

SITE DEVELOPMENT PLAN INSPECTION SEQUENCE NOTES

1. Contractor shall notify the Carroll County Bureau of Permits and Inspections at 410-386-2674, at least one day prior to beginning any work.
2. Contractor shall obtain a utility permit prior to initiating storm drain construction in Dickenson Road.
3. Site compliance inspections are required at the following stages during construction:
- (a) Proposed structures staled out in proper locations as shown on these approved plans.
  - (b) Proposed foundations installed for all buildings shown on these approved plans.
  - (c) Sub-grades established for all drives, parking lots, and surrounding grading.
  - (d) Completion of all drives, parking lots, and surrounding grading.
  - (e) Completion of all work shown on plans.
- It is the Contractor's responsibility to contact the Carroll County Bureau of Permits and Inspections at 410-386-2674 upon completion of each phase of construction.
4. Contractor shall notify Carroll County Bureau of Resource Management, Environmental Inspection Services Division at 410-386-2210 prior to beginning any work. All forest conservation plan devices must be in place prior to any construction.
5. Final landscaping inspection shall be arranged through Bureau of Resource Management, Environmental Inspection Services Division at 410-386-2210 by the contractor/developer or agent. Written approval from the Landscape Review Specialist, Bureau of Resource Management, must be obtained for any deviations from the landscaping or forest conservation plans or modifications in the plant material.
6. The contractor shall not proceed to the next phase of construction until given approval of prior phases.

CONSTRUCTION INSPECTION NOTE

Entrance construction is subject to inspection and approval by the Carroll County Department of Public Works, Construction Inspection Division. Contractor is responsible to notify that office at 410-386-2712 a minimum of three working days prior to beginning work in or along any public road.

The Contractor shall notify the Carroll County Department of Public Works, Construction Inspection Division (410-386-2712) a minimum of three (3) working days before beginning work.

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# SITE DEVELOPMENT PLAN for GREAT VALLEY PROPANE

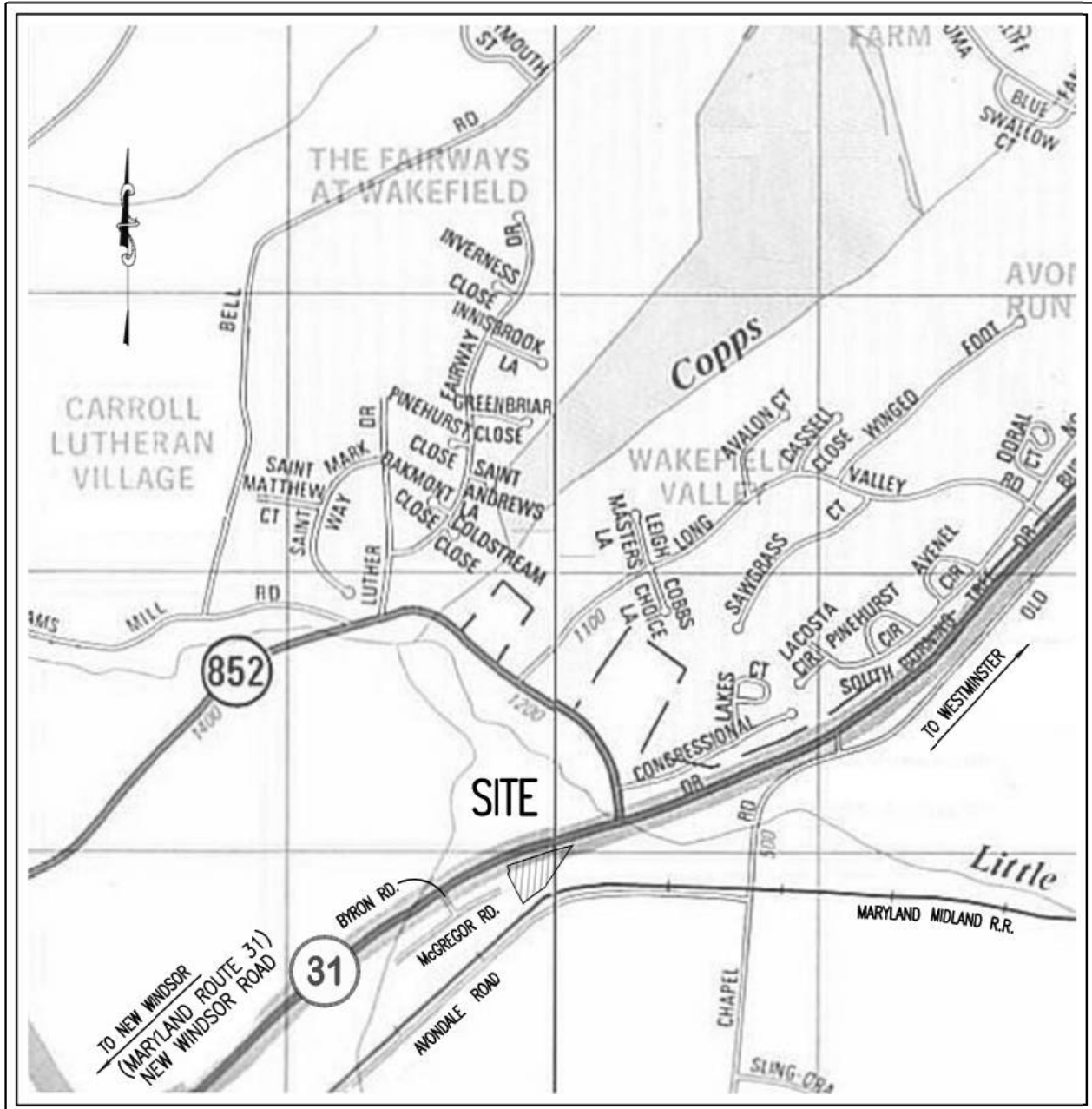
EXISTING USE: VACANT

PROPOSED USE: STORAGE and DISTRIBUTION of LIQUID PROPANE

at east end of McGregor Road adjacent to #1201 New Windsor Road near Westminster  
7-th Election District Carroll County, Maryland

NOTE:

The purpose of this site development plan is to construct (2) 30,000 gallon tanks for storage and distribution of liquid propane and depict a future 40'-0" x 80'-0" building for office space.



VICINITY MAP

Scale 1" = 1/4 MILE

CARROLL COUNTY ADC MAP #18 GRID: K-8

COPYRIGHT ADC THE MAP PEOPLE PERMITTED USE NUMBER 21096444

GENERAL NOTES:

- 1.) Current Title References:  
Owner: route309, LLC, a Pennsylvania limited liability company  
Deed Reference: H.D. Liber 10927, Folio 420  
Date: November 2, 2022  
Grantor: Development Company of America, LLC, a Maryland limited liability company  
Plat: Lot #3 - Plat of Lot 3 and First Amended Plat of Lot 2, Section 2 of 'Development Company of America Property' Plat Book 31-180 2.4923 acres
- 2.) Owner: "route309, LLC"  
195 Lancaster Avenue  
Malvern, Pennsylvania 19355  
Developer: Great Valley Propane  
195 Lancaster Avenue  
Malvern, Pennsylvania 19355  
c/o Bud Haly Phone: (610) 656-2097
- 3.) Tax Map: 45 Block: 15 p/o Parcel: 539 Tax Account No: 07-111932
- 4.) Zoning of Property: I-2 - Heavy Industrial District  
Minimum Building Setbacks:  
Front Yard = 10 feet Side Yard = 20 feet Rear Yard = 20 feet  
Maximum Building Height = 50 feet  
Maximum Lot Area = 82,405 square feet (1.892 acres +/-)
- 5.) Total Disturbed Area = 82,405 square feet (1.892 acres +/-)
- 6.) Usage and Building Area:  
Proposed Use: Storage, sales and distribution of liquid propane  
Proposed Construction: (2) 30,000 gallon tanks for storage and distribution of liquid propane and depict a future 40'-0"x80'-0" building for office space.
- 7.) Parking Requirements: 1 parking space per 1.5 employees (Industrial Use)  
Parking Required = (3 employees) x (1 space / 1.5 employees) = 2 parking spaces  
Parking Provided = 6 standard (9'x20') spaces plus 1 A.D.A. accessible space = 7 parking spaces
- 8.) Fire Protection: There is a public fire hydrant located 825 feet southwest of the property at the intersection of Byron Road and New Windsor Road (MD RTE 31).
- 9.) Water: Public - WESTMINSTER DISTRICT - Water Service Category W-5 - Future (7-10yr)
- 10.) Sewer: Public - WESTMINSTER DISTRICT - Sewer Service Category S-4 - Existing/Final Planning
- 11.) Topography in the project area shown hereon was field run on October 10, 2023 by Leon A. Podolak & Associates, LLC and is based on the Maryland Coordinate System (NAD83).
- 12.) Sign Tabulation: Permitted Sign area is 4 square feet per linear foot of building frontage  
Permitted Sign Area = (4 sq ft/LP/40 LP) = 160 square feet  
Proposed Signage is subject to a Zoning Certificate in accordance with Section 158.112 of the Code of Public Local Laws and Ordinances of Carroll County.
- 13.) Hours of Operation for this Facility: 7AM to 4:30PM
- 14.) All liquid propane shall be transported, stored and distributed in accordance with NFPA, state and other applicable regulations. There shall not be any use, transfer or storage of any other hazardous or regulated substances on the subject property.
- 15.) The subject property is located within the Double Pipe Creek Watershed [21400304] and discharges to the Little Pipe Creek, which is a classified as Use IV-P stream. This stream is not in a Tier II encatchment and it appears to have assimilative capacity.
- 16.) The subject property is located in an Aquifer Protection Area and a Carbonate Rock Area.
- 17.) Geotechnical Testing using Seismic Refraction was used to map the underlying Carbonate rock.
- 18.) This site plan shall become null and void eighteen months after the date of written approval by the Carroll County Planning Commission unless a building permit or zoning certificate has been issued for the project. In the event the building permit or zoning certificate is revoked or is terminated prior to the issuance of a final use-in-occupancy certificate, the site plan becomes void on the date of the revocation or termination. At the written request of the Developer/Owner, the Director may grant an extension.
- 19.) A "Stormwater Management Easement and Maintenance Agreement" is to be granted to the County Commissioners of Carroll County as an easement of access to the County Commissioners or authorized representatives by a deed intended to be recorded simultaneously with the Public Works Agreement.
- 20.) Any changes to this plan will require an Amended Site Development Plan to be approved by the Carroll County Planning and Zoning Commission.

ZONING CASE SUMMARY:

A request for a conditional use for propane storage tank(s), larger than 2,000 gallons on the property, together with a setback variance from the property line to the curtilage area of a farmhouse, was approved by the Carroll County Board of Zoning Appeals on April 28, 2023 in Case# 6445.

1. Applicable Provisions of the Carroll County Code of Ordinances: §158.082, §158.040, and §158.157.

ESTIMATED TRIP GENERATION:

The following trip generation data was calculated using trip generation rates, plots and equations presented in the Tenth Edition of the Institute of Transportation Engineers Trip Generation Manual.

Category: Light Industrial (I10)  
Independent Variable Used: Acreage of Property  
Area of Lot #3 = 2.4923 acres

Average Vehicle Trip Ends on a Weekday = 130 trips  
Average Weekday Morning Peak Hour of Generator = 22 trips  
Average Weekday Evening Peak Hour of Generator = 22 trips

CONSTRUCTION NOTES

1. Construction shall be performed in accordance with latest editions of the following, including all addenda, supplements or updates:
- a. Design Manual - Volume One - Roads and Storm Drains, 1994 edition, of the Carroll County Department of Public Works.
  - b. Design Guide for Flexible Pavement, 2004, of the Carroll County Department of Public Works.
  - c. Book of Standards, Highway and Incidental Structures of the Maryland Department of Transportation, State Highway Administration.
  - d. Standard Specifications for Construction and Materials, 2008 edition, of the Maryland Department of Transportation, State Highway Administration.
  - e. Maryland Manual on Uniform Traffic Control Devices (MdMUTCD) 2009 Edition of the Maryland Department of Transportation, State Highway Administration.
  - f. Maryland Standards and Specifications for Soil Erosion and Sediment Control, 1994 edition, published jointly by Water Resources Administration, Soil Conservation Service and State Soil Conservation Committee.
  - g. Carroll County Department of Public Works - Bureau of Utilities - Regulations and Standard Specifications and Design Details for Water and Sewerage Construction in Carroll County, Maryland.
- All of the above noted publications are included by reference as part of these construction plans.
2. The Contractor shall notify the Carroll County Department of Public Works, Construction Inspection Division (410-386-2157) a minimum of three (3) working days before beginning work.
3. Contractor shall furnish, place and maintain traffic control measures as shown in these plans and as specified in the MdMUTCD. Contractor shall immediately remove and replace devices which are damaged, do not function properly, or are determined by Construction Inspector to be unsuitable for their purpose. Traffic control devices may be removed only upon approval of Construction Inspector.
4. Locations of existing utilities are shown only as notification to Contractor of the presence of underground utilities. Carroll County and the design engineer do not warrant or guarantee correctness or completeness of information shown. Contractor is responsible for contacting Miss Utility at 1-800-257-7777 three working days prior to beginning any work in the vicinity of existing utilities. Any damage to existing utilities due to Contractor's operation shall be repaired immediately at Contractor's expense.
5. Developer is responsible in all regards for relocation of any existing utilities.
6. In case of discrepancy between scaled and figured dimensions, figured dimensions shall govern.
7. If for any reason proposed facilities cannot be constructed in accordance with approved plans, Contractor must immediately inform Construction Inspector or Construction Inspection Division (410-386-2157) and shall not begin or continue work on those items. If the Department of Public Works determines plan revisions are necessary, no work shall be performed on the item(s) in question until revised plans issued by the design engineer are approved and issued for construction by the Bureau of Development Review.
8. Failure to mention specifically the provision of any item(s), or performance of any work or procedure which would normally be required to complete the project, shall not relieve the Contractor of his responsibility to provide such item(s) or to perform such work or procedure.
9. Construct earth fills for roads, embankments, and structures in accordance with Section 204 EMBANKMENT AND SUBGRADE of the MD SHA Standard Specifications for Construction and Materials. Compact the material that is 1 foot below the top of subgrade to at least 92.0% of maximum dry density using AASHTO T-180 method. Compaction of top one foot of fill shall not be less than 97.0% of maximum dry density using the same method.
10. Developer is responsible for providing soil, base aggregate and hot mix asphalt compaction testing. A certified technician must be onsite at all times during fill operations. Compaction tests must be certified by a Professional Engineer registered in the State of Maryland. Copies of soil compaction test results must be provided to, and approved by, the Construction Inspection Division prior to placement of curbs and/or base aggregate. Copies of base aggregate compaction test results must be provided to, and approved by, the Construction Inspection Division prior to placement of base hot mix asphalt.
11. Inlet grates in sumps shall be constructed level at elevation given in structure schedule. Inlets on grade shall be adjusted so that slope of grate matches finished flow line of curb. Top elevation shall apply to centerline of grate at flow line of curb. Cross slope of the grate shall match the road cross slope.
12. Pipe elevations shown on storm drain profiles are invert elevations unless otherwise noted.
13. Where ditch or waterway stabilization matting of any type is specified, installation shall be in accordance with manufacturer's recommendations. Matting shall be placed on bottom and side slopes to provide either 1.0' stabilized depth, unless otherwise indicated on plans.
14. All existing paving disturbed by utility cuts shall be replaced in accordance with Carroll County Standard Plate 47, Option 1 or Option 3 in the Design Manual, Volume 1 or as noted in the Utility Permit.
15. Once begun, road construction shall be continued until full depth of aggregate base and paving as shown on the typical section are placed, including the finished surface course. Aggregate base course and hot mix asphalt base course shall not remain uncovered for more than five working days.
16. Off-site borrow material to be imported for embankment construction and support of pavement is to meet the minimum subgrade soil specifications in Table 3 of the Design Guide for Flexible Pavements. CBR testing of off-site borrow material shall be completed and approved by the test results submitted to and approved by the Bureau of Development Review prior to delivery of the material. The paving design sections shown on the approved plans shall be reviewed and evaluated using the CBR testing results of the borrow material. Any changes to the pavement design sections based on the CBR test results shall be incorporated through the red-line revision process.
17. The design Equivalent Single Axle Loads (ESAL) and the design CBR value shall be noted on the construction plans.
18. Permanent signage and striping shall be furnished and installed by the Carroll County Bureau of Roads Operations. Contractor shall notify the Bureau of Roads Operations at 410-386-6717 a minimum of three (3) weeks prior to starting work and then again 48 hours prior to completion of work.
19. Construction vehicles, contractor or private, or construction materials or equipment shall not be parked, placed, or stored within any public right-of-way.

BENCHMARK INFORMATION

CARROLL COUNTY SURVEY CONTROL  
Datum (NAD 1983)  
NOTE: SEE PLAN VIEW ON SHEET 2 FOR BENCHMARK LOCATIONS.

BM1 - MAG NAIL  
N 688308.842 E 1300882.896 ELEV. 543.75  
MAG NAIL set flush with the pavement at the location shown on sheet 2.

BM2 - REBAR  
N 688465.629 E 1301235.568 ELEV. 538.17  
REBAR flush with the existing ground at the location shown on sheet 2.

\*NOTE: ALL COORDINATE VALUES SHOWN ON THESE PLANS ARE BASED ON THE STATE GRID NORTH AS ESTABLISHED BY THE CARROLL COUNTY SURVEY CONTROL NETWORK. SEE ABOVE FOR BENCHMARK INFORMATION. ESTABLISHED FOR THIS CONSTRUCTION SITE. COORDINATE VALUES ARE PROVIDED AS A CONVENIENCE TO THE CONTRACTOR FOR STAKEOUT. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF PLANS AND PROFILE DIMENSIONS PRIOR TO FINAL CONSTRUCTION OF EACH ITEM.

OWNER

"route309, LLC"  
195 Lancaster Avenue  
Malvern, Pennsylvania 19355

DEVELOPER

Great Valley Propane  
195 Lancaster Avenue  
Malvern, Pennsylvania 19355  
c/o Bud Haly Phone: (610) 656-2097

MDSHA ACCESS PERMIT #23APCL016XX



S-23-0015

GREAT VALLEY PROPANE  
LOT #3 'DEVELOPMENT COMPANY OF AMERICA' TAX MAP: 45 GRID: 15 p/o PARCEL: 539 TAX ACCT. NO.: 07-111932

LEON A. PODOLAK and ASSOCIATES, L.L.C.

