INTENT OF PLAN

The intent of this plan is to obtain Final Subdivision Plan approval for "AUTUMN CHASE PHASE III". AUTUMN CHASE is a Planned Residential Development (PRD). The Tentative Planned Residential Development Plan for Autumn Chase was approved by the Upper Allen Township Board of Commissioners as per a written decision dated May 8, 2012. The Master Plan on plan sheet 2 provides a reference to the overall community. Autumn Chase Phase III consists of 39 single family detached dwelling lots and two open space lots. The project shall be implemented in accordance with the Decision Approving Application of Hertzler Road Associates, L.P. for Tentative Approval of Autumn Chase Planned Residential Development dated May 8, 2012. Certain waivers and modifications were granted as part of the Tentative Plan approval. A Developer Agreement, between Hertzler Road Associates, L.P. and Upper Allen Township, dated April 26, 2012, provides for certain Hertzler Road improvements and recreation improvements to satisfy the recreation requirements for Autumn Chase. Hertzler Road shall be improved with the project in accordance with the approved Developers Agreement. Public water and sewer shall serve all proposed dwellings and the development shall be provided with fire protection via the installation of fire hydrants.

***See Sheet 2 for Master Development Plan and additional notes.**

FINAL PLAT

FOR

AUTUMN CHASE PRD PHASE III

LOCATED IN

UPPER ALLEN TOWNSHIP, CUMBERLAND COUNTY, PA.

Tax Parcels associated with this plan

Tax Parcel No. 42-11-0272-001
Tax Parcel No. 42-11-0274-028

The below waivers and deferrals as listed were granted with the February 15, 2012 tentative approval of the Autumn Chase PRD.

Section	Waiver Requirement	Date of Waiver Approval
225-15.B(5)	Cul-de-sacs to not exceed 800 feet and not serve more than 20 dwelling units.	February 15, 2012

Section	Modification Requirement	Date of Modification Approval
220-18.B	Allowed the residential block to have a length of 1,652 feet instead of the required maximum length of 1,500 feet.	February 15, 2012
220-15.B(11)(a) & 220-15.F(2)	To and the requirements of Section 220-15.F(2) and allow the applicant to provide widening along Hertzler Road to 24 feet with a full width 1 ½ inch depth overlay pavement along the property frontage with the condition that the applicant also widen to 24 feet and provide full width 1 ½ inch depth overlay pavement Hertzler Road from the development west to the property line of the Winding Hill PRD. A note shall be added on the plan stating that in the opinion of the Township Engineer, should field conditions indicate insufficient structural integrity in areas of existing pavement to receive overlay, those areas shall receive full depth reconstruction (Section 220-15.G(1)).	February 15, 2012
220-16.A(3)	Permit slant curbing within development instead of vertical curbing.	February 15, 2012
220-16.B.(4)	Sidewalks to be installed along one side of proposed streets ("Road J"/ Brittany Circle and Lot OS-7 only) instead of both sides of the street.	February 15, 2012
220-16.B(3)	Provide a six foot wide walking trail on the south side of Hertzler Road in lieu of sidewalks. The trail shall be shown on the final plan extending from the western property boundary line with the existing Allendale PRD to the Township Greenway property to the east.	February 15, 2012
220-16.A.(2)	To permit Hertzler Road improvements in lieu of curbs, to include widening and overlay of off-site portions of the road west approximately 650 feet toward the improvements completed by the Winding Hills PRD and east approximately 400 feet toward the intersection of Hertzler Road/ and Klinedinst Road. Improvements along the property frontage shall consist of widening of the cartway to twenty-four (24) feet and installing a 1 ½ inch wearing course overlay. A note shall be added on the plan stating that in the opinion of the Township Engineer, should field conditions indicate insufficient structural integrity in areas of existing pavement to receive overlay, those areas shall receive full depth reconstruction (Section 220-15.G(1)).	February 15, 2012

SITE DATA

1. Applicant and Equitable Owner:
   Hertzler Road Associates, L.P.
   4400 Deer Path Road, Suite 201
   Harrisburg, PA 17110
   717-234-4000
2. The subject tract consists of two (2) parcels of Land; both tracts are owned by: Hertzler Road Associates, LP (including Phase I)
   Total Gross Area of both Parcels: 6,209,731 sf or 142.55 ac
   Total Net Area of both Parcels: 6,134,676 sf or 140.83 ac
   Tax Parcel No. 42-11-0272-001
   Instrument #201124513
   Total Gross Area: 5,378,304.8 Sq Ft = 123.47 Ac.
   Total Net Area: 5,303,249.9 Sq Ft = 121.75 Ac.
   Hertzler Road Legal R/W: 75,054.8 Sq Ft = 1.72 Ac.
   Tax Parcel No. 42-11-0274-028
   Instrument #201124513
   Total Gross/Net Area 831,426 sf or 19.087 acres
3. Subject Tract is located in the R-1 (Low Density Residential District) and RL (Rural Living)
   R-1 (Low Density Residential): 5,565,535 sf or 127.77 ac
   RL (Rural Living): 644,196 sf or 14.79 ac
4. Total number of existing dwellings: 39 lots previous Phase I
5. Total number of proposed dwellings: 295 Total all Phases
   Phase III: 39 single family detached dwelling lots
   Entire Project including Phase III: 295 units with the following uses;
   - 161 Single-family dwelling lots (78 North and 83 south of Hertzler Road);
   - 60 Duplex Units;
   - 74 Townhouse Units (7-6plexes and 8-4plexes);
6. Existing Land Use: Agriculture use
7. Proposed Use: Residential "Planned Residential Development"
8. Proposed Density: 1.2 units per acre
9. Proposed Length of New Streets:
   Phase III: 2,176' or 0.412 miles
   Entire Project: 15,444' or 2.925 miles
10. Proposed Length of Hertzler Road Widening: 3,493' total including off site (There are no Hertzler Road improvements associated with this Phase III Plan)
11. Minimum Lot Size Proposed in Phase III: 11,640 sf
12. Total Area of Open Space Lots 1 through 11 (see sheet 2):
    Existing Phase I: 35,184 sf or 0.808 acres
    Phase III: 765,490 sf or 17.571 acres (OS-2 & 3)
    Entire Project: 2,892,853 sf or 66.411 ac

ZONING REQUIREMENTS

Below zoning critiera as approved with the Autumn Chase PRD

Building Setbacks
50' setback from tract perimeter apply's to all of the residential uses

Single Family Detached Lots:
Front = 25'
Side = 5'
Rear = 15'

Maximum Building coverage: 30% of lot area

Maximum Impervious lot coverage: 40% of lot area

Maximum Dwelling Height: 35'

No duplexes or townhouses are proposed with this Phase III Plan.

PHASE I RECORDING INFORMAITON

The Final Plat for Autumn Chase PRD Phase I was recorded on October 21, 2021 in Instrument #202135830.

DRAWING INDEX

See below additional waivers requested with this Phase III Final Plan.

WAIVER SECTION	WAIVER REQUIREMENT	DATE OF WAIVER APPROVAL
220-9.C(2)(o)	Provide one foot contour interval	January 3, 2022
220-10.B(2)(b)	Provide street cross sections at 50' intervals	January 3, 2022

GENERAL NOTES

1. The applicant shall comply with all Township regulations in effect at the time of the filing of this plan. All proposed improvements shall conform to Upper Allen Township construction standards. All work shall be in accordance with PennDOT Publication 408, Specifications and Publication 72, Roadway Construction Standards, unless otherwise noted. Work zone traffic control shall be in accordance with PennDOT Publication 213.
2. Autumn Chase Phase III consists of 39 Single-family dwelling lots and 2 Open Space lots (all lots are located on the north side of Hertzler Road.)
3. The recreation requirements for Autumn Chase are being satisfied in accordance with the Developer Agreement, dated April 26, 2012, between Hertzler Road Associates, L.P. and Upper Allen Township.
4. A Homeowners Association is proposed with the development. The Home Owners Association Documents shall be reviewed by the Township in conjunction with this plan. The association shall be responsible for maintenance and upkeep of the following:
   a. All Open Space Areas except for open space areas accepted by the township for recreation land dedication (See notes on Open Space below);
   b. All on-site stormwater management facilities located outside of a public right-of-way;
   c. All sidewalk located within Open Space areas and sidewalk within the public right-of-way that abuts open space areas. Individual property owners are responsible for sidewalk maintenance and snow removal of the sidewalk abutting their respective lot;
   d. Boulevard Landscape islands;
   The landscape and boulevard islands shall be maintained by the developer until such responsibility is transferred to the homeowners association established with the development. Upper Allen Township shall not be held responsible for damage to plantings within the islands for any reason, and the municipality may remove or trim the vegetation if necessary for public safety.
5. The boundary information is based on a field survey performed by CDEG, Inc. in April 2005 & August 2008 and verified by Lyons Surveying, LLC in November 2015. The horizontal datum is NAD 83. The bearing is based on state plane coordinates, Pennsylvania south zone. Site benchmark: Northeasterly corner of concrete headwall on the southerly side of Hertzler Road, approximately 300' east of railroad crossing. Elev.=445.75 (NAVD 88) Topographic information shown is based on photogrammetry mapping performed by air survey, flown April 6, 2005. The vertical datum is NAVD 1988.
6. All streets proposed with this project shall be constructed to township standards and shall be offered for dedication to the township upon completion of improvements. All proposed streets are classified as minor streets and shall be 34' wide curbed cartways (slant curb) with an associated 50' right-of-way except for the boulevard entrances which will be 20' cartways with a 10' landscaped boulevard island with an associated 60' right-of-way. Hertzler Road shall be improved along the subject tract's entire length of road frontage and certain off site areas as detailed in the Developer Agreement. The portions of Hertzler Road outside of the approximately 1,125 linear feet associated with Phase 1 (east to Klinedinst Road and west approximately 650' to the western property line of 521 Hertzler Road) will be widened to approximately 24 feet (see Hertzler Road Design Plan) and improved via a cement based full depth reclamation to include 12" of cement treated base at 5% cement, 2.5" base paving course and 1.5" wearing course as outlined in the Kleinfelder Geotechnical Engineering Report dated May 27, 2021. There are no Hertzler Road improvements nor any boulevards associated with this Phase III Plan.
7. There is an unnamed stream tributary to the Yellow Breeches Creek (CWF) that parallels Hertzler Road through the site. There is a 0.25 acre wetland pocket located along the south side of Hertzler Road towards the eastern side of the site (no wetland impacts proposed). There are no significant rock outcrops or contaminated soils known to exist on the site. There are two (2) sink holes located along the southern property line on the south side of Hertzler Road; the sinkholes are proposed to be repaired with the future applicable phase. A Water Obstruction and Encroachment Permit was obtained for the stream impacts associated with Hertzler Road improvements (Permit No. E21-468, issued on April 28, 2020.)
8. Within clear sight triangles as shown on this plan, no structure or growing material shall exceed a height of 3' above the grade of the street, and no branch of a tree, or obstruction, shall be lower than 9' feet above the grade of the street, with the exception of traffic signs, public utility poles, and similar-type structures.
9. Nothing shall be planted, placed, or set within any easement that would affect the function of the easement or conflict with the easement agreement.
10. The applicant is responsible for paying for the installation of all street and traffic control signs required for this project as deemed necessary by Upper Allen Township. All traffic control signs and devices are to be installed prior to any certificate of occupancy being issued. Street signs shall conform to PennDOT Publication 236M, dated April 1997, as amended. In addition, a separate permit is required for development signs, and all signs shall conform to all applicable requirements within Chapter 245, Article XXIII of the Codified Ordinances of Upper Allen Township or such applicable ordinances that are in effect at the time of the application for the sign.
11. The proposed water lines shown on this plan are for conceptual purposes only. SUEZ Water (public supplier), per their standard procedures, shall provide the project's water design for the project after approval of the Final Plans.
12. A Geologic Evaluation and Infiltration Testing Report was prepared for the project by CMX, 910 Century Drive, Mechanicsburg, PA 17055; 717-458-0800. The site is partially underlain by limestone geology. Due to the geology, the site has an increased potential for sinkhole development. Because all sinkhole are unique and repair methods for each type may require a qualified professional, it is recommended that the site contractor consult with a Geo-Technical Engineer prior to start of construction of each phase. The Geo-Technical Engineer should evaluate the site's features for vertical and horizontal extents and relation of features to the proposed improvements and then provide repair measures to the contractor for repair of each sinkhole. In addition, builders are recommended to consult with a Geo-Technical engineer for guidance pertaining to building construction in sinkhole prone areas.
13. All new utilities shall be placed under ground.
14. There is a FEMA delineated floodplain located on the property. The floodplain is located along the eastern property line where Hertzler Road and the existing unnamed stream pass under the railroad bridge. The floodplain is depicted per scan overlay of Flood Insurance Rate Map (Community-Panel Number 42041C0287E, Zone A, dated March 16, 2009). The current study is a Zone A non-detailed study area with no base flood elevation information.
15. Street lighting is proposed throughout the development as shown on this plan. Street lights are proposed at all street intersections and at other locations indicated on the plan. In addition to the street lights, each lot shall install an outside electric dusk til dawn yard light. Each individual home owner shall be responsible for maintenance of their own yard light although the Home Owners Association shall be responsible for maintenance of the street lights; developer is responsible for street light maintenance until the HOA is formed.
16. All proposed property corners and existing unmarked property corners shall be marked with iron pins or concrete monuments prior to dedication of the streets. Concrete monuments will be set as shown, all other property corners to be marked with iron pins. All proposed marker materials and installation methods shall be in accordance with Township standards.
17. An NPDES Permit was obtained from the Cumberland County Soil Conservation District authorizing earth disturbance activities associated with the project (Permit No. PAC210094, expiration date 11-13-2023). The contractor shall implement erosion and sedimentation pollution control measures in accordance with PA State Code Chapter 102 requirements and associated NPDES Permit Conditions. Contractor must obtain a copy of the approved Erosion Control Plan and be a co-permittee on the NPDES Permit prior to start of construction.
18. All lot grading shall maintain positive drainage away from the dwelling. Lot owners are required to maintain lot grading and surface drainage patterns and characteristics consistent with the approved grading plan.
19. Individual Lot Owners shall be responsible for implementation and maintenance of erosion control measures for their respective lot.
20. Manhole covers for stormwater manholes shall be cast with the word "Storm" for identification purposes.
21. Any construction or work within the public street right-of-way related to storm drainage facilities requires inspection by Upper Allen Township. Provide a minimum of 48 hours notice to the Township before starting work.
22. Contractor shall schedule a pre-construction meeting with the Township Engineer at least 48 hours prior to starting site construction activities.
23. In compliance with Act 287 of 1974 as amended by Act 199 of 2004, all underground utilities shown on this plan are a compilation of actual field locations and data furnished from information supplied by others. The developer, surveyor and engineer assume no responsibility for the location of any underground utilities as depicted on this drawing. Any request for additional underground utility information should be directed to that respected utility company. See One Call table for Serial Numbers.
24. All known existing easements and rights-of-ways have been shown on the plan and all utilities have been notified per PA One Call requirements.
25. All lots shall be subject to restrictions and covenants as defined in the "Protective Covenants, Reservations and Easements". All property owners shall be provided with a copy of the covenants documents.
26. All single- family detached dwellings will have a two-vehicle garage and a driveway with additional space to equal at least three off-street parking spaces. Maximum driveway width at the street right-of-way line is 10' for a single car garage and 24' width for a 2 car garage. All driveways shall not connect with a public street within 50 feet of the right-of-way lines of any intersecting streets nor within five feet of a fire hydrant, in accordance with Section 220-17.A(3) of the Codified Ordinances of Upper Allen Township. As-built Mylar plans and electronic data files shall be provided to the Township. All drawings must be signed and sealed by a professional engineer or land surveyor attesting to the correctness of the facility information shown, in accordance with Section 220-13.C(2) of the Codified Ordinances of Upper Allen Township.
27. The Home Owners Association shall maintain the grass area around the Greenway Trail and associated easement areas.
28. Should a phased final plan propose fewer trees and/or shrubs than Ordinance requirements, the additional trees required to meet Ordinance requirements should be planted in the open space areas and/or adjacent to or along the Greenway Trail as directed by the Township.

APPLICANT & OWNER

HERTZLER ROAD ASSOCIATES, L.P.
4400 DEER PATH ROAD, SUITE 201
HARRISBURG, PA 17110
(717) 234-4000

SANITARY SEWER CONSTRUCTION NOTES

1. All sanitary sewer construction materials and methods shall conform to the latest standards of Upper Allen Township, Cumberland County, Pennsylvania and shall be subject to the approval by the township's engineer. See Standard construction and material specifications for sanitary sewer system extensions, latest edition. Construction of all sanitary sewers shall conform to standards adopted by Upper Allen Township. Contractor shall obtain specifications and construction details directly from the Authority.
2. All sanitary sewers constructed in public streets shall be subject to backfill compaction testing at the discretion of the Township representative and at the expense of the developer.
3. All proposed sanitary sewer mains shall be offered for dedication to Upper Allen Township. Upon completion of the sanitary sewer extension and before release of installation financial security and before acceptance of maintenance financial security, developer must prepare a separate sanitary sewer deed of dedication and easement agreement for the sanitary sewer extension for Township review, followed by recording of same by the developer.
4. Upon acceptance of any sanitary sewer mains, laterals, manholes and other appurtenances by the Township located in public streets not yet dedicated to the Township, developer grants to Township a temporary sanitary sewer easement thirty (30) feet in width measured from the centerline of the sanitary sewer main for the purpose of emergency or other repairs to the sanitary sewer system, until such time that the street and all utilities included therein are dedicated to the Township.
5. On streets having grades 2% or greater, sanitary sewer manhole frames and covers shall be adjusted using tapered rubber riser rings per standard details.
6. A 30' wide right-of-way shall be provided around all proposed sewers that are not located within a public right-of-way.
7. Contractor shall test pit all exiting utility crossings prior to installing any sanitary sewer pipe to verify existing horizontal and vertical elevations to assure no conflict with new sewer.
8. When sewers are installed through Township's right-of-way, including planter islands, no house, structure, trees, shrubs, gardens, or obstruction on or over, or that will interfere with vehicular access for the construction, maintenance or operation of any sewer, shall be installed within limits of the easement, and no changes in the grade or contour over the sewer shall be permitted in accordance with the Township's standard deed of dedication.
9. Contractor shall field verify existing manhole elevations prior to construction.
10. All sanitary sewer pipe installed shall be inspected by a Upper Allen Township representative prior to backfilling.
11. A ten (10') foot minimum horizontal separation or an 18" vertical separation must be maintained wherever possible between water lines and sewer lines.
12. Sanitary sewer redesign may be required upon completion and approval of SUEZ Water Company's water system design for the area.

GENERAL CONSTRUCTION NOTES

1. The intent of this plan is to obtain subdivision / land development approval for the planned site development. Construction procedures have not been specified by Mellott Engineering, Inc. beyond what is required by the township and the standard methods as outlined in Pennsylvania Department of Transportation (PennDOT) Publication 408 for earth moving and installation of PennDOT structures.
2. No environmental studies, subsurface investigations or testing of soils were performed in the preparation of these plans beyond the Geologic Evaluation and Infiltration Testing Report prepared for the project by CMX. Mellott Engineering, Inc. recommends the owner and contractor consult a geotechnical engineer prior to construction to determine appropriate soil bearing capacity, fill placement procedures, compaction and building foundation requirements.
3. The project drawings are generally diagrammatic in indicating the presence of existing underground utilities. Information on existing utilities has been compiled from available information including utility company and municipal record maps and field survey and is not guaranteed correct or complete. Utilities are shown to alert the contractor to their presence and the contractor is solely responsible for determining actual locations and elevations of all utilities, including services. When the utilities are to be left in place, the contractor shall provide adequate means of support and protection during the excavation and backfilling operations.
4. Should any uncharted or incorrectly charted, existing piping or other utility be uncovered during excavation, consult the engineer immediately for directions before proceeding further with the work in this area.
5. Do not interrupt existing utilities servicing facilities occupied and used by the owner or others during occupied hours except when such interruptions have been authorized in writing by the owner, Township and applicable utility company. Interruptions shall only occur after acceptable temporary service has been provided.
6. The contractor shall restore any structure or areas disturbed during construction to their original condition or better if they are not indicated to be altered on the plans.
7. The contractor shall verify all site conditions in the field and contact the site engineer if there are any questions or conflicts regarding the construction documents and/or field conditions.
8. The contractor is responsible for ensuring all construction methods and procedures meet all regulatory requirements and developer requirements. The contractor is responsible for obtaining all necessary permits required by governmental agencies prior to construction. The contractor shall obtain all necessary permits from the municipality required to perform the work.
9. The fire hydrants shown on this plan must be reviewed by the township Fire Marshall. Fire Marshall will make the final determination of hydrant locations. Suez Water will provide a water main design after the plan is approved by the township.

PENNSYLVANIA ONE CALL SYSTEM, INC.
1-800-242-1776
STOP-CALL BEFORE YOU DIG!

Before You Dig Anywhere

In . . . PENNSYLVANIA

STOP! Call 1-800-242-1776
Toll Free

PA Law requires 3 working days before you excavate

PA One Call System, Inc.

One Call Serial #: -

PENNSYLVANIA ACT 199 (2004) AS AMENDED REQUIRES NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE COMMONWEALTH.

COMPANY: PENNSYLVANIA AMERICAN WATER ADDRESS: 852 WESLEY DRIVE MECHANICSBURG, PA. 17055 CONTACT: JERRY BONANNO

COMPANY: FRONTIER COMMUNICATIONS CTSI LLC ADDRESS: 100 CTE DR DALLAS, PA. 18612 CONTACT: DAVID MORRIS

COMPANY: ELANTIC NETWORKS INC ADDRESS: 1450 E PARHAM RD RICHMOND, VA. 23228 CONTACT: CONI DUFF EMAIL: cduff@cavtel.com

COMPANY: VERIZON PENNSYLVANIA INC ADDRESS: 201 STANWIX ST 4TH FLOOR PITTSBURGH, PA. 15222 CONTACT: OFFICE PERSONNEL

COMPANY: BUCKEYE PARTNERS ADDRESS: PO BOX 368 EMMAUS, PA. 180490368 CONTACT: DONALD SAMALA

COMPANY: SUEZ WATER ADDRESS: 317 NORTH MARKET STREET MECHANICSBURG, PA. 17055 CONTACT: KIM GENETTI EMAIL: Kim.Genetti@suez-na.com

COMPANY: FIRSTENERGY CORP ADDRESS: 76 S MAIN ST AKRON, OH. 443081890 CONTACT: OFFICE PERSONNEL

COMPANY: XO COMMUNICATIONS INC ADDRESS: C/O DE-TECH INC 120 N PEARL ST CRESTLINE, OH. 44827 CONTACT: ROBERT FREED E EMAIL: jessica.m.revelle@sprint.com

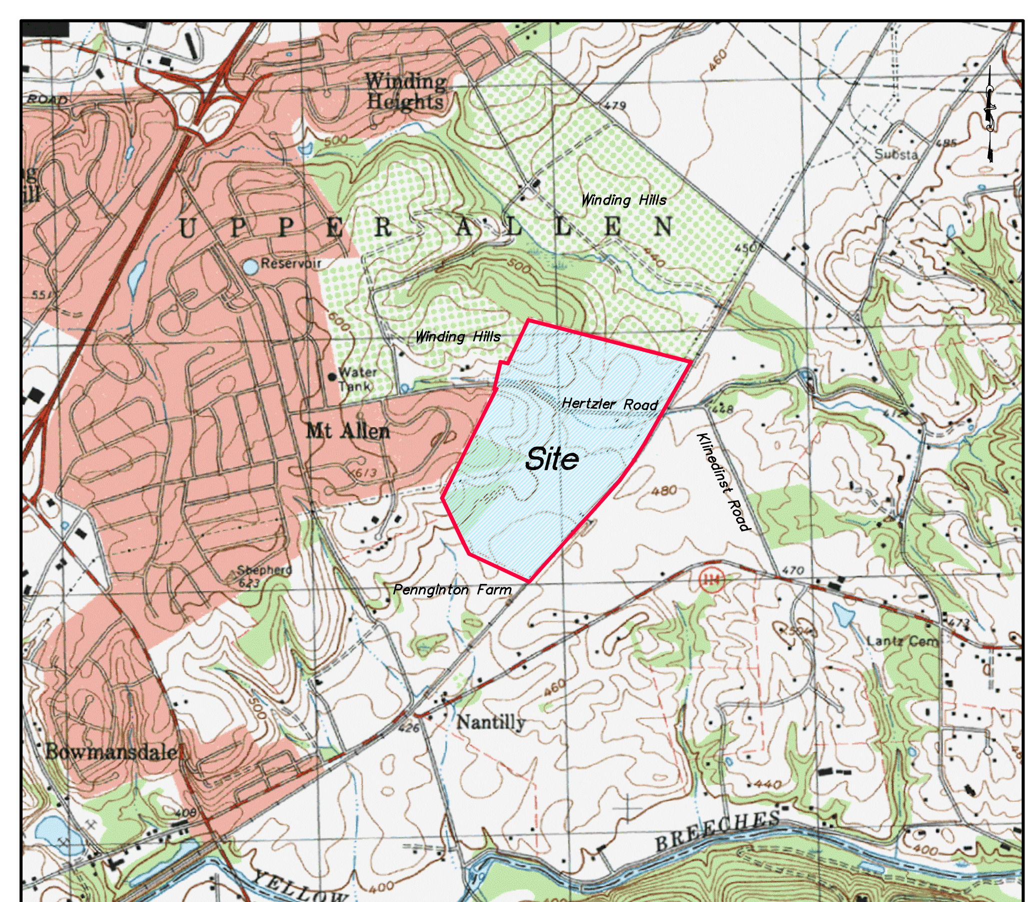
COMPANY: PPL ELECTRIC UTILITIES CORPORATION ADDRESS: 1801 BROOKWOOD ST HARRISBURG, PA. 171042222 CONTACT: JEANETTE ANDERSON EMAIL: jlanderson@pplweb.com

COMPANY: COMCAST CABLE COMMUNICATIONS INC ADDRESS: 4601 SMITH ST HARRISBURG, PA. 17109 CONTACT: CONSTRUCTION COORDINATOR

COMPANY: UPPER ALLEN TOWNSHIP OF ADDRESS: 100 GETTYSBURG PIKE MECHANICSBURG, PA. 17055 CONTACT: KODI B. HOCKENBERRY EMAIL: khockenberry@uatwp.org

COMPANY: UGI UTILITIES INC ADDRESS: 1500 PAXTON ST HARRISBURG, PA. 17104 CONTACT: TOM WITT EMAIL: twitt@ugi.com

COMPANY: SPRINT COMMUNICATIONS CO LP ADDRESS: 6550 SPRINT PARKWAY MS: KSOPHR0312 OVERLAND PARK, KS. 662516109 CONTACT: JESSICA REVELLE EMAIL: jessica.m.revelle@sprint.com



SITE LOCATION MAP

SCALE : 1" = 2,000'

MELLOTT ENGINEERING, INC.

CIVIL ENGINEERING • LAND PLANNING & DESIGN • WATER RESOURCES
7500 DEVONSHIRE HEIGHTS ROAD • HUMMELSTOWN, PA 17036
mellotteng@comcast.net
(717)-566-6533

APPROVED BY THE BOARD OF COMMISSIONERS OF UPPER ALLEN TOWNSHIP, THIS ______ DAY OF ______________, 20 ____.

ATTEST:

SECRETARY ______________ CHAIRMAN ______________

APPROVED BY THE PLANNING COMMISSION OF UPPER ALLEN TOWNSHIP, THIS ______ DAY OF ______________, 20 ____.

ATTEST:

SECRETARY ______________ CHAIRMAN ______________

REVIEWED THIS ______ DAY OF ______________, 20 ____, BY CUMBERLAND COUNTY PLANNING DEPARTMENT.

ATTEST:

DIRECTOR OF PLANNING ______________

REVIEWED BY THE UPPER ALLEN TOWNSHIP ENGINEER

REVIEWED THIS ______ DAY OF ______________, 20

ENGINEER ______________

I, Timothy L. Mellott, P.E., hereby certify that I am a Pennsylvania registered professional engineer and that all elements of the plan are inconformity with the Township Code and applicable state regulations, as required by Section 220-15.N(3) of the Codified Ordinances of Upper Allen Township.

I, Timothy L. Mellott, P.E., hereby certify the portions of this site are underlain by limestone bedrock based on geological maps, and upon a carbonate assesment report prepared by Pierre O. MaCoy, Geologist with CMX.

"I, Timothy L. Mellott, P.E., on this date ______, have reviewed and hereby certify that the SWM site plan meets all design standards and criteria of the Upper Allen Township Stormwater Management Ordinance."

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — TIMOTHY L. MELLOTT — ENGINEER No. 056207-E

Timothy L. Mellott, P.E.
Mellott Engineering, Inc.
7500 Devonshire Heights Road
Hummelstown, PA 17036
PH: 717-566-6533
FAX: 717-427-2700

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF
ON THIS THE ______ DAY OF ______________, 20 ____

BEFORE ME, ______________, THE UNDERSIGNED OFFICER, PERSONALLY APPEARED WHO ACKNOWLEDGED HIMSELF TO BE THE PRESIDENT OR VICE PRESIDENT OF HERTZLER ROAD ASSOCIATED, L.P. A CORPORATION, AND THAT HE AS SUCH PRESIDENT OR VICE PRESIDENT, BEING AUTHORIZED TO DO SO, EXECUTED THE FOREGOING INSTRUMENT FOR THE PURPOSE THEREIN CONTAINED BY SIGNING THE NAME OF THE CORPORATION BY HIMSELF AS PRESIDENT OR VICE PRESIDENT.

IN WITNESS WHEREOF, I HAVE HEREUNTO SET MY HAND AND OFFICIAL SEAL.

NOTARY PUBLIC ______________ MY COMMISSION EXPIRES ______________ DATE

IT IS HEREBY CERTIFIED THAT THE UNDERSIGNED HAS LEGAL OR EQUITABLE TITLE TO THE LAND SHOWN AND THAT ALL ROADS, STREETS OR RIGHT-OF-WAY (OR EASEMENTS) SHOWN HEREON, IF NOT PREVIOUSLY DEDICATED, ARE HEREBY OFFERED FOR PUBLIC USE.

OWNER ______________

OWNER STORMWATER MANAGEMENT FACILITIES ACKOWLEDGEMENT

I Francis McNaughton, hereby acknowledge that the Stormwater Management Facilities and BMP's are to be permanent fixtures that can be altered or removed only after approval of a revised plan by the applicable municipality.

OWNER ______________

I, Todd A. Lyons, hereby certify that I am a registered Land Surveyor in compliance with the laws of the Commonwealth of Pennsylvania; that this plan correctly represents a survey originally completed by CDEG on April 2005 and reconfirmed by Lyons Surveying. LLC in November 2015; that all monuments shown thereon actually exist; and that their location, size, type and material are accurately shown.

SURVEYOR
Todd Lyons, P.L.S., 30 Wester Lau Drive, Dillsburg, PA 17019, 717-432-1105

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — TODD ALLEN LYONS — LAND SURVEYOR SU054342

No.	REVISION	DATE
3	Addressing Review Comments	12-3-2021
4	Corrected waiver approval date	5-24-2022
5	Addressing conditions of approval comments	7-12-2022
6	Revised San Sewer Rim elevations sheets 8&9	8-2-2022

MELLOTT ENGINEERING, INC.

DRAWING ID	202068 cov
DATE:	November 1, 2021
SHEET	1 of 18

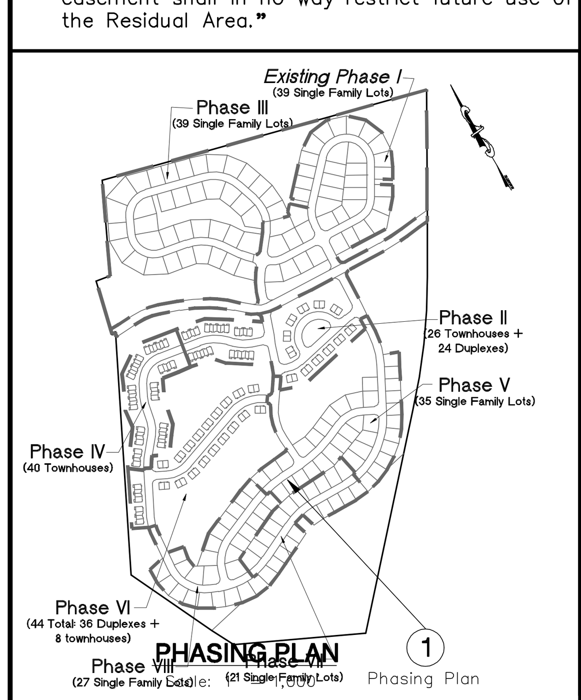
INTENT OF PLAN

The intent of this plan sheet is to provide a Master Development Plan for the overall Autumn Chase PRD. The Autumn Chase PRD was approved by the Upper Allen Township Board of Commissioners as per Written decision dated – May 8, 2012. The project shall be implemented in accordance with the Developer Agreement, dated April 26, 2012, between Hertzler Road Associates, L.P. and Upper Allen Township. See the below notes and plan references for general project information; see other plan sheets for detailed information pertaining to Phase III.

PLAN NOTES

(See circled # on plan for note association)

1. Autumn Chase is an approved Planned Residential Development consisting of a total of 295 residential units with the following uses (See Phasing Plan):
   - 161 Single-family dwelling lots (78 North and 83 south of Hertzler Road);
   - 60 Duplex Units;
   - 74 Townhouse Units;
   - Open Space Lots (>30% of gross tract)
2. A Homeowners Association is proposed with the development. The Home Owners Association Documents shall be reviewed by the Township in conjunction with this plan. The association shall be responsible for maintenance and upkeep of the following:
   a. All Open Space Areas;
   b. All on-site stormwater management facilities located outside of a public right-of-way including but not limited to: stormwater detention basins, water quality basins, infiltration facilities, piping, riprap aprons, swales, etc.;
   c. All sidewalk located within Open Space areas and sidewalk within the public right-of-way that abuts open space areas;
   d. Boulevard Landscape islands (landscape and boulevard islands shall be maintained by the developer until such responsibility is transferred to the homeowners association established with the development. Upper Allen Township shall be not be held responsible for damage to plantings within the islands for any reason, and the municipality may remove or trim the vegetation if necessary for public safety);
3. Hertzler Road shall be improved along the subject tract's entire length of road frontage and off site in accordance with the Developers Agreement.
4. DEP Permitting has been obtained for the stream impacts associated with the proposed Hertzler Road improvements. All work to be in accordance with the permit conditions.
5. All streets proposed with this project shall be constructed to township standards and shall be offered for dedication to the township upon completion of improvements. All proposed streets are classified as minor streets and shall be 34' wide curbed cartways (slant curb) with an associated 50' right-of-way except for the boulevard entrances which will be 20' cartways with a 10' landscaped boulevard island with an associated 60' right-of-way. All Landscape Boulevard Islands shall be maintained by the homeowners association.
6. Stormwater Best Management Practices were incorporated into the site design to manage stormwater runoff discharge rates, enhance water quality and promote groundwater recharge to the extent practical; see Post Construction Stormwater Management Plan.
7. There is a FEMA delineated floodplain located on the property. The floodplain is located along the eastern property line where Hertzler Road and the existing unnamed stream pass under the railroad bridge. The floodplain is depicted per scan overlay of Flood Insurance Rate Map (Community-Panel Number 42041C0287E, Zone A, dated March 16, 2009). The current study is a Zone A non-detailed study area with no base flood elevation information
8. Landscaping is proposed throughout the development to enhance the community and to provide other desired functions, such as:
   a. Tree buffer proposed along Hertzler Road frontage to provide for a visual vegetative buffer between Hertzler Road and units proposed in the development (no trees are permitted nor proposed under the PPL right-of-way);
   b. Tree plantings proposed along the existing stream (parallels Hertzler Road) to provide a vegetated riparian buffer along the stream;
   c. Tree plantings and landscaping proposed around some of the water quality facilities (plantings provide shade to cool runoff)
   d. Tree plantings and landscaping other than street trees shall be selected in accordance with Upper Allen Township Subdivision and Land Development Ordinance Section 220-26.B(2).
   e. Boulevard islands shall be landscaped to provide for shading and overall aesthetic enhancement to the community;
   f. Street trees shall be planted along both sides of all proposed streets at a rate of two (2) trees per every 100'; all proposed street trees shall be selected and installed in accordance with Upper Allen Township Subdivision and Land Development Ordinance Section 220-26.D(7)
   g. Should a phased final plan propose fewer trees and/or shrubs than Ordinance requirements, the additional trees required to meet Ordinance requirements should be planted in the open space areas and/or adjacent to or along the Greenway Trail as directed by the Township.
9. Street lighting is proposed throughout the development as shown on this plan. Street lights are proposed at all street intersections and at other locations depicted on the plan. In addition to the street lights, each lot shall install an outside electric dusk til dawn yard light. Each individual home owner shall be responsible for maintenance of their own yard light although the Home Owners Association shall be responsible for maintenance of the street lights; developer is responsible for street light maintenance until the HOA is formed.
10. A six foot wide off-street trail shall be constructed along the frontage of Hertzler Road as shown on this plan. Timing of the trail installation shall be installed in accordance the Developer Agreement, dated April 26, 2012, between Hertzler Road Associates, L.P. and Upper Allen Township.
11. Open Space is provided throughout the development (>30% of gross tract area). Total area of Open Space Lots 1-11 is 66.411 acres.
12. In accordance with the Developer Agreement, the Residual Area is not a part of and shall not be subject to the terms of the Autumn Chase PRD. A stormwater easement is hereby established over the residual area, in a location, size and designation to be later established, for the purposes of conveying and managing stormwater flows from the Autumn Chase PRD to the Southern Basin. This easement shall in no way restrict future use of the Residual Area."

