

GENERAL NOTES-ROADS

- Construction shall be performed in accordance with latest editions of the following, including all addenda, supplements or updates:
 - Design Manual - Volume One - Roads and Storm Drains, 1994 edition, of the Carroll County Department of Public Works.
 - Design Guide for Flexible Pavement, 2004, of the Carroll County Department of Public Works.
 - Book of Standards, Highway and Incident Structures of the Maryland Department of Transportation, State Highway Administration.
 - Standard Specifications for Construction and Materials, 2008 edition, of the Maryland Department of Transportation, State Highway Administration.
 - Maryland Manual on Uniform Traffic Control Devices (MUTCD) 2009 Edition of the Maryland Department of Transportation, State Highway Administration.
 - Maryland Standards and Specifications for Soil Erosion and Sediment Control, 2011 edition, published jointly by Water Resources Administration, Soil Conservation Service and State Soil Conservation Committee.
 All of the above noted publications are included by reference as part of these construction plans.
- The Contractor shall notify the Carroll County Department of Public Works, Construction Inspection Division (4 10-386-2157) a minimum of three (3) working days before beginning work.
- Contractor shall furnish, place and maintain traffic control measures as shown in these plans and as specified in the MUTCD. 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.
- 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 1-800-251-7177 for verifying existence and location of all utilities prior to beginning work. Any damage to existing utilities due to Contractor's operation shall be repaired immediately at Contractor's expense.
- Developer is responsible in all regards for relocation of any existing utilities.
- In case of discrepancy between scaled and figured dimensions, figured dimensions shall govern.
- If for any reason proposed facilities cannot be constructed in accordance with approved plans, Contractor must immediately inform Construction Inspector or Construction Inspection Division (4 10-386-2157) 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.
- 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.
- Contractor shall fill 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.
- Developer is responsible for providing soil, base aggregate and hot mix asphalt compaction testing. A certified technician must be onsite 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.
- 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.
- Pipe elevations shown on storm drain profiles are invert elevations unless otherwise noted.
- 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 1:1 stabilized depth, unless otherwise indicated on plans.
- All existing paving disturbed by utility cuts shall be replaced in accordance with Carroll County Standard Plans 4-7, Option 1 or Option 3 in the Design Manual, Volume 1 or as noted in the Utility Permit.
- 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.
- Off-site borrow material to be imported for embankment construction and support of pavement 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 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 test 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.
- The design Equivalent Single Axle Loads (ESAL) and the design CBR value shall be noted on the construction plans.
- 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 4 10-386-6717 a minimum of three (3) weeks prior to starting work and then again 48 hours prior to completion of work.
- Construction vehicles, contractor or private, or construction materials or equipment shall not be parked, placed, or stored within any public right-of-way.
- Topography shown hereon is a combination of Carroll County GIS topography and field run topography, Dated September 2019, and prepared by CLSI.
- Based on November 2, 2017 memorandum from Donnell Davis, Deputy director of Public Works, The request for the intersection spacing to be reduced to 340'-feet is granted. A slight distance waiver is not required since the slight distance to the left meets the required slight distance and slight distance to the right can be achieved for the entire distance to the intersection of Mineral Hill Road.

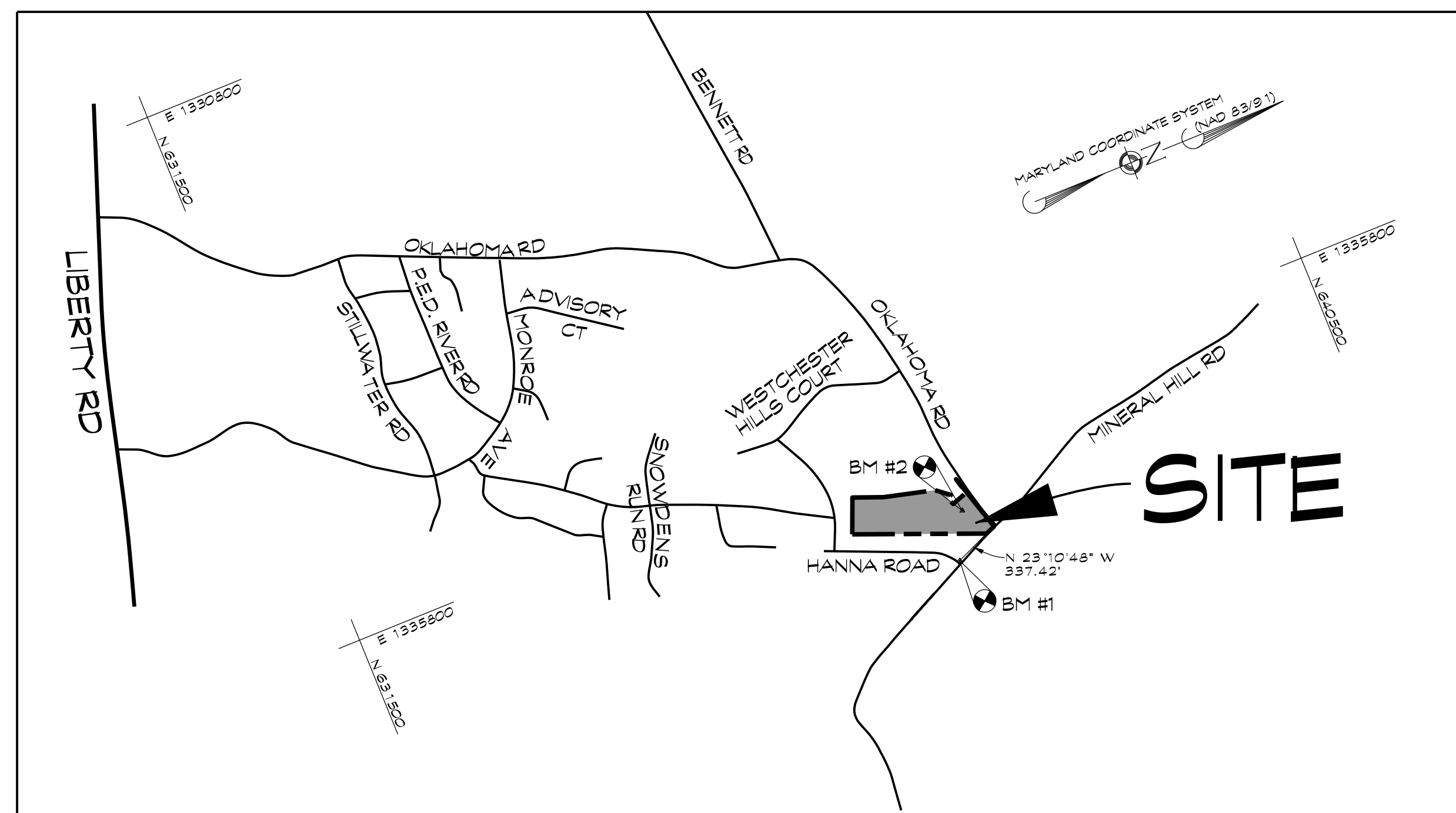
CONSTRUCTION PLANS FOR MINERAL HILL PROPERTY

'A CLUSTER SUBDIVISION'

5th ELECTION DISTRICT * CARROLL COUNTY, MARYLAND

OWNER / DEVELOPER

MINERAL HILL PROPERTY, LLC.
11175 STRATFIELD COURT
MARRIOTTVILLE MD, 21104
(410) 442-2211



LOCATION MAP
SCALE: 1" = 1000'

FIRE PROTECTION COMPLIANCE NOTE:
IN ACCORDANCE WITH THE CARROLL COUNTY CODE OF PUBLIC LOCAL LAWS AND ORDINANCES CHAPTER 112, FIRE PROTECTION IS BEING MET BY INDIVIDUAL HOUSE SPRINKLER SYSTEMS.

INDEX OF SHEETS

- TITLE SHEET
- SEDIMENT CONTROL PLAN
- SEDIMENT CONTROL NOTES AND DETAILS
- MASS GRADING PLAN
- FINAL GRADING PLAN
- STORMWATER MANAGEMENT PLAN, NOTES & DETAILS
- STORMWATER MANAGEMENT PROFILES
- STORMWATER MANAGEMENT NOTES & DETAILS
- DRYWELL PLAN, NOTES AND DETAILS
- ROAD IMPROVEMENT PLAN & PROFILE: OKLAHOMA ROAD & MINERAL HILL ROAD
- PLAN AND PROFILE: COBALT COURT & STA. 0+00.00 TO & STA. 4+70.20
- PLAN AND PROFILE: COPPER DRIVE & STA. 10+00.00 TO & STA. 13+78.66
- TEMPORARY TRAFFIC CONTROL PLAN, NOTES AND DETAILS- OKLAHOMA ROAD
- TEMPORARY TRAFFIC CONTROL PLAN- MINERAL HILL ROAD
- CROSS SECTIONS- OKLAHOMA ROAD & STA. 10+1+50 TO & STA. 105+50 & MINERAL HILL ROAD & STA. 202+00 TO & STA. 203+00
- CROSS SECTIONS- COBALT COURT & STA. 0+50.00 TO & STA. 4+70.20
- CROSS SECTIONS- COPPER DRIVE & STA. 10+50.00 TO & STA. 13+50.00
- STORM DRAIN DRAINAGE AREA MAP
- STORM DRAIN PROFILES
- STORM DRAIN TABULATIONS, DETAILS AND STRUCTURE SCHEDULE
- LANDSCAPE PLAN, NOTES & DETAILS
- FOREST CONSERVATION PLAN
- FOREST CONSERVATION NOTES AND DETAILS

#	DATE	REVISIONS

PROJECT CERTIFICATIONS

<p>ENGINEER</p> <p>I CERTIFY THAT THIS PLAN OF SEDIMENT CONTROL IS DESIGNED WITH MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND HAS BEEN DESIGNED TO THE STANDARDS AND SPECIFICATIONS ADOPTED BY THE CARROLL SOIL CONSERVATION DISTRICT.</p> <p><i>BMA</i></p> <p>Braton D. Moore, P.E. Professional Engineer Registration No. 51285</p> <p>DATE: 3/7/2023</p>	<p>DEVELOPER</p> <p>I CERTIFY THAT THIS PLAN OF SEDIMENT CONTROL WILL BE IMPLEMENTED TO THE FULLEST EXTENT, AND ALL STRUCTURES WILL BE INSTALLED TO THE DESIGN AND SPECIFICATIONS AS SPELLED OUT IN THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THIS CONSTRUCTION PROJECT WILL HAVE A CERTIFICATION OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE EVALUATION BY THE CARROLL SOIL CONSERVATION DISTRICT PERSONNEL AND COOPERATING AGENCIES.</p> <p>DATE: _____</p>	<p>OWNERS CERTIFICATION</p> <p>I/WE HEREBY CERTIFY THAT ALL PROPOSED WORK SHOWN ON THESE CONSTRUCTION DRAWING(S) HAS BEEN REVIEWED BY ME/US AND THAT I/WE FULLY UNDERSTAND WHAT IS NECESSARY TO ACCOMPLISH THIS WORK AND THAT THE WORK WILL BE CONDUCTED IN STRICT ACCORDANCE WITH THESE PLANS. I/WE ALSO UNDERSTAND THAT ANY CHANGES TO THESE PLANS WILL REQUIRE AN AMENDED PLAN TO BE REVIEWED AND APPROVED BY THE CARROLL CO PLANNING AND ZONING COMMISSION BEFORE ANY CHANGE IN THE WORK IS MADE.</p> <p>OWNER: _____ DATE: _____</p>
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439 East Main Street Westminster, MD 21157-5539
(410) 848-1790 FAX (410) 848-1791

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 51285 EXPIRATION DATE: DECEMBER 7, 2023

NOT FOR CONSTRUCTION

3/7/2023
Braton D. Moore, P.E.

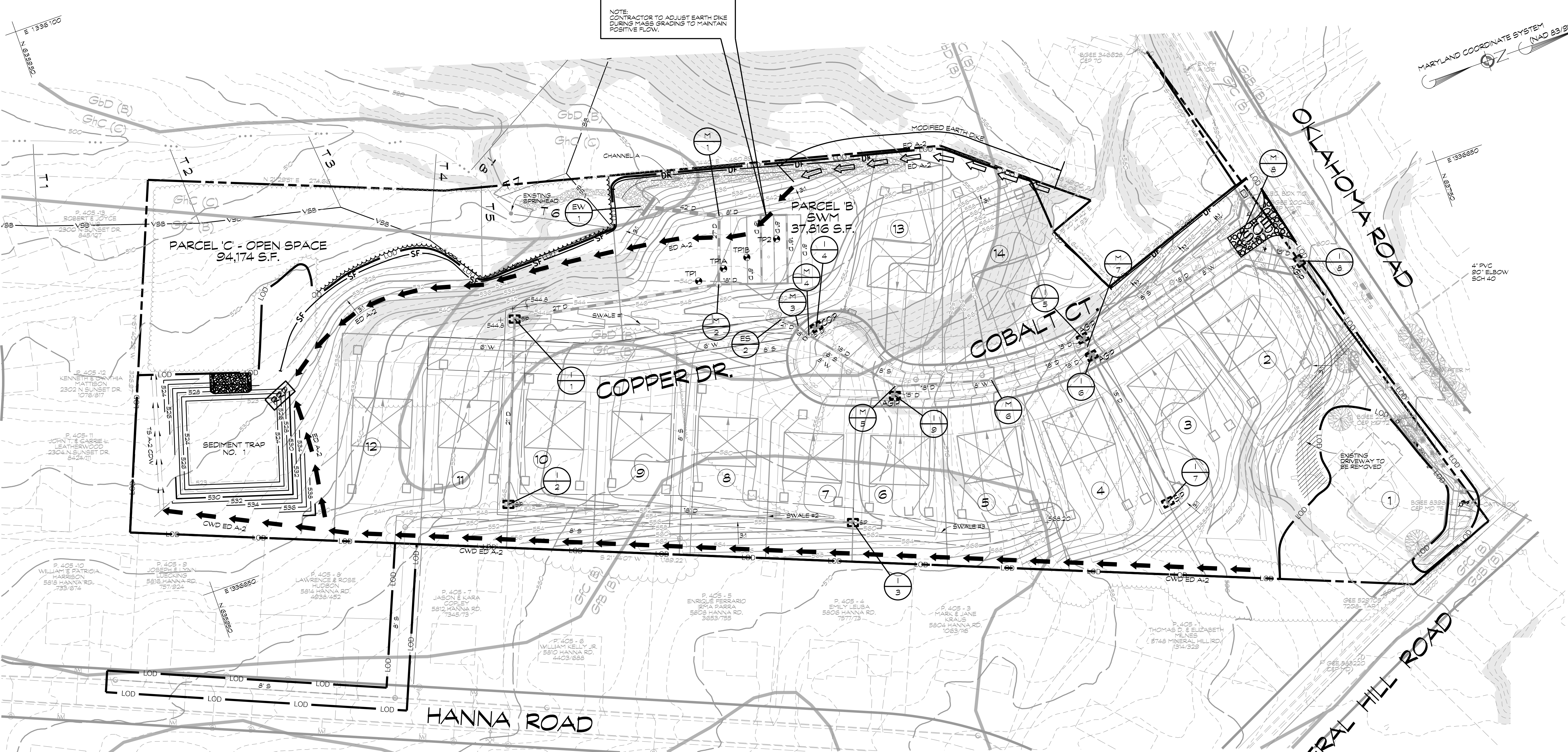
MINERAL HILL PROPERTY
'A CLUSTER SUBDIVISION'
5th ELECTION DISTRICT * CARROLL COUNTY, MARYLAND
TAX MAP: 74 * BLOCK: 3 * PARCEL: 7

TITLE SHEET

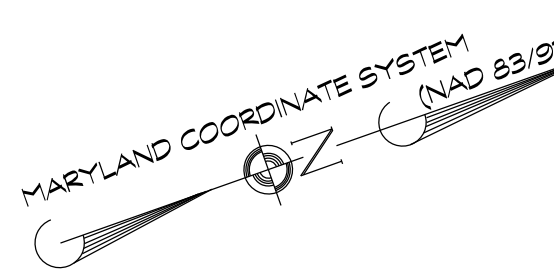
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CAD Drawing File Name:

NOT FOR CONSTRUCTION



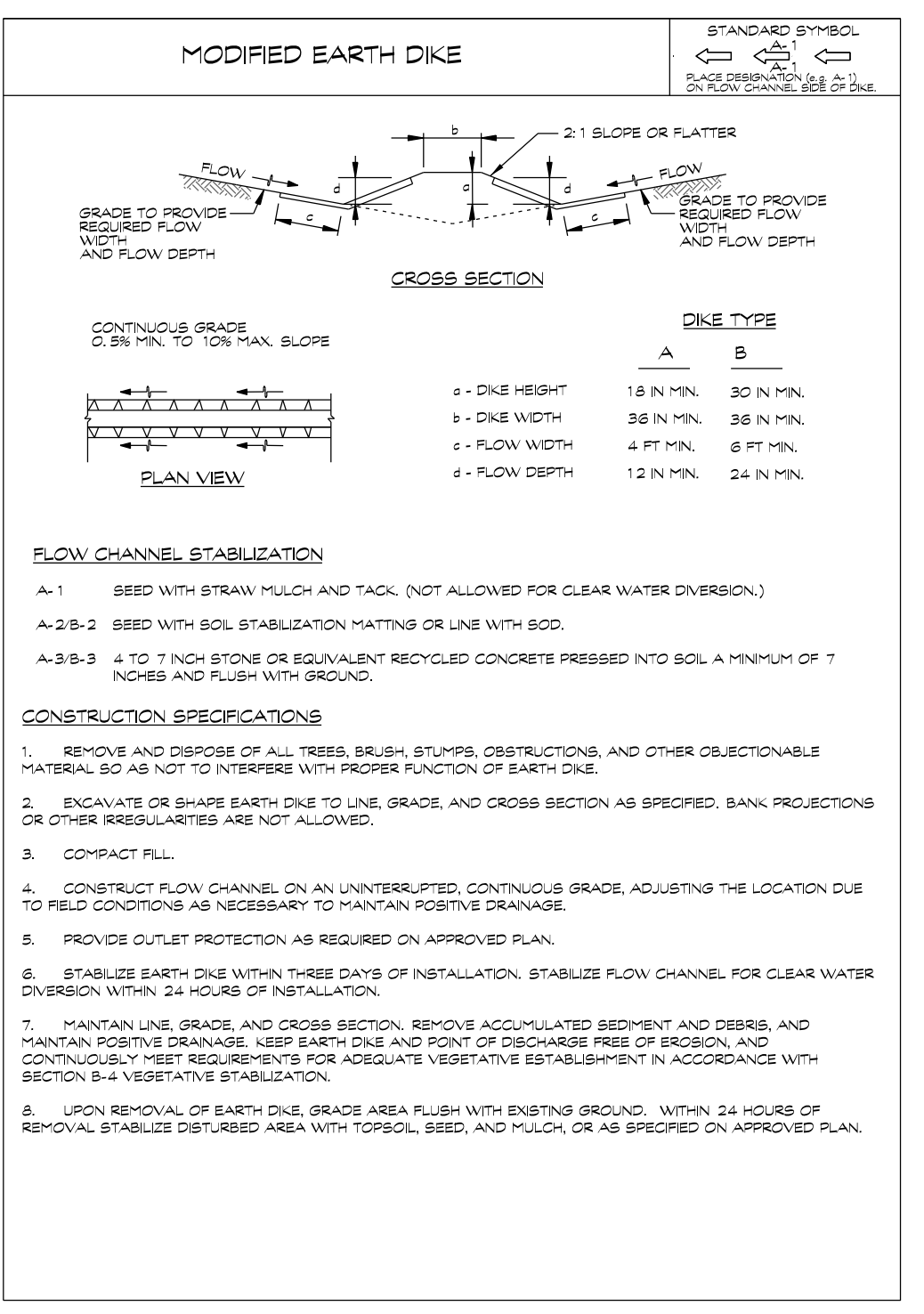
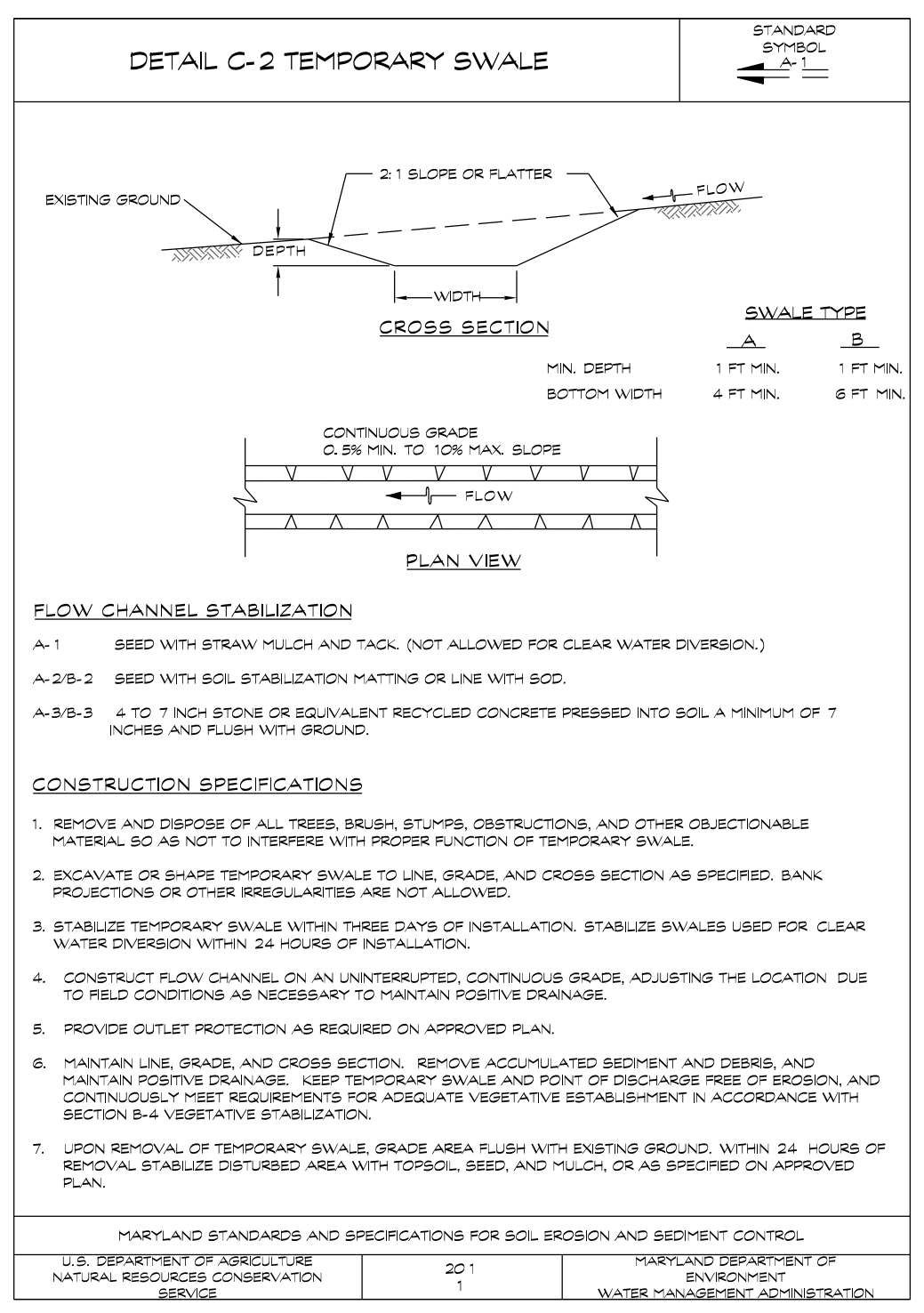
NOTE: CONTRACTOR TO ADJUST EARTH DIKE DURING MASS GRADING TO MAINTAIN POSITIVE FLOW.



LEGEND:

- PROPERTY LINE
- WS WETLANDS BUFFER
- > 25% SLOPS
- SOILS
- EX. BUILDINGS
- AGP/CP/SP AT GRADE/ CURB/ STANDARD INLET PROTECTION
- SF SILT FENCE
- SSF SUPER SILT FENCE
- DF DIVERSION FENCE
- EARTH DIKE
- EARTH DIKE TO BE ADJUSTED
- STABILIZED CONSTRUCTION ENTRANCE
- LOD LIMIT OF DISTURBANCE
- RRP RIPRAP INFLOW PROTECTION

STONE/RIPRAP OUTLET SEDIMENT TRAP ST-II, TRAP NO. 1		
DRAINAGE AREA - INITIAL	8	ACRES
DRAINAGE AREA - INTERIM	8	ACRES
DRAINAGE AREA - FINAL	8	ACRES
TOTAL STORAGE REQUIRED	28,800	CF
TOTAL STORAGE PROVIDED	29,120	CF
WET STORAGE REQUIRED	14,400	CF
WET STORAGE PROVIDED	14,580	CF
DRY STORAGE REQUIRED	14,400	CF
DRY STORAGE PROVIDED	14,580	CF
EXISTING GROUND ELEVATION AT OUTLET (WET STORAGE ELEVATION)	525.00	FT
TRAP BOTTOM ELEVATION	523.00	FT
TRAP BOTTOM DIMENSIONS	80' x 74'	FT x FT
WEIR LENGTH	32'	FT
WEIR CREST (DRY STORAGE) ELEVATION	527.00	FT
CLEANOUT ELEVATION	524.00	FT
TOP OF EMBANKMENT ELEVATION	528.00	FT
SIDE SLOPE	2:1	H:V RATIO
EMBANKMENT TOP WIDTH	4'	FT
OUTLET PROTECTION - LENGTH	10'	FT
OUTLET PROTECTION - DEPTH	18"	IN



UNLESS OTHERWISE SPECIFIED, STORM DRAIN PIPE FOR THIS PROJECT SHALL BE 14 GAGE ALUMINIZED CORRUGATED METAL PIPE, NOTED AS 'D'. AASHTO M-196 (ALUMINIZED STEEL TYPE 2 MATERIAL) AND AASHTO M-197 (CONDUIT, PIPE).

OWNER / DEVELOPER
 MINERAL HILL PROPERTY, LLC.
 11175 STRATFIELD COURT
 MARRIOTTVILLE MD, 21104
 (410) 442-2211

SEDIMENT CONTROL PLAN

MINERAL HILL PROPERTY
 'A CLUSTER SUBDIVISION'

5th ELECTION DISTRICT CARROLL COUNTY, MARYLAND
 TAX MAP: 74 BLOCK: 3 PARCEL: 7

NOT FOR CONSTRUCTION

Professional Engineer Seal: Braton D. Morris, P.E., License No. 51285, Expiration Date: December 7, 2023

CLSI
 Engineers • Surveyors
 Land Planning & Environmental Consultants
 www.clsi-llc.com

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 (410) 848-1790 FAX (410) 848-1791

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 51285, EXPIRATION DATE: DECEMBER 7, 2023.

Date	Revisions	Drawn By:
		JW
		Designed By: JW/ABR
		Reviewed By:
		Date: MARCH, 2022
		Scale: 1" = 50'
		Job No.: 2016074
		Sheet: 2 OF 23

NOT FOR CONSTRUCTION

SEDIMENT & EROSION CONTROL NOTES

1. ALL EROSION/SEDIMENT CONTROL MEASURES SHALL COMPLY WITH THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION IN ASSOCIATION WITH THE NATURAL RESOURCES CONSERVATION SERVICE AND MARYLAND ASSOCIATION OF SOIL CONSERVATION DISTRICTS (REFERENCED AS THE 2011 STANDARDS AND SPECS).
2. AREAS THAT HAVE BEEN CLEARED AND/OR GRADED, BUT WILL NOT BE CONSTRUCTED ON OR PERMANENTLY VEGETATED FOR MORE THAN 5 DAYS (5 DAYS FOR SEDIMENT CONTROL MEASURES STEEP SLOPES) MUST BE STABILIZED WITH MULCH OR TEMPORARY STABILIZATION. ANY AREAS THAT ARE IN TEMPORARY VEGETATION FOR OVER 6 MONTHS WILL NEED TO BE PERMANENTLY VEGETATED.
3. FOR SPECIFICATIONS ON PERMANENT OR TEMPORARY STABILIZATION SEE B-4.4 AND B-4.5.
4. MULCHING CAN ONLY BE USED ON DISTURBED AREAS AS A TEMPORARY COVER WHERE VEGETATION IS NOT FEASIBLE OR WHERE SEEDING GERMINATION CANNOT BE COMPLETED BECAUSE OF WEATHER CONDITIONS. FOR SPECIFICATIONS SEE B-4.3, A.18.
5. FOR SPECIFICATIONS ON THE STABILIZATION OF CUT AND FILL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL, SEE INCREMENTAL STABILIZATION B-4.1.
6. THE EXISTING TOPSOIL FROM ON OR OFF SITE THAT IS USED MUST MEET THE MINIMUM SPECIFICATIONS IN B-4.2.
7. THE REQUIRED SEQUENCE OF CONSTRUCTION MUST BE FOLLOWED DURING SITE DEVELOPMENT. ANY CHANGE IN THE SEQUENCE OF CONSTRUCTION MUST BE APPROVED BY THE SOIL CONSERVATION DISTRICT.
8. ANY REVISIONS TO THE SEDIMENT CONTROL PLAN, NOT COVERED UNDER THE LIST OF PLAN MODIFICATIONS THAT CAN BE APPROVED BY THE SEDIMENT CONTROL INSPECTOR, NEED TO BE SUBMITTED TO THE SOIL CONSERVATION DISTRICT FOR APPROVAL.
9. NO PROPOSED SLOPE THAT IS SEEDED AND/OR MULCHED SHALL BE GREATER THAN 2:1 SLOPES GREATER THAN 2:1 SHALL REQUIRE AN ENGINEERED DESIGN FOR STABILIZATION.
10. ALL SEDIMENT CONTROL STRUCTURES WILL BE INSPECTED ONCE A WEEK AND AFTER EACH RAINFALL AND WILL BE REPAIRED, AS NEEDED, SO THAT THE STRUCTURE MEETS THE MINIMUM SPECIFICATIONS AS SHOWN IN THE 2011 STANDARDS AND SPECS.

STABILIZATION SPECIFICATIONS

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 NONVEGETATIVE 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.

1. 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.
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.
3. LIME SHALL BE APPLIED AT A RATE OF 2 TONS PER ACRE (80 LB. PER SQ. FT.) AND SHALL MEET THE REQUIREMENTS IN SECTION B-4.2 AND B-4.4.
3. 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. MULCH 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.
4. 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.

HARDINESS ZONE (FROM FIGURE B. 3):		SEED MIXTURE (FROM TABLE B. 1):		FERTILIZER RATE (10-20-20)	LIME RATE
NO.	SPECIES	APPLICATION RATE (LB./AC)	SEEDING DATES		
1	ANNUAL RYEGRASS (CULM CRISPER SPP. MULTIFLORUM)	40 LB./AC	3/15 - 5/31 8/1 - 9/30	0.5'	436 LB./AC (1000 SF) 2 TONS/AC (1000 SF)

DUST CONTROL SCHEDULE

MAY-OCTOBER - ALL GRADED AREAS NOT BEING IMMEDIATELY STABILIZED AS NOTED IN THE REQUIRED SEQUENCE OF CONSTRUCTION SHALL BE WATERED ON A CONTINUING BASIS AS NECESSARY TO PROVIDE FOR DUST PROOFING. CONTRACTOR SHALL PROVIDE TANK TRUCK WITH SPRAY BAR ON SITE AT ANY TIME THE DISTURBED AREA EXCEEDS THREE (3) ACRES.

SITE ANALYSIS

1. TOTAL AREA OF SITE: 9.28 AC.
2. AREA DISTURBED: 7.45 AC.
3. TOTAL CUT: 29,121 CU. YD.
4. TOTAL FILL: 27,411 CU. YD.

NOTE: EARTHWORK CUT AND FILL QUANTITIES INDICATED ON THIS PLAN ARE SHOWN FOR PURPOSES OF OBTAINING SEDIMENT CONTROL PLAN APPROVAL AND NOT TO BE USED FOR CONTRACTUAL OBLIGATIONS. CONTRACTOR IS RESPONSIBLE TO VERIFY QUANTITIES.

REQUIRED SEQUENCE OF CONSTRUCTION

1. NOTIFY THE CARROLL COUNTY BUREAU OF SEDIMENT CONTROL (410-388-2210) 24 HOURS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. ALL PROTECTION FENCING AND PERMANENT SIGNS REQUIRED UNDER THE CARROLL COUNTY CODE OF PUBLIC LAWS AND ORDINANCES, FOREST CONSERVATION (CHAPTER 150) AND WATER RESOURCE MANAGEMENT (CHAPTER 154) SHALL BE INSTALLED PRIOR TO THE PRE-CONSTRUCTION MEETING WITH THE CARROLL COUNTY SEDIMENT CONTROL INSPECTOR.
2. INSTALL TEMPORARY STABILIZED CONSTRUCTION ENTRANCE OFF OF OULANDIA ROAD.
3. WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB SITE TO INSTALL PERIMETER CONTROL MEASURES, SEDIMENT TRAP, SILT FENCE, SLOPE SILT FENCE, EARTH DIKES, CLEAN WATER DIVERSION AND SWALES, PLACE EXCAVATED MATERIAL IN STOCKPILE LOCATIONS.
4. BEGIN MASS GRADING SITE IN AREA OF STORMWATER MANAGEMENT FACILITY, MASS GRADE TO APPROXIMATELY ELEVATION 537.00.
5. DURING MASS GRADING ADJUST ED, A-2 IN AREA OF STORMWATER MANAGEMENT FACILITY AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.
6. INSTALL STORM DRAIN SYSTEM FROM B-W1 TO M-2. CONSTRUCT STORM WATER MANAGEMENT FACILITY, SEE STORM WATER MANAGEMENT SEQUENCE OF CONSTRUCTION SHEET B.
7. ONCE STORMWATER MANAGEMENT FACILITY IS COMPLETE, RESUME MASS GRADING AND CONTINUE ADJUSTING THE EARTH DIKE AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.
8. INSTALL SANITARY SEWER GRAVITY MAINS AND SERVICES.
9. INSTALL REMAINING STORM DRAIN SYSTEM. INSTALL INLET PROTECTION AS SHOWN ON PLANS.
10. INSTALL WATER MAINS AND SERVICES.
11. CONSTRUCT CURBS AND GRADE ROADS TO STONE BASE INSTALL PAVING BASE COURSE.
12. INDIVIDUAL LOT AND SIDEWALK CONSTRUCTION MAY BE STARTED FOR EACH TO PROVIDE SEDIMENT CONTROL IN THE FORM OF SILT FENCE FOR INDIVIDUAL LOTS.
13. TEMPORARY SEDIMENT CONTROL TRAP, SWALES AND EARTH DIKES MAY BE REMOVED AS INTERFERENCE OCCURS AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THE SEDIMENT TRAP AND ASSOCIATED EARTH DIKES AND SILT FENCE WILL REMAIN IN PLACE FOR FUTURE CONSTRUCTION.
14. WITH APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ANY REMAINING TEMPORARY SEDIMENT CONTROL MEASURES.
15. PLACE FINAL COURSE PAVING.