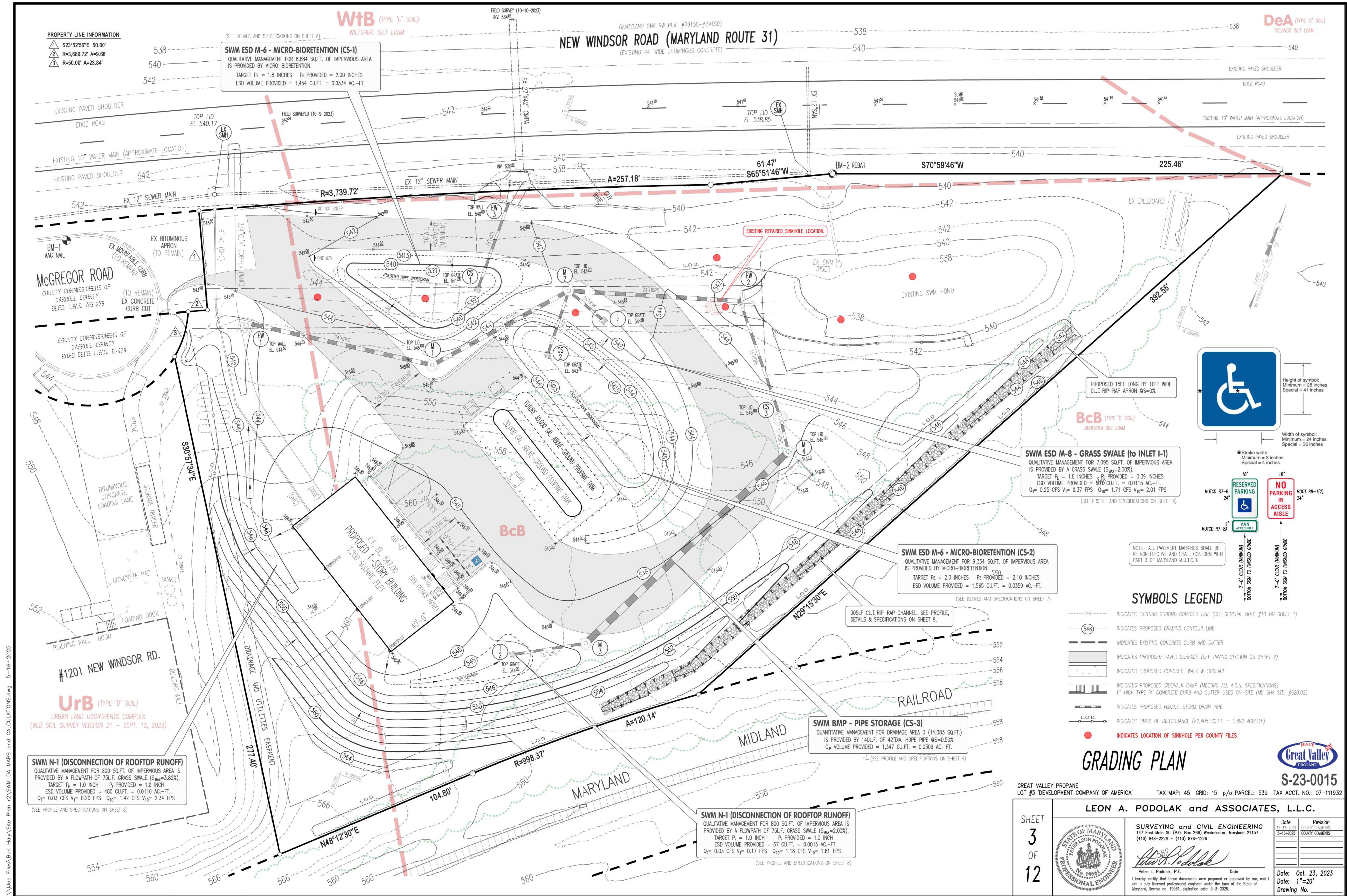
SHEET 1 OF 12		SURVEYING and CIVIL ENGINEERING 147 East Main St. (P.O. Box 266) Westminster, Maryland 21157 (410) 848-2229 - (410) 876-1226	
		Peter L. Podolak, P.E. Date: _____	
		I hereby certify that these documents were prepared or approved by me, and I am a duly licensed professional engineer under the laws of the State of Maryland, license no. 19561, expiration date: 3-3-2026.	
		Date: Oct. 23, 2023 Drawing No. _____	



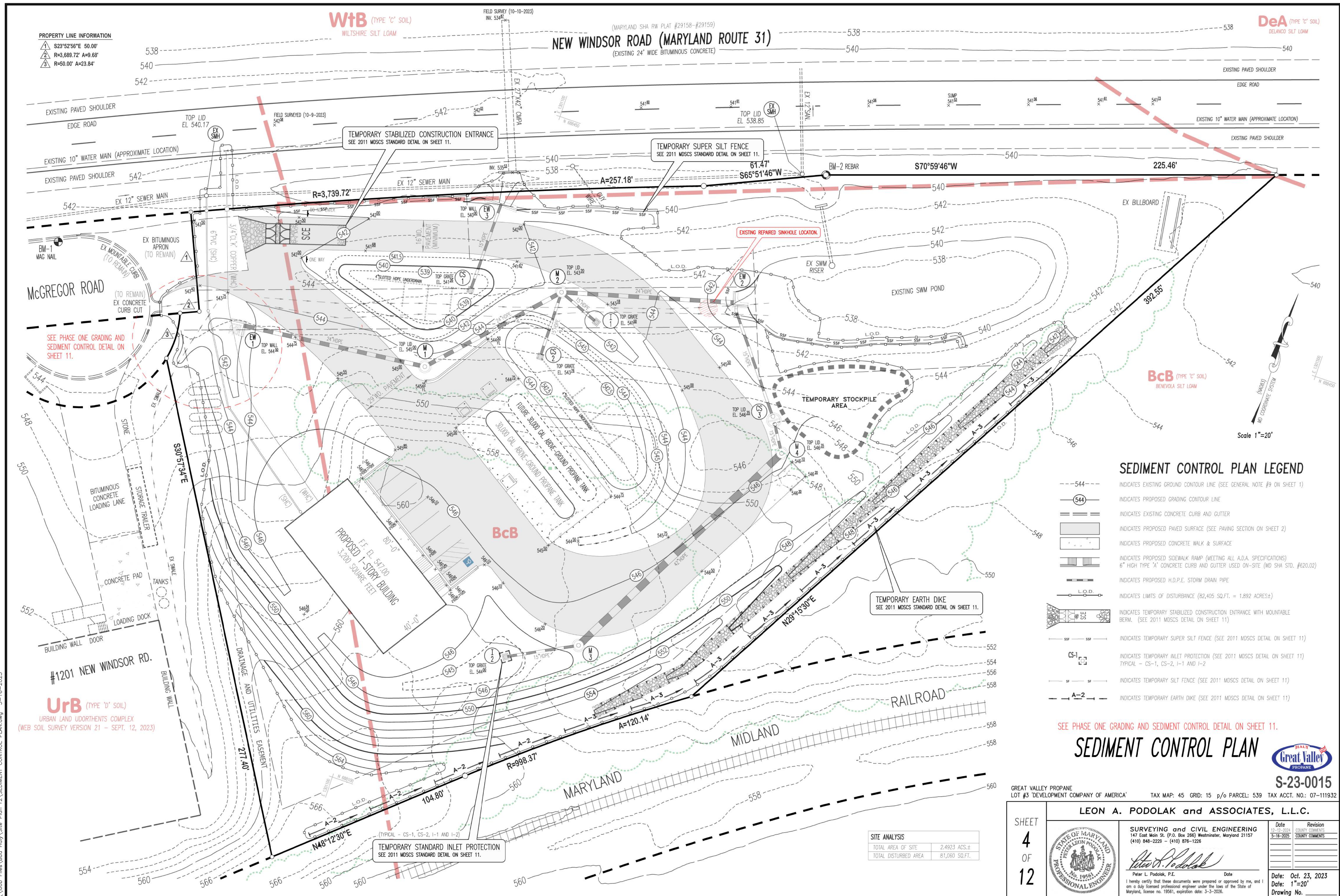




\\Job Files\Bud Holly\Site Plan r2\SWM DA MAPS and CALCULATIONS.dwg 5-16-2025







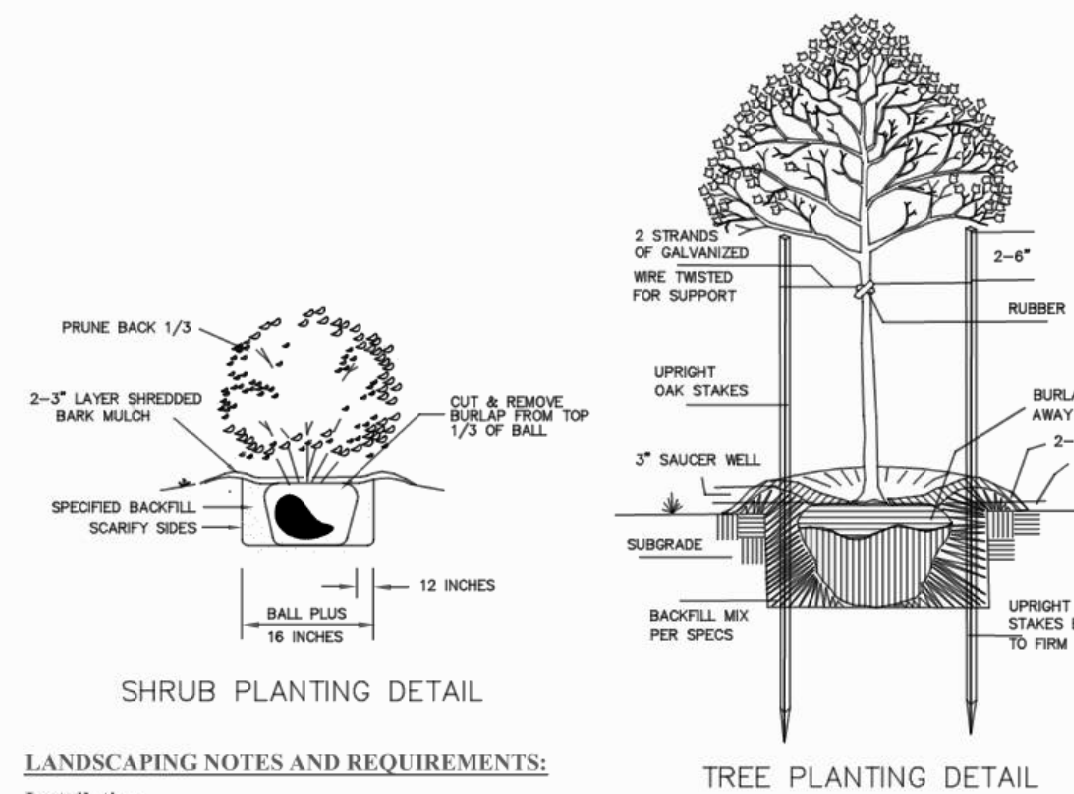


**PLANTING REQUIREMENTS PER CARROLL COUNTY LANDSCAPE MANUAL:**

Requirement No.	Requirement	Basis	Planting Units Req'd
2.II.B.1.a	Class B Screening of Service Road along MD Rte 31	1 PU/25 LF 567 LF	23 planting units
2.II.B.2.a	Landscape Islands 10% of Parking Lot Areas	3,600 Sq Ft	380 Sq Ft provided 10.5 % provided
2.II.B.2.e	1 PU / 12 spaces	7 Spaces	1 planting unit
2.II.E.2.	Class A Screening of Tank Storage Area & Service Lane	1 PU/20 LF 250 LF	13 planting units
2.III.A.	Class A Screening of dumpster	1 PU/20 LF	2 planting units

**TOTAL PLANTING UNITS REQUIRED = 39 planting units**

Note: Screening on the southeastern and southwestern sides of the Storage Area and Service Lane is not necessary, nor is it provided, because the grading is such that the facility will not be visible to the adjoining property (Lot#2) nor from Avondale Road.



SHRUB PLANTING DETAIL

TREE PLANTING DETAIL

**LANDSCAPING NOTES AND REQUIREMENTS:**

- Installation**
- Standards to conform to the most recent version of the ANSI A300 Standards Part 6 – Transplanting and Landscape Specifications Guidelines of the Landscape Contractors Association, Maryland, District of Columbia and Virginia.
  - Planting on individual lots shall be installed upon final grading inspection. No final grading approval shall be given on the building permit until landscaping is complete.
- Maintenance Responsibility**
- The owner of any property to which landscaping has been installed pursuant to this plan shall maintain the landscaping in good condition in perpetuity. A Landscape Maintenance Agreement shall be required. Failure to replace dead or dying P.U.s or the removal of any installed P.U.s is a violation of Chapter 134 of the Code of Public Local Laws and Ordinances of Carroll County.
- Inspections** - A minimum of 2 inspections will be required. No inspections shall be finalized from November 1st to March 1st. To be considered acceptable, no more than 1/3 of a plant may be dead.
- Initial Inspection. This inspection shall be performed by the County when planting is completed to verify compliance with the approved planting plan.
  - Final Inspection. This inspection shall be performed by the County 12 months after the initial planting.
- LANDSCAPE SPECIFICATIONS**
- All nursery stock shall conform to American Association of Nurserymen, Inc., standards as described in American Standard for Nursery Stock, current ANSI A-300 specifications.
  - All nursery stock shall be planted in accordance with the procedures outlined in the Landscape Guidelines for Maryland, Washington, D.C. and Virginia, latest edition.
  - A minimum of three (3) inches of topsoil on all disturbed areas to be landscaped, seeded or sodded is required.

**LANDSCAPING PLANTING SCHEDULE:**

MAJOR PLANTING UNITS	Caliper	Height	Number	Planting Notes	P.U.
GB Maiden Hair Tree	1-1/2"	---	3	balled and burlaped	3.0
GT Ginkgo Baloba "Autumn Gold"	2"	---	2	balled and burlaped	2.0
GT Gleditsia treanthes "Shademaster"	---	---	---	---	---
MINOR PLANTING UNITS	Caliper	Height	Number	Planting Notes	P.U.
SJ Japanese Snowbell	1"	5'	3	balled and burlaped	1.5
SJ Syrax japonicas 'Emerald Pagoda'	---	---	---	---	---
CO Golden Hinoki False Cypress	1"	5'	7	plant in mulched beds	3.5
CO Chamaecyparis obtusa 'Aurea'	---	---	---	---	---
JC Spartan Juniper	1"	5'	13	balled and burlaped at 10 ft c/c	6.5
JC Juniperus chinensis 'Spartan'	---	---	---	---	---
SHRUBS	Caliper	Height	Number	Planting Notes	P.U.
WF Wine and Roses Weigela	---	18"	33	plant in mulched beds at 6 ft c/c	6.6
WF Weigela florida 'Wine & Roses'	---	---	---	---	---
SN Snowmound Spiraea	---	18"	26	plant in mulched beds at 4 ft c/c	5.2
SN Spiraea nipponicum 'Snowmound'	---	---	---	---	---
EA Dwarf Burning Bush	---	18"	20	plant in mulched beds at 5 ft c/c	4.0
EA Euonymus alatus 'Compactus'	---	---	---	---	---
EK Green Beauty Boxwood	---	18"	36	plant in mulched beds at 5 ft c/c	7.2
EK Euonymus kiautschowicus	---	---	---	---	---

**TOTAL PLANTING UNITS PROVIDED = 39.5 PLANTING UNITS**

SEE FINAL LANDSCAPE PLAN - OWNER CERTIFICATION FORM ON SHEET 1.

**LANDSCAPE PLAN**



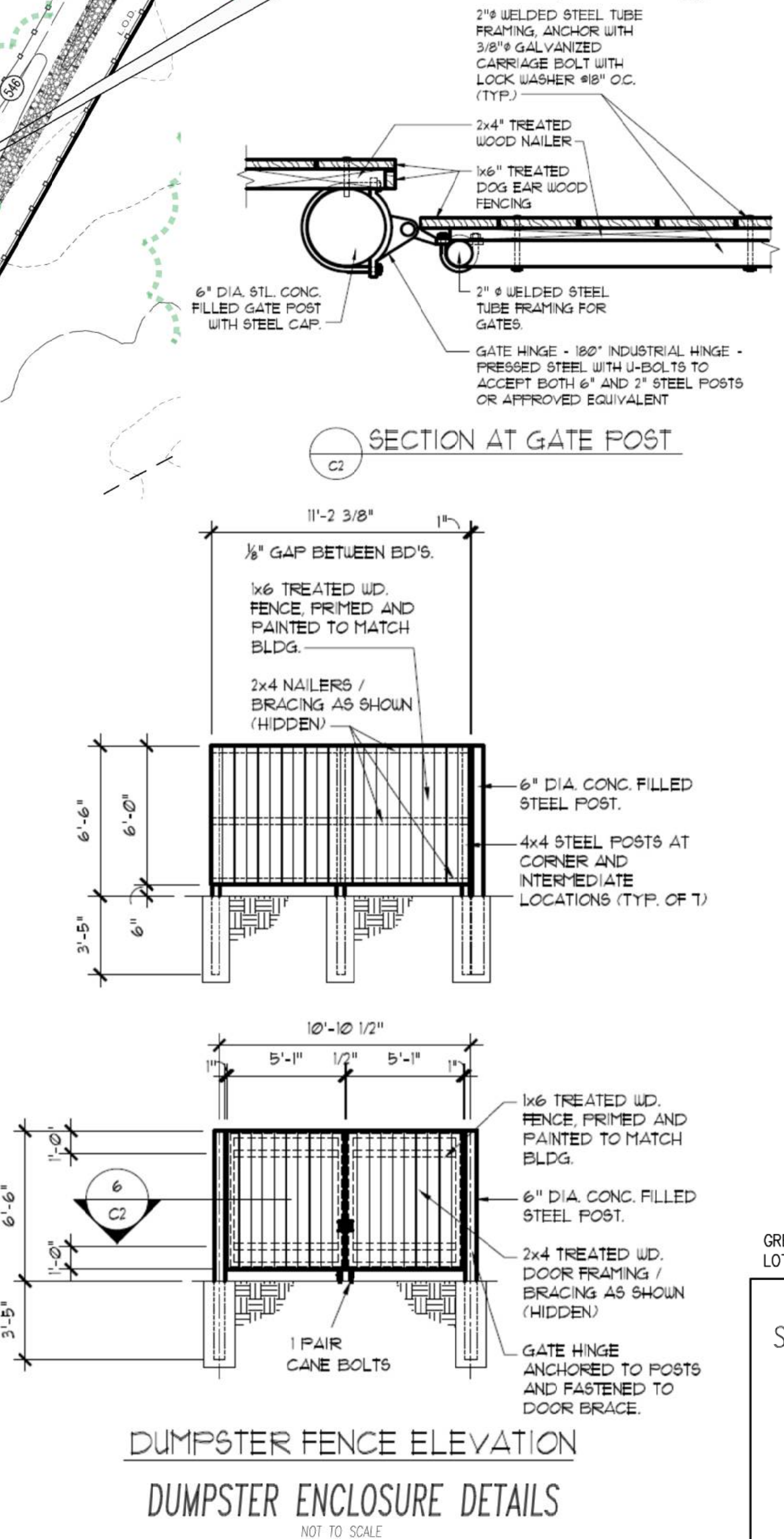
GREAT VALLEY PROPANE  
LOT #3 DEVELOPMENT COMPANY OF AMERICA TAX MAP: 45 GRID: 15 p/o PARCEL: 539 TAX ACCT. NO.: 07-111932

**LEON A. PODOLAK and ASSOCIATES, L.L.C.**

**SURVEYING and CIVIL ENGINEERING**  
147 East Main St. (P.O. Box 266) Westminster, Maryland 21157  
(410) 848-2229 - (410) 876-1226

**Date:** 12-12-2024  
**Revision:** 5-16-2025  
**COUNTY COMMENTS:**

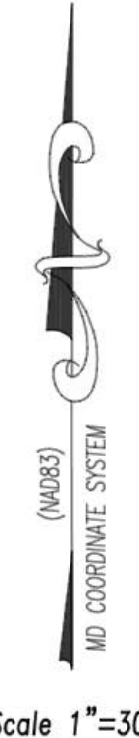
**Date:** Oct. 23, 2023  
**Date:** 1"=30'  
**Drawing No.:**



**DUMPSTER FENCE ELEVATION**

**DUMPSTER ENCLOSURE DETAILS**

NOT TO SCALE



Scale 1"=30'

**PROPERTY LINE INFORMATION**

- S23°52'56"E 50.00'
- R=3,689.72' A=9.68'
- R=50.00' A=23.84'

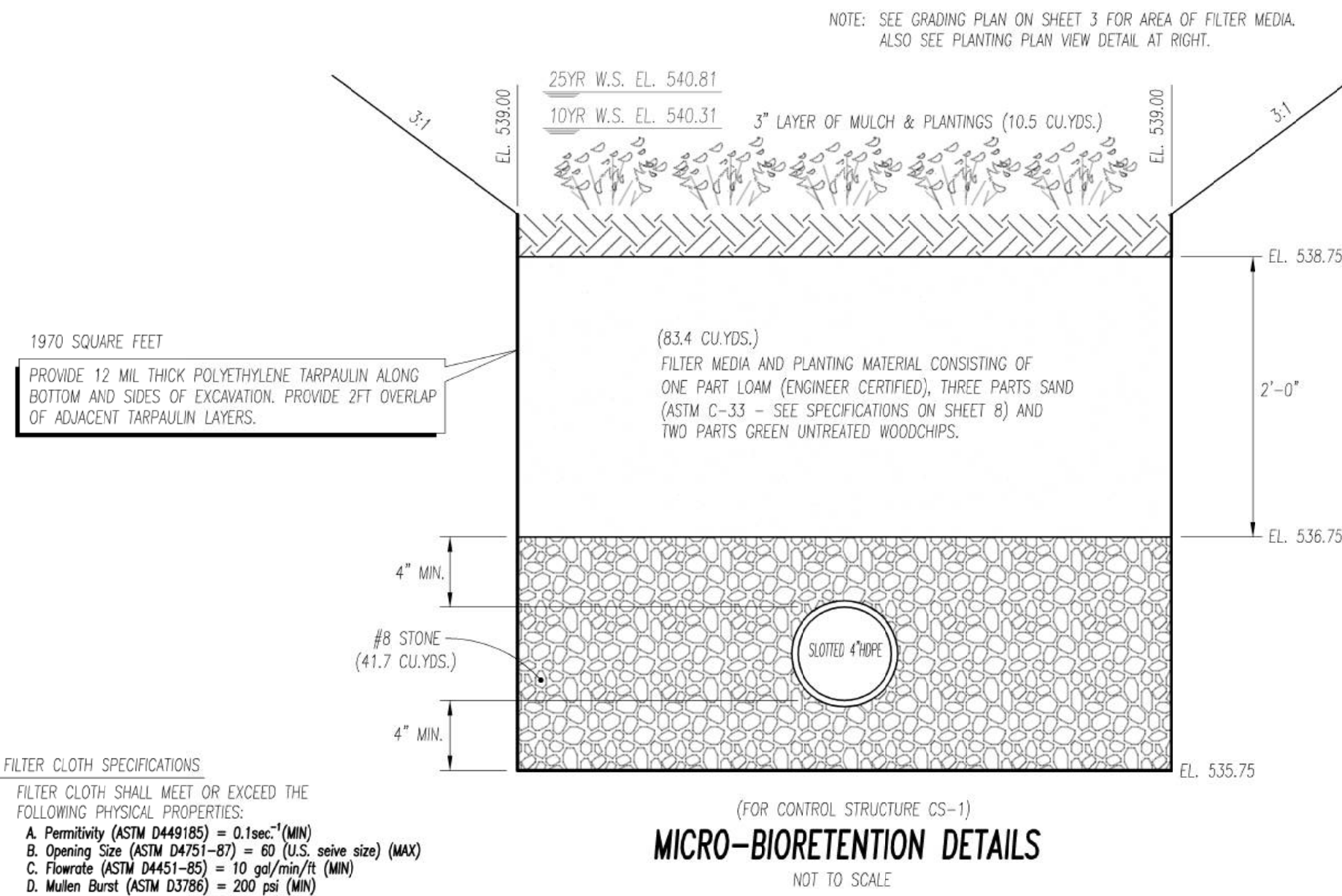
CARROLL COUNTY  
ZONED: "I-2" - HEAVY INDUSTRIAL DISTRICT  
1201 NEW WINDSOR ROAD LLC  
H.D. 10049/356  
LOT 2A OF P.B. 31 F. 180  
TAX MAP: 45 GRID: 15 p/o PARCEL: 539  
TAX ACCT. NO.: 07-111932  
1201 NEW WINDSOR ROAD  
WESTMINSTER, MARYLAND 21157