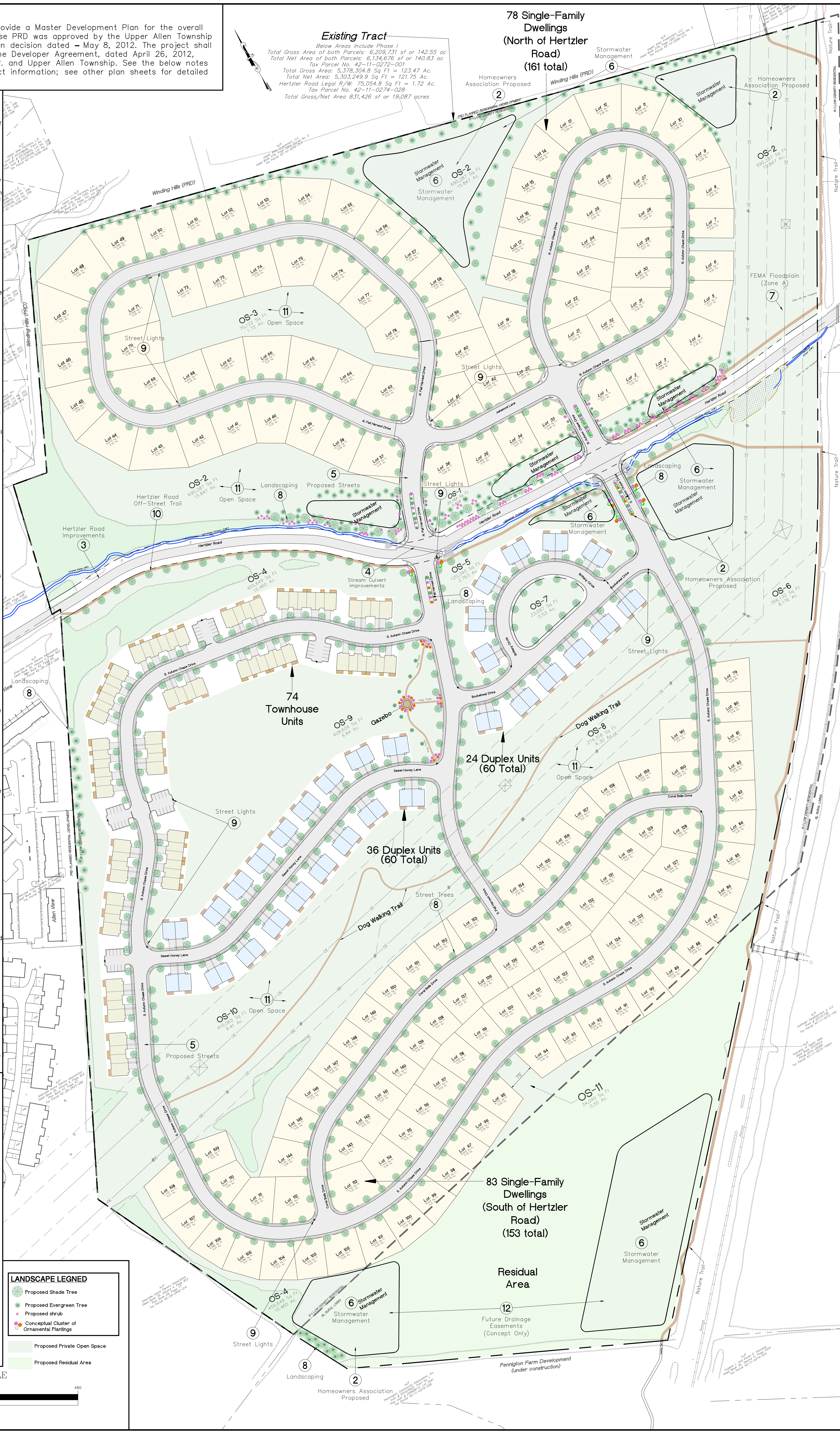


PHASING PLAN
Scale: 1" = 1,000'

Phasing Schedule: In accordance with Section 709(c) of the MPC, 53 P.S. § 10709(c), Developer's intended schedule for the phases of the Autumn Chase PRD (each a "Phase" and collectively the "Phases") is as follows (the "Phasing Schedule"):

Phase 1: 39 Units (Plan filing Date: 2021)
Phase II: 50 Units (Plan filing Date: 2022)
Phase III: 39 Units (Plan filing Date: 2024)
Phase IV: 40 Units (Plan filing Date: 2026)
Phase V: 35 Units (Plan filing Date: 2028)
Phase VI: 44 Units (Plan filing Date: 2030)
Phase VII: 21 Units (Plan filing Date: 2032)
Phase VIII: 27 Units (Plan filing Date: 2034)

GRAPHIC SCALE
120 0 60 120 240 480
(IN FEET)
1 inch = 120 ft.



MASTER DEVELOPMENT PLAN
FOR
AUTUMN CHASE PRD - PHASE III
Land Developer: Hertzler Road Associates, L.P.

UPPER ALLEN TOWNSHIP | CUMBERLAND COUNTY | PENNSYLVANIA

MELLOTT ENGINEERING, INC.
Civil Engineering • Land Planning & Development • Water Resources
7500 Devonshire Heights Road • Hummelstown, PA 17036
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717-566-6533

Project No. 202068
Date November 1, 2021

REVISIONS		DATE
1.	Addressing Review Comments	12-3-2021
2.	Addressing Conditions of Plan Approval Comments	7-12-2022
3.	–	–
4.	–	–
5.	–	–
6.	–	–
7.	–	–
8.	–	–
9.	–	–

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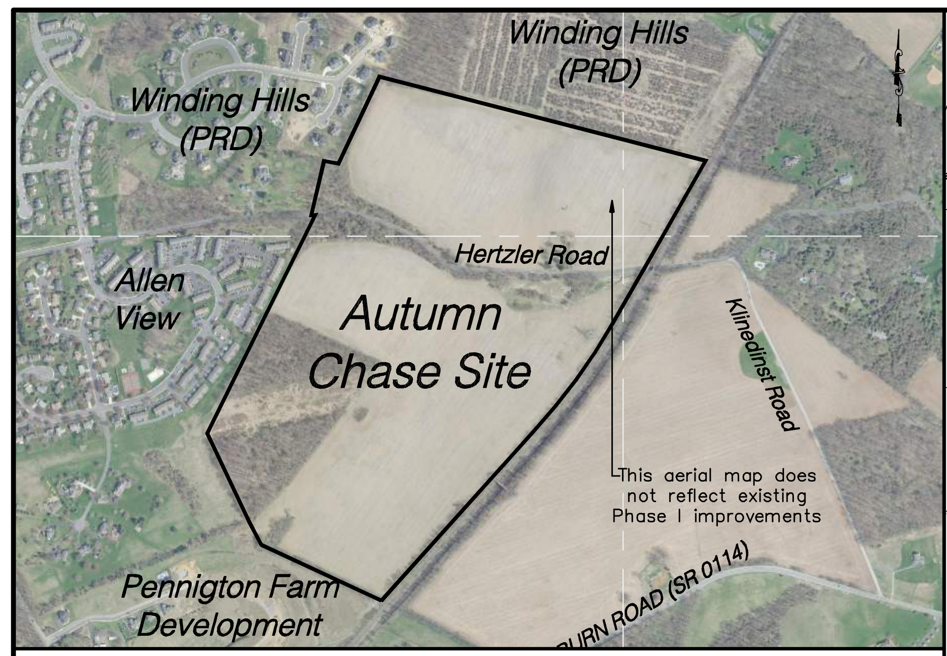
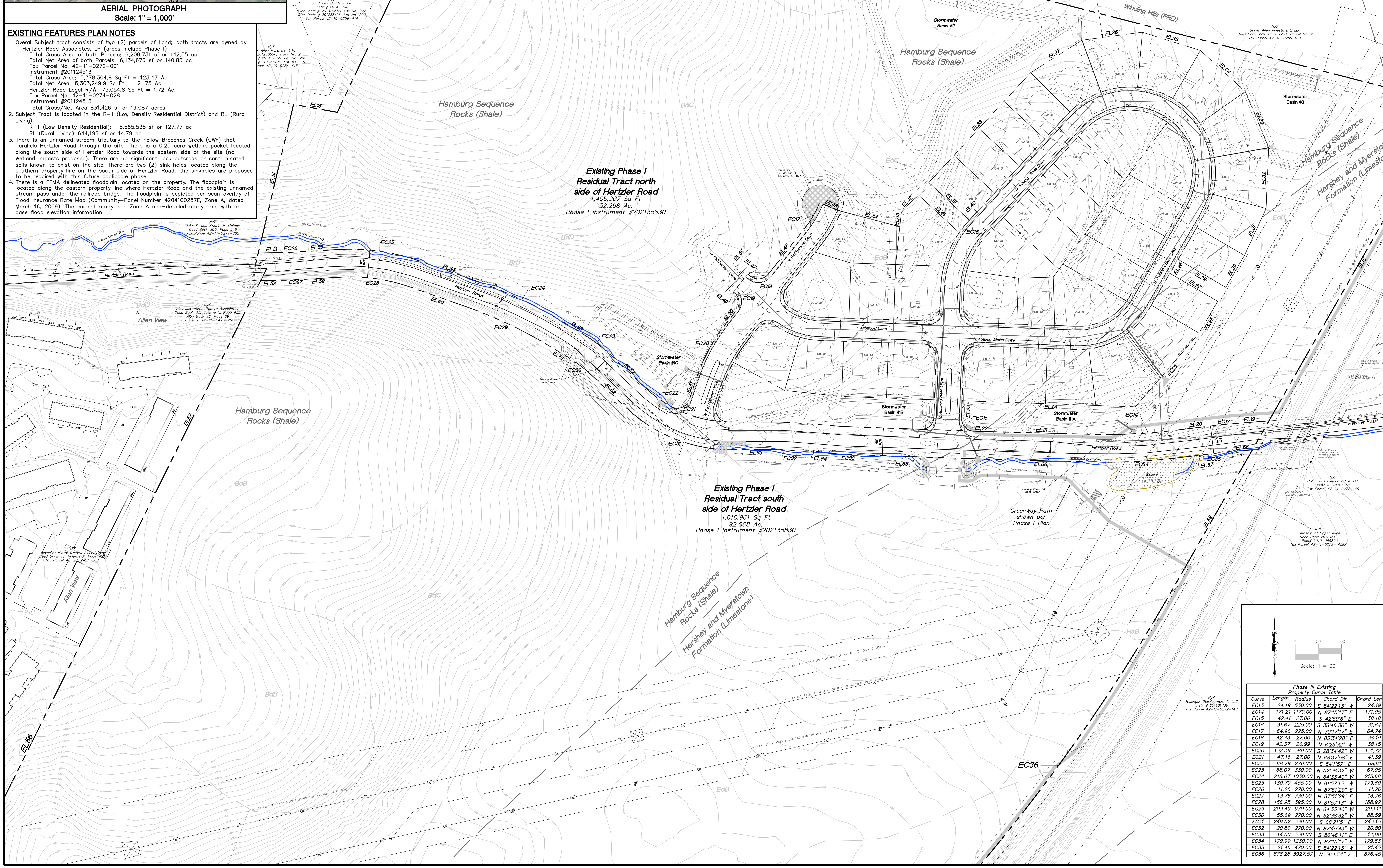


AERIAL PHOTOGRAPH
Scale: 1" = 1,000'

EXISTING FEATURES PLAN NOTES

1. Overal Subject tract consists of two (2) parcels of Land; both tracts are owned by:
   Hertzler Road Associates, LP (areas include Phase I)
   Total Gross Area of both Parcels: 6,209,731 sf or 142.55 ac
   Total Net Area of both Parcels: 6,134,676 sf or 140.83 ac
   Tax Parcel No. 42–11–0272–001
   Instrument #201124513
   Total Gross Area: 5,378,304.8 Sq Ft = 123.47 Ac.
   Total Net Area: 5,303,249.9 Sq Ft = 121.75 Ac.
   Hertzler Road Legal R/W: 75,054.8 Sq Ft = 1.72 Ac.
   Tax Parcel No. 42–11–0274–028
   Instrument #201124513
   Total Gross/Net Area 831,426 sf or 19.087 acres
2. Subject Tract is located in the R–1 (Low Density Residential District) and RL (Rural Living)
   R–1 (Low Density Residential): 5,565,535 sf or 127.77 ac
   RL (Rural Living): 644,196 sf or 14.79 ac
3. There is an unnamed stream tributary to the Yellow Breeches Creek (CWF) that parallels Hertzler Road through the site. There is a 0.25 acre wetland pocket located along the south side of Hertzler Road towards the eastern side of the site (no wetland impacts proposed). There are no significant rock outcrops or contaminated soils known to exist on the site. There are two (2) sink holes located along the southern property line on the south side of Hertzler Road; the sinkholes are proposed to be repaired with this future applicable phase.
4. There is a FEMA delineated floodplain located on the property. The floodplain is located along the eastern property line where Hertzler Road and the existing unnamed stream pass under the railroad bridge. The floodplain is depicted per scan overlay of Flood Insurance Rate Map (Community–Panel Number 42041C0287E, Zone A, dated March 16, 2009). The current study is a Zone A non–detailed study area with no base flood elevation information.



SOILS TABLE

SOIL SYMBOL	SOIL DESCRIPTION	SLOPE (%)	HYDROLOGIC GROUP	DEPTH TO WATER TABLE (FT)	SOIL REACTION (pH)	SUITABILITY FOR ROADFILL	SUITABILITY FOR TOPSOIL
BdB	Bedington Shaly Silt Loam	3 to 8%	B	5+	4.5–7.3	FAIR	POOR
BdC	Bedington Shaly Silt Loam	8 to 15%	B	5+	4.5–7.3	FAIR	POOR
BdD	Bedington Shaly Silt Loam	15 to 25%	B	5+	4.5–7.3	FAIR	POOR
BpB	Blairton silt loam	3 to 8%	C	½–3	4.5–5.5	POOR	POOR
BrB	Brinkerton silt loam	3 to 8%	D	0–½	4.5–5.5	POOR	POOR
DuB	Duffield silt loam	3 to 8%	B	5+	5.1–7.3	POOR	FAIR
EdB	Edom silt loam	3 to 8%	B	5+	5.1–7.8	POOR	POOR
EdC	Edom silt loam	8 to 15%	B	5+	5.1–7.8	POOR	POOR
HaA	Hagerstown shaly silt loam	0 to 3%	B	5+	4.5–7.3	POOR	POOR
HaB	Hagerstown shaly silt loam	3 to 8%	B	5+	4.5–7.3	POOR	POOR
Me	Melvin silt loam	0 to 2%	B/D	0–1	6.1–7.3	POOR	POOR
Pe	Penlaw silt loam	0 to 3%	C/D	½–1½	5.6–7.3	POOR	POOR

In general, the soils present should not pose any significant limitation to the type of development proposed. Reference the following recommendations pertaining to possible issues that may be encountered during construction.

- If unrippable rock is encountered during proposed grading, blasting or drilling may be required. Removed rock can be crushed if necessary and used for fill.
- If water table is encountered during excavation, dirty water shall be pumped out into a filter bag or sediment removal pond.
- The SCS Dauphin County Soil Survey indicates some of the soils have a poor rating for use as road fill. The contractor should use only what soils are suitable for road fill and shall place and compact fill in accordance with standard practice. All road fill must meet Penn DOT Pub. 408 standards.
- Trap/Basin Core material shall be unified class CH or CL soil compacted to 98% of max dry density. Homogeneous embankment material to be compacted in 8" layers to a minimum final density of not less than 98% of max. Dry density within 2% of optimum moisture content. (ASTM Method D1557).

Phase III Existing Property Curve Table

Curve	Length	Radius	Chord Dir	Chord Len
EC13	24.19	530.00	S 84°22'13" W	24.19
EC14	171.21	1170.00	N 87°15'17" E	171.05
EC15	42.41	27.00	S 42°59'6" E	38.18
EC16	31.67	225.00	S 38°46'30" W	31.64
EC17	64.96	225.00	N 30°17'17" E	64.74
EC18	42.43	27.00	N 83°34'28" E	38.19
EC19	42.37	26.99	N 6°25'32" W	38.15
EC20	132.39	380.00	S 28°34'42" W	131.72
EC21	47.16	27.00	N 68°37'58" E	41.39
EC22	68.79	270.00	S 54°1'57" E	68.61
EC23	68.07	330.00	N 52°38'32" W	67.95
EC24	216.07	1030.00	N 64°33'40" W	215.68
EC25	180.79	455.00	N 81°57'13" W	179.60
EC26	11.26	270.00	N 87°51'29" E	11.26
EC27	13.76	330.00	N 87°51'29" E	13.76
EC28	156.95	395.00	N 81°57'13" W	155.92
EC29	203.49	970.00	N 64°33'40" W	203.11
EC30	55.69	270.00	N 52°38'32" W	55.59
EC31	249.02	330.00	S 68°21'5" E	243.15
EC32	20.80	270.00	N 87°45'43" W	20.80
EC33	14.00	330.00	S 86°46'11" E	14.00
EC34	179.99	1230.00	N 87°15'17" E	179.83
EC35	21.46	470.00	S 84°22'13" W	21.45
EC36	878.28	3927.57	N 36°13'4" E	876.45

Phase III Existing Property Line Table

Line	Length	Bearing
EL13	58.29	S 89°3'10" W
EL14	331.04	N 13°20'30" E
EL15	96.50	S 79°47'52" E
EL16	631.05	N 25°18'36" E
EL17	2212.62	S 75°32'47" E
EL18	791.80	S 29°46'11" W
EL19	83.24	S 85°40'41" W
EL20	101.72	S 83°3'45" W
EL21	227.70	N 88°33'12" W
EL22	33.63	N 87°59'6" W
EL23	38.00	N 2°0'54" E
EL24	375.61	S 87°59'6" E
EL25	211.15	N 40°48'39" E
EL26	80.00	N 30°19'12" E
EL27	120.00	N 59°40'48" W
EL28	35.00	N 30°19'12" E
EL29	120.00	S 59°40'48" E
EL30	80.00	N 30°19'12" E
EL31	112.19	N 24°41'50" E
EL32	131.89	N 2°24'15" E
EL33	131.89	N 22°34'11" W
EL34	131.89	N 47°32'36" W
EL35	131.89	N 72°31'2" W
EL36	131.89	S 82°30'32" W
EL37	131.94	S 57°38'3" W
EL38	324.70	S 42°48'25" W
EL39	120.00	S 47°11'35" E
EL40	3.44	S 42°48'25" W
EL41	121.99	N 47°11'35" W
EL42	52.88	S 42°48'25" W
EL43	31.19	S 6°11'22" W
EL44	131.42	N 75°16'17" W
EL45	50.00	N 67°59'0" W
EL46	127.24	S 38°33'34" W
EL47	7.97	N 51°24'38" W
EL48	50.00	S 38°35'22" W
EL49	3.04	S 51°24'38" E
EL50	36.06	S 38°33'34" W
EL51	52.85	S 18°35'51" W
EL52	107.99	N 46°44'0" W
EL53	47.82	N 58°33'5" W
EL54	128.06	N 70°34'15" W
EL55	103.76	S 86°39'48" W
EL56	889.14	N 26°21'38" E
EL57	678.75	N 26°21'38" E
EL58	54.06	N 89°3'10" E
EL59	103.76	N 86°39'48" E
EL60	128.06	S 70°34'15" E
EL61	47.82	S 58°33'5" E
EL62	107.99	S 46°44'0" E
EL63	105.35	S 89°58'9" E
EL64	106.94	S 85°33'17" E
EL65	310.90	S 87°59'6" E
EL66	228.00	S 88°33'12" E
EL67	101.72	N 83°3'45" E
EL68	42.63	N 85°40'41" E
EL69	364.69	S 29°46'11" W
EL70	1499.10	S 41°59'18" W
EL71	870.36	N 65°3'1" W
EL72	171.84	N 27°28'30" W
EL73	642.50	N 25°22'37" W

No.	REVISIONS	DATE
1.	Addressing Review Comments	12–3–2021
2.	Addressing Conditions of Plan Approval Comments	7–12–2022
3.	–	–
4.	–	–
5.	–	–
6.	–	–
7.	–	–
8.	–	–
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MELLOTT ENGINEERING, INC.
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EXISTING RESOURCES AND SITE ANALYSIS PLAN

FOR

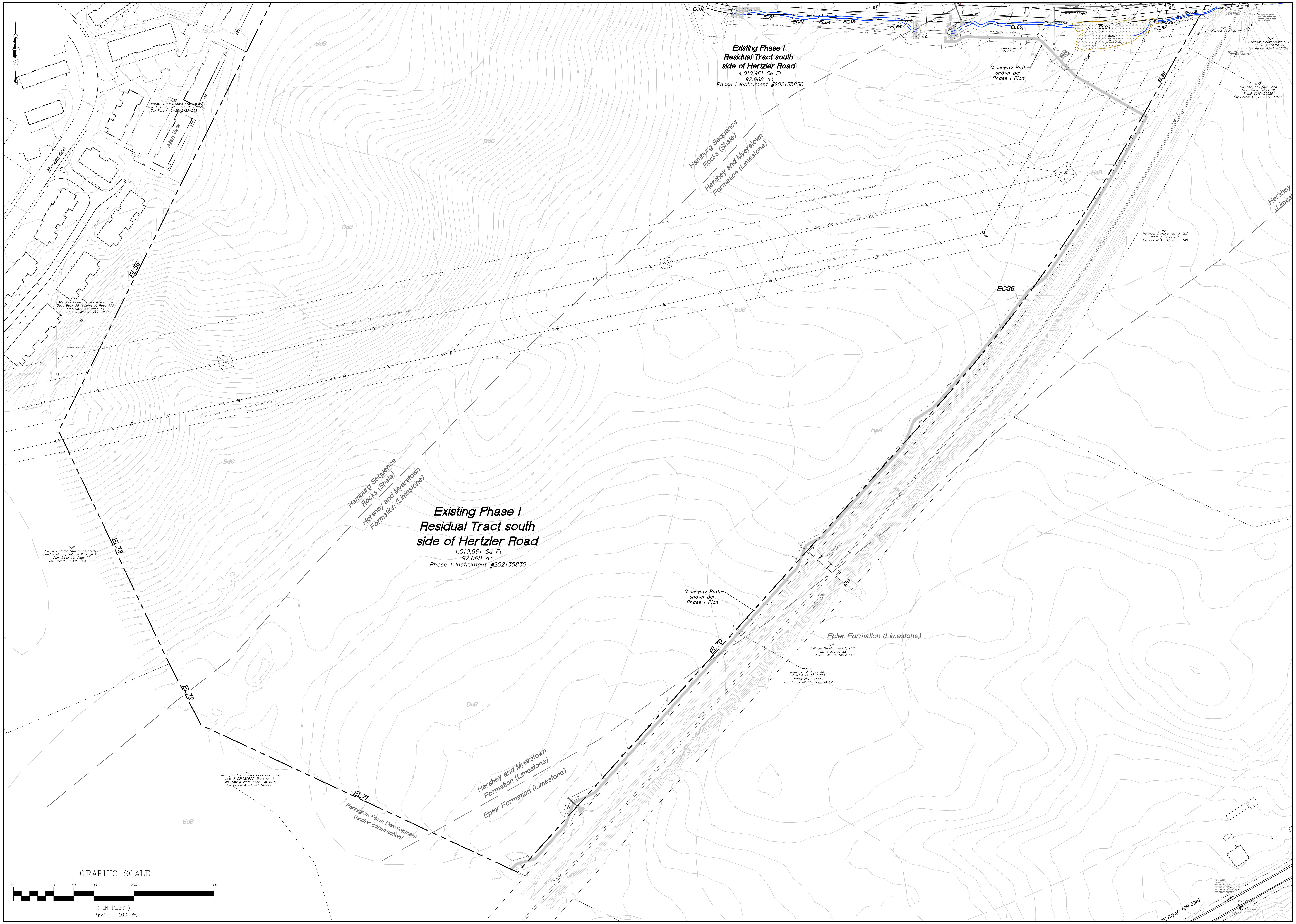
AUTUMN CHASE PRD - PHASE III

Land Developer: Hertzler Road Associates, L.P.

UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 202068
Date November 1, 2021

Sheet No.



REVISIONS

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EXISTING RESOURCES AND SITE ANALYSIS PLAN

FOR

AUTUMN CHASE PRD - PHASE III

Land Developer: Hertzler Road Associates, L.P.

UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 202068
Date November 1, 2021

Sheet No.

STREET RIGHT OF WAY LINE TABLE		
Line	Length	Bearing
R1	129.62	N 18°29'37" W
R2	392.85	N 75°32'47" W
R3	106.16	S 25°18'36" W
R4	175.77	S 79°53'0" E
R5	137.72	S 34°40'7" E
R6	50.00	S 38°35'22" W
R7	137.72	N 34°40'7" W
R8	175.77	N 79°53'0" W
R9	106.16	N 25°18'36" E
R10	392.85	S 75°32'47" E
R11	129.62	S 18°29'37" E
R12	50.00	N 67°59'0" W
R28	10.66	S 33°9'23" W
R29	20.21	N 65°3'1" W
R30	21.22	N 33°9'23" E
R31	52.45	N 75°8'47" E
R32	36.57	S 41°59'18" W
R33	14.17	S 75°8'47" W
R34	126.67	S 40°57'21" E
R35	21.19	S 29°46'11" W
R36	144.17	N 40°57'21" W
R37	25.15	N 14°27'13" E
R38	20.00	S 75°32'47" E
R39	14.65	S 14°27'13" W

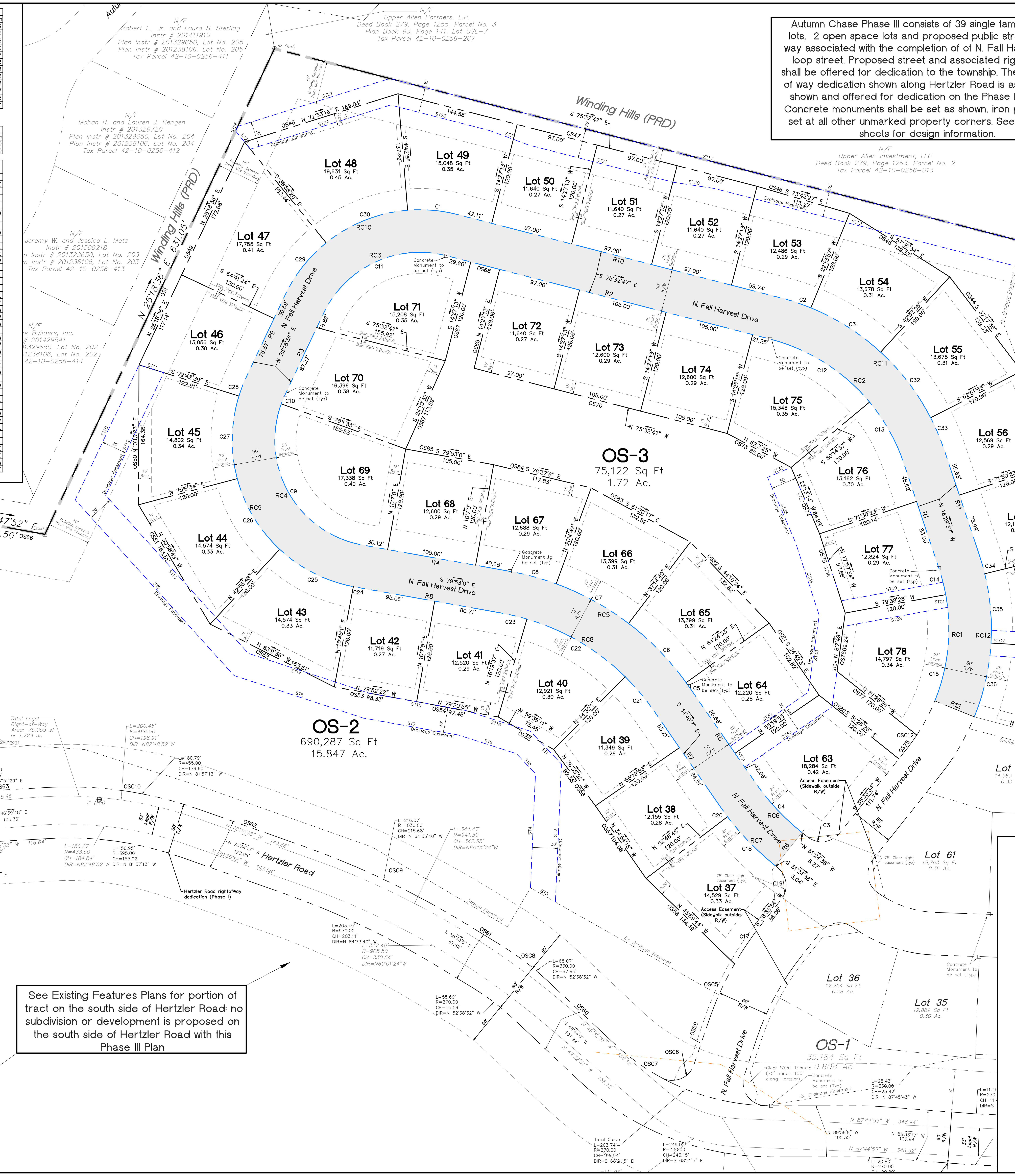
STREET RIGHT OF WAY CURVE TABLE				
Curve	Length	Radius	Chord Dir	Chord Len
RC1	159.08	225.00	N 1°45'42" E	155.79
RC2	224.05	225.00	N 47°1'12" W	214.90
RC3	172.66	125.00	S 64°52'54" W	159.26
RC4	229.50	125.00	S 27°17'13" E	198.60
RC5	256.47	325.00	N 57°16'34" W	249.87
RC6	80.51	275.04	S 43°3'21" E	80.23
RC7	95.12	324.96	S 43°3'12" E	94.78
RC8	217.02	275.00	N 57°16'34" W	211.43
RC9	321.30	175.00	S 27°17'13" E	278.03
RC10	241.73	175.00	S 64°52'54" W	222.97
RC11	273.83	275.00	N 47°1'12" W	262.66
RC12	194.44	275.00	N 1°45'42" E	190.41

PHASE III DRAINAGE EASEMENT CURVE TABLE				
Curve	Length	Radius	Chord Dir	Chord Len
STC1	30.02	225.00	N 10°21'32" W	30.00
STC2	30.01	275.00	N 3°24'34" E	30.00

PROPERTY LINE CURVE TABLE				
Curve	Length	Radius	Chord Dir	Chord Len
C1	58.51	175.00	N 85°7'26" W	58.23
C2	37.34	275.00	N 71°39'25" W	37.31
C3	42.43	27.00	N 83°34'28" E	38.19
C4	80.21	275.04	S 43°1'29" E	79.93
C5	5.23	325.00	N 35°7'47" W	5.23
C6	97.36	325.00	N 44°10'24" W	97.00
C7	97.36	325.00	N 61°20'17" W	97.00
C8	56.51	325.00	N 74°54'7" W	56.44
C9	218.09	125.00	S 29°54'7" E	191.46
C10	11.41	125.00	S 22°41'42" W	11.41
C11	172.66	125.00	S 64°52'54" W	159.26
C12	140.55	225.00	N 57°39'5" W	138.27
C13	83.50	225.00	N 29°7'30" W	83.02
C14	31.94	225.00	N 14°25'35" W	31.92
C15	172.58'	225.00	N 11°36'54" E	168.38'
C17	57.19	380.00	S 34°14'54" W	57.13
C18	80.82	324.96	S 44°18'53" E	80.28
C19	42.37	26.99	N 6°25'32" W	38.15
C20	14.31	324.96	S 35°55'43" E	14.30
C21	51.99	275.00	N 40°5'3" W	51.91
C22	135.22	275.00	N 59°35'11" W	133.86
C23	29.81	275.00	N 76°46'41" W	29.79
C24	1.94	175.00	S 79°34'0" E	1.94
C25	98.29	175.00	S 63°9'35" E	97.00
C26	98.29	175.00	S 30°58'49" E	97.00
C27	98.29	175.00	S 1°11'57" W	97.00
C28	24.50	175.00	S 21°17'58" W	24.48
C29	78.55	175.00	S 38°10'8" W	77.89
C30	104.67	175.00	S 68°9'48" W	103.12
C31	97.51	275.00	N 57°36'34" W	97.00
C32	97.51	275.00	N 37°17'36" W	97.00
C33	41.48	275.00	N 22°48'52" W	41.44
C34	23.03	275.00	N 16°5'39" W	23.03
C35	82.09	275.00	N 5°8'34" W	81.79
C36	89.31	275.00	N 12°42'47" E	88.92

PHASE III DRAINAGE EASEMENT LINE TABLE		
Line	Length	Bearing
ST1	52.94	S 43°29'55" E
ST2	162.40	S 2°30'15" W
ST3	33.70	N 60°24'6" W
ST4	134.32	N 2°30'15" E
ST5	32.54	N 43°29'55" W
ST6	70.99	N 72°9'53" W
ST7	114.10	N 79°53'0" W
ST8	159.98	N 71°46'42" W
ST9	278.11	N 42°6'6" W
ST10	175.39	N 25°18'36" E
ST11	30.30	S 72°42'39" E
ST12	159.60	S 25°18'36" W
ST13	250.15	S 42°6'6" E
ST14	149.90	S 71°46'42" E
ST15	114.00	S 79°53'0" E
ST16	80.68	S 72°9'53" E
ST17	770.53	S 75°32'47" E
ST18	30.00	S 14°27'13" W
ST19	369.11	N 75°32'47" W
ST20	48.83	N 81°25'26" W
ST21	175.15	N 75°32'47" W
ST22	49.09	N 69°42'4" W
ST23	120.27	N 75°32'47" W
ST24	172.77	S 72°33'16" W
ST25	27.40	N 38°58'20" W
ST26	6.15	N 25°18'36" E
ST27	187.23	N 72°33'16" E
ST28	124.49	S 79°38'28" W
ST29	95.50	S 8°2'49" W
ST30	124.73	S 55°19'53" W
ST31	30.00	N 34°40'7" W
ST32	111.60	N 55°19'53" E
ST33	91.25	N 8°2'49" E
ST34	89.55	N 17°57'34" W
ST35	83.61	N 23°13'14" W
ST36	30.00	N 66°46'46" E
ST37	84.99	S 23°13'14" E
ST38	82.73	S 17°57'34" E
ST39	121.50	N 79°38'28" E
ST40	39.18	S 36°37'20" E
ST41	143.35	N 86°35'26" W
ST42	118.15	S 86°35'26" E

Autumn Chase Phase III consists of 39 single family dwelling lots, 2 open space lots and proposed public street right of way associated with the completion of of N. Fall Harvest Drive loop street. Proposed street and associated right of ways shall be offered for dedication to the township. The street right of way dedication shown along Hertzler Road is as previously shown and offered for dedication on the Phase I Final Plan. Concrete monuments shall be set as shown, iron pins shall be set at all other unmarked property corners. See other plan sheets for design information.



See Existing Features Plans for portion of tract on the south side of Hertzler Road: no subdivision or development is proposed on the south side of Hertzler Road with this Phase III Plan

LEGEND

- PROPOSED BUILDING SETBACK LINE
- PROPOSED RIGHT-OF-WAY LINE
- PROPOSED PROPERTY LINE
- PROPOSED PUBLIC RIGHT-OF-WAY
- PROPOSED CONCRETE MONUMENT
- PROPOSED DRAINAGE/STREAM EASEMENT
- PROPOSED SANITARY EASEMENT
- PROPOSED CLEAR SIGHT TRIANGLE
- PROPOSED ACCESS EASEMENT
- N48°54'34"W 120.55' PROPOSED PROPERTY LINE DESCRIPTION
- N66°34'22"E 88.91' Existing Property Line Descriptions
- Existing Property Line
- Existing Adjoining Property
- Existing Right-of-way
- Existing PPL Right of Way
- Existing Zoning District Boundary Line
- Existing 100 Year Floodplain

1 inch = 60 ft.