NOTE:
ALL SEDIMENT CONTROL MEASURES SHOWN HEREON ARE TEMPORARY UNLESS OTHERWISE NOTED.

TRACKING NOTE

ON AREAS WHERE THE SLOPE IS 3:1 OR STEEPER AND THE HEIGHT IS 8' OR GREATER, CONTRACTOR SHALL TRACK THE SLOPE USING CLEATED DOZER PRIOR TO PLACING ASPHALT BINDER. DOZER SHALL RUN UP-AND-DOWN SO THAT CLEAT MARKS ARE HORIZONTAL. WHERE TRACKING IS REQUIRED, IT SHALL BE DONE FROM EXISTING GRADE LEVEL TO FINISHED GRADE LEVEL WITHIN THE LIMITS ESTABLISHED BY THE 8' HEIGHT CRITERIA.

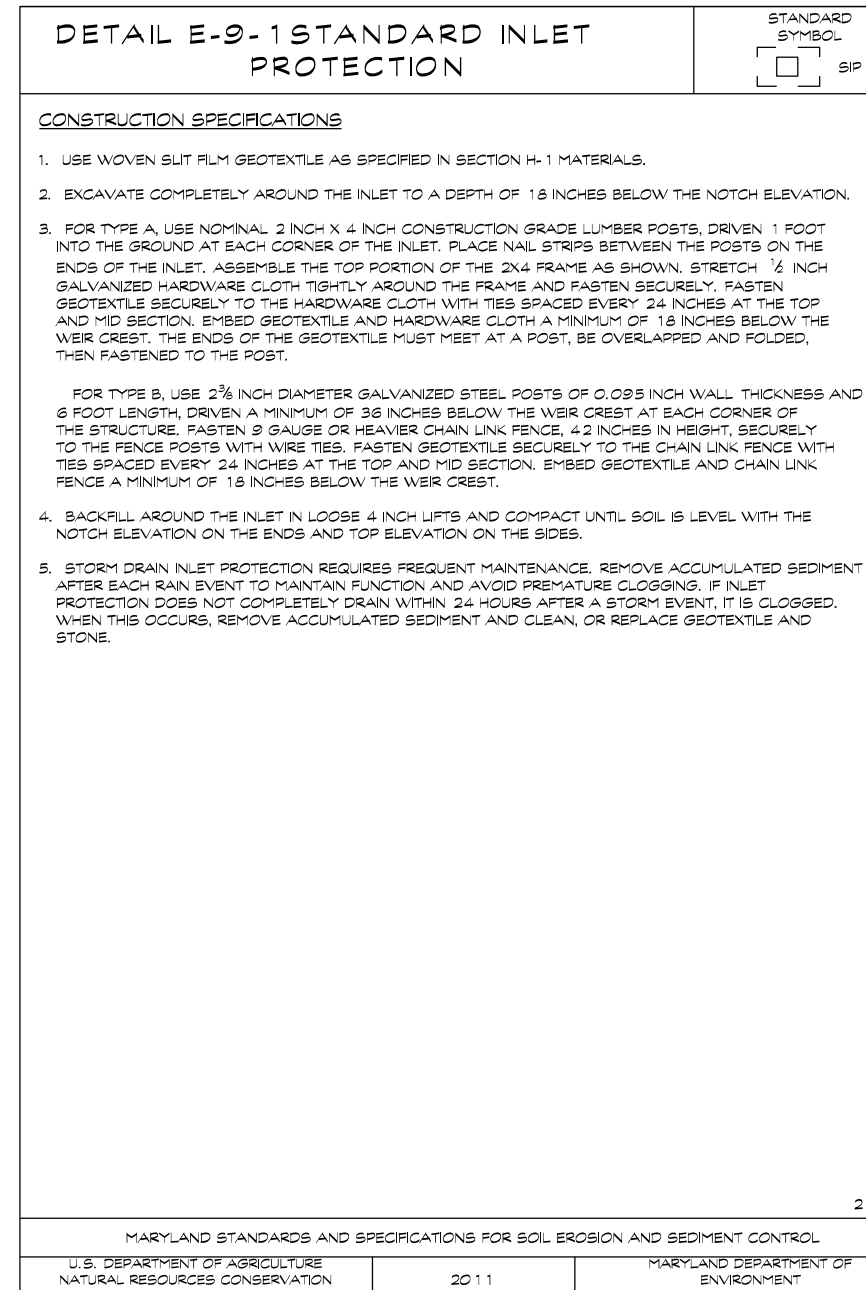