**SYMBOLS LEGEND**

- INDICATES EXISTING GROUND CONTOUR LINE
- INDICATES PROPOSED GRADING CONTOUR LINE
- INDICATES EXISTING CONCRETE CURB AND GUTTER
- INDICATES PROPOSED PAVED SURFACE
- INDICATES PROPOSED CONCRETE WALK & SURFACE
- INDICATES PROPOSED SIDEWALK RAMP (MEETING ALL A.D.A. SPECIFICATIONS)
- 6" HIGH TYPE "A" CONCRETE CURB AND GUTTER USED ON-SITE (MD SHA STD. #620.02)
- INDICATES PROPOSED H.D.P.E. STORM DRAIN PIPE
- INDICATES LIMITS OF DISTURBANCE (81,060 SQ.FT. = 1.861 ACRES±)
- INDICATES SPECIMEN TREE LOCATION (FIELD SURVEYED - OCTOBER 10, 2023)
- FIELD SURVEY WORK CONDUCTED BY:  
LEON A. PODOLAK and ASSOCIATES, LLC  
147 E. MAIN STREET P.O. BOX 266  
WESTMINSTER, MARYLAND 21157  
(410) 848-2229 email=drawings@apodolak.com



\\Job Files\Bud Holly\Site Plan r2\SWM BIO-RETENTION DETAILS (CS-1).dwg 5-16-2025



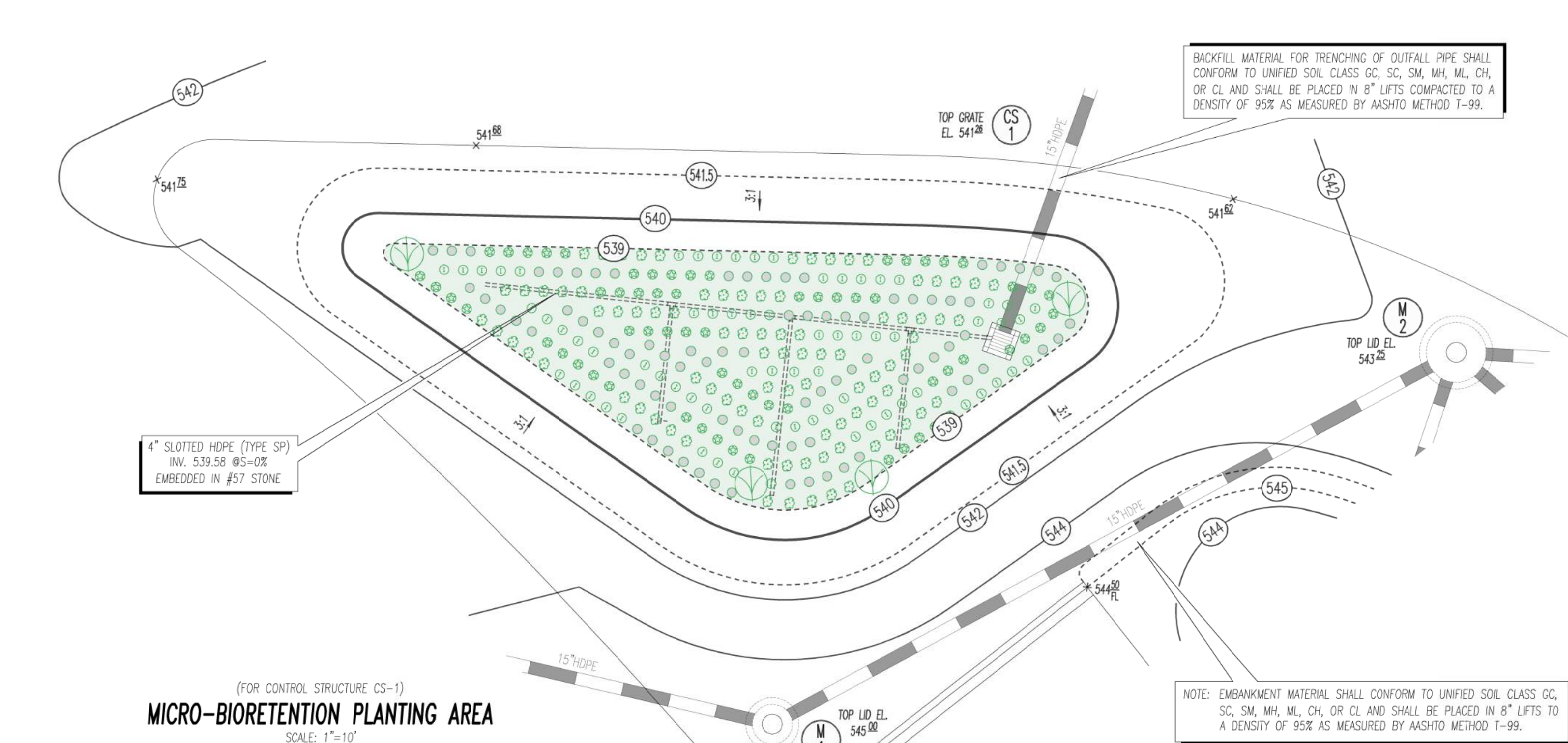
**\* PRIVATE \***  
**STORM WATER MANAGEMENT FACILITY MAINTENANCE SCHEDULE**

- The Stormwater Management Facility/Facilities shown on these plans shall be constructed and maintained by the owner(s).
- Owner/his heirs or assigns shall be responsible for continuing maintenance of the facility/facilities, which shall include such items as mowing, cleaning and removing sediment, trees, shrubs and debris. Requirements and schedules for specific types of facilities and practices as listed on the plans are hereby included. The time period for this continuing maintenance shall be on "as-needed" basis but shall not be delayed longer than thirty (30) days.
- Owner, his heirs or assigns shall be responsible for any structural damages or failure which may occur as a result of negligence, accident or misuse. In the event of structural damage, owner shall be responsible to make the necessary repairs as quickly as possible but in any case within thirty (30) days.
- If after notice by the County/Town/City to correct a violation requiring maintenance work, satisfactory corrections are not made by the owner(s) within (30) days the County/Town/City may perform all necessary work to place the facility in proper working condition. The owners of the facility shall be assessed the cost of the work and any penalties. These monies shall be collected from a bond, which the developer is required to post with the County/Town/City to cover such expenses until "completion of the facility". "Completion of the facility" is construed to mean that all contributory drainage areas are paved or supporting a 2" stand of dense grass and that the Carroll County Bureau of Resource Management has inspected construction and a registered professional engineer has certified that the "As-Built" plans meet the plans and specifications for construction. After "completion of the facility" the moneys may be collected by placing a lien on the property, or by including the costs and penalties on the property tax bill and collecting them as ordinary taxes by the County/Town/City.
- Owner(s) shall grant right of entry to authorized County/Town/City personnel for purposes of inspection monitoring and/or repair. Site visits for inspection and/or monitoring shall be conducted only during normal County working hours (8:00 a.m. to 5:00 p.m. Monday - Friday).
- This agreement including right-of-entry for inspection/maintenance and repair shall be recorded in the Land Records of the County.

- REQUIRED SEQUENCE OF CONSTRUCTION FOR MICRO-BIORETENTION FACILITY:**
- Contact the office of Leon A. Podolak and Associates, LLC (the engineer) at 410 848-2229 at least 3 working days prior to commencing construction of stormwater management (SWM) facilities, to schedule construction inspection and verification of grades. Be sure drainage area is stabilized, with a healthy 2 inch stand of dense grass, and base coat paving is completed before proceeding with Bio Retention construction.
  - Excavation must be conducted in dry conditions with equipment located outside of the practice. Only lightweight, low ground contact equipment should be used within the micro bio-retention area. Excavate to subgrade and scarify bottom. Line sides and bottom of excavation with 12 mil thick polyethylene tarpaulin. Install precast control structure CS-1 and outfall pipe. All backfill material for trenching of the outfall pipe and/or construction of the embankment shall conform to Unified Soil Class GC, SC, SM, MH, ML, CH or CL and shall be placed in 8 inch lifts compacted to a density of 95 percent as measured by AASHTO Method T-99. Contact the soils engineer to verify material and compaction. Contact Site Engineer (410) 876-1226 to verify grades.
  - Install underdrain piping and gravel bedding. Gravel shall be washed, clean and free of fines. Avoid stockpiling stone on site. Install temporary cap on underdrain pipe inside control structure CS-1. Bio-Retention filter media may be mixed on site prior to placement. The filter media consists of one part loam, engineer certified, three parts sand, see sand specifications, and two parts green, untreated wood chips. Soils may not be placed under saturated conditions. Mixed filter media should be placed with a backhoe operating adjacent to the practice and shall be placed in 12 inch maximum lifts. Proper compaction of the media will occur naturally. Spraying or sprinkling water on each lift until saturated may quicken settling times.
  - Provide plantings in fall or spring. Spring plantings may require watering.
  - Remove all sediment from control structure CS-1 and stabilize any disturbed areas outside of the bio retention areas, in accordance with permanent seeding specifications. Remove the temporary cap on the underdrain pipe inside control structure CS-1. Contact engineer for final inspection. The engineer will submit 'As-Built' plans to the Carroll County Bureau of Stormwater Management, for release of bond monies.

INSPECTION CHART FOR 'SWM' MICRO-BIORETENTION AREAS		FOR CS-1	
Note: Contractor should contact the Office of Leon A. Podolak and Associates, L.L.C. at (410) 876-1226, at least 48 hours prior to commencing construction of proposed Storm Water Management Devices.			
SWM ESD M-6	STAGE	ENGINEER'S APPROVAL MICRO-BIORETENTION	
		Initials	Date
1.)	Drainage area must be stabilized with 2 inch stand of dense grass with base coat on paved surfaces		
2.)	Compact top of berm. Berm shall be backfilled with Unified Soil Class GC, SD, SM, MH, ML, CH, or CL impervious soils and compacted in 8 inch lifts to a dry density of 95 percent as measured by AASHTO Method T-99. Soil Engineer approval of material and compaction. Shape basin of Micro Bio-Retention facility & place topsoil on sides.		
3.)	Install riser and outfall piping. Trenching for the outfall pipe shall be backfilled with Unified Soil Class GC, SD, SM, MH, ML, CH, or CL impervious soils and compacted in 8 inch lifts to a dry density of 95 percent as measured by AASHTO Method T-99. Soil Engineer approval of material and compaction.		
4.)	Excavate for filter media and scarify sides and bottom. Line sides and bottom with 12 mil thick polyethylene tarpaulin.		
5.)	Install pipe underdrain and #8 stone bedding. Place temporary cap on underdrain at Control Structure CS-2.		
6.)	Mix & Place Filter Media. Allow time for settling & top off as necessary. Install Gabion Baskets. Stabilize side slopes of facility per Permanent Seeding Specs.		
7.)	Plant landscaping units during Spring or Fall. Mulch and remove sediment and debris from Control Structure CS-2. Upon approval of Site Engineer remove temporary underdrain cap.		
8.)	Site Engineer shall submit an 'As-Built' SWM Plan to the Carroll County Bureau of SWM.		

SEE SWM MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION FACILITY ON THIS SHEET.

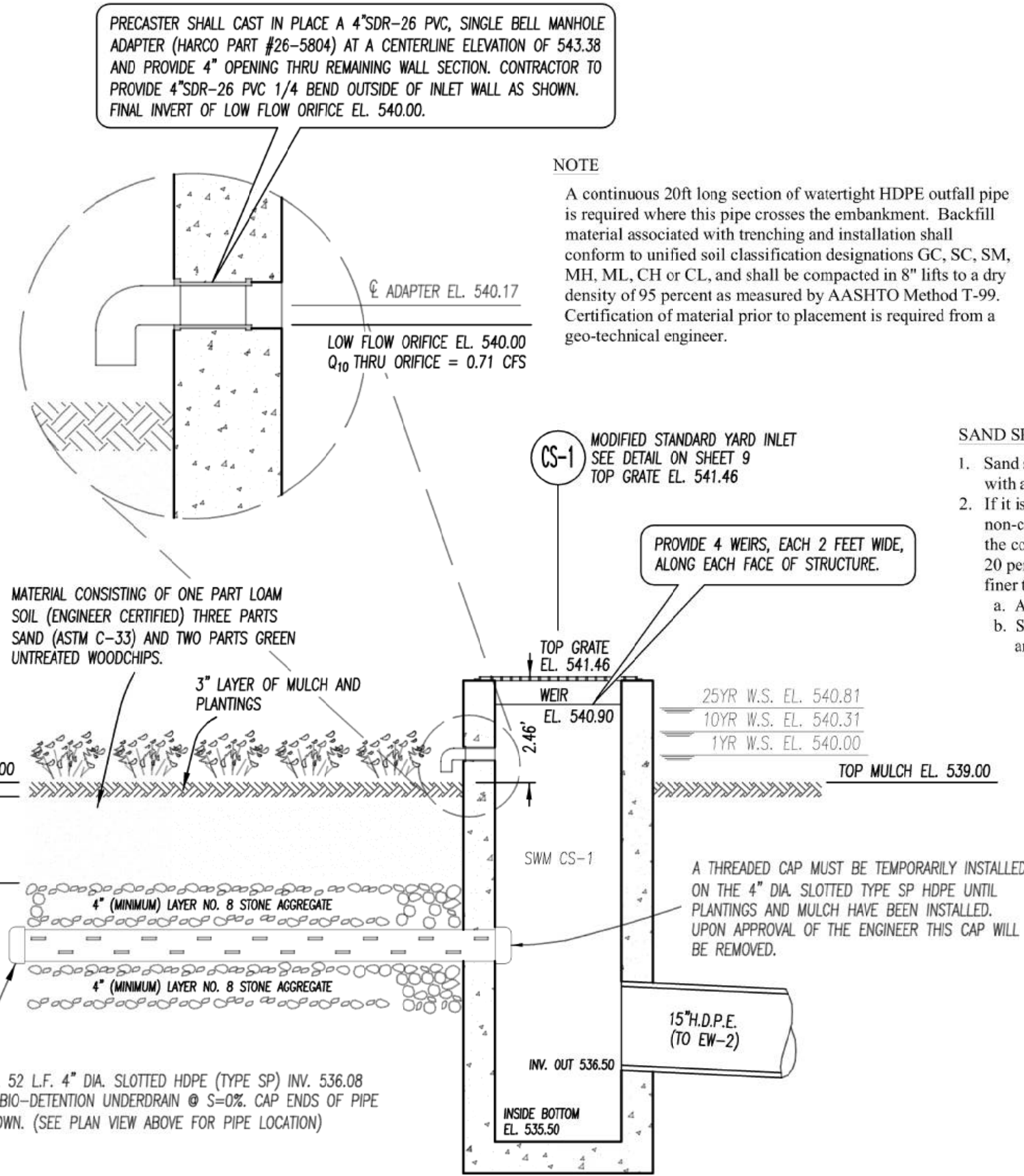


SEE SWM MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION FACILITY ON THIS SHEET.

**MICRO-BIORETENTION FACILITY PLANTING SCHEDULE:**

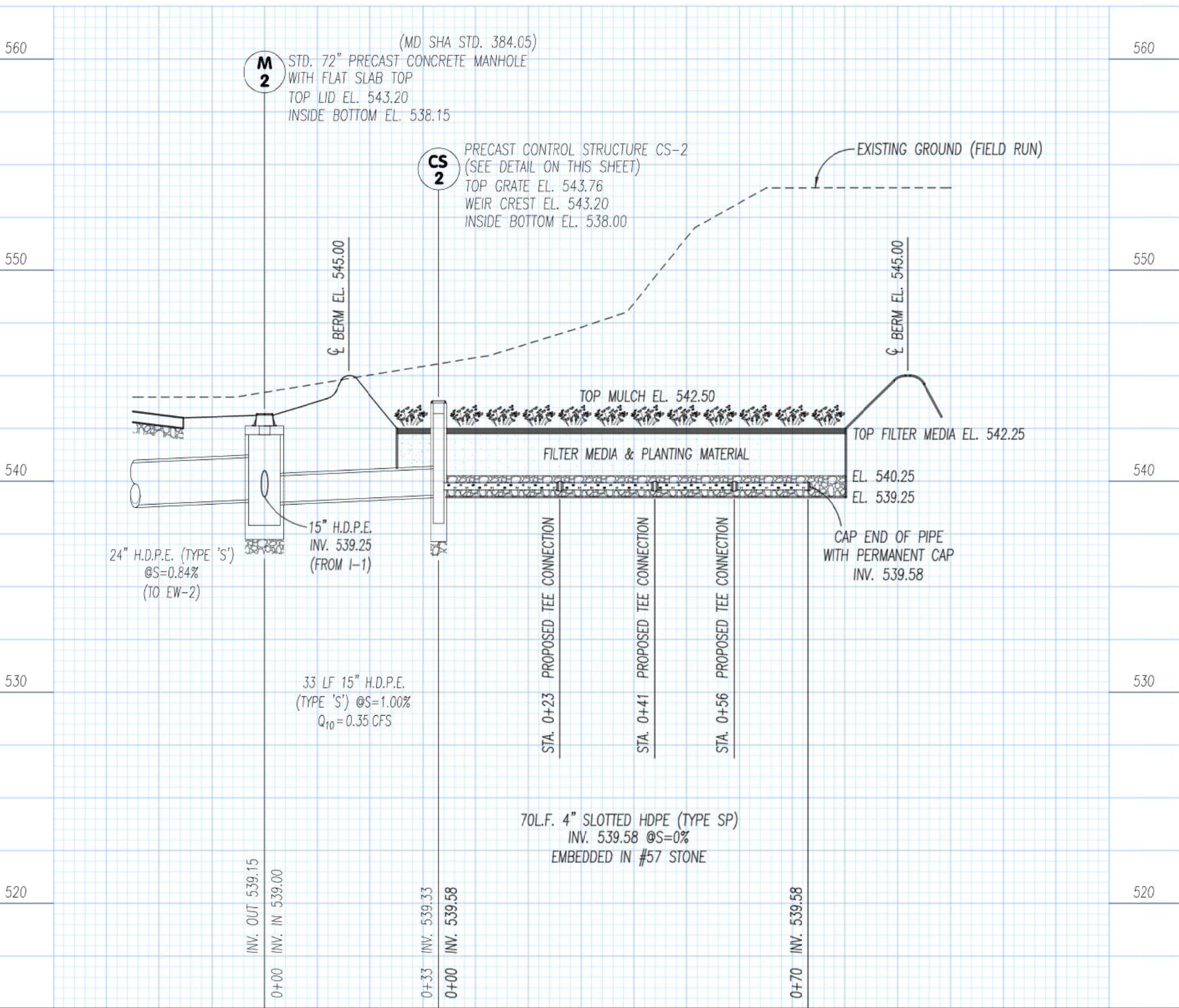
HERBACEOUS SPECIES	Height	Spread	Number	
Switchgrass <i>Panicum virgatum</i>	15"	2'-3'	4	plant in 3" pots - 5'/c
Blue Flag <i>Iris versicolor</i>	15"	2'-3'	71	plant in 3" pots - 2'/c
Cardinal Flower <i>Lobelia cardinalis</i>	15"	2'-3'	84	plant in 3" pots - 2'/c
Joe Pye Weed <i>Eupatorium purpurea</i>	15"	2'-3'	87	plant in 3" pots - 2'/c
Purple Coneflower <i>Echinacea purpurea</i>	15"	2'-3'	64	plant in 3" pots - 2'/c

