Arcona, Inc. proposes to develop 15 detached single-family lots in Arcona Neighborhood 9. The development is located on a 20.60 acre tract of land. The Arcona Neighborhood 9 property is located on the north side of Rossmoyne Road along the south side of the Pennsylvania Turnpike. The development will be served by public sewer and water. The land is currently farmed.

Arcona Neighborhood 9 is a part of the master plan for a traditional neighborhood development (TND) of the Arcona Site. Storm water management for the Arcona Neighborhood 9 development will be provided by onsite BMPs.

ESTIMATED SCHEDULE FOR PROJECT

Work Schedule:

- Start of Site Work: Fall 2025
- Site Work Complete: Summer 2026
- Home Construction: Q4 2025 – Q4 2027

RECYCLING AND DISPOSAL OF BUILDING MATERIALS AND WASTES

- 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 260.1 et seq., 271.1 et seq., and 287.1 et seq., and any federal regulations. The contractor shall not illegally bury, dump, or discharge any building material or wastes at the site.
- Any sediment removed from the area of the PCSM BMP shall be placed in a location on-site and immediately stabilized to minimize the potential for accelerated erosion.
- The contractor shall be responsible for the removal of any excess material and make sure the site(s) receiving the excess has an approved and fully implemented erosion and sediment control plan that meets the conditions of Chapter 102 and/or state or federal regulations.
- Any placement of clean fill that has been affected by a spill or release of a regulated substance must use Form FP-001 to certify the origin of the fill material and the results of the analytical testing to qualify the material as clean fill. Form FP-001 must be retained by the owner of the property receiving the fill.

DESIGN CONSIDERATIONS

The time and extent of earth disturbance will be limited.

- Earth disturbance, topsoil stripping and compaction will be limited on portions of the site. These areas will be marked with orange construction fence as a visible reminder of the areas to be preserved.

The Arcona Neighborhood 9 plan protects existing drainage features and vegetation.

- The existing drainageway/wetlands that run through the site will be fenced to prevent disturbance.

The plans minimize soil compaction by:

- Leaving steep slopes undisturbed.

The plans minimize generation of increased stormwater runoff by:

- Use streets with the minimum width permitted by Lower Allen Township.

THERMAL IMPACTS

Most of the Arcona Neighborhood 9 area will drain into the bioretention basin BMP-001 via a stormwater conveyance system. The basin will contain the warmer first flush runoff from the site. The warmer first flush will either be evaporated, transpired, or infiltrated through the soil media and vegetation.



313 W. Liberty St., Suite 241
Lancaster, PA 17603
Phone: (717) 283-4538

Civil Engineers & Land Planners



10/27/25 ADDRESSED 10/22/25 TMP. ENGR. LTR.
9/4/25 REV. PER PA DEP LETTER DATED 8/26/25
8/18/25 REV. PER CH&N
1/20/25 REV. PER CSD EMIL. DATED 1/14/25
1/18/25 REV. TO ADDRESS LTR. 1/21 SLOPES, PAVING PLAN
12/18/24 REV. FOR TIE, LTR. 1/21 SLOPES, PAVING PLAN
10/17/24 REV. TO ADDRESS LTR. REV. LTR. DATED 7/31/24
DATE: 10/30/2025 4:34 PM
Section Number: SM-1
PRELIMINARY/FINAL

ARM RECOMMENDATIONS:

Sinkhole Prevention

- All effective means of minimizing post-construction sinkhole activity is to include facilities such that stormwater is collected and transported away from critical areas (e.g., structures, roadways, and driveway areas) as quickly and completely as possible. Sinkholes can be discouraged by taking the following precautions:
- Choose the most watertight piping available for all water-bearing conduits. Storm and sanitary sewer lines should, at a minimum, incorporate gasketed joints. If gasketed concrete pipe is used, it is recommended that pipe joints also be externally wrapped to help minimize leakage through the often-ineffective gaskets.
 - Construction scheduling should provide for closing of excavations such as for foundations and utilities as soon as possible after exposure.
 - Plastic tarps or diversion swales, berms and other measures should be utilized as appropriate to minimize surface infiltration with stormwater. Excavations should be kept dry during rainy weather.
 - To the greatest extent practical, avoid running sewer lines beneath buildings or other critical facilities. Utilities and sewer lines that run parallel to the building should be at least 10 feet away from the outboard edge of the foundation but preferably 20 feet or more away.
 - Outlet roof drains directly into collection leaders or storm sewers.
 - Install rock or gravel filter media in maximum intervals of 100 feet with trench plugs, earth dams, or similar measures to prevent water flow through the bedding. Trench plugs should be constructed with compacted clay or with synthetic materials designed for this purpose. Specification and use of a product such as Aquablock[®] or composite bentonite aggregate material that will form a trench plug when used as backfill, or equivalent, would be ideal for this purpose.
 - Minimize the extent of landscaped areas immediately adjacent to buildings or other critical facilities in favor of impervious surfaces.
 - Provide positive overland drainage away from buildings and other critical facilities.
 - Carefully seal all pavilion joints, including joints where paving meets curb lines, structure walls, catch basins, etc.
 - Do not install utility lines or free draining material along foundation lines.
 - Excavate and repair any subsurface disturbance during construction.
 - Contractors should not reroute or divert surface water away from low areas that are not intended to collect water. When practical, trenches that are not yet backfilled, should be temporarily covered with tarps to prevent the accumulation of surface water in low areas.
 - Backfill around structures and over utilities and sewer laterals should be placed promptly and should not be permitted to remain open for an extended time.

Implementation of the above measures should significantly reduce the amount of sinkhole activity during construction and over the life of the proposed facilities.

Sinkhole Treatments

Sinkholes that are not promptly addressed with appropriate remedial measures can increase in size and extent and may lead to significant additional mitigation costs in the future. Existing sinkholes, and sinkholes that occur during construction or in the future, should be promptly addressed on a case-by-case basis under the guidance of a Professional Geologist or Engineer registered in the Commonwealth of Pennsylvania and experienced with sinkhole treatments. The attending professional may consider the use of the techniques previously presented in Section 5.0 of this report. ARM will remain available to provide professional guidance regarding sinkhole treatments upon request.

Stormwater Management

Considerations and recommendations for the design and construction of stormwater management facilities at this site are as follows:

- Based on the presence of karst geology and the potential for sinkhole development at the site, stormwater management systems should be constructed using appropriate sinkhole mitigation and/or stabilization methods to minimize the potential for sinkhole development during the lifetime of the project. Sinkhole mitigation measures include such measures as: 1) limiting the head of water above the base of any stormwater management system and/or using a low permeability liner below stormwater management facilities; 2) limiting the stormwater loading ratio to the practical consistent with the recommendations of the PA BMP Manual; 3) distributing the proposed stormwater infiltration facilities strategically around the site to limit concentrated flows and to diminish potential for damage and/or injury risks due to inherent karst development risks; and 4) properly reviewing, repairing and/or stabilizing observed subsurface voids or impeding sinkhole conditions prior to stormwater management facility construction and as soon as possible following the identification of potential or active sinkholes in the future.
- Based on the observed site conditions, including risks of sinkhole development noted earlier, caution and appropriate venting should be incorporated while designing and constructing stormwater management systems. Shallow infiltration trenches and/or pervious and/or lined systems when appropriate, and water-quality protections based on best management practices will generally help to minimize the elevated risks of sinkhole development. Appropriate system redundancy should be considered and implemented in the design of stormwater management facilities, and passive bypass(es) should be incorporated as and where appropriate to prevent surcharging within the system.
- Underground conveyance piping should be leak resistant. All joints should be adequately sealed or gasketed, and pipes should be properly bedded and placed to prevent leakage. Corrugated metal pipe is not recommended, because of the difficulty in effectively sealing the joints. Other pipe materials such as High-Density Polyethylene (HDPE) and/or PVC pipe with water-tight connections is recommended where appropriate. Additionally, pipe bedding should be designed and constructed to minimize the potential for the accumulation of water and concentrated infiltration. Where utility and sanitary or storm sewer pipe backfill have the potential to convey significant amounts of water (e.g., along stone bedding around stormwater and sewer lines), trench plugs should be placed at 100-foot intervals (maximum) across permeable aggregate and/or graded sand/clay to reduce the potential flow and concentration of water along the bedding of such utilities. Additional applications of trench plugs around manholes and at other junctures, as appropriate, should be considered by the designer. The designer should strategically select locations of such trench plugs to segregate critical infrastructure at the site (e.g., lined subsurface stormwater detention facilities, etc.) from utility trenches, as appropriate.
- Stormwater management subgrades (as well as subgrades for building foundations, utilities, and pavements) should be evaluated, reviewed, and probed by an ARM or other Professional Geologist or Geotechnical Engineer. Experience in identification and mitigation of common issues related to karst geology, historic fill placement and perched water conditions prior to the backfilling of, or construction above, any such subgrades.

General Recommendations

- The Owner and project stakeholders should be informed that significant unscheduled excavations to address karst features may be necessary to facilitate proper surface and subsurface preparations in accordance with the recommendations of the attending Professional Geologist or Geotechnical Engineer.
- As applicable, the recommendations presented herein should be reflected in the specifications, drawings, plans, contracts and/or other documents issued for site construction.
- The designer should carefully review the prevailing Township and County codes and ordinances and State guidance (e.g., Pennsylvania Stormwater BMP Manual) to ensure that stormwater management facilities comply with the applicable provisions of these documents.
- Groundwater protection and infiltration tests should be conducted on a full-time basis during all phases of the site preparation, utility and sewer line construction, foundation construction, pavement construction and stormwater facility construction to ensure its proper execution. All structure foundation subgrades should be approved before pouring foundations, and each lift of fill and backfill should be observed and tested on a layer-by-layer basis to ensure the recommended degree of compaction is obtained and that the materials are placed within the proper moisture content range. Overexcavation of backfilled or located soil material zones should be documented by Quality Control and Quality Assurance Representatives. ARM can provide personnel to perform quality control and quality assurance reviews and testing services upon request.

SEQUENCE OF CONSTRUCTION FOR PROJECT

PRE-CONSTRUCTION STABILIZATION OF THE SITE

All disturbed areas from agricultural activities must be stabilized completely in the previous growing season prior to the start of grading by seeding with small grain or permanent vegetative cover as specified on these plans.

All earth disturbance activities shall proceed in accordance with the following sequence. Each stage shall be completed and immediately stabilized before any following stage initiated. Clearing, grubbing, and topsoil stripping shall be limited to those areas described in each stage. Upon temporary cessation of the earth disturbance activity for four days or longer, the project site shall immediately be stabilized with the appropriate temporary stabilization. As soon as slopes, channels, ditches, and other disturbed areas reach final grade, the area shall immediately be stabilized with the appropriate permanent stabilization.

Construction of Arcona Phase 9 is to be sequenced in the following order:

Each step marked "CSoC" is a critical stage of construction and requires oversight by a professional engineer.

Phase 9

- As least 7 days before starting any earth disturbance activities, the operator shall invite all contractors involved in these activities, the landowner, all appropriate Municipal Officials, the Erosion and Sedimentation Control Plan preparer, and a representative of the Conservation District to an on-site meeting. The excavation contractor(s) shall execute a NPDES co-permittee/transfer agreement with PA DEP. The contractor shall ensure that all construction shall be done in accordance with the requirements of the NPDES permit.
- Excavation of disturbed areas must be held stabilized prior to any earth moving activities.
- Install rock construction entrance #1 at the proposed site entrance at Rossmyne Road. All construction equipment shall utilize the rock construction entrance for ingress and egress to the site. Maintain entrance over course of construction per detail to prevent tracking of soil/mud onto public roads.
- Install compost filter sock as shown on the plan along the perimeter of the site. The contractor shall maintain the silt sock in working order throughout the course of construction, making inspections after each rainfall event and repairing any necessary repairs. In the event that any compost filter sock should fail in the course of construction or should a point of concentrated flow form a rock filter outlet may be installed as a repair measure.
- Clear and grub the construction site to the extents necessary to construct the sediment basin and its outfall piping.
- Install storm sewer downstream of sediment basin. Install the riprap apron at the outfall.
- Excavate and construct the sediment basin per the plan and details illustrated and specified herein. During the sediment basin condition, the basin should have a bottom elevation of 442.50. Stabilize with temporary seeding and erosion control matting. The sediment basin must be stabilized and functional prior to additional earth disturbance. No other earth disturbance is permitted on the site except that necessary to construct the sediment basin.
- CSoC: Once a lot has been completely stabilized and the Conservation District has approved removal of the sediment basin to convert to the permanent BMP-001. Check the permanent basin for stability, size, grade, and proper outlet structure after conversion is completed. See Project Staging - Converting Sediment Basin to PCSM BMP-001.
- Check site for erosion and repair any damaged areas. All portions of the site shall be stabilized.
- Remove perimeter compost filter sock, spread compost mulch around any disturbed areas, and remove temporary inlet filter in Rossmyne Road.
- A final critical stage inspection performed by the site's engineer shall be performed to verify all previously installed PCSM BMPs are still functioning as designed and not impacted by construction activities.
- Upon completion of the project a completed Notice of Termination (N.O.T.) shall be submitted to the department and/or Conservation District staff so a final inspection can be performed to ensure stabilization and verify adequate installation and function of BMPs.

Implementation of the above measures should significantly reduce the amount of sinkhole activity during construction and over the life of the proposed facilities.

Stormwater Management

Considerations and recommendations for the design and construction of stormwater management facilities at this site are as follows:

- Based on the presence of karst geology and the potential for sinkhole development at the site, stormwater management systems should be constructed using appropriate sinkhole mitigation and/or stabilization methods to minimize the potential for sinkhole development during the lifetime of the project. Sinkhole mitigation measures include such measures as: 1) limiting the head of water above the base of any stormwater management system and/or using a low permeability liner below stormwater management facilities; 2) limiting the stormwater loading ratio to the practical consistent with the recommendations of the PA BMP Manual; 3) distributing the proposed stormwater infiltration facilities strategically around the site to limit concentrated flows and to diminish potential for damage and/or injury risks due to inherent karst development risks; and 4) properly reviewing, repairing and/or stabilizing observed subsurface voids or impeding sinkhole conditions prior to stormwater management facility construction and as soon as possible following the identification of potential or active sinkholes in the future.
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- Stormwater management subgrades (as well as subgrades for building foundations, utilities, and pavements) should be evaluated, reviewed, and probed by an ARM or other Professional Geologist or Geotechnical Engineer. Experience in identification and mitigation of common issues related to karst geology, historic fill placement and perched water conditions prior to the backfilling of, or construction above, any such subgrades.

- The Owner and project stakeholders should be informed that significant unscheduled excavations to address karst features may be necessary to facilitate proper surface and subsurface preparations in accordance with the recommendations of the attending Professional Geologist or Geotechnical Engineer.
- As applicable, the recommendations presented herein should be reflected in the specifications, drawings, plans, contracts and/or other documents issued for site construction.
- The designer should carefully review the prevailing Township and County codes and ordinances and State guidance (e.g., Pennsylvania Stormwater BMP Manual) to ensure that stormwater management facilities comply with the applicable provisions of these documents.
- Groundwater protection and infiltration tests should be conducted on a full-time basis during all phases of the site preparation, utility and sewer line construction, foundation construction, pavement construction and stormwater facility construction to ensure its proper execution. All structure foundation subgrades should be approved before pouring foundations, and each lift of fill and backfill should be observed and tested on a layer-by-layer basis to ensure the recommended degree of compaction is obtained and that the materials are placed within the proper moisture content range. Overexcavation of backfilled or located soil material zones should be documented by Quality Control and Quality Assurance Representatives. ARM can provide personnel to perform quality control and quality assurance reviews and testing services upon request.