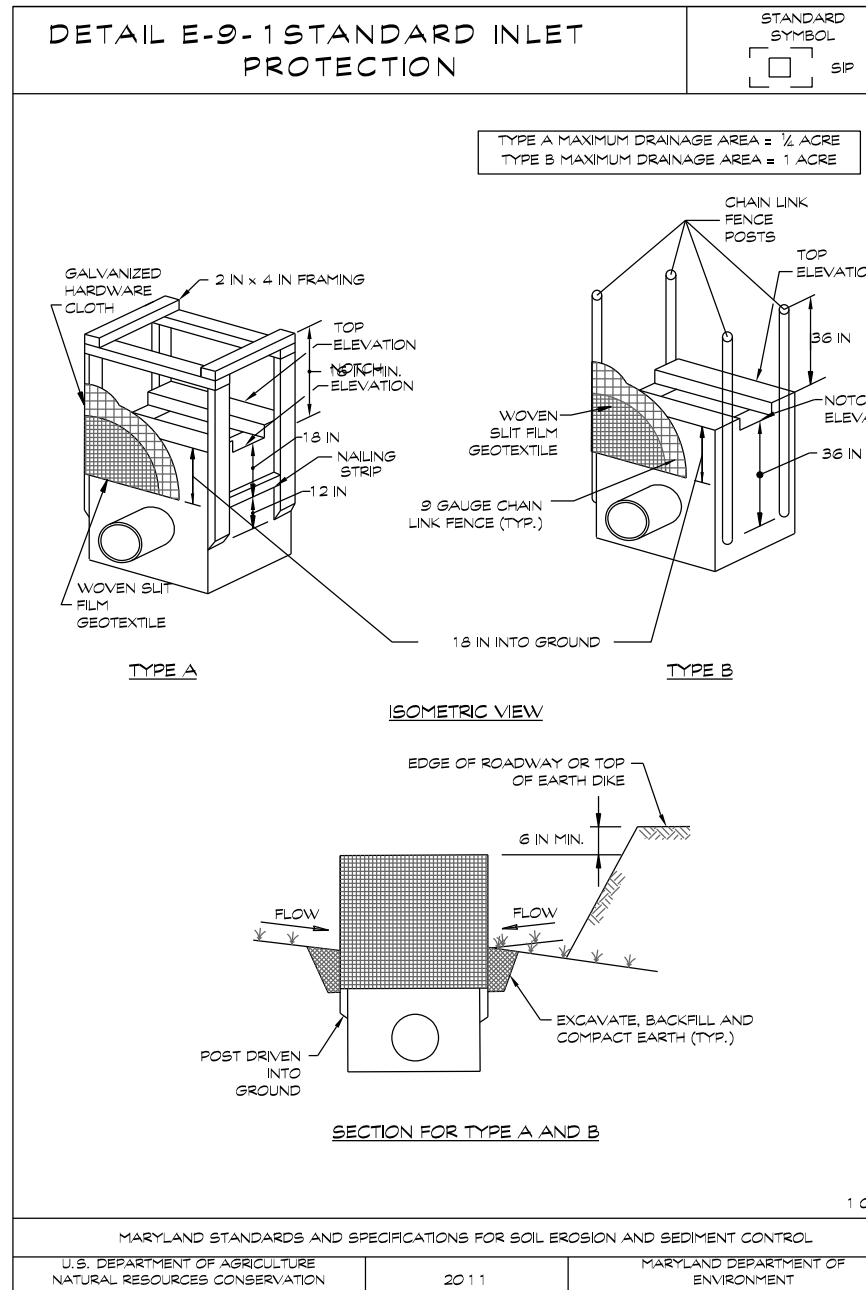
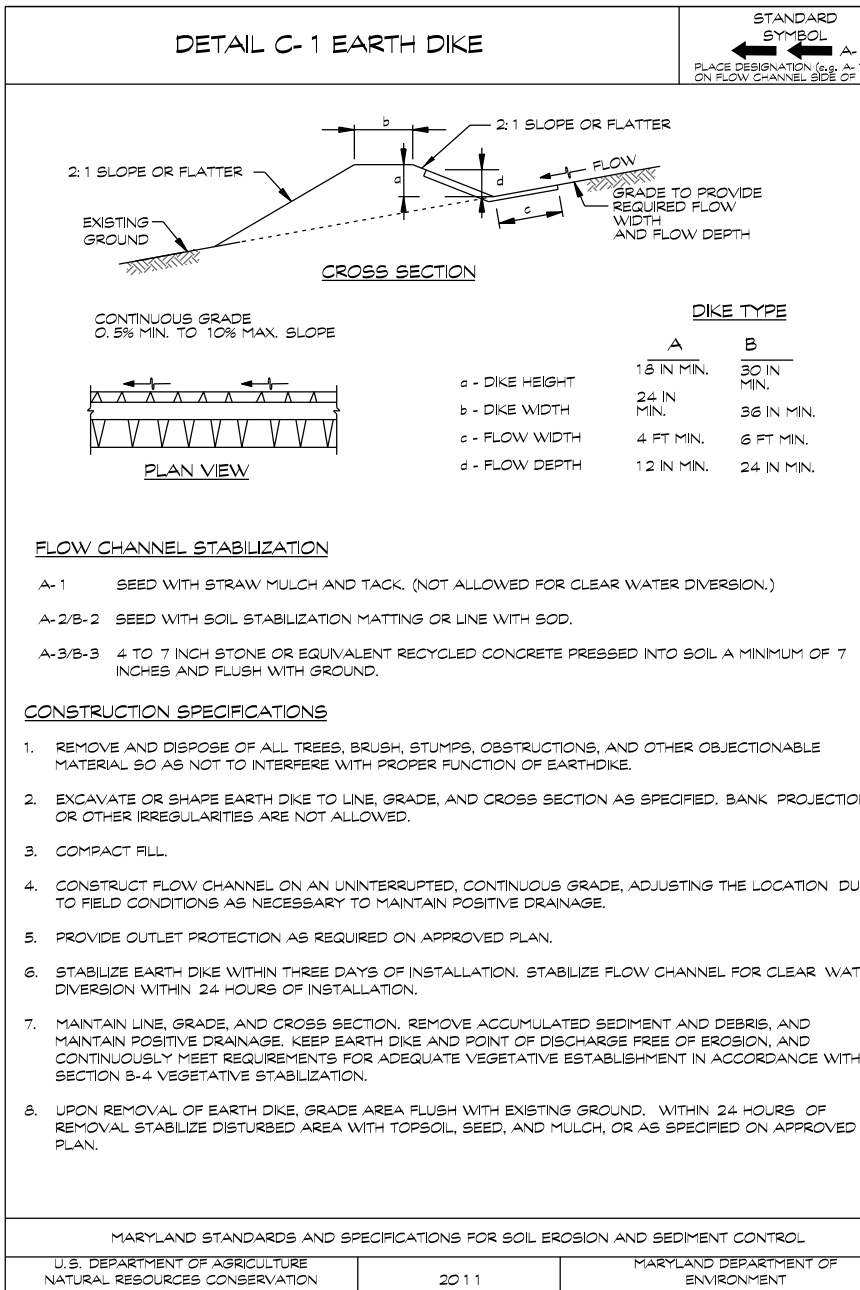
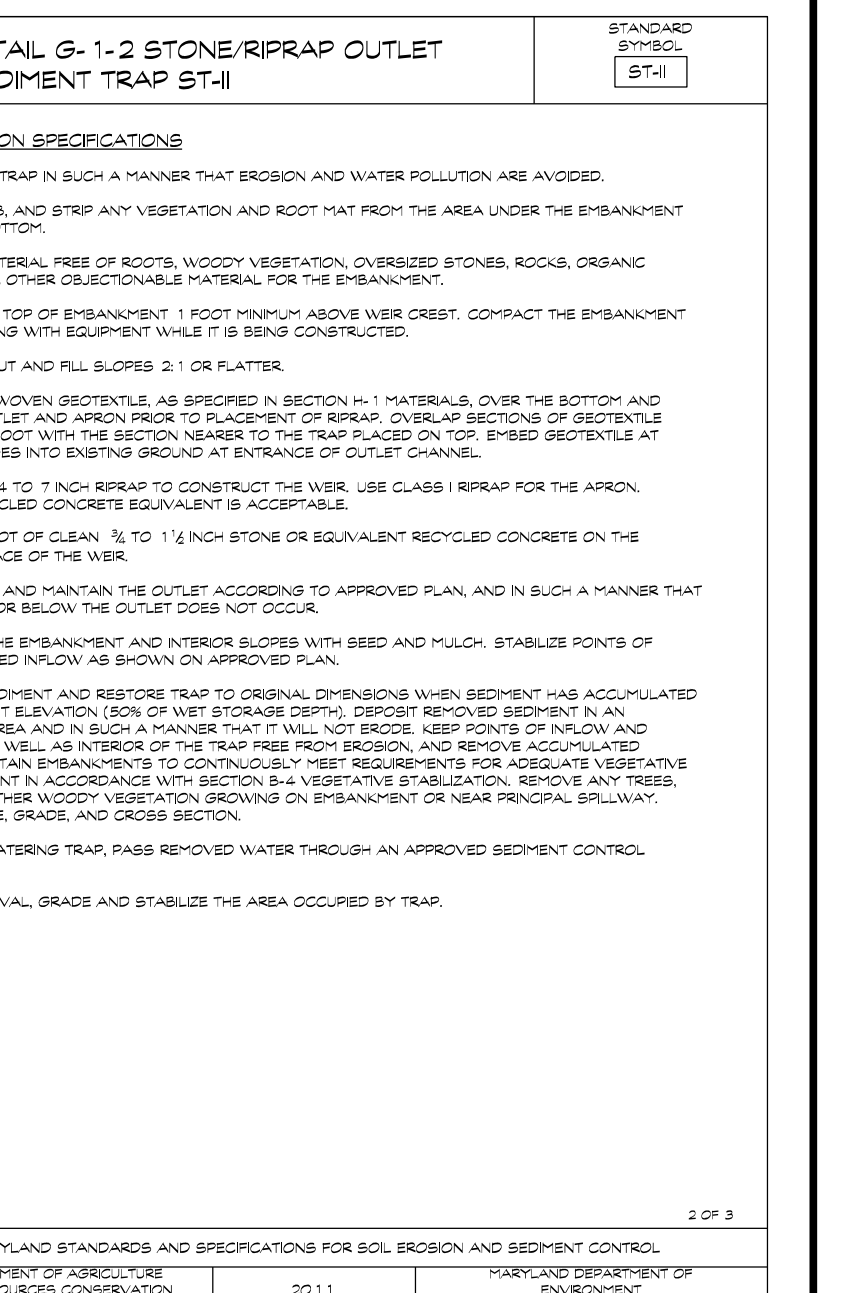
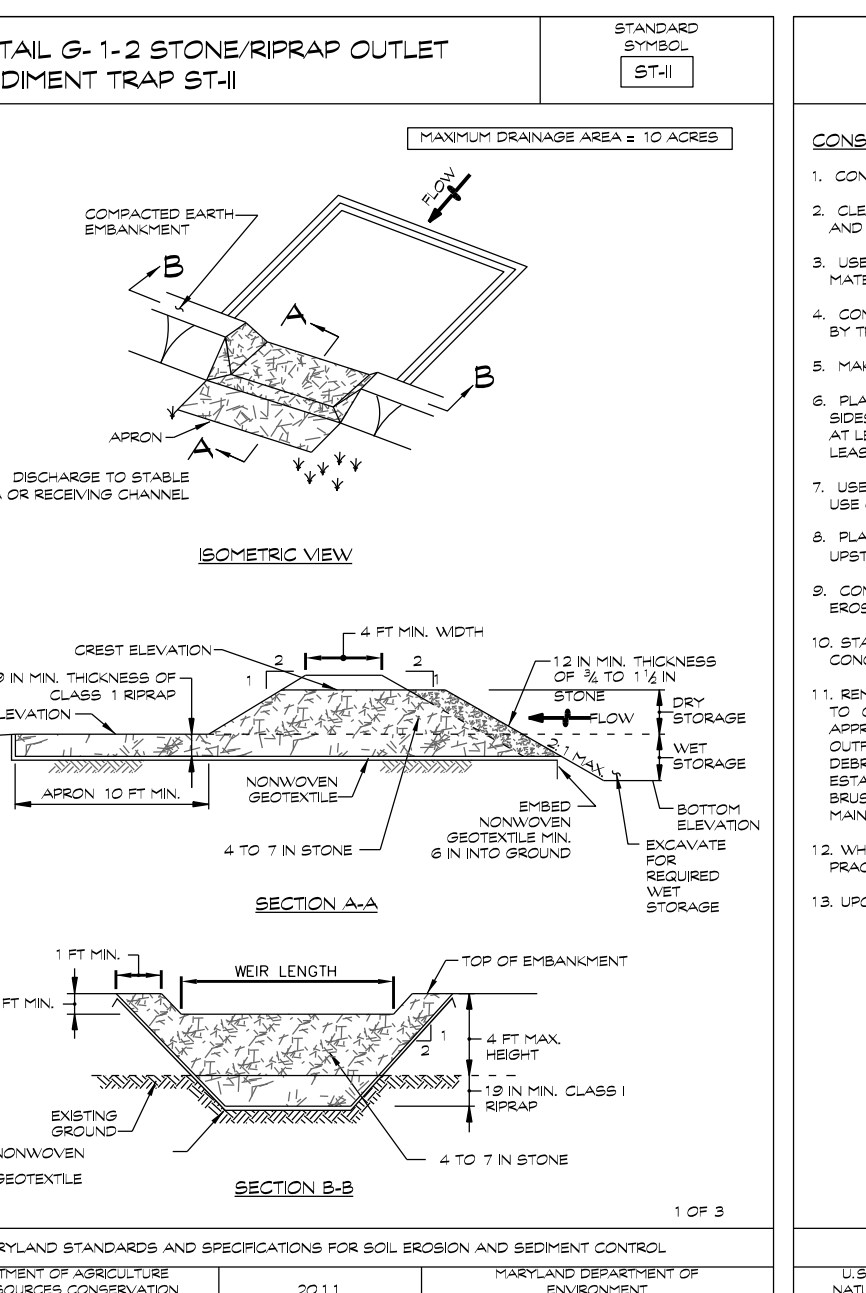
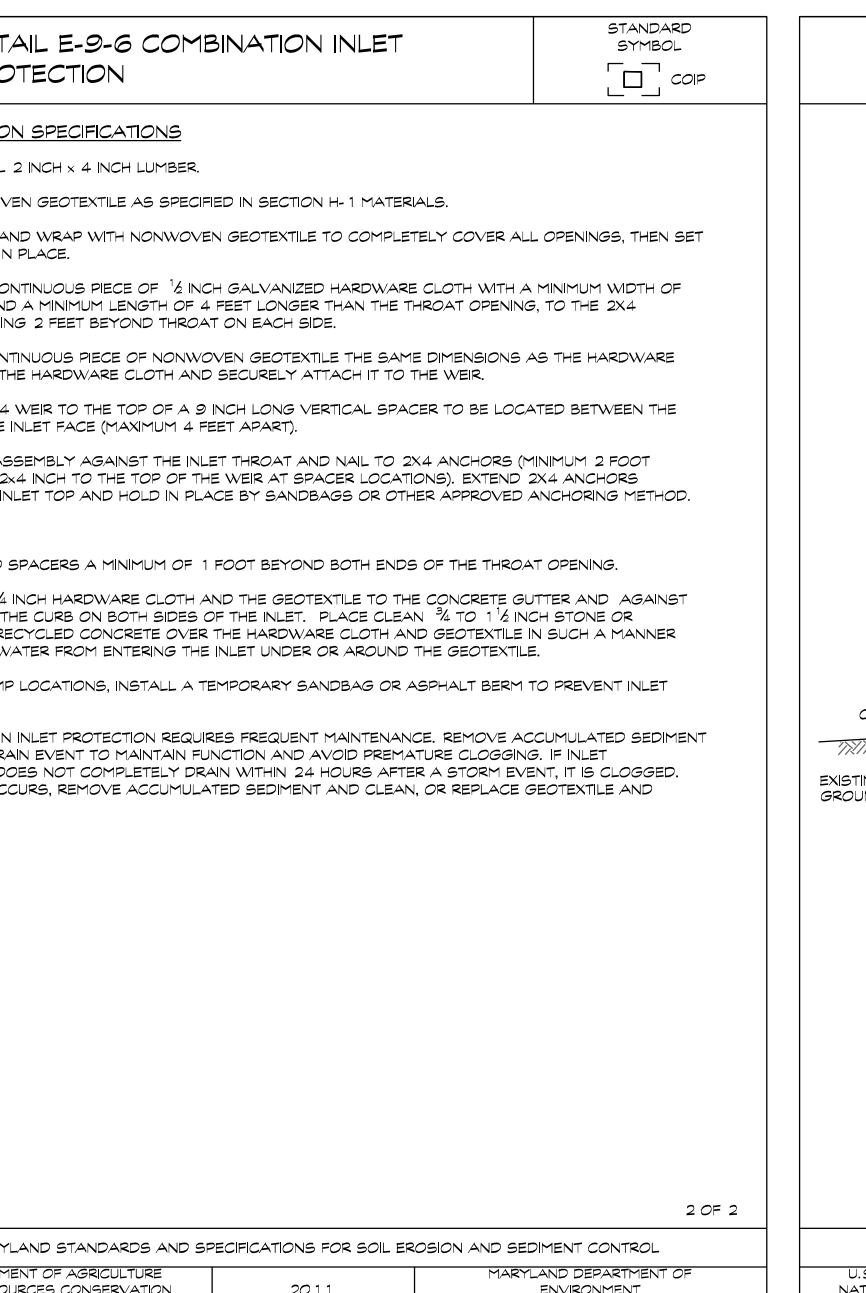
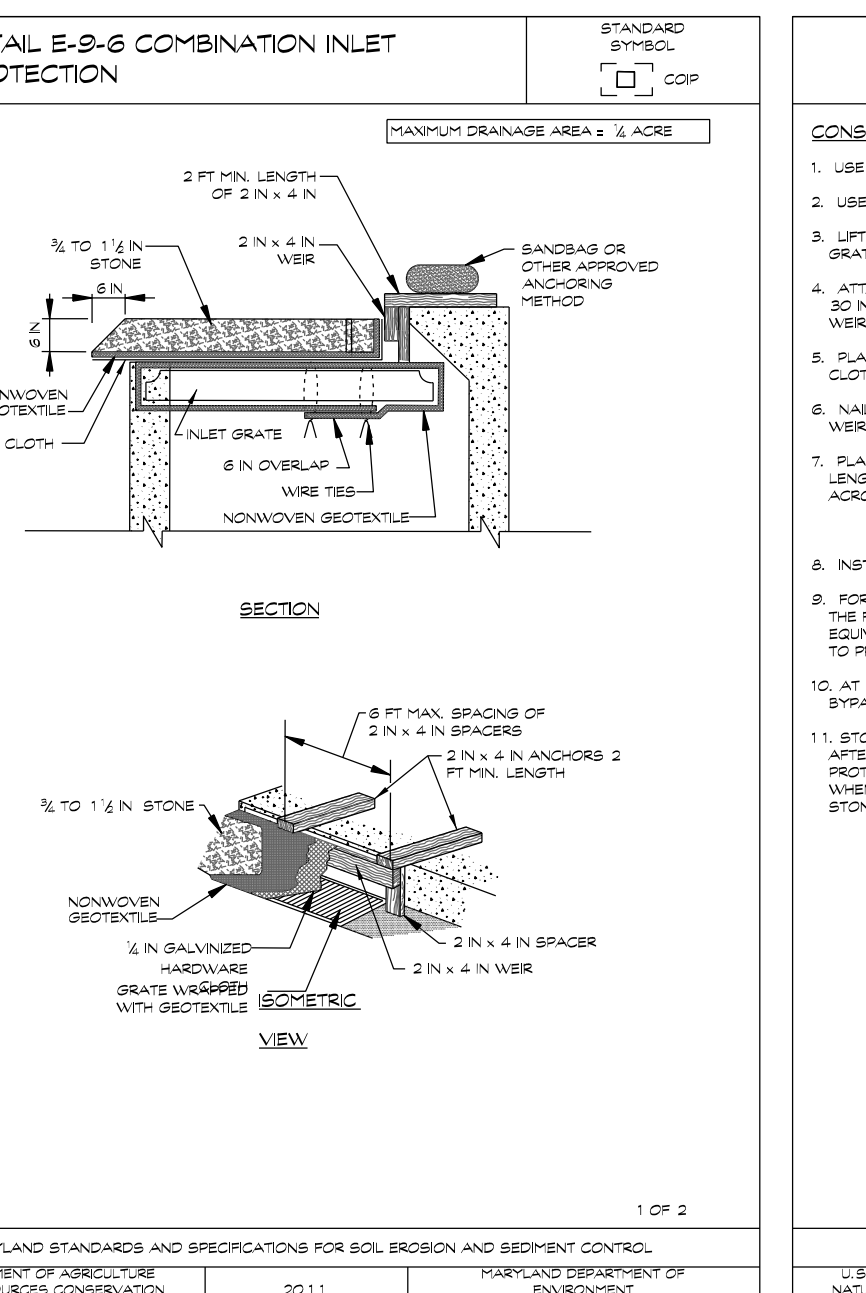
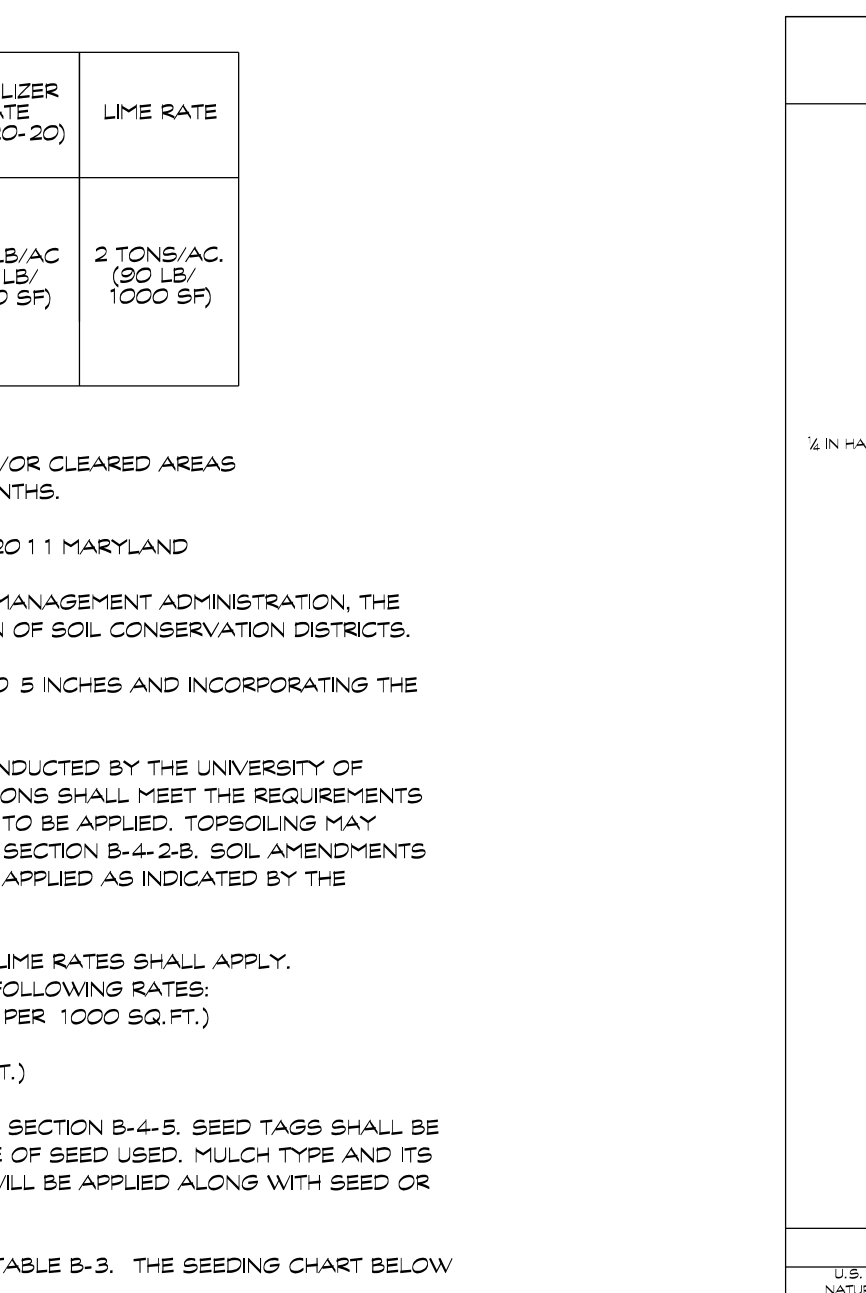
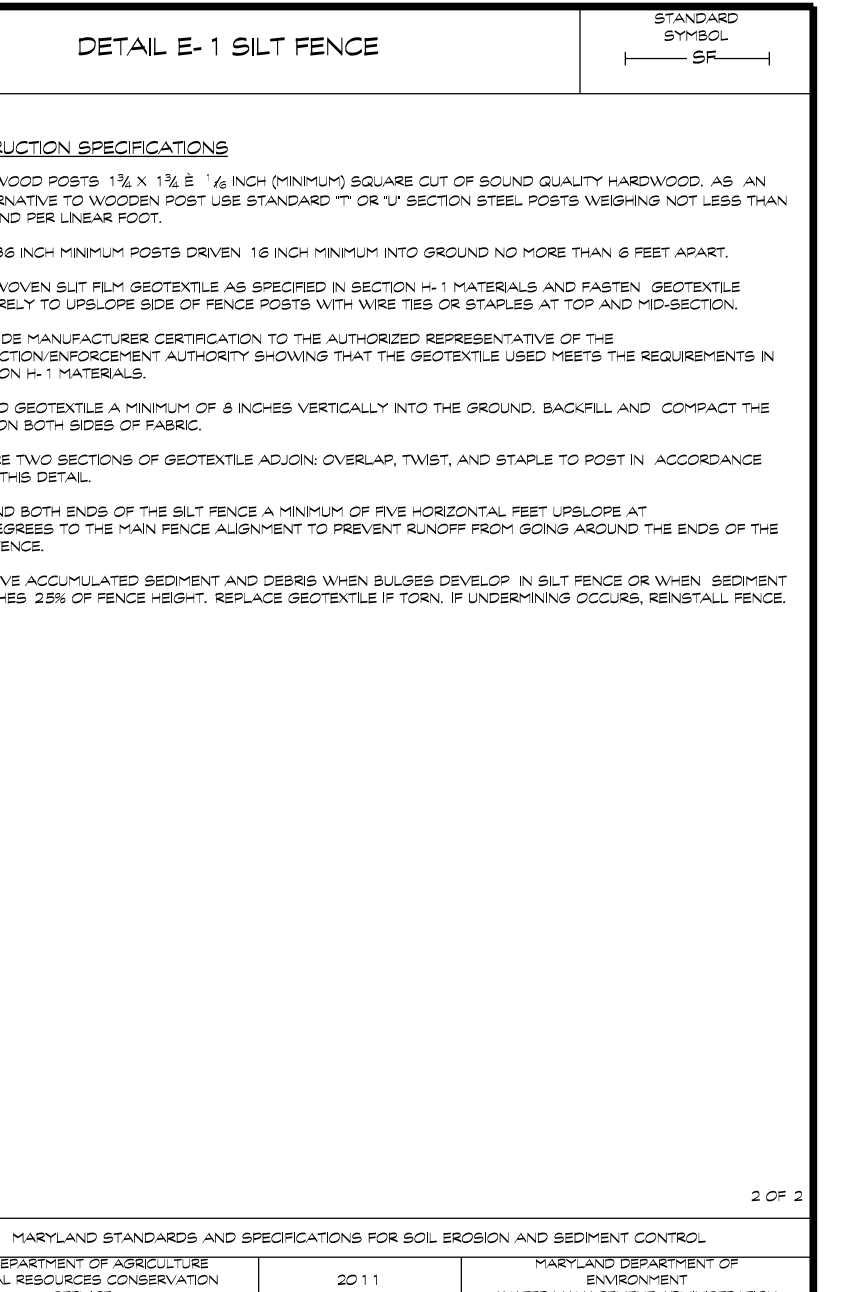
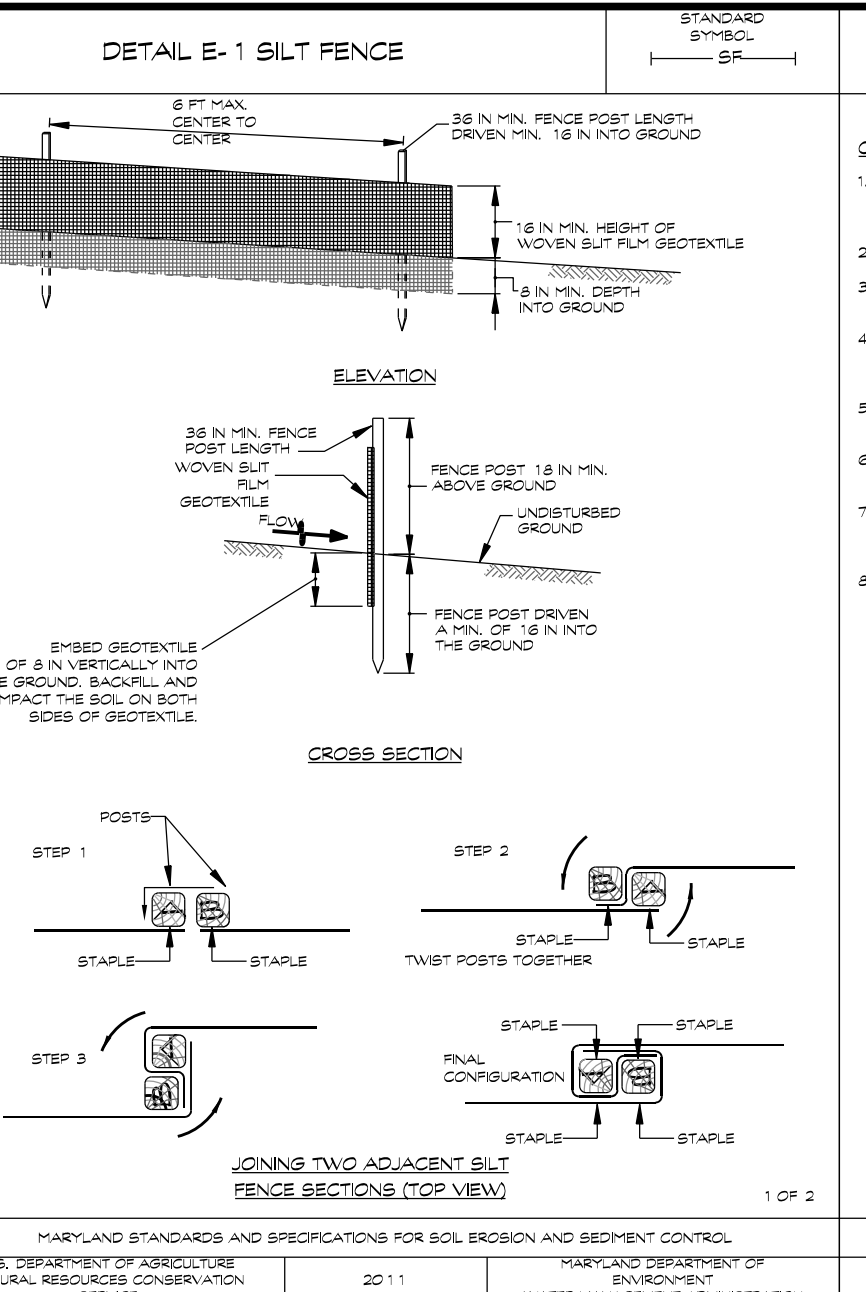
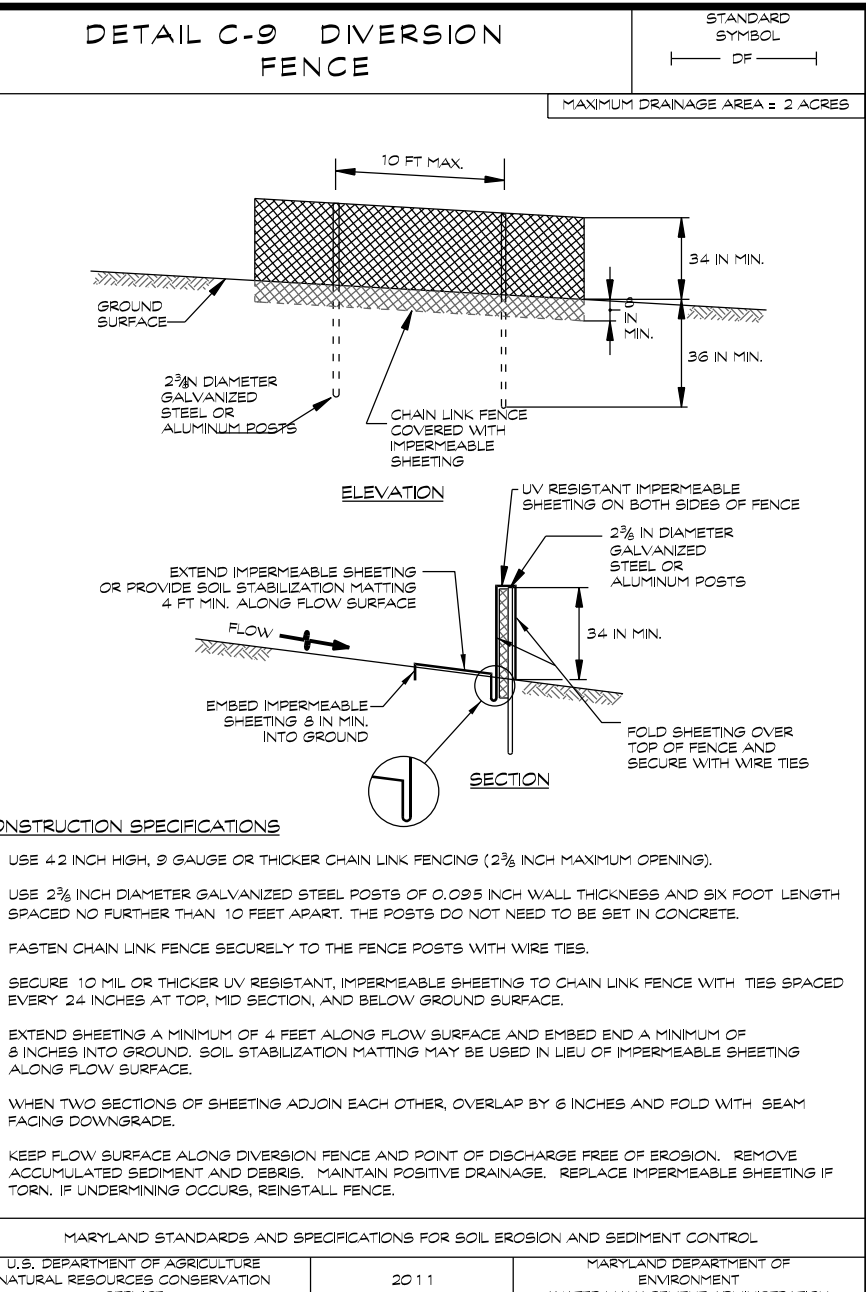
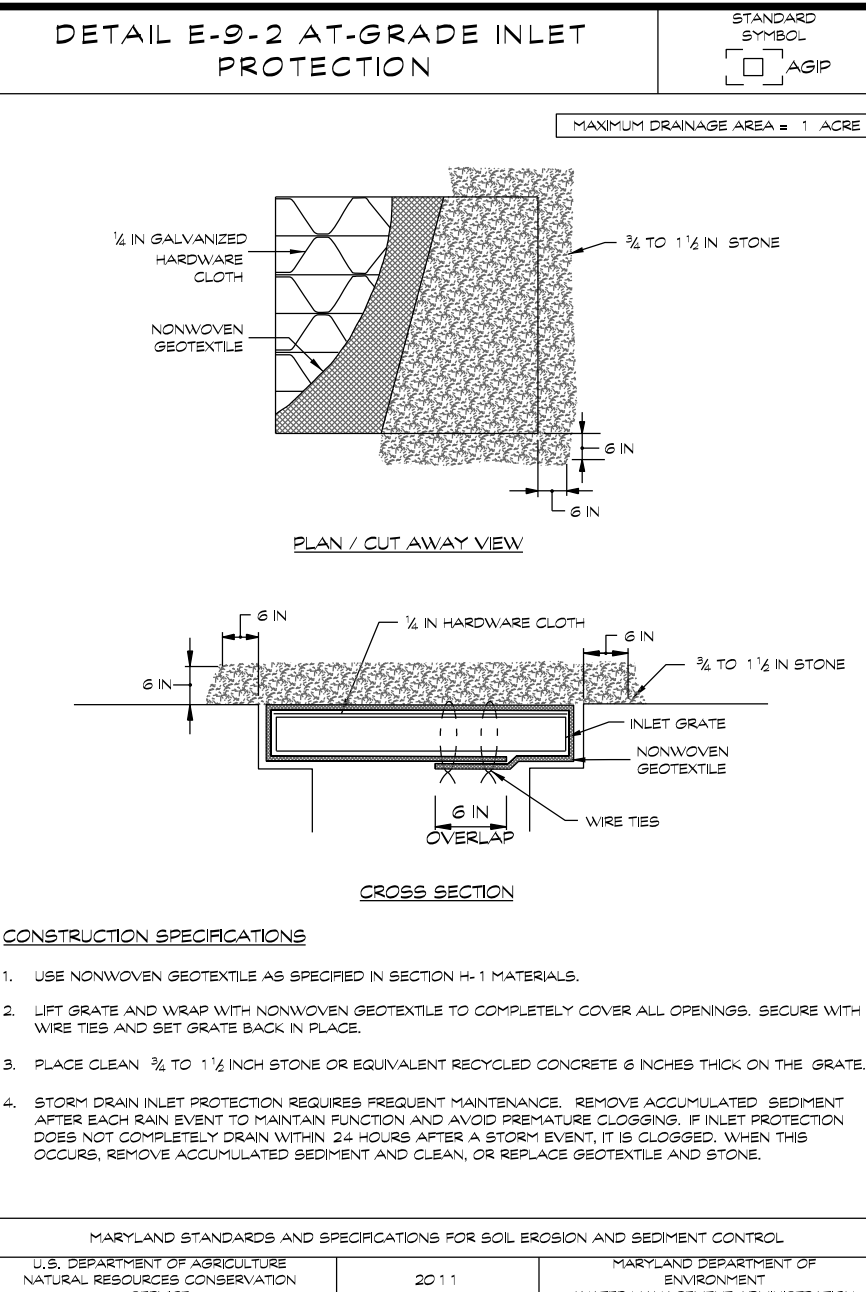
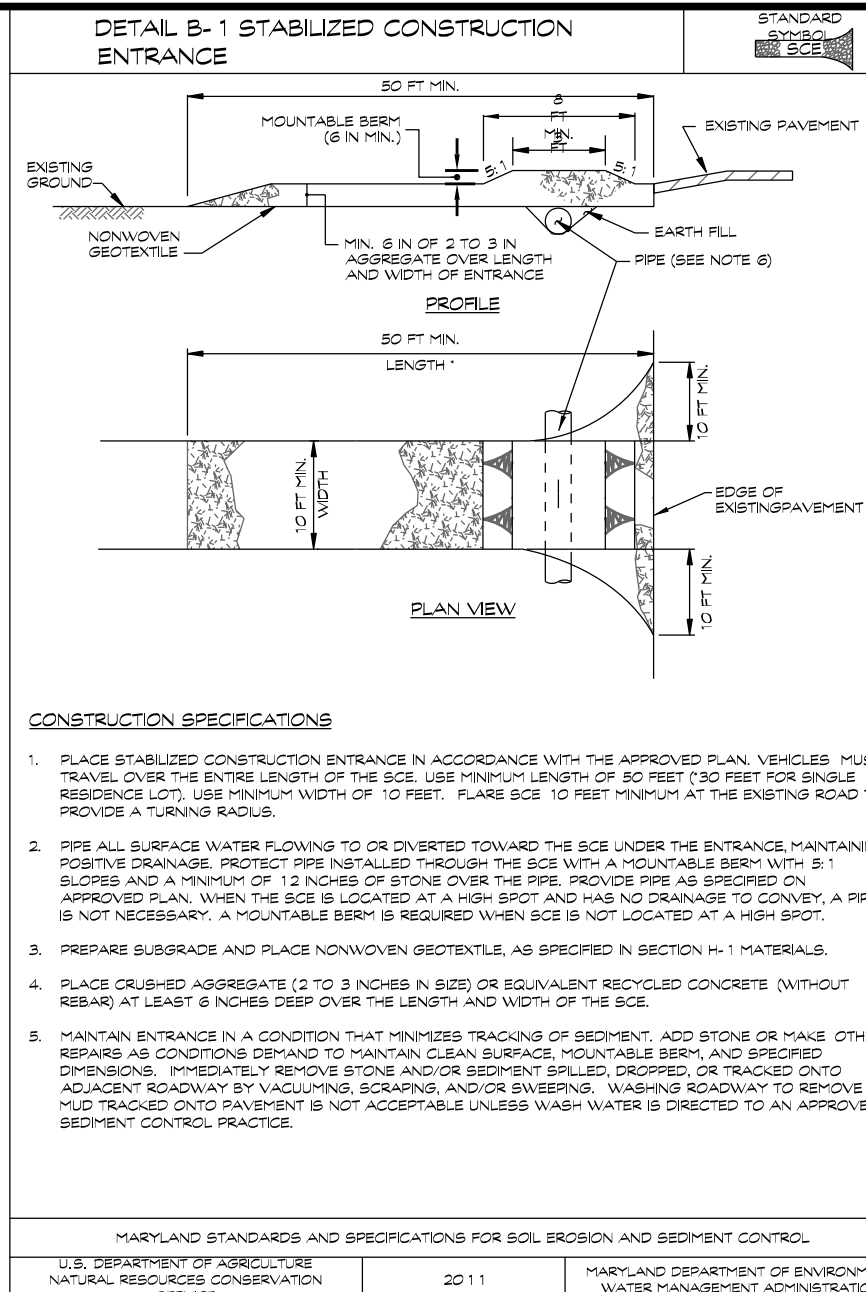
UTILITY CONSTRUCTION NOTES