Carroll County Supplemental Materials Specifications for Bio-Swale, Bioretention, Micro-Bioretention & Rain Gardens			
Material	Specification	Size	Notes
Plantings	See Landscape Plan	N/A	Plantings are site specific and per approved landscape plan
Seed Mix	Filter Bed Mix - Use Wet Meadow Mix per MD Standards and Specifications §707, See Table 3 (1 lb. minimum/micro-bioretenation)	N/A	Used with straw mulch in place of shredded hardwood mulch. Incorporate seed evenly in top 1/2" of filter media
Mulch	Shredded Hardwood	N/A	Aged 6 months, minimum
Straw Mulch	MD Standards and Specifications §920.04.01, (200 lbs. minimum/micro-bioretenation)	N/A	1" Straw mulch over seed bed (facility bottom)
Geotextile	Class "C" - Apparent opening size (ASTM-D-4751), Grab Tensile Strength (ASTM-D-4632), Puncture Resistance (ASTM-D-4833)	N/A	Sides only Not on bottom unless specified on the plans
Underdrain and Reservoir Gravel	AASHTO M-43 No. 8 Stone	3/4" - 1 1/2"	Stone must be clean and washed
Underdrain and Observation Well Piping	Slotted PVC or Slotted HDPE Type "SP" Pipes Solid: Scheduled 40 PVC or HDPE Type "S"	See Plan	Refer to the Carroll County SWM Supplement Pg. 87 All pipes must be double walled (smooth core) and slotted (no circular holes)
Sand	ASTM-C-33 (3 parts to 6 within Filter Media)	0.02" - 0.04"	Sand substitutions such as Diabase and Graystone #10 are not acceptable. No calcium carbonate or dolomitic sand substitutions are acceptable. No "rock-dust" can be used for sand. Manufactured sand from approved sources may be used for filters. Manufactured sand may not be used in dams.
Soil	Engineer approved loam with 20% or less clay (1 part to 6 within Filter Media)	N/A	
Wood Chips	Untreated "Green" (2 parts to 6 within Filter Media)	N/A	Untreated "green" wood chips
Filter/Planting Media	Comprised of 3 parts sand, 2 parts wood chips, 1 part soil	N/A	See individual material specifications





\\Job\_Files\Bud\_Holy\_Site Plan r2\SWM BIO-RETENTION DETAILS (CS-2).dwg 5-16-2025



## MICRO-BIORETENTION UNDERDRAIN to CS-2 to M-2

SWM ESD M-6

SCALE: HORIZONTAL: 1"=20'  
VERTICAL: 1"=5'

INSPECTION CHART FOR SWM MICRO-BIORETENTION AREAS		FOR CS-2
Note: Contractor should contact the Office of Leon A. Podolak and Associates, L.L.C. at (410) 876-1226, at least 48 hours prior to commencing construction of proposed Storm Water Management Devices.		Initials Date
SWM ESD M-6	STAGE	ENGINEER'S APPROVAL MICRO-BIORETENTION
1.) Drainage area must be stabilized with 2 inch stand of dense grass with base coat on paved surfaces		
2.) Compact top of berm. Berm shall be backfilled with Unified Soil Class GC, SD, SM, MH, ML, CH, or CL impervious soils and compacted in 8 inch lifts to a dry density of 95 percent as measured by AASHTO Method T-99. Soil Engineer approval of material and compaction. Shape basin of Micro Bio-Retention facility & place topsoil on sides.		
3.) Install riser and outfall piping. Trenching for the outfall pipe shall be backfilled with Unified Soil Class GC, SD, SM, MH, ML, CH, or CL impervious soils and compacted in 8 inch lifts to a dry density of 95 percent as measured by AASHTO Method T-99. Soil Engineer approval of material and compaction.		
4.) Excavate for filter media and scarify sides and bottom. Line sides and bottom with 12 mil thick polyethylene tarpaulin.		
5.) Install pipe underdrain and #8 stone bedding. Place temporary cap on underdrain at Control Structure CS-2.		
6.) Mix & Place Filter Media. Allow time for settling & top off as necessary. Install Geibon Baskets. Stabilize side slopes of facility per Permanent Seeding Specs.		
7.) Plant landscaping units during Spring or Fall. Mulch and remove sediment and debris from Control Structure CS-2. Upon approval of Site Engineer remove temporary underdrain cap.		
8.) Site Engineer shall submit an 'As-Built' SWM Plan to the Carroll County Bureau of SWM.		

SEE SWM MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION FACILITY ON THIS SHEET.

### REQUIRED SEQUENCE OF CONSTRUCTION FOR MICRO-BIORETENTION FACILITY:

- 1.) Contact the office of Leon A. Podolak and Associates, LLC (the engineer) at 410.848.2229 at least 3 working days prior to commencing construction of stormwater management (SWM) facilities, to schedule construction inspection and verification of grades. Be sure drainage area is stabilized, with a healthy 2 inch stand of dense grass, and base coat paving is completed before proceeding with Bio Retention construction.
- 2.) Excavation must be conducted in dry conditions with equipment located outside of the practice. Only lightweight, low ground contact equipment should be used within the micro bio-retention area. Excavate to subgrade and scarify bottom. Line sides and bottom of excavation with 12 mil thick polyethylene tarpaulin. Install precast control structure CS-2 and outfall pipe. All backfill material for trenching of the outfall pipe and/or construction of the embankment shall conform to Unified Soil Class GC, SC, SM, MH, ML, CH or CK and shall be placed in 8 inch lifts compacted to a density of 95 percent as measured by AASHTO Method T-99. Contact the soils engineer to verify material and compaction. Contact Site Engineer (410) 876-1226 to verify grades.
- 3.) Install underdrain piping and gravel bedding. Gravel shall be washed, clean and free of fines. Avoid stockpiling stone on site. Install temporary cap on underdrain pipe inside control structure CS-2.
- 4.) Bio-Retention filter media may be mixed on site prior to placement. The filter media consists of one part loam, engineer certified, three parts sand, see sand specifications, and two parts green, untreated wood chips. Soils may not be placed under saturated conditions. Mixed filter media should be placed with a backhoe operating adjacent to the practice and shall be placed in 12 inch maximum lifts. Proper compaction of the media will occur naturally. Spraying or sprinkling water on each lift until saturated may quicken settling times.
- 5.) Provide plantings in fall or spring. Spring plantings may require watering.
- 6.) Remove all sediment from control structure CS-2 and stabilize any disturbed areas outside of the bio retention areas, in accordance with permanent seeding specifications. Remove the temporary cap on the underdrain pipe inside control structure CS-2. Contact engineer for final inspection. The engineer will submit 'As-Built' plans to the Carroll County Bureau of Stormwater Management, for release of bond monies.

### NOTE

A continuous 20ft long section of watertight HDPE outfall pipe is required where this pipe crosses the embankment. Backfill material associated with trenching and installation shall conform to unified soil classification designations GC, SC, SM, MH, ML, CH or CL, and shall be compacted in 8" lifts to a dry density of 95 percent as measured by AASHTO Method T-99. Certification of material prior to placement is required from a geo-technical engineer.

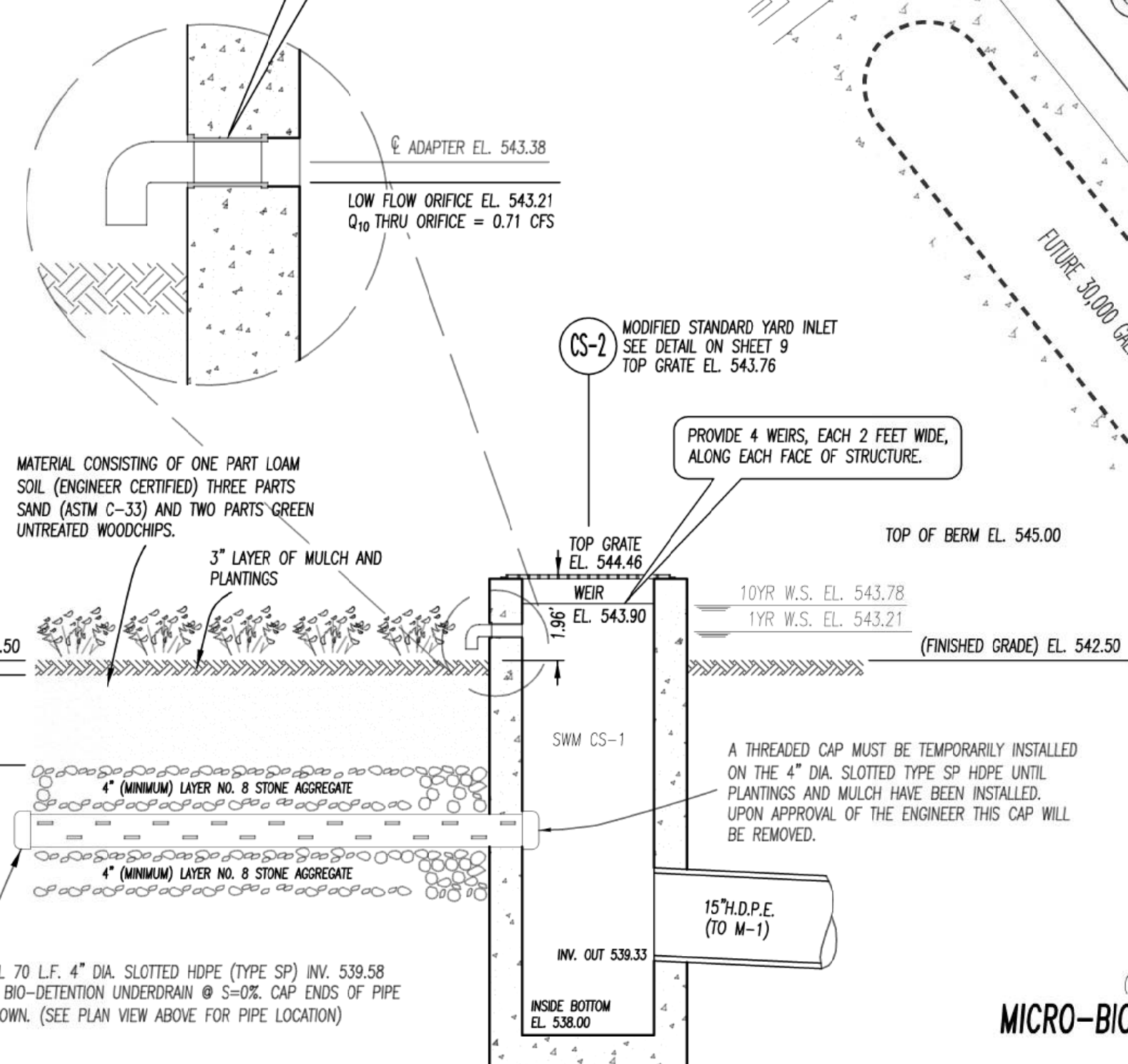
### SAND SPECIFICATIONS

1. Sand shall be ASTM C-33 and have an effective size between 0.25mm and 0.50mm with a uniformity coefficient of 3.5 or less.
2. If it is not possible to provide a sand meeting this specification, then an alternative or non-conventional sand, meeting the following specification can be used provided that the contractor provides the Engineer with a sieve analysis. The sand fill shall contain 20 percent or less material larger than 2.0mm, shall contain 5 percent or less material finer than 0.053mm and shall meet one of the following specifications:
  - a. ASTM C-33 specification
  - b. Shall have an effective diameter (0.15mm<d10<0.30mm) between 0.15mm and 0.30mm (inclusive) with a coefficient of uniformity between 4 and 6. ( $d_{60}/d_{10}=4-6$ )

### MICRO-BIORETENTION FACILITY PLANTING SCHEDULE

HERBACEOUS SPECIES	Height	Spread	Number	
Switchgrass <i>Panicum virgatum</i>	15"	2'-3'	4	plant in 3" pots - 5/c
Blue Flag <i>Iris versicolor</i>	15"	2'-3'	109	plant in 3" pots - 2/c
Cardinal Flower <i>Lobelia cardinalis</i>	15"	2'-3'	126	plant in 3" pots - 2/c
Joe Pye Weed <i>Eupatorium purpureum</i>	15"	2'-3'	129	plant in 3" pots - 2/c
Purple Coneflower <i>Echinacea purpurea</i>	15"	2'-3'	106	plant in 3" pots - 2/c

PRECASTER SHALL CAST IN PLACE A 4"SDR-26 PVC, SINGLE BELL MANHOLE ADAPTER (HARCO PART #26-5804) AT A CENTERLINE ELEVATION OF 543.38 AND PROVIDE 4" OPENING THRU REMAINING WALL SECTION. CONTRACTOR TO PROVIDE 4"SDR-26 PVC 1/4 BEND OUTSIDE OF INLET WALL AS SHOWN. FINAL INVERT OF LOW FLOW ORIFICE EL. 543.21.



## MICRO BIO-RETENTION CONTROL STRUCTURE CS-2 DETAIL

NOT TO SCALE  
SWM ESD M-6  
SEE MATERIAL SPECIFICATIONS FOR MICRO-BIORETENTION FACILITY ON THIS SHEET.

Carroll County Supplemental Materials Specifications for Bio-Swale, Bioretention, Micro-Bioretenction & Rain Gardens			
Material	Specification	Size	Notes
Plantings	See Landscape Plan	N/A	Plantings are site specific and per approved landscape plan
Seed Mix	Filter Bed Mix - Use Wet Meadow Mix per MD Standards and Specifications §707. See Table 3 (1 lb. minimum/micro-bioretenction)	N/A	Used with straw mulch in place of shredded hardwood mulch. Incorporate seed evenly in top 1/2" of filter media
Mulch	Shredded Hardwood	N/A	Aged 6 months, minimum
Straw Mulch	MD Standards and Specifications §920.04.01, (200 lb. minimum/micro-bioretenction)	N/A	1" Straw mulch over seed bed (facility bottom)
Geotextile	Class "C" - Apparent opening size (ASTM-D-4753), Grab-Tensile Strength (ASTM-D-4632), Puncture Resistance (ASTM-D-4833)	N/A	Sides only. Not on bottom unless specified on the plans
Underdrain and Reservoir Gravel	AASHTO M-43 No. 8 Stone	3/4" - 1 1/2"	Stone must be clean and washed
Underdrain and Observation Well Piping	Slotted PVC or Slotted HDPE Type "SP" Pipes. Solid-Scheduled 40 PVC or HDPE Type "S"	See Plan	Refer to the Carroll County SWM Supplement Pg. 87. All pipes must be double walled (smooth core) and slotted (no circular holes). Sand substitutions such as Diabase and Graystone #10 are not acceptable. No calcium carbonate or dolomitic sand substitutions are acceptable. No "rock-dust" can be used for sand. Manufactured sand from approved sources may be used for filters. Manufactured sand may not be used in dams.
Sand	ASTM C-33 (3 parts to 6 within Filter Media)	0.02" - 0.04"	
Soil	Engineer approved loam with 20% or less clay (1 part to 6 within Filter Media)	N/A	
Wood Chips	Untreated "Green" (2 parts to 6 within Filter Media)	N/A	Untreated "green" wood chips
Filter/Planting Media	Comprised of 3 parts sand, 2 parts wood chips, 1 part soil	N/A	See individual material specifications

## SWM MICRO-BIORETENTION DETAILS and SPECIFICATIONS (CS-2)

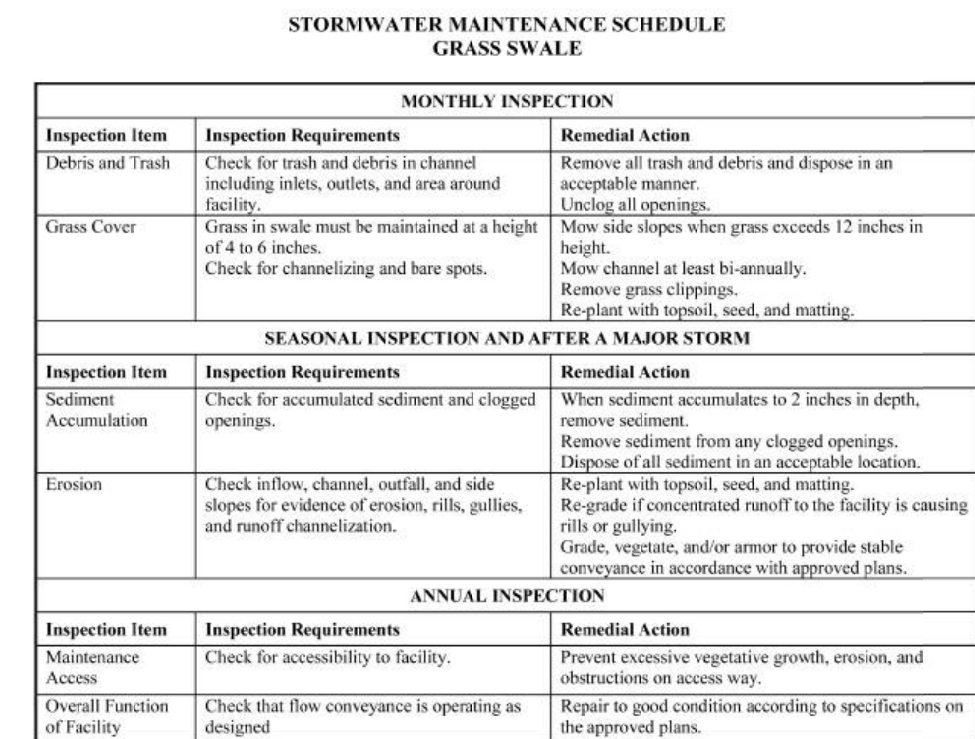


S-23-0015

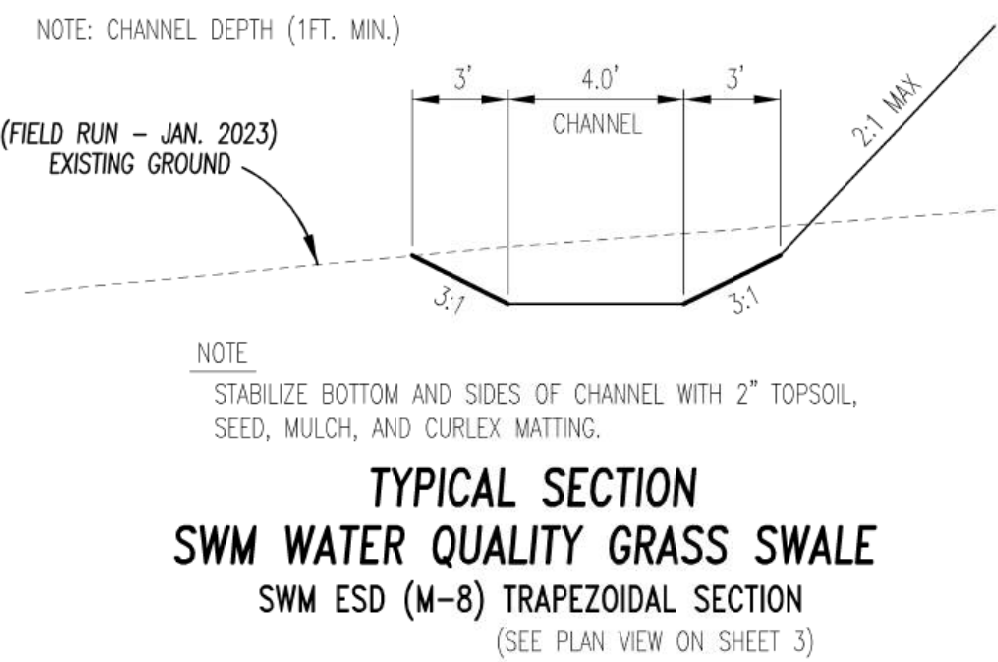
GREAT VALLEY PROPANE  
LOT #3 'DEVELOPMENT COMPANY OF AMERICA' TAX MAP: 45 GRID: 15 p/o PARCEL: 539 TAX ACCT. NO.: 07-111932

LEON A. PODOLAK and ASSOCIATES, L.L.C.	
<div><div>SHEET 7 OF 12</div></div>	<div><div><div><div><div>DATE</div><div>12-12-2024</div></div><div><div>REVISION</div><div>COUNTY COMMENTS</div></div></div><div><div>DATE</div><div>01-16-2025</div></div><div><div>REVISION</div><div>COUNTY COMMENTS</div></div></div></div> <div><div><div><div><div>SURVEYING and CIVIL ENGINEERING</div><div>147 East Main St. (P.O. Box 266) Westminster, Maryland 21157</div><div>(410) 848-2229 - (410) 876-1226</div></div><div><div></div><div><div>Peter L. Podolak, P.E.</div><div>Date</div></div></div><div><div>I hereby certify that these documents were prepared or approved by me, and I am a duly licensed professional engineer under the laws of the State of Maryland, license no. 19561, expiration date: 3-3-2025.</div><div><div>Date: Oct. 23, 2023</div><div>Date: AS SHOWN</div></div><div><div>Drawing No.</div></div></div></div></div></div>





- 1) Contractor should contact the Office of Leon A. Podolak and Associates LLC at (410) 876-1126 at least 48 hours prior to commencing construction of the stormwater management device, to arrange for inspection and As-Built verification of construction.
- 2) Structural or Stormwater Control devices shall be installed and inspected by the Contractor following the following Best Management Practices (BMP) during grading:
  - a) Only excavate that portion of the work that can be installed, backfilled, compacted and restabilized in one working day.
  - b) Pavement and concrete which is saw cut and removed should be placed directly into a roll-dumpster, where it can be recycled by the Contractor. Excavated soils should be placed in upgrade of the open trench, so that runoff will wash the soil back into the trench and not away from the trench. Organic material, such as mulch or other unsuitable material will not be allowed for backfill of the trench and must be disposed of properly.
  - c) Stockpiling of large quantities of borrow material for an extended period of time is not permitted without structural sediment control devices.
  - d) No uncovered areas can be left unstabilized overnight unless runoff is directed to an approved sediment control device.
- 3) Grade grass swale to lines and grades depicted on Sheet 3 of the plan. Contact the engineer for field verification of As-Built grades.
- 4) Upon approval of the engineer, time, fertilizer and seed channel in accordance with permanent seed specifications. Install culter matting and secure on 200 staples per 100 sq yards of matting.
- 5) Once a 2nd, inch headstart of grass has grown on the channel, the engineer has provided final inspection, and upon approval of the Carroll County sediment control inspector, remove all temporary sediment control devices. The engineer will then provide the As-Built SWM paper prints and certification to the Carroll County Bureau of Resource Management.