Project Staging - Individual Lots

Each lot will be staged in the following order:

- Install stabilized construction entrance.
- Install compost filter sock as shown on plan.
- Rough grade lot and stabilize immediately with temporary seeding.
- Excavate for dwelling foundation. Place excess soil on designated soil stockpile location. Install compost filter sock below the stockpile.
- Construct dwelling.
- Construct utilities.
- Install roof drain leaders to inlet as specified by this PCSM plan.
- Install sidewalk along frontage of lot.
- Pave driveway.
- Final grade lot and stabilize immediately with permanent stabilization.
- Remove filter sock once all disturbed areas are stabilized.

Project Staging - Converting Sediment Basin to PCSM BMP-001

Once the Conservation District has approved removal of the Sediment Basin, convert to the PCSM BMP-001 Bioretention Basin as follows:

- Stabilize any other disturbed areas immediately with permanent seeding.
- Remove the skimmer and landing berm. Dispose of properly or store for reuse. Remove any grout used to seal skimmers into inlets.
- Remove cleanout stake from the basin bottom. Dispose of properly or store for reuse.
- Remove any sediment from the basin outlet pipes.
- Remove any steel or plastic plates used to attach the floating skimmers to the inlets. Stainless steel orifice plates were used to cover the rectangular orifice in the basin outlet structures required for the permanent basin configuration.
- Overexcavate and install soil media in the basin bottom to the final grade. Immediately install plantings as specified in the plans.

LEGEND

EXISTING	PROPERTY LINE
—	RIGHT-OF-WAY LINE
—	EASEMENT LINE
—	ROADWAY CENTERLINE
—	CURB LINE
—	EDGE OF PAVEMENT
—	EDGE OF STONE
S	MIN. BLDG. SETBACK LINE
S	SANITARY SEWER LINE
S	SANITARY FORCE MAIN
OHT	WATER LINE
G	GAS LINE
OH	OVERHEAD UTILITIES
OHE	OVERHEAD ELECTRIC
UE	UNDERGROUND ELECTRIC
OHT	OVERHEAD TELEPHONE
UT	UNDERGROUND TELEPHONE
X	FENCE
—	INDEX CONTOUR
—	INTERMEDIATE CONTOUR
X 391.25	SPOT ELEVATION
—	STORM INLET & PIPING
—	GUIDE RAIL
—	TREELINE
—	RAILROAD
—	EDGE OF WATER (STREAM)
—	SOILS LINE
—	ZONING LINE
—	MUNICIPALITY LINE
—	DECIDUOUS TREE
—	CONIFEROUS TREE
—	PROPERTY CORNER MARKER FOUND
—	CONC. MONUMENT SET
—	PIN
—	ANGLE BREAK, PC/PT
—	EASEMENT CORNER
—	UTILITY POLE
—	LIGHT POLE
—	LIGHT
—	WELL
—	WATER SHUT-OFF VALVE (SERVICE)
—	WATER VALVE (MAIN)
—	FIRE HYDRANT
—	GAS SHUT-OFF VALVE (SERVICE)
—	GAS VALVE (MAIN)
—	SEWER VENT
—	SEWER CLEAN OUT
—	ELECTRIC MANHOLE
—	STORM MANHOLE
—	SANITARY MANHOLE
—	TELEPHONE MANHOLE
—	SIGN
—	MAIL BOX
—	DEEP PROBE
—	PERCOLATION TEST HOLE
PB-4	WETLANDS
PB-5	WETLANDS

Project Manager:	DAVID B. KEGERIZE PE	D. TURNER
Project Engineer:	J.C. MITCHELL KING PE, PLS	Checked by
Project Surveyor:	THOMAS K. PHILLIPS PLS	Scale:
Project Manager:	DAVID B. KEGERIZE PE	AS NOTED
Project Engineer:	J.C. MITCHELL KING PE, PLS	
Project Surveyor:	THOMAS K. PHILLIPS PLS	

Sheet Number:
25 of 33

Project Number:
15-100-32

Date:
MAY 17, 2024

CHARTER Homes & Neighborhoods

Lower Allen Township - Cumberland County, PA

CHARTER Homes & Neighborhoods

ARCONA NEIGHBORHOOD 9

Lower Allen Township - Cumberland County, PA

CHARTER Homes & Neighborhoods

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CHARTER Homes & Neighborhoods

ARCONA NEIGHBORHOOD 9

Lower Allen Township - Cumberland County, PA

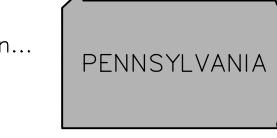
CHARTER Homes & Neighborhoods

ARCONA NEIGHBORHOOD 9



Before You Dig Anywhere

In...



STOP! CALL 811 (or 1-800-242-1776 outside of PA) TOLL FREE

Know what's below.
Call before you dig.

PA Act 267 (enacted by Act 126, 2008) requires notification to ONE CALL SYSTEM 3 working days for construction phase and 10 working days for design phase before you excavate.

PA ONE CALL SYSTEM, INC.

DESIGN PHASE SERIAL # 20220682987 (LOWER ALLEN TOWNSHIP)
(CALL MADE BY: Howell Kline Surveying, LLC)

Howell Kline Surveying, LLC, does not guarantee the accuracy of the locations for existing subsurface utility lines, structures, etc. shown on the plans, nor does Howell Kline Surveying, LLC, guarantee that all subsurface utility lines, structures, etc. are shown. Contractor shall verify the location and elevations of all subsurface utility lines, structures, etc. before the start of work, by calling the Pennsylvania One Call System at 1-800-242-1776.

Utilities Listing - Lower Allen Township

Verizon Pennsylvania Inc	PPL Electric Utilities Corporation
1026 Hay St.	434 Susquehanna Trl.
Pittsburgh, PA 15221	Broomfield, CO 80021
Contact: Deborah Barum	Contact: Doug Haupt
Email: deborah.d.barum@verizon.com	Email: dhaupt@pplweb.com
Buckeye Partners	CenturyLink
The Buckeye Building	1025 Eldorado Blvd.
811 Hamilton St.	Northumberland, PA 17857
Lower Allen Township	Contact: Doug Haupt
120 S. Main Rd.	Email: dhaupt@pplweb.com
New Cumberland, PA 17070	First Energy Penelec
Contact: Brian Kauffman	4601 Smith Street
Email: bkauffman@atwp.org	Harrisburg, PA 17055
Lower Allen Township	Contact: Michael Swiegard
2233 Gettysburg Rd.	21 S Main St.
Camp Hill, PA 17011	Akron OH, 44308
Contact: Bryce Thompson	Contact: Cara Warren
Email: bthompson@atwp.org	Email: cara.warren@firstenergycorp.com
Sprint	Upper Allen Township
484 Williamsport Pike	100 Gettysburg Pike
PO Box 113	Mechanicsburg, PA 17055
Martinsburg, WV 25404	Contact: Karen Hockenberry
Contact: Wesley Carpenter	Email: khockenberry@utwp.org
Email: wesley.a.carpenter@tmobile.com	UGI UTILITIES INC
Lower Allen Township	1301 Alp Dr.
2233 Gettysburg Rd.	Middletown, PA 17057-5987
Camp Hill, PA 17011	Contact: Stephen Boteman
Contact: Bryce Thompson	Email: sboteman@ugil.com
Email: bthompson@atwp.org	Windstream
Windstream	1450 Center Point Rd.
1450 Center Point Rd.	Howatha, IA 52233
Martinsburg, WV 25404	Contact: Locate Desk Personnel
Contact: Wesley Carpenter	Email: locate.desk@windstream.com

GEOLOGIC EVALUATION:

See "Arcona Neighborhood 9 Carbonate Geology Evaluation Report," prepared by ARM Group LLC, dated May 2024 for full analysis of site geology and recommendations.

SUMMARY

- According to the Pennsylvania Department of Conservation and Natural Resources' Geologic Date Exploration Map, the site is underlain by two bedrock formations including the undivided Hershey and Myerstown Formations in the northwest portions of the site, and the Epler Formation in the southeastern portions of the site. The Epler Formation is characterized as very finely crystalline, light gray limestone interbedded with gray dolomitic limestone, medium to dark gray limestone, with dark gray to black carbonaceous limestone, with basal conglomerate that contains angular boulders of dolomite.
- Review of the Sinkholes and Karst-Related Features of Cumberland County, Pennsylvania (W.E. Kochanow, 1989) showed no sinkholes mapped within approximately 3,000 feet of the site limits; however, there are two closed depressions mapped along the boundary between the undivided Hershey and Myerstown Formations with the Epler Formation near the southern limits of Arcona Neighborhood 8.3 and several more closed depressions to the east of the Norfolk Southern to the east of Neighborhood 9.
- The site reconnaissance and infiltration testing performed by ARM Group, Inc. personnel revealed no closed depressions, topographic lineaments or fracture traces, caverns, intermittent lakes, ephemeral streams, or other carbonate geology hazards.

RECOMMENDATIONS

- Based on the test results, the measured infiltration capacity of the soils across the site ranged from 0.00 to 18.72 in./hr. ARM recommends that design rates should not incorporate test values that exceed the slower of the following:
 - Half of the measured rate for a given test
 - Hydraulic conductivity range limits for the hydraulic conductivity of the most limiting layer as published for the associated NRCS soil unit (1.10 for Edom silty clay loam and 1.30 for the Bedington shaly silt loam)
 - The geometric mean of all measured rates tested at the site for the mapped NRCS soil unit (0.72 for Edom silty clay loam and 5.77 for the Bedington shaly silt loam) Additionally, based on ARM's field observations and other available information, concentrated stormwater infiltration is acceptable, but sinkhole avoidance and mitigation measures should be observed and incorporated into the design and construction of the project. Please refer to the "Recommendations" section of the ARM report.
- ARM Group, Inc. notes that the site is situated within a potential karst area, which is potentially subject to the development of sinkholes. While no existing sinkholes, closed depressions, or other carbonate geology hazards were visually observed at the existing ground surface by ARM within the investigation area, and were not identified through a review of available aerial photographs and topographic maps, the soil and rock conditions encountered are considered to present a possible risk for sinkhole development. Concentrated stormwater infiltration would potentially increase the risk for sinkhole development at the site. Stormwater management systems should be constructed using appropriate sinkhole mitigation and/or stabilization methods to minimize the potential for sinkhole development.

OWNER / DEVELOPER
(ARCONA NEIGHBORHOOD 9):Charter Homes at Arcona, Inc.
322 North Arch Street
Lancaster, PA 17603Tax Map 13-10-0256-352
Inst. No.: 202421854

OWNER (REMAINING LANDS)

Ruth D. Lesser
1340 Rossmoyne Road
Mechanicsburg, PA 17055

SOURCE OF TITLE:

Tax Map 13-10-0256-031
Inst. No.: 201729508 (1/2 interest)

OWNER (REMAINING LANDS)

Strong & Detwiler Partnership
1340 Rossmoyne Road
Mechanicsburg, PA 17055

SOURCE OF TITLE:

Tax Map 13-10-0256-031
Deed Book: 274, Page 1884 (1/2 interest)

SITE ACREAGE:

ARCONA NEIGHBORHOOD 9 - GROSS AREA 20.60 Ac.

SITE DATA:

ZONING:

R-2 Single-Family Residential District (TND Overlay)

PROPOSED USE:

15 Single-Family Lots

PROPOSED WATER SERVICE:

PUBLIC

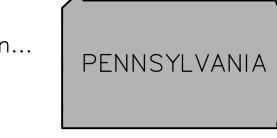
PROPOSED SEWER SERVICE:

PUBLIC

EROSION & SEDIMENTATION CONTROL PLAN
ARCONA NEIGHBORHOOD 9

Before You Dig Anywhere

In...



STOP! CALL 811 (or 1-800-242-1776 outside of PA) TOLL FREE

PA Act 267 (enacted by Act 126, 2008) requires notification to ONE CALL SYSTEM 3 working days for construction phase and 10 working days for design phase before you excavate.

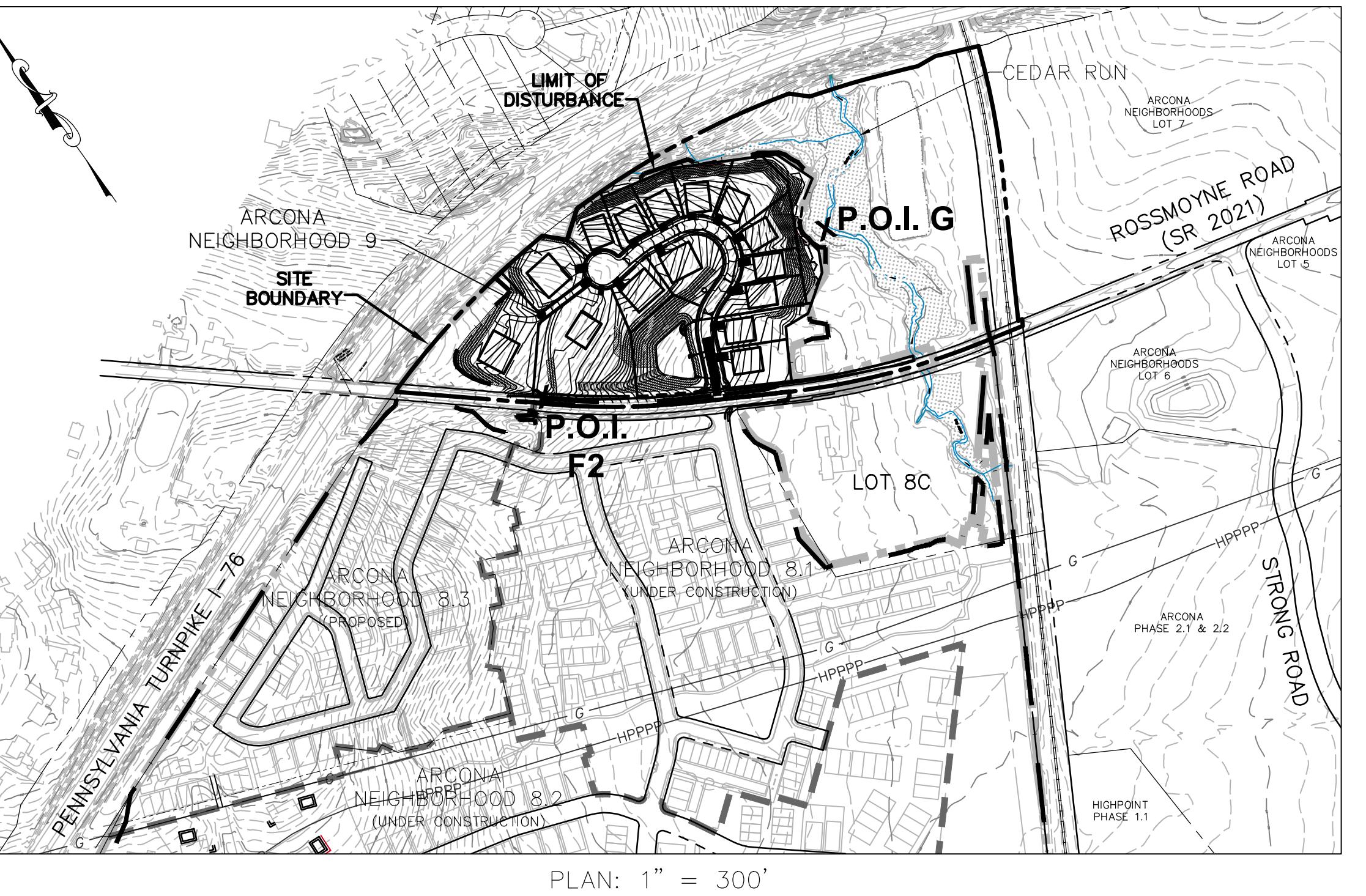
PA ONE CALL SYSTEM, INC.