OPEN SPACE LINE TABLE		
Line	Length	Bearing
OS1	631.05	N 25°18'36" E
OS2	2212.62	S 75°32'47" E
OS3	791.80	S 29°46'11" W
OS4	83.24	S 85°40'41" W
OS5	101.72	S 83°3'45" W
OS6	227.70	N 88°33'12" W
OS7	33.63	N 87°59'6" W
OS8	38.00	N 2°0'54" E
OS9	375.61	S 87°59'6" E
OS10	211.15	N 40°48'39" E
OS11	80.00	N 30°19'12" E
OS12	120.00	N 59°40'48" W
OS13	35.00	N 30°19'12" E
OS14	120.00	S 59°40'48" E
OS15	80.00	N 30°19'12" E
OS16	112.19	N 24°41'50" E
OS17	131.89	N 2°24'15" E
OS18	131.89	N 22°34'11" W
OS19	131.89	N 47°32'36" W
OS20	131.89	N 72°31'2" W
OS21	131.89	S 82°30'32" W
OS22	131.94	S 57°38'3" W
OS23	324.70	S 42°48'25" W
OS24	120.00	S 47°11'35" E
OS25	3.44	S 42°48'25" W
OS26	121.99	N 47°11'35" W
OS27	52.88	S 42°48'25" W
OS28	10.66	S 33°9'23" W
OS29	20.21	N 65°3'1" W
OS30	21.22	N 33°9'23" E
OS31	52.45	N 75°8'47" E
OS32	36.57	S 41°59'18" W
OS33	14.17	S 75°8'47" W
OS34	126.67	S 40°57'21" E
OS35	21.19	S 29°46'11" W
OS36	144.17	N 40°57'21" W
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OS47	435.58	N 75°32'47" W
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OS49	289.81	S 25°18'36" W
OS50	164.35	S 0°13'23" W
OS51	163.51	S 30°58'49" E
OS52	163.51	S 63°9'36" E
OS53	98.33	S 79°52'22" E
OS54	97.48	S 79°20'55" E
OS55	75.45	S 59°35'11" E
OS56	82.38	S 36°35'22" E
OS57	104.08	S 34°54'18" E
OS58	144.49	S 45°59'44" E
OS59	52.85	S 18°35'51" W
OS60	107.99	N 46°44'0" W
OS61	47.82	N 58°33'5" W
OS62	128.06	N 70°34'15" W
OS63	103.76	S 86°39'48" W
OS64	58.29	S 89°3'10" W
OS65	331.04	N 13°20'30" E
OS66	96.50	S 79°47'52" E
OS67	120.00	N 14°27'13" E
OS68	35.00	S 75°32'47" E
OS69	120.00	S 14°27'13" W
OS70	307.000	S 75°32'47" E
OS73	85.00	S 62°3'25" E
OS74	84.99	S 23°13'14" E
OS75	97.86	S 17°57'34" E
OS76	69.24	S 8°2'49" W
OS77	120.00	S 51°26'26" E
OS78	15.51	S 38°33'34" W
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OS84	117.83	N 76°37'6" W
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OS87	113.59	N 24°10'32" E

OPEN SPACE LINE TABLE				
Curve	Length	Radius	Chord Dir	Chord Len
OSC1	24.19	530.00	S 84°22'13" W	24.19
OSC2	171.21	1170.00	N 87°15'17" E	171.05
OSC3	42.41	27.00	S 42°59'6" E	38.18
OSC4	31.67	225.00	S 38°46'30" W	31.64
OSC5	75.21	380.00	S 24°16'2" W	75.08
OSC6	47.16	27.00	N 68°37'58" E	41.39
OSC7	68.79	270.00	S 54°1'57" E	68.61
OSC8	68.07	330.00	N 52°38'32" W	67.95
OSC9	216.07	1030.00	N 64°33'40" W	215.68
OSC10	180.79	455.00	N 81°57'13" W	179.60
OSC11	11.26	270.00	N 87°51'29" E	11.26
OSC12	19.52	225.00	N 36°4'27" E	19.51

See the following Subdivision Plan sheet for the eastern portion of Open Space Lot OS-2

REVISIONS	DATE
1. Addressing Review Comments	12-3-2021
2. Addressing Conditions of Plan Approval Comments	7-12-2022
3.	
4.	
5.	
6.	
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8.	
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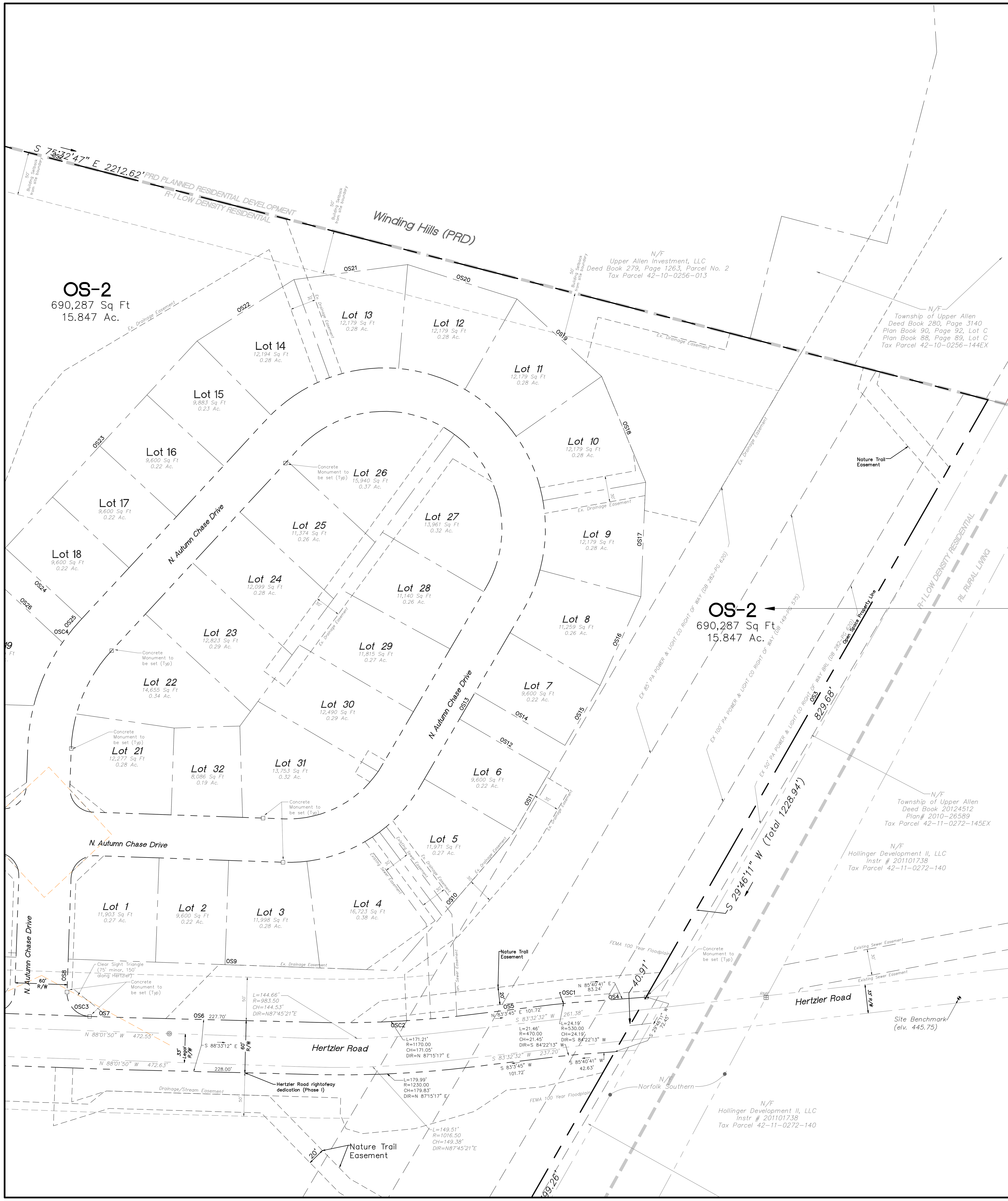
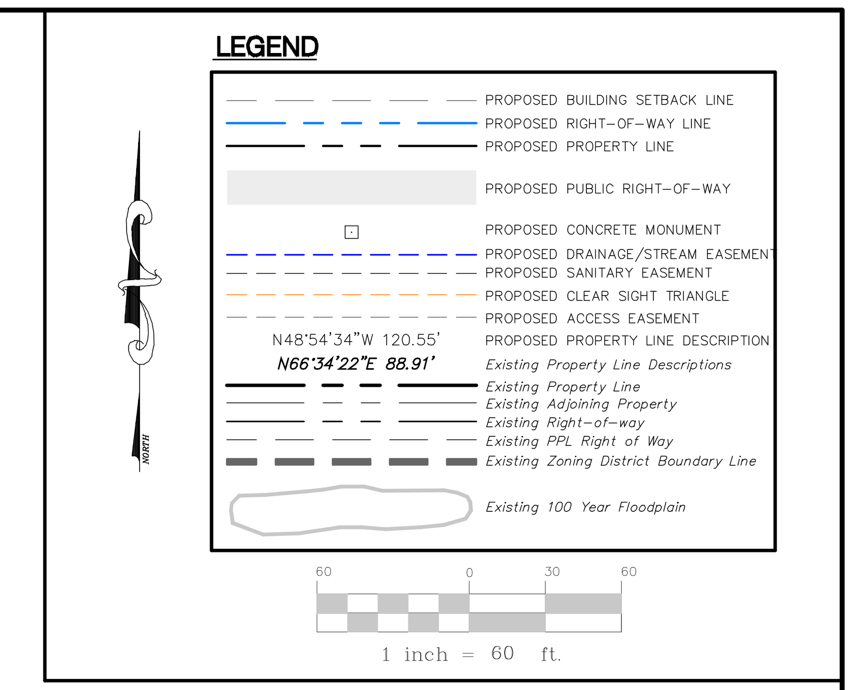
FINAL SUBDIVISION PLAN
FOR
AUTUMN CHASE PRD - PHASE III
Land Developer: Hertzler Road Associates, L.P.
UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 202068
Date November 1, 2021
Sheet No.





The intent of this plan sheet is to depict the eastern portion of Open Space Lot OS-2; see previous Subdivision Plan sheet for western portion of Open Space Lot OS-2

See Existing Features Plans for portion of tract on the south side of Hertzler Road; no subdivision or development is proposed on the south side of Hertzler Road with this Phase III Plan

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8.	-
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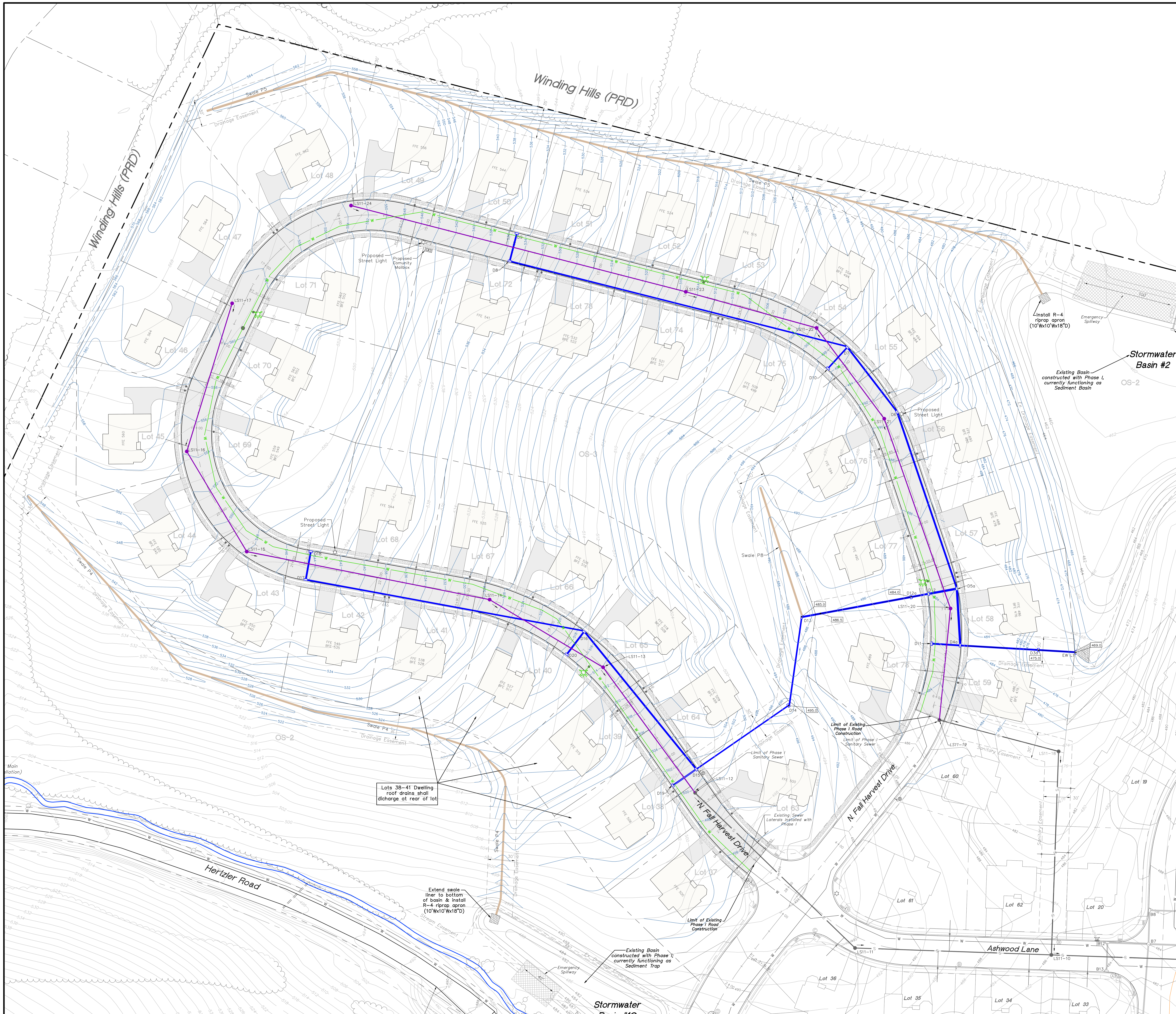
FINAL SUBDIVISION PLAN
FOR
AUTUMN CHASE PRD - PHASE III
Land Developer: Hertzler Road Associates, L.P.
UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 202068
Date November 1, 2021

Sheet No.



SIGN LEGEND

NO.	DOT NO.	LEGEND	QTY.
A	R1–2	YIELD	1
B	R2–1	SPEED LIMIT 25	2

Note:
1. Signs shall be installed at locations shown on the plan unless alternative locations are approved by the township.
2. See Phase I Plan for all other signage outside of Phase III.

UTILITY GENERAL NOTES

1. Public water service shall be provided to the project via a 8" DIP water main extension from the existing water main limits installed with Phase I construction.
2. Public sanitary sewer service shall be provided to the project. Sanitary Sewer Main installation associated with Phase III construction consists of a sewer extension out of existing manhole LS11–12 up to and including proposed manhole LS11–17 and a sewer extension out of existing manhole LS11–19 up to and including proposed manhole LS11–24. The remainder of the downstream sewers shown on this plan are associated with Phase I construction. All sewer construction to be in accordance with Township standards. See Cover sheet and Construction Detail sheets for additional Sanitary Sewer Notes and details.
3. Electric and telecommunication utilities shall be provided and installed as per applicable local utility provider.
4. See Post Construction Stormwater Management Plans for stormwater management BMP detailing; the only new/additional stormwater BMPs proposed with Phase III consists of storm sewer installation and two swales (Basins 1C and 2 were constructed with Phase I and are currently functioning as sediment control BMPs; see Phase I Plans for Basin details).
5. See Erosion Control Plans for temporary BMPs to be implemented during construction.
6. A community cluster mailbox for Phase 3 is proposed in open space lot OS–3 between lots 71 and 72. ADA access is proposed via the overall community sidewalk system; the sidewalk extension from the mailbox area to the curb line shall be to top of slant curb (no ramp proposed at mailbox access from street).

LEGEND

- PROPOSED STORM SEWER, INLET
- PROPOSED END SECTION W/ RIPRAP
- PROPOSED SANITARY SEWER MAIN, MANHOLE
- PROPOSED SANITARY SEWER LATERAL & CLEANOUT
- PROPOSED 8" DIP WATER MAIN
- PROPOSED 6" DIP HYDRANT WATER LINE
- PROPOSED WATER SERVICE, CURB STOP, METER
- PROPOSED CURB/EDGE OF PAVE
- PROPOSED PERMANENT CONTOUR (2')
- PHASE I CONTOUR (2')
- PROPOSED DRAINAGE EASEMENT
- PROPOSED PHASE III PAVEMENT
- PROPOSED BUILDING (Concept)
- *Original Existing 2' Contour*
- *Existing Property Line*
- *Existing Adjoining Property*
- *Existing Right–of–way*
- *Existing Edge of Pave*
- *Existing Storm Sewer, Inlet, ID#*
- *Existing Water Main, Hydrant, Valve*
- *Existing Sanitary Sewer, MH, ID#*
- *Existing Treeline to remain*
- *Existing Stream*

0 25 50
1 inch = 50 ft.

	REVISIONS	DATE
1.	Addressing Review Comments	12–3–2021
2.	Addressing Conditions of Plan Approval Comments	7–12–2022
3.	–	–
4.	–	–
5.	–	–
6.	–	–
7.	–	–
8.	–	–
9.	–	–

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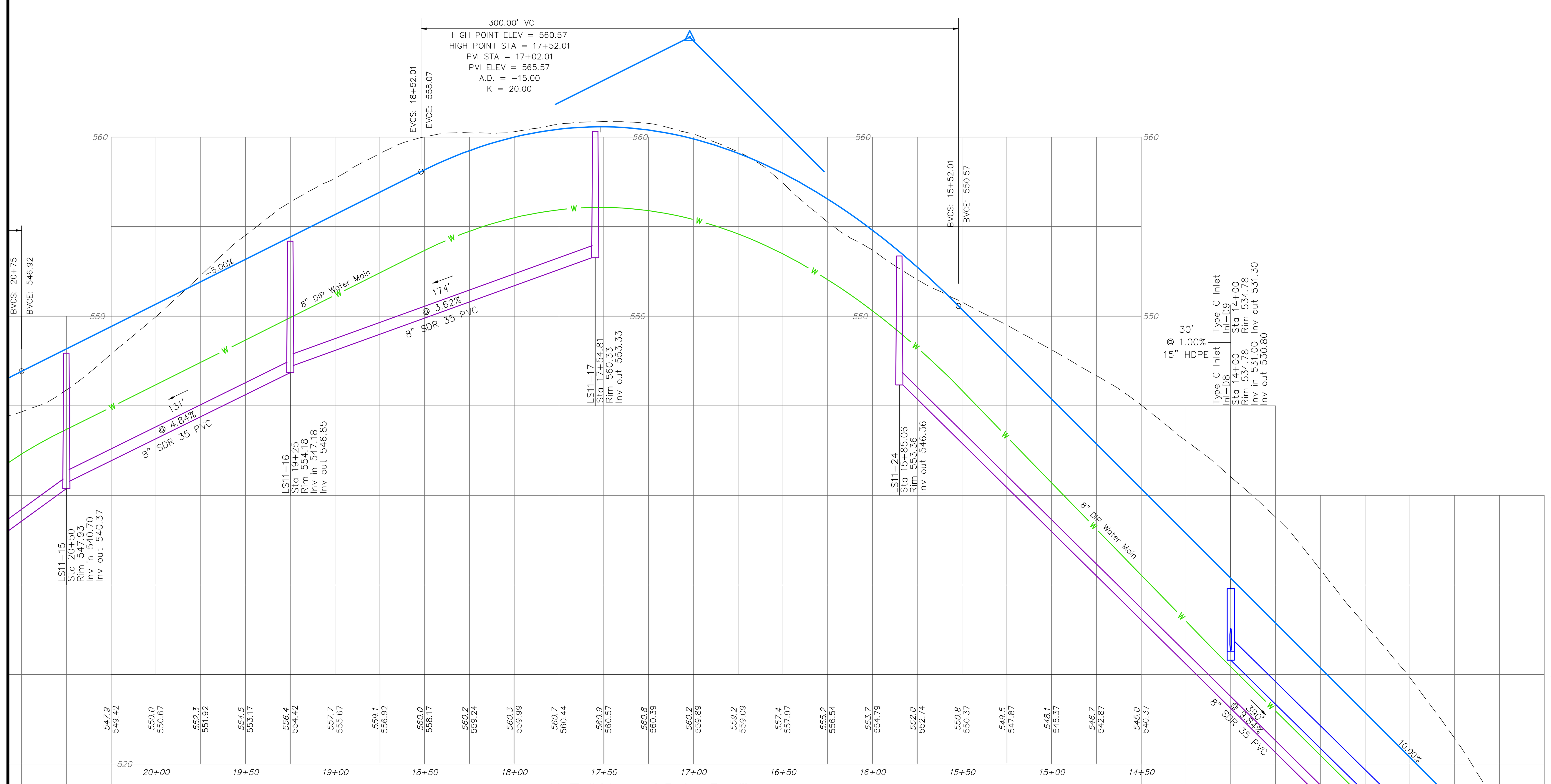
GRADING AND UTILITY PLAN
FOR
AUTUMN CHASE PRD – PHASE III
Land Developer: Hertzler Road Associates, L.P.
UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 202068
Date November 1, 2021

Sheet No.



N. Fall Harvest Drive Profile
SCALE: HORZ. 1" = 50' VERT. 1" = 5'

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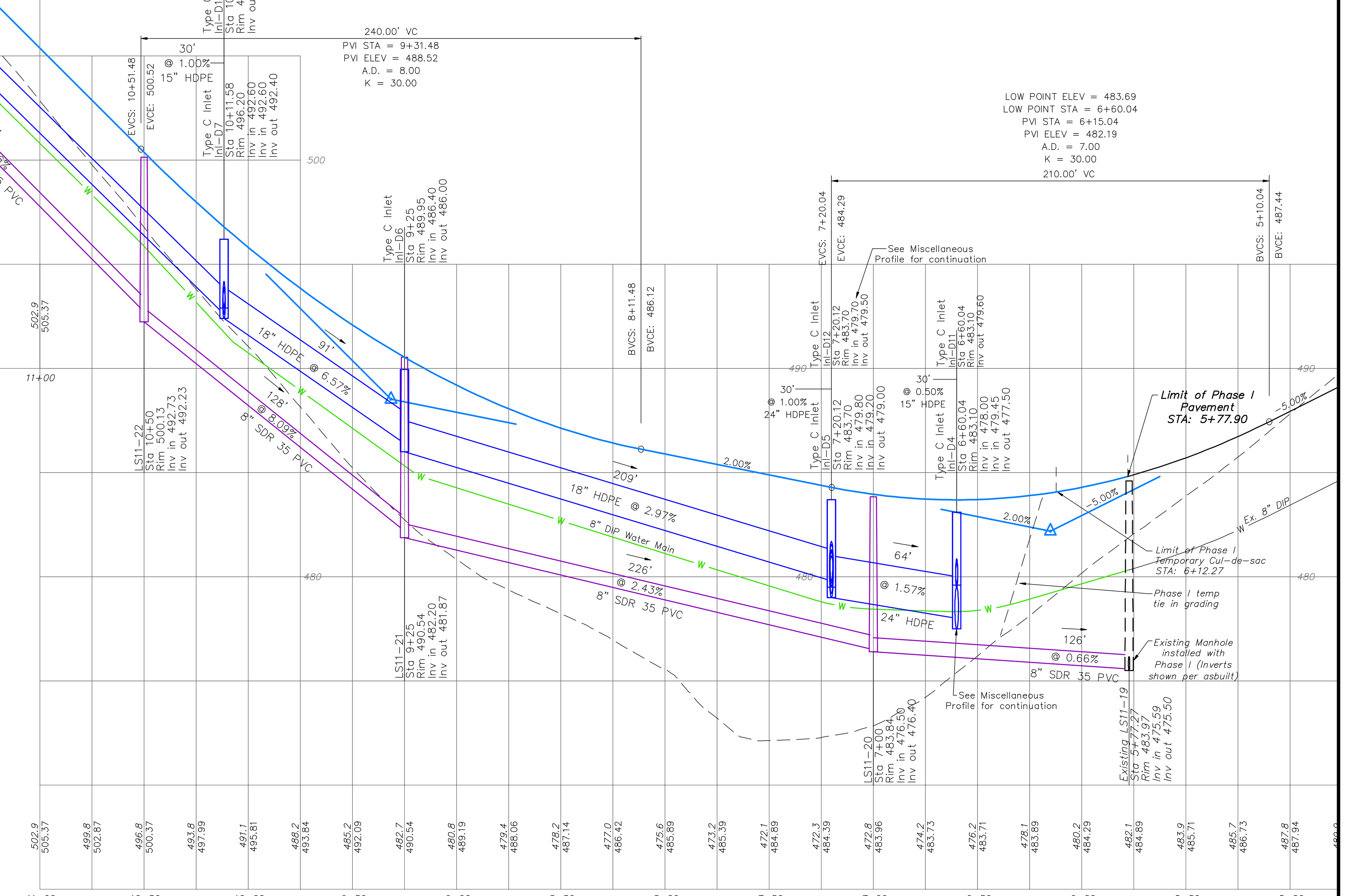

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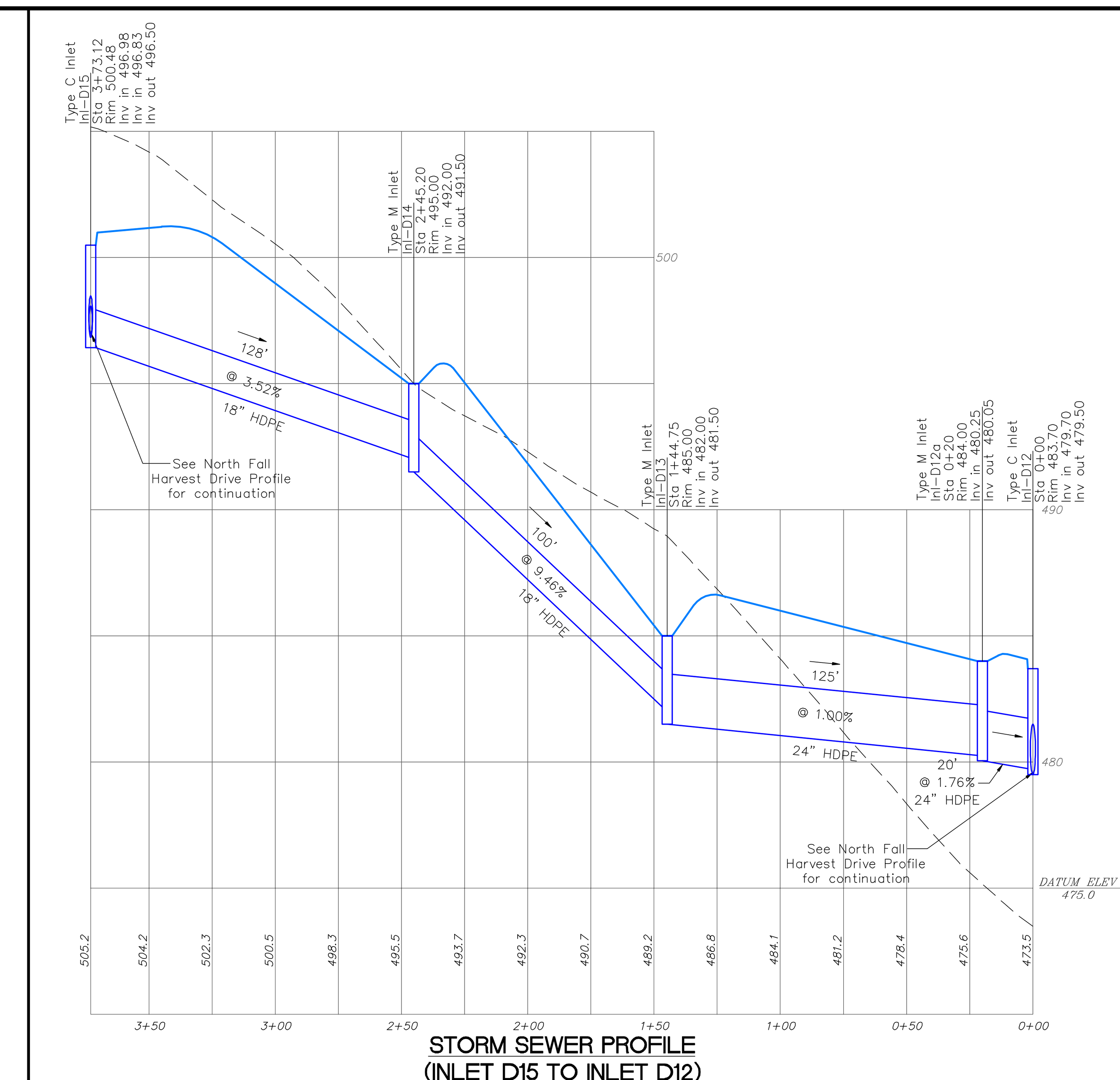
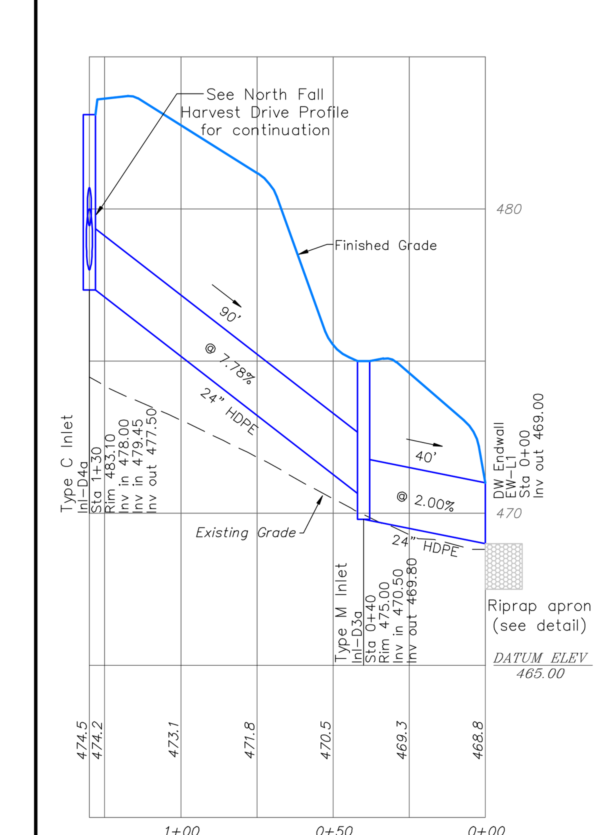


STORM SEWER PROFILE
(INLET D15 TO INLET D12)
SCALE: HORZ. 1" = 50' VERT. 1" = 5'



STORM SEWER PROFILE
(INLET D4 TO ENDWALL L1)
SCALE: HORZ. 1" = 50' VERT. 1" = 5'

SANITARY PIPE LENGTHS SHOWN ON PROFILE REPRESENTS DISTANCE FROM CENTER OF MANHOLE TO CENTER OF MANHOLE; PIPE SLOPE SHOWN ON PROFILE IS CALCULATED BASED ON DISTANCE FROM INSIDE FACE OF MANHOLE TO INSIDE FACE OF MANHOLE

See Construction Detail sheet for Sanitary Sewer Index Map and Manhole location coordinates

REVISIONS	DATE
1. Addressing Review Comments	12-3-2021
2. Addressing Conditions of Plan Approval Comments	7-12-2022
3. Corrected rim elevations of manholes LS11-12 & LS11-19	8-2-2022
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STREET AND UTILITY PROFLES
FOR
AUTUMN CHASE PRD - PHASE III
Land Developer: Hertzler Road Associates, L.P.

UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

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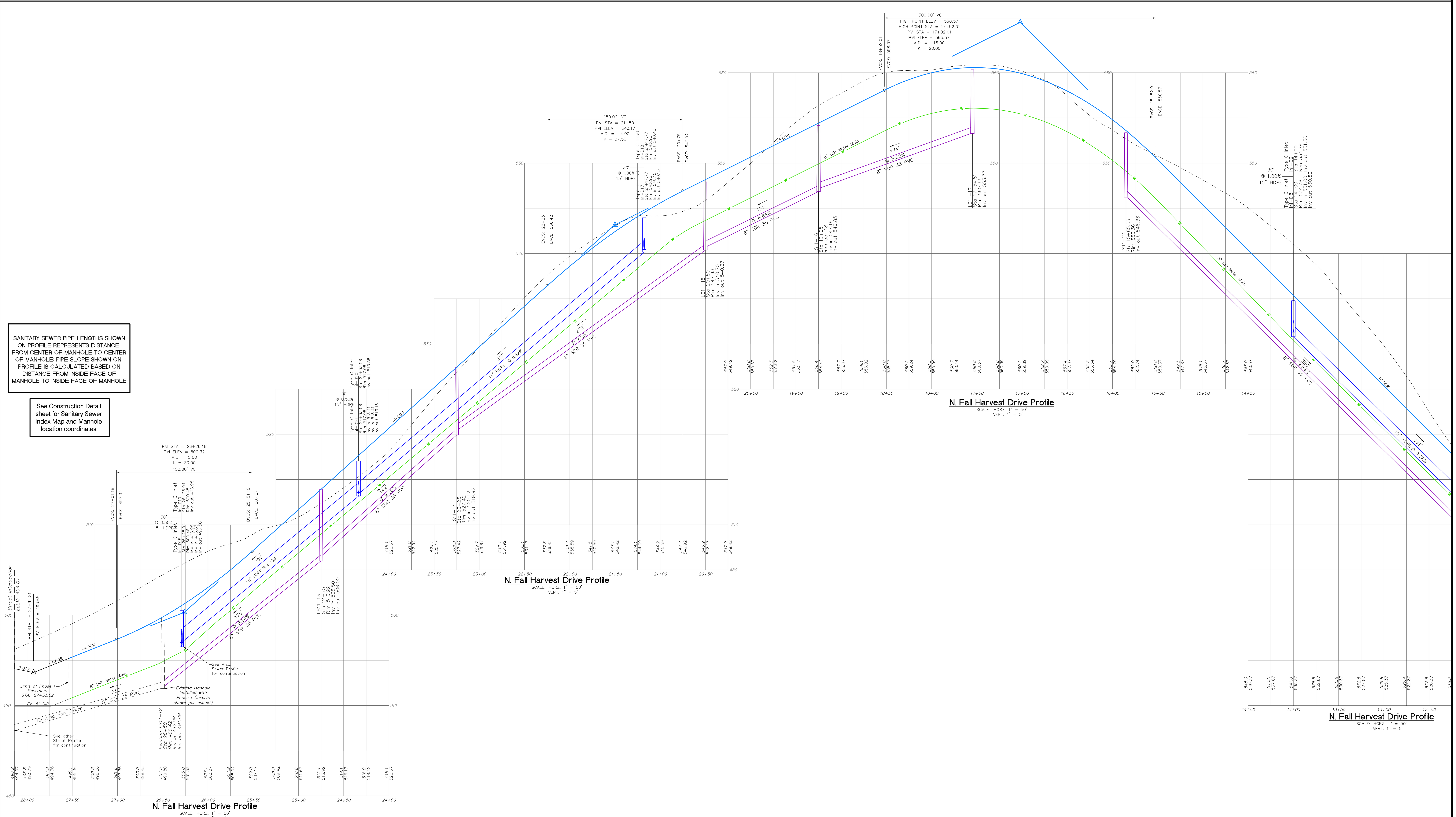

SANITARY SEWER PIPE LENGTHS SHOWN ON PROFILE REPRESENTS DISTANCE FROM CENTER OF MANHOLE TO CENTER OF MANHOLE: PIPE SLOPE SHOWN ON PROFILE IS CALCULATED BASED ON DISTANCE FROM INSIDE FACE OF MANHOLE TO INSIDE FACE OF MANHOLE

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5.	-	-
6.	-	-
7.	-	-
8.	-	-
9.	-	-

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STREET AND UTILITY PROFLES
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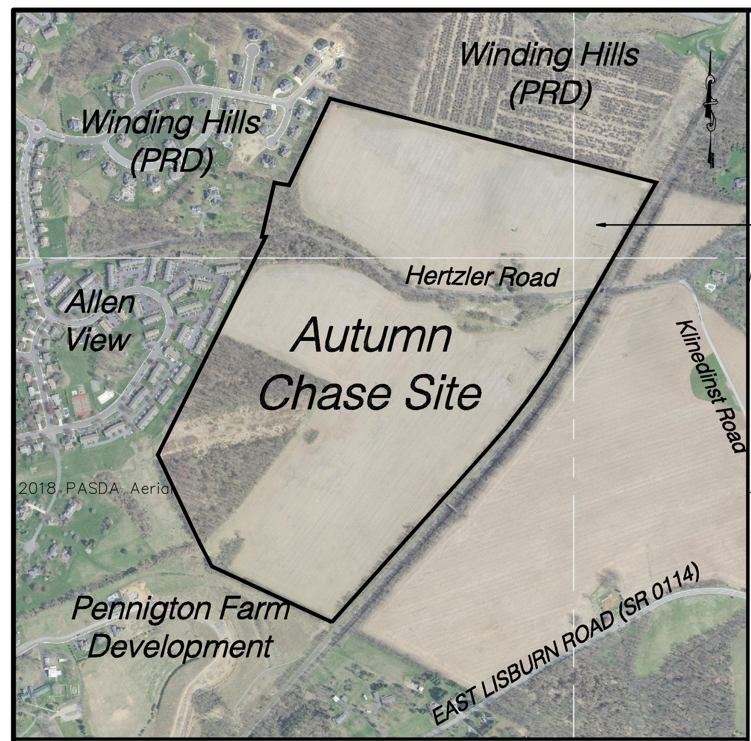


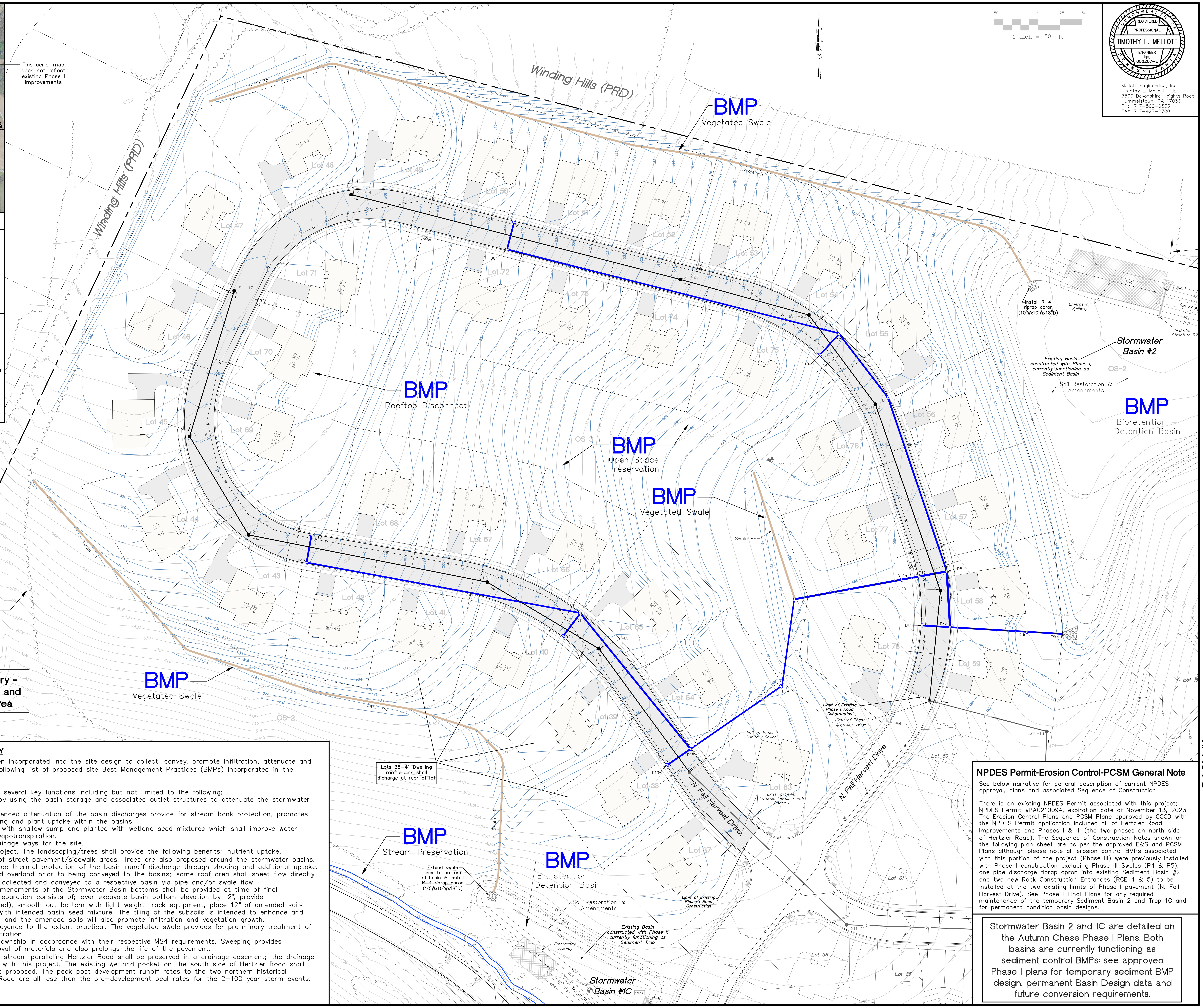
LOCATION/NPDES BOUNDARY MAP
Scale: 1" = 1,000'

PCSM PLAN INTENT NOTE

The intent of the PCSM Plan sheets are to detail the Post Construction Stormwater Management facilities and Ownership and Maintenance Requirements associated with this project. There are no additional basins proposed with this phase of construction, all basins were constructed with Phase I. See Sequence of Construction and SWM Ownership and Maintenance notes on the following PCSM sheet.