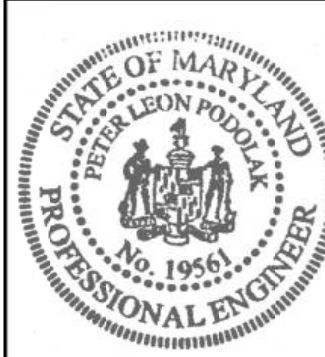
## *SWM GRASS SWALE DETAILS and SPECIFICATIONS*



**S-23-0015**

GREAT VALLEY PROPANE  
LOT #3 'DEVELOPMENT COMPANY OF AMERICA' TAX MAP: 45 GRID: 15 p/o PARCEL: 539 TAX ACCT. NO.: 07-111932

LEON A. PODOLAK and ASSOCIATES, L.L.C.



**SURVEYING and CIVIL ENGINEERING**  
147 East Main St. (P.O. Box 266) Westminster, Maryland 21157  
(410) 848-2229 - (410) 876-1226

*Peter D. Dolak*

Peter L. Podolak, P.E. Date

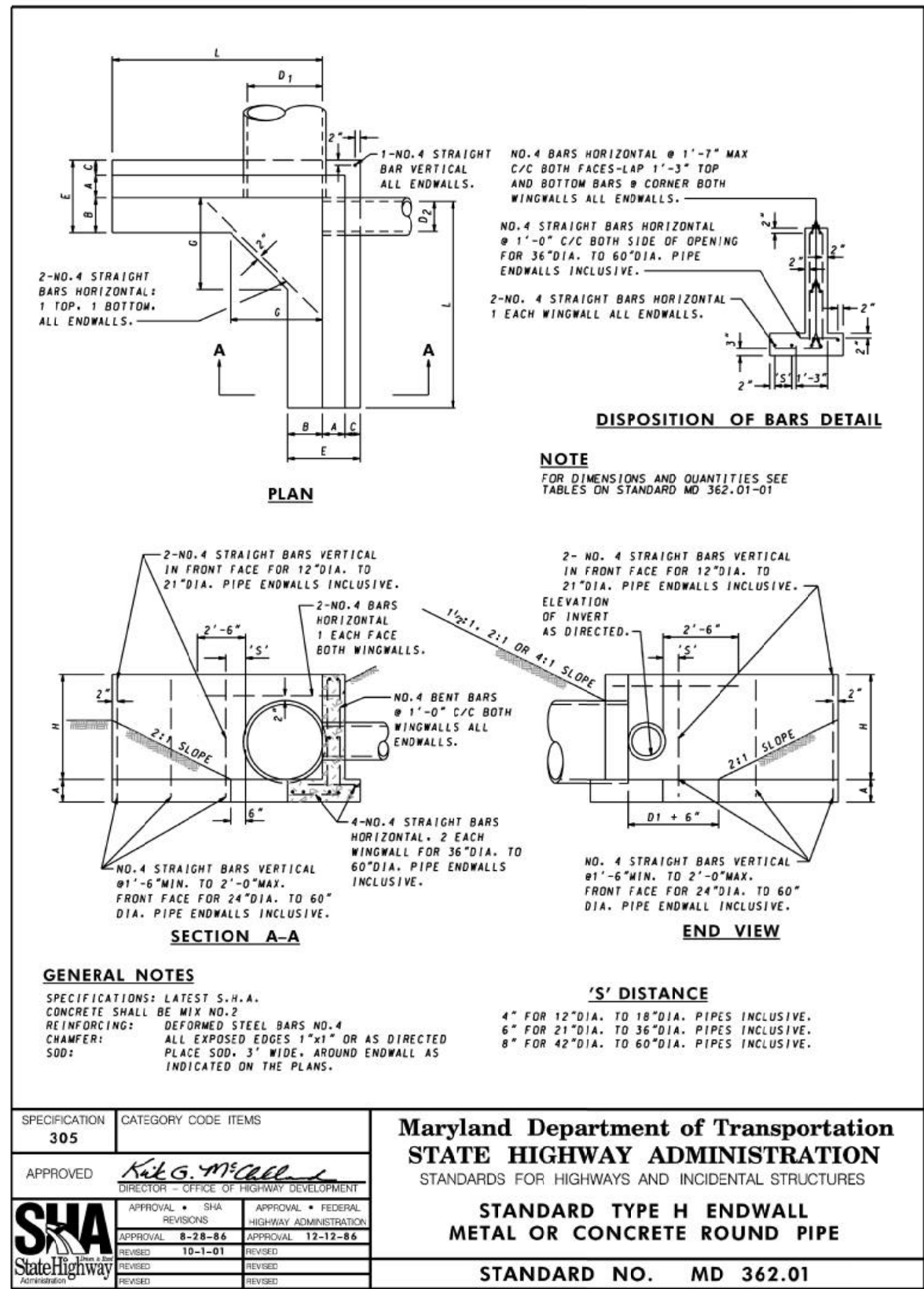
I hereby certify that these documents were prepared or approved by me, and I am a duly licensed professional engineer under the laws of the State of Maryland, license no. 19561, expiration date: 3-3-2026.

Date	Revision
12-12-2024	COUNTY COMMENTS
5-16-2025	COUNTY COMMENTS

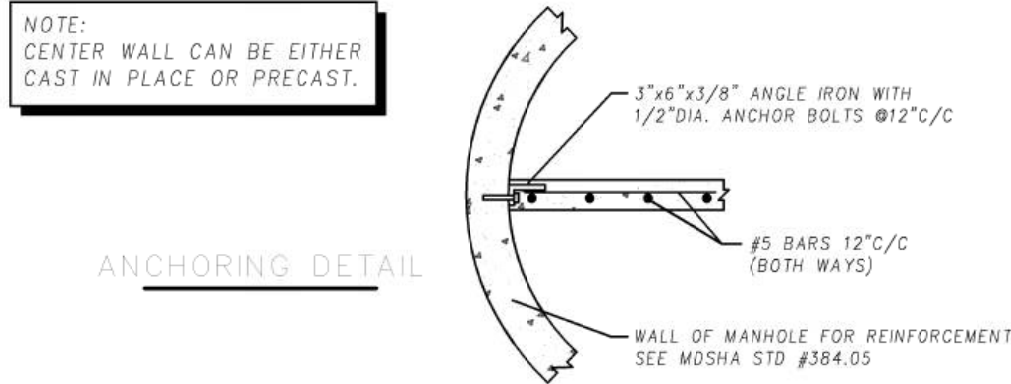
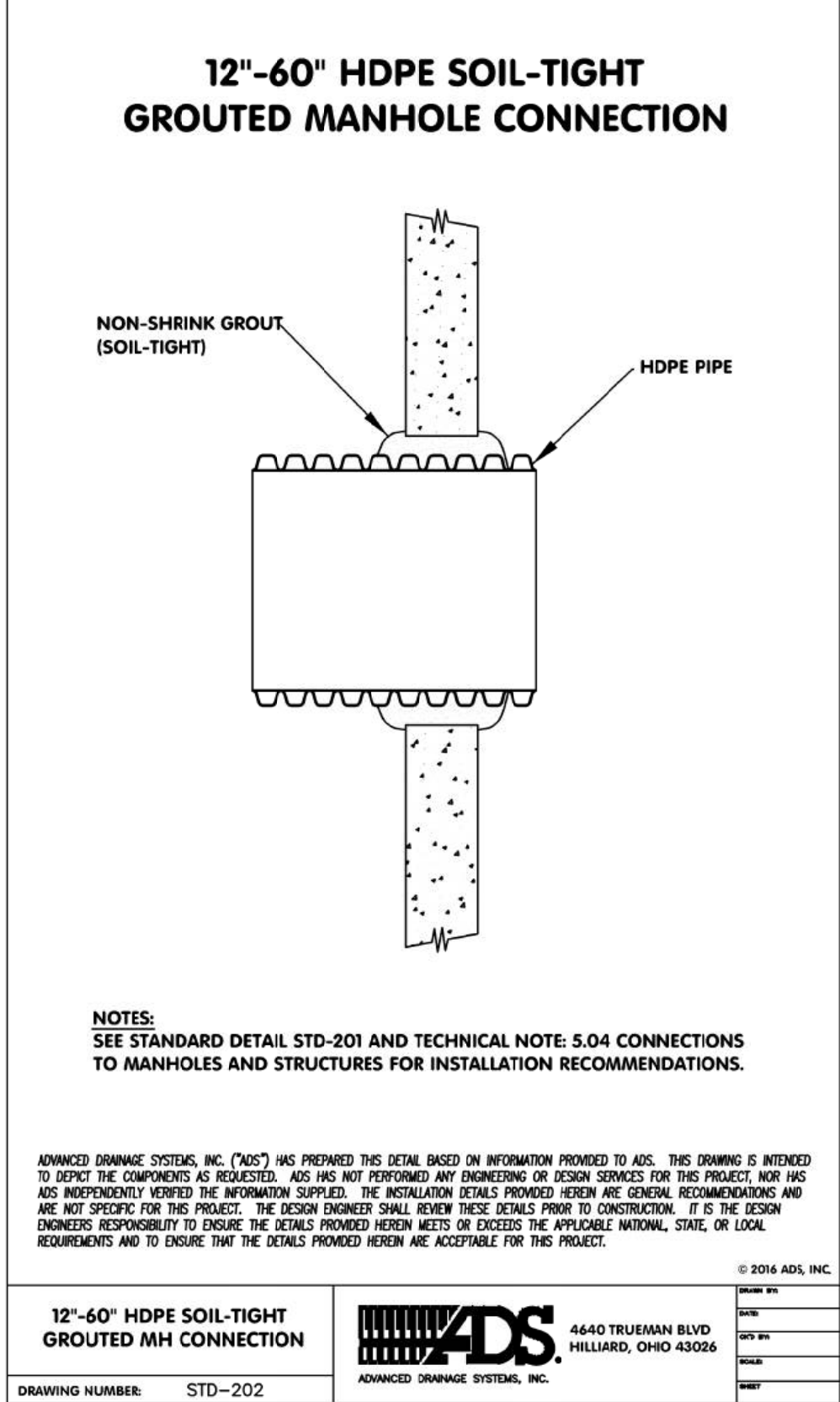

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Drawing No. \_\_\_\_\_



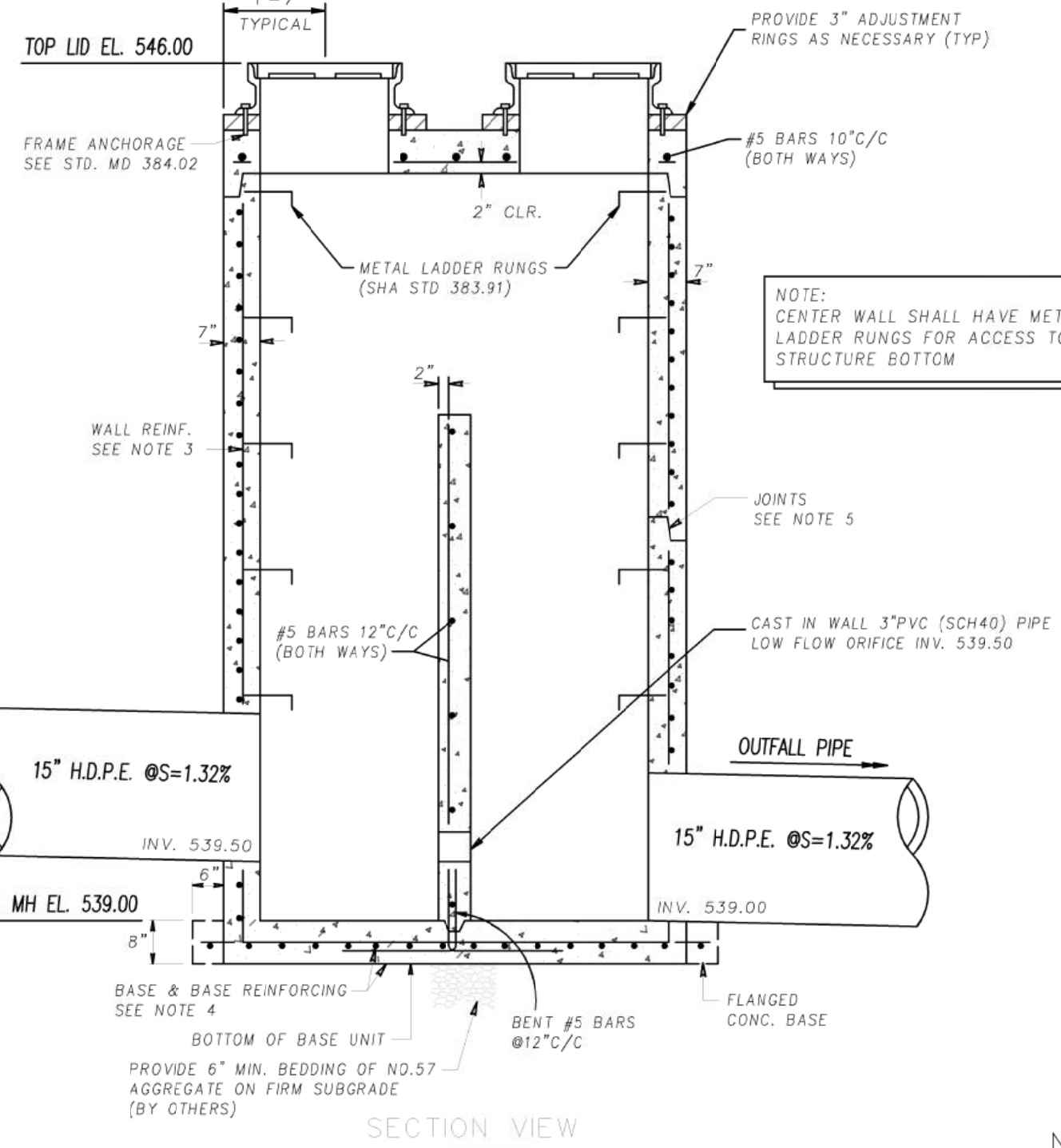
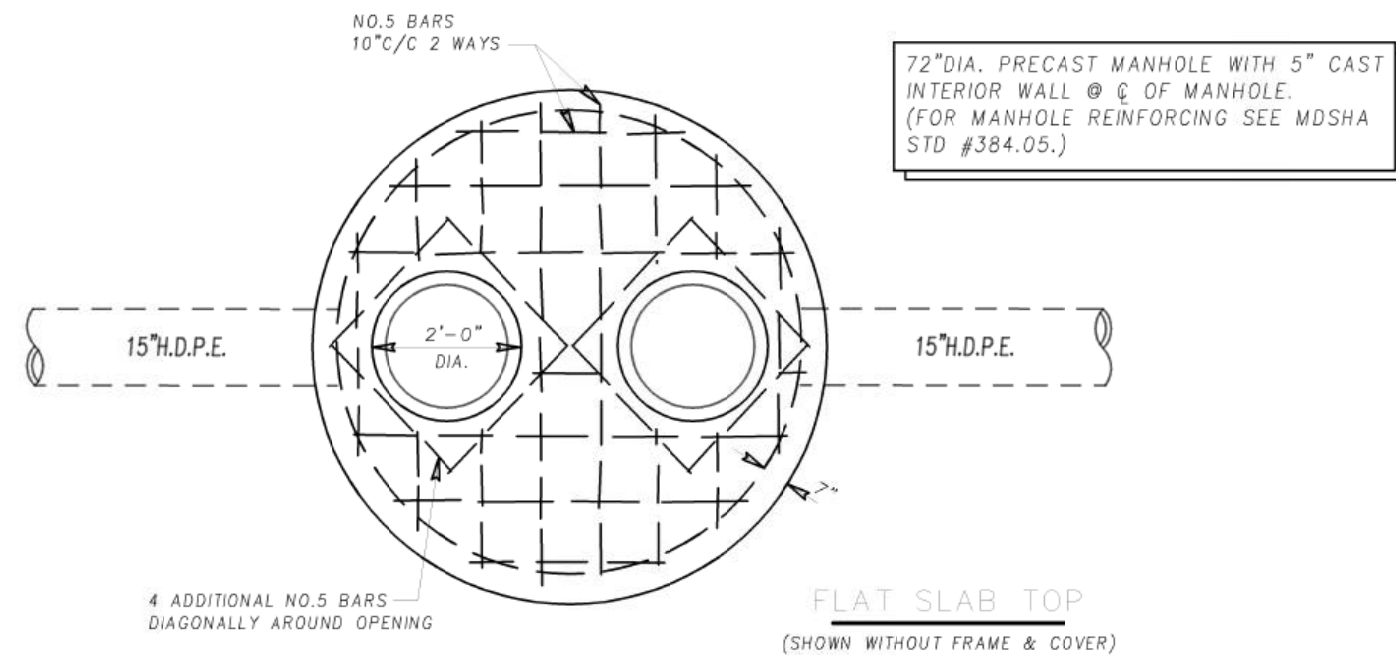
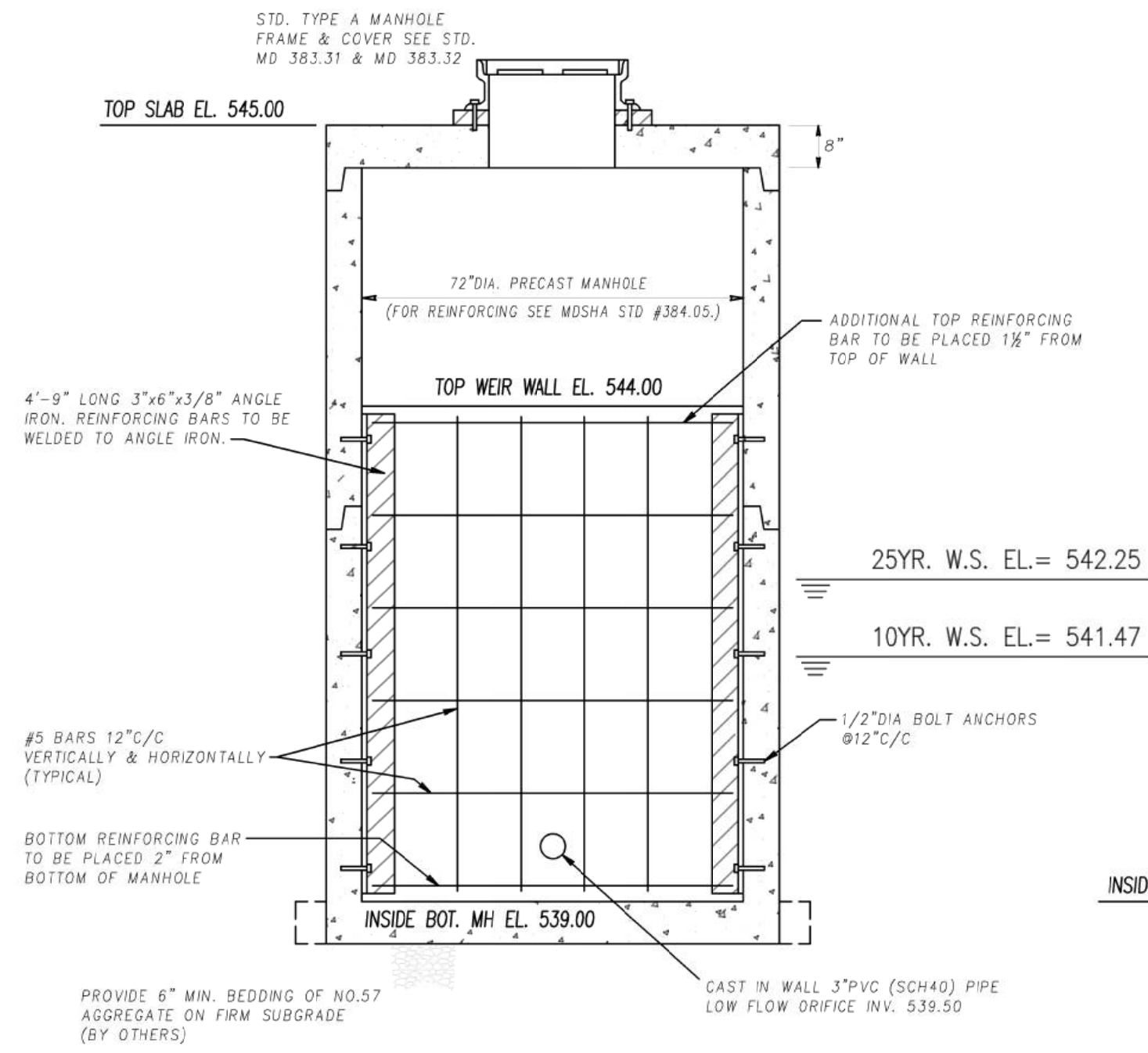
\\Job\_Files\\Bud\_Holy\\Site Plan r2\\SWM-CONTROL STRUCTURE CS-3 CONSTRUCTION DETAILS.dwg 5-16-2025