DESIGN PHASE SERIAL # 20220682987 (LOWER ALLEN TOWNSHIP)
(CALL MADE BY: Howell Kline Surveying, LLC)

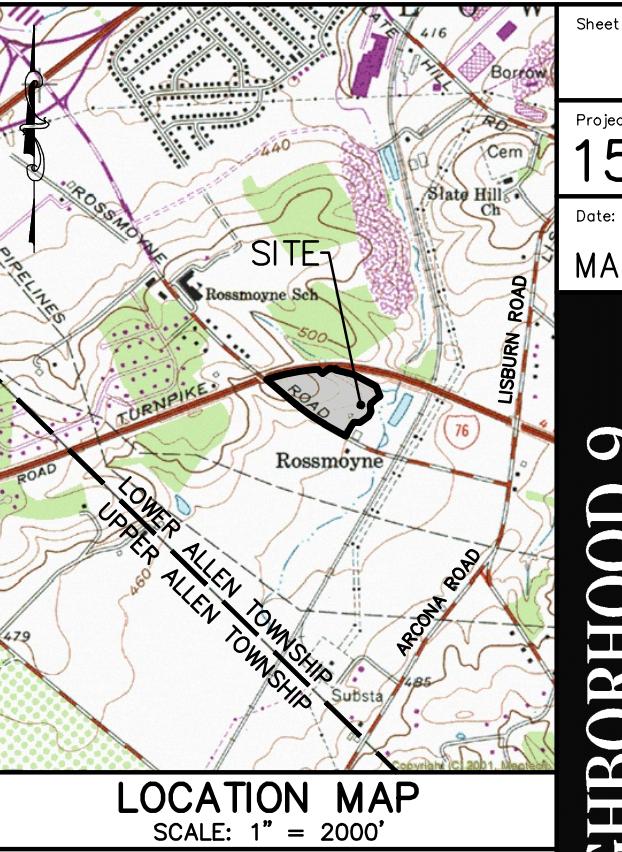
Howell Kline Surveying, LLC, does not guarantee the accuracy of the locations for existing subsurface utility lines, structures, etc. shown on the plans, nor does Howell Kline Surveying, LLC, guarantee that all subsurface utility lines, structures, etc. are shown. Contractor shall verify the location and elevations of all subsurface utility lines, structures, etc. before the start of work, by calling the Pennsylvania One Call System at 1-800-242-1776.

Utilities Listing - Lower Allen Township

Verizon Pennsylvania Inc	PPL Electric Utilities Corporation
1026 Hay St.	434 Susquehanna Trl.
Pittsburgh, PA 15221	Broomfield, CO 80021
Contact: Deborah Barum	Contact: Doug Haupt
Email: deborah.d.barum@verizon.com	Email: dhaupt@pplweb.com
Buckeye Partners	CenturyLink
The Buckeye Building	1025 Eldorado Blvd.
811 Hamilton St.	Northumberland, PA 17857
Lower Allen Township	Contact: Doug Haupt
120 S. Main Rd.	Email: dhaupt@pplweb.com
New Cumberland, PA 17070	First Energy Penelec
Contact: Brian Kauffman	4601 Smith Street
Email: bkauffman@atwp.org	Harrisburg, PA 17055
Lower Allen Township	Contact: Michael Swiegard
2233 Gettysburg Rd.	21 S Main St.
Camp Hill, PA 17011	Akron OH, 44308
Contact: Bryce Thompson	Contact: Cara Warren
Email: bthompson@atwp.org	Email: cara.warren@firstenergycorp.com
Sprint	Upper Allen Township
484 Williamsport Pike	100 Gettysburg Pike
PO Box 113	Mechanicsburg, PA 17055
Martinsburg, WV 25404	Contact: Karen Hockenberry
Contact: Wesley Carpenter	Email: khockenberry@utwp.org
Email: wesley.a.carpenter@tmobile.com	UGI UTILITIES INC
Lower Allen Township	1301 Alp Dr.
2233 Gettysburg Rd.	Middletown, PA 17057-5987
Camp Hill, PA 17011	Contact: Stephen Boteman
Contact: Bryce Thompson	Email: sboteman@ugil.com
Email: bthompson@atwp.org	Windstream
Windstream	1450 Center Point Rd.
1450 Center Point Rd.	Howatha, IA 52233
Martinsburg, WV 25404	Contact: Locate Desk Personnel
Contact: Wesley Carpenter	Email: locate.desk@windstream.com

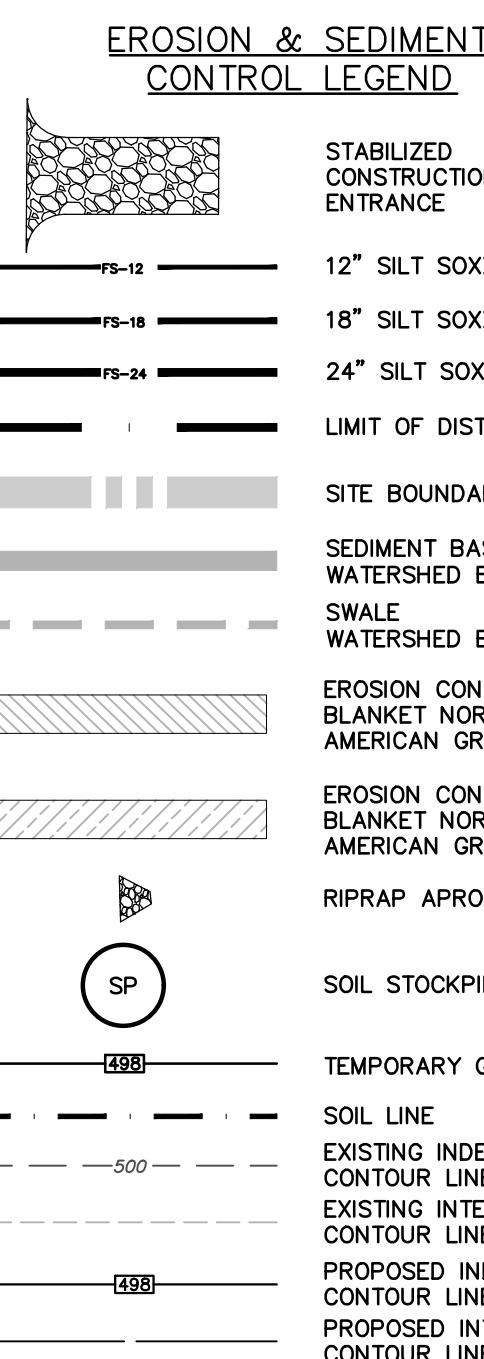
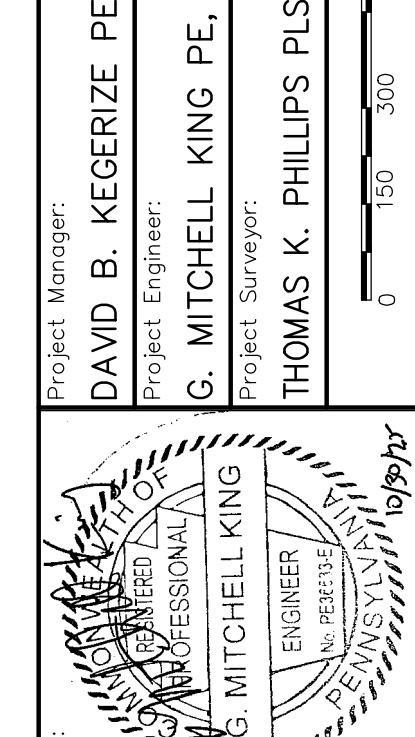


This site is on Cedar Run. Cedar Run is classified as Cold Water Fisheries (CWF).
The wetlands on this site are classified as Exceptional Value (EV).
Limit of Disturbance = 164.16 Ac. (Includes all of Highpoint / Arcona, 9.70 Ac. added for Phase 9 with this Major Amendment)
NPDES Boundary = 183.95 Ac.



Sheet Number: 26 of 33
Project Number: 15-100-32
Date: MAY 17, 2024
Lower Allen Township - Cumberland County, PA
CHARTER Homes & Neighborhoods

PLAN INDEX		
NO.	SEC.	TITLE
26	ES-1	EROSION & SEDIMENTATION CONTROL COVER
27	ES-2	EROSION & SEDIMENTATION CONTROL PLAN
28	ES-3	EROSION & SEDIMENTATION CONTROL DETAILS
29	ES-4	EROSION & SEDIMENTATION CONTROL BASIN DETAILS
30	ES-5	EROSION & SEDIMENTATION CONTROL NOTES
31	ES-6	EROSION POTENTIAL ANALYSIS

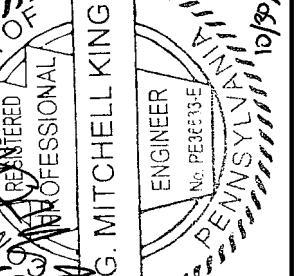


SOILS LIMITATIONS & RESOLUTIONS				
Symbol	Name	Slope	Limitations	Resolution
BdB	Bedington shaly silt loam	3-8%	Dusty Unstable excavation walls Piping	Water dry disturbed areas Slope excavation walls or mechanically support Clay liner, water-tight pipe joints
BdC	Bedington shaly silt loam	8-15%	Dusty Unstable excavation walls Piping	Water dry disturbed areas Slope excavation walls or mechanically support Clay liner, water-tight pipe joints
BdD	Bedington shaly silt loam	15-25%	Dusty Unstable excavation walls Piping	Water dry disturbed areas Slope excavation walls or mechanically support Clay liner, water-tight pipe joints
DuA	Duffield silt loam	0-3%	High clay content Dusty Unstable excavation walls Piping	Minimize construction in this soil Water dry disturbed areas Slope excavation wall or mechanically support Clay liner, water-tight pipe joints
EdB	Edom silty clay loam	3-8%	High clay content Dusty Unstable excavation walls Piping	Minimize construction in this soil Water dry disturbed areas Slope excavation walls or mechanically support Clay liner, water-tight pipe joints
HaB	Hagerstown silt loam	3-8%	High clay content Dusty Unstable excavation walls Piping	Minimize construction in this soil Water dry disturbed areas Slope excavation walls or mechanically support Clay liner, water-tight pipe joints
Pe	Penlaw silt loam	-	Depth to saturated zone Dusty Piping	Minimize cut Water dry disturbed areas Clay liner, water-tight pipe joints

NPDES NARRATIVE



Project Manager: DAVID B. KEGERIZE PE Drafting: D. TURNER
 Checked by: _____
 Project Engineer: G. MITCHELL KING PE, PLS
 Project Surveyor: THOMAS K. PHILLIPS PLS
 Scale: 1" = 40'
 0 20 40 60 80 100 120



Seal:

PROFESSIONAL

ENGINEER

G. MITCHELL KING

PENNSYLVANIA

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2023

RENEWED

2028

REGISTRATION

NO. 10951

2028

RENEWED

2033

REGISTRATION

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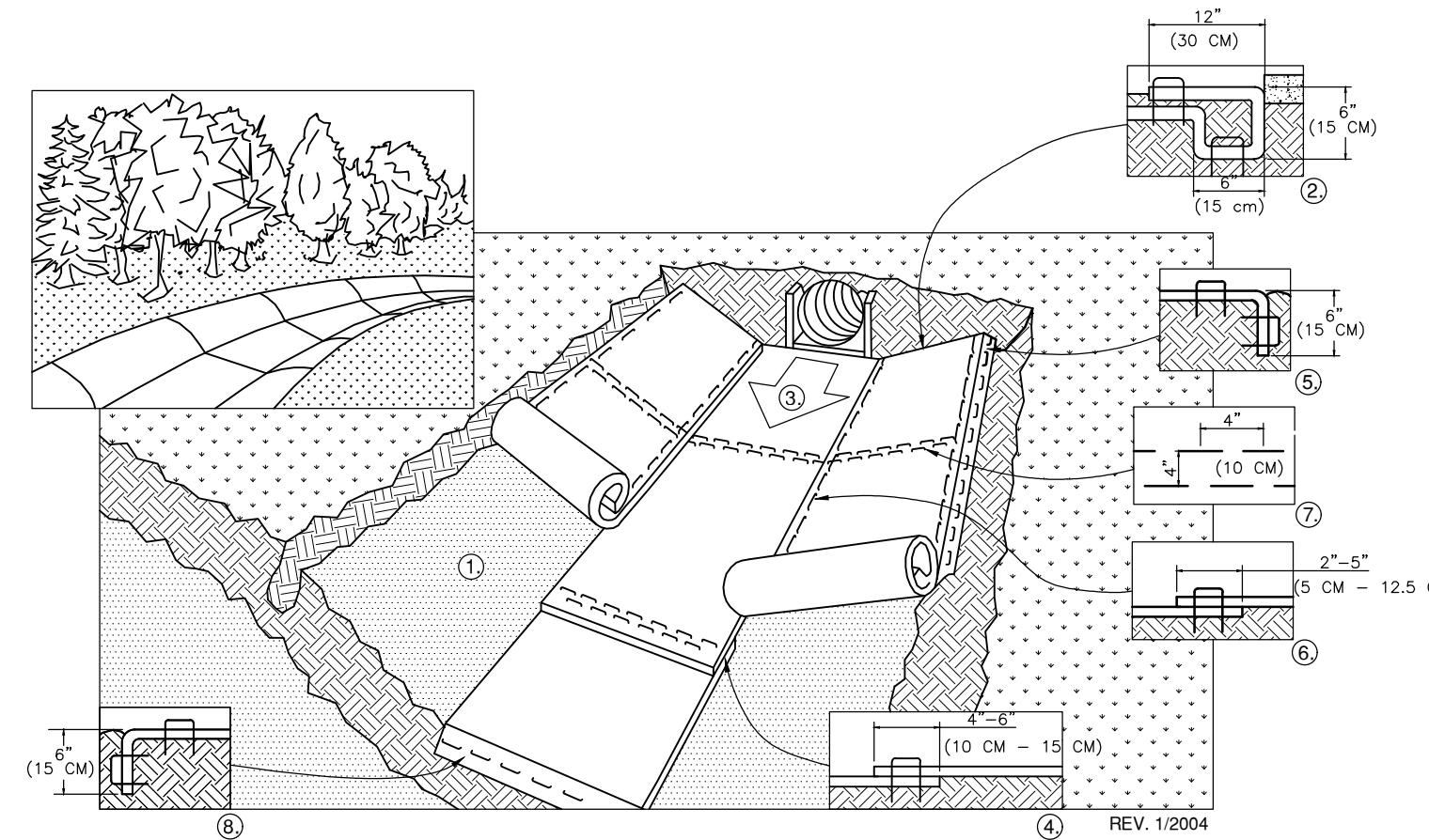
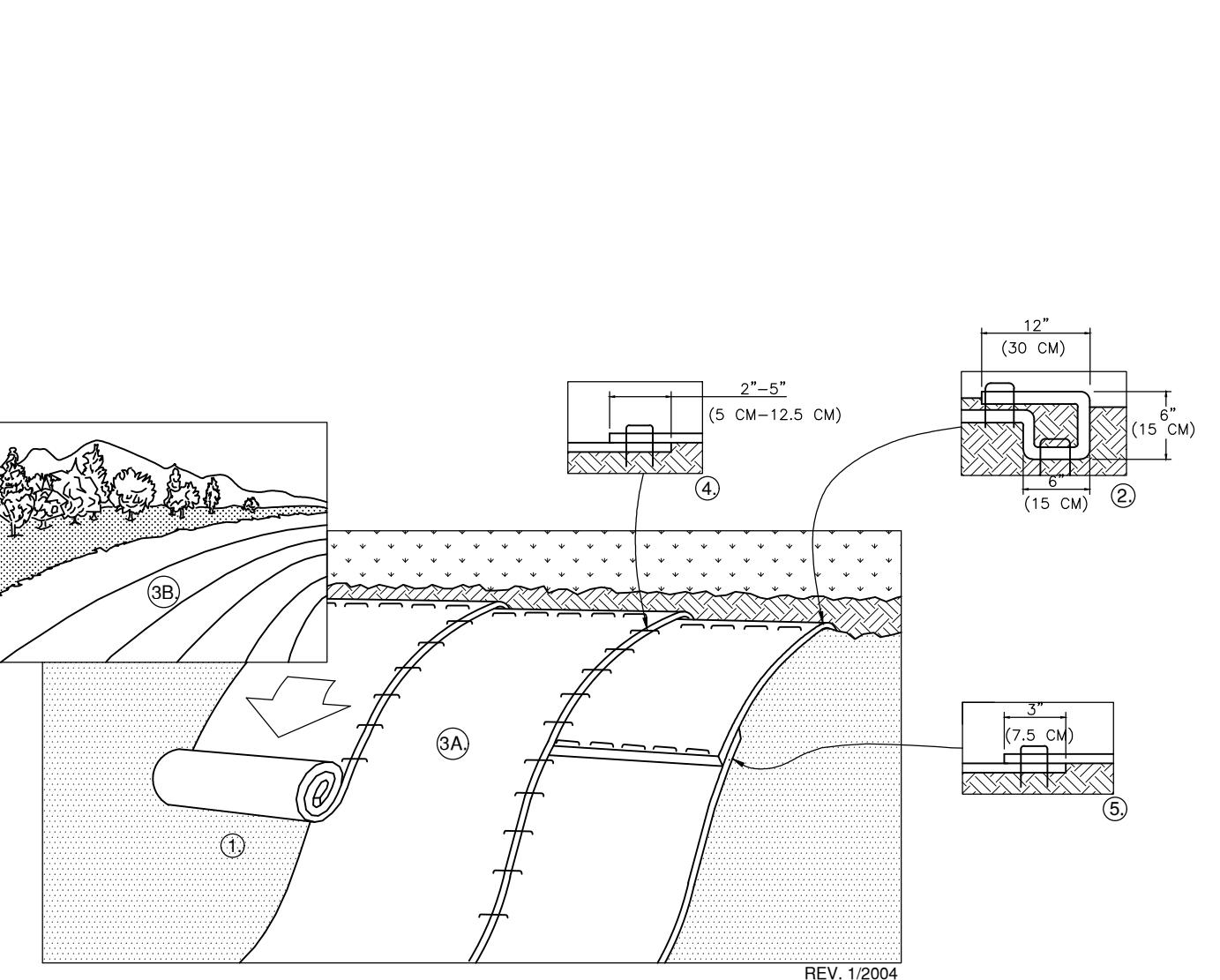
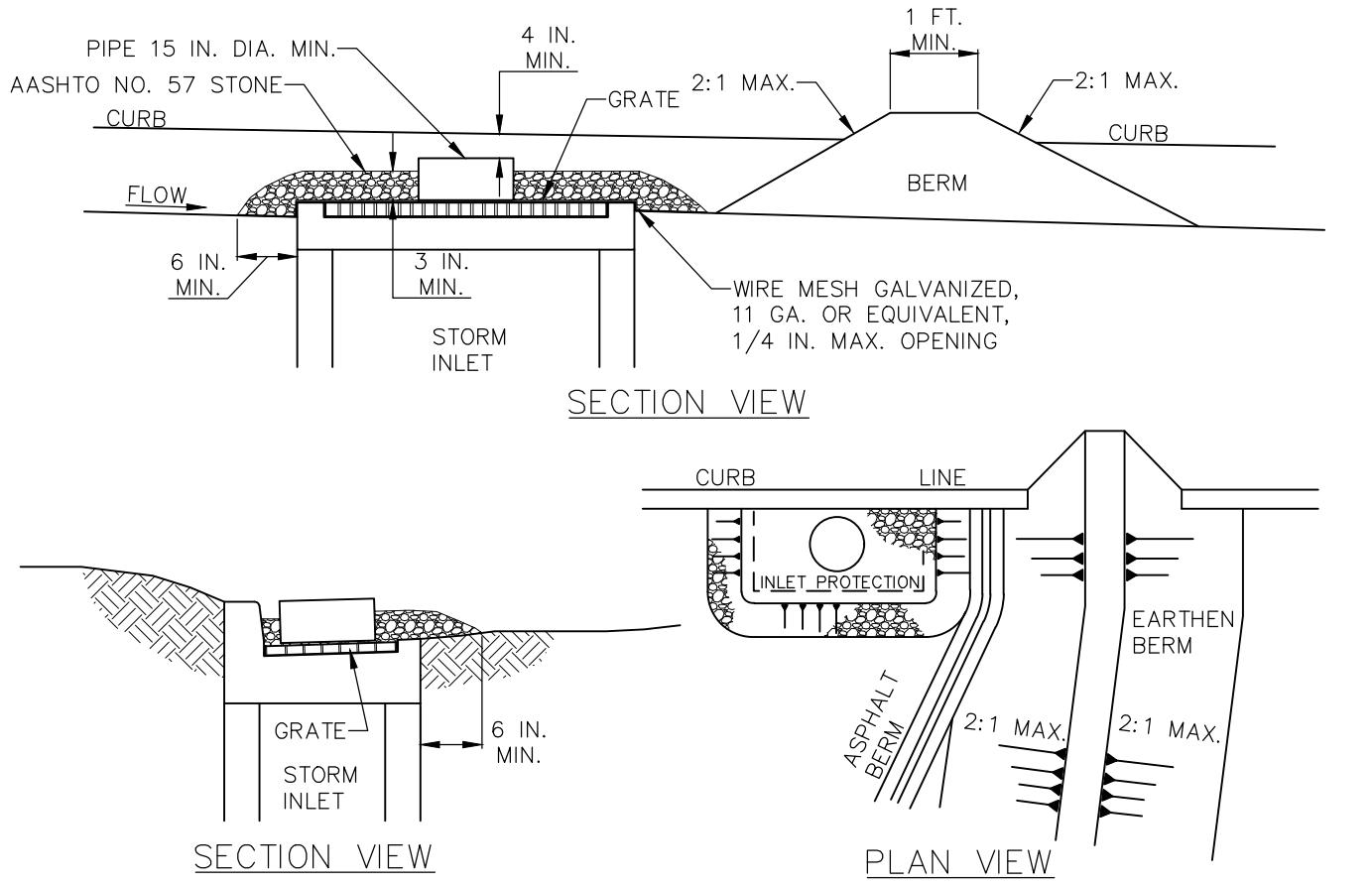
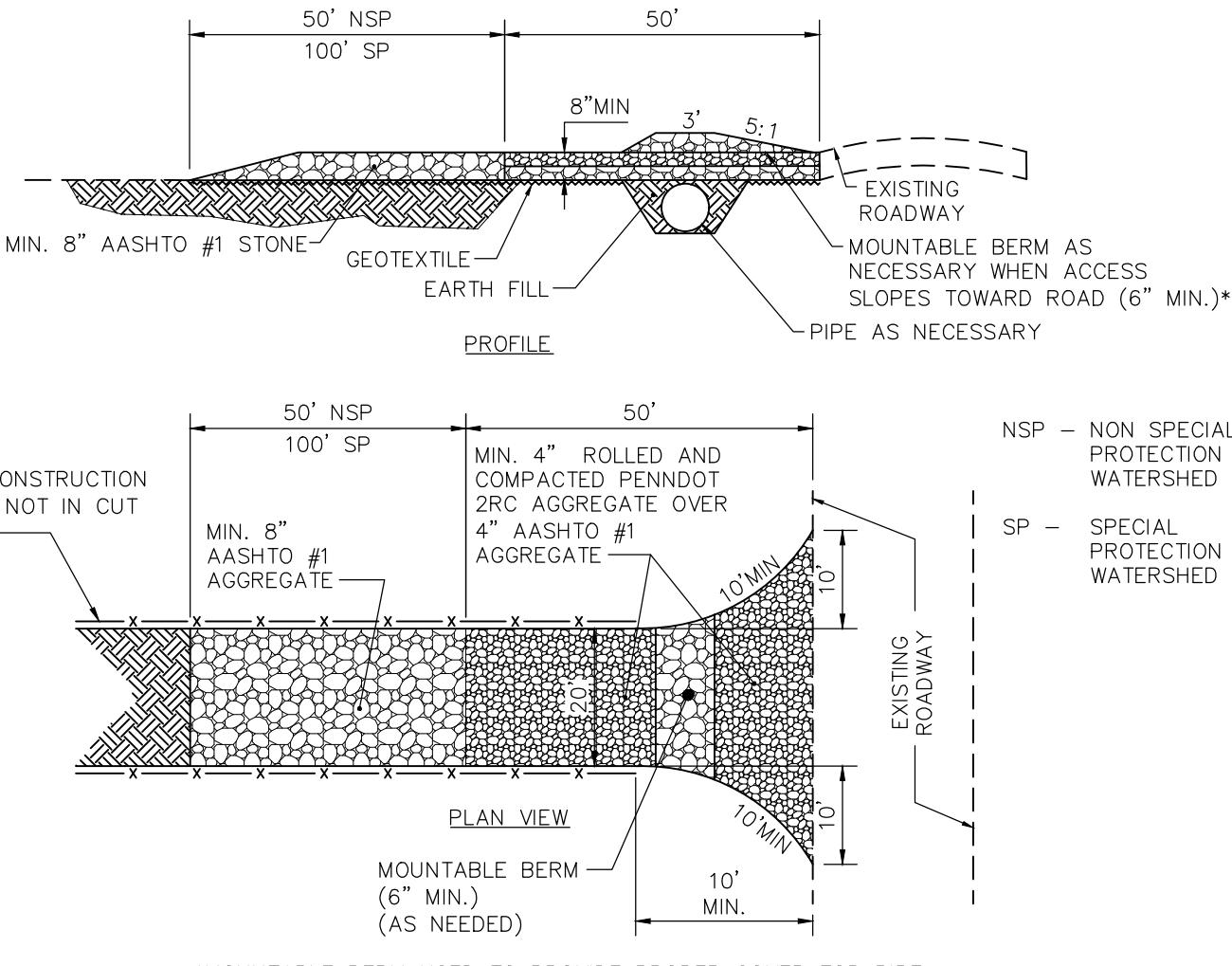
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REGISTRATION

NO. 10951



- REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF DRAINAGE.
- RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.
- MONTEABLE BERM SHALL BE INSTALLED WHENEVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.

Maintenance:
ROCK CONSTRUCTION ENTRANCE THICKNESS WILL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE. ALL SEDIMENT DEPOSITED ON UNPAVED ROADWAYS SHALL BE REMOVED FROM ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK, WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHED, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

Rock Construction Entrance Thickness:
MAIN 150' x 20'
LOTS 30' x 10'