GENERAL PCSM NOTES

1. The existing project NPDES Permit related to construction activities is the only required DEP permit for this phase.
2. The entire project site is located within the Yellow Breeches Creek watershed (CWF).
3. BMPs, trees, debris and any other materials not proposed to permanently remain on-site are to be recycled or disposed of in accordance with Department of Environmental Protection regulations. All building materials and wastes must be removed from the site and recycled or disposed 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. No building material, wastes or unused building materials shall be buried, dumped, or discharged at the site.



STORMWATER BEST MANAGEMENT PRACTICES SUMMARY

Post Construction Stormwater Management BMPs have been incorporated into the site design to collect, convey, promote infiltration, attenuate and treat stormwater runoff from the project. Reference the following list of proposed site Best Management Practices (BMPs) incorporated in the project's PCSM design

1. Stormwater Bioretention–Detention Basins shall provide several key functions including but not limited to the following:
   a. Stormwater Runoff Rate control shall be provided by using the basin storage and associated outlet structures to attenuate the stormwater discharge rates to below pre-development rates.
   b. The basins provide for extended detention. The extended attenuation of the basin discharges provide for stream bank protection, promotes infiltration and provides for longer periods of filtering and plant uptake within the basins.
   c. The basin shall be constructed with a flat bottom with shallow sump and planted with wetland seed mixtures which shall improve water quality, increase infiltration volume and promote evapotranspiration.
   d. The basins discharge into the historical natural drainage ways for the site.
2. Street trees and landscaping are proposed with the project. The landscaping/trees shall provide the following benefits: nutrient uptake, evapotranspiration and thermal protection by shading of street pavement/sidewalk areas. Trees are also proposed around the stormwater basins. In addition, the retentive basin seeding shall also provide thermal protection of the basin runoff discharge through shading and additional uptake.
3. Rooftop Disconnect: All roof runoff shall be discharged overland prior to being conveyed to the basins; some roof area shall sheet flow directly to a basin although the majority of the runoff will be collected and conveyed to a respective basin via pipe and/or swale flow.
4. Soil restoration & amendments: Soil restoration and amendments of the Stormwater Basin bottoms shall be provided at time of final stabilization; see sequence notes. The basin bottom preparation consists of; over excavate basin bottom elevation by 12", provide scarification/till of the subgrade bottom (10–20" desired), smooth out bottom with light weight track equipment, place 12" of amended soils mixture across basin bottom followed by stabilization with intended basin seed mixture. The tiling of the subsoils is intended to enhance and restore permeability of the soils to promote infiltration and the amended soils will also promote infiltration and vegetation growth.
5. Vegetated swales are proposed for collection and conveyance to the extent practical. The vegetated swale provides for preliminary treatment of runoff via water quality benefits from filtering and infiltration.
6. Pavement street sweeping shall be conducted by the township in accordance with their respective MS4 requirements. Sweeping provides significant water quality benefits through physical removal of materials and also prolongs the life of the pavement.
7. Drainage way(s) and natural features preservation. The stream paralleling Hertzler Road shall be preserved in a drainage easement; the drainage improvements are the only stream impacts associated with this project. The existing wetland pocket on the south side of Hertzler Road shall also be preserved in an easement; no wetland impacts proposed. The peak post development runoff rates to the two northern historical discharge locations and to the stream along Hertzler Road are all less than the pre-development peal rates for the 2–100 year storm events.

NPDES Permit-Erosion Control-PCSM General Note

See below narrative for general description of current NPDES approval, plans and associated Sequence of Construction.

There is an existing NPDES Permit associated with this project; NPDES Permit #PAC210094, expiration date of November 13, 2023. The Erosion Control Plans and PCSM Plans approved by CCCD with the NPDES Permit application included all of Hertzler Road Improvements and Phases I & III (the two phases on north side of Hertzler Road). The Sequence of Construction Notes shown on the following plan sheet are as per the approved E&S and PCSM Plans although please note all erosion control BMPs associated with this portion of the project (Phase III) were previously installed with Phase I construction excluding Phase III Swales (P4 & P5), one pipe discharge riprap apron into existing Sediment Basin #2 and two new Rock Construction Entrances (RCE 4 & 5) to be installed at the two existing limits of Phase I pavement (N. Fall Harvest Drive). See Phase I Final Plans for any required maintenance of the temporary Sediment Basin 2 and Trap 1C and for permanent condition basin designs.

Stormwater Basin 2 and 1C are detailed on the Autumn Chase Phase I Plans. Both basins are currently functioning as sediment control BMPs; see approved Phase I plans for temporary sediment BMP design, permanent Basin Design data and future conversion requirements.

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
TIMOTHY L. MELLOTT
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PCSM #1

	REVISIONS	DATE
1.	Addressing Review Comments	12-3-2021
2.	Addressing Conditions of Plan Approval Comments	7-12-2022
3.	–	–
4.	–	–
5.	–	–
6.	–	–
7.	–	–
8.	–	–
9.	–	–

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POST CONSTRUCTION STORMWATER MANAGEMENT PLAN
FOR
AUTUMN CHASE PRD - PHASE III
Land Developer: Hertzler Road Associates, L.P.
UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 202068
Date November 1, 2021

Sheet No. PCSM #1

OPERATION AND MAINTENANCE NOTES

BMPs Inspection and Maintenance Requirements

The property owner on which the stormwater facilities are located shall be responsible for operation and maintenance of the on-lot SWM BMP facilities consistent with the Operation and Maintenance Plan for the project and in accordance with the "Operation & Maintenance Agreement Stormwater Management Best Management Practices". The Home Owners Association shall be responsible for the Operation and Maintenance of all stormwater facilities located outside of a public right of way excluding individual on lot infiltration beds and/or rain gardens which shall be owned and maintained by the respective property owner (only roof area not draining to a Basin requires an infiltration bed and/or rain garden, see plan for applicable lots).

Description of Operation and Maintenance Requirements

The following inspection and maintenance activities shall be performed on a regular basis; bi-monthly during mowing months, monthly on non mowing months and within 48 hours after a major storm event: (> 1 inch rainfall depth). In addition to the following see the Township Inspection Reporting requirements following the below list:

Bioretention-Detention Basins

1. Basin outlet structures shall be routinely inspected to verify the orifices and/or grate top are not clogged. Remove any accumulated debris from the outlet structure.
2. Emergency Spillways shall be routinely inspected for erosion. Bare soil shall be stabilized with topsoil, seeding and permanent liner as detailed.
3. All trash and debris should be regularly removed from basins and upslope areas.
4. Reseed bare areas; install appropriate erosion control measures when native soil is exposed.
5. Mow or trim vegetation to maintain vegetation lengths as required by Township. Stormwater Management Basin bottoms are planted with a wetland-type basin seed mix to aid in filtering and treatment of stormwater runoff. The basin bottoms may be trimmed for aesthetics and to remove debris and inspect for damage; however, the bottom areas shall not be mowed.
6. Basins shall be inspected at time of mowing for invasive weeds, large shrubs and trees (no mowing of basin bottom, see above note). Remove such undesirable invasive vegetation as necessary.
7. Basin Embankment and surrounding areas shall be free of burrowing animals in order to protect the structural integrity of the stormwater facility.
8. All piping inlet and outlet structures shall be free of holes, cracks, seepage, leakage or other defects.
9. Inspect of Basin dewatering times: All basins are to fully dewater within 72 hours of the completion of a rain event. If standing water remains in a basin after maximum allowable 72 hours dewatering time the Home Owners Associated shall contact the site engineer for an inspection. The following remediation measures should be implemented if it is believed the upper topsoil/amendment mixture (12" layer) is the limiting factor: chisel plow the top surface layer to maximum depth practical, smooth out surface followed by stabilization with intended retentive basin seed mixture. The following remediation measures should be implemented if it is believed the subsoils (soil horizon below topsoil/amendments layer) is the limiting factor: remove and stockpile top soil/amendment layer (12" layer), chisel plow the subsoils to maximum depth practical, place the topsoil/amendment mixture over the remediated subsoils, smooth out surface followed by stabilization with intended retentive basin seed mixture.

Vegetated Swales

1. Swales shall be inspected for erosion. Any erosion shall be immediately stabilized with topsoil, seeding and liner accordingly.
2. All trash and debris should be regularly removed from swales and upslope areas.
3. Mow and trim vegetation to ensure safety, aesthetics, proper swale operation, or to suppress weeds and invasive vegetation; mow only when swale is dry to avoid rutting.

Storm Sewer System & Riprap Aprons (Located outside of public right of ways)

1. All inlets and the surrounding areas shall be free of all obstructions, spent liquids such as oils, fuels, petroleum products, antifreeze, sediment, grease, trash and debris.
2. All riprap aprons shall be inspected and reestablished if needed.

Street Sweeping (public streets)

1. Street sweeping shall be performed by the township in accordance with their respective MS4 requirements.

PROPERTY OWNERSHIP O&M & TOWNSHIP RIGHT OF ENTRY NOTE

The property owner on which the stormwater facilities are located shall be responsible for operation and maintenance of the on-lot facilities consistent with the Operation and Maintenance Plan associated with the project. In the event that the responsible person or entity fails to do so, the owner hereby grants to West Hanover Township the right but not the duty to enter upon the premises to repair or restore said facilities, to charge and assess the costs thereof to the owner, and to enforce said charges and assessments by lien upon the property. In addition, the deed for the applicable lots shall contain a covenant binding the grantee and all successors' title and interest designating the responsibility for operation and maintenance of the on-lot facilities.

The Owner shall agree that no action will be taken to block or impede the passage of water through said stormwater management facilities and will place no structure, building, or fence, nor plant any trees or shrubs which would impede the use of said facilities for its intended purposes, without prior approval from the Township.

Current Property Owner/Responsible Party

The current owner (Hertzler Road Associates, L.P.), or any succeeding owner or any owners (successor(s)) has a legal duty to maintain the stormwater and drainage facilities as detailed above and in accordance with the associated Stormwater O&M Agreement.

PERMANENT SEEDING

A. All disturbed soil not to be covered with impervious surfaces, riprap or landscaping mulch shall be permanently seeded to provide protection against the impact of precipitation, running water and wind.

B. Mulching shall be used to protect seeding and help in preventing runoff. Clean straw mulch shall be required in all disturbed areas and applied at a rate of 3 tons/acre (equivalent to 0.75" to 1" deep). Clean straw mulch should not be finely chopped nor broken during application.

Maintenance procedure:

1) Maintain a minimum 70% soil surface coverage with grass and/or mulch.
2) If a washout, slope failure or similar disturbance occurs, correct drainage problem if necessary, then reapply soil to the proper grade, reapply soil amendments, seed and mulch.

Permanent seeding schedule is as follows:

For gentle lawn areas

Species: 40% Kentucky Bluegrass
40% Pennlawn Creeping Red Fescue
20% Norlea Perennial Ryegrass

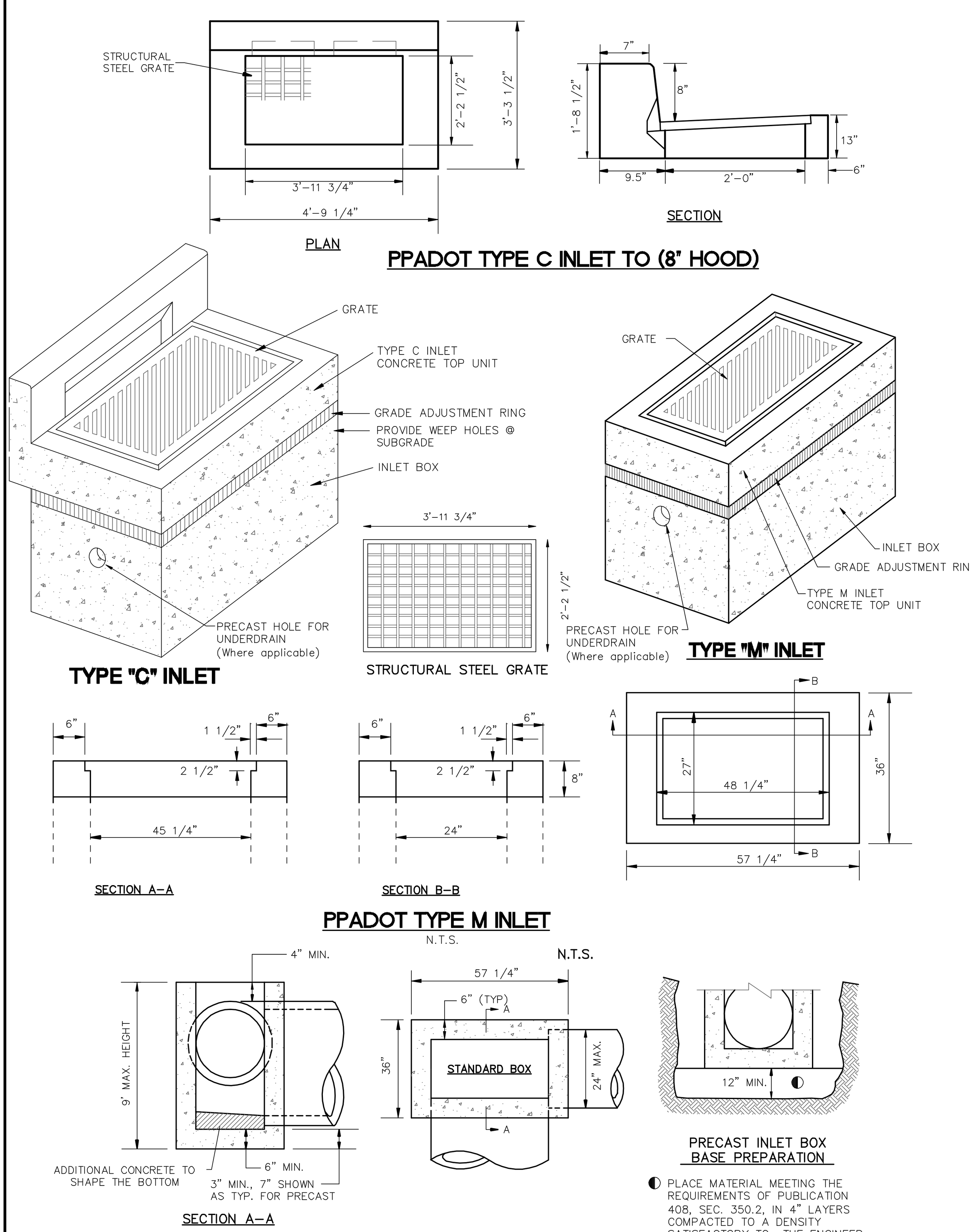
For Swales, steep slopes and wet areas: 100% Tall Fescue, varieties such as K-31, Alta, or other recently released dwarf variety
% Pure live seed: 98%
Application rate: 6 lbs./1000 sq. ft.
Fertilizer type: general purpose granular, 10-20-20
Fertilizer application rate: 1000 lbs per acre
Liming rate: Four (4) tons per acre of agricultural grade lime
Strawbale mulch rate: three (3) tons per acre
Seeding dates: Between 4/1 and 10/15

SEQUENCE OF CONSTRUCTION (see note lower right corner)

The following Sequence of Construction includes references to the proposed temporary erosion control measures and permanent stormwater BMPs; see the Erosion & Sediment Control Plan sheets for the temporary control measures.

- At least 7 days before starting any earth disturbance activities, the owner and/or operator shall invite all contractors involved in those activities, the landowner, all appropriate municipal officials (Township), the erosion and sediment control plan preparer, and a representative of the County Conservation District to an on-site pre-construction meeting.
- At least 3 days before starting any earth disturbance activities, all contractors involved in those activities shall notify the Pennsylvania One Call System Incorporated at 811 for the location of existing underground utilities.
- All earth disturbance activities shall proceed in accordance with the following sequence. Each stage shall be completed and immediately stabilized before any following stage is initiated. Clearing, grubbing and topsoil stripping shall be limited only to those areas described in each stage.
- Immediately upon discovering unforeseen circumstances posing the potential for accelerated erosion and/or sediment pollution, the operator shall implement appropriate best management practices (BMPs) to eliminate the potential for accelerated erosion and/or sediment pollution.
- If any fill material must be brought to the site, it must come from a site with an approved Erosion Control Plan and the contractor or developer must notify the County Conservation District and provide the appropriate information pertaining to the borrow site prior to start of hauling operations.
- All pumping of sediment laden water shall be through a sediment control BMP, such as a pumped water filter bag or equivalent sediment removal facility, over undisturbed vegetated areas.

1. Contractor and/or owner to coordinate with the Township regarding complete closure of Hertzler Road to accommodate the Hertzler Road drainage improvements. Initial access to the site shall be via the existing gravel driveway off Hertzler. Install construction fencing around the stormwater basin bottom areas to prevent compaction from construction equipment. Install stabilized rock construction entrance #1 at the existing driveway location (RCE #2 & #3 require drainage improvements prior to installation). Ingress and egress to the site will be restricted to the construction entrances only.
2. Install compost filter sock barriers #1 through #7. Remaining silt sock barriers are associated with the offsite utility extensions and shall be installed later in the sequence.
3. Culvert G & Storm Sewer B4 to EW-G Installation: Install sand bag cofferdam directly upstream of Culvert G (upstream of existing concrete trench) and initiate clean water bypass pumping with discharge point downstream of Culvert G. Install second sand bag cofferdam directly up stream of clean water pump discharge. Any sediment laden water pumped out of the work area shall be directed to a pumped water filter bag prior to discharge (filter bag to be placed on level vegetated ground). Remove the existing concrete trench and arch culvert from the stream channel and the 18" culvert under Hertzler Road. Install water main casing pipe and telecommunication conduits under stream crossing. Install Culvert G and storm sewer B4 to EW-G. Immediately install inlet protection in inlets B2 & B3 (B4 is future trap outlet structure). All stream channel disturbance directly up and down stream of the culvert shall be stabilized with natural stream strata. Remove bypass pumping/sandbags.
4. Install Rock Construction Entrance #2 (N. Autumn Oaks Drive). Ingress and egress to the site will be restricted to the construction entrances.
5. Culvert H Installation: Install sand bag cofferdam directly upstream of Culvert H and initiate clean water bypass pumping with discharge point downstream of Culvert G. Install second sand bag cofferdam directly up stream of clean water pump discharge. Any sediment laden water pumped out of the work area shall be directed to a pumped water filter bag prior to discharge (filter bag to be placed on level vegetated ground). Remove existing CMP culvert under Hertzler Road. Install water main casing pipe and telecommunication conduits under stream crossing. Install Culvert H with endwalls and associated riprap stream bank stabilization. All stream channel disturbance directly up and down stream of the culvert shall be stabilized with natural stream strata. Remove bypass pumping/sandbags.
6. Install Rock Construction Entrance #3 (N. Fall Harvest Drive). Ingress and egress to the site will be restricted to the construction entrances.
7. Install Sediment Traps (1A, 1B & 1C) located along the north side of Hertzler Road including outlet structure, barrel, riprap apron, baffles and cleanout stakes (See Details). To minimize soil compaction of the subsoils below the basin bottom, no heavy equipment shall be used for basin excavation after the design grades are within 2' of finished grade. The remaining basin excavation shall be performed from the sides of the basin to the extent possible. Any grading that can not be performed from the sides of the basin(s) shall be performed with wide track equipment (no rubber tire equipment to be used in basin bottom areas due to concentrated loads that occur under the tires). See end of sequence notes for basin conversion and soil restoration/amendment notes. Install water bar #1 & #2 to direct upslope runoff to sediment traps 1A and 1B respectively. Rock Construction Entrance #1 can be removed during the construction of Trap 1C. Critical Stage of Construction: Basin Embankments shall be inspected by licensed professional.
8. Install collection swale P1 into Sediment Trap 1A, swale P2 into Sediment Trap IB and Swale P4 into Trap 1C; immediately stabilize swales (see detail).
9. Install Sediment Basins 2 & 3 including permanent outlet structure, temporary riser attachment, barrel, riprap apron, baffles and cleanout stakes (See Details). To minimize soil compaction of the subsoils below the basin bottom, no heavy equipment shall be used for basin excavation after the design grades are within 2' of finished grade. Basin excavation shall be performed from the sides of the basin to the extent possible. Any grading that can not be performed from the sides of the basin(s) shall be performed with wide track equipment (no rubber tire equipment to be used in basin bottom areas due to concentrated loads that occur under the tires). See end of sequence notes for basin conversion and soil restoration/amendment notes. Critical Stage of Construction: Basin Embankments shall be inspected by licensed professional. Install Swale P5 into Basin 2; immediately stabilize swale (see detail).
10. The above installed control measures address the site work proposed on the north side of Hertzler Road. After the above described perimeter erosion control measures are installed strip and stockpile topsoil as needed for areas to be regraded; stockpiles shall not exceed a maximum height of 35 feet and shall be no steeper than 2:1. Stockpiles to be stabilized accordingly. Perform bulk grading. Grading shall be such as to maintain sediment laden runoff to the intended receiving sediment control BMP(s).
11. Begin on site utility installation followed by curb installation. Install stone subbase on streets as soon as possible to shield soil from erosion. Install Swale P3; immediately stabilize swale per detail.
12. Replace topsoil and permanently seed and mulch all non-paved areas where grading is complete. As disturbed areas within a project approach final grade, preparations should be made for seeding and mulching to begin (i.e. anticipate the completion date and schedule the seeder). In no case should an area exceeding 15,000 square feet, which is to be stabilized by vegetation, reach final grade without being seeded and mulched.
13. Hertzler Road embankment grading along south side of Hertzler Road west of intersection with N. Fall Harvest Drive: Install stone embankment Sediment Trap T1 on the south side of Hertzler Road (Trap T1 shall treat sediment laden runoff associated with a portion of the proposed embankment grading & Hertzler Road reconstruction). Install Swale P6, see detail.
14. Install temporary 12" compost filter sock at the entrance of the existing culvert at the up stream end of swale P6; the filter sock shall serve as temporary filter for swale P7 discharge. Perform minimum grading needed to install Swale P7 and the proposed Compost Sock #11 directly above/paralleling swale P7 (some grading required to install sock). Perform embankment grading upslope of sock #11/Swale P7 & swale P6, immediately stabilize slope with topsoil, seeding and S75 matting.
15. Culvert "I" installation. Remove existing 15" storm pipe and install new culvert, end walls and downstream riprap apron. Compost sock at upstream end wall can be removed after Swale P7 and upslope area becomes fully stabilized (sock could cause ponding along the edge of roadway and as such should be removed as soon as possible).
16. Off site utility extensions. Install remaining section of filter sock associated with the offsite water main extension to the west and the off site sanitary sewer extension to the east. The earth disturbance associated with the off site water and sewer main extensions shall be limited to amount of pipe installation that can be installed and stabilized within the same day (road restoration to be in accordance with township standards). All earth disturbance within 50' of the intermittent stream and within 50' of the wetland pocket to be stabilized with permanent seeding and S75 matting.
17. The stream bank along Hertzler Road east/down stream of the railroad bridge is severely eroded. The stream bank shall be stabilized with geotextile and R-5 riprap. Install sand bag cofferdam in the concrete flume under the railroad bridge and establish clean water bypass pumping with discharge point downstream of proposed stabilization measures. Install second sand bag cofferdam directly up stream of clean water pump discharge. Any sediment laden water pumped out of the work area shall be directed to a pumped water filter bag prior to discharge (filter bag to be placed on level vegetated ground). Place geotextile fabric and R5 riprap along stream bank as shown. Remove bypass pumping/sand bags.
18. Begin building construction. Home builders shall implement Typical Individual On-Lot Erosion Controls to limit sediment from entering streets or abutting developed lots although no additional on lot measures are needed for disturbance areas that drain directly to a Sediment trap and/or basin.
19. The erosion control measures may not be removed until the entire upslope drainage area has a permanent stabilization. This occurs with a minimum uniform 70% perennial vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated surface erosion and subsurface characteristics sufficient to resist sliding and other movements. All paved areas must be paved or have a compacted stone base in place. Upon completion of all earth disturbance activities and permanent stabilization of all disturbed areas, the owner and/or operators shall contact the County Conservation District for an inspection prior to the removal of the erosion control BMP's.
20. After the Conservation District representative has inspected the site and agrees the site is stabilized the BMP's can be removed as follows:
    a. Critical Stage of Construction (Basin Conversions): After all upslope contributing areas are permanently stabilized and after receiving authorization from a CCCD representative Stormwater Basins 1A, 1B, 1C, 2 and 3 shall be converted to permanent stormwater basins. Install 12" compost sock around outlet structure to provide for filtering during final stabilization process. Soil restoration and amendments of the Stormwater Basin bottoms shall be provided at time of conversion. The basin bottom preparation consists of over excavating the basin bottoms to 12" below finished grade, scarification/till the subgrade bottom (10" depth desired), smooth out bottom with light weight track equipment and place 12" of the amended soils mixture across basin bottom followed by stabilization with intended basin seed mixture and mulch. The scarification/tiling of the subsoils is intended to enhance permeability of the subsoils and the amended soils will also promote infiltration and enhance vegetation growth.
    b. Silt barries can be removed.
    c. Remove all inlet protection.
    d. BMPs, trees, debris and any other materials not proposed to permanently remain on-site are to be recycled or disposed of in accordance with Department of Environmental Protection regulations. All building materials and wastes must be removed from the site and recycled or disposed 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. No building material or wastes or unused building materials shall be buried, dumped, or discharged at the site.

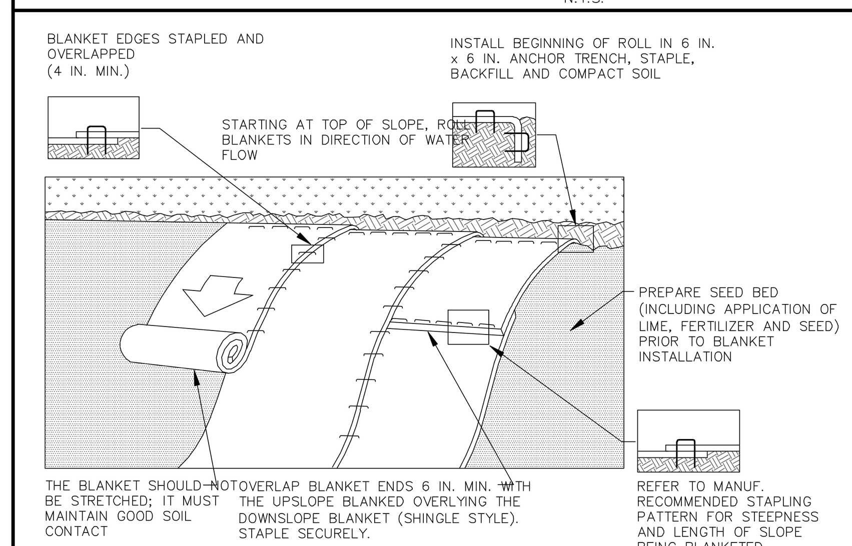


NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH PENN DOT PUBLICATION 408, SECTION 714 AND STANDARDS FOR ROADWAY CONSTRUCTION, RC-34. CONTRACTOR SHALL VERIFY INLET BOX SIZING BASED ON PIPE SIZES AND ALIGNMENT PRIOR TO ORDERING PRECAST STRUCTURES. STRUCTURE SHALL BE CERTIFIED FOR H20 LOADING.
2. ALL DRAINAGE STRUCTURES SHALL HAVE POURED-IN-PLACE CONCRETE CHANNEL BOTTOMS.
3. ALL INLETS TO HAVE PENN DOT TYPE BICYCLE SAFE GRATES.
4. PROVIDE WEEP HOLES IN ALL INLET BOXES @ SUBGRADE TO ALLOW FOR DRAINAGE DURING CONSTRUCTION.
5. OPENINGS SHALL BE PROVIDED WHERE NECESSARY FOR PAVEMENT BASEDRAIN TIE-IN.
6. INLETS SHALL NOT HAVE A SUMP CONDITION IN THE BOTTOM. PIPES SHALL BE FLUSH WITH THE BOTTOM OF THE BOX OR CONCRETE CHANNELS SHALL BE POURED. SUMPED INLETS MAY BE SPECIFICALLY UTILIZED FOR WATER QUALITY PURPOSE.
7. INLETS MUST BE SIZED TO ACCEPT THE SPECIFIED PIPE SIZES WITHOUT KNOCKING OUT ANY INLET CORNERS.
8. ANY INLETS OR JUNCTION BOXES OVER FIVE FEET IN DEPTH SHALL BE EQUIPPED WITH LADDER RIGS.

STORM INLET DETAILS

N.T.S.



NOTES:

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

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

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

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

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

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

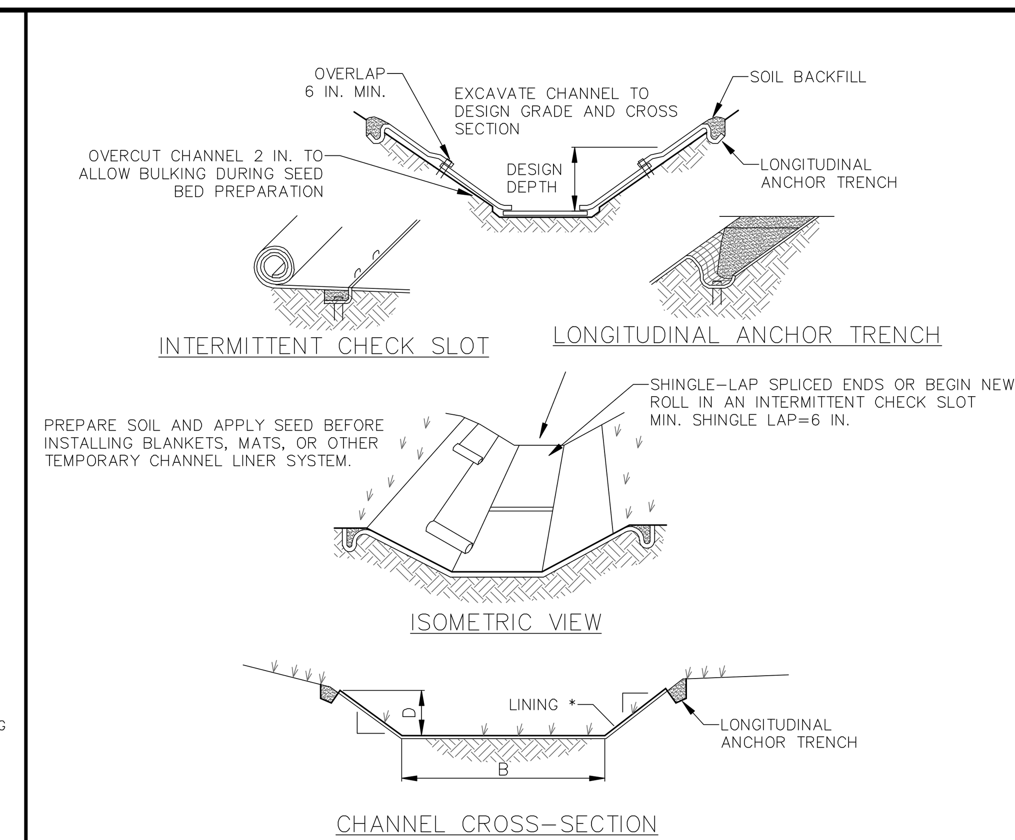
STANDARD CONSTRUCTION DETAIL #11-1
EROSION CONTROL BLANKET INSTALLATION

SOILS TABLE

SOIL SYMBOL	SOIL DESCRIPTION	SLOPE (%)	HYDROLOGIC GROUP	DEPTH TO WATER TABLE (FT)	SOIL REACTION (pH)	SUITABILITY FOR ROADFILL	SUITABILITY FOR TOPSOIL
BdB	Bedington Shaly Silt Loam	3 to 8%	B	5+	4.5-7.3	FAIR	POOR
BdC	Bedington Shaly Silt Loam	8 to 15%	B	5+	4.5-7.3	FAIR	POOR
BdD	Bedington Shaly Silt Loam	15 to 25%	B	5+	4.5-7.3	FAIR	POOR
BpB	Blairton silt loam	3 to 8%	C	½-3	4.5-5.5	POOR	POOR
BrB	Brinkerton silt loam	3 to 8%	D	0-½	4.5-5.5	POOR	POOR
DuB	Duffield silt loam	3 to 8%	B	5+	5.1-7.3	POOR	FAIR
EdB	Edom silt loam	3 to 8%	B	5+	5.1-7.8	POOR	POOR
EdC	Edom silt loam	8 to 15%	B	5+	5.1-7.8	POOR	POOR
HaA	Hagerstown shaly silt loam	0 to 3%	B	5+	4.5-7.3	POOR	POOR
HaB	Hagerstown shaly silt loam	3 to 8%	B	5+	4.5-7.3	POOR	POOR
Me	Melvin silt loam	0 to 2%	B/D	0-1	6.1-7.3	POOR	POOR
Pe	Penlaw silt loam	0 to 3%	C/D	½-1½	5.6-7.3	POOR	POOR

In general, the soils present should not pose any significant limitation to the type of development proposed. Reference the following recommendation pertaining to possible issues that may be encountered during construction.

- If unrippable rock is encountered during proposed grading, blasting or drilling may be required. Removed rock can be crushed if necessary and used for fill.
- If water table is encountered during excavation, dirty water shall be pumped out into a filter bag or sediment removal pond.
- The NRCS Soil Survey indicates some of the soils have a poor rating for use as road fill. The contractor should use only what soils are suitable for road fill and shall place and compact fill in accordance with standard practice. All road fill must meet Penn DOT Pub. 408 standards.
- Trap/Basin Core material shall be unified class CH or CL soil compacted to 98% of max dry density. Homogeneous embankment material to be compacted in 8" layers to a minimum final density of not less than 98% of max. Dry density within 2% of optimum moisture content. (ASTM Method D1557).
- If sinkhole is encountered during construction contractor and/or owner should immediately consult with a Geotechnical Engineer for guidance on proper sinkhole repair.



* SEE MANUFACTURER'S LINING INSTALLATION DETAIL FOR STAPLE PATTERNS, VEGETATIVE STABILIZATION FOR SOIL AMENDMENTS, SEED MIXTURES AND MULCHING INFORMATION

SWALE DESIGNATION	CHANNEL SLOPE (%)	Z1	Z2	BW (FT.)	D (MIN.) (FT.)	TW (MIN.) (FT.)	TEMPORARY LINING	PERMANENT LINING
P4	25.0	3	3	2.0	1.0	8.0	N.A.G. P300	N.A.G. P300/CLASS D VEG.
P5	8.0	3	3	2.0	1.0	8.0	N.A.G. SC250	N.A.G. SC250/CLASS D VEG.
P8	4.0	3	3	2.0	1.5	11.0	N.A.G. SC250	N.A.G. SC250/CLASS D VEG.

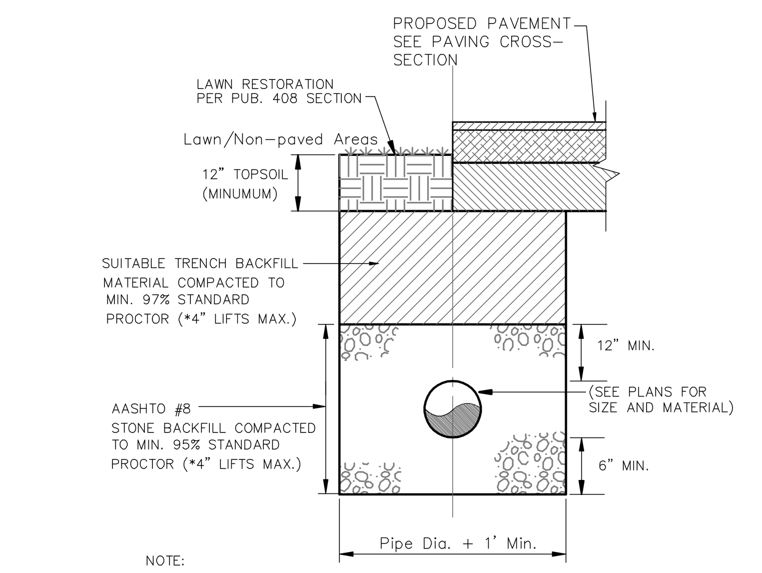
NOTES:

ANCHOR TRENCHES SHALL BE INSTALLED AT BEGINNING AND END OF CHANNEL IN THE SAME MANNER AS LONGITUDINAL ANCHOR TRENCHES.

CHANNEL DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. CHANNEL SHALL BE CLEANED WHENEVER TOTAL CHANNEL DEPTH IS REDUCED BY 25% AT ANY LOCATION.
SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO CHANNEL WITHOUT FURTHER DAMAGE. DAMAGED LINING SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS OF DISCOVERY.

NO MORE THAN ONE THIRD OF THE SHOOT (GRASS LEAF) SHALL BE REMOVED IN ANY MOWING. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2 AND 3 INCHES UNLESS OTHERWISE SPECIFIED. EXCESS VEGETATION SHALL BE REMOVED FROM PERMANENT CHANNELS TO ENSURE SUFFICIENT CHANNEL CAPACITY.

STANDARD CONSTRUCTION DETAIL #6-1
VEGETATED CHANNEL

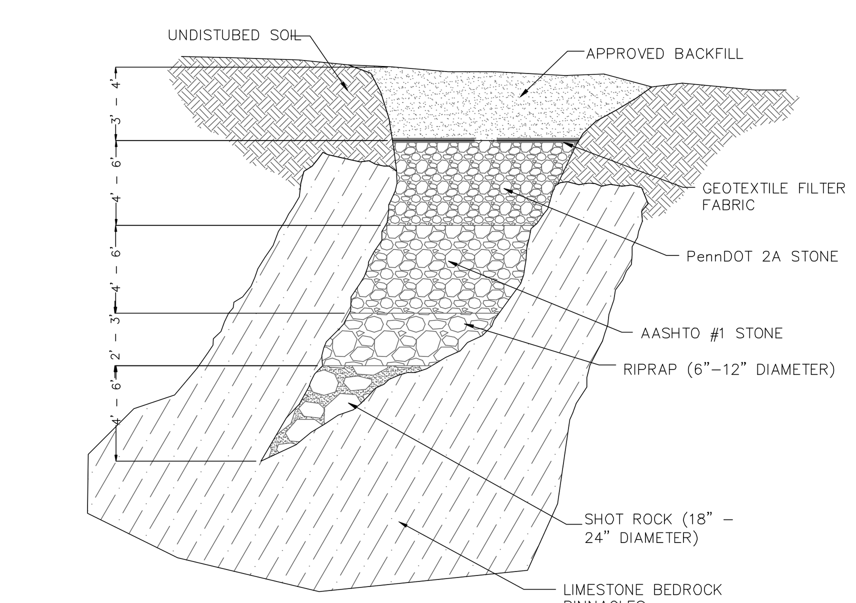


NOTE:

1. USE THIS DETAIL FOR TRENCH RESTORATION OUTSIDE OF EXISTING PAVED AREAS.
2. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO PENN DOT PUBLICATION 408, MOST RECENT AMENDMENT.
3. *BACKFILL MAY COMPACTED IN 8" LIFTS IF VIBRATORY EQUIPMENT IS USED.