**HEADWALL DETAIL (EW-2)**  
NOT TO SCALE

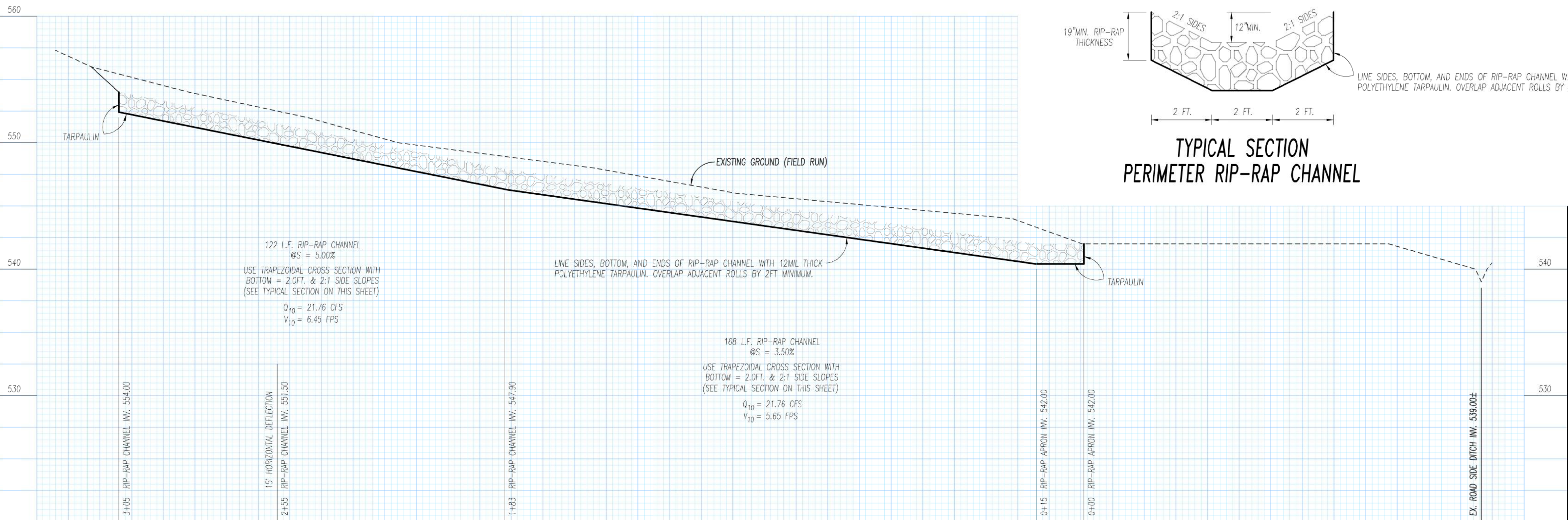
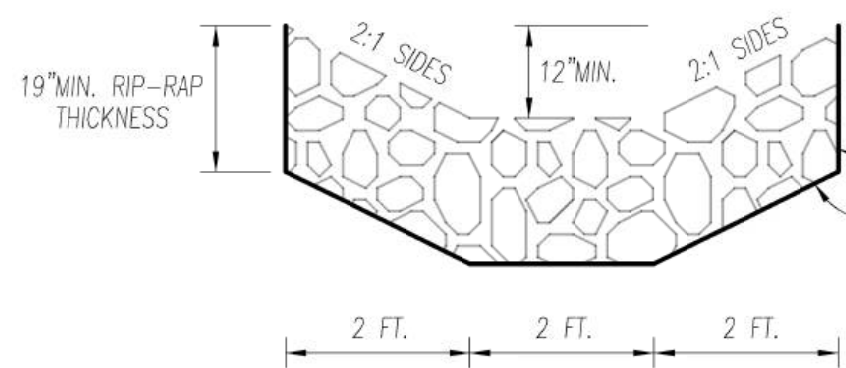


**CONTROL STRUCTURE DETAIL (CS-3)**  
NOT TO SCALE



**DETAIL OF LOW FLOW ORIFICE CONTROL STRUCTURE DETAIL (CS-3)**  
NOT TO SCALE

- NOTES (CONTROL STRUCTURE CS-3)**
- MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH AASHTO M199.
  - CONCRETE SHALL BE MIX NO.6 (4500PSI).
  - WALL REINFORCEMENT FOR BASE UNITS, RISER UNITS AND ECCENTRIC CONE UNITS SHALL BE REINFORCEMENT BARS OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.18 IN<sup>2</sup>/FT AND MAXIMUM SPACING OF 6" FOR THE 72" DIAMETER MANHOLES. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 AND A 52. REINFORCEMENT SHALL MEET ASTM A 515, GRADE 60.
  - BASE REINFORCEMENT SHALL BE REINFORCEMENT BARS OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.27 IN<sup>2</sup>/FT AND A MAXIMUM SPACING OF 4" WITH 2" COVER FROM THE TOP OF BASE. THE BASE SHALL BE CAST MONOLITHIC WITH THE UNIT OR JOINTED PER THE MANUFACTURER'S DESIGN.
  - THE MANUFACTURER SHALL FORM MALE AND FEMALE ENDS OF JOINTS USING THEIR OWN DESIGN. THE JOINTS SHALL BE SEALED BY THE CONTRACTOR AND MADE WATERTIGHT USING (WHERE APPLICABLE) MORTAR, RUBBER O-RING GASKETS MEETING ASTM C 361 & C 443 OR FLEXIBLE PLASTIC GASKETS MEETING AASHTO M 198, TYPE B.
  - LADDER RUNGS SHALL BE INSTALLED IN VERTICAL ALIGNMENT AT 1'-4" MAXIMUM C/C. TYPES SHALL BE IN ACCORDANCE WITH STANDARDS MD 383.91 OR 383.92. LADDER RUNGS SHALL BE INCIDENTAL TO THE COST OF THE MANHOLE.
  - WHEN THE DISTANCE BETWEEN THE MULTIPLE OPENINGS IN THE BASE UNIT OR IN ANY RISER UNIT IS LESS THAN 6" ADDITIONAL NO.3 BARS ARE REQUIRED AROUND OPENINGS.
  - LIFT HOLES OR LIFT EYES SHALL BE PROVIDED IN EACH SECTION FOR HANDLING.
  - MIX NO.2 CONCRETE OR BRICK CHANNEL SHALL BE PROVIDED IN THE FIELD AND SHALL SLOPE 2" PER FOOT TOWARD OUTLET OR AS DIRECTED BY THE ENGINEER.
  - ALL H.D.P.E. PIPE CONNECTIONS TO MANHOLES SHALL BE GROUTED WITH NON-SHRINK GROUT. SEE DETAIL ON THIS SHEET.
  - MANHOLE HAS BEEN DESIGNED FOR HS-25 LOADING, ACCORDING TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.



**SWM-CONTROL STRUCTURE CS-3**  
**DETAILS and SPECIFICATIONS**  
**RIP-RAP CHANNEL PROFILE and SPECS**

GREAT VALLEY PROPANE  
LOT #3 'DEVELOPMENT COMPANY OF AMERICA' TAX MAP: 45 GRID: 15 p/o PARCEL: 539 TAX ACCT. NO.: 07-111932

**LEON A. PODOLAK and ASSOCIATES, L.L.C.**

**SHEET 9 OF 12**

**SURVEYING and CIVIL ENGINEERING**  
147 East Main St. (P.O. Box 266) Westminster, Maryland 21157  
(410) 848-2228 - (410) 876-1226

**Peter L. Podolak, P.E.**

**Date: Oct. 23, 2023**  
**AS SHOWN**  
**Drawing No.**

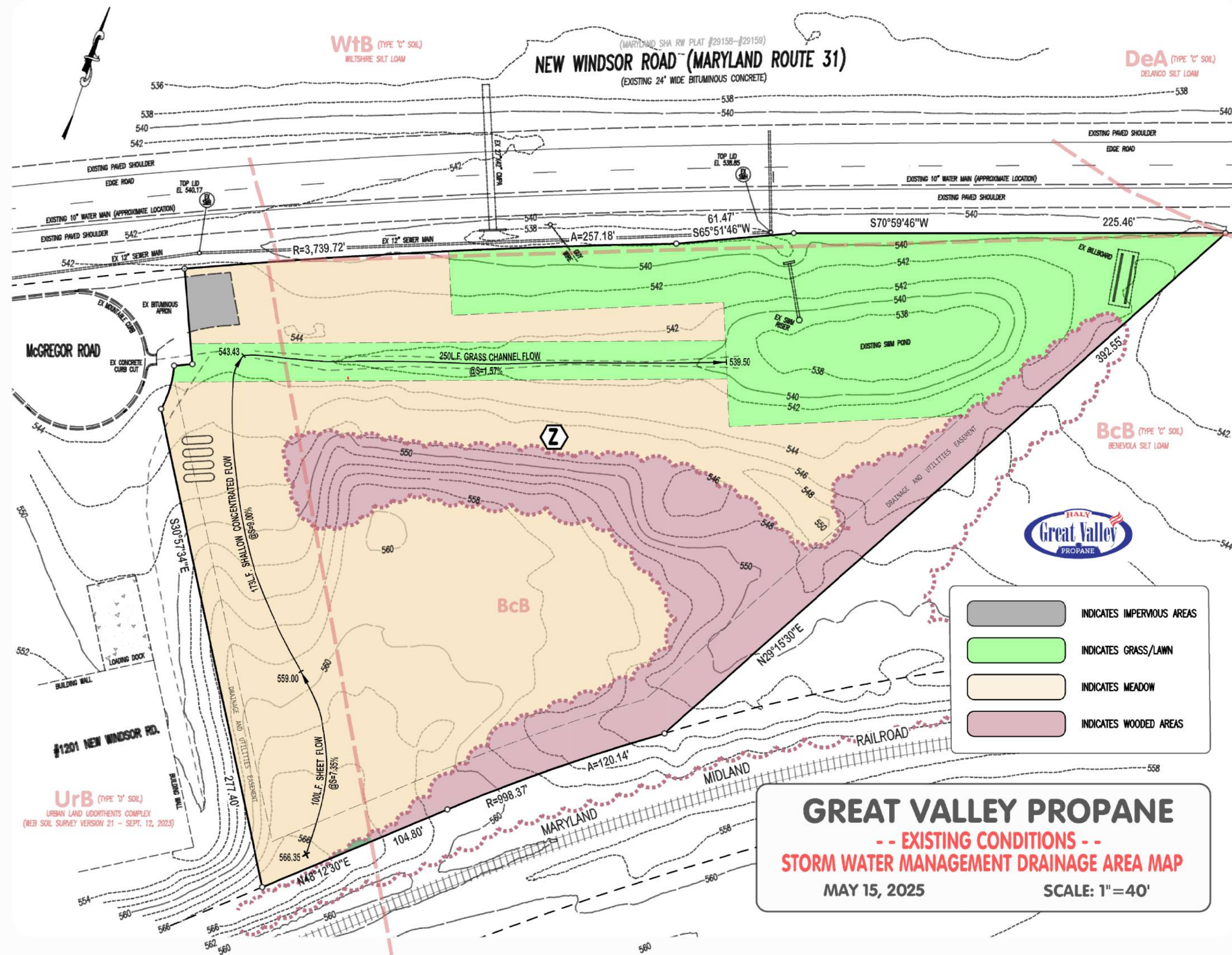
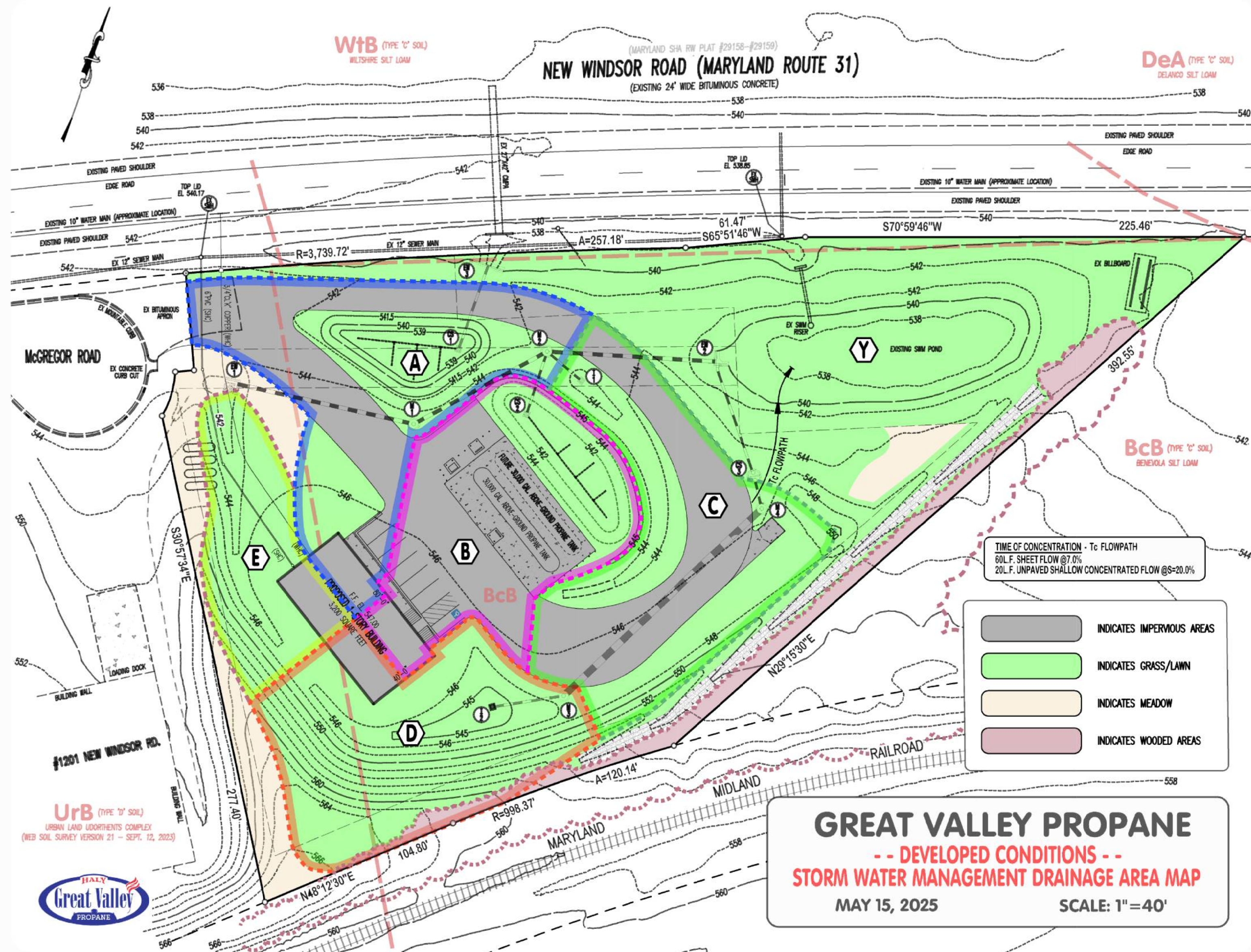
**STATE OF MARYLAND PROFESSIONAL ENGINEER**

**DATE: 12-12-2024**  
**COUNTY COMMENTS**

**REVISION**  
**COUNTY COMMENTS**



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**SUMMARY OF STORMWATER MANAGEMENT PROVIDED:**

Area Designation	ESD Type	Impervious Area (Sq Ft)	Drainage Area (Sq Ft)	Pre-Treatment RCN	ESD Volume Provided (Cu Ft)	Pe Provided (Inches)	Reduced RCN	Qp Volume 25-Yr Storm (Cu Ft)	Discharge 10 Yr Storm (cfs)	10 Year Water Surface Elevation	Discharge 25 Yr Storm (cfs)	25 Year Water Surface Elevation
Area A CS-1	M-6	8,884	16,032	87	1,840	2.5	71	2,505	0.20	540.31	0.33	540.61
Area B CS-2	M-6	9,334	13,234	91	1,887	2.5	80	2,233	0.15	543.36	0.25	543.56
Area C	M-8	7,095	15,414	85	501	0.4	81	501	1.42	-----	1.89	-----
Area D CS-3	N-1	800	14,083	77	67	1.0	77	885	0.32	541.47	0.38	542.25
Area E	N-1	800	7,126	82	67	1.0	82	67	0.60	-----	0.81	-----
Area Y	untreated	0	42,630	75	0	0	75	0	2.93	-----	4.19	-----
TOTALS		26,913	108,519		4,362		569	6,807	5.62 cfs		7.85 cfs	

**SWM Summary:**

- ESD Volume Required = 3,809 cubic feet = 0.0874 Ac Ft.  
ESD Volume Provided = 4,362 cubic feet = 0.1001 Ac. Ft.
- Qp Volume Required = 5,468 cubic feet = 0.1255 Ac. Ft.  
Qp Volume Provided = 6,807 cubic feet = 0.1563 Ac. Ft.
- Allowable Release Rate 10 Year Storm = 5.83 cfs  
Actual Release Rate 10 Year Storm = 5.61 cfs
- Allowable Release Rate 25 Year Storm = 8.51 cfs  
Actual Release Rate 25 Year Storm = 7.85 cfs

**Watershed Information:**

Watershed name: Double Pipe Creek [2140304]  
Stream classification: [Use IV-P]  
Discharge point: Little Pipe Creek

**ESD STORM WATER MANAGEMENT REQUIREMENTS for GREAT VALLEY PROPANE (S-23-0015):**

ESD Volume Requirements were calculated in accordance with County Code and Sections 5.2.2 and 5.2.3 of the *MD Stormwater Design Manual*. ESD Volume is calculated using the area of the Limits of Disturbance associated with this development, as the drainage area variable.