Rock Construction Entrance - # 3-1 (ABACT)
NOT TO SCALE

Stone Inlet Protection and Berm - Type C Inlet - # 4-19
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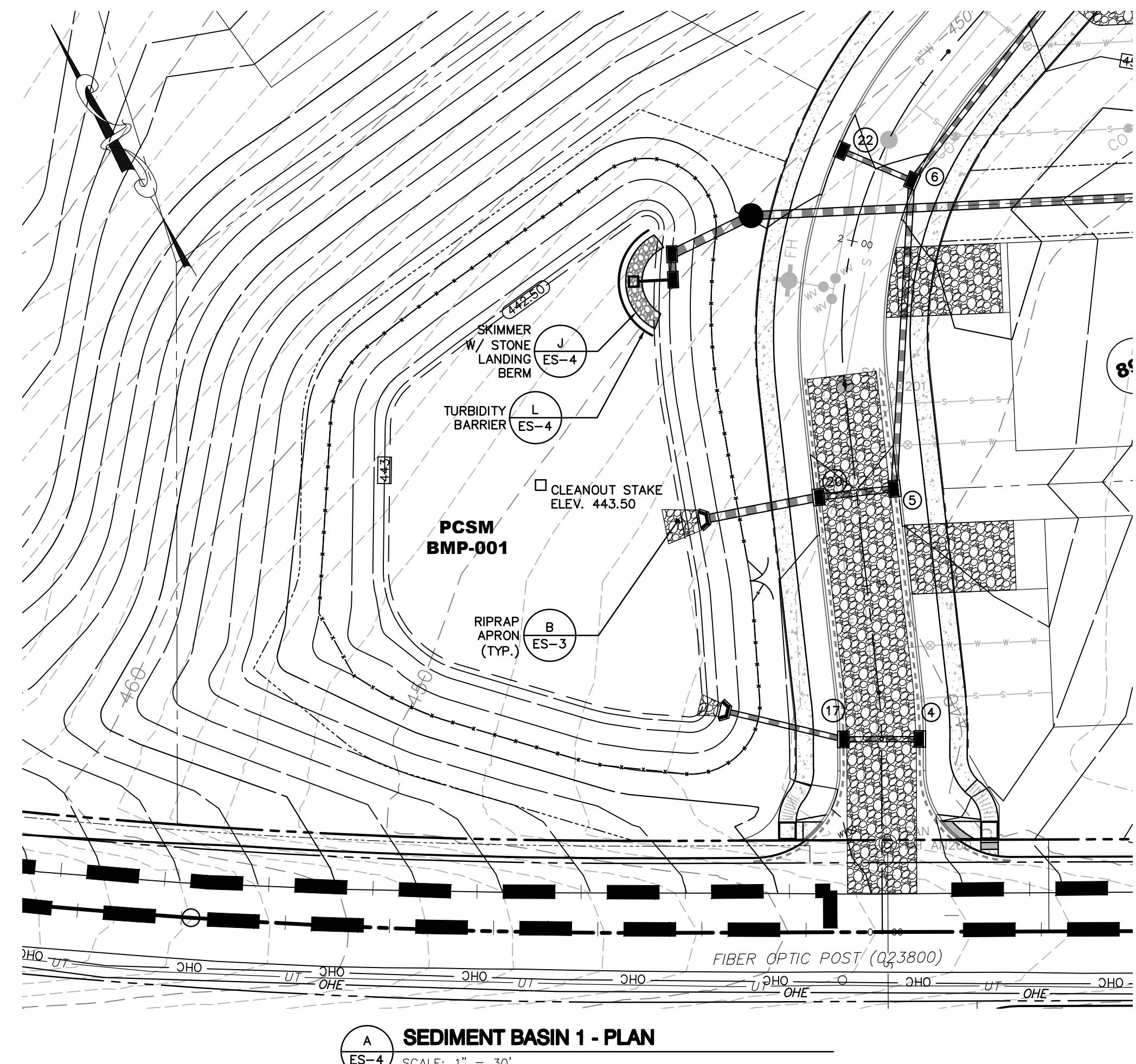
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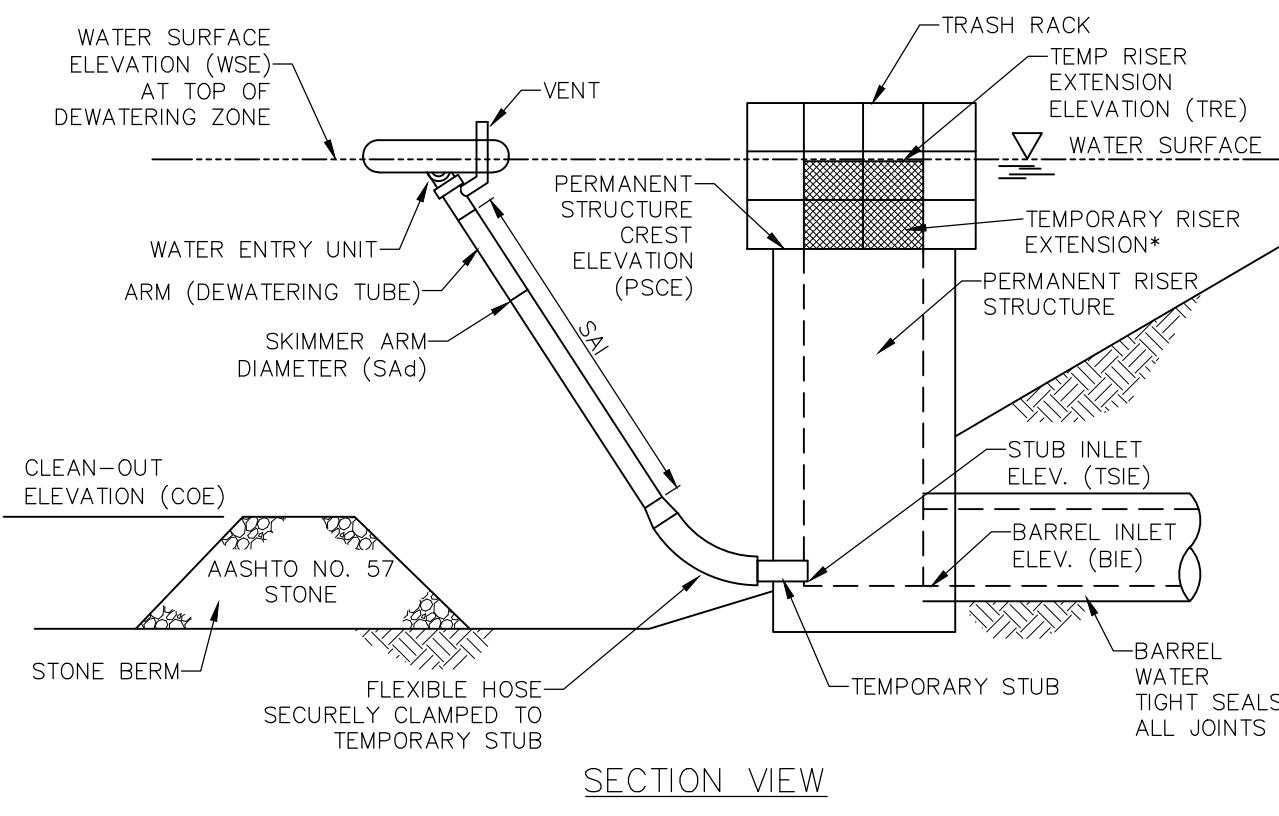
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BASIN EMBANKMENT SPECIFICATIONS
COMPACTING:
THE EMBANKMENT FILL & CLAY CORE SHALL BE PLACED IN 6 INCH HORIZONTAL LAYERS, CONDITIONED TO OPTIMUM MOISTURE CONTENT, AND COMPAKTED TO NOT LESS THAN 95% OF THE MAXIMUM DENSITY PER THE MODIFIED PROCTOR TEST. THE CONTRACTOR SHALL MAINTAIN THE MOISTURE CONTENT OF THE FILL MATERIAL AS REQUIRED TO PROVIDE THIS REQUIRED DENSITY.

MATERIALS:
EARTH SUBSOIL - COHESIVE SOILS WITHOUT LARGE STONES OR ORGANIC MATTER.
CLAY CORE - SANDY CLAY OR SILTY CLAY LOAM.
STRIP EXISTING TOPSOIL FROM FOOTPRINT OF EMBANKMENT.



NOTES:

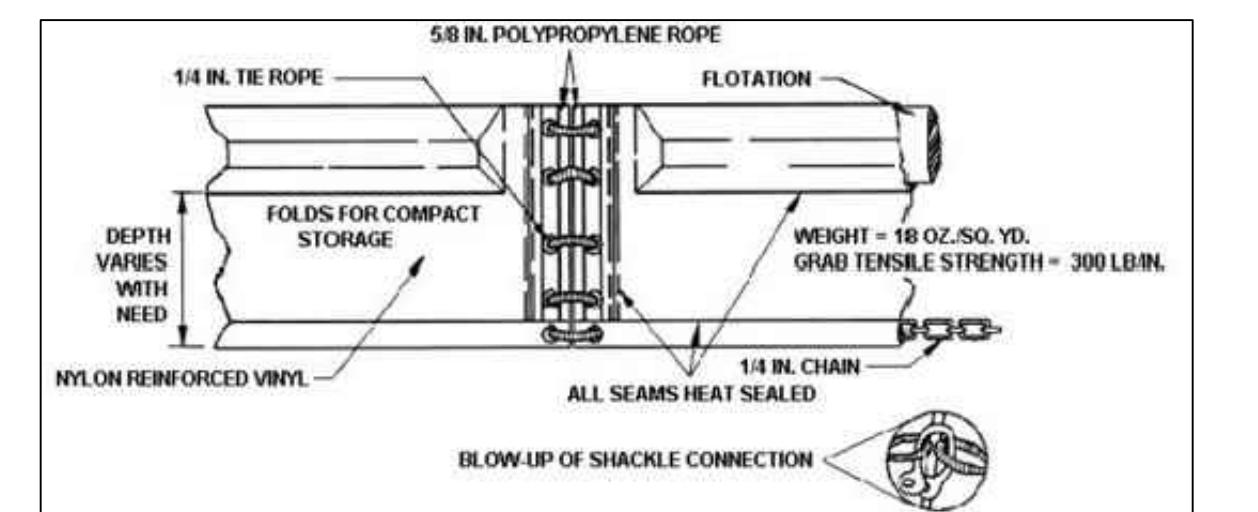
- ALL ORIFICES ON PERMANENT RISER SEALS BELOW TEMPORARY RISER EXTENSION SHALL HAVE WATER-TIGHT TEMPORARY SEALS PROVIDED. TEMPORARY STUB INVERT ELEVATION SHALL BE AT OR BELOW SEDIMENT CLEAN-OUT ELEVATION.
- A ROPE SHALL BE ATTACHED TO THE SKIMMER ARM TO FACILITATE ACCESS TO THE SKIMMER ONCE INSTALLED.
- 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.

BASIN NO.	WATER SURFACE ELEV. (WSE) (FT)	SKIMMER									
		ORIFICE DIA. (IN.)	HEAD (FT)	ARM SAD (IN.)	LENGTH (FT)	MAT'L (IN.)	ORIFICE DIA. (IN.)	ARM LENGTH (FT)	LANDING DEVICE ELEVATION (FT)	FLEXIBLE HOSE LENGTH (IN.)	FLEXIBLE HOSE ATTACHMENT ELEVATION (FT)
1	446.59	3.0	0.21	3	5.5	PVC	6	12	441.50		

TEMPORARY STUB		PERMANENT RISER		RISER EXTENSION		BARREL			
INSIDE DIA (IN)	INVERT ELEV. (TSIE) (FT)	MAT'L	CREST ELEV. (PSE) (FT)	HORIZ. LENGTH (FT)	WIDTH (IN)	CREST ELEV. (TRE) (FT)	HORIZ. LENGTH (FT)	WIDTH (IN)	INLET ELEV. (BIE) (FT)
6	441.50	PVC	445.70	48	24	446.08	48	24	441.50

H SKIMMER ATTACHED TO A PERMANENT RISER - # 7-2

ES-4 NOT TO SCALE



SPECIFICATIONS (ST. 10/08)

Main body fabric is laminated vinyl/polyester having the following characteristics:

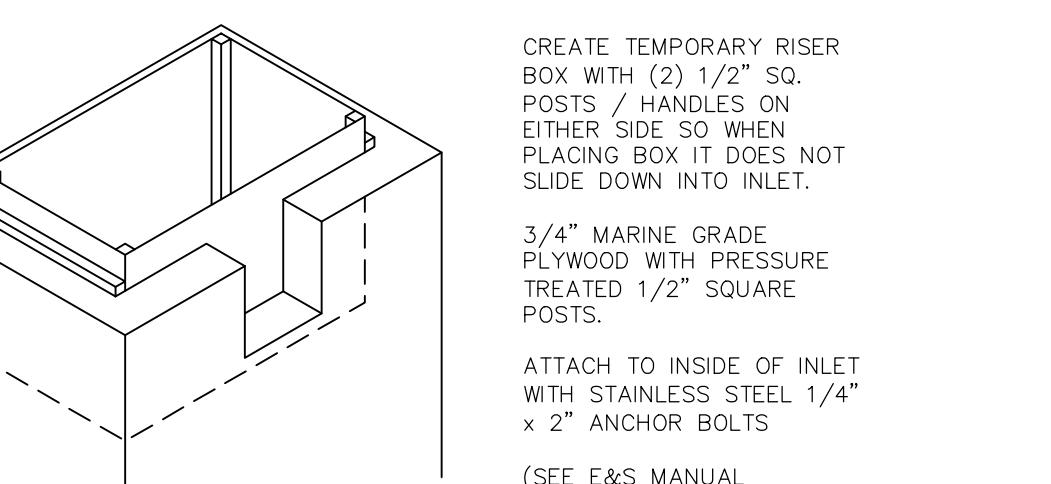
Construction - vinyl laminate on 9x9 1000x1300 denier polyester scrim
Weight - 18.5 oz. per sq. yd (434 gr./sq.m)
Adhesion - 24 x 20 lb./2"
Grab Tensile - 410 x 410 lb./in. (430 x 421 daN/5cm.)
Tear - 100 x 100 lb./in. (95 x 95 daN)
Hydrostatic - 600 psi (4167 kPa)
Cold resistance to crack: -40° F/C

Geotextile filter fabric inserted into skirt, approximately 20% of skirt area having the following characteristics:

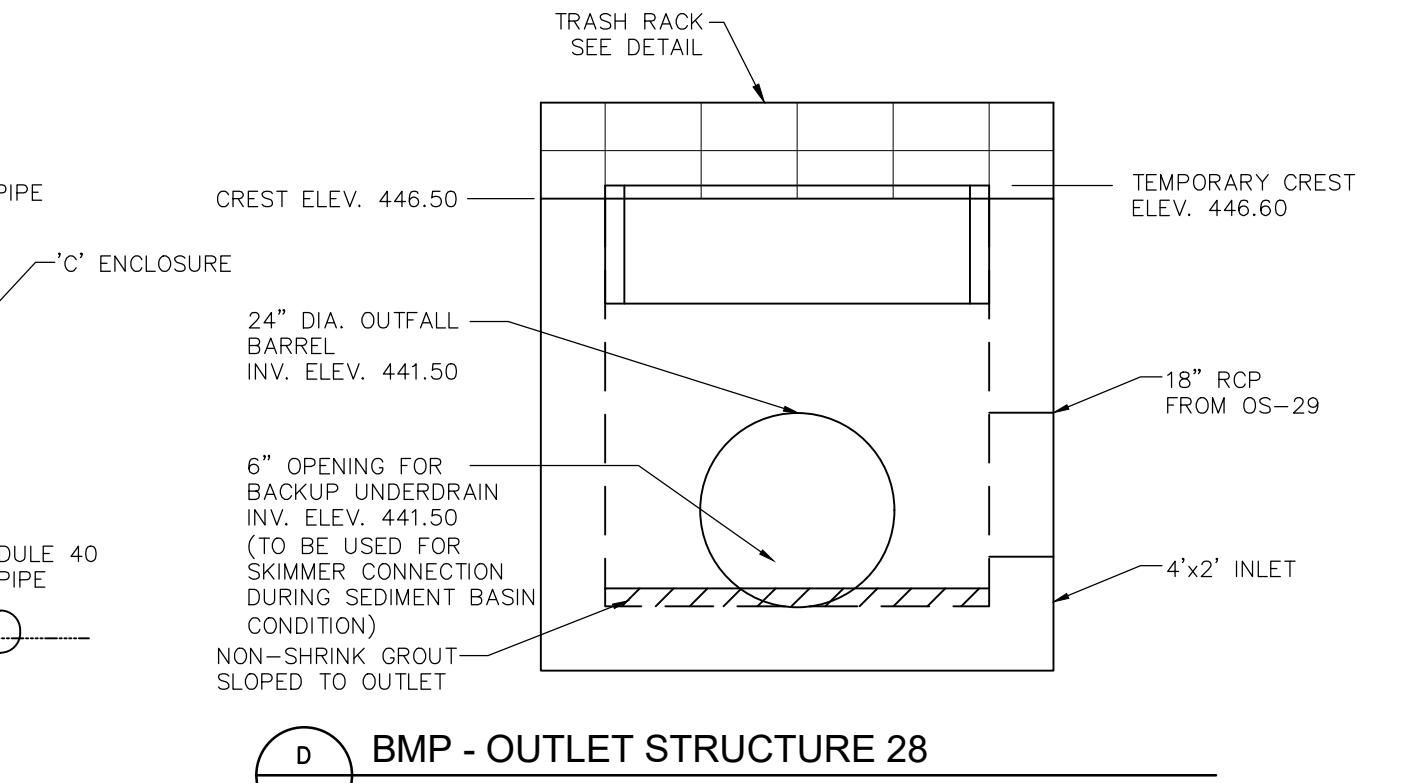
Construction - woven polypropylene
Minimum average roll values:
Grab Tensile (ASTM D-4632) - 370/250 lb (1.64/1.11 kN)
Grab Elongation (ASTM D-4632) - 15%
Mullen Burst (ASTM D-3786) - 480 psi (3300 kPa)
Puncture (ASTM D-4833) - 135 lb (.60 kN)
Trapezoidal Tear (ASTM D4533) - 100/60 lb (.444/.265 kN)
AOS (ASTM D-4751) - 70 sieve (.212 mm)
Permittivity (ASTM D-4491) - .28/sec.
Flow Rate (ASTM D-4491) - 18 gal/min/sq. ft. (730 L/min/sq. m)

- All main body seams are heat sealed. All geotextile seams are sewn double needle type 301.
- 5/8 in. poly rope reinforced vertical edges.
- #5 brass grommets on vertical edge and every 10' across bottom on barriers over 10' deep
- 5/16 in. galvanized steel 7x19 load cable in top, 9800 lb. break strength (4455 kg.)
- 5/16 in. galvanized steel ballast in bottom
- Aluminum stress plates of cable and chain termination
- EPS flotation, (8 in. x 8 in. standard), 26.7 lb./ft. buoyancy in fresh water, 28.4 lb./ft in saltwater.