1. PLACE ALL EXCAVATED MATERIAL ON THE HIGH SIDE OF THE TRENCH.
2. ONLY DO AS MUCH WORK AS CAN BE DONE IN ONE DAY SO BACKFILLING, FINAL GRADING, AND PERMANENT STABILIZATION CAN OCCUR.
3. ANY SEDIMENT CONTROL MEASURES DISTURBED BY THE UTILITY CONSTRUCTION WILL BE REPAIRED THE SAME DAY.

STOCKPILE/TOPOIL NOTES

1. STOCKPILING WILL NOT BE ALLOWED ON ANY IMPERVIOUS AREA.
2. ALL STOCKPILES LEFT AT THE END OF THE DAY WILL NEED TO BE TEMPORARILY STABILIZED UNTIL THEY ARE AGAIN DISTURBED, UNLESS THEY ARE WITHIN EXISTING PERIMETER SEDIMENT CONTROLS.
3. ALL STOCKPILE AREAS SHALL BE CONFINED WITH PERIMETER CONTROLS. IN THE EVENT THAT STOCKPILE AREAS MUST BE LOCATED OUTSIDE DISTURBED AREAS, THE LOCATION SHALL BE AS DIRECTED BY THE INSPECTOR IN THE FIELD.

NOTE:
ALL STOCKPILE AREAS SHALL BE CONFINED WITH PERIMETER CONTROLS. IN THE EVENT THAT STOCKPILE AREAS MUST BE LOCATED OUTSIDE OF DISTURBED AREAS, THE LOCATION SHALL BE AS DIRECTED BY THE INSPECTOR IN THE FIELD.



SEDIMENT CONTROL NOTES & DETAILS

MINERAL HILL PROPERTY
A CLUSTER SUBDIVISION

5th ELECTION DISTRICT • CARROLL COUNTY, MARYLAND
TAX MAP: 74 • BLOCK: 3 • PARCEL: 7

NOT FOR CONSTRUCTION

Engineers • Surveyors

CLSI

Land Planning & Environmental Consultants

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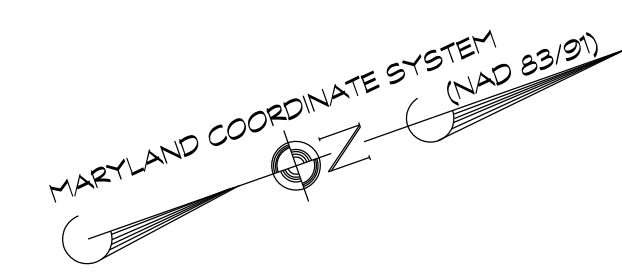
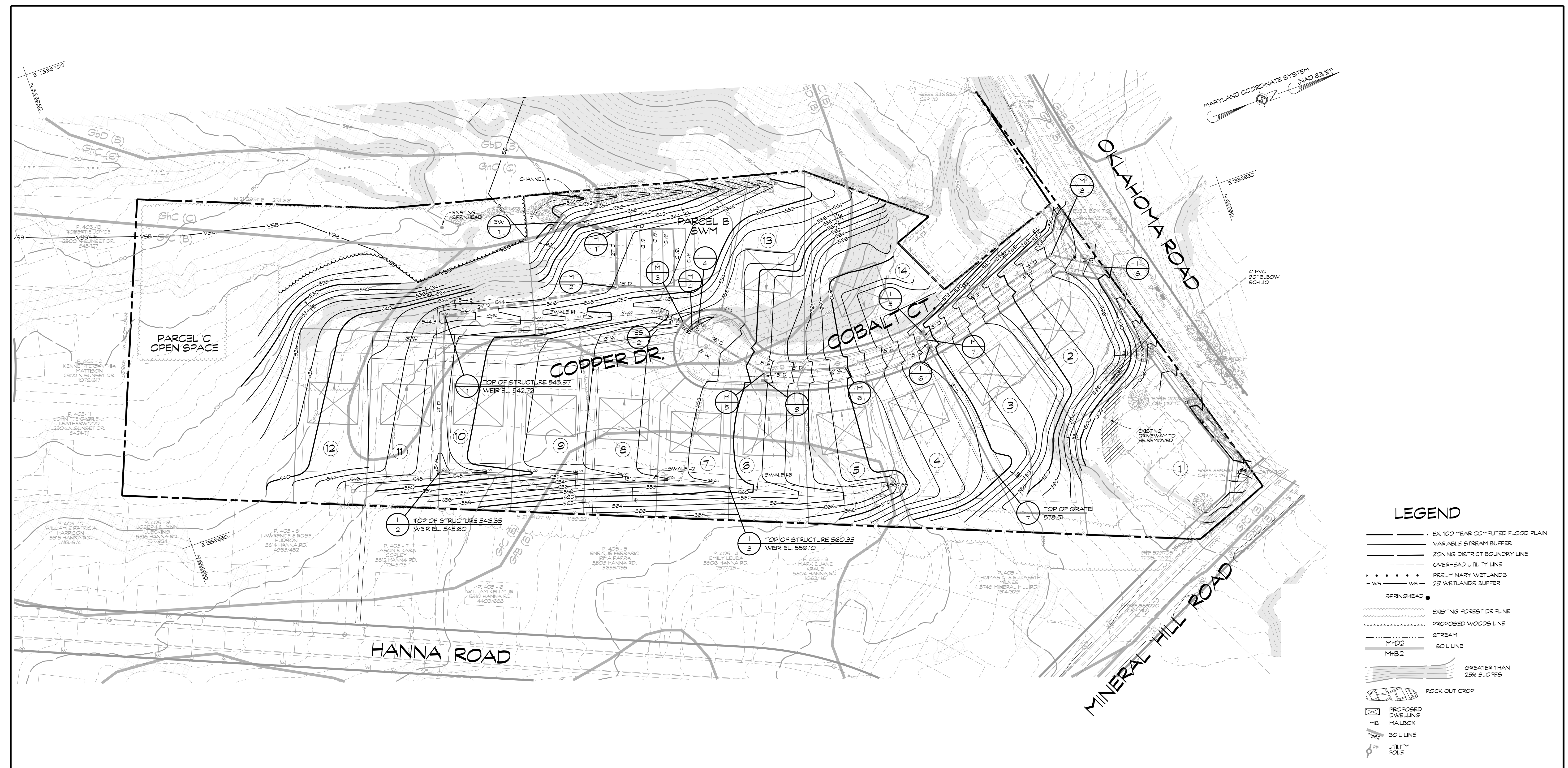
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(410) 848-1790 FAX (410) 848-1791