**Great Valley Propane Facility:**

Total Disturbed Area associated with this development = 82,405 sq ft = 1.89 Acres  
Total Impervious Area proposed = 27,178 sq ft = 0.62 Acres  
Percent Impervious Cover (I) = 33.0 percent

**Water Quality Volume:**

$$WQv = \frac{[(P)(Rv)(A)]}{12} \quad \text{where, } P = 1.0 \text{ inch in Eastern Zone of Maryland}$$

Rv = Volumetric Runoff Coefficient

$$Rv = (0.05) + (0.009)(I)$$

I = Percent Impervious Cover = 33.0 %

A = Drainage Area in Acres = 1.89 Acres

$$WQv = \frac{\{(1.0 \text{ in.})[(0.05) + (0.009)(33.0)](1.89 \text{ acs.})\}}{12 \text{ in./ft.}} = 0.0546 \text{ Acre-feet}$$

$$\text{Water Quality Volume} = 0.0546 \text{ Acre-feet} = 2,380 \text{ cubic feet}$$

**ESD Volume Required:**

Target Pe = 1.6 inches [Table 5.3 SWM Manual for C soils with 35 percent impervious]

$$\text{ESD Volume} = \frac{\{(1.6 \text{ in.})[(0.05) + (0.009)(33.0)](1.89 \text{ acs.})\}}{12 \text{ in./ft.}} = 0.0874 \text{ Acre-feet}$$

$$\text{Required Volume for ESD Practices} = 0.0874 \text{ Acre ft} = 3,809 \text{ cubic feet}$$

**SWM DRAINAGE AREA MAPS and CALCULATIONS**

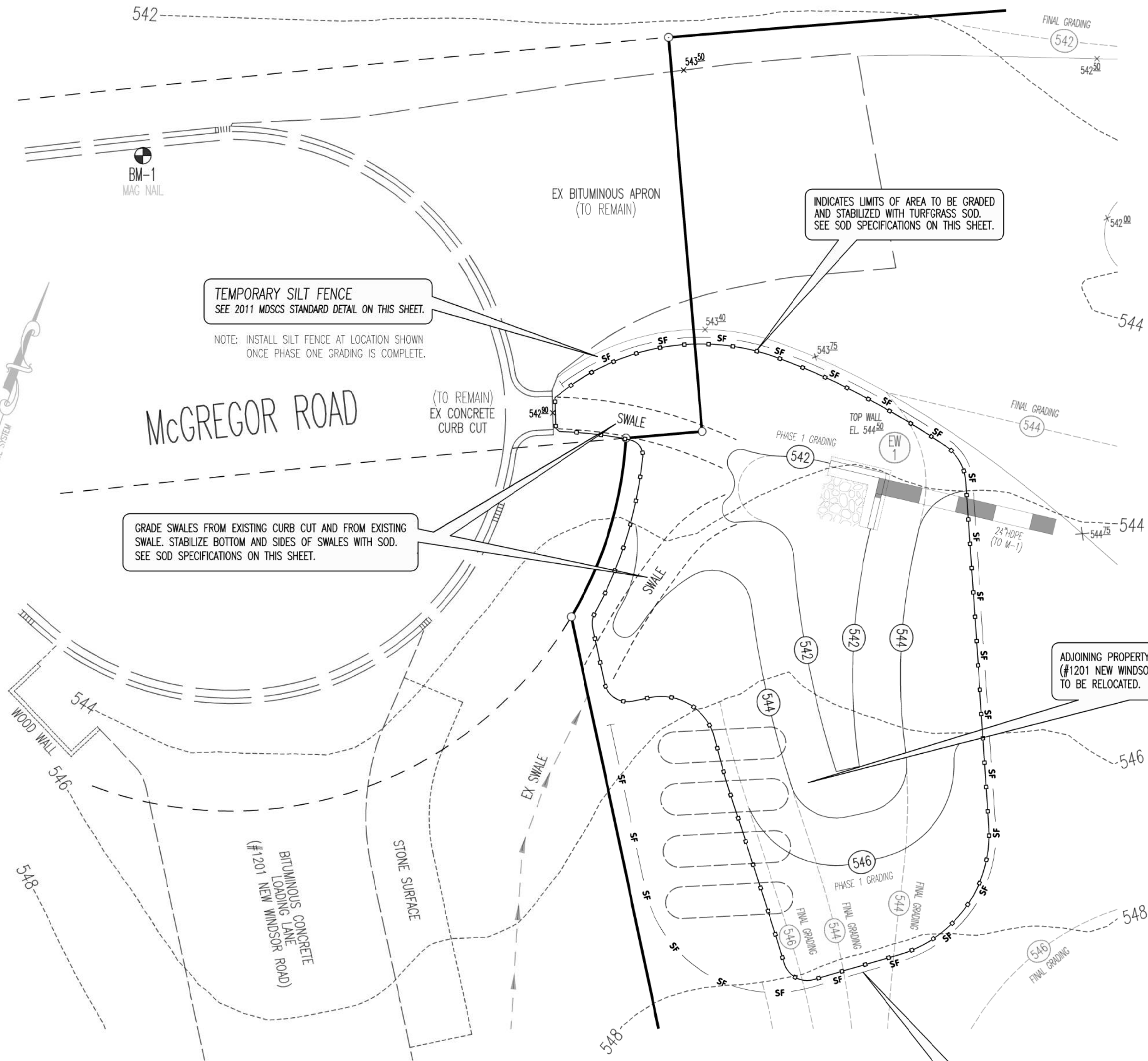


**S-23-0015**

GREAT VALLEY PROPANE  
LOT #3 'DEVELOPMENT COMPANY OF AMERICA' TAX MAP: 45 GRID: 15 p/o PARCEL: 539 TAX ACCT. NO.: 07-111932

SHEET 10 OF 12	LEON A. PODOLAK and ASSOCIATES, L.L.C.		Date	Revision
	SURVEYING and CIVIL ENGINEERING 147 East Main St. (P.O. Box 266) Westminster, Maryland 21157 (410) 848-2229 - (410) 876-1226		12-12-2024	COUNTY COMMENTS
		Peter L. Podolak, P.E. I hereby certify that these documents were prepared or approved by me, and I am a duly licensed professional engineer under the laws of the State of Maryland, license no. 19561, expiration date: 3-3-2026.		
		Date: Oct. 23, 2023 Date: AS SHOWN Drawing No.		





## PHASE ONE GRADING AND SEDIMENT CONTROL DETAIL

SCALE: 1"=10'

NOTE: INSTALL SILT FENCE AT LOCATION SHOWN  
ONCE ENDWALL EW-1, STORM DRAIN PIPE TO M-1,  
AND PHASE ONE GRADING IS COMPLETE.

### PERMANENT SEEDING NOTES

Scope: Planting permanent, long lived vegetative cover on graded and/or cleared areas and areas that have been in temporary vegetation for more than 6 months.

Standards: The following notes shall conform to Section B-4 of the "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" published jointly by the Maryland Department of Environment - Water Management Administration, the National Resource Conservation Service and the Maryland Association of Soil Conservation Districts.

The seed bed shall be prepared by loosening the soil to a depth of 3 to 5 inches and incorporating the lime and fertilizer into this loosened layer of soil. See Section B-4-2.

For sites over 5 ac, soil tests will be performed. Soil tests will be conducted by the University of Maryland or a recognized commercial laboratory. Minimum soil conditions shall meet the requirements of section B-4-2-A-2-a, otherwise soil amendments or topsoil will need to be applied. Topsoiling may occur when soil conditions meet the minimum requirements as stated in section B-4-2-B. Soil amendments must meet the requirements as set forth in section B-4-2-C and must be applied as indicated by the soils tests.

For sites of 5 ac, or less of disturbance, the following fertilizer and lime rates shall apply. Fertilizer shall consist of a mixture of 10-20-20 and be applied at the following rates:

N = 45 lb. per acre (1 lb. per 1000 sq. ft.) P<sub>2</sub>O<sub>5</sub> = 90 lb. per acre (2 lb. per 1000 sq. ft.) K<sub>2</sub>O = 90 lb. per acre (2 lb. per 1000 sq. ft.)

Lime shall be applied at a rate of 2 tons per acre (90 lb. per 1000 sq. ft.) Seed type, turfgrass or sod application shall meet the requirements in section B-4-5. Seed tags shall be made available to the inspector to verify the type and application rate of seed used. Much type and its application will meet the requirements in section B-4-3 a, b and c, and will be applied along with seed or immediately after seeding.

Seeding mixtures shall be selected from or will be equal to those on Table B-3. The seeding chart below will need to be placed on and filled in on the sediment control plan.

Hardiness Zone (from Figure B.3): 6b Seed Mixture (from Table B.3): 8					Fertilizer Rate (10-20-20)			Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P2O5	K2O	
		100	3-1 to 5-15	1/4-1/2 in	45 pounds per acre (1 lb/1000 sf)	90 lb/ac (2 lb/1000 sf)	90 lb/ac (90 lb/1000 sf)	2 tons/ac (90 lb/1000 sf)
			8-1 to 10-15	1/4-1/2 in				

### TURFGRASS SOD ESTABLISHMENT

#### 708.02 MATERIALS.

Limestone	920.02.01
Sulfur	920.02.02
Gypsum	920.02.04
Compost	920.02.05
Fertilizer	920.03.01
Turfgrass Sod	920.04.06
Fasteners	920.05.02
Water	920.09.01

#### 708.3 CONSTRUCTION.

##### 708.3.1 General.

(a) **Regional Areas.** Refer to 705.03.01(a).

(b) **Installing Season and Soil Species.** Install sod from August 15 to May 31 when the sod is not frozen.

Install tall fescue sod in Region 1 and Region 2. Install tall fescue or Bermudagrass sod in Region 3 as specified.

(c) **Nutrient Management Plan (NMP).** Soil testing will be performed and a NMP will be developed by the Administration. Replace application rates of 708.03.05 as required by the NMP.

When a NMP is not available, 1000 lb. per acre of 20-16-12 (83% UF with MAP & SOP) fertilizer shall be the NMP rate for turfgrass establishment.

(d) **Nutrient Management Reporting.** Record the fertilizer analysis, the square yards covered, and the pounds of fertilizer applied on the Nutrient Management Reporting Form. Submit the Form within 24 hours after applying fertilizer.

##### 708.3.1 Grade Repair.

Ensure that soil meets specified grades. Repair any gullies, washes, or disturbed areas that develop before preparing soil, incorporating soil amendments, or placing turfgrass sod.

##### 708.3.2 Preparing Soil.

Immediately before installing turfgrass sod, loosen the soil with rototillers, disks, rakes, or other approved equipment to a depth of 3 in. Amendments may be incorporated into the soil during this operation.

When soil preparation is completed, remove clods, stones, and debris with a length or width greater than 1-1/2 in. and ensure the soil provides a uniform and porous surface, conforms to the specified grade, and is free of weed and plant growth.

##### 708.3.1 Application Equipment.

Use spreaders or other approved machinery that is calibrated before application. Apply materials accurately and uniformly to avoid misses and overlap.

Operate spinner spreaders during non-windy weather. Do not allow materials to blow onto sensitive areas or structures.

##### 708.3.2 Application Rates.

APPLICATION RATES		
MATERIAL	LB PER 1000 FT <sup>2</sup>	LB PER ACRE
LIMESTONE	0 to 200 <sup>a</sup>	0 to 8700 <sup>a</sup>
SULFUR	0 to 30 <sup>a</sup>	0 to 1300 <sup>a</sup>
GYPNUM	0 to 92 <sup>a</sup>	0 to 4,000 <sup>a</sup>
COMPOST	0 to 1.4 yd <sup>3</sup> Compost per 24 yd <sup>3</sup> of Topsoil <sup>b</sup>	
FERTILIZER		
20-16-12 (83% UF with MAP & SOP)	23.0 <sup>a</sup>	1000 <sup>a</sup>
38-0-0 (UF)	0 to 9.2 <sup>a,b</sup>	0 to 400 <sup>a,b</sup>
0-0-50 (SOP)	0 to 5.7 <sup>a,b</sup>	0 to 250 <sup>a,b</sup>

Note: UF = Ureaform MAP = Monommonium Phosphate SOP = Sulfate of Potash  
<sup>a</sup> The NMP will specify the application rate.  
<sup>b</sup> When application of 20-16-12 is below 1000 lb per acre, apply 38-0-0 and 0-0-50 per NMP.

##### 708.3.1 Incorporating Soil Amendments.

Mix soil amendments into the upper 3 in. of soil after application.

708.3.2 **Transporting and Handling.** Transport and install turfgrass sod within 48 hours after harvest. Handle sod without excessive breaking, tearing, or loss of soil.

708.3.3 **Placing.** Place turfgrass sod with closed joints. Do not overlap or leave gaps between strips.

(a) **Slopes 2:1 and Steeper.** Place sod strips with the long edges following the contour, not up and down the slope. Begin at the bottom of the slope and stagger the joints between strips.

(b) **Ditches.** Place sod strips with the long edges following the flow of water, not across the ditch. Center the lowest strip on the centerline of the ditch.

708.3.2 **Securing.** Secure turfgrass sod in ditches and slopes 2:1 and steeper with at least two fasteners per strip spaced no more than 2 ft apart. Drive the fasteners through the sod and firmly into the soil below so there is no gap at the top of the fastener.

708.3.3 **Firming.** Tamp or roll turfgrass sod after placing and stapling to tighten the joints between the sod strips, and to press the sod firmly into the soil. Hand tampers shall weigh approximately 15 lb with a flat surface of approximately 100 in. Rollers shall weigh approximately 40 lb per ft of width.

708.3.4 **Initial Watering.** Perform the first watering within four hours after placing turfgrass sod. Wet the soil to a depth at least 3 in. below the sod.

708.3.5 **Installation Acceptance.** Submit a request for Installation Phase Acceptance when operations are completed. Inspection will be conducted to verify completion. Installation Phase Acceptance will be granted at that time.

708.3.6 **Establishment Phase.** The Establishment Phase will begin upon Installation Phase Acceptance. Monitor the soil moisture and water needs of the sod. Promptly provide water when needed or when directed.

708.3.7 **Final Acceptance.** The Engineer and the Landscape Operations Division will complete an Inspection Report of turfgrass sod height, color, and coverage. When it is not possible to perform the Inspection, Final Acceptance will be delayed until Inspection is possible.

The Inspection Report will be included in the Punch List requirements for the project. Complete the Punch List requirements as directed.

Final Acceptance will be granted when the turfgrass sod has grown at least 4 inches, exhibits dark green color, has at least 99 percent coverage, and is firmly rooted into the soil.

### TEMPORARY SEEDING NOTES

Scope: Planting short term (no more than 6 Months) vegetation to temporarily stabilize any areas where soil disturbance has occurred, until the area can be permanently stabilized with vegetative or non-vegetative practices.

Standards: The following notes shall conform to Section B-4 of the "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" published jointly by the Maryland Department of Environment - Water Management Administration, the National Resource Conservation Service and the Maryland Association of Soil Conservation Districts.

The seed bed shall be prepared by loosening the soil to a depth of 3 to 5 inches and incorporating the lime and fertilizer into this loosened layer of soil. See Section B-4-2.

For temporary stabilization, fertilizer shall consist of a mixture of 10-20-20 and be applied at a rate of 436 lb. per acre (10 lb. per 1000 sq. ft.) and will meet the requirements in section B-4-2. Lime shall be applied at a rate of 2 tons per acre (90 lb. per sq. ft.) and shall meet the requirements in section B-4-2 and B-4-4.

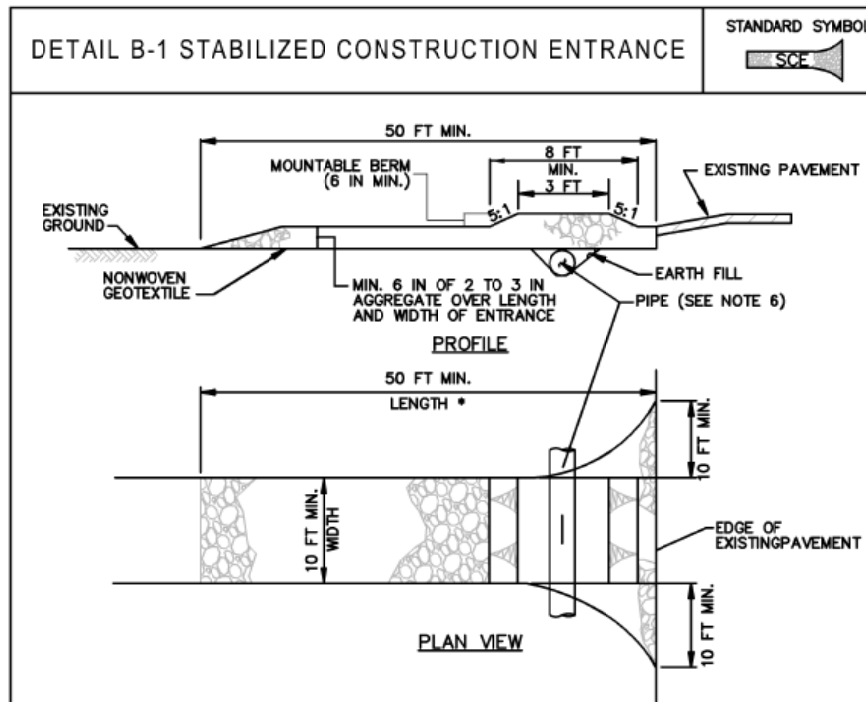
Seed type and application shall meet the requirements in section B-4-3 Seed tags shall be made available to the inspector to verify the type and rate of seed used. Much type and its application will meet the requirements in section B-4-3 a, b and c and will be applied along with the seed or immediately after seeding.

Seeding mixtures shall be selected from or will be equal to those on Table B.1 (page B.20).

#### Temporary Seeding Summary

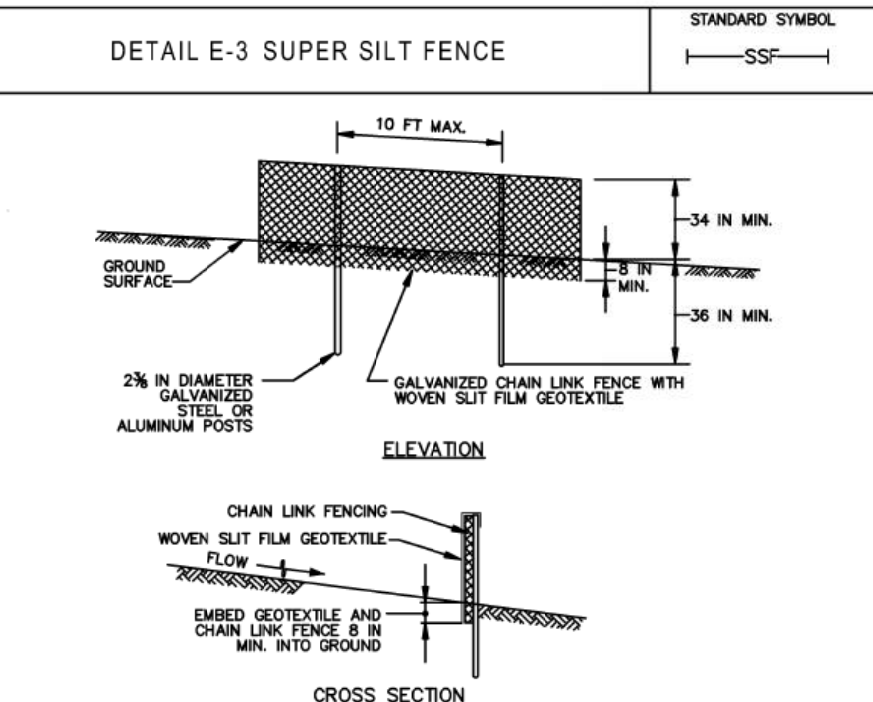
The seeding chart below will need to be placed on and filled in on the sediment control plan

Hardness Zone (from Figure B.3): 6b					Fertilizer Rate (10-20-20)	Lime Rate
Seed Mixture (from Table B.3):						
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
	Annual					
	Ryegrass	40	3-1 to 5-15	0.5"	436 lb/ac (10 lb/1000 sf)	2 tons/ac (90 lb/1000 sf)
			8-1 to 10-15			



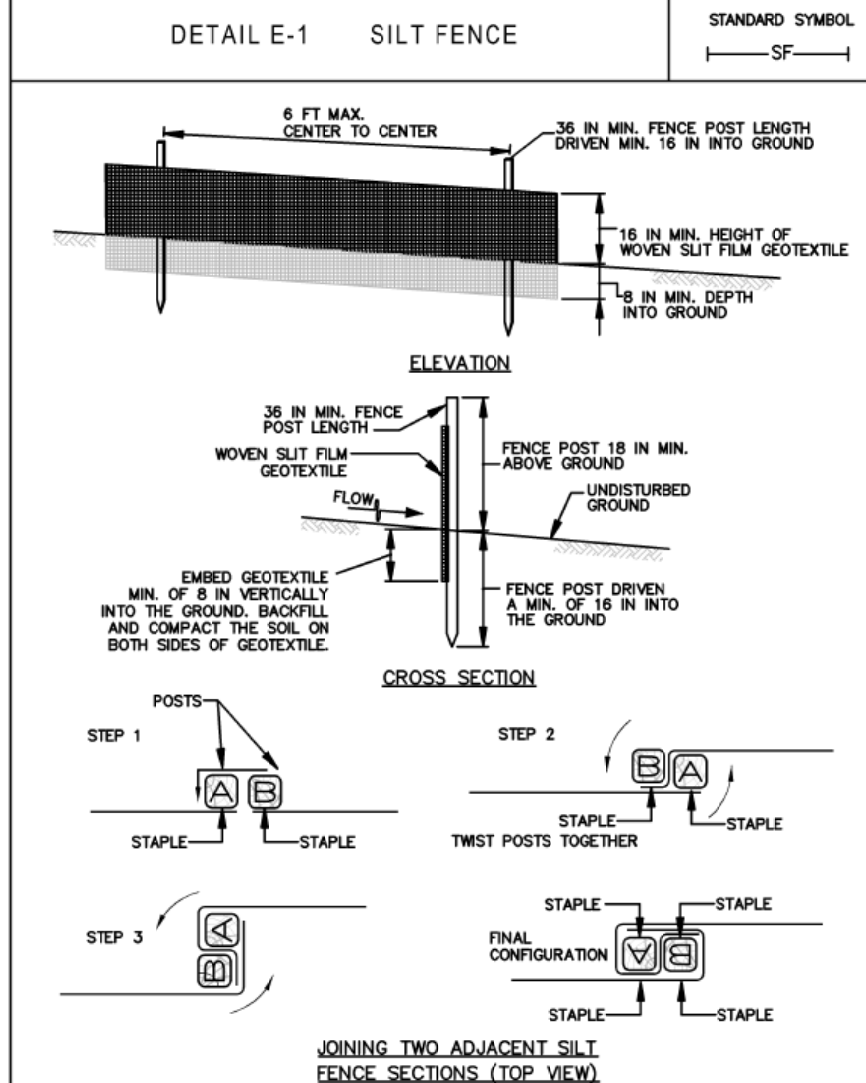
#### CONSTRUCTION SPECIFICATIONS

- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SOD. USE MINIMUM LENGTH OF 50 FEET (25 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SIDE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SOD UNDER THE ENTRANCE. MAINTAIN POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SOD WITH A MOUNTABLE BEAM WITH 6" SIDES AND A MINIMUM OF 12 INCHES CLEAR OVER THE PIPE. PROVIDE PIPE AS TO CONVEY A PIPE IS NOT NECESSARY. A MOUNTABLE BEAM IS REQUIRED WHEN SOD IS NOT LOCATED AT A HIGH ELEVATION.
- PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
- PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SOD.
- MOUNTABLE ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAR SURFACE. MOUNTABLE BEAM AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR BRUSHING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.