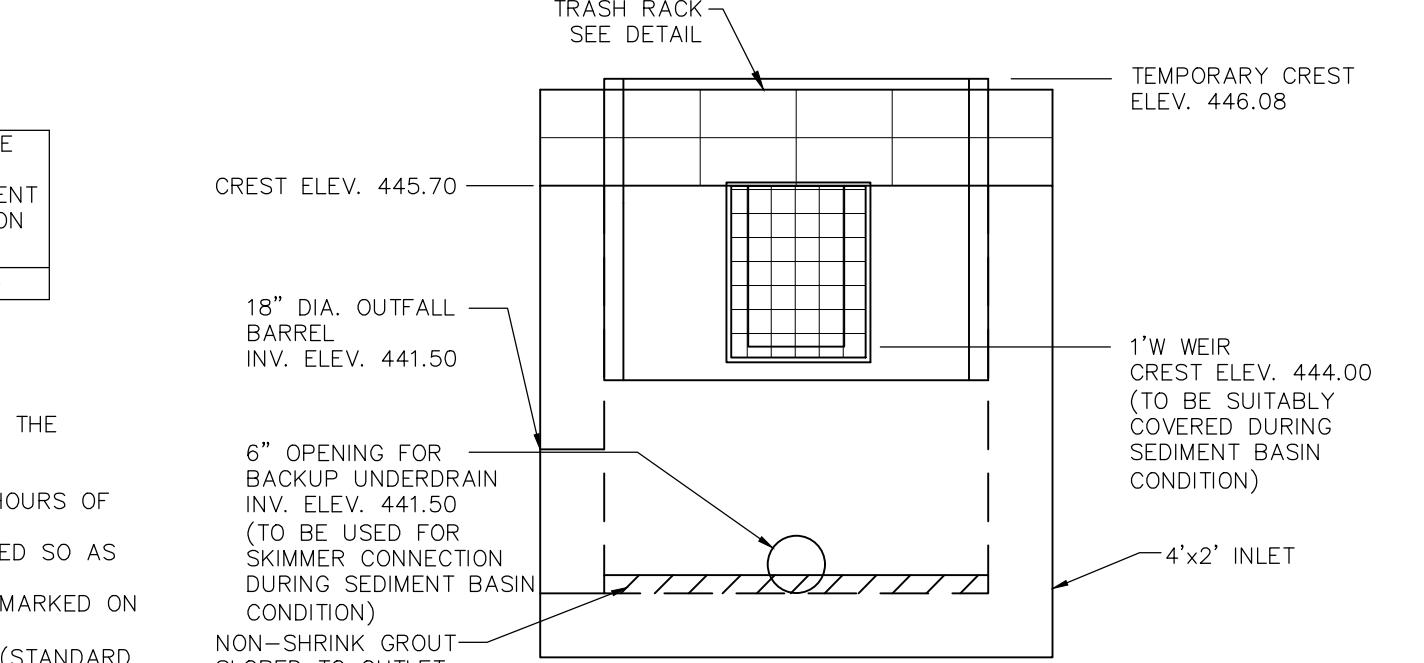
L FLOWABLE TURBIDITY BARRIER
ES-4 NOT TO SCALE (OR APPROVED EQUAL)



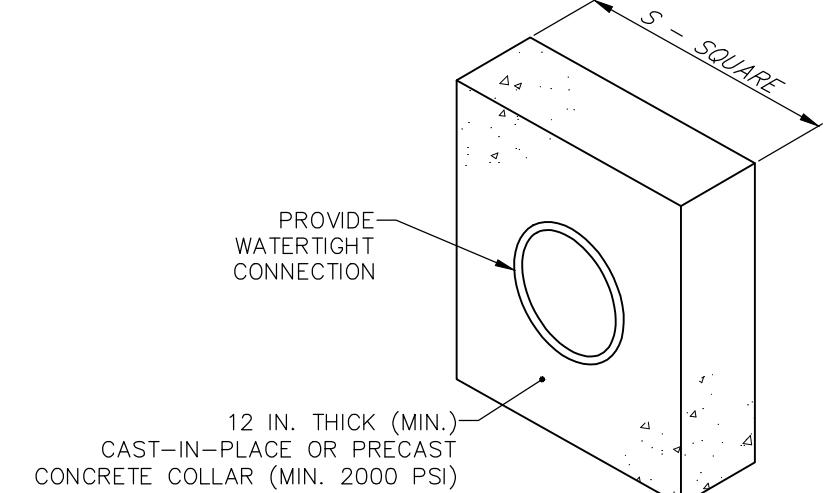
M TEMPORARY RISER BOX DETAIL
ES-4 NOT TO SCALE



D BMP - OUTLET STRUCTURE 28
ES-4 NOT TO SCALE



C BMP - OUTLET STRUCTURE 29
ES-4 NOT TO SCALE



NOTES:

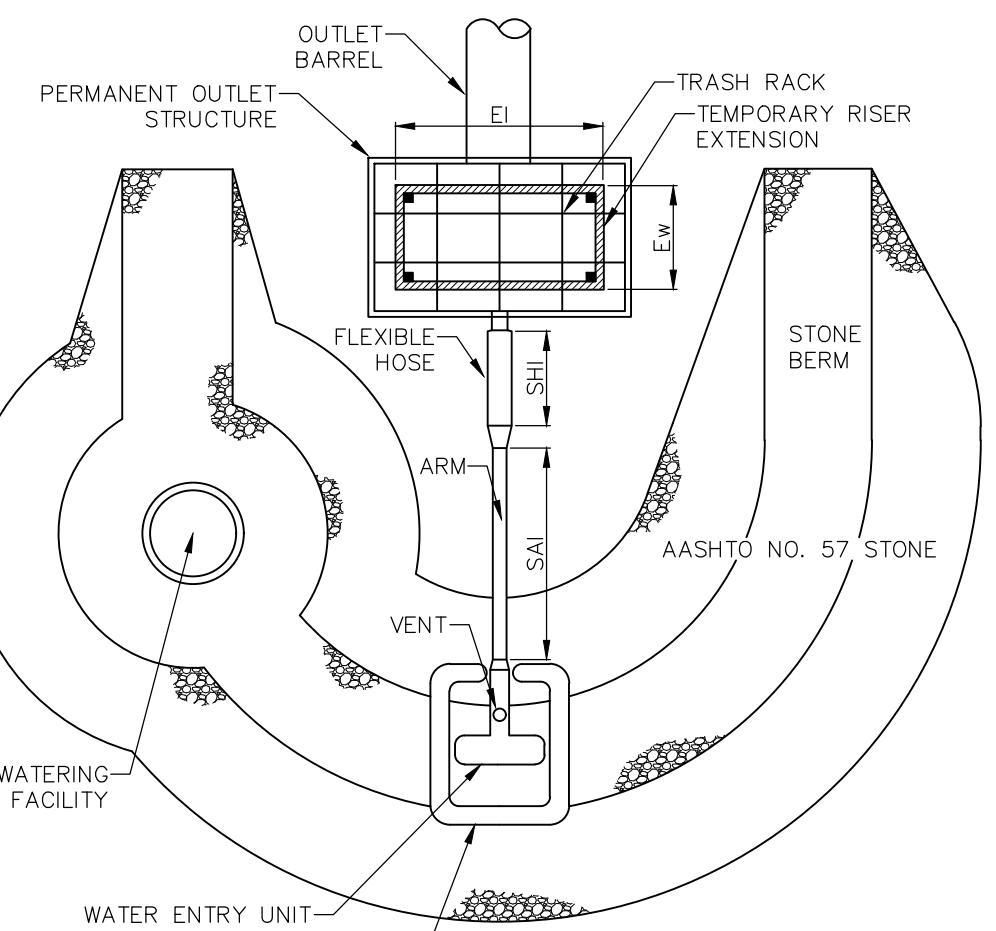
- ALL COLLARS SHALL BE INSTALLED SO AS TO BE WATERTIGHT.
- COLLAR SIZE AND SPACING SHALL BE AS INDICATED WITHIN TABLE.

E CONCRETE ANTI-SEEP COLLAR #7-16
ES-4 NOT TO SCALE

NOTES:

- A CONCRETE CRADLE MAY BE USED IN CONJUNCTION WITH ANTI-SEEP COLLARS AND/OR FILTER DIAPHRAGM.
- ANTI-SEEP COLLAR NUMBER, SIZE AND SPACING SHALL BE AS SHOWN ELSEWHERE IN PLAN.
- FILTER DIAPHRAGM LOCATION (Lfd) SHALL BE AS SHOWN IN FIGURE 7.8 OF THE PA DEP EROSION CONTROL MANUAL.

F CONCRETE CRADLE FOR BASIN OR TRAP OUTLET BARREL #7-17
ES-4 NOT TO SCALE



J SKIMMER WITH STONE LANDING BERM - # 7-3
ES-4 NOT TO SCALE

NOTES:

- DEWATERING FACILITY SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF BASIN/TRAP.
- PRIOR TO INITIATING OPERATION OF DEWATERING FACILITY, ALL ACCUMULATED SEDIMENT SHALL BE CLEARED FROM THE INSIDE OF THE BARREL.

DEWATERING FACILITY SHALL BE CONTINUOUSLY MONITORED DURING OPERATION. IF FOR ANY REASON THE DEWATERING FACILITY CEASES TO FUNCTION PROPERLY, IT SHALL BE IMMEDIATELY SHUT DOWN AND RESTARTED UNTIL THE PROBLEM HAS BEEN CORRECTED.

K SEDIMENT STORAGE DEWATERING FACILITY - #7-18
ES-4 NOT TO SCALE

NOTES:

- ALL ORIFICES ON PERMANENT RISER SEALS BELOW TEMPORARY RISER EXTENSION SHALL HAVE WATER-TIGHT TEMPORARY SEALS PROVIDED. TEMPORARY STUB INVERT ELEVATION SHALL BE 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.

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

NON-SHRINK GROUT SLOPED TO OUTLET

SECURELY CLAMPED TO TEMPORARY STUB

WATER TIGHT SEALS ALL JOINTS

VENT

GUIDE RAILS

ARM ASSEMBLY

PVC VENT PIPE

SCHEDULE 40 PVC PIPE

FLEXIBLE HOSE

4'x2' INLET

TEMPORARY STUB

WATER TIGHT SEALS ALL JOINTS

VENT

GUIDE RAILS

ARM ASSEMBLY

PVC VENT PIPE

SCHEDULE 40 PVC PIPE

FLEXIBLE HOSE

4'x2' INLET

TEMPORARY STUB

WATER TIGHT SEALS ALL JOINTS

VENT

GUIDE RAILS

ARM ASSEMBLY

PVC VENT PIPE

SCHEDULE 40 PVC PIPE

FLEXIBLE HOSE

4'x2' INLET

TEMPORARY STUB

WATER TIGHT SEALS ALL JOINTS

VENT

GUIDE RAILS

ARM ASSEMBLY

PVC VENT PIPE

SCHEDULE 40 PVC PIPE

FLEXIBLE HOSE

4'x2' INLET

TEMPORARY STUB

Maintenance

UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION BMP'S MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION BMP'S AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. 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 ON UPON REQUEST.

ALL PREVENTIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RETENING, MUST BE PERFORMED IMMEDIATELY, IF EROSION AND SEDIMENTATION BMP'S FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMP'S OR MODIFICATIONS OF THOSE INSTALLED WILL BE NEEDED.

WHERE BMP'S ARE FOUND TO FAIL TO ALLEVIATE EROSION OR SEDIMENT POLLUTION THE PERMITTEE OR CO-PERMITTEE SHALL INCLUDE THE FOLLOWING INFORMATION:

- THE LOCATION AND SEVERITY OF THE BMP'S FAILURE AND ANY POLLUTION EVENTS.
- ALL STEPS TAKEN TO, REDUCE, ELIMINATE AND PREVENT THE RECURRANCE OF THE NON-COMPLIANCE.
- THE TIME FRAME TO CORRECT THE NON-COMPLIANCE, INCLUDING THE EXACT DATES WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE.

AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMP'S MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE BMP'S MUST BE STABILIZED IMMEDIATELY.

SILT FENCE: THE SILT FENCE SHALL BE INSPECTED AFTER EACH STORM EVENT. ALL ACCUMULATED SEDIMENT MUST BE REMOVED AS REQUIRED TO KEEP THE SILT FENCE FUNCTIONING. THE CONTRACTOR SHALL ENSURE THAT, IN NO CASE, DOES THE SEDIMENT ACCUMULATION EXCEED ONE HALF OF THE HEIGHT OF THE SILT FENCE. ALL UNDERCUTTING OR EROSION OF THE TOE ANCHOR WILL BE REPAIRED IMMEDIATELY WITH COMPACTED BACKFILL MATERIALS. ANY DAMAGED OR OVERTOPPED SILT FENCE SHALL BE IMMEDIATELY REPLACED WITH A ROCK FILTER.

SEDIMENT BASINS: SEDIMENT MUST BE REMOVED FROM THE BASINS WHEN THE CLEANOUT ELEVATION IS REACHED. SEDIMENT MUST BE DEWATERED USING A PUMP TO REMOVE EXCESS WATER WHEN NECESSARY. THE EXCESS WATER MUST BE PUMPED TO A SEDIMENT REMOVAL FACILITY FOR PUMPED WATER. THIS FACILITY MUST BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS. THE DEWATERED SEDIMENT SHOULD BE REDISTRIBUTED AS CLOSEST TO STOCKPILE AND STORED WITH TEMPORARY MEASURES AS INDICATED ON THE PLANS. THE CONTRACTOR SHALL ENSURE THAT THOSE MEASURES ARE TAKEN TO PROTECT THE SEDIMENT BASINS FROM UNAUTHORIZED ACTS OF THIRD PARTIES. THE SEDIMENT TRAP MUST REMAIN IN PROPER WORKING ORDER UNTIL ALL OF THE TRIBUTARY AREA TO THE BASIN HAS BEEN PERMANENTLY STABILIZED. PERMANENT STABILIZATION SHALL BE DETERMINED WHEN A UNIFORM VEGETATIVE COVER OF AT LEAST SEVENTY PERCENT (70%) HAS BEEN ESTABLISHED.