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Date	Revisions	Drawn By:
		JW
		Designed By: JW/ABR
		Reviewed By:
		Date: MARCH, 2020
		Scale: N/A
		Job No.: 2018074
		Sheet: 3 OF 23

OWNER / DEVELOPER
MINERAL HILL PROPERTY, LLC.
11175 STRATFIELD COURT
MARRIOTTVILLE MD, 21104
(410) 442-2211

NOT FOR CONSTRUCTION



LEGEND

- EX. 100 YEAR COMPUTED FLOOD PLAN
- VARIABLE STREAM BUFFER
- ZONING DISTRICT BOUNDARY LINE
- OVERHEAD UTILITY LINE
- PRELIMINARY WETLANDS
- 25' WETLANDS BUFFER
- SPRINGHEAD
- EXISTING FOREST DRIPLINE
- PROPOSED WOODS LINE
- STREAM
- SOIL LINE
- GREATER THAN 25% SLOPES
- ROCK OUT CROP
- PROPOSED DWELLING
- MAILBOX
- SOIL LINE
- UTILITY POLE

UNLESS OTHERWISE SPECIFIED, STORM DRAIN PIPE FOR THIS PROJECT SHALL BE 14 GAGE ALUMINIZED CORRUGATED METAL PIPE, NOTED AS 'D'. AASHTO M-196 (ALUMINIZED STEEL TYPE 2 MATERIAL) AND AASHTO M-197 (CONDUIT, PIPE).

MASS GRADING PLAN

MINERAL HILL PROPERTY
A CLUSTER SUBDIVISION

5th ELECTION DISTRICT CARROLL COUNTY, MARYLAND
TAX MAP: 74 BLOCK: 3 PARCEL: 7

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3/7/2023
Clayton D. Moore, P.E.

Engineers • Surveyors

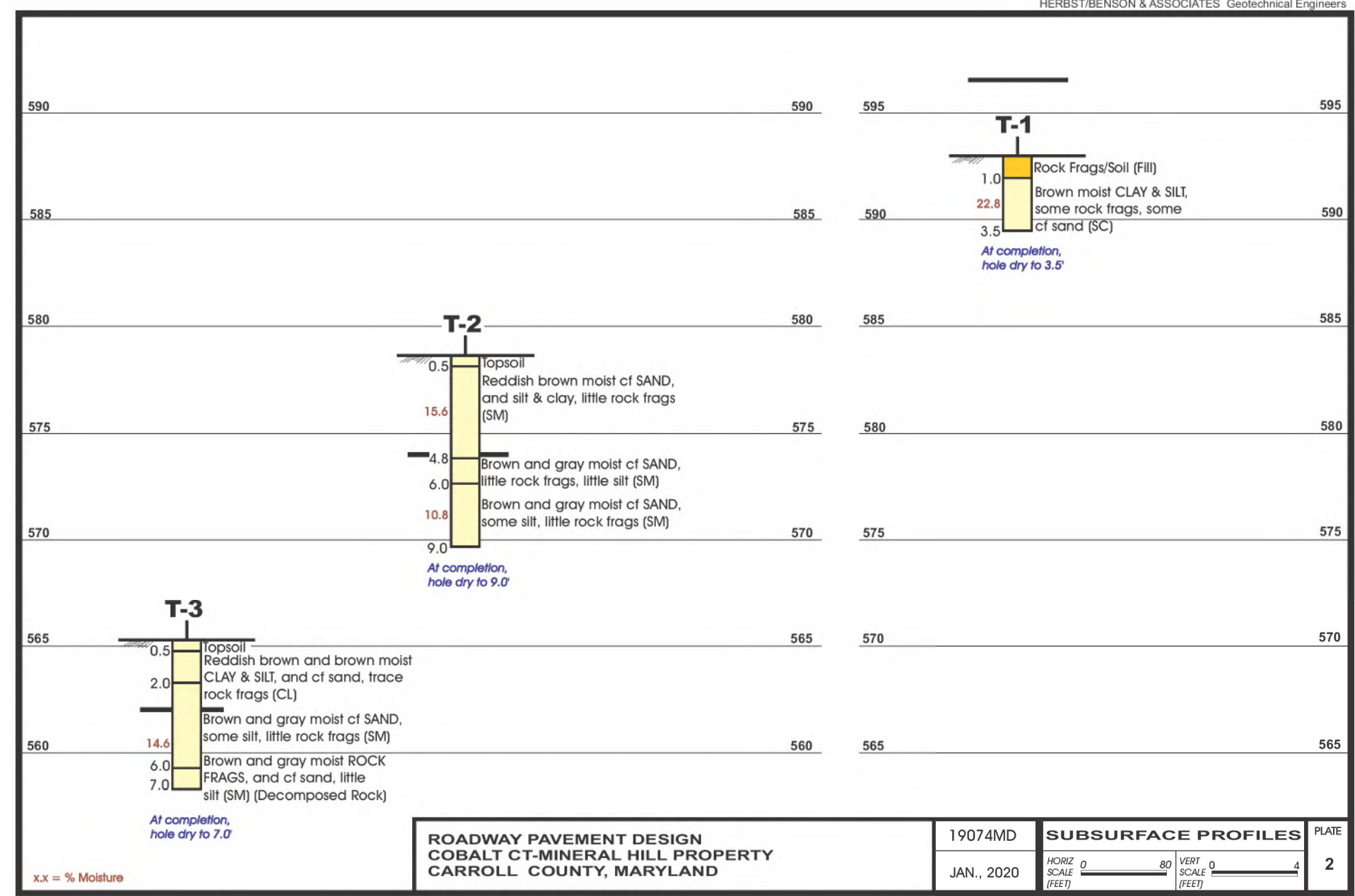
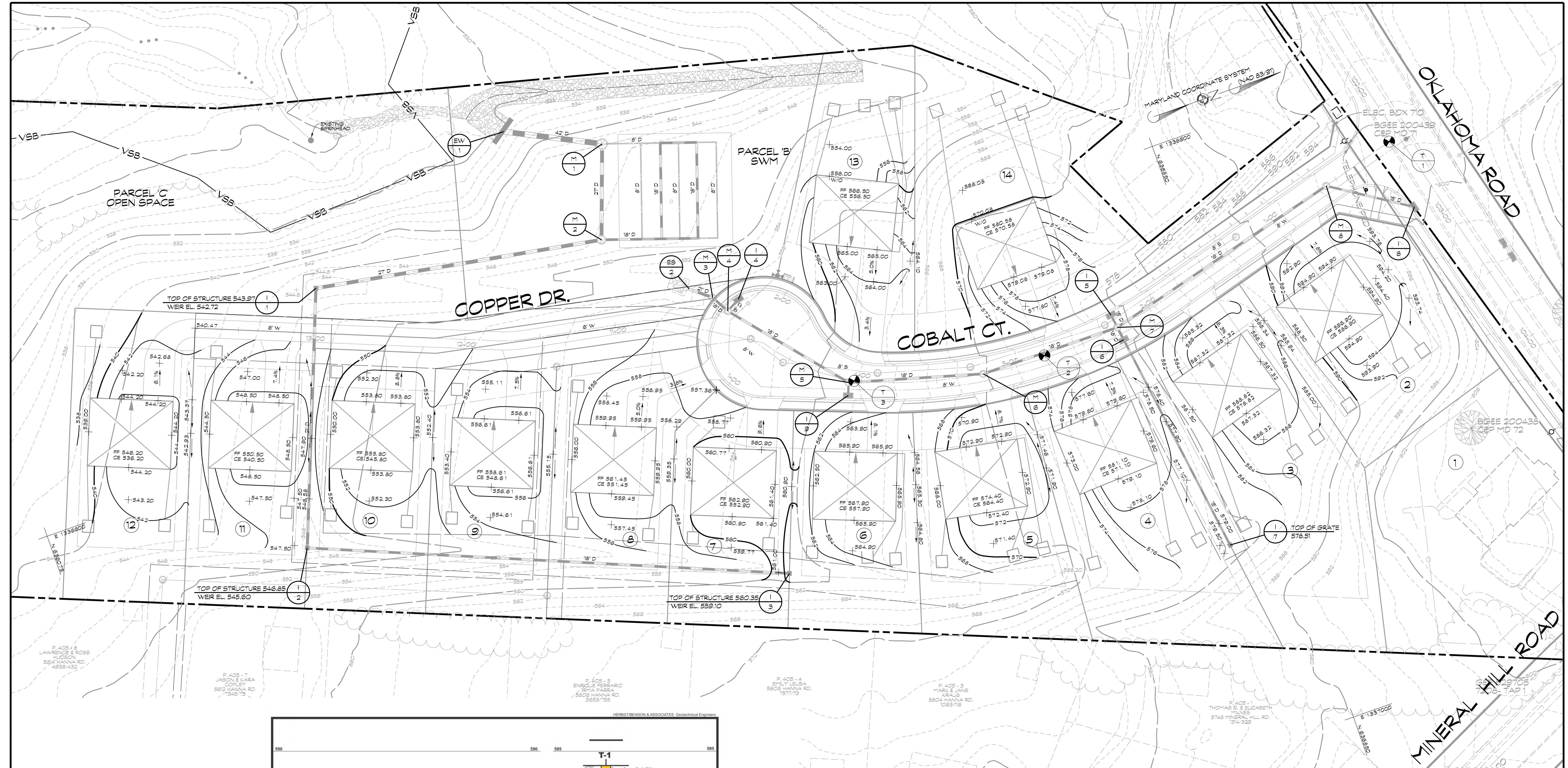
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Date	Revisions	Drawn By:
		JW, MC
		Designed By: ABR
		Reviewed By:
		Date: MARCH, 2020
		Scale: 1"=50'
		Job No.: 2018074
		Sheet: 4 OF 23

OWNER / DEVELOPER
MINERAL HILL PROPERTY, LLC.
11175 STRATFIELD COURT
MARRIOTTVILLE MD, 21104
(410) 442-2211

NOT FOR CONSTRUCTION



UNLESS OTHERWISE SPECIFIED, STORM DRAIN PIPE FOR THIS PROJECT SHALL BE 14 GAGE ALUMINIZED CORRUGATED METAL PIPE, NOTED AS D. AASHTO M-196 (ALUMINIZED STEEL TYPE 2 MATERIAL) AND AASHTO M-197 (CONDUIT, PIPE).

NOTE: DRIVEWAY SLOPES SHOWN HEREON ARE APPROXIMATE.

LEGEND

- EX. 100 YEAR COMPUTED FLOOD PLAN
- VSB — VARIABLE STREAM BUFFER
- ZONING DISTRICT BOUNDARY LINE
- OVERHEAD UTILITY LINE
- PRELIMINARY WETLANDS
- WS — 25 WETLANDS BUFFER
- SPRING-HEAD
- EXISTING FOREST DRIPLINE
- PROPOSED WOODS LINE
- STREAM
- ES — UTILITY POLE
- — PAVEMENT DESIGN BORINGS