STORM SEWER DETAIL FOR TRENCHES IN GRASSED AREAS OR NEW PAVEMENT

NTS



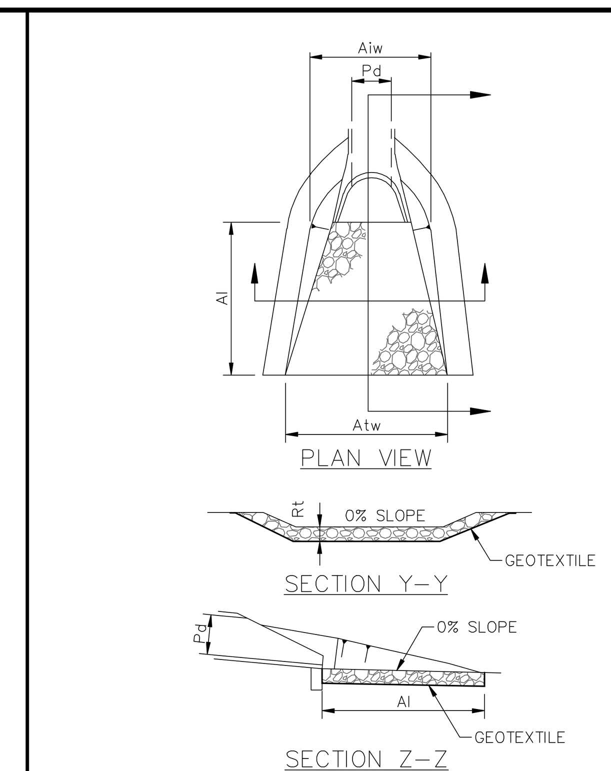
NOTES:

1. THIS DETAIL IS A GENERAL REPAIR MEASURE FOR SINKHOLES. ALL ROCK SIZES AND DEPTHS ARE SUBJECT TO THE SIZE AND CONDITIONS OF THE SPECIFIC SINKHOLE. AS SUCH THE EXACT REPAIR FOR EACH SINKOLE ENCOUNTERED SHALL BE PER THE RECOMMENDATION OF A GEOTECHNICAL ENGINEER. THE CONTRACTOR MUST COORDINATE WITH A GEOTECHNICAL ENGINEER FOR TO OBTAIN INSTRUCTIONS ON PROPER REPAIR MEASURES TO IMPLEMENT.
2. REASONABLE EFFORTS SHOULD BE MADE TO EXCAVATE ALL LOOSE AND UNSTABLE SOILS FROM THE BASE OF THE SINKHOLE (I.E. THROAT)
3. FLOWABLE FILL,IF USED,SHOULD BE ALLOWED TO CURE FOR A MINIMUM OF 24 HOURS PRIOR TO THE PLACEMENT OF THE FOLLOWING LAYERS WITHIN THE INVERTED FILTER.
4. THE FINAL LAYER OF STRUCTURAL FILL SHOULD BE PLACED IN LOOSE 12" LIFTS AND COMPACTED TO A MINIMUM OF 95% OF THE SOIL'S MAXIMUM MODIFIED DRY DENSITY.
5. INSTALLATION OF THE INVERTED FILTER SHOULD BE COMPLETED UNDER THE DIRECTION OF THE GEOTECHNICAL ENGINEER..

The repairs outlined above are general guidelines and each sinkhole occurrence should thoroughly be reviewed by the Geotechnical Engineer of Record for an appropriate remediation plan.

INVERTED FILTER SINKHOLE REPAIR DETAIL

NO SCALE



SWALE DISCHARGE APRONS

Riprap aprons shall be installed at Swale P4 & P5 discharges. Aprons to extend from swale discharge along basin bottom: R-4, 10' wide x 10' long x 18" depth)

Outlet No.	Pipe Dia. Do (in)	Tail Water Condition (Max/Min)	Man. "n" For Pipe	Pipe Slope (%)	Q (cfs)	*V (fps)	Riprap Size	Rt (in)	Al (ft)	Aiw (ft)	Atw (ft)
EW-L1	24	Min	.012	2.00	28.4	10.3	R-5	27	16	6	22

EW = Concrete End Wall (RC-31M)
ES = Plastic End Section (RC-33M)

NOTES:

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

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

STANDARD CONSTRUCTION DETAIL #9-1
RIPRAP APRON AT PIPE OUTLET
WITH FLARED END SECTION OR ENDWALL

NPDES Permit-Erosion Control-PCSM General Reference Note

See below narrative for general description of current NPDES approval, plans and associated Sequence of Construction.

There is an existing NPDES Permit associated with this project; NPDES Permit #PAC210094, expiration date of November 13, 2023. The Erosion Control Plans and PCSM Plans approved by CCCD with the NPDES Permit application included all of Hertzler Road Improvements and Phases I & III (the two phases on north side of Hertzler Road). The Sequence of Construction Notes shown on this plan are as per the approved E&S and PCSM Plans although please note all erosion control BMPs associated with this portion of the project (Phase III) were previously installed with Phase I construction excluding Phase III Swales (P4 & P5), one pipe discharge riprap apron into existing Sediment Basin #2 and two new Rock Construction Entrances (RCE 4 & 5) to be installed at the two existing limits of Phase I pavement (N. Fall Harvest Drive). See Phase I Final Plans for any required maintenance of the temporary Sediment Basin 2 and Trap 1C and for permanent condition basin designs.

Stormwater Basin 2 and 1C are detailed on the Autumn Chase Phase I Plans. Both basins are currently functioning as sediment control BMPs; see approved Phase I plans for temporary sediment BMP design, permanent Basin Design data and future conversion requirements.

REVISIONS

	DATE	
1.	12-3-2021	Addressing Review Comments
2.	7-12-2022	Addressing Conditions of Plan Approval Comments
3.		
4.		
5.		
6.		
7.		
8.		
9.		

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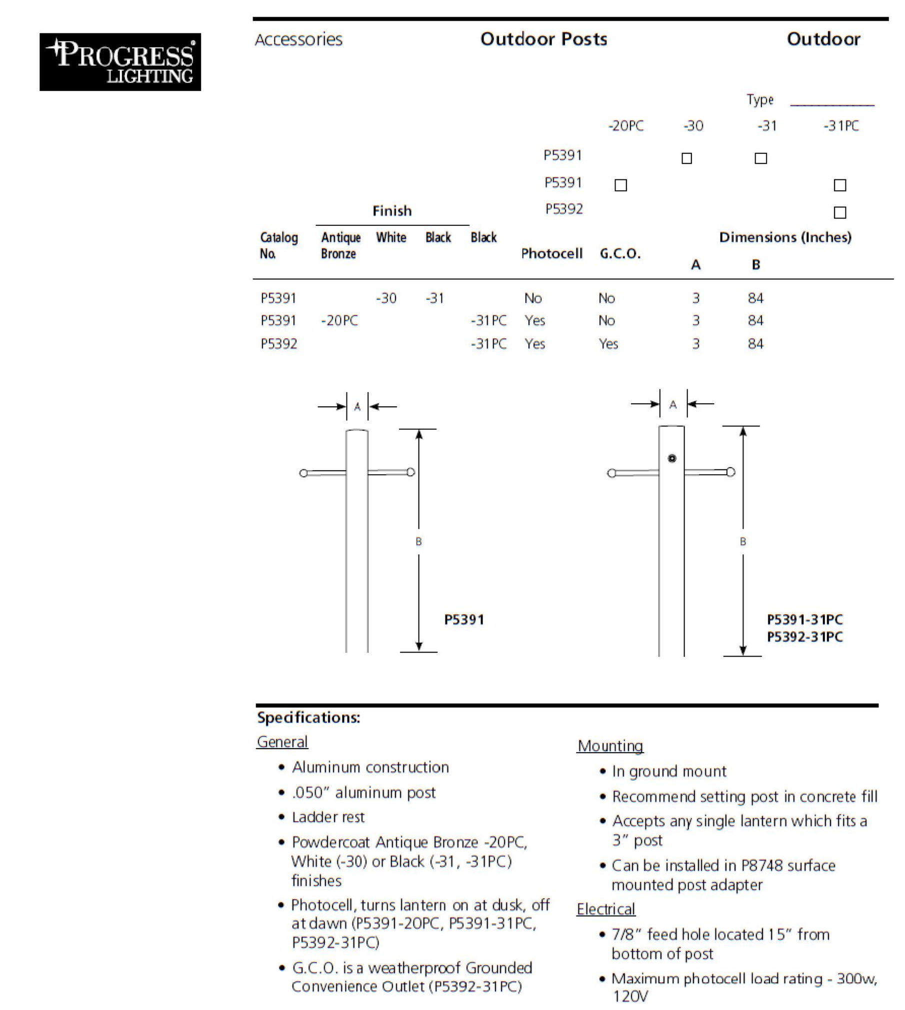
PCSM #2
POST CONSTRUCTION STORMWATER MANAGEMENT CONSTRUCTION DETAILS
FOR
AUTUMN CHASE PRD - PHASE III
Land Developer: Hertzler Road Associates, L.P.
UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 202068
Date November 1, 2021

STREET LIGHT GENERAL NOTES

1. Street lighting is proposed throughout Phase III as shown on this plan. Street lights are proposed at all street intersections (Phase I) and at intermediate points along North Fall Harvest Drive (3 lights proposed with Phase III). The proposed street lighting is not intended to over light areas but to alert vehicular traffic of intersections. In addition to the street lights, each lot shall install an outside electric dusk til dawn yard light.
2. Street lights shall be standard PPL fixtures and poles as conceptually shown on this plan.



In addition to the street lighting, a minimum of one outdoor post light shall be installed for each lot in accordance with the above detail or approved equal.

INDIVIDUAL LOT POST LIGHT DETAIL

REVISIONS | DATE
1. Addressing Review Comments 12-3-2021
2. Addressing Conditions of Plan Approval Comments 7-12-2022
3. -
4. -
5. -
6. -
7. -
8. -
9. -

M:\Drawings\2020\202068\202068 Autumn Chase Phase 3\202068 LT.dwg 7/12/2022 10:56:40 AM EDT

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LIGHTING PLAN
FOR
AUTUMN CHASE PRD - PHASE III
Land Developer: Hertzler Road Associates, L.P.
UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 202068
Date November 1, 2021

Sheet No.

The landscaping associated with the Phase III Final Plan consists of 88 street trees based on (2) trees per every 100' of street (2,200' street right of way length associated with Phase III) and 29 evergreen trees along the northern property boundary west of Basin 2. See the below maintenance notes and details. See Phase I Final Plan for all other required plantings on the north side of Hertzler Road.

Summary Required Landscape Screening

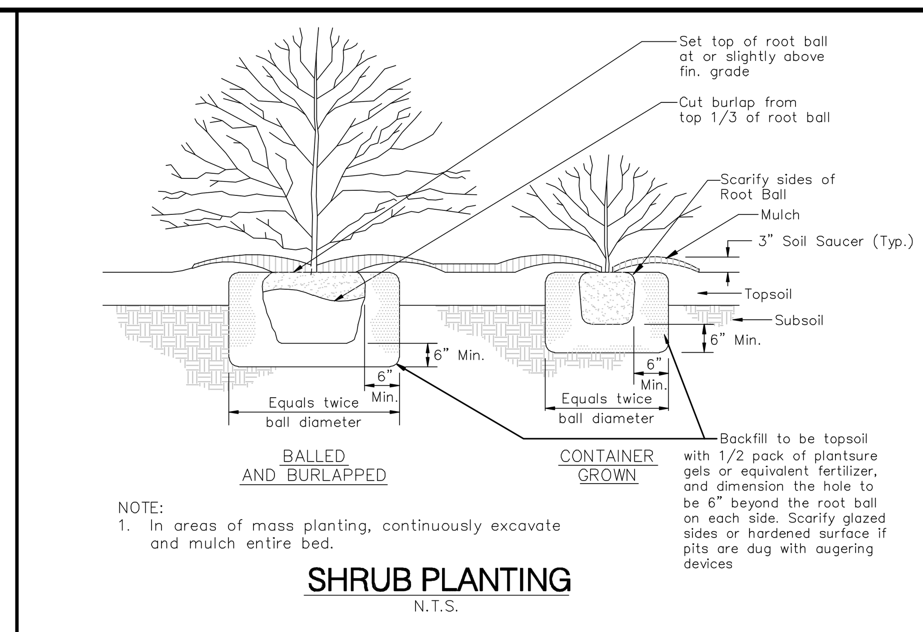
	Required	Proposed	Difference
Deciduous	0	0	0
Evergreen	0	29	29
Shrub	0	0	0
Total Screening	0	29	29

Street Trees

LF of ROW	Required (per 50')	Proposed	Difference
4350	87	88	1

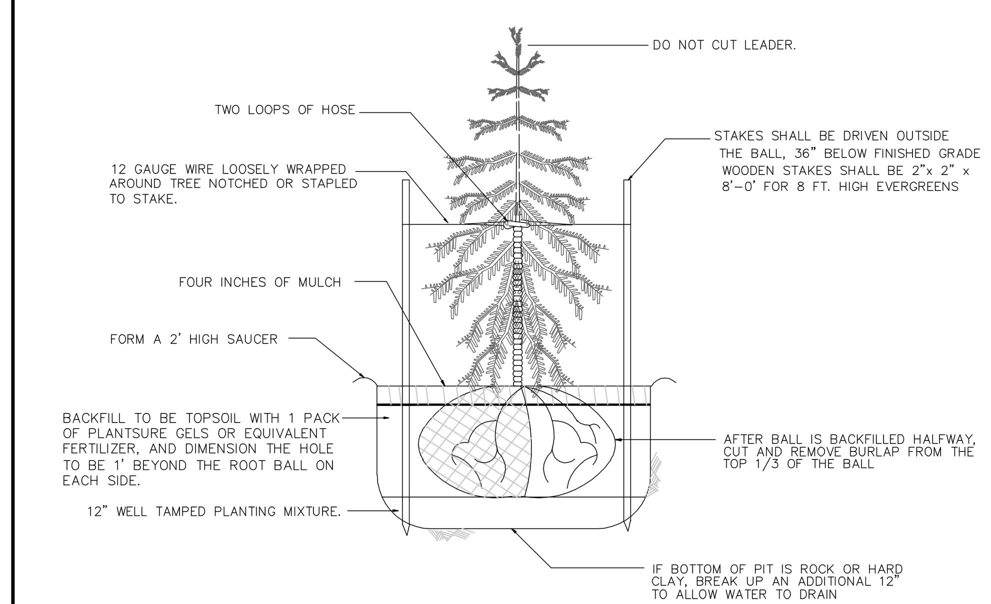
Total Landscaping Summary

	Required	Proposed	Difference
Deciduous	0	0	0
Evergreen	0	29	29
Shrub	0	0	0
Street Trees	87	88	1
Total	87	117	30



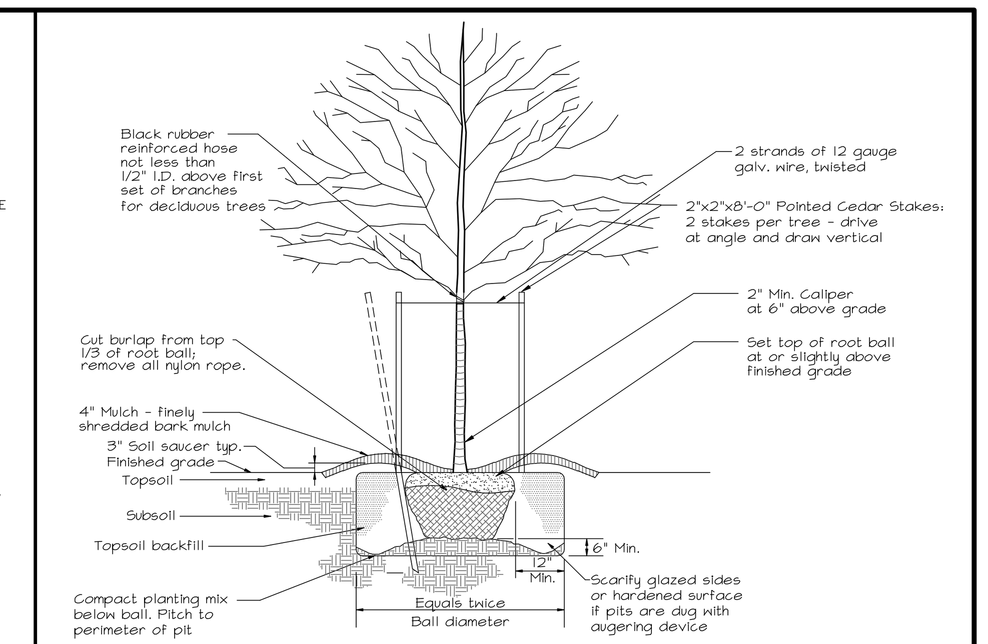
NOTE:
1. In areas of mass planting, continuously excavate and mulch entire bed.

SHRUB PLANTING
N.T.S.



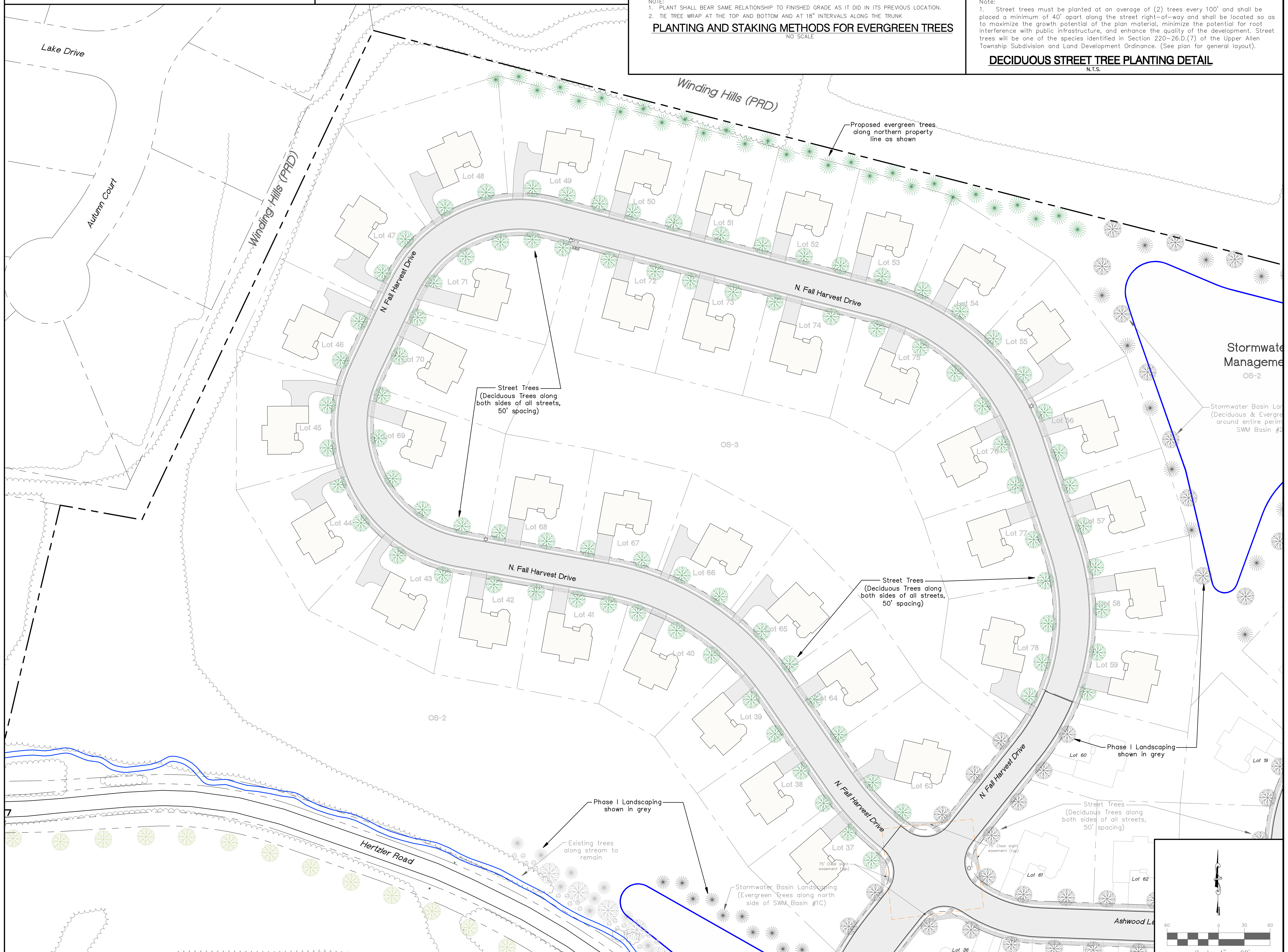
NOTE:
1. PLANT SHALL BEAR SAME RELATIONSHIP TO FINISHED GRADE AS IT DID IN ITS PREVIOUS LOCATION.
2. TIE TREE WRAP AT THE TOP AND BOTTOM AND AT 18" INTERVALS ALONG THE TRUNK

PLANTING AND STAKING METHODS FOR EVERGREEN TREES
NO SCALE



Note:
1. Street trees must be planted at an average of (2) trees every 100' and shall be placed a minimum of 40' apart along the street right-of-way and shall be located so as to maximize the growth potential of the plan material, minimize the potential for root interference with public infrastructure, and enhance the quality of the development. Street trees will be one of the species identified in Section 220-26.D.(7) of the Upper Allen Township Subdivision and Land Development Ordinance. (See plan for general layout).

DECIDUOUS STREET TREE PLANTING DETAIL
N.T.S.



LANDSCAPE NOTES

The Owner/Developer has the option to modify/change the landscaping and planting list, provided the landscaping proposed is reviewed and approved by Township.

Street trees are proposed which upon maturing will create a canopy effect.

All disturbed areas shall be stabilized. Refer to Erosion and Sediment Pollution Control Plan for temporary and permanent topsoil and seeding requirements, stabilization techniques and specifications.

Street trees shall be planted as not to interfere with utilities, roadways, clear sight triangles, sanitary sewer and storm water facilities.

SHORT TERM LANDSCAPE MAINTENANCE PLAN

1. The landscape contractor and/or developer/lot owners shall be responsible for watering landscaping material during and after installation.
2. Lawn areas shall be watered once weekly during dry periods of the first growing season to establish healthy grass. Watering should occur during the early part of the day to an even saturation depth of one inch.
3. Newly planted trees shall be watered regularly during the dry periods to completely saturate the root ball during the first growing season.
4. Disease, insect and weed control and prevention should be performed in accordance with manufacturer's recommendations.
5. Newly installed plantings shall be selectively pruned if necessary to provide a neat, uniform appearance. Any dead or broken branches shall be removed. All noticeably diseased or damaged plant material shall be removed and replaced prior to final acceptance.
6. All guying and staking shall be maintained regularly to assure plant stabilization and straight, uniform growth for at least the first year following the date of planting.
7. All plant material shall be true to species and variety and shall conform to measurements and minimum standards as set forth in the plant schedule.
8. All plant materials and lawn areas are to be guaranteed by the contractor for a period of one year from date of installation.

LONG TERM LANDSCAPE MAINTENANCE PLAN

1. Maintenance of trees, shrubs and grass on individual lots shall be the responsibility of the lot owner.
2. Maintenance of street trees located within a public right-of way or easement shall be the responsibility of the property owner whose property directly fronts that portion of right-of-way or easement.
3. Maintenance of all landscaping located in an Open Space Area and within the public right-of-way shall be the responsibility of the Homeowners Association.
4. The lot owner shall be responsible for regular mowing, clean-up, and grooming of all lawn and planted areas.

LEGEND

Deciduous Tree
Evergreen Tree
Shrubs

Shrub detail and legend provided for consistency with previous plans although only street trees and evergreen trees proposed with Phase III.

REVISIONS	DATE
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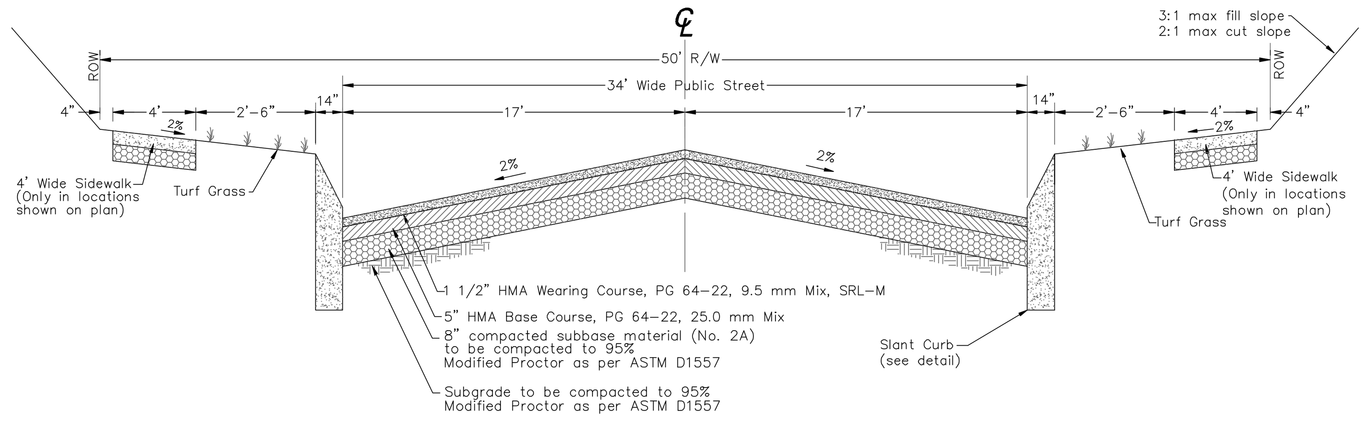
LANDSCAPE PLAN
FOR
AUTUMN CHASE PRD - PHASE III
Land Developer: Hertzler Road Associates, L.P.
UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 202068
Date November 1, 2021

Sheet No.

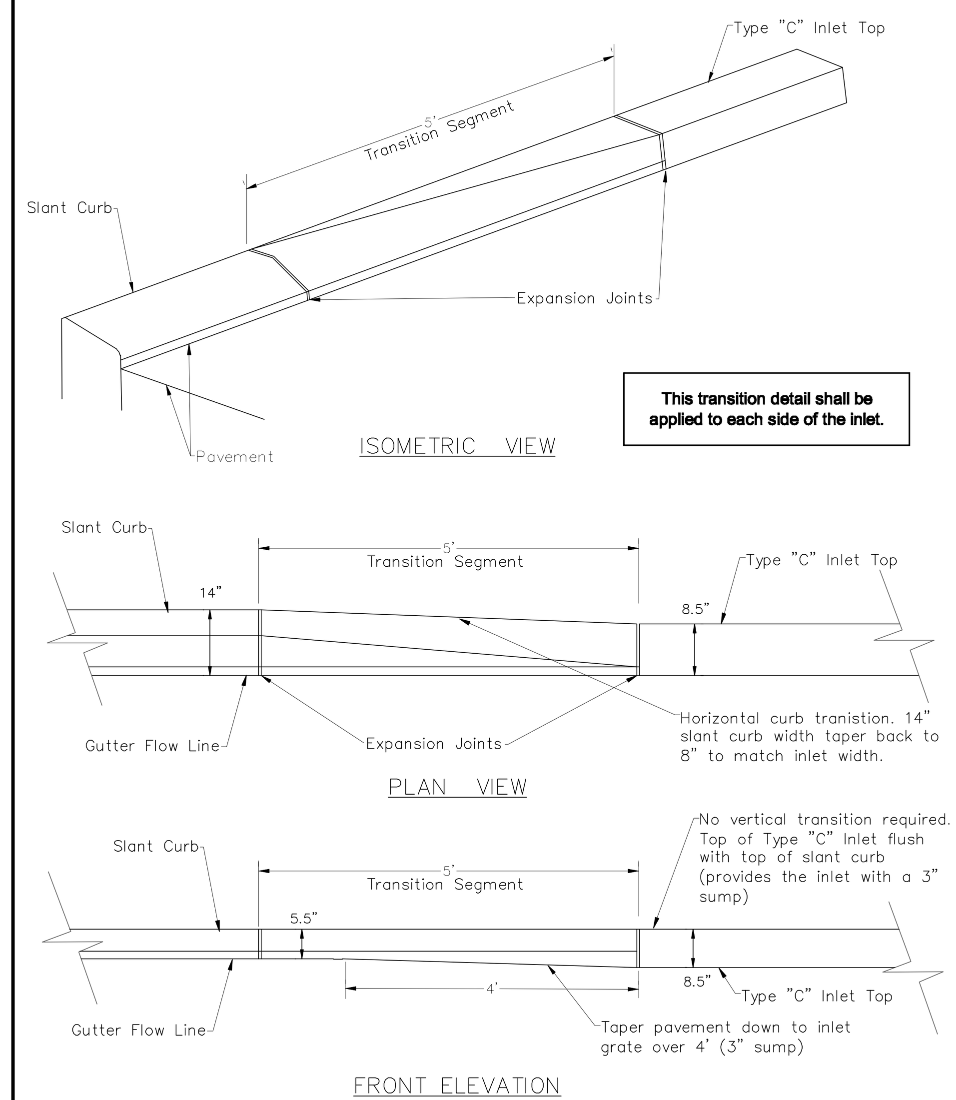


PUBLIC MINOR STREET CROSS SECTION

NTS

NOTES:

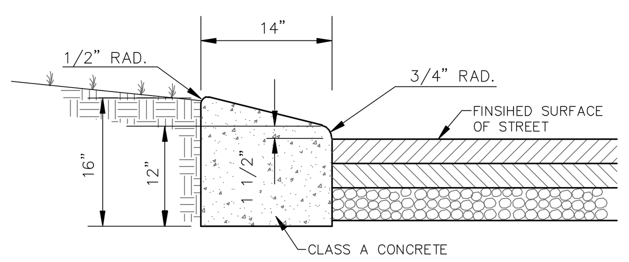
1. The above cross sections apply to all proposed streets.
2. All construction methods and materials shall be in conformance with Township and Penn DOT Specifications for Roadway Construction, Pub. 408 (inlucding RC–, TC–, & TS– Standard Drawings).
3. No road construction activity shall be permitted in the Township of Upper Allen until and unless the contractor shall notify the Township at least one week in advance of commencing work. The contractor shall at all times during the progress of work have a competent superintendent or foreman on the job site. Inspection of road work shall be done by the Township or its designee.
4. Roadway subgrade shall be free of sod, vegetative matter, boulders, spongy soil or other unsuitable material. Where poor subsurface drainage conditions exist, adequate drainage facilities shall be installed.
5. The subgrade shall not be prepared during freezing weather or when frozen or when it is unstable due to excessive moisture.
6. All utility lines, under drains, sewer lines, including laterals and service lines, being placed in the roadway shall be installed prior to the commencement of road construction at the following minimum depths:
2. Gravity sewer lines: six feet.
3. Force main sewer: four feet below finish grade.
4. Waterlines: four feet.
5. Gas lines: 2 1/2 feet.
6. Telephone, electrical and television cable: two feet; not to be located within paved cartway.
7. Sewer and water lines shall have a minimum separation distance of 10 feet.
8. PA DEP and private utility regulations and procedures will prevail where applicable.
7. All backfill for utilities under existing roadways shall be 2A stone compacted to within 3% of the optimum material moisture content and placed in not greater than eight–inch lifts. The Township may require flowable fill or other alternate backfill material where conditions may warrant such measures.
8. All backfill for utilities under new roadways shall be suitable backfill material with no stones over four inches and no organic material, compacted to within 3% of the optimum material moisture content and placed in not greater than eight–inch lifts.
9. Preparation of road subgrade.
   (a) The subgrade shall be compacted and fine graded to not more than 0.2 foot below the grade as shown on the plan.
   (b) All soft, plastic (as determined by proof roll) or rock areas in the subgrade shall be undercut to a depth of at least 12 inches or more if deemed necessary by the Township Engineer and shall be refilled with approved materials and/or underdrained and/or reinforced with geotextile, as determined by the Township Engineer.
   (c) The subgrade shall conform to the same crown as the paved surface.
   (d) Prior to the placement of subbase or base course, the subgrade shall be proof–rolled with a fully loaded tandem axle dump truck. The proof rolling shall be observed by the Township Engineer. An acceptable proof roll shall be non–movement of the subgrade.
10. Preparation of road base.
   (a) The base course material shall consist of compacted PennDOT No. 2A subbase meeting the specifications of Pennsylvania Department of Transportation Publication 408, as amended, and shall be laid in the manner prescribed therein to the following thickness: 8" eight inches.
   (b) Pipe underdrain shall be provided in wet areas, in areas of roadway sag conditions, or any other areas as required by the Township Engineer.
11. Preparation of road surface. Roads shall be constructed from multiple courses of pavement materials, including a base course and a wearing course of hot–mixed, hot–laid asphaltic concrete. An additional binder course may be required on collector roads and industrial or commercial areas.
   (a) The base course shall consist of a minimum of five inches of compacted HMA Superpave base, P664–22, 37.5 mm mix, meeting the specifications of the Pennsylvania Department of Transportation Publication 408, as amended, and shall be laid in the manner prescribed therein. The base course shall be repaired if defects occurred prior to placement of wearing course. Where cracking or any other type of failure has occurred in the base course, the contractor shall completely remove the base course, stabilize the subgrade if necessary and construct new base course. Where the deficiency involves depressions or raveling in the surface of the base course, the repair may be made by skin patching with a suitable bituminous material.
   (b) The wearing course shall consist of a minimum of 1 1/2 inches of compacted HMA Superpave wearing course, P664–22, 9.5 mm mix, meeting the requirements of the Pennsylvania Department of Transportation Publication 408, as amended, and shall be laid in the manner prescribed therein. Where a wearing course is placed on an existing street, a minimum one–half–inch scratch course of compacted HMA Superpave wearing course, P664–22, 9.5 mm mix, shall be placed prior to the wearing course. The Township Engineer may require that the existing pavement be milled prior to placement of the scratch course.
   (c) The wearing course shall only be placed after sufficient time has passed to ensure that no further settling will take place. The wearing course shall only be placed after an inspection has determined no sags, low spots or depressions exist which could adversely affect the integrity of the wearing course. Any defects found shall be repaired prior to the placement of the wearing course. In the event of any deficiency in the wearing course such as raveling, depressions, cracking etc., such deficiencies shall be repaired by removing the wearing course and replacing with new material. Subject to said inspection, the wearing course shall be placed no later than the time when 90% of the lots have been issued a certificate of occupancy by the Township. A tack coat meeting the requirements of the Pennsylvania Department of Transportation Publication 408, as amended, shall be placed prior to paving with the wearing course.
   (d) Where required, the binder course shall consist of a minimum of 2.5 inches of HMA Superpave binder course, P664–22, 19.0 mm mix, meeting the requirements of the Pennsylvania Department of Transportation Publication 408, as amended, and shall be laid in the manner prescribed therein.
12. Note 12 has been removed.



Slant curb shall be installed for all proposed streets. Standard Type "C" Stormwater Inlets with an 8" hood (See Detail) shall be installed for all curbside street drainage collection. Use the above detail for the necessary curb transition to stormwater inlet boxes. The top of the curb and inlet hood shall be flush and will not require a vertical transition (provides a 3" sump at inlet, see pavement slope transition above for pavement transition to sumped inlet).

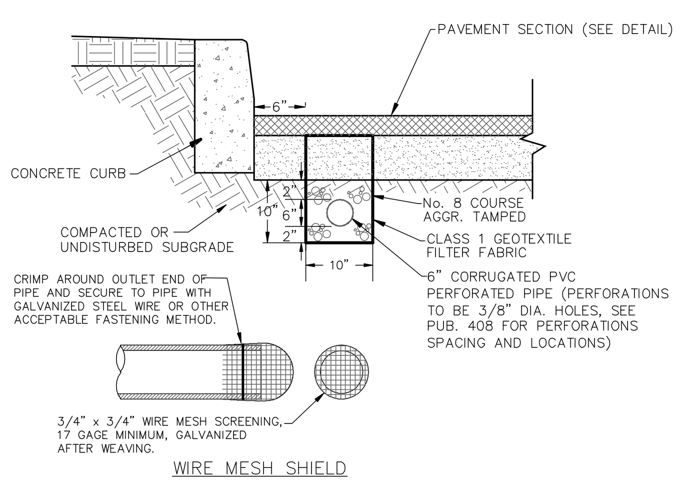
VERTICAL TO SLANT CURB TRANSITION DETAIL

NTS



SLANT CURB DETAIL

NTS

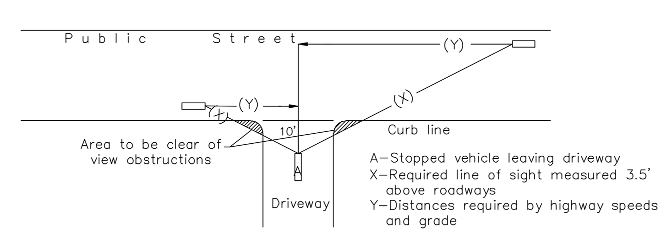


Note:

1. Install underdrains where shown on the plan, where field conditions warrant and as directed in the field by the Township.
2. The road subgrade and stone subbase are to be established prior to the placement of the underdrain.