DIVERSION CHANNELS: DIVERSION CHANNELS SHALL BE INSPECTED AFTER EACH STORM EVENT. ALL ERODED AREAS SHALL BE IMMEDIATELY REESTABLISHED TO PREVENT POLLUTION OF SEDIMENT. ANY AREA OF THE BERM WHICH REPEATEDLY BECOMES ERODED SHALL BE LINED WITH STONE.

STABILIZED CONSTRUCTION ENTRANCES: THE CONTRACTOR SHALL MAINTAIN THE THICKNESS OF THE ROCK CONSTRUCTION ENTRANCES BY ADDING ROCK ANY SEDIMENT DEPOSITED ON THE ROADWAY. ROCK MUST BE REMOVED AND RETURNED TO THE SITE AT THE END OF EACH DAY. SEDIMENT REMOVAL MUST BE DONE BY SWEEPING AND VACUUMING, WASHING SEDIMENT OFF OF ROADWAYS WITH WATER. SHALE NOT BE PERMITTED. STONE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN PLACE UNTIL REMOVAL IS NECESSARY FOR FINAL GRADING OF THE DRIVEWAY SUBGRADE. A STOCKPILE OF ROCK MATERIAL WILL BE MAINTAINED ON THE SITE TO MAINTAIN THE THICKNESS OF THE CONSTRUCTION ENTRANCE AS SHOWN ON THE PLANS. AT THE END OF EACH CONSTRUCTION DAY, ALL SEDIMENT DEPOSITED ON PUBLIC ROADWAYS WILL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE.

SOIL STOCKPILES: THE CONTRACTOR SHALL INSPECT THE SOIL STOCKPILES AFTER EVERY STORM EVENT. IF SILT FENCE BECOMES DAMAGED OR OVERTOPPED, REPAIR OR REPLACE IMMEDIATELY. IF STOCKPILES ARE LEFT IN PLACE FOR EXTENDED PERIODS, RE-APPLY TEMPORARY SEED AND MULCH AS NEEDED TO PREVENT EROSION. AFTER CONSTRUCTION IS COMPLETE, ANY REMAINING STOCKPILE MATERIAL SHALL BE GRADED ONTO THE SITE AND STABILIZED OR HAULED OFF SITE.

RIPRAP APRONS: THE CONTRACTOR SHALL INSPECT THE RIPRAP APRONS AFTER EACH STORM EVENT. WHEN NECESSARY, THE CONTRACTOR SHALL REPLACE STONE THAT HAS WASHED AWAY BY ADDING ADDITIONAL STONE TO THE RIPRAP APRON.

EROSION CONTROL BLANKET: THE CONTRACTOR SHALL INSPECT THE EROSION CONTROL BLANKET AFTER EVERY STORM EVENT. IF THE MATING BECOMES DAMAGED OR SLIDES, MAKE REPAIRS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. IN ADDITION TO THE HATCHED AREAS INDICATED, CONTRACTOR SHALL INSTALL EROSION CONTROL MATTING ON ALL 3:1 SLOPES OR GREATER, PER NORTH AMERICAN GREEN ST5, OR APPROVED EQUAL. IF DEEMED NECESSARY BY THE CONSERVATION DISTRICT, ADDITIONAL EROSION CONTROL MATTING MAY BE REQUIRED BEYOND WHAT IS INDICATED ON THESE PLANS.

INLET PROTECTION: SEDIMENT MUST BE REMOVED FROM STORM WATER INLET PROTECTION AFTER EACH RUNOFF EVENT.

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 AND STEEPER. STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN.

Clean Fill Note

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 CONTRACTOR.

CLEAN FILL IS DEFINED AS: UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE, INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT ARE SEPARATE FROM OTHER WASTE AND 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).

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.

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.

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 AND DATA, BUT NOT LIMITED TO, VISUAL INSPECTION, INSTRUMENTATION, AND DOWSE SENSORS, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SATELLITE 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 IS REQUIRED 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. THESE REGULATIONS ARE AVAILABLE ON-LINE AT.

TABLE 11.1

Cubic Yards of Topsoil Required for Application to Various Depths		
Depth (in)	Per 1,000 Square Feet	Per Acre
1	3.1	134
2	6.2	268
3	9.3	403
4	12.4	537
5	15.5	672
6	18.6	806
7	21.7	940
8	24.8	1,074

SEEDING SPECIFICATIONS

SEED TYPE	DESCRIPTION, FORMULA, SPECIES	% BY WEIGHT	MINIMUM % PURITY	PURE LIVE SEED %	MAX % WEED/SEED	SEEDING RATE: LBS/1000 S.F.	FERTILIZER RATE: LBS/1000 S.F.	LIME RATE: LBS/1000 S.F.	MULCH RATE:
TYPE 1	PenDot formula B								
Lawn Areas (per PenDot specs)	*Perennial Ryegrass mixture, +	20	98	90	0.15	0.44			
	*Creeping Red Fescue, +	30	98	85	0.15	0.67			
	*Kentucky Bluegrass mixture	50	98	80	0.20	1.20			
						TOTAL = 2.31			
TYPE 2	Crownvetch seeding mixture								
Sloped Areas	*Crownvetch, +	50	99	70	0.10	0.55			
greater than 3:1	*Annual Ryegrass, +	40	98	90	0.15	0.44			
	*Alike Clover	10	98	90	0.20	0.11			
						TOTAL = 1.10			
TYPE 3	Temporary Seeding	Annual Ryegrass	100	98	90	0.15	1.1		
						TOTAL = 1.10			
TYPE 4	Detention Basin & Sediment Forebay bottom seeding	Detention Basin & Sediment Forebay bottom seeding	Bulk pounds per acre or 1/2 to 1 lb. per 1000 s.f.				25-30	100	1-1/2" Straw

NPDES NOTES

- THE NPDES BOUNDARY IS EQUAL TO THE OUTER PERIMETER BOUNDARY OF THE SITE, AND ANY OFF-SITE AREAS WITHIN THE LIMITS OF DISTURBANCE THAT ARE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL, INCLUDING OFF-SITE FACILITIES SUCH AS UTILITIES AND ROADWAY IMPROVEMENTS.
- THE EROSION AND SEDIMENT CONTROL PLANS REQUIRED UNDER THE NPDES GENERAL PERMIT ARE CONSIDERED REPORTS THAT SHALL BE AVAILABLE TO THE PUBLIC UNDER SECTION 607 OF THE CLEAN STREAMS LAW, AND 25 PA. CODE, CHAPTER 92 OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION GUIDANCE. THE OWNER OR OPERATOR OF A FACILITY WITH STORM WATER DISCHARGES COVERED BY THE NPDES GENERAL PERMIT SHALL MAKE PLANS AVAILABLE TO THE PUBLIC UPON REQUEST BY THE PUBLIC.
- THE OWNER (PERMITTEE) AND CONTRACTOR/EXCAVATOR (CO-PERMITTEE) SHALL CONTACT THE COUNTY CONSERVATION DISTRICT AND TOWNSHIP AT LEAST FOURTEEN DAYS PRIOR TO START OF CONSTRUCTION TO SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH THE PERMITTEE, CO-PERMITTEE AND OTHERS UNDERLYING EARTH DISTURBANCE ACTIVITIES ATTENDING THE PRE-CONSTRUCTION CONFERENCE.
- THE OWNER (PERMITTEE) AND CONTRACTOR/EXCAVATOR (CO-PERMITTEE) SHALL FILE A NOTICE OF TERMINATION (N.O.T.) FOR THE NPDES PERMIT WHEN ALL EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN REMOVED. THE OWNER IS ENCOURAGED TO INCLUDE THE GENERAL CONTRACTOR, EXCAVATOR AND OTHER SUBCONTRACTORS INVOLVED IN THE EARTH DISTURBANCE ACTIVITY AS CO-PERMITTEES FOR THE PROJECT.
- THE N.O.T. SHALL BE REQUIRED TO BE SUBMITTED FOLLOWING APPROVAL OF THE FINAL AS-BUILT PLANS, PRIOR TO THE DATE OF TERMINATION, TO THE DEPARTMENT AND/OR CONSERVATION DISTRICT STAFF. THE CONTRACTOR SHALL PERFORM A FINAL INSPECTION TO ENSURE SITE STABILIZATION AND VERIFY ADEQUATE INSTALLATION AND FUNCTION OF BMPs.

RECYCLING AND DISPOSAL OF BUILDING MATERIALS AND WASTES

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 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 WASTES AT THE SITE.

MONITORING & REPORTING REQUIREMENTS

- THE OWNER (PERMITTEE) AND CONTRACTOR/EXCAVATOR (CO-PERMITTEE) MUST ENSURE THAT VISUAL SITE INSPECTIONS ARE CONDUCTED BIWEEKLY, AND AFTER EACH PRECIPITATION EVENT BY QUALIFIED PERSONNEL, TRAINED AND EXPERIENCED IN EROSION AND SEDIMENT CONTROL, TO ASCERTAIN THAT THE BMPs ARE OPERATIONAL AND EFFECTIVE IN PREVENTING POLLUTION TO THE WATER OF THE COMMONWEALTH. A WRITTEN REPORT OF EACH INSPECTION SHALL BE KEPT AND INCLUDE: (1) A SUMMARY OF THE SITE CONDITIONS, BMPs AND COMPLIANCE; (2) THE DATE, TIME AND NAME OF THE PERSON CONDUCTING THE INSPECTION.
- IF THE BMP IS DETERMINED TO BE INOPERATIONAL OR INEFFECTIVE DURING AN INSPECTION, OR AT ANY TIME, THE PERMITTEE AND THE CO-PERMITTEE SHALL IMMEDIATELY CONTACT THE COUNTY CONSERVATION DISTRICT, BY PHONE OR PERSONAL CONTACT, FOLLOWED BY SUBMISSION OF A WRITTEN REPORT WITHIN 5 DAYS OF THE INITIAL CONTACT. NON-COMPLIANCE REPORTS SHALL INCLUDE THE FOLLOWING INFORMATION: (1) AND CONDITION ON THE PROJECT SITE WHICH ENDENGED THE RISK TO PUBLIC HEALTH, SAFETY, OR THE ENVIRONMENT; (2) THE DATE OF NON-COMPLIANCE; (3) THE DATE AND TIME OF REPAIRS; (4) THE DATE AND TIME OF RETURN TO COMPLIANCE; (5) STEPS BEING TAKEN TO REDUCE, ELIMINATE AND PREVENT REURANCE OF THE NONCOMPLIANCE; AND (6) THE DATE OR SCHEDULE OF DATES, AND IDENTIFYING REMEDIES FOR CORRECTING NONCOMPLIANCE CONDITIONS.

RECORD KEEPING

- THE PERMITTEE AND CO-PERMITTEE SHALL RETAIN RECORDS OF ALL MONITORING INFORMATION INCLUDING COPIES OF MONITORING AND INSPECTION REPORTS REQUIRED BY THIS PERMIT, AND THE RECORDS OF DATA USED TO COMPLETE THE NOTICE OF INTENT FOR THIS PERMIT, FOR A PERIOD OF THREE YEARS FROM THE DATE OF THE TERMINATION OF COVERAGE UNDER THE NPDES PERMIT.
- THE PERMITTEE AND CO-PERMITTEE MAY BE SUBJECT TO CRIMINAL AND/OR CIVIL PENALTIES FOR VIOLATIONS OF THE CONDITIONS OF THE NPDES PERMIT DUE TO STORAGE, HANDLING, OR DISPOSAL OF ANY TOXIC OR HAZARDOUS SUBSTANCE, SUCH AS DISCHARGING, POURING, SPREADING, SPILLING, DUMPING, ETC. BESIDES THE PENALTY FOR VIOLATION, FOR EACH IDENTIFIED AREA, THE PERMIT SHALL BE MAINTAINED ON THE SITE AT ALL TIMES AND SHALL BE MADE AVAILABLE AT THE DEPARTMENT OF ENVIRONMENTAL PROTECTION'S OR COUNTY CONSERVATION DISTRICT'S REQUEST

OFF-SITE DISCHARGE EROSION REPAIRS

DURING CONSTRUCTION THE DEVELOPER AND HIS CONTRACTOR SHALL INSPECT THE AREA DOWNSTREAM OF EACH BASIN OUTLET FOR STABILITY AND SIGNS OF EROSION AFTER ANY STORM EXCEEDING 3 INCHES IN RAINFALL. AFTER CONSTRUCTION IS COMPLETED THE OWNER SHALL CONDUCT THE INSPECTIONS.

CONTACT THE CONSERVATION DISTRICT AND THE DESIGN ENGINEER IF SIGNS OF EROSION ARE FOUND DOWNSTREAM OF THE BASIN OUTLETS. REPAIRS SHALL BE THE RESPONSIBILITY OF THE DEVELOPER UNTIL THE OPEN SPACE LOTS ARE DEEDED TO THE OWNER. THE OWNER SHALL BE RESPONSIBLE FOR REPAIRS AFTER THAT.

ANY OFF-SITE REPAIRS MUST BE DONE AFTER APPROPRIATE PERMISSION HAS BEEN OBTAINED FROM THE OFF-SITE PROPERTY OWNER. ALL LOCAL, STATE AND FEDERAL REGULATIONS MUST BE COMPLIED WITH DURING REPAIRS TO DAMAGES.

AS-BUILT PLAN REQUIREMENTS

AS-BUILT PLANS OF THE STORMWATER BMP'S 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.

SEQUENCE OF CONSTRUCTION FOR PROJECT

PRE-CONSTRUCTION STABILIZATION OF THE SITE

All disturbed areas from agricultural activities must be stabilized completely in the previous growing season prior to the start of grading by seeding with small grain or permanent vegetative cover as specified on these plans. All earth disturbance activities shall proceed in accordance with the following sequence. Each stage shall be completed and immediately stabilized before any following stage initiated. Clearing, grubbing, and topsoil stripping shall be limited to those areas described in each stage. Upon temporary cessation of the earth disturbance activity for four days or longer, the project site shall immediately be stabilized with the appropriate temporary stabilization. As soon as slopes, channels, ditches, and other disturbed areas reach final grade, the area shall immediately be stabilized with the appropriate permanent stabilization.