OWNER / DEVELOPER

MINERAL HILL PROPERTY, LLC.
11175 STRATFIELD COURT
MARRIOTTVILLE MD, 21104
(410) 442-2211

FINAL GRADING PLAN

MINERAL HILL PROPERTY
A CLUSTER SUBDIVISION

5th ELECTION DISTRICT CARROLL COUNTY, MARYLAND
TAX MAP: 74 BLOCK: 3 PARCEL: 7

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Engineers • Surveyors

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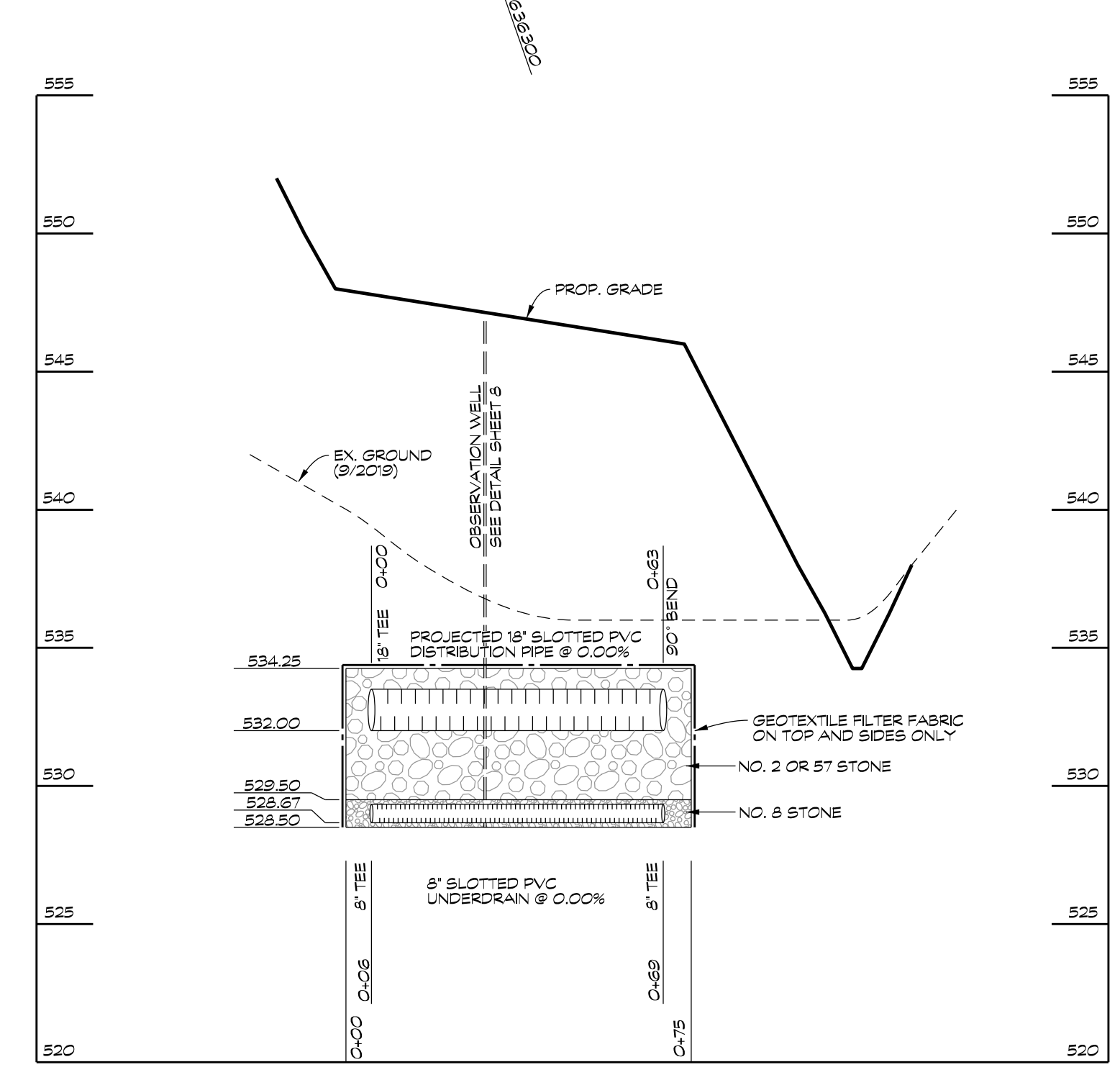
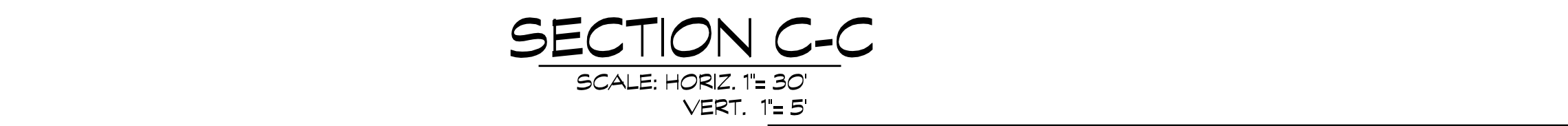
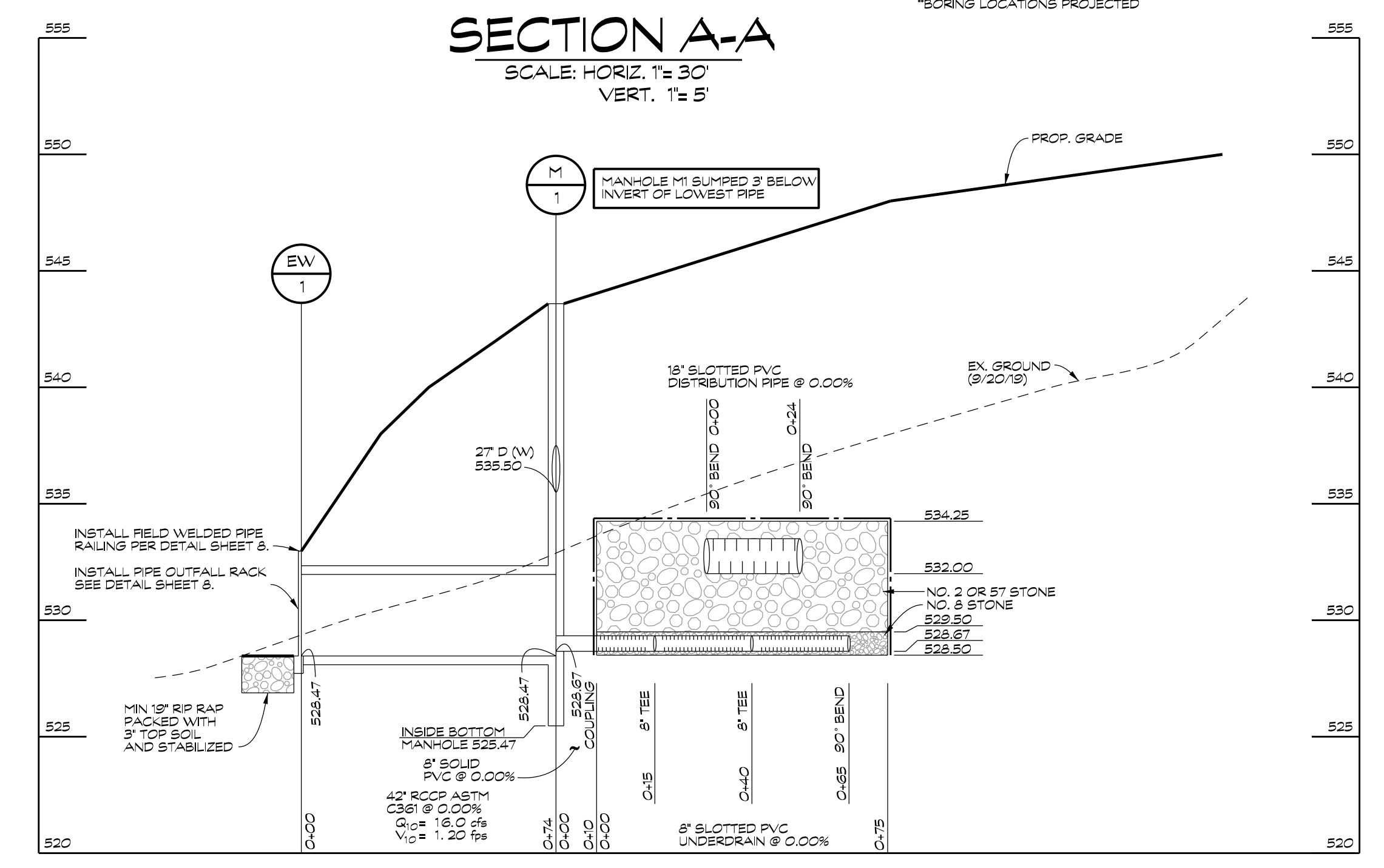
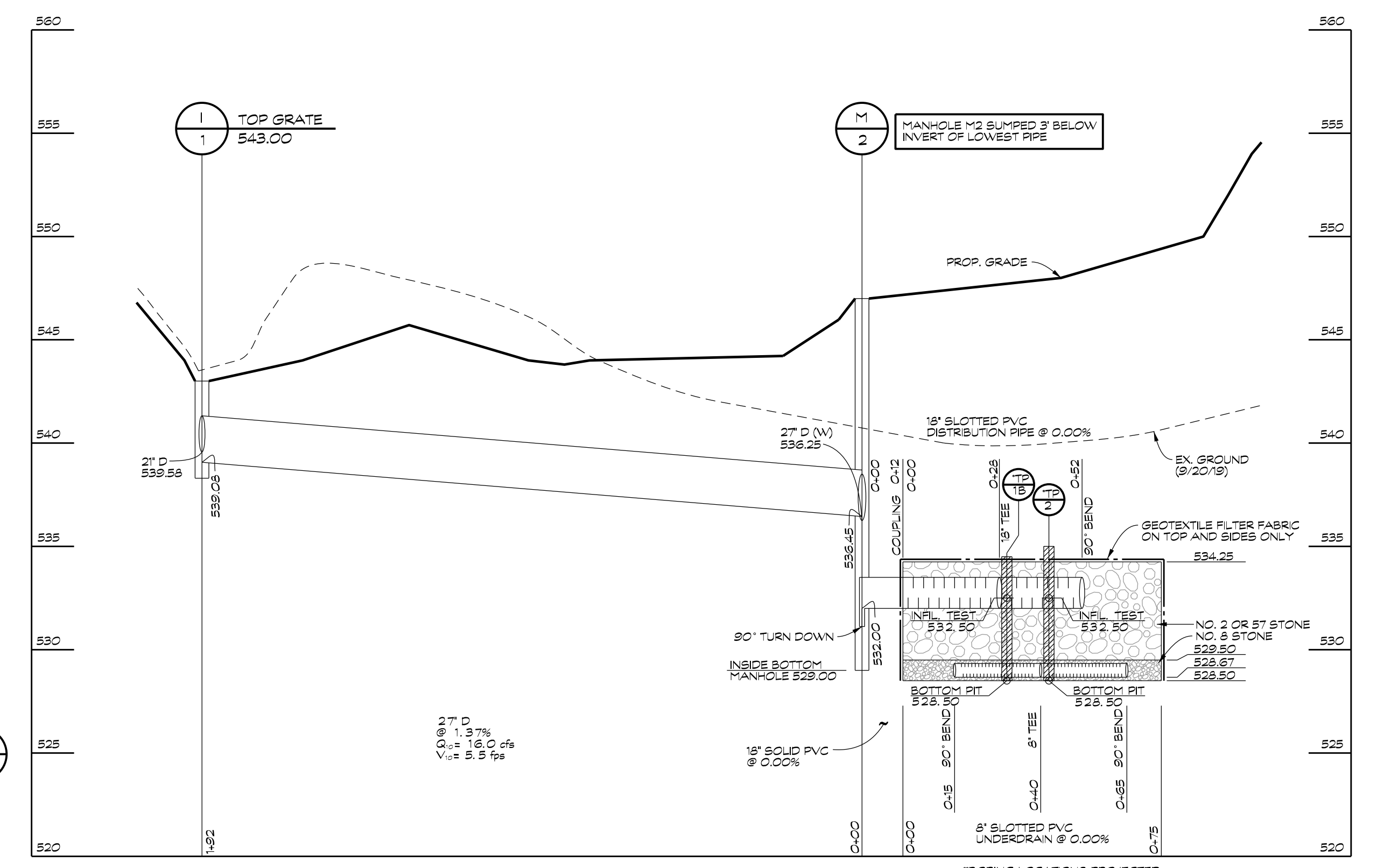
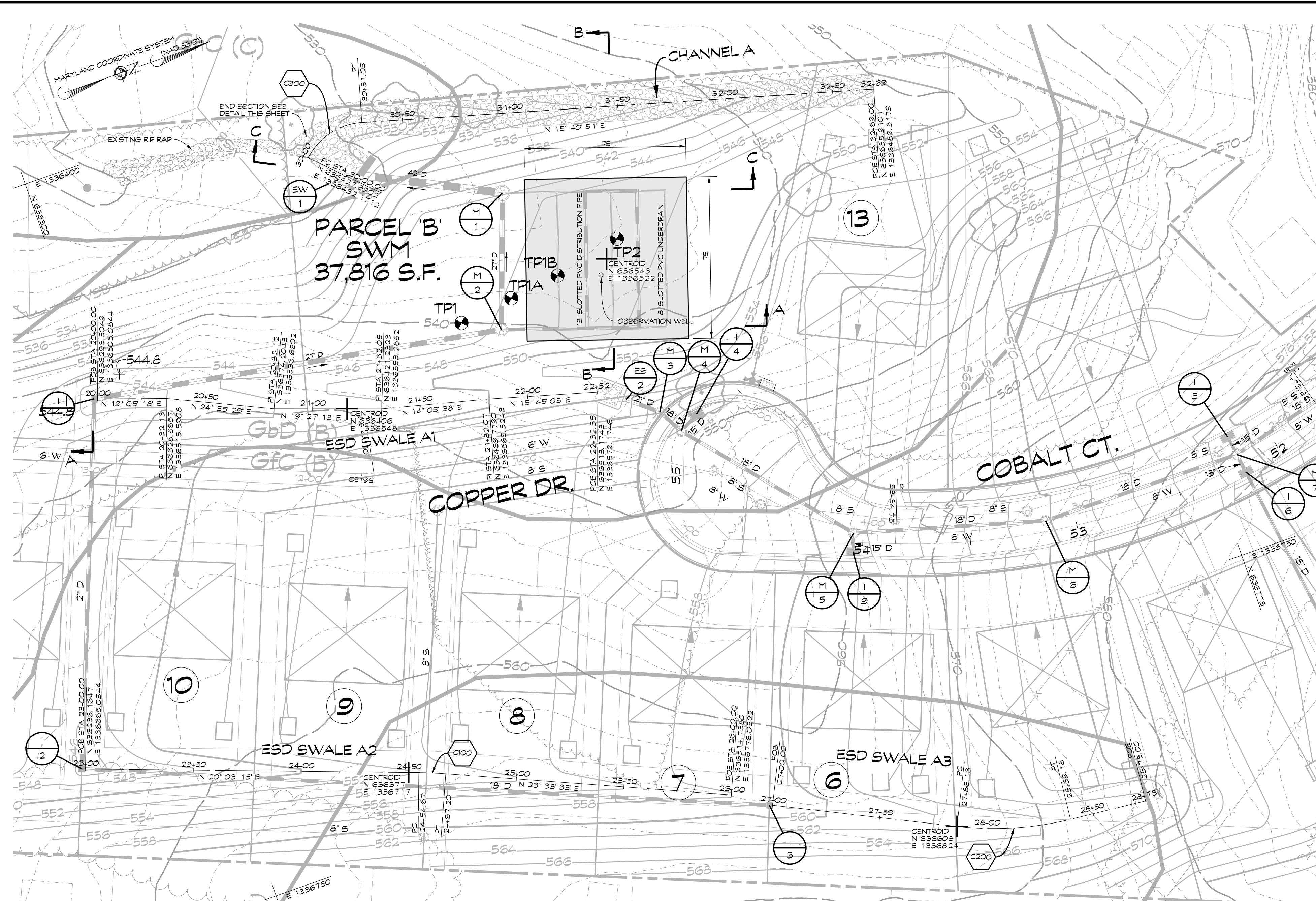
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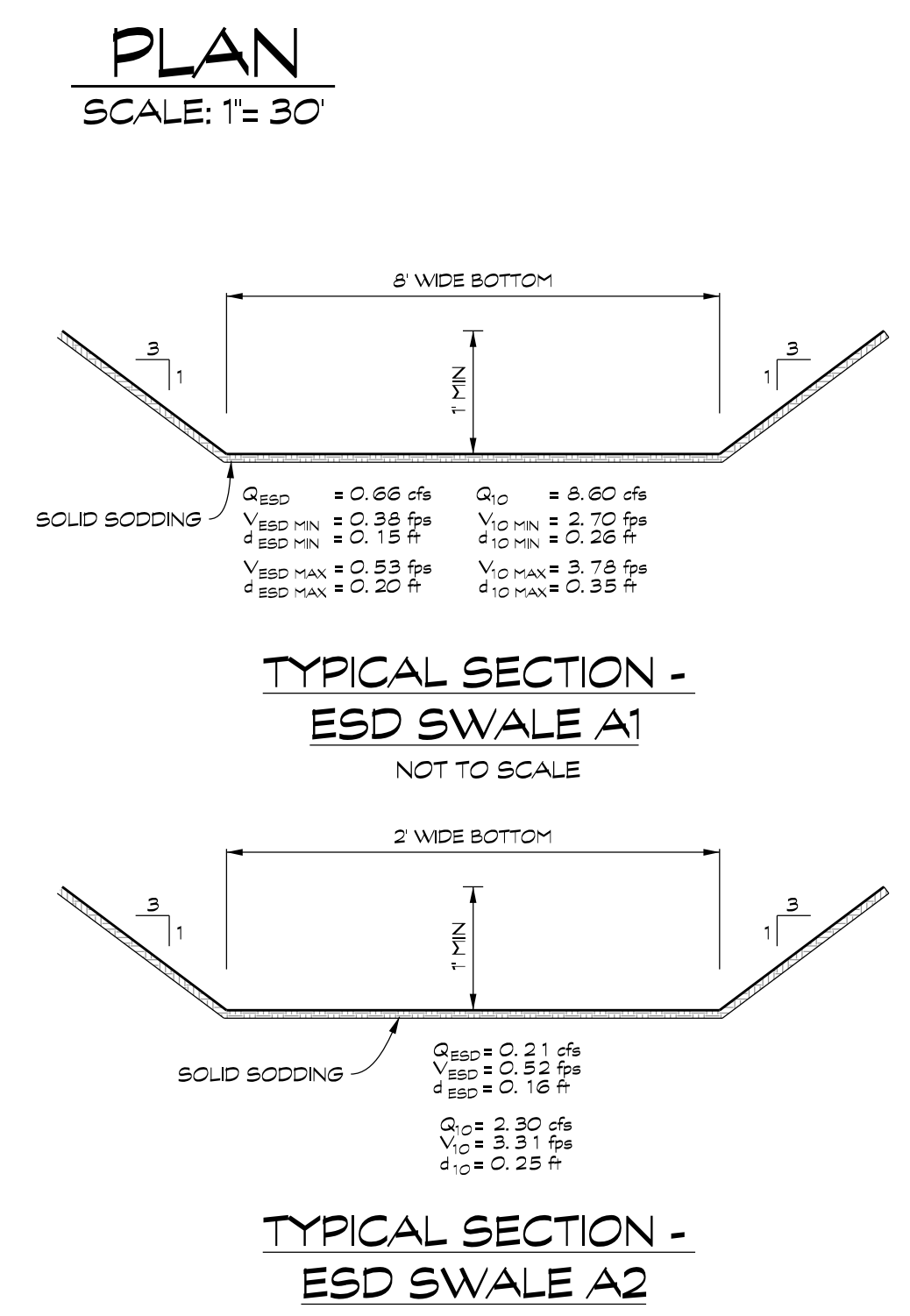
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Date	Revisions	Drawn By:
		JW, MC
		Designed By: ASB
		Reviewed By:
		Date: MARCH, 2020
		Scale: 1" = 30'
		Job No.: 2018074
		Sheet: 5 OF 23