PAVEMENT UNDERDRAIN DETAIL

NTS



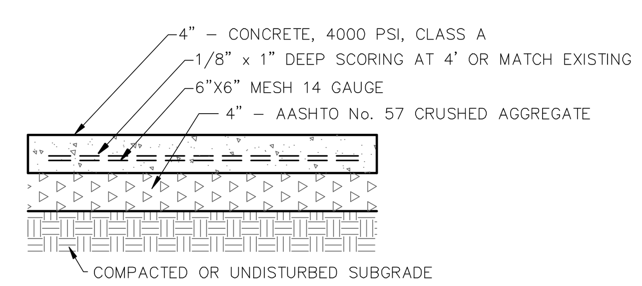
Clear–sight triangle requirements at driveways:

1. No building or obstruction shall be permitted in this area that would obscure the vision of a motorist.
2. Grading and / or plantings (existing through mature growth) less than three (3) feet above the street grade are permitted in the clear–sight triangle.

DRIVEWAY CLEAR SIGHT TRIANGLE DETAIL

N.T.S.

There are no ADA ramps associated with Phase III construction; see Phase I Plan for ADA Ramp design for N. Fall Harvest Drive intersection.

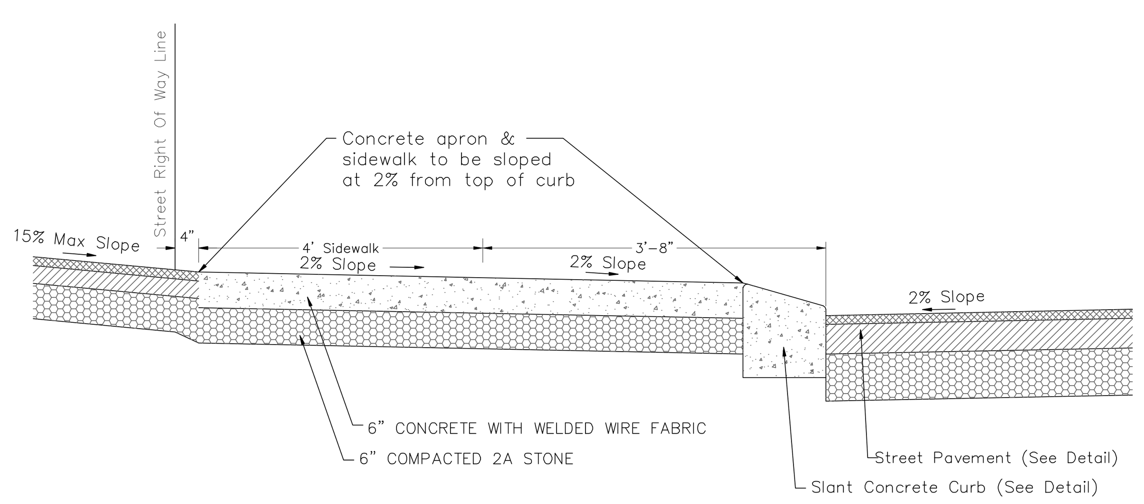


NOTES:

1. Sidewalks to be constructed in accordance with PA DOT Pub. 408.
2. Slabs to be poured in separate 30' lengths and shall be completely separated by ½" expansion joints.
3. Surface to be provided with broom finish.

CONCRETE SIDEWALK DETAIL

NTS



NOTES:

1. Driveways shall be constructed in accordance with Township Subdivision and Land Development Ordinance Section 220–17 and Zoning Ordinance Section 245–259.B. requirements.
2. Sidewalks to be constructed in accordance with PA DOT Pub. 408. All concrete sidewalks shall have a minimum thickness of 4", except at driveways, where the sidewalks shall have a minimum thickness of 6" and shall be reinforced with welded wire fabric.
3. Driveways shall be constructed with a concrete apron from the depressed curb to the proposed sidewalk. Driveway shall be bituminous pavement or concrete from the sidewalk to the unit/dwelling.

DRIVEWAY APRON DETAIL

NTS

No.	REVISIONS	DATE
1.	Addressing Review Comments	12-3-2021
2.	Addressing Conditions of Plan Approval Comments	7-12-2022
3.		
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CONSTRUCTION DETAILS

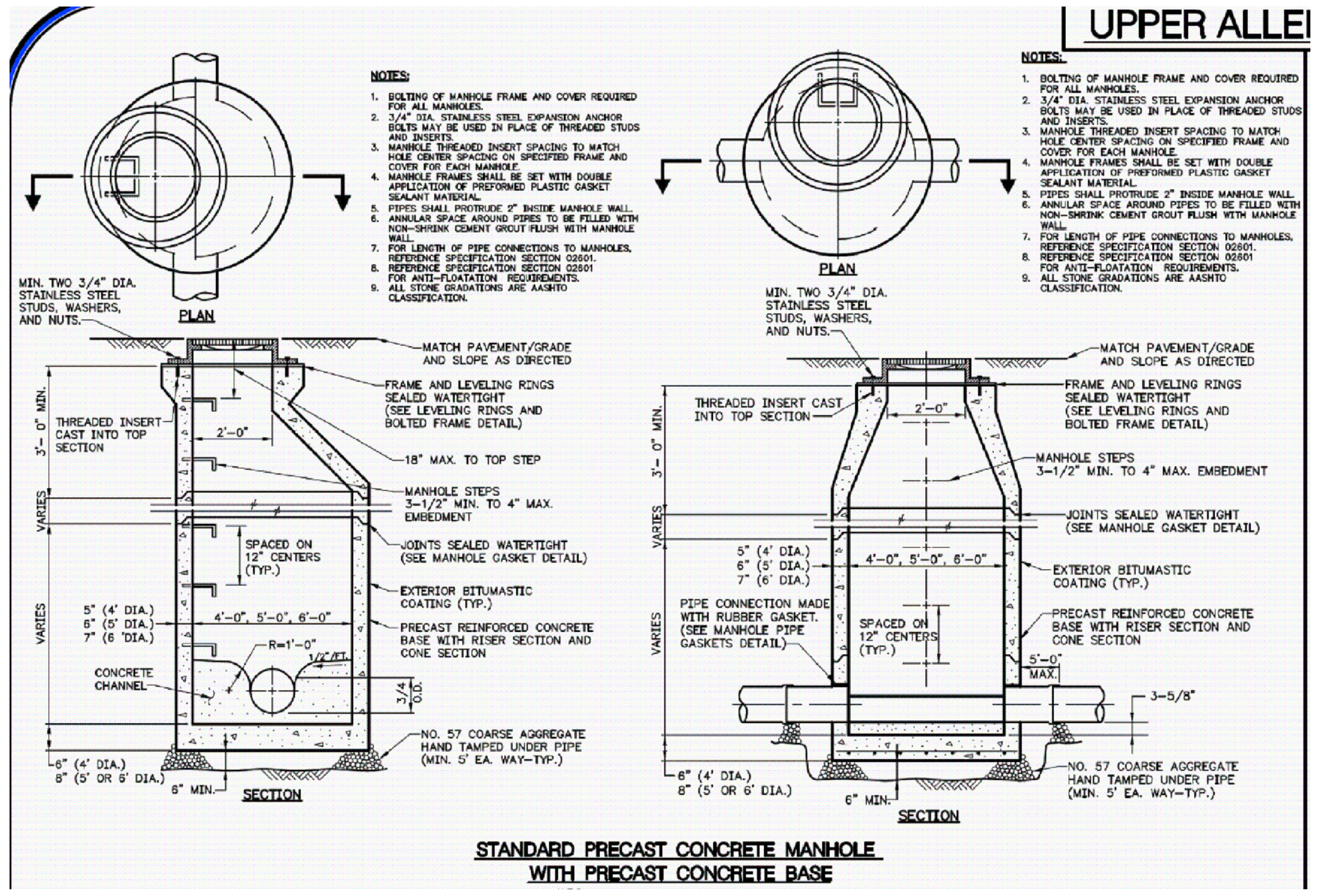
FOR

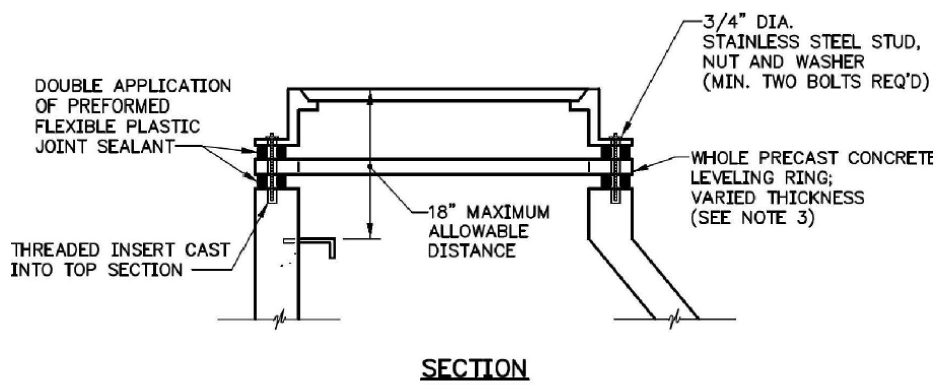
AUTUMN CHASE PRD - PHASE III

Land Developer: Hertzler Road Associates, L.P.

UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 202068
Date November 1, 2021



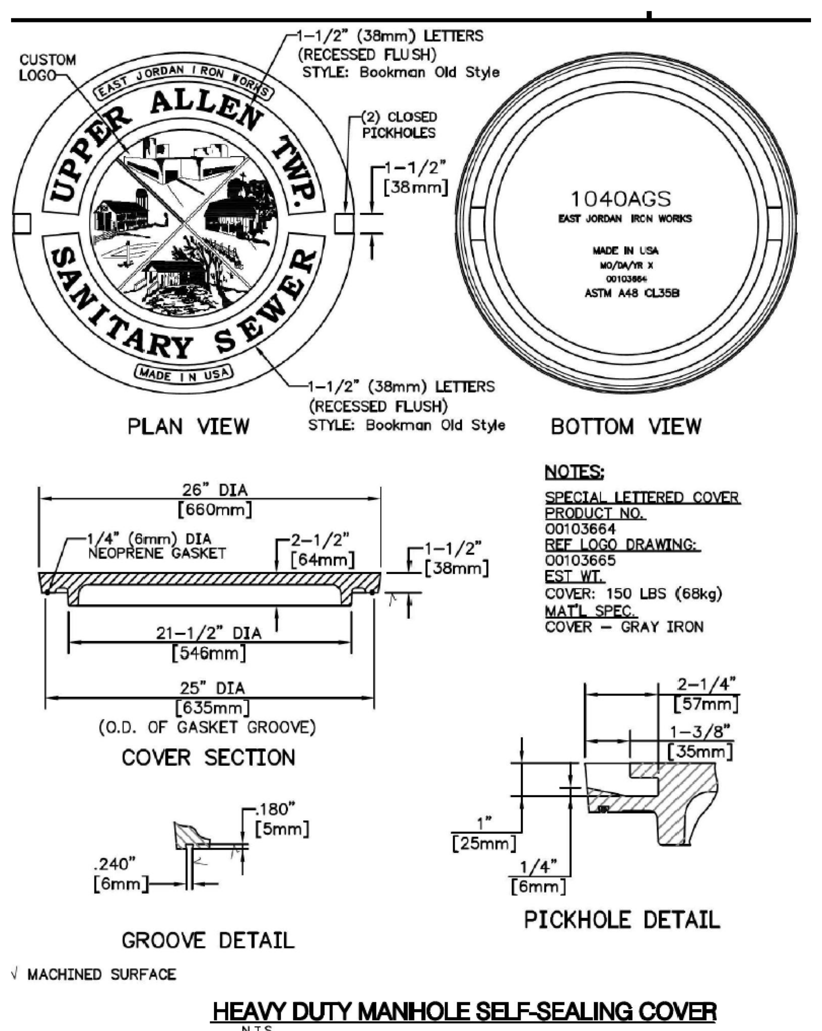


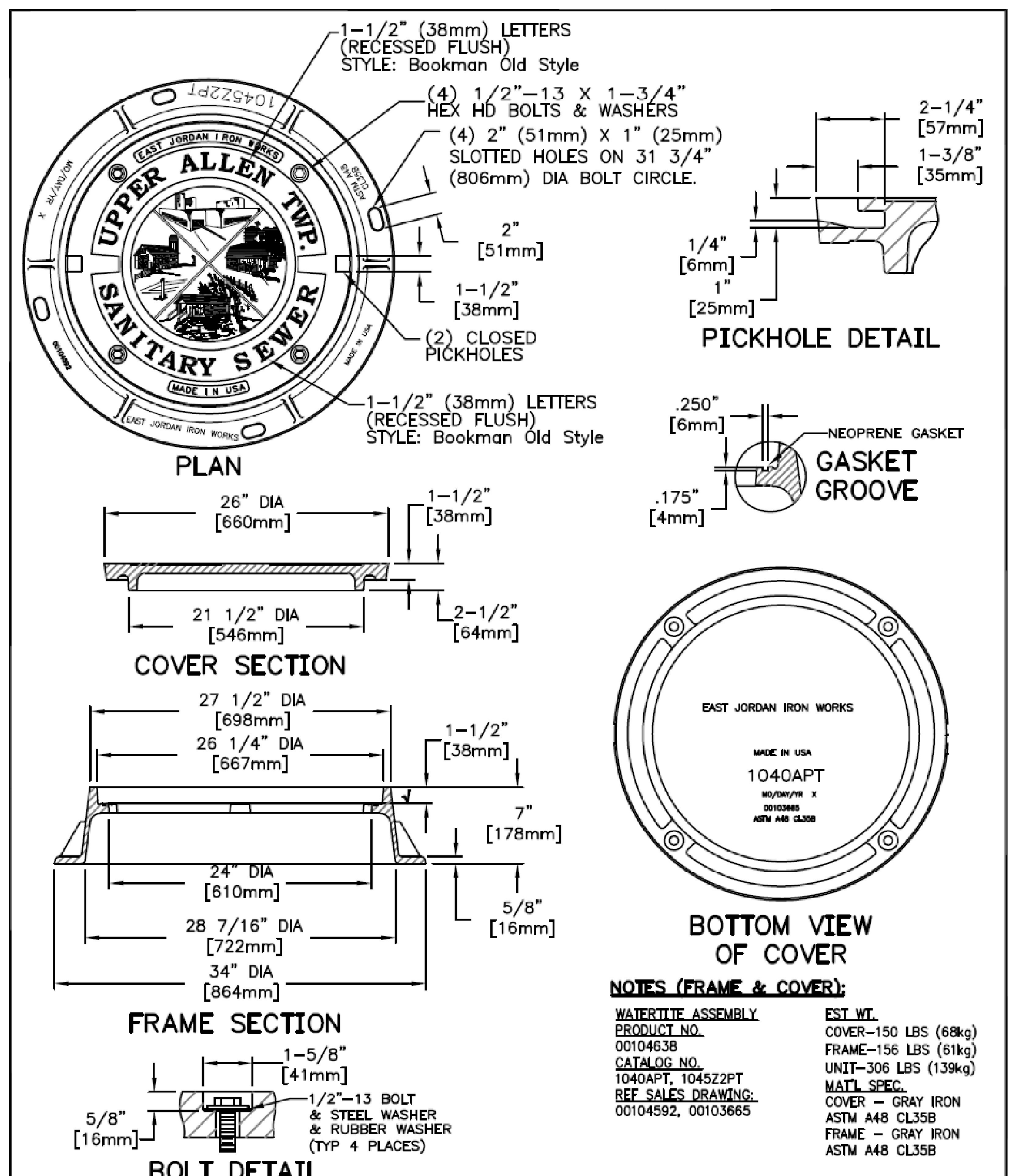
NOTES:

1. NO CEMENT GROUTING BETWEEN MANHOLE, LEVELING RINGS AND FRAME, OR ON INSIDE OR OUTSIDE OF MANHOLE PERMITTED. SEALING WITH APPLICATION OF HIGH BUILD EPOXY COATING PERMITTED (SIKA GUARD 62 OR APPROVED EQUAL).
2. RUBBER ADJUSTMENT RISERS PERMITTED FOR PAVED AREAS AND MAY BE TAPERED FOR STREET GRADE ADJUSTMENT.
3. 3/4" DIA. STAINLESS STEEL EXPANSION ANCHOR BOLTS MAY BE USED IN PLACE OF THREADED STUDS AND INSERTS.

LEVELING RINGS AND BOLTED FRAME DETAILS

N.T.S.

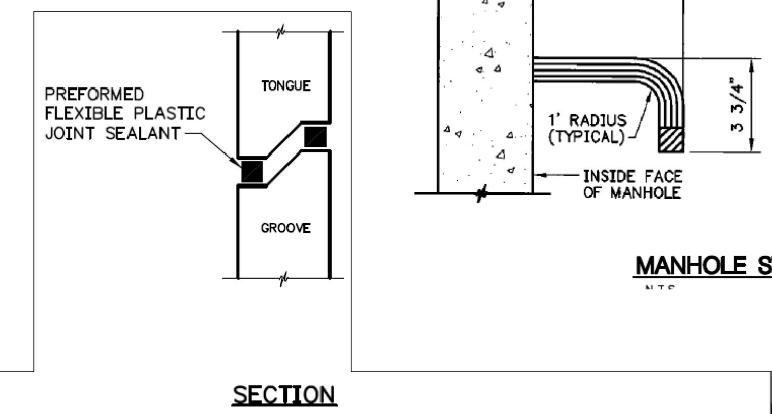




STANDARD DETAILS
HEAVY DUTY MANHOLE WATERTIGHT FRAME AND COVER
UPPER ALLEN TOWNSHIP

DATE	REVISIONS
3/08	DWG. CREATED

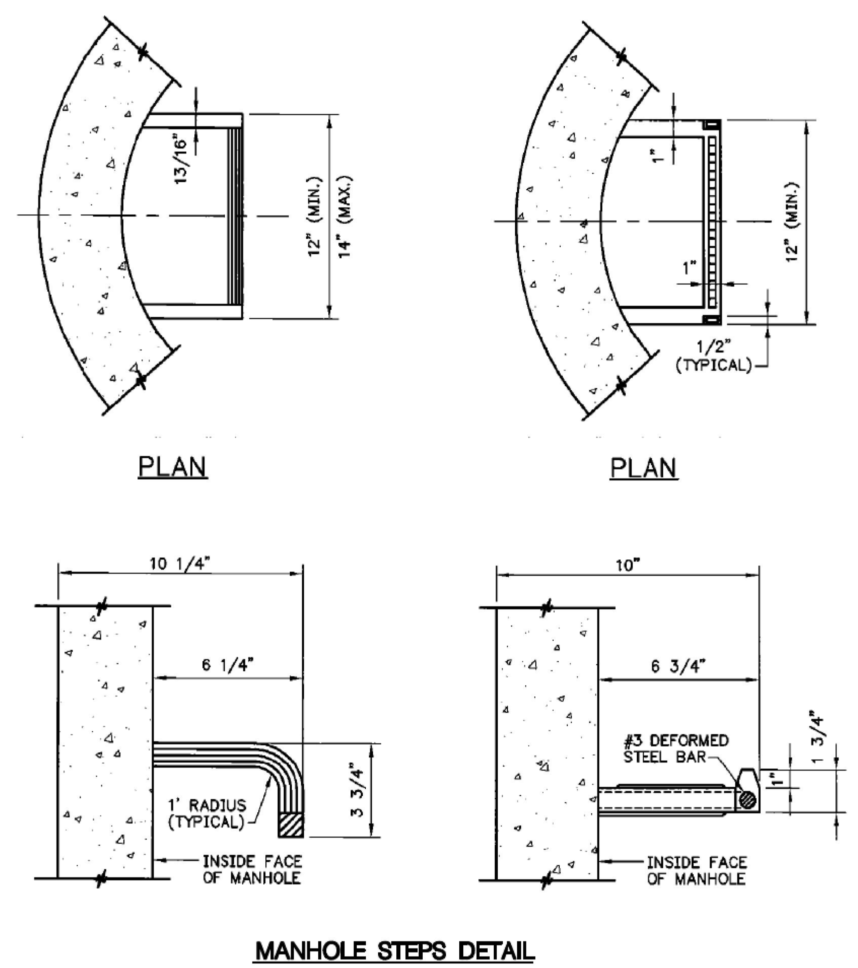
SCALE: NO SCALE — DWG. NO. MH-3

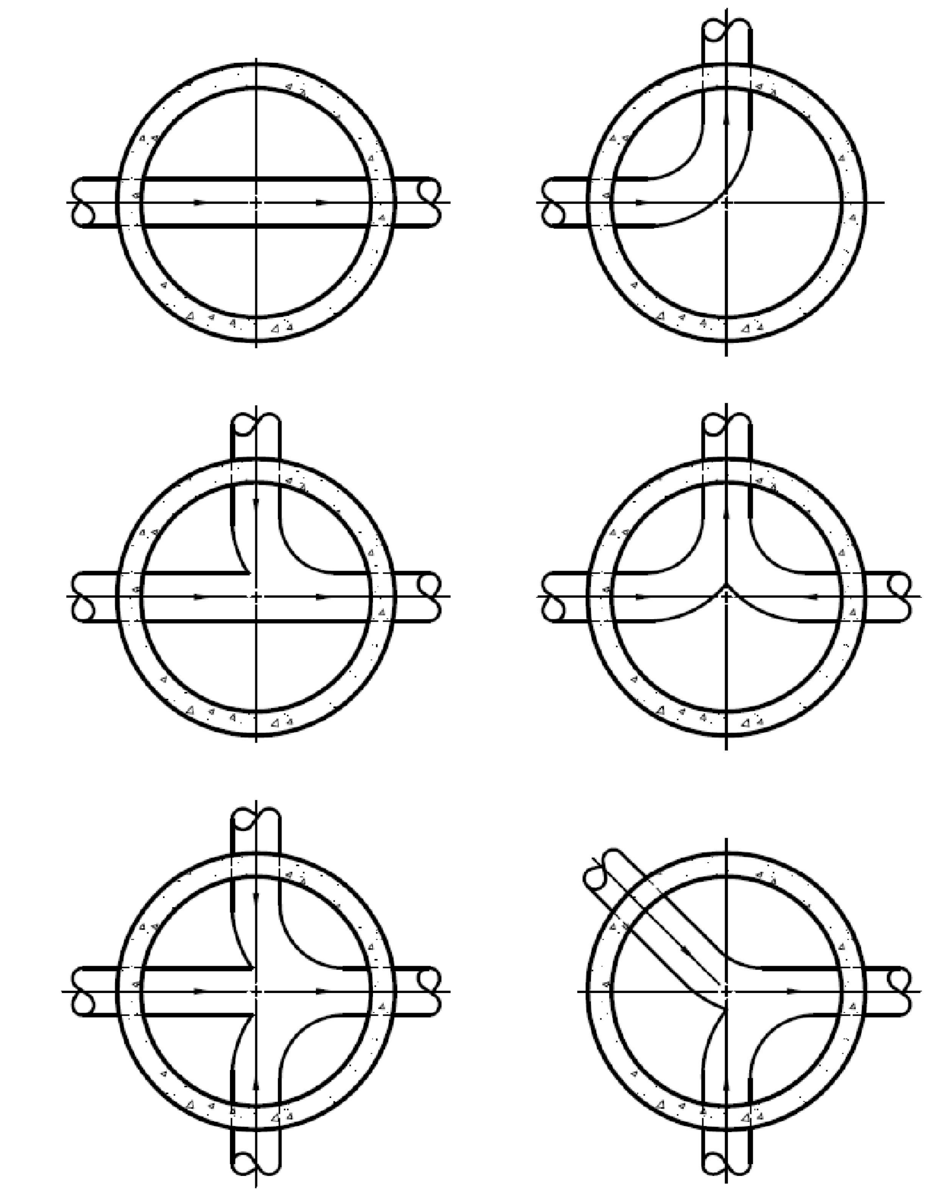


STANDARD DETAILS
MANHOLE SECTION JOINT SEAL
UPPER ALLEN TOWNSHIP

DATE	REVISIONS
3/08	DWG. CREATED

SCALE: NO SCALE — DWG. NO. MH-14

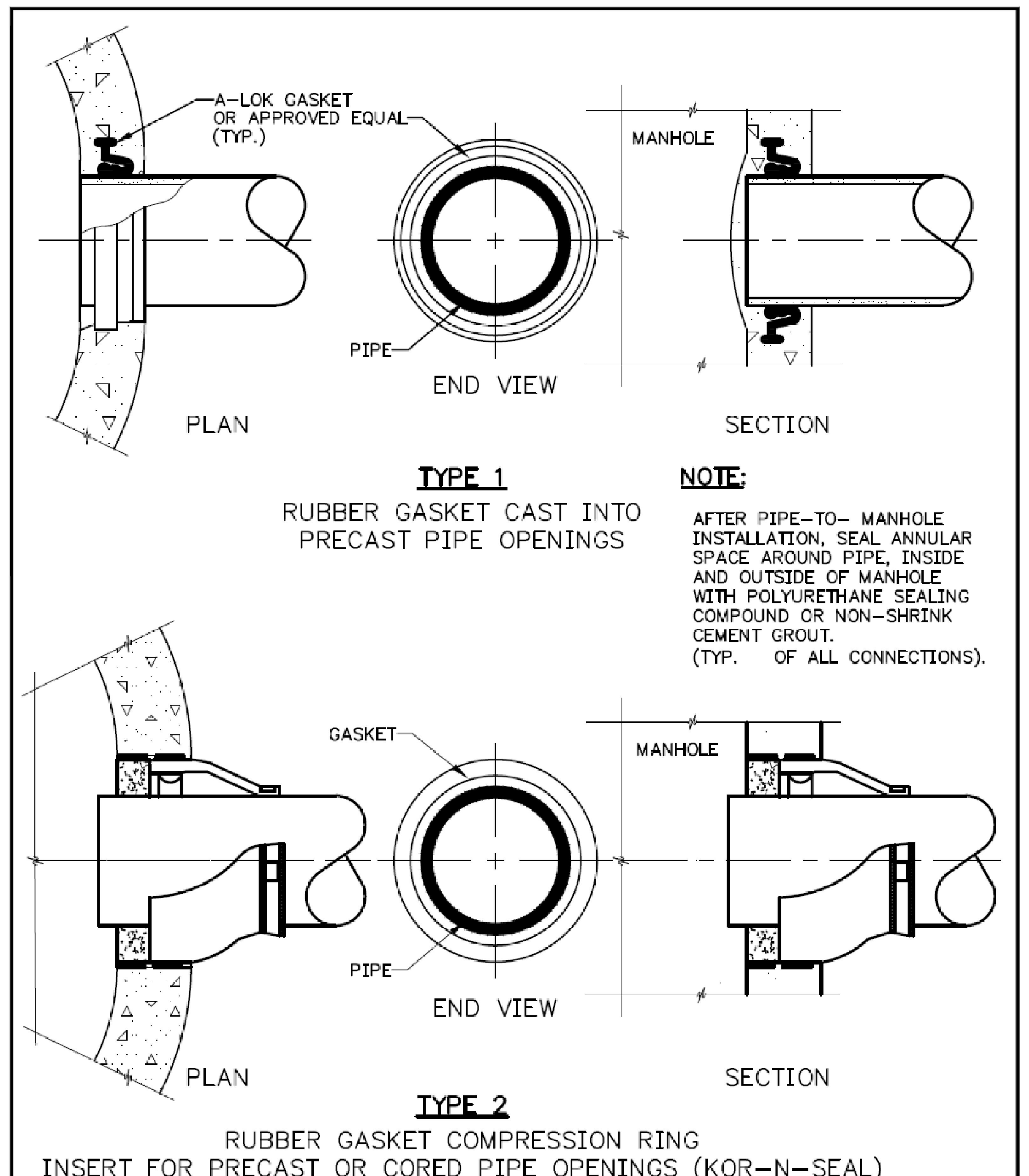




STANDARD DETAILS
TYPICAL PLAN OF MANHOLE CHANNELS
UPPER ALLEN TOWNSHIP

DATE	REVISIONS
3/08	DWG. CREATED

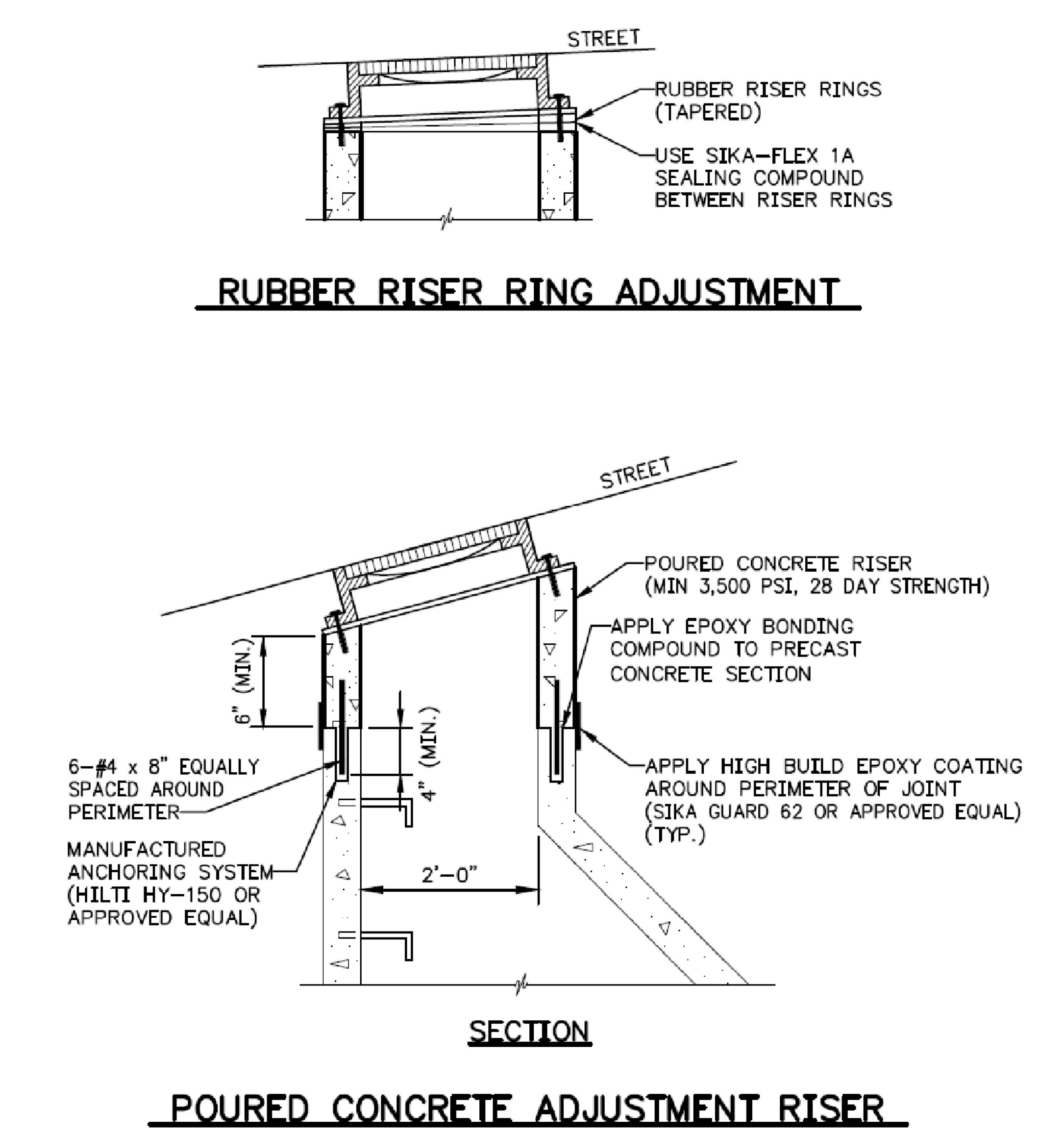
SCALE: NO SCALE — DWG. NO. MH-15



STANDARD DETAILS
MANHOLE PIPE GASKETS
UPPER ALLEN TOWNSHIP

DATE	REVISIONS
3/08	DWG. CREATED
12/13	DWG. UPDATED

SCALE: NO SCALE — DWG. NO. MH-13



STANDARD DETAILS
MANHOLE ADJUSTMENT RISERS FOR STREET GRADES OF 2% OR GREATER
UPPER ALLEN TOWNSHIP

DATE	REVISIONS
3/08	DWG. CREATED
11/08	RUBBER RISER REVISION

SCALE: NO SCALE — DWG. NO. MH-11

	REVISIONS	DATE
1.	Addressing Review Comments	12-3-2021
2.	Addressing Conditions of Plan Approval Comments	7-12-2022

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Civil Engineering • Land Planning & Development • Water Resources
7500 Devonshire Heights Road • Hummelstown, PA 17036
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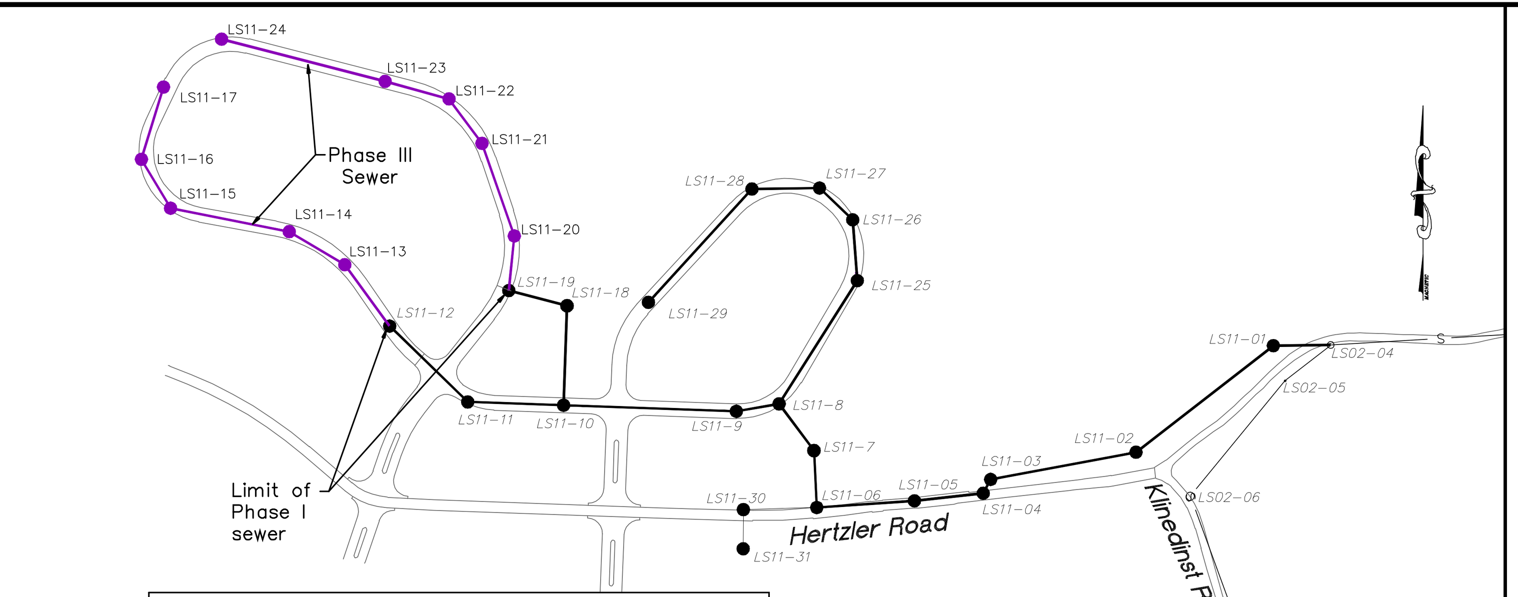
717-566-6533

SANITARY SEWER CONSTRUCTION DETAILS
FOR
AUTUMN CHASE PRD - PHASE III
Land Developer: Hertzler Road Associates, L.P.
UPPER ALLEN TOWNSHIP — CUMBERLAND COUNTY — PENNSYLVANIA

Project No. 202068
Date November 1, 2021
Sheet No.



Sanitary Sewer Main installation associated with Phase III construction consist of a sewer extension out of existing manhole LS11-12 up to and including proposed manhole LS11-17 and a sewer extension out of existing manhole LS11-19 up to and including proposed manhole LS11-24. The remainder of the downstream sewers shown on this plan are associated with Phase I construction.