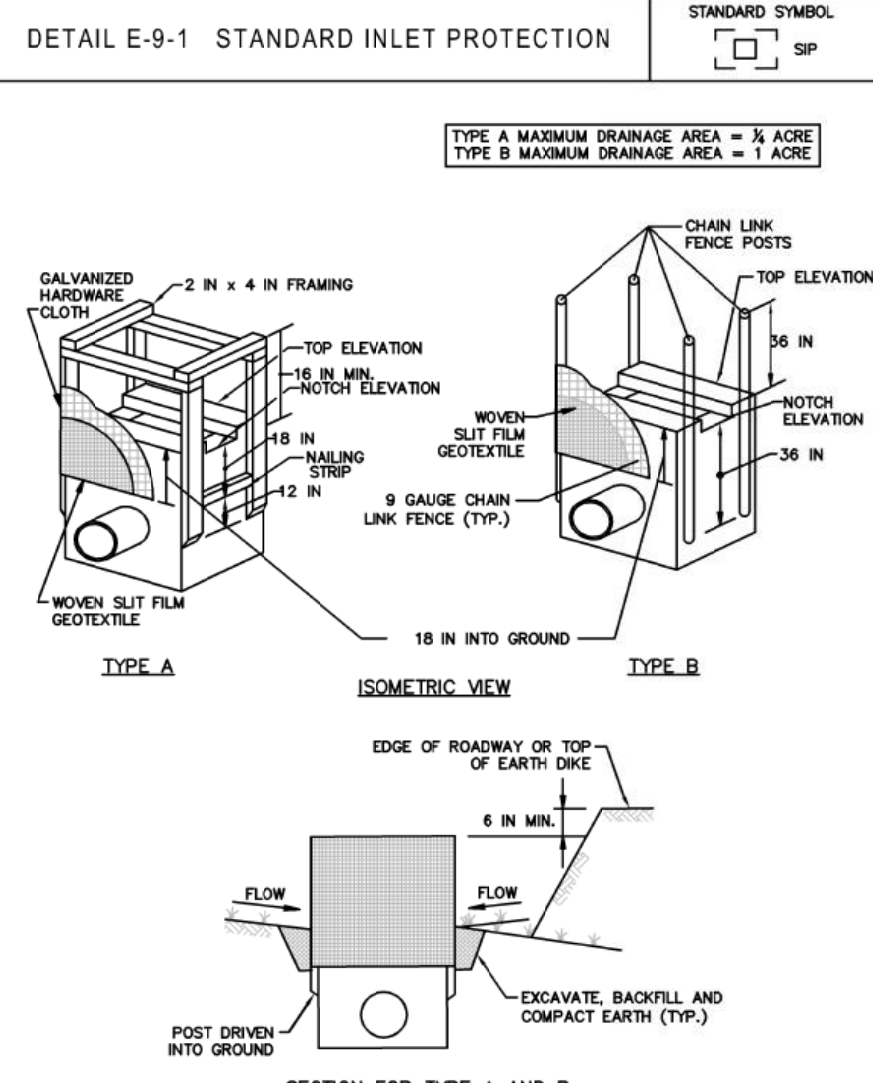
#### CONSTRUCTION SPECIFICATIONS

- INSTALL 2 1/2 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.05 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
- FASTEN 8 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2 1/2 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
- FASTEN WOVEN SILT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS. SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE UNDER CHAIN LINK FENCE A MINIMUM OF 6 INCHES INTO THE GROUND.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.



#### CONSTRUCTION SPECIFICATIONS

- USE WOOD POSTS 1 1/2 X 1 1/2 X 1/4 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD 4" OR 6" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
- USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
- USE WOVEN SILT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
- PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- EMBED GEOTEXTILE A MINIMUM OF 6 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOD ON BOTH SIDES OF FENCING.
- WEDGE TWO SECTIONS OF GEOTEXTILE ADJOINING, OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
- EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.



#### CONSTRUCTION SPECIFICATIONS

- USE WOVEN SILT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- EXCAVATE COMPLETELY AROUND THE INLET TO A DEPTH OF 18 INCHES BELOW THE NOTCH ELEVATION.
- FOR TYPE A, USE NOMINAL 2 INCH X 4 INCH CONSTRUCTION GRADE LUMBER POSTS, DRIVEN 1 FOOT INTO THE GROUND AT EACH CORNER OF THE INLET. PLACE WIRE TIES BETWEEN THE POSTS ON THE ENDS OF THE INLET. ASSEMBLE THE TOP PORTION OF THE 2X4 FRAME AS SHOWN. STRETCH 3 INCH GALVANIZED HARDWARE CLOTH TIGHTLY AROUND THE FRAME AND FASTEN SECURELY. FASTEN GEOTEXTILE SECURELY TO THE HARDWARE CLOTH WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND HARDWARE CLOTH A MINIMUM OF 18 INCHES BELOW THE WEIR CREST. THE ENDS OF THE GEOTEXTILE MUST MEET AT A POST, BE OVERLAPPED AND FOLDED, THEN FASTENED TO THE POST.
- FOR TYPE B, USE 2 1/2 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.05 INCH WALL THICKNESS AND 6 FOOT LENGTH, DRIVEN A MINIMUM OF 36 INCHES BELOW THE WEIR CREST. AT EACH CORNER OF THE INLET, ASSEMBLE THE TOP PORTION OF THE 2X4 FRAME AS SHOWN. STRETCH 3 INCH GALVANIZED HARDWARE CLOTH TIGHTLY AROUND THE FRAME AND FASTEN SECURELY. FASTEN GEOTEXTILE SECURELY TO THE HARDWARE CLOTH WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND HARDWARE CLOTH A MINIMUM OF 18 INCHES BELOW THE WEIR CREST. THE ENDS OF THE GEOTEXTILE MUST MEET AT A POST, BE OVERLAPPED AND FOLDED, THEN FASTENED TO THE POST.
- STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT IMMEDIATELY AFTER EACH RAIN EVENT TO MAINTAIN PROTECTION AND AVOID PRECIPITATION CLOSING. IF PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN CLOGGING OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

## PHASE 1 GRADING DETAIL SEDIMENT CONTROL DETAILS SOD SPECIFICATIONS

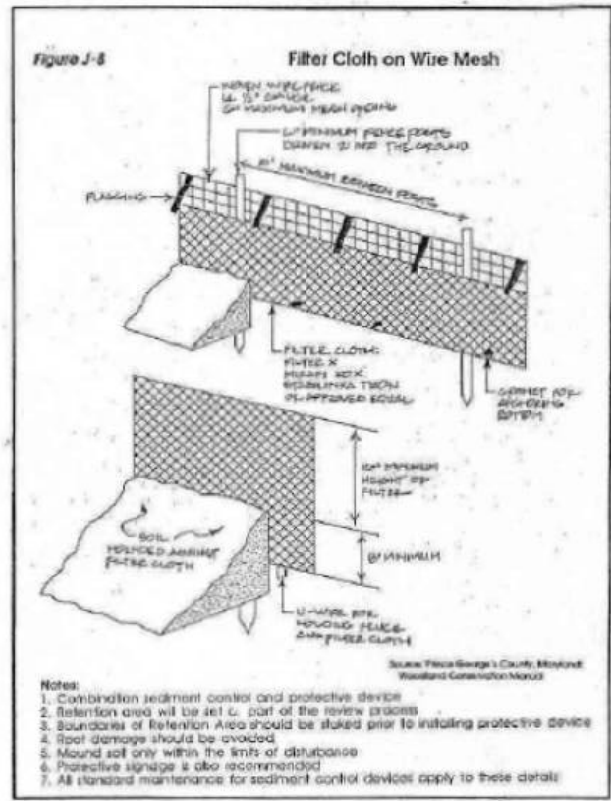


S-23-0015

GREAT VALLEY PROPANE  
LOT #3 'DEVELOPMENT COMPANY OF AMERICA' TAX MAP: 45 GRID: 15 p/o PARCEL: 539 TAX ACCT. NO.: 07-111932

SHEET 11 OF 12		LEON A. PODOLAK and ASSOCIATES, L.L.C.	
SURVEYING and CIVIL ENGINEERING 147 East Main St. (P.O. Box 266) Westminster, Maryland 21157 (410) 848-2222 - (410) 876-1226		Date 12-12-2024 3-15-2025 COUNTY COMMENTS	
Peter L. Podolak, P.E. I hereby certify that these documents were prepared or approved by me, and I am a duly licensed professional engineer under the laws of the State of Maryland, license no. 15561, expiration date: 3-3-2025.		Date Oct. 23, 2023 Drawing No.	





#### FOREST PROTECTIVE TECHNIQUE SUMMARY

No. of Signs: 0  
No. of Sign Posts: 0  
Linear Feet of Temporary Protective Fencing: 0 LF

Specimen Trees					
Key	Species Name	Size	CRZ	Cond.	Proposed Action
1	Hackberry	33"	33"	V. poor	Removed
2	Silver maple	42"	42"	Good	Removed

\* Italics - Tree to be Permanently Impacted

TEMPORARY TREE PROTECTIVE FENCING AND SIGNAGE NOTE  
1. No temporary tree protective fencing or permanent protective signage will be required for the project since no forest or specimen tree retention is proposed.

#### SITE AREA COMPUTATIONS

Gross Tract Area - 2.49 acres  
Net Tract Area (LOD) - 1.89 acres

DeA (Type 1" Soil)  
Benevola Silty Loam

EXISTING REPAIRED SINKHOLE LOCATION.

WtB (Type 1" Soil)  
Wiltshire Silty Loam

BcB (Type 1" Soil)  
Benevola Silty Loam

UrB (Type 1" Soil)  
Urban Land (Landscape Complex)  
(Web Soil Survey Version 21 - Sept. 12, 2023)

#### FCP LEGEND

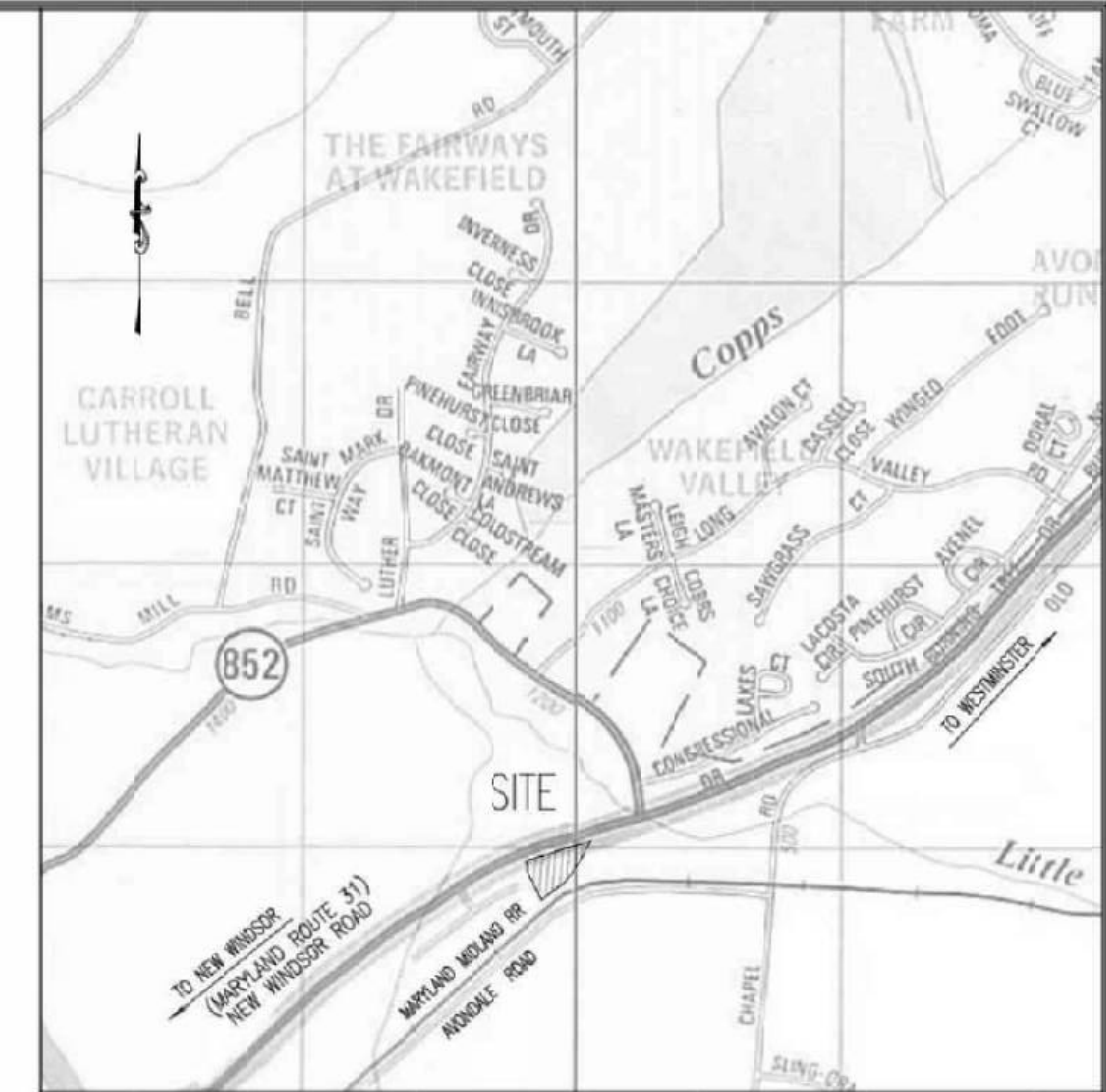
- EXISTING TREELINE
- PROPOSED TREELINE
- SOIL BOUNDARY
- CRITICAL ROOT ZONE

#### SUBWATERSHED NOTES:

- The project is located in Subwatershed #02140304 - Double Pipe Creek.

#### SEQUENCE OF CONSTRUCTION

- Hold pre-construction meeting with County Inspector. Install all sediment control devices per forest conservation and general construction plans for site.
- Clear and grade site, install utilities, construct building, above-ground propane storage tank, parking lots, stormwater management facilities, and associated access lanes. Stabilize all disturbed areas.
- Hold post-construction meeting with County Inspector to review site development. Remove sediment control once site is stabilized to satisfaction of County.



#### VICINITY MAP

Scale 1" = 1500'  
CARROLL COUNTY ADC MAP #18 GRID: K-8  
COPYRIGHT ADD THE MAP PEOPLE PERMITTED USE NUMBER 21096444

#### Forest Conservation Worksheet

- |  |                |
|--|----------------|
| A. Forest to be cleared:   | 0.00 ac.       |
| B. Reforestation Required:   | 0.00 ac.       |
| (Forest which is cut or cleared, measured to the nearest one-tenth acre, shall be reforested at a ratio of one acre planted or banked for every one acre of forest removed.) |                |
| C. Net Tract Area:   | 1.89 ac. (LOD) |
| D. Minimum Forest Threshold:   | 0.28 ac.       |
| (15% for areas zoned commercial or industrial, or institutional development areas; 20% for all other zones)  |                |
| E. Existing Forest within the Net Tract Area:  | 0.00 ac.       |
| F. Forest to be Retained (E - A):  | 0.00 ac.       |
| G. Forest Credit (B + F):  | 0.00 ac.       |
| H. Afforestation Required (D - G):   | 0.28 ac.       |
- (Afforestation may be addressed by retaining in an easement forest that is within the net tract area, planting, or banking. If H < 0, no afforestation is required.)

#### AFFORESTATION NOTE

- The reforestation requirement for the project is 0.28 acres. The developer proposes to meet this obligation through purchase of forest conservation credit at the Miller Family, LLC Forest Bank 3, FBM#-22-0017-0004. The developer will have met the reforestation obligation upon execution of the agreement with the bank operator.

#### SPECIMEN TREE MITIGATION NOTE

- The mitigation requirement for the removal of the one specimen tree in good condition is 0.21 acres. The developer proposes to meet this obligation through purchase of forest conservation credit at the Miller Family, LLC Forest Bank 3, FBM#-22-0017-0004. The developer will have met the specimen tree mitigation obligation upon execution of the agreement with the bank operator.

#### SITE DATA

- Property Name: GREAT VALLEY PROPANE
- Tax Account #: 07-111932
- Deed Reference: H.D. Liber: 10927 Folio: 420  
Plat: Lot #3 - Plat of Lot 3 and First Amended Plat of Lot 2,  
Section 2 of 'Development Company of America Property'  
Carroll County Plat Book 31-180
- Election District: 7th
- Tax Map: 45 Grid: 15 p/o Parcel: 539
- Water: Public Sewer: Public
- Owners: route309, LLC  
195 Lancaster Avenue  
Malvern, Pennsylvania 19355  
Phone: (610) 251-2203
- Applicant: route309, LLC  
195 Lancaster Avenue  
Malvern, Pennsylvania 19355  
c/o Bud Haly  
Phone: (610) 656-2097
- Surveyor: Leon A. Podolak & Associates, LLC  
147 E. Main St., P.O. Box 266  
Westminster, Maryland 21157  
Phone: (410) 876-1226
- Zoning: I-2 - Heavy Industrial District
- Site Area: 2.4923 acs +/-

**GREAT VALLEY**  
PROPANE  
S-23-0015

Eco-Science  
Professionals, Inc.  
CONSULTING ECOLOGISTS  
P.O. BOX 700 GLEN ARD, MARYLAND 21048

PLAN PREPARED BY:  
Henry G. Zechman  
HENRY ZECHMAN  
MD DNR FCA QUALIFIED PROFESSIONAL

#### GREAT VALLEY PROPANE - S-23-0015 FOREST CONSERVATION PLAN

Near Westminster, Carroll County, Maryland  
Scale: 1" = 30'

Election District 7  
December 30, 2024  
Rev: May 21, 2025

SHEET  
12  
OF  
12