Construction of Arcona Phase 9 is to be sequenced in the following order:

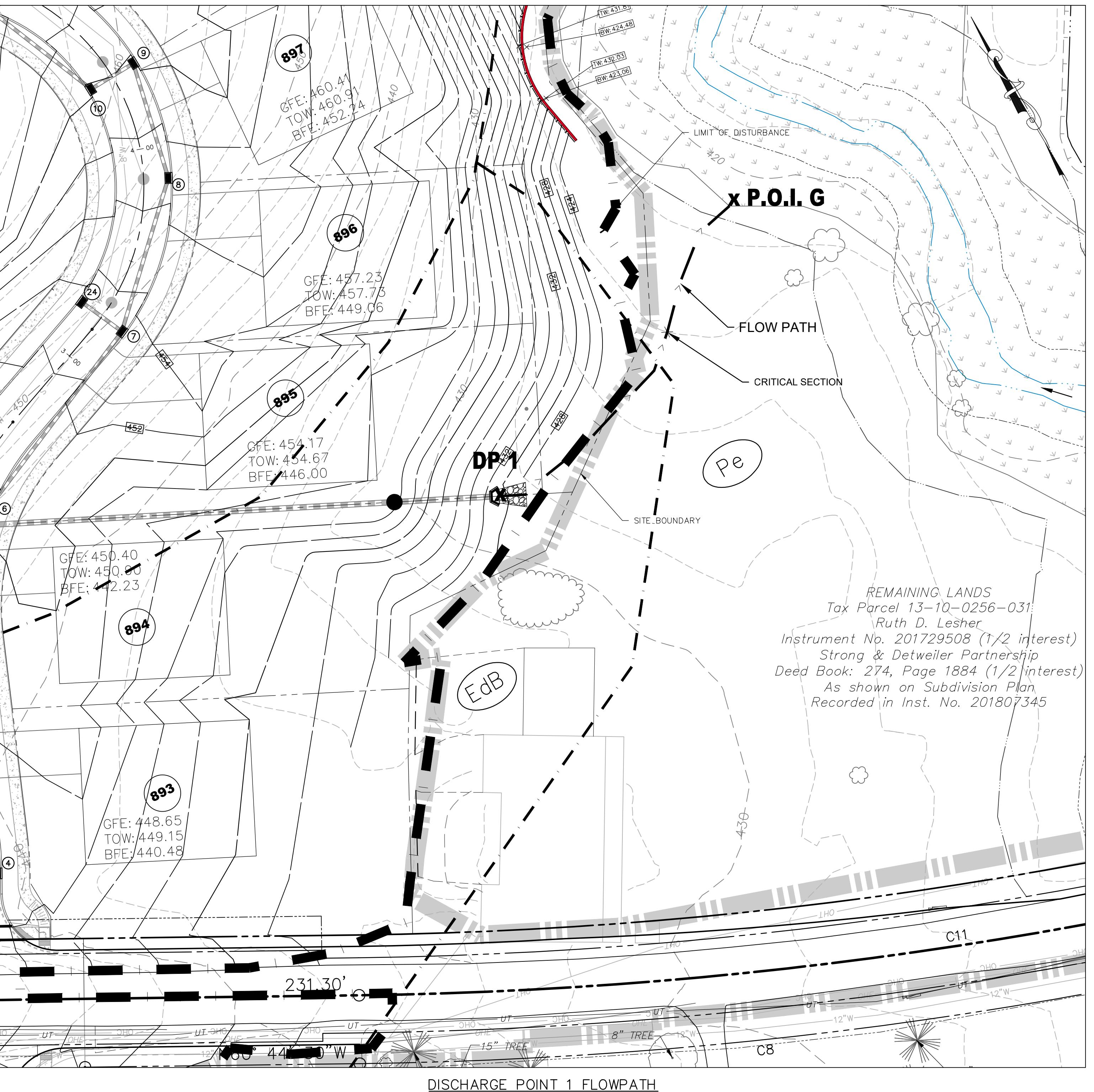
Each step marked "SCoC" is a critical stage of construction and requires oversight by a professional engineer.

Phase 9

1. At least 7 days before starting any earth disturbance activities, the operator shall invite all contractors involved in those activities, the landowner, all appropriate Municipal Officials, the Erosion and Sediment Control Engineer, Project Manager and a representative of the Conservation District to an on-site meeting. The excavation contractor(s) shall execute a NPDES co-permittee/transferee agreement with PA DEP. The contractor shall ensure that all construction shall be done in accordance with the requirements of the NPDES permit.

2. The limit of disturbance must be staked prior to any earth moving activities. Sedimentation control measures shall be staked prior to any earth moving activities.

3. Install rock construction envelope on the site of Rossmoyne Road. All construction equipment and vehicles entering the site must enter via the rock construction entrance or ingress on roads to the site. Maintain entrance over course of construction per detail to prevent



ARCONA NEIGHBORHOOD 9

Sheet Number:		31 of 33	
Project Number:		15-100-32	
Date:		MAY 17, 2024	
<h1>ARCONA NEIGHBORHOOD 9</h1> <hr/> <p>Lower Allen Township - Cumberland County, PA</p> <p>CHARTER Homes & Neighborhoods</p> 			
Designer:	D TURNER		
Checked by:			
Surveyor:	—		
Scale:	AS NOTED		
Revisor:	K. PHILLIPS PLS		
<h2>EROSION POTENTIAL ANALYSIS</h2> <hr/> <hr/> <hr/>			

FLOW PATH NARRATIVE

Runoff from Discharge Point 001 (DP 1) flows onto adjacent lands before reaching the P.O.I. G at the wetlands at Cedar Run. The wetlands are classified as Exceptional Value (EV).

Runoff from Discharge Point 002 (DP 2) flows into an existing storm sewer system at P.O.I. F2 before eventually reaching the same surface waters as DP 1.

OFF-SITE DISCHARGE ANALYSIS NARRATIVE

1. The rate and volume of runoff to each discharge point matches pre-development rates and volumes for all storms. A common law easement provides the Arcona site the right to continue draining across neighboring properties since there is no change in rate or volume.
 2. PCSM and E&S drawings and reports have been provided to demonstrate compliance with number 1 above.
 3. This erosion potential analysis is included with the plan set since the two discharge points do not directly discharge into the surface waters.
 4. Discharge offsite from DP-1 will be overland to the Cedar Run via wetlands in the same manner as in the pre-development condition. Discharge offsite from DP-2 will be to an unchanged storm sewer system, which will contribute to a downstream BMP before reaching the Cedar Run via wetlands, the same manner as in the pre-development condition.
 5. No express easement documentation is necessary, since both discharge points meet the criteria to qualify for a common law easement.
 6. Runoff from DP 1 flows to surface waters without downstream BMPs. Runoff from DP 2 enters a downstream BMP, a constructed wetlands in Arcona Phase 8.1.
 7. Stormwater management is fulfilled on the Arcona property. Runoff from the site meets DEP standards without use of off-site SCMs.
 8. This off-site discharge analysis provides the information to demonstrate compliance with the Pennsylvania Clean Streams Law and 25 Pa. Code §§ 102.4(c) & 102.8(f)(15).
 9. This off-site discharge analysis shows that accelerated erosion will not occur on adjoining properties between the site and the surface waters.

ADJOINERS TABLE		
ADDRESS	LOT OWNER	PARCEL ID
1340 Rossmoyne Road	Ruth D. Lesher	13-10-0256-031

SOILS LIST		
Symbol	Description	K-Factor
EdB	Edom silty clay loam	0.20
Pe	Penlaw silt loam	0.37

LANDSCAPING REQUIREMENTS FOR ARCONA NEIGHBORHOOD 9		
Landscaping Requirement Description		No. Number of Trees
Landscaping - Street Trees (SEC. 192-58)		
Length of Public Streets (1 Tree per side for each 50' of length)		785 L.F. 32
No. of Trees Required =		32

STREET TREES					
QUANTITY	ABBREV.	BOTANICAL NAME	COMMON NAME	MATURE SIZE	SIZE-COMMENTS
10	Ag	Amelanchier x grandiflora	Autumn Brilliance Serviceberry	20' ht 15' w	2.5" cal. B&B (S.S.)*
11	Ps	Prunus serrulata	Japanese Flowering Cherry	20' ht 20' w	5-6' B&B
11	Pv	Prunus virginiana 'Schubert'	Common Choke Cherry	25' ht 20' w	2.5" cal. B&B
32	Total				

TPD - SIGHT DISTANCE ANALYSIS						
	Direction	Posted Speed (mph)	Grade1 (%)	Sight Distances (feet)		
				DES	SSSD	EXIST
<i>N. Wayland Road Intersection with Rossmoyne Road (SR 2021)</i>						
Existing Movements	To the left	40	+2%	445'	304'	450+
	To the right	40	-8%	445'	304'	450+
Entering Right Turns	Approaching same direction	40	-8%	325'	369'	400+
	Approaching opposite direction	40	+2%	—	304'	400+

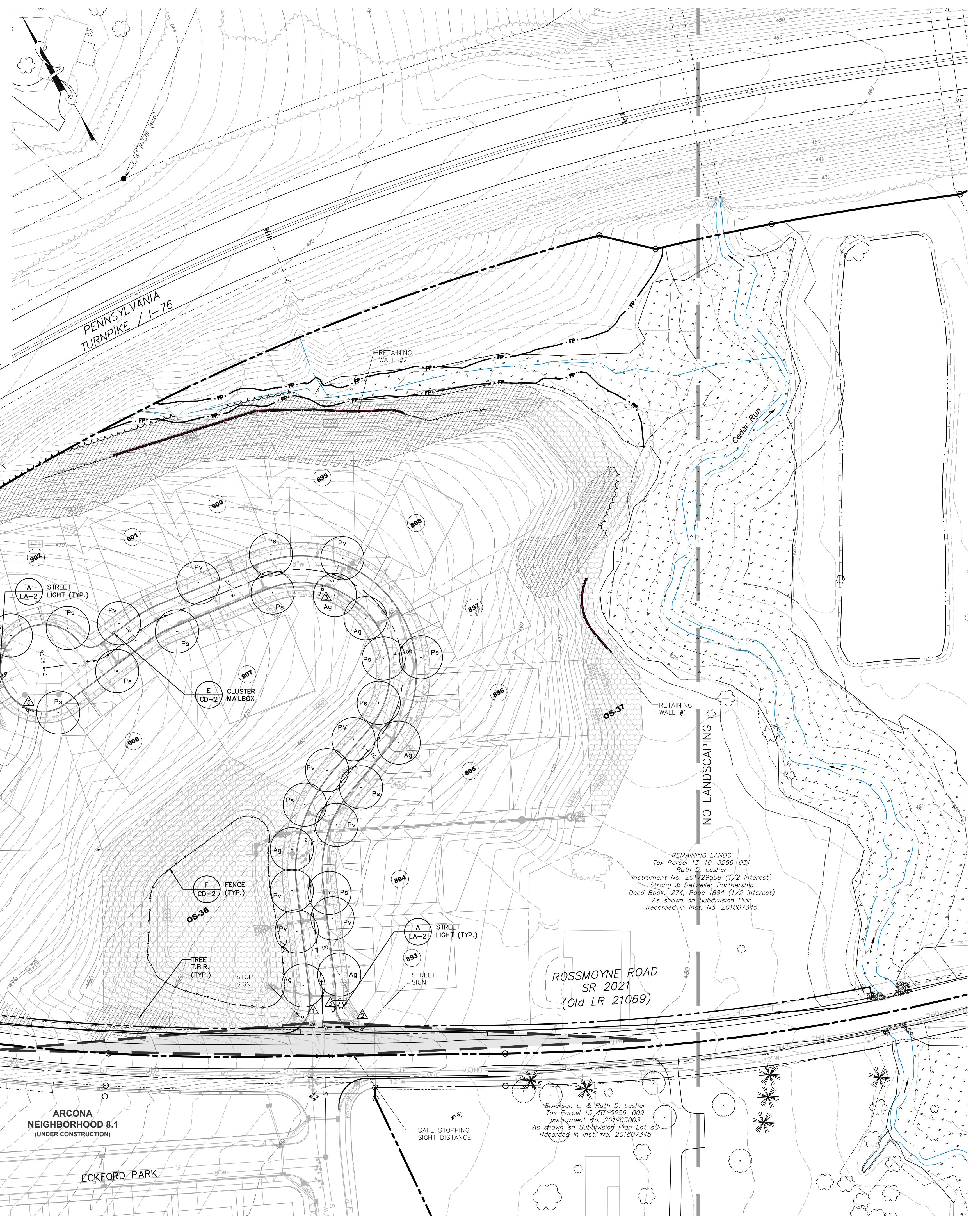
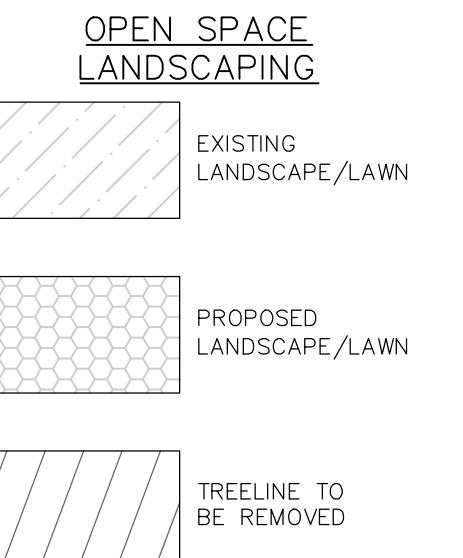
DES = PennDOT Desirable Sight Distance
SSSD = PennDOT Safe Stopping Sight Distance
EXIST = Existing (measured) Sight Distance

1 = Roadway Grade Approaching Driveway

• TPD SIGHT DISTANCE ANALYSIS BASED ON TPD "DRAWINGS FOR CONSTRUCTION OF ARCONA PHASE 8 EXISTING DRIVEWAY" DATED JUNE 20, 2022, LAST REVISED JULY 12, 2022.

LEGEND
DESCRIPTION
STOP SIGN
STREET NAME
NO PARKING
MIN. SIGHT DISTANCE TRIANGLES
USING PENNDOOT FORM M-950S

MUTCD # R1-1
R8-3
NOTE: TO THE RIGHT OR LEFT AND IN FRONT OF EACH SNOW STORAGE AREA, PLACE AN R8-3 "NO PARKING" SIGN AND AN INFORMATIONAL SIGN.



ARCONA NEIGHBORHOOD 9
Lower Allen Township - Cumberland County, PA
CHARTER Homes & Neighborhoods
LANDSCAPING PLAN

Project Manager: DAVID B. KEGERIZE PE Drafting: D. TURNER
Project Engineer: G. MITCHELL KING PE, PLS Checked by: —
Project Surveyor: THOMAS K. PHILLIPS PLS Scale: 1" = 50'
0 25 50 75 100 150

TOWNE SQUARE ENGINEERING Civil Engineers & Land Planners
313 W. Liberty St., Suite 241
Lancaster, PA 17603
Phone: (717) 283-4538
info@townsquareengineering.com

10/27/25 ADRESSED 10/22/25 TMP. ENGR. LTR.
REV. PER PA DEP LETTER DATED 8/26/25
9/4/25 REV. PER CH&N
8/18/25 REV. PER OCC EMIL. DATED 5/14/25
1/20/25 REV. TO ADDRESS E. REV. LTR. DATED 1/20/25
12/8/24 REV. FOR T.E. LTR. 2:1 SLOPES, PAVING PLAN
10/17/24 REV. TO ADDRESS E. REV. LTR. DATED 7/31/24
DATE 10/30/2025 4:36 PM
Section Number: LA-1
Sheet Number: L-115-00-32 SHEETS/PAGE-FINAL-32 LA-01-DONG