SEWER INDEX MAP (Phases I & III)

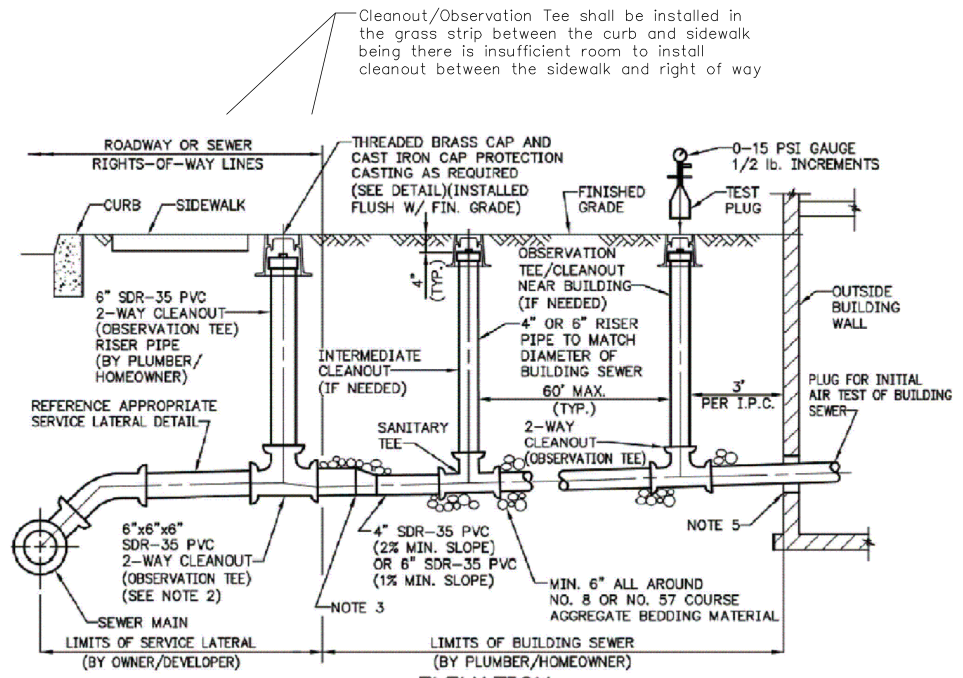
Scale: 1" = 350'

Autumn Chase Phase III Sanitary Sewer Table

Manhole ID	Northing	Easting
LS11-24	310843.2791	2188547.6443
LS11-23	310746.3736	2188923.5014
LS11-22	310705.7149	2189070.3850
LS11-21	310603.7094	2189146.3821
LS11-20	310390.5693	2189220.6744
LS11-17	310733.3898	2188414.1357
LS11-16	310566.9996	2188363.2161
LS11-15	310454.4677	2188430.5288
LS11-14	310400.5381	2188703.2339
LS11-13	310324.4619	2188830.6998

Autumn Chase Phase I Sanitary Sewer Table

Manhole ID	Northing	Easting
LS11-31	309671.2855	2189747.0931
LS11-30	309761.2851	2189747.3679
LS11-29	310237.9865	2189528.8256
LS11-28	310498.4435	2189767.0394
LS11-27	310500.9512	2189922.4286
LS11-26	310427.7006	2189998.7128
LS11-25	310288.0259	2190009.0481
LS11-19	310265.1728	2189208.2267
LS11-18	310229.9955	2189342.0434
LS11-12	310183.4472	2188933.9678
LS11-11	310009.1336	2189113.5309
LS11-10	310001.3764	2189333.9994
LS11-09	309987.3969	2189731.3118
LS11-08	310004.6310	2189829.5479
LS11-07	309897.1731	2189909.8983
LS11-06	309766.1648	2189916.1379
LS11-05	309781.4463	2190140.6930
LS11-04	309798.8039	2190298.7632
LS11-03	309830.7293	2190315.9047
LS11-02	309893.2210	2190650.1124
LS11-01	310138.5917	2190966.0131
LS02-04	310139.8939	2191097.8051



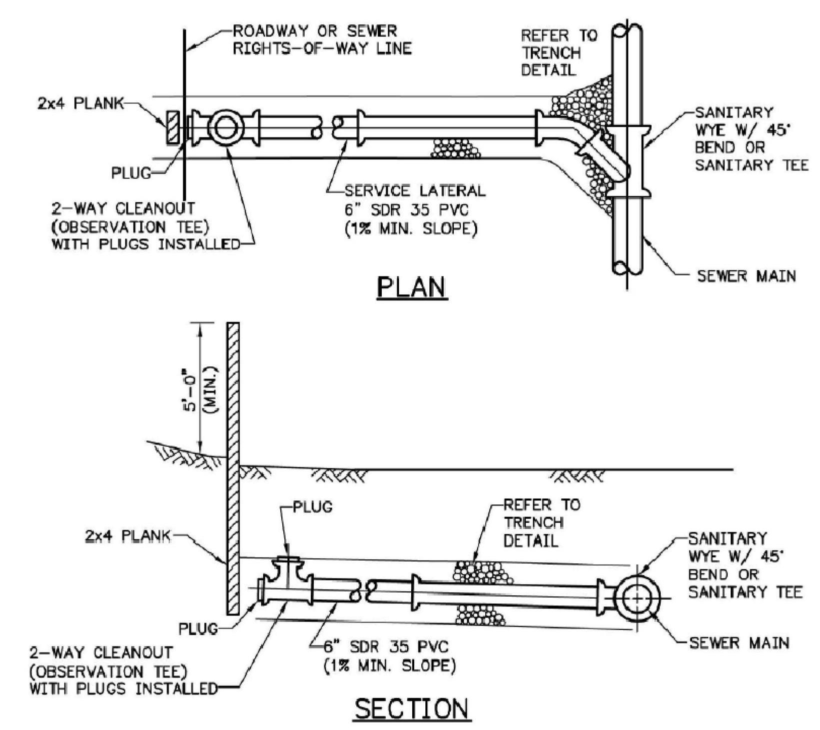
ELEVATION

NOTES:

1. PIPE SIZES AND MATERIALS TO BE IN ACCORDANCE WITH TOWNSHIP REQUIREMENTS.
2. 2-WAY CLEANOUT (OBSERVATION TEE) TO BE LOCATED WITHIN TOWNSHIP R/W AND LOCATION TO BE SITE SPECIFIC WITH RESPECT TO CURB AND SIDEWALK.
3. FOR 4" BUILDING SEWER, USE ECCENTRIC 4"x6" ADAPTER FITTING FOR TRANSITION TO 2-WAY CLEANOUT (4"x6" FLEXIBLE COUPLING NOT ALLOWED).
4. CLEANOUT/TEST TEE SPACING IS 60' MAXIMUM.
5. WALL SLEEVE TO BE 2" GREATER THAN DIAMETER OF BUILDING SEWER PIPE AND SEALED WATER TIGHT.
6. ANY PIPE LESS THAN 3 FEET OF COVER SHALL BE APPROVED BY TOWNSHIP.
7. THERE SHALL BE A 10 FOOT HORIZONTAL SEPARATION BETWEEN WATER SERVICE AND SERVICE LATERAL/BUILDING SEWER, OR WATER SERVICE SHALL BE ENCASED IN A WATERTIGHT PVC CONDUIT SEALED AT BOTH ENDS WITH APPROPRIATE FERNCO ADAPTER.
8. INSTALL TEST PLUGS AS REQUIRED FOR ACCEPTANCE AIR TESTING.
9. PROTECTION CASTING REQUIRED IN PAVED AREAS ONLY.
10. DETECTION TAPE REQUIRED IN PIPE TRENCH AT A DEPTH FO 12-INCHES BELOW SURFACE GRADE OR PAVEMENT SUBGRADE.

BUILDING SEWER DETAIL

N.T.S.

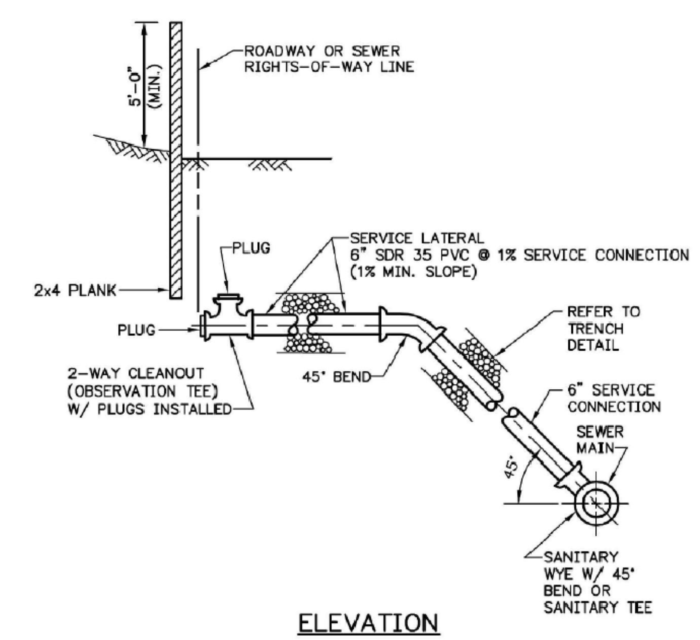


NOTES:

1. 2-WAY CLEANOUT (OBSERVATION TEE) NOT TO BE LOCATED IN SIDEWALK OR BENEATH OTHER CURB LINE UTILITIES.
2. THERE SHALL BE A 10 FOOT HORIZONTAL SEPARATION BETWEEN THE WATER SERVICE AND THE SERVICE LATERAL/BUILDING SEWER.
3. 2-WAY CLEANOUT (OBSERVATION TEE) TO BE LOCATED WITHIN TOWNSHIP R/W AND LOCATION TO BE SITE SPECIFIC WITH RESPECT TO CURB AND SIDEWALK.
4. WHERE OBSERVATION TEE IS NOT REQUIRED, SERVICE CONNECTION SHALL BE EXTENDED TO THE RIGHTS-OF-WAY LINE AND PLUGGED.
5. DETECTION TAPE REQUIRED IN PIPE TRENCH AT A DEPTH FO 12-INCHES BELOW SURFACE GRADE OR PAVEMENT SUBGRADE.

SERVICE LATERAL DETAIL
SHALLOW SEWER

N.T.S.

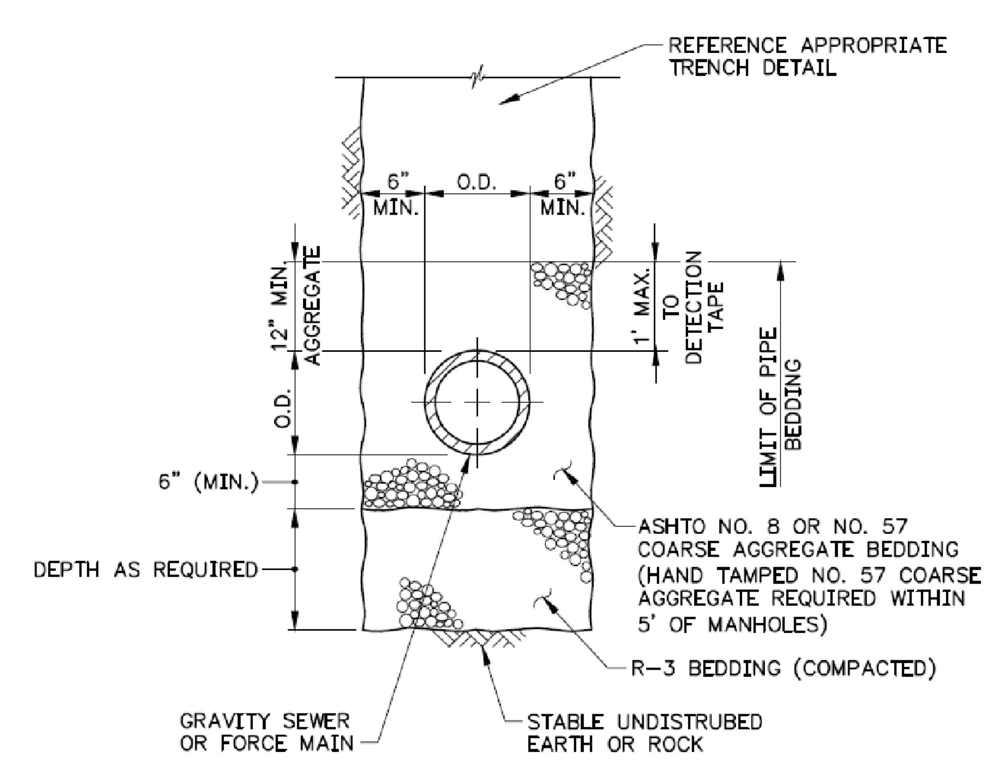


NOTES:

1. 2-WAY CLEANOUT (OBSERVATION TEE) NOT TO BE LOCATED IN SIDEWALK OR BENEATH OTHER CURB LINE UTILITIES.
2. THERE SHALL BE A 10 FOOT HORIZONTAL SEPARATION BETWEEN THE WATER SERVICE AND THE SERVICE LATERAL/BUILDING SEWER.
3. 2-WAY CLEANOUT (OBSERVATION TEE) TO BE LOCATED WITHIN TOWNSHIP R/W AND LOCATION TO BE SITE SPECIFIC WITH RESPECT TO CURB AND SIDEWALK.
4. WHERE OBSERVATION TEE IS NOT REQUIRED, SERVICE CONNECTION SHALL BE EXTENDED TO THE RIGHTS-OF-WAY LINE AND PLUGGED.
5. DETECTION TAPE REQUIRED IN PIPE TRENCH AT A DEPTH FO 12-INCHES BELOW SURFACE GRADE OR PAVEMENT SUBGRADE.

SERVICE LATERAL DETAIL
DEEP SEWER

N.T.S.

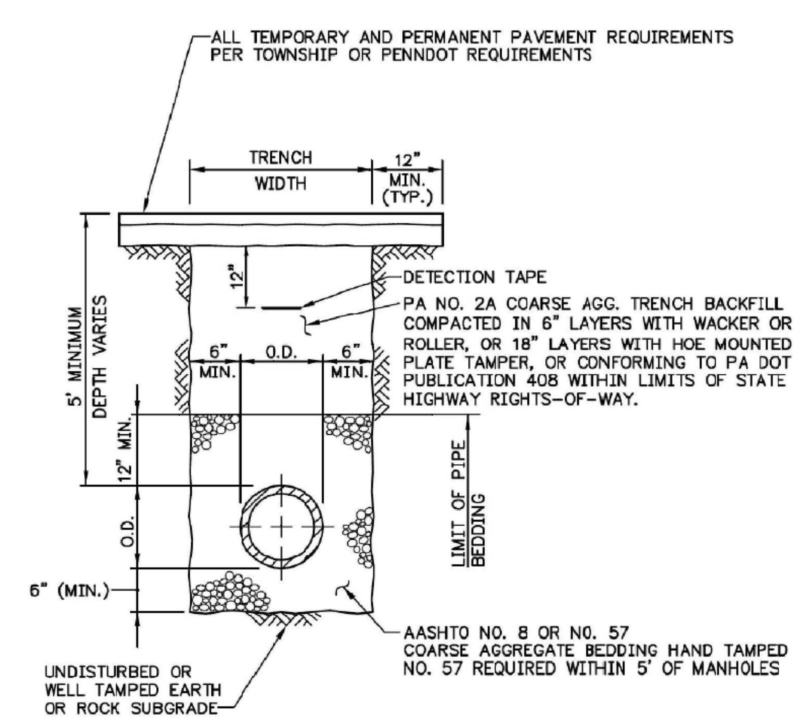


NOTES:

1. IF STABLE UNDISTURBED EARTH OR ROCK UNATTAINABLE, STABILIZATION METHOD TO BE DETERMINED BY ENGINEER.
2. DETECTION TAPE REQUIRED; REFERENCE APPROPRIATE TRENCH DETAIL.

FILE NAME: TRENCH-3-UME.DWG

STANDARD DETAILS	DATE	REVISIONS
UNSUITABLE MATERIAL EXCAVATION	3/08	DWG. CREATED
UPPER ALLEN TOWNSHIP	12/13	DWG. UPDATED
	SCALE: NO SCALE	DWG. NO.: TR-3

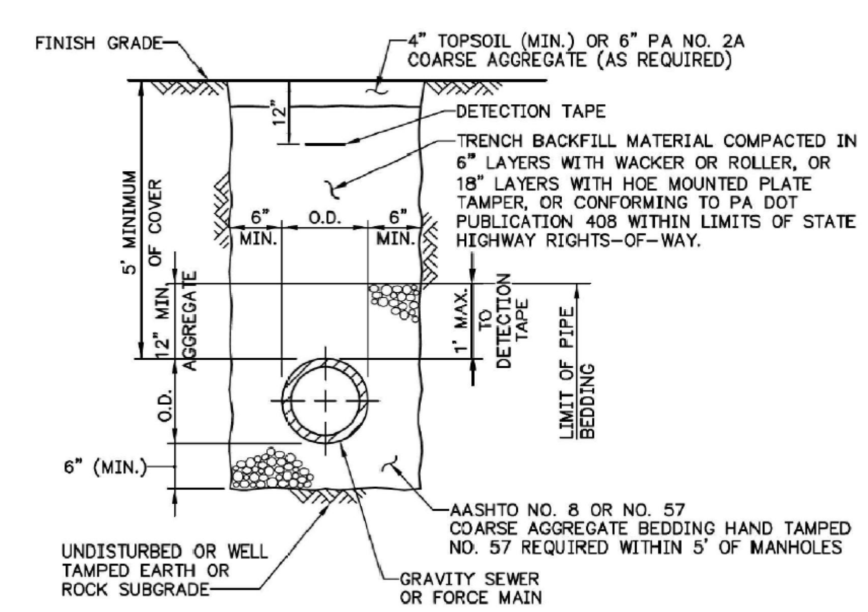


NOTE:

1. BACKFILL AND COMPACTION REQUIREMENT APPLIES TO PAVED ROADWAYS AND SHOULDERS OF PROPOSED AND EXISTING STREETS (OTHER THAN STATE HIGHWAYS), PAVED DRIVEWAYS, AND SIDEWALKS.

TRENCH BACKFILL DETAIL IN PAVED AREAS

N.T.S.



BACKFILLING REQUIREMENTS:

1. UNPAVED AREAS OUTSIDE ROADWAYS – SUITABLE ON-SITE BACKFILL COMPACTED AS INDICATED ABOVE TO BOTTOM OF TOPSOIL. REPLACE TOPSOIL TO APPROXIMATE DEPTH OF EXISTING OR MIN. 4".
2. UNPAVED AREAS WITHIN R/W LIMITS OF STATE HIGHWAYS – CONFORMING TO REQUIREMENTS OF PA DOT PUBLICATION 408.
3. UNPAVED SHOULDERS OF PROPOSED AND EXISTING STREETS OTHER THAN STATE HIGHWAYS – AGGREGATE BACKFILL COMPACTED AS INDICATED ABOVE.
4. STONE DRIVEWAYS AND PARKING AREAS – SUITABLE ON-SITE BACKFILL COMPACTED AS INDICATED ABOVE.
5. UNIMPROVED STREETS – AGGREGATE BACKFILL COMPACTED AS INDICATED ABOVE.

TRENCH BACKFILL DETAIL IN UNPAVED AREAS

	REVISIONS	DATE
1.	Addressing Review Comments	12-3-2021
2.	Addressing Conditions of Plan Approval Comments	7-12-2022
3.		
4.		
5.		
6.		
7.		
8.		
9.		

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SANITARY SEWER CONSTRUCTION DETAILS

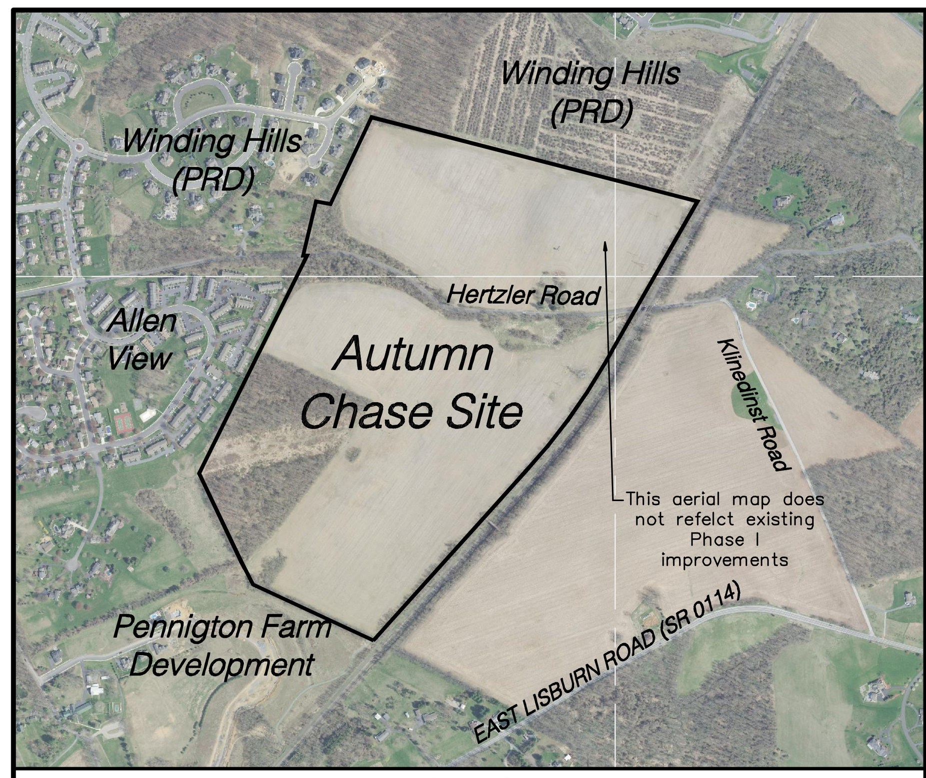
FOR

AUTUMN CHASE PRD - PHASE III

Land Developer: Hertzler Road Associates, L.P.

UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 202068
Date November 1, 2021
Sheet No.



Aerial Location-NPDES Boundary Map
Scale: 1" = 1,000'

EROSION CONTROL PLAN INTENT NOTE

This Plan shall address erosion control measures to be implemented with the Autumn Chase Phase III. Phase III construction consist of 39 single family dwelling lots, completion of N. Fall Harvest Drive loop and associated infrastructure.

The E&S control BMPs proposed with this Phase III plan consists of one existing sediment basin, one existing sediment trap, two new rock construction entrances, existing water bar, vegetated swales, riprap aprons, silt barriers and stabilization requirements. Sediment Basin 2 and Sediment Trap 1C were constructed with Phase I; see Phase I plan for any required basin/trap maintenance. See below general description of each proposed E&S BMP:

Stabilized Rock Construction Entrances:
A rock construction entrance shall be installed at each of the two limits of N. Fall Harvest Drive (limit of Phase I construction). All ingress & egress to the site shall be through the two defined RCE locations.

Sediment Basin:
Existing Sediment Basin 2 was constructed with Phase I. The basin shall provide treatment of sediment laden runoff prior to discharge.

Sediment Trap:
Existing Sediment Trap 1C was constructed with Phase I. The basin shall provide treatment of sediment laden runoff prior to discharge.

Water Bar:
There is an existing water bar across N. Fal Harvest Drive to direct runoff to direct runoff to existing trap 1C. Water bar is only needed prior to storm sewer installation (shown for reference although no longer in place due to stage of Phase I construction).

Vegetated Swales:
Vegetated swales are proposed for collection and conveyance to the proposed basin and trap.

Riprap Aprons:
Riprap aprons are proposed at all pipe discharges. Riprap aprons provide energy dissipation and returns runoff flow to a sheet flow condition.

Silt Barriers:
Silt barriers shall be installed down slope of all earth disturbances that do not drain to a sediment basin or trap. Silt barriers shall be compost filter socks or equivalent silt fence. Silt barriers shall filter sediment laden runoff.

Stabilization:
All pervious disturbed areas shall be permanently stabilized with vegetated cover in accordance with the stabilization measures specified on the plan.

See Sequence of Construction Notes on other E&S Plan sheet.

STABILIZATION NOTES

1. Permanent stabilization is defined as a minimum uniform 70% perennial vegetative cover or other permanent non–vegetative cover with a density sufficient to resist accelerated surface erosion and subsurface characteristics sufficient to resist sliding and other movements.
2. Immediately after earth disturbance activities cease or temporary cessation preparations should be made for seeding and mulching to begin (i.e. anticipate the completion date and schedule the seeder). In no case should an area exceeding 15,000 square feet, which is to be stabilized by vegetation, reach final grade without being seeded and mulched. During non–germinating periods, mulch must be applied at the specified rates. Disturbed areas which are not at finished grade and which will be re–disturbed within 1 year must be stabilized in accordance with the temporary vegetative stabilization specifications. Disturbed areas which are at final grade or which will not be re–disturbed within 1 year must be stabilized in accordance with the intended permanent vegetative stabilization specifications.
3. An erosion control blanket will be installed on all disturbed slopes 3:1 or steeper, all areas of concentrated flows, all disturbance with 50' of Waters of the Commonwealth and all other areas specifically identified on the plans. N.A.G. S75 biodegradable matting shall be used for all general slope matting unless otherwise noted on the plans.
4. Soil restoration and amendments of the basin bottoms shall be provided at time of conversion to permanent stormwater basins. The basin bottom preparation consists of over excavating the basin bottoms to 12" below finished grade, scarification/till the subgrade bottom (10" depth desired), smooth out bottom with light weight track equipment and place 12" of the amended soils mixture across basin bottom followed by stabilization with intended basin seed mixture and mulch. The scarification/tiling of the subsoils is intended to enhance permeability of the subsoils and the amended soils will also promote infiltration and enhance vegetation growth
5. Replace all topsoil where construction is complete (4" to 8" depth). Prior to seeding, prepare surface by removal of rocks and unsuitable matter by hand raking or the use of a rock hound with light weight equipment. Stabilize with intended seed, straw and mulch per intended seeding specifications (See plan for type: grass, meadow, wetland mix and vegetated filter strip). Matting is required for all slopes 3:1 and steeper, see plan for locations).
6. Straw and hay mulch should be anchored immediately after application to prevent being windblown. A tractor–drawn implement may be used to "crimp" the straw or hay into the soil. This method is limited to slopes no steeper than 3:1. The machinery should be operated on the contour. (Note: Crimping of hay or straw by running over it with tracked machinery is not recommended.)
   A. Asphalt, either emulsified or cut–back, containing no solvents or other diluting agents toxic to plant or animal life, uniformly applied at the rate of 31 gallons per 1000 sy may be used to tack mulch.
   B. Synthetic Binders (chemical binders) may be used as recommended by the manufacturer to anchor mulch provided sufficient documentation is provided to show they are non–toxic to native plant and animal species.
   C. Wood mulch can be used over straw at a rate of 210 lb. per 1000 sy.
   D. Lightweight plastic, fiber, or paper nets may be stapled over the mulch to manufacturer's recommendations.
7. Tracking steep slopes (>25% or 4:1) may be utilized by running tracked machinery up and down the slope, leaving tread marks parallel to the contour. (Note: If a bulldozer is used, the blade shall be up.). Care should be exercised on soils having a clay content to avoid over–compaction. See notes above for permanent stabilization.

TEMPORARY SEEDING

The contractor shall temporarily stabilize any rough graded area, topsoil stockpile or unused excavated fill material. The grass will provide interim protection against the impact of precipitation, running water and wind.
Temporary seeding schedule is as follows:

Species: annual rye grass
% Live Seed: 98%
Application rate: 1 lbs./1000 sq. ft.
Fertilizer type: general purpose granular, 5–5–5
Fertilizer application rate: 1000 lbs per acre
Liming rate: one (1) ton per acre of agricultural grade lime
Strawbale mulch rate: three (3) tons per acre
Seeding dates: no seeding between 1/1 and 3/15

PERMANENT SEEDING

A. All disturbed soil not to be covered with impervious surfaces, riprap or landscaping mulch shall be permanently seeded to provide protection against the impact of precipitation, running water and wind.
B. Mulching shall be used to protect seeding and help in preventing runoff. Clean straw mulch shall be required in all disturbed areas and applied at a rate of 3 tons/acre (equivalent to 0.75" to 1" deep). Clean straw mulch should not be finely chopped nor broken during application.

Maintenance procedure:
1) Maintain a minimum 70% soil surface coverage with grass and/or mulch.
2) If a washout, slope failure or similar disturbance occurs, correct drainage problem if necessary, then reapply soil to the proper grade, reapply soil amendments, seed and mulch.

Permanent seeding schedule is as follows:
For gentle lawn areas
Species: 40% Kentucky Bluegrass
40% Pennlawn Creeping Red Fescue
20% Norlea Perennial Ryegrass

For Swales, steep slopes and wet areas: 100% Tall Fescue, varieties such as K–31, Altra,
or other recently released dwarf variety
% Pure live seed: 98%
Application rate: 6 lbs./1000 sq. ft.
Fertilizer type: general purpose granular, 10–20–20
Fertilizer application rate: 1000 lbs per acre
Liming rate: Four (4) tons per acre of agricultural grade lime
Strawbale mulch rate: three (3) tons per acre
Seeding dates: Between 4/1 and 10/15

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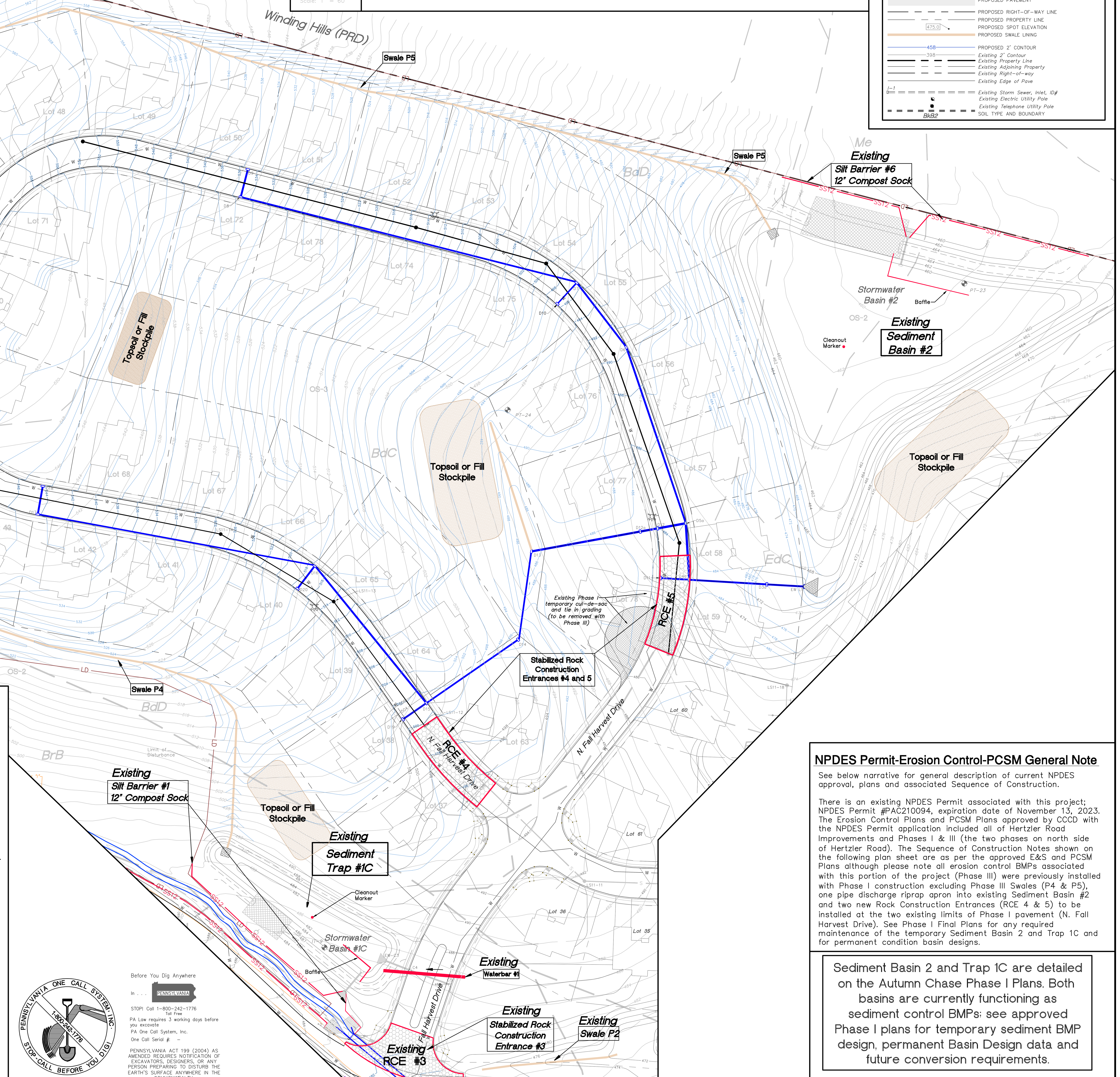
PA Law requires 3 working days before you excavate
PA One Call System, Inc.
PENNSYLVANIA ACT 199 (2004) AS AMENDED REQUIRES NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE COMMONWEALTH.

GENERAL EROSION CONTROL NOTES

1. An NPDES Permit related to construction activities was obtained for the project; NPDES Permit #PAC210094, expires November 13, 2023.
2. The entire project site is located within the Yellow Breeches Creek watershed (CWF).
3. Wetlands shown on this plan are per field delineation performed by Vortex Environmental, Inc.. No wetland impacts are proposed with this project. There are no wetlands located within Phase III.
4. Water obstruction and encroachment permitting was obtained for the stream impacts associated with Hertzler Road improvements and Phase I utilities. There are no stream impacts (no permitting) associated with this Phase III Final Plan.
5. BMPs, trees, debris and any other materials not proposed to permanently remain on–site are to be recycled or disposed of in accordance with Department of Environmental Protection regulations. All building materials and wastes must be removed from the site and recycled or disposed 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. No building material or wastes or unused building materials shall be buried, dumped, or discharged at the site.

NORTH
Scale: 1" = 60'



LEGEND

SS18	18" COMPOST FILTER SOCK
SS12	12" COMPOST FILTER SOCK
SS8	12" COMPOST FILTER SOCK
LD	PROPOSED PH–III LIMIT OF DISTURBANCE
RCE #1	ROCK CONSTRUCTION ENTRANCE
A1	PROPOSED STORM SEWER, INLET
A	PROPOSED END SECTION / ENDWALL W/ RIPRAP
	PROPOSED SANITARY SEWER, MANHOLE
W	PROPOSED WATER LINE
	PROPOSED EDGE OF PAVE/CURB LINE
	PROPOSED PAVEMENT
	PROPOSED RIGHT–OF–WAY LINE
	PROPOSED PROPERTY LINE
475.0	PROPOSED SPOT ELEVATION
	PROPOSED SWALE LINING
458	PROPOSED 2' CONTOUR
398	*Existing 2' Contour*
	Existing Property Line
	Existing Adjoining Property
	Existing Right–of–way
	Existing Edge of Pave
I–1	*Existing Storm Sewer, Inlet, ID#*
	Existing Electric Utility Pole
	Existing Telephone Utility Pole
BkB2	SOIL TYPE AND BOUNDARY

NPDES Permit-Erosion Control-PCSM General Note

See below narrative for general description of current NPDES approval, plans and associated Sequence of Construction.

There is an existing NPDES Permit associated with this project; NPDES Permit #PAC210094, expiration date of November 13, 2023. The Erosion Control Plans and PCSM Plans approved by CCCD with the NPDES Permit application included all of Hertzler Road Improvements and Phases I & III (the two phases on north side of Hertzler Road). The Sequence of Construction Notes shown on the following plan sheet are as per the approved E&S and PCSM Plans although please note all erosion control BMPs associated with this portion of the project (Phase III) were previously installed with Phase I construction excluding Phase III Swales (P4 & P5), one pipe discharge riprap apron into existing Sediment Basin #2 and two new Rock Construction Entrances (RCE 4 & 5) to be installed at the two existing limits of Phase I pavement (N. Fall Harvest Drive). See Phase I Final Plans for any required maintenance of the temporary Sediment Basin 2 and Trap 1C and for permanent condition basin designs.

Sediment Basin 2 and Trap 1C are detailed on the Autumn Chase Phase I Plans. Both basins are currently functioning as sediment control BMPs; see approved Phase I plans for temporary sediment BMP design, permanent Basin Design data and future conversion requirements.

ES1

	REVISIONS	DATE
1.	Addressing Review Comments	12–3–2021
2.	Addressing Conditions of Plan Approval Comments	7–12–2022
3.	–	–
4.	–	–
5.	–	–
6.	–	–
7.	–	–
8.	–	–
9.	–	–

M:\Drawings\2020\202068 Autumn Chase Phase 3\202068 ES.dwg 7/12/2022 1:47:10 PM EDT

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EROSION AND SEDIMENTATION CONTROL PLAN
FOR
AUTUMN CHASE PRD – PHASE III
Land Developer: Hertzler Road Associates, L.P.
UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

Project No. 202068
Date November 1, 2021

SEQUENCE OF CONSTRUCTION

The following Sequence of Construction includes references to the proposed temporary erosion control measures and permanent stormwater BMPs; see the PCSM Plan sheets for the permanent BMPs.

- At least 7 days before starting any earth disturbance activities, the owner and/or operator shall invite all contractors involved in those activities, the landowner, all appropriate municipal officials (Township), the erosion and sediment control plan preparer, and a representative of the County Conservation District to an on-site pre-construction meeting.
- At least 3 days before starting any earth disturbance activities, all contractors involved in those activities shall notify the Pennsylvania One Call System Incorporated at 811 for the location of existing underground utilities.
- All earth disturbance activities shall proceed in accordance with the following sequence. Each stage shall be completed and immediately stabilized before any following stage is initiated. Clearing, grubbing and topsoil stripping shall be limited only to those areas described in each stage.
- Immediately upon discovering unforeseen circumstances posing the potential for accelerated erosion and/or sediment pollution, the operator shall implement appropriate best management practices (BMPs) to eliminate the potential for accelerated erosion and/or sediment pollution.
- If any fill material must be brought to the site, it must come from a site with an approved Erosion Control Plan and the contractor or developer must notify the County Conservation District and provide the appropriate information pertaining to the borrow site prior to start of hauling operations.
- All pumping of sediment laden water shall be through a sediment control BMP, such as a pumped water filter bag or equivalent sediment removal facility, over undisturbed vegetated areas.