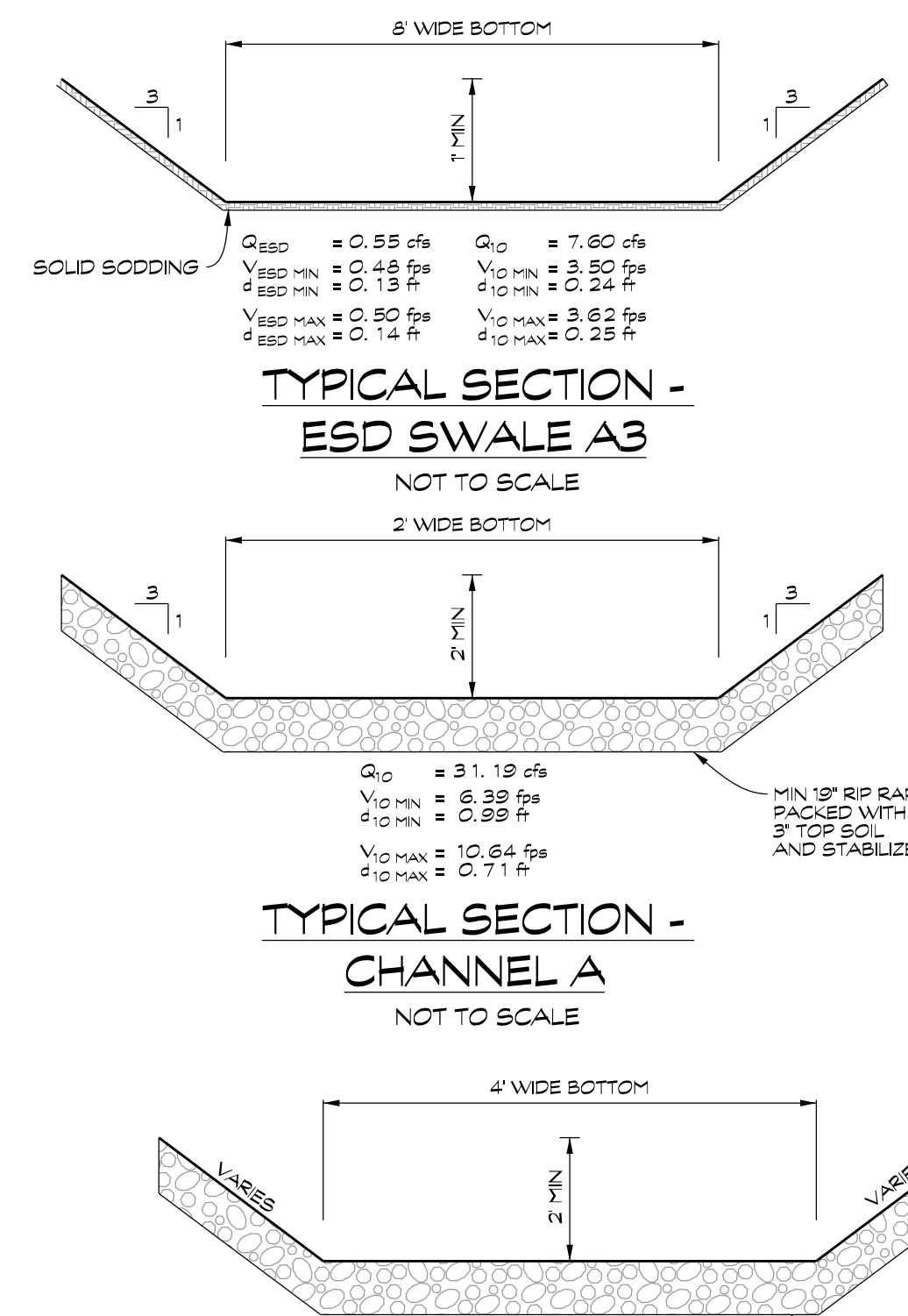
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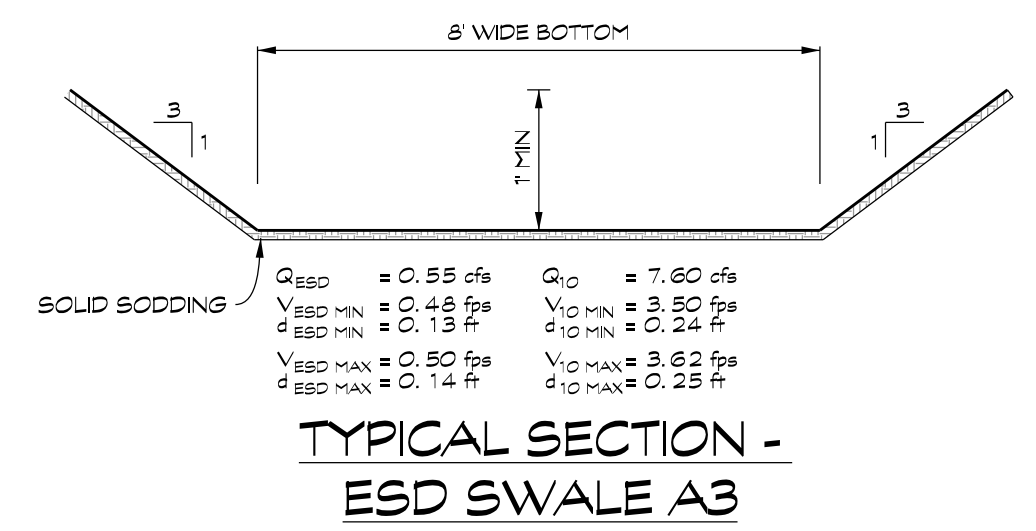
SECTION B-B
SCALE: HORIZ. 1"= 30'
VERT. 1"= 5'



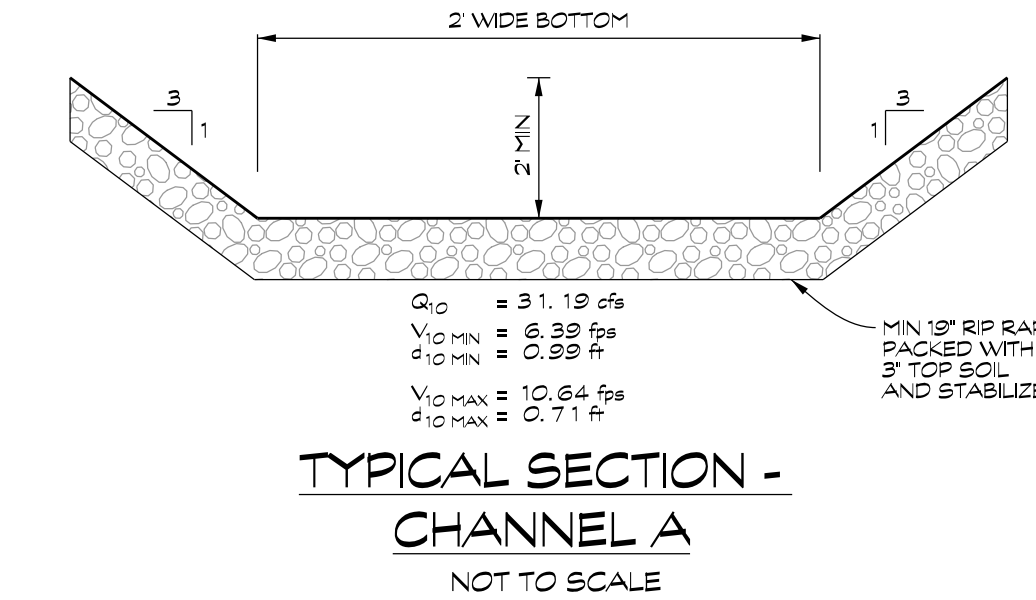
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NOT TO SCALE



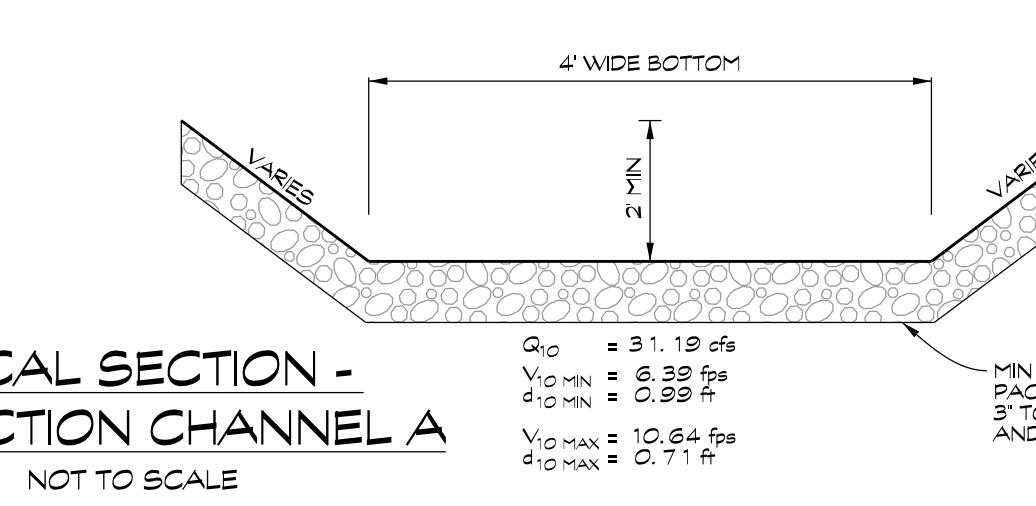
TYPICAL SECTION - ESD SWALE A2
NOT TO SCALE



TYPICAL SECTION - ESD SWALE A3
NOT TO SCALE



TYPICAL SECTION - CHANNEL A
NOT TO SCALE

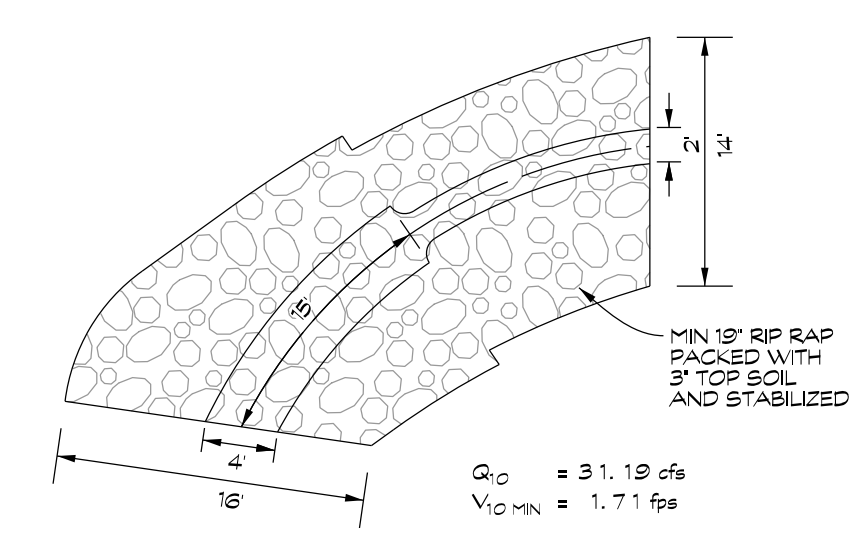


END SECTION - CHANNEL A
NOT TO SCALE

CONSTRUCTION BASELINE ALIGNMENT CURVE DATA

ESD A1	ESD A3	CHANNEL A
NUMBER	100	150
RADIUS	200	150
ARC	12.53	31.09
DELTA	3° 35' 19"	59° 22' 32"
TAN	6.27	17.10
CHORD BRG.	N 21° 50' 55" E	N 14° 00' 25" W
DIST	12.53	29.72

CURVES ARE DESIGNATED AS THUS:



END SECTION - CHANNEL A
NOT TO SCALE

STORMWATER MANAGEMENT PLAN, NOTES & DETAILS
MINERAL HILL PROPERTY

5th ELECTION DISTRICT • CARROLL COUNTY, MARYLAND
TAX MAP: 74 • BLOCK: 3 • PARCEL: 7

NOT FOR CONSTRUCTION

Professional Engineer Seal: D. Masre, P.E., License No. 51395, Exp. 12/31/2023

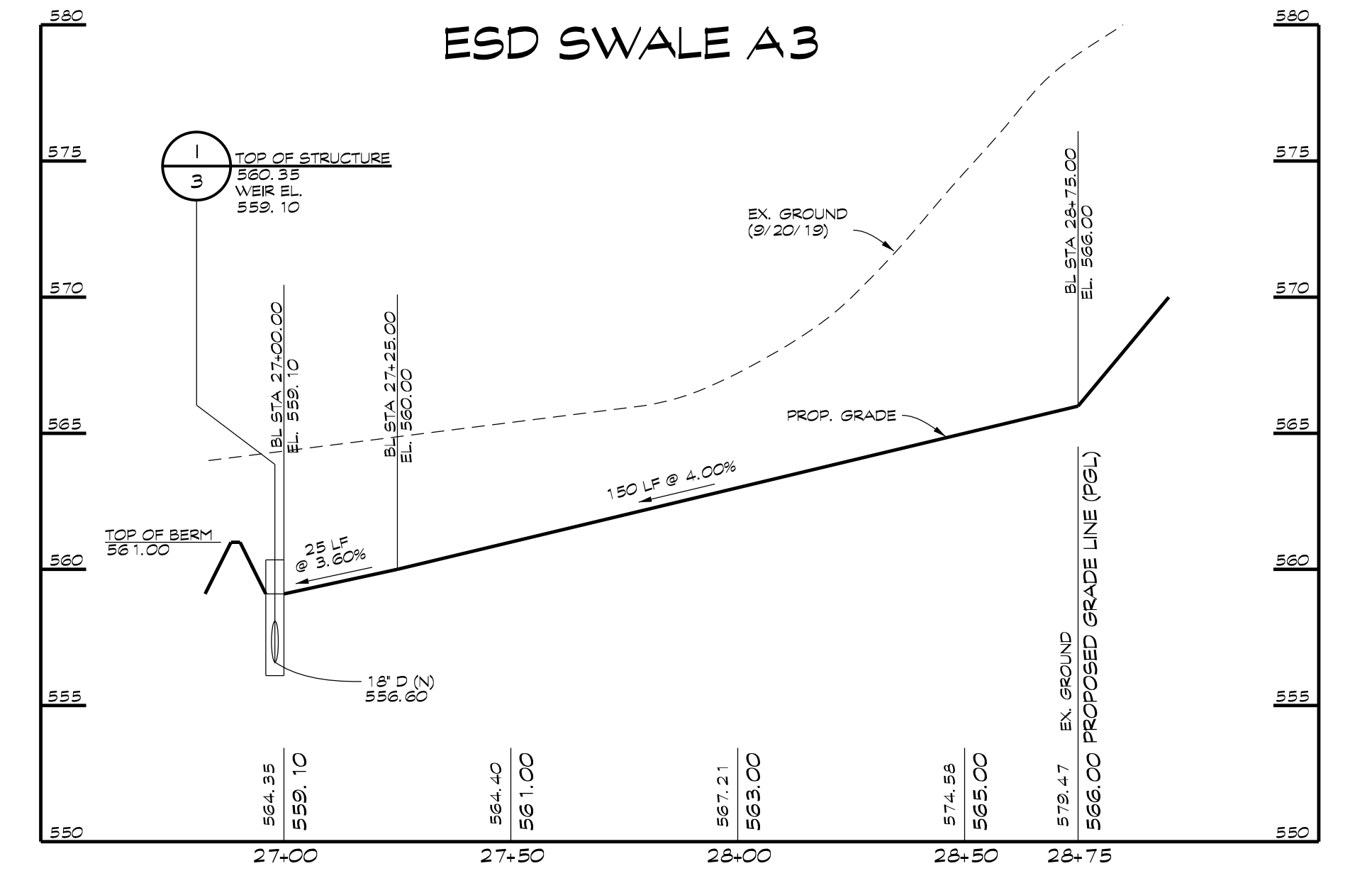
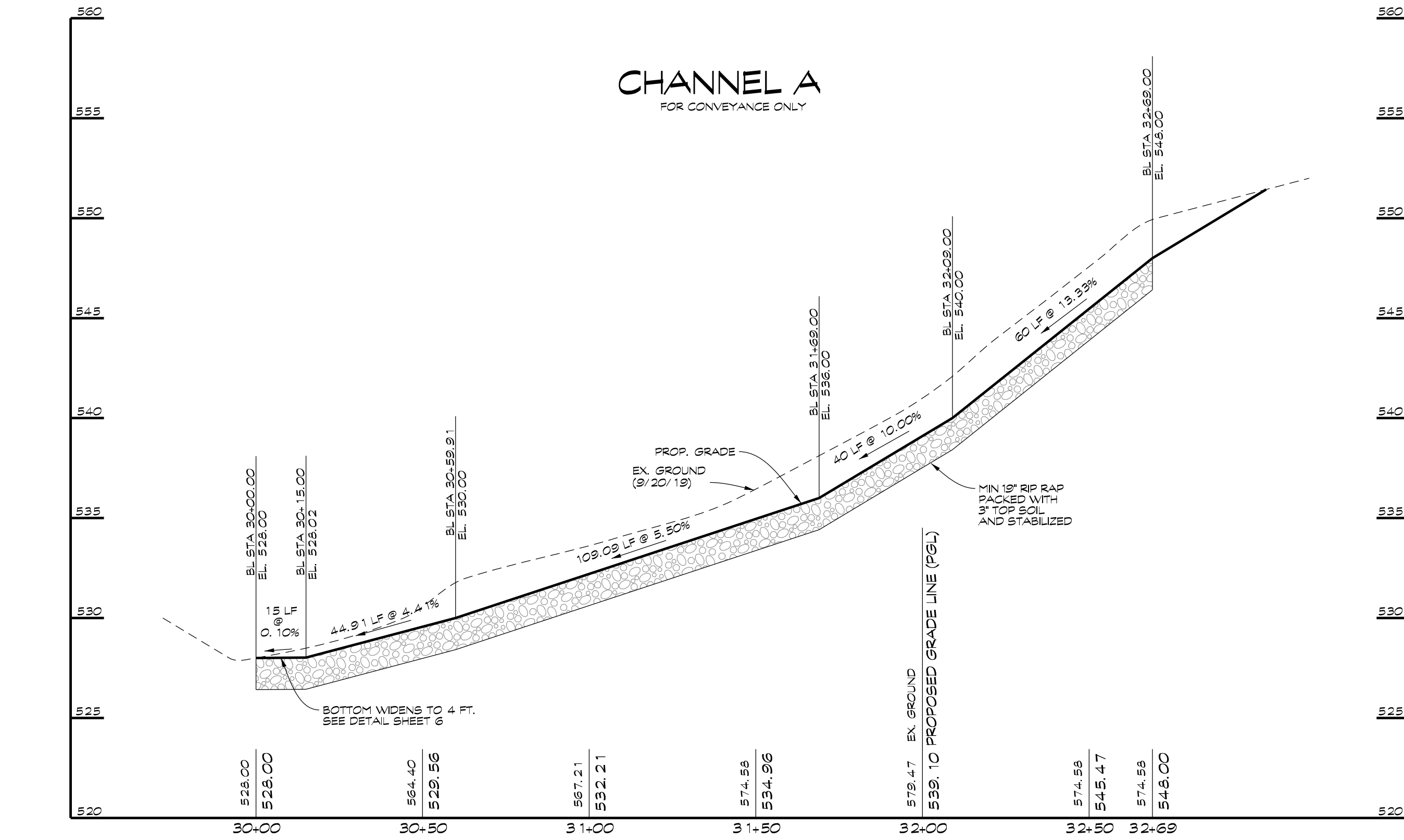