1. Contractor and/or owner to coordinate with the Township regarding complete closure of Hertzler Road to accommodate the Hertzler Road drainage improvements. Initial access to the site shall be via the existing gravel driveway off Hertzler. Install construction fencing around the stormwater basin bottom areas to prevent compaction from construction equipment. Install stabilized rock construction entrance #1 at the existing driveway location (RCE #2 & #3 require drainage improvements prior to installation). Ingress and egress to the site will be restricted to the construction entrances only.
2. Install compost filter sock barriers #1 through #7. Remaining silt sock barriers are associated with the offsite utility extensions and shall be installed later in the sequence.
3. Culvert G & Storm Sewer B4 to EW-G Installation: Install sand bag cofferdam directly upstream of Culvert G (upstream of existing concrete trench) and initiate clean water bypass pumping with discharge point downstream of Culvert G. Install sand bag cofferdam directly up stream of clean water pump discharge. Any sediment laden water pumped out of the work area shall be directed to a pumped water filter bag prior to discharge (filter bag to be placed on level vegetated ground). Remove the existing concrete trench and arch culvert from the stream channel and the 18" culvert under Hertzler Road. Install water main casing pipe and telecommunication conduits under stream crossing. Install Culvert G and storm sewer B4 to EW-G. Immediately install inlet protection in inlets B2 & B3 (B4 is future trap outlet structure). All stream channel disturbance directly up and down stream of the culvert shall be stabilized with natural stream strata. Remove bypass pumping/sandbags.
4. Install Rock Construction Entrance #2 (N. Autumn Oaks Drive). Ingress and egress to the site will be restricted to the construction entrances.
5. Culvert H Installation: Install sand bag cofferdam directly upstream of Culvert H and initiate clean water bypass pumping with discharge point downstream of Culvert G. Install second sand bag cofferdam directly up stream of clean water pump discharge. Any sediment laden water pumped out of the work area shall be directed to a pumped water filter bag prior to discharge (filter bag to be placed on level vegetated ground). Remove existing CMP culvert under Hertzler Road. Install water main casing pipe and telecommunication conduits under stream crossing. Install Culvert H with endwalls and associated riprap stream bank stabilization. All stream channel disturbance directly up and down stream of the culvert shall be stabilized with natural stream strata. Remove bypass pumping/sandbags.
6. Install Rock Construction Entrance #3 (N. Fall Harvest Drive). Ingress and egress to the site will be restricted to the construction entrances.
7. Install Sediment Traps (1A, 1B & 1C) located along the north side of Hertzler Road including outlet structure, barrel, riprap apron, baffles and cleanout stakes (See Details). To minimize soil compaction of the subsoils below the basin bottom, no heavy equipment shall be used for basin excavation after the design grades are within 2' of finished grade. The remaining basin excavation shall be performed from the sides of the basin to the extent possible. Any grading that can not be performed from the sides of the basin(s) shall be performed with wide track equipment (no rubber tire equipment to be used in basin bottom areas due to concentrated loads that occur under the tires). See end of sequence notes for basin conversion and soil restoration/amendment notes. Install water bar #1 & #2 to direct upslope runoff to sediment traps 1A and 1B respectively. Rock Construction Entrance #1 can be removed during the construction of Trap 1C. Critical Stage of Construction: Basin Embankments shall be inspected by licensed professional.
8. Install collection swale P1 into Sediment Trap 1A, swale P2 into Sediment Trap IB and Swale P4 into Trap 1C; immediately stabilize swales (see detail).
9. Install Sediment Basins 2 & 3 including permanent outlet structure, temporary riser attachment, barrel, riprap apron, baffles and cleanout stakes (See Details). To minimize soil compaction of the subsoils below the basin bottom, no heavy equipment shall be used for basin excavation after the design grades are within 2' of finished grade. Basin excavation shall be performed from the sides of the basin to the extent possible. Any grading that can not be performed from the sides of the basin(s) shall be performed with wide track equipment (no rubber tire equipment to be used in basin bottom areas due to concentrated loads that occur under the tires). See end of sequence notes for basin conversion and soil restoration/amendment notes. Critical Stage of Construction: Basin Embankments shall be inspected by licensed professional. Install Swale P5 into Basin 2; immediately stabilize swale (see detail).
10. The above installed control measures are installed strip and stockpile topsoil as needed for areas to be regraded; stockpiles shall not exceed a maximum height of 35 feet and shall be no steeper than 2:1. Stockpiles to be stabilized accordingly. Perform bulk grading. Grading shall be such as to maintain sediment laden runoff to the intended receiving sediment control BMP(s).
11. Begin on site utility installation followed by curb installation. Install stone subbase on streets as soon as possible to shield soil from erosion. Install Swale P3; immediately stabilize swale per detail.
12. Replace topsoil and permanently seed and mulch all non-paved areas where grading is complete. As disturbed areas within a project approach final grade, preparations should be made for seeding and mulching to begin (i.e. anticipate the completion date and schedule the seeder). In no case should an area exceeding 15,000 square feet, which is to be stabilized by vegetation, reach final grade without being seeded and mulched.
13. Hertzler Road embankment grading along south side of Hertzler Road west of intersection with N. Fall Harvest Drive: Install stone embankment Sediment Trap T1 on the south side of Hertzler Road (Trap T1 shall treat sediment laden runoff associated with a portion of the proposed embankment grading & Hertzler Road reconstruction). Install Swale P6, see detail.
14. Install temporary 12" compost filter sock at the entrance of the existing culvert at the up stream end of swale P6; the filter sock shall serve as temporary filter for swale P7 discharge. Perform minimum grading needed to install Swale P7 and the proposed Compost Sock #11 directly above/paralleling swale P7 (some grading required to install sock). Perform embankment grading upslope of sock #11/Swale P7 & swale P6, immediately stabilize slope with topsoil, seeding and S75 matting.
15. Culvert "" Installation. Remove existing 15" storm pipe and install new culvert, end walls and downstream riprap apron. Compost sock at upstream end wall can be removed after Swale P7 and upslope area becomes fully stabilized (sock could cause ponding along the edge of roadway and as such should be removed as soon as possible).
16. Off site utility extensions. Install remaining section of filter sock associated with the offsite water main extension to the west and the off site sanitary sewer extension to the east. The earth disturbance associated with the off site water and sewer main extensions shall be limited to amount of pipe installation that can be installed and stabilized within the same day (road restoration to be in accordance with township standards). All earth disturbance within 50' of the intermittent stream and within 50' of the wetland pocket to be stabilized with permanent seeding and S75 matting.
17. The stream bank along Hertzler Road east/down stream of the railroad bridge is severely eroded. The stream bank shall be stabilized with geotextile and R-5 riprap. Install sand bag cofferdam in the concrete flume under the railroad bridge and establish clean water bypass pumping with discharge point downstream of proposed stabilization measures. Install second sand bag cofferdam directly up stream of clean water pump discharge. Any sediment laden water pumped out of the work area shall be directed to a pumped water filter bag prior to discharge (filter bag to be placed on level vegetated ground). Place geotextile fabric and R5 riprap along stream bank as shown. Remove bypass pumping/sandbags.
18. Begin building construction. Home builders shall implement Typical Individual On-Lot Erosion Controls to limit sediment from entering streets or abutting developed lots although no additional on lot measures are needed for disturbance areas that drain directly to a Sediment trap and/or basin.
19. The erosion control measures may not be removed until the entire upslope drainage area has a permanent stabilization. This occurs with a minimum uniform 70% perennial vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated surface erosion and subsurface characteristics sufficient to resist sliding and other movements. All paved areas must be paved or have a compacted stone base in place. Upon completion of all earth disturbance activities and permanent stabilization of all disturbed areas, the owner and/or operators shall contact the County Conservation District for an inspection prior to the removal of the erosion control BMP's.
20. After the Conservation District representative has inspected the site and agrees the site is stabilized the BMP's can be removed as follows:
    a. Critical Stage of Construction (Basin Conversions): After all upslope contributing areas are permanently stabilized and after receiving authorization from a CCCD representative Stormwater Basins 1A, 1B, 1C, 2 and 3 shall be converted to permanent stormwater basins. Install 12" compost sock around outlet structure to provide for filtering during final stabilization process. Soil restoration and amendments of the Stormwater Basin bottoms shall be provided at time of conversion. The basin bottom preparation consists of over excavating the basin bottoms to 12" below finished grade, scarification/till the subgrade bottom (10" depth desired), smooth out bottom with light weight track equipment and place 12" of the amended soils mixture across basin bottom as shown by Stormwater Basin detail with intended basin sand mixture and mulch. The scarification/tiling of the subsoils is intended to enhance permeability of the subsoils and the amended soils will also promote infiltration and enhance vegetation growth.
    b. Silt barries can be removed.
    c. Remove all inlet protection.
    d. BMPs, trees, debris and any other materials not proposed to permanently remain on-site are to be recycled or disposed of in accordance with Department of Environmental Protection regulations. All building materials and wastes must be removed from the site and recycled or disposed 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. No building material or wastes or unused building materials shall be buried, dumped, or discharged at the site.

CRITICAL STAGES OF PLAN IMPLEMENTATION

This plan identifies the Post Construction Stormwater Management BMPs for the project. In accordance with NPDES permitting requirements, critical stages of implementation of the plan shall have a licensed professional or designee on site. The critical stages of construction associated with this project would be construction of the Bioretention-Detention Basin embankments and outlet structures, soil restoration of basin bottoms and verification of appropriate basin seeding. All other BMPs can be inspected after construction to verify consistency with the intended design.

UTILITY GENERAL NOTES

1. Public water service shall be provided to the project via a water main extension along Hertzler Road from the existing water main located at the intersection of Hertzler Road and Harvest Drive (southern entrance into Winding Hills Development) to the project site. Water main design is a concept only; final design to be provided by United Water after the conditional approval of the Phase I Plan.
2. Public sanitary sewer service shall be provided to the project via standard gravity sewer system with in the development connected to a proposed off site gravity sewer main extension with ultimate connection to the existing public sewer located just east of the site along Hertzler Road. All sewer construction to be in accordance with Township standards. See additional Sanitary Sewer Notes on the cover sheet.
3. Hertzler Road restoration relative to the water and sewer main extensions shall be in accordance with Township requirements.

STANDARD EROSION & SEDIMENT CONTROL PLAN NOTES

1. A copy of the stamped approved drawings signed and dated by the Dauphin County Conservation District must be available at the project site at all times.
2. At least 7 days prior to starting any earth disturbance activities (including clearing and grubbing), the owner and/or operator shall invite all contractors, the landowner, appropriate municipal officials, the E&S Plan preparer, the post construction stormwater management plan preparer, and a representative from the Dauphin County Conservation District to an on-site preconstruction meeting.
3. At least 3 days prior to starting any earth disturbance activities, or expanding into an area previously unmarked, the Pennsylvania One Call System Inc. shall be notified at 1-800-242-1776 for the location of existing underground utilities.
4. All earth disturbance activities shall proceed in accordance with the sequence provided on the plan drawings. Deviation from that sequence must be approved in writing from the Dauphin County Conservation District or by DEP prior to implementation.
5. Clearing, grubbing, and topsoil stripping shall be limited to those areas described in each stage of the construction sequence. General site clearing, grubbing and topsoil stripping may not commence in any stage or phase of the project until the E&S BMPs specified by the Construction Sequence for that stage or phase has been installed and are functioning as described in this document.
6. At no time shall construction vehicles be allowed to enter areas outside the limit of disturbance boundaries shown on the plan maps. These areas must be clearly marked and fenced off before clearing and grubbing operations begin.
7. Stockpile heights must not exceed 35 feet. Stockpile slopes must be 2H:1V or flatter.
8. Immediately upon discovering unforeseen circumstances posing the potential for accelerated erosion and/or sediment pollution, the operator shall implement appropriate BMPs to minimize the potential for erosion and sediment pollution and notify the Dauphin County Conservation District and/or the regional office of DEP.
9. All building materials and wastes must be removed from the site and recycled or disposed of in accordance with the Department's Solid Waste Management Regulations at 25 Pa. Code Chapter 260, §§260.1 et seq., 271.1, and 287.1 et. seq. No building materials or wastes or unused building materials shall be burned, buried, dumped, or discharged at the site.
10. All off-site waste and borrow areas must have an E&S Plan approved by the Dauphin County Conservation District or DEP fully implemented prior to being activated.
11. The contractor is responsible for ensuring that any material brought on site is Clean Fill.
12. Form FP-001 must be retained by the property owner for any fill material affected by a spill or release of a regulated substance but qualifying as Clean Fill due to analytical testing. Clean Fill is defined as: Uncontaminated, non-water soluble, non-decomposable, inert, solid material. The term includes soil, rock, stone, dredged material, used asphalt, and brick, block or concrete from construction and demolition activities that is separate from other waste and is recognizable as such. The term does not include materials placed in or on the waters of the Commonwealth unless otherwise authorized. (The term "used asphalt" does not include milled asphalt or asphalt that has been processed for re-use.). 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. Environmental due diligence must be performed to determine if the fill materials associated with the project qualify as clean fill. Environmental due diligence is defined as: Investigative techniques, including, but not limited to, visual property inspections, electronic data base searches, review of property ownership, review of property use history, Sanborn maps, environmental questionnaires, transaction screens, analytical testing, environmental assessments or audits. Analytical testing is not a required part of due diligence unless visual inspection and/or review of the past land use of the property indicates that the fill may have been subjected to a spill or release of a regulated substance. If the fill may have been affected by a spill or release of a regulated substance, it must be tested to determine if it qualifies as clean fill. Testing should be performed in accordance with Appendix A of the Department's policy "Management of Clean Fill."
13. All pumping of water from any work area shall be done according to the procedure described in this plan, over undisturbed vegetated areas.
14. Until the site is stabilized, all E&S BMPs must be maintained properly. Maintenance must include inspections of all E&S BMPs after each runoff event and on a weekly basis. All preventative and remedial maintenance work, including clean out, repair, replacement, re-grading, reseeding, re-mulching and re-netting must be performed immediately. If E&S BMPs fail to perform as expected, replacement BMPs, or modifications of those installed will be required.
15. A written report showing dates that E&S BMPs were inspected as well as any deficiencies found and the date they were corrected shall be maintained on the site and be made available to regulatory agency officials at the time of inspection.
16. Sediment tracked onto any public roadway or sidewalk shall be returned to the construction site by the end of each work day and disposed in the manner described in this plan. In no case shall the sediment be washed, shoveled, or swept into any roadside ditch, storm sewer, or surface water.
17. All sediment removed from BMPs shall be disposed of in the manner described on the plan drawings.
18. Areas which are to be topsoiled shall be scarified to a minimum depth of 4 inches prior to placement of topsoil. Areas to be vegetated shall have a minimum 4 inches of topsoil in place prior to seeding and mulching. Fill outslopes shall have a minimum of 2 inches of topsoil.
19. All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence or other related problems. Fill intended to support buildings, structures and conduits, etc. shall be compacted in accordance with local requirements or codes.
20. Fill materials shall be free of frozen particles, brush, roots, sod, or other foreign or objectionable materials that would interfere with or prevent construction of satisfactory fills.
21. Frozen materials or soft, mucky, or highly compressible materials shall not be incorporated into fills.
22. Fill shall not be placed on saturated or frozen surfaces.
23. Seeps or springs encountered during construction shall be handled in accordance with the standard and specification for subsurface drain or other approved method.
24. All graded areas shall be permanently stabilized immediately upon reaching finished grade. Cut slopes in competent bedrock and rock fills need not be vegetated.
25. Immediately after earth disturbance activities cease in any area or subarea of the project, the operator shall stabilize all disturbed areas. During non-germinating months, mulch or protective blanketing shall be applied as described in the plan. Areas not at finished grade, which will be reactivated within 1 year, may be stabilized in accordance with the temporary stabilization specifications. Those areas which will not be reactivated within 1 year shall be stabilized in accordance with the permanent stabilization specifications.
26. Permanent stabilization is defined as a minimum uniform, perennial 70% vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated erosion. Cut and fill slopes shall be capable of resisting failure due to slumping, sliding, or other movements.
27. E&S BMPs must remain functional as such until all areas tributary to them are permanently stabilized or until they are replaced by another BMP approved by the Dauphin County Conservation District or DEP.
28. Upon completion of all earth disturbance activities and permanent stabilization of all disturbed areas, the owner and/or operator shall contact the Dauphin County Conservation District for an inspection prior to removal/conversion of the E&S BMPs.
29. After final site stabilization has been achieved, temporary E&S BMPs must be removed or converted to permanent post construction stormwater management BMPs. Areas disturbed during removal or conversion of the BMPs must be stabilized immediately. In order to ensure rapid revegetation of disturbed areas, such removal/conversions should be done only during the germinating season.
30. Upon completion of all earth disturbance activities and permanent stabilization of all disturbed areas, the owner and/or operator shall contact the Dauphin County Conservation District to schedule a final inspection.
31. Erosion control blanketing shall be installed on all slopes 3H:1V or steeper within 50 feet of a surface water and on all other disturbed areas specified on the plan maps and/or detail sheets.
32. Failure to correctly install E&S BMPs, failure to prevent sediment-laden runoff from leaving the construction site, or failure to take immediate corrective action to resolve failure of E&S BMPs may result in administrative, civil, and/or criminal penalties being instituted by the Pennsylvania Department of Environmental Protection as defined in Section 602 of the Pennsylvania Clean Streams Law. The Clean Streams Law provides for up to $10,000 per day in civil penalties, up to $10,000 in summary criminal penalties, and up to $25,000 in misdemeanor criminal penalties for each violation.
33. Concrete wash water shall be handled in the manner described on the plan drawings. In no case shall it be allowed to enter any surface waters or groundwater systems.
34. All channels shall be kept free of obstructions including but not limited to fill, rocks, leaves, woody debris, accumulated sediment, excess vegetation, and construction materia/wastes.
35. Underground utilities cutting through any active channel shall be immediately backfilled and the channel restored to its original cross-section and protective lining. Any base flow within the channel shall be conveyed past the work area in the manner described in this plan until such restoration is complete
36. Sediment basins and/or traps shall be kept free of all construction waste, wash water, and other debris having potential to clog the basin/trap outlet structures and/or pollute the surface waters.
37. Any damage that occurs in whole or in part as a result of basin or trap discharge shall be immediately repaired by the permittee in a permanent manner satisfactory to the municipality, Dauphin County Conservation District and the owner of the damaged property.
38. Erosion control blanketing shall be installed on all slopes 3H:1V or steeper within 50 feet of a surface water and on all other disturbed areas specified on the plan maps and/or detail sheets.
39. Fill material for embankments shall be free of roots, or other woody vegetation, organic material, large stones, and other objectionable materials. The embankment shall be compacted in maximum 8" layered lifts at 95% modified proctor per ASTM D1557.

SOILS TABLE

SOIL SYMBOL	SOIL DESCRIPTION	SLOPE (%)	HYDROLOGIC GROUP	DEPTH TO WATER TABLE (FT)	SOIL REACTION (pH)	SUITABILITY FOR ROADFILL	SUITABILITY FOR TOPSOIL
BdB	Bedington Shaly Silt Loam	3 to 8%	B	5+	4.5-7.3	FAIR	POOR
BdC	Bedington Shaly Silt Loam	8 to 15%	B	5+	4.5-7.3	FAIR	POOR
BdD	Bedington Shaly Silt Loam	15 to 25%	B	5+	4.5-7.3	FAIR	POOR
BpB	Blairton silt loam	3 to 8%	C	½-3	4.5-5.5	POOR	POOR
BrB	Brinkerton silt loam	3 to 8%	D	0-½	4.5-5.5	POOR	POOR
DuB	Duffield silt loam	3 to 8%	B	5+	5.1-7.3	POOR	FAIR
EdB	Edom silt loam	3 to 8%	B	5+	5.1-7.8	POOR	POOR
EdC	Edom silt loam	8 to 15%	B	5+	5.1-7.8	POOR	POOR
HaA	Hagerstown shaly silt loam	0 to 3%	B	5+	4.5-7.3	POOR	POOR
HaB	Hagerstown shaly silt loam	3 to 8%	B	5+	4.5-7.3	POOR	POOR
Me	Melvin silt loam	0 to 2%	B/D	0-1	6.1-7.3	POOR	POOR
Pe	Penlaw silt loam	0 to 3%	C/D	½-1½	5.6-7.3	POOR	POOR

In general, the soils present should not pose any significant limitation to the type of development proposed. Reference the following recommendation pertaining to possible issues that may be encountered during construction.

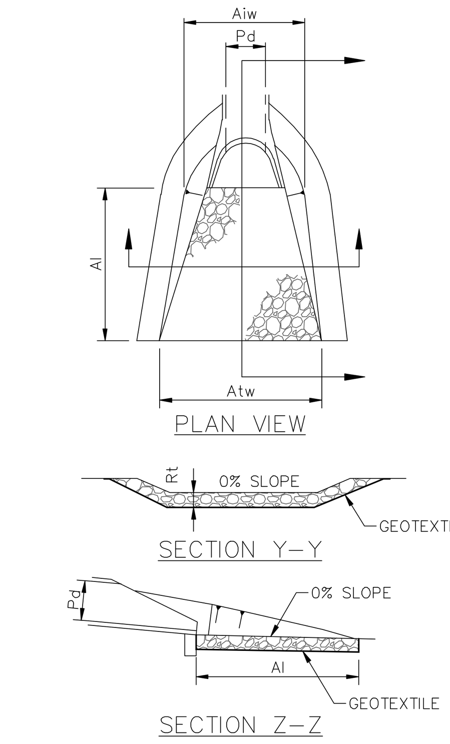
- If unrippable rock is encountered during proposed grading, blasting or drilling may be required. Removed rock can be crushed if necessary and used for fill.
- If water table is encountered during excavation, dirty water shall be pumped out into a filter bag or sediment removal pond.
- The NRCS Soil Survey indicates some of the soils have a poor rating for use as road fill. The contractor should use only what soils are suitable for road fill and shall place and compact fill in accordance with standard practice. All road fill must meet Penn DOT Pub. 408 standards.
- Trap/Basin Core material shall be unified class CH or CL soil compacted to 98% of max dry density. Homogeneous embankment material to be compacted in 8" layers to a minimum final density of not less than 98% of max. Dry density within 2% of optimum moisture content. (ASTM Method D1557).
- If sinkhole is encountered during construction contractor and/or owner should immediately consult with a Geotechnical Engineer for guidance on proper sinkhole repair.

NPDES Permit-Erosion Control-PCSM General Note

See below narrative for general description of current NPDES approval, plans and associated Sequence of Construction.

There is an existing NPDES Permit associated with this project; NPDES Permit #PAC210094, expiration date of November 13, 2023. The Erosion Control Plans and PCSM Plans approved by CCCD with the NPDES Permit application included all of Hertzler Road Improvements and Phases I & III (the two phases on north side of Hertzler Road). The Sequence of Construction Notes shown on this plan sheet are as per the approved E&S and PCSM Plans although please note all erosion control BMPs associated with this portion of the project (Phase III) were previously installed with Phase I construction excluding Phase III Swales (P4 & P5), one pipe discharge riprap apron into existing Sediment Basin #2 and two new Rock Construction Entrances (RCE 4 & 5) to be installed at the two existing limits of Phase I pavement (N. Fall Harvest Drive). See Phase I Final Plans for any required maintenance of the temporary Sediment Basin 2 and Trap 1C and for permanent condition basin designs.

Sediment Basin 2 and Trap 1C are detailed on the Autumn Chase Phase I Plans. Both basins are currently functioning as sediment control BMPs: see approved Phase I plans for temporary sediment BMP design, permanent Basin Design data and future conversion requirements.



SWALE DISCHARGE APRONS

Riprap aprons shall be installed at Swale P4 & P5 discharges. Aprons to extend from swale discharge along basin bottom: R-4, 10' wide x 10' long x 18" depth)

Outlet No.	Pipe Dia. Do (in)	Tail Water Condition (Max/Min)	Man. "n" For Pipe	Pipe Slope (%)	Q (cfs)	*V (fps)	Riprap Size	Rt (in)	Al (ft)	Alw (ft)	Atw (ft)
EW-L1	24	Min	.012	2.00	28.4	10.3	R-5	27	16	6	22

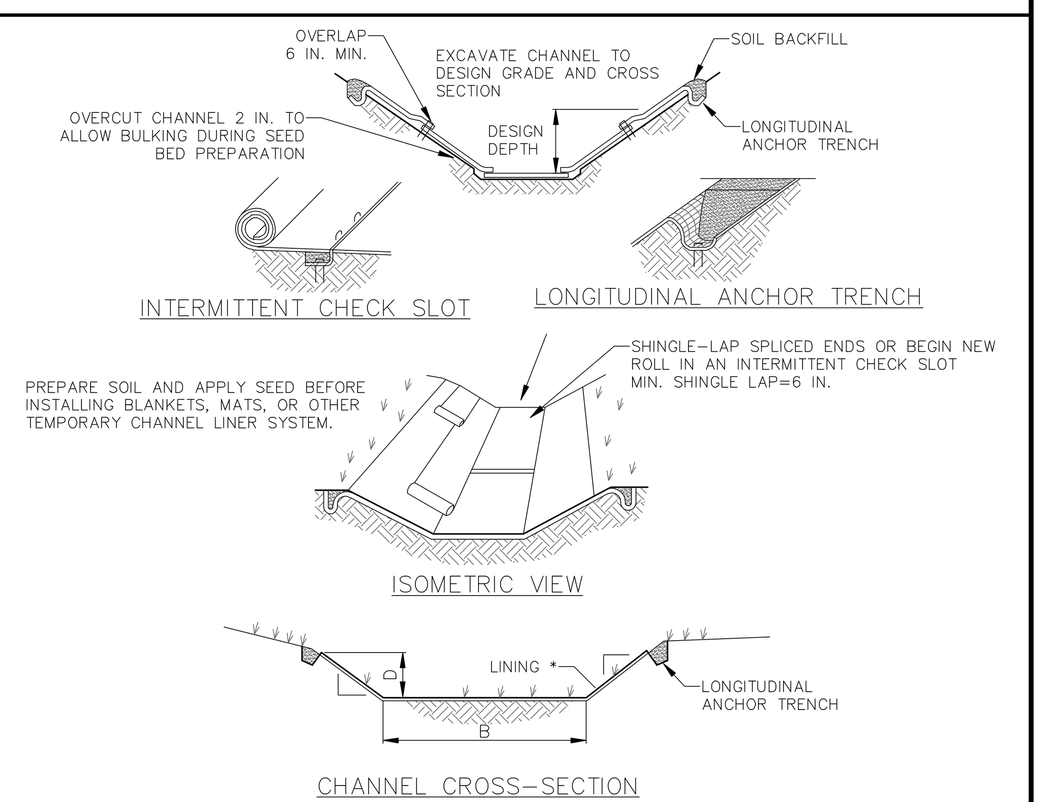
EW = Concrete End Wall (RC-31M)
ES = Plastic End Section (RC-33M)

NOTES:

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

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

STANDARD CONSTRUCTION DETAIL #9-1
RIPRAP APRON AT PIPE OUTLET
WITH FLARED END SECTION OR ENDWALL



* SEE MANUFACTURER'S LINING INSTALLATION DETAIL FOR STAPLE PATTERNS, VEGETATIVE STABILIZATION FOR SOIL AMENDMENTS, SEED MIXTURES AND MULCHING INFORMATION

SWALE DESIGNATION	CHANNEL SLOPE (%)	Z1	Z2	BW (FT.)	D (MIN.) (FT.)	TW (MIN.) (FT.)	TEMPORARY LINING	PERMANENT LINING
P4	25.0	3	3	2.0	1.0	8.0	N.A.G. P300	N.A.G. P300/CLASS D VEG.
P5	8.0	3	3	2.0	1.0	8.0	N.A.G. SC250	N.A.G. SC250/CLASS D VEG.
P8	4.0	3	3	2.0	1.5	11.0	N.A.G. SC250	N.A.G. SC250/CLASS D VEG.

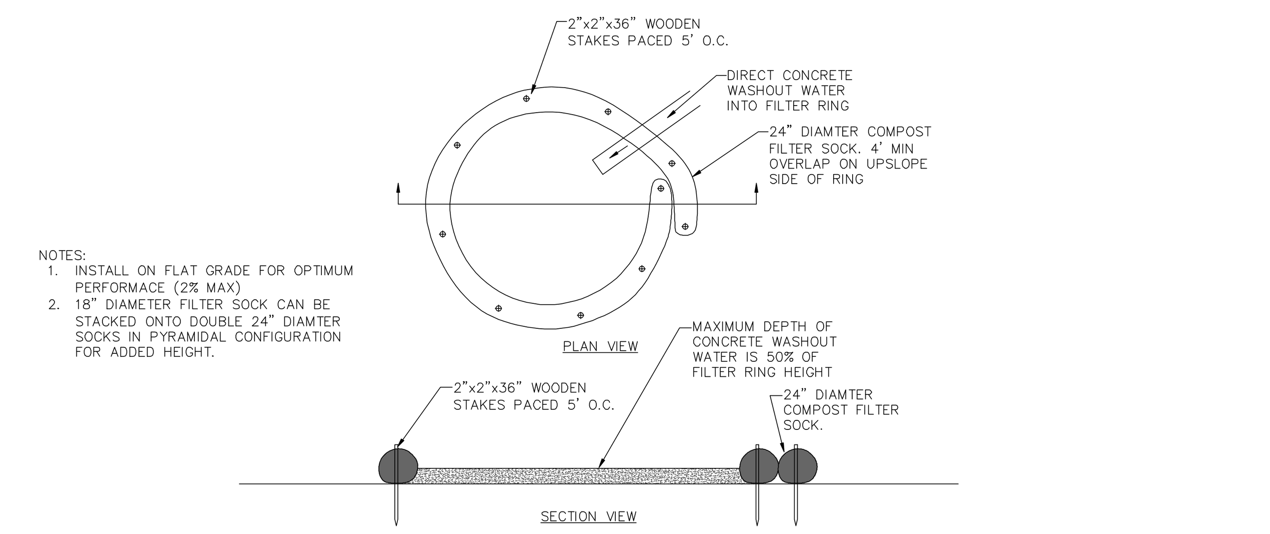
NOTES:

ANCHOR TRENCHES SHALL BE INSTALLED AT BEGINNING AND END OF CHANNEL IN THE SAME MANNER AS LONGITUDINAL ANCHOR TRENCHES.

CHANNEL DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. CHANNEL SHALL BE CLEANED WHENEVER TOTAL CHANNEL DEPTH IS REDUCED BY 25% AT ANY LOCATION. SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO CHANNEL WITHOUT FURTHER DAMAGE. DAMAGED LINING SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS OF DISCOVERY.

NO MORE THAN ONE THIRD OF THE SHOOT (GRASS LEAF) SHALL BE REMOVED IN ANY MOWING. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2 AND 3 INCHES UNLESS OTHERWISE SPECIFIED. EXCESS VEGETATION SHALL BE REMOVED FROM PERMANENT CHANNELS TO ENSURE SUFFICIENT CHANNEL CAPACITY.

STANDARD CONSTRUCTION DETAIL #6-1
VEGETATED CHANNEL

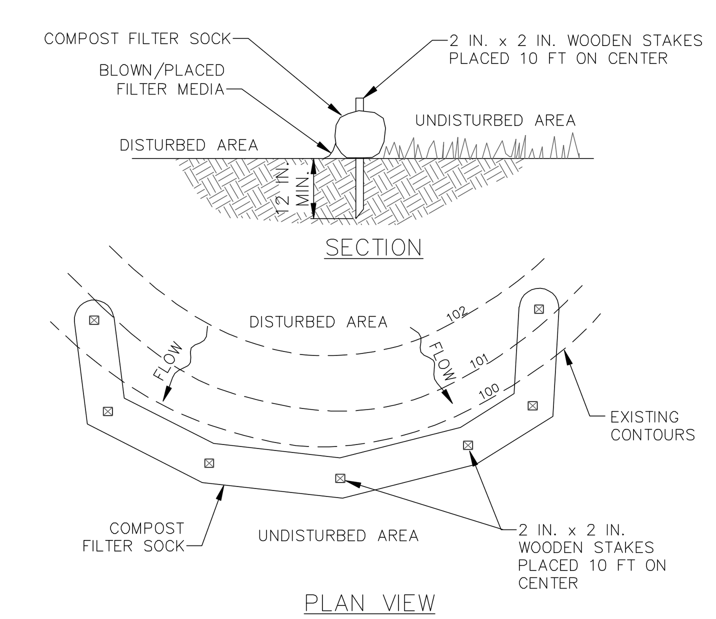


A suitable concrete washout facility must be provided for the cleaning of chutes, mixers, and hoppers of the delivery vehicles unless such a facility will be used at the source of the concrete. Under no circumstances may wash water from these vehicles be allowed to enter any surface waters. Make sure that proper signage is provided to drivers so that they are aware of the presence of washout facilities.

Washout facilities should not be placed within 50 feet of storm drains, open ditches or surface waters. They should be in a convenient location for the trucks, preferably near the place where the concrete is being poured, but far enough from other vehicular traffic to minimize the potential for accidental damage or spills. Wherever possible, they should be located on slopes not exceeding a 2% grade.

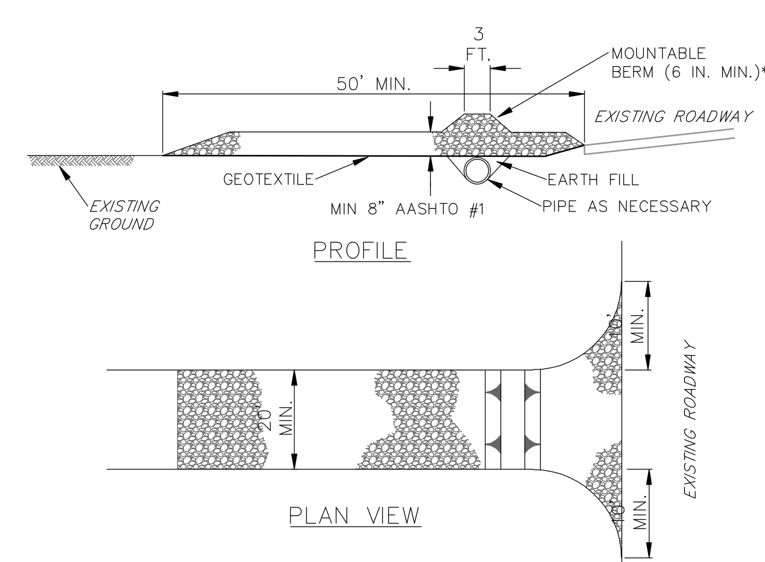
Compost Sock Washout
Wherever compost sock washouts are used, a suitable impervious geomembrane should be placed at the location of the washout. Compost socks should be staked in the manner recommended by the manufacturer around perimeter of the geomembrane so as to form a ring with the ends of the sock located at the upslope corner (See Detail). Care should be taken to ensure continuous contact of the sock with the geomembrane at all locations. Where necessary, socks may be stacked and staked so as to form a triangular cross-section.

CONCRETE WASHOUT DETAIL
NOT TO SCALE



NOTES:
SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.
COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.
TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.
ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

STANDARD CONSTRUCTION DETAIL #4-1
COMPOST FILTER SOCK
NOT TO SCALE



* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

NOTES:

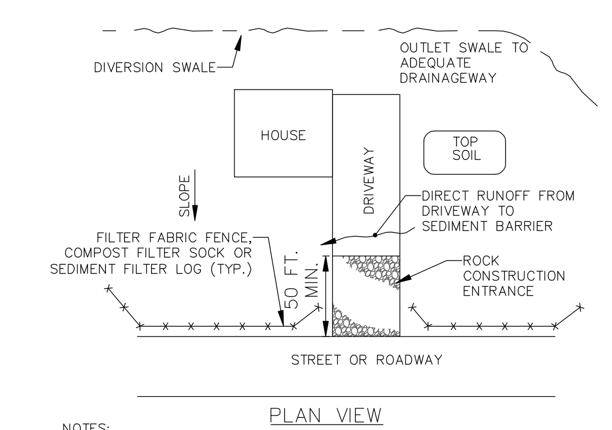
REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.

RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.

MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.

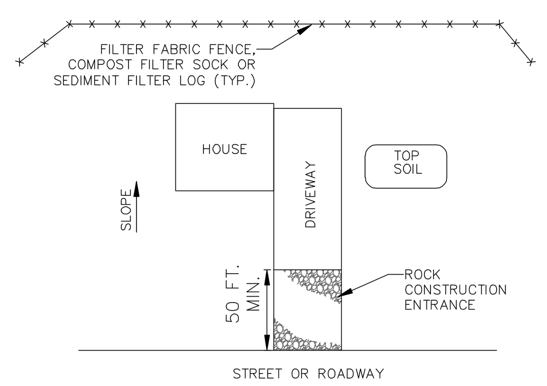
MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE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

STANDARD CONSTRUCTION DETAIL #3-1
ROCK CONSTRUCTION ENTRANCE
NOT TO SCALE



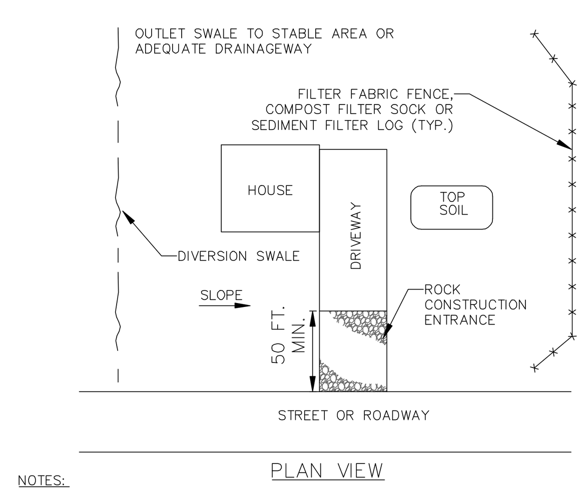
NOTES:
THE UPSLOPE DIVERSION CHANNEL SHOULD BE INSTALLED WHEREVER THE LOT EXTENDS MORE THAN 150 FEET ABOVE THE ROADWAY OR WHERE RUNOFF FROM AREAS ABOVE THE LOT IS NOT OTHERWISE DIVERTED AWAY FROM THE LOT. THE CHANNEL SHOULD BE PROPERLY SIZED AND PROVIDED WITH A SUITABLE PROTECTIVE LINING. THE DESIGNER AND/OR CONTRACTOR MUST EXERCISE CAUTION TO PROTECT ALL DOWNSTREAM PROPERTY OWNERS WHEN SELECTING A DISCHARGE POINT FOR THIS CHANNEL.

STANDARD CONSTRUCTION DETAIL #10-1
TYPICAL ON-LOT BMPs FOR LOT ABOVE ROADWAY
NOT TO SCALE



NOTES:
THE AREA DOWNSLOPE OF THE FILTER FENCE/COMPOST SOCK BARRIER/SEDIMENT FILTER LOG MAY NOT BE UNDER DEVELOPMENT OR OTHERWISE DISTURBED.

STANDARD CONSTRUCTION DETAIL #10-2
TYPICAL ON-LOT BMPs FOR LOT BELOW ROADWAY
NOT TO SCALE



NOTES:
THE AREA DOWNSLOPE OF THE FILTER FENCE/COMPOST SOCK BARRIER/SEDIMENT FILTER LOG MAY NOT BE UNDER DEVELOPMENT OR OTHERWISE DISTURBED.

THE UPSLOPE DIVERSION CHANNEL SHOULD BE INSTALLED WHEREVER RUNOFF FROM AREAS ABOVE THE LOT ARE NOT OTHERWISE DIVERTED AWAY FROM THE LOT. THE CHANNEL SHOULD BE PROPERLY SIZED AND PROVIDED WITH A SUITABLE PROTECTIVE LINING. THE DESIGNER AND/OR CONTRACTOR MUST EXERCISE CAUTION TO PROTECT ALL DOWNSTREAM PROPERTY OWNERS WHEN SELECTING A DISCHARGE POINT FOR THIS CHANNEL.

IN AREAS WHERE SLOPE IS AT AN OBLIQUE ANGLE TO THE ROADWAY, BMPS SHALL BE ADJUSTED ACCORDINGLY.

DIVERSION CHANNEL MAY OUTLET TO ROADSIDE DITCH OR STORM SEWER SYSTEM, BUT NOT ONTO STREET OR ROADWAY.

STANDARD CONSTRUCTION DETAIL #10-3
TYPICAL ON-LOT BMPs FOR LOT ALONG ASCENDING OR DESCENDING ROADWAY
NOT TO SCALE

	REVISIONS	DATE
1.	Addressing Review Comments	12-3-2021
2.	Addressing Conditions & Plan Approval Comments	7-12-2022
3.		
4.		
5.		
6.		
7.		
8.		
9.		

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EROSION AND SEDIMENTATION CONTROL PLAN
FOR
AUTUMN CHASE PRD - PHASE III
Land Developer: Hertzler Road Associates, L.P.
UPPER ALLEN TOWNSHIP CUMBERLAND COUNTY PENNSYLVANIA

ES2

Project No. 202068
Date November 1, 2021
Sheet No. ES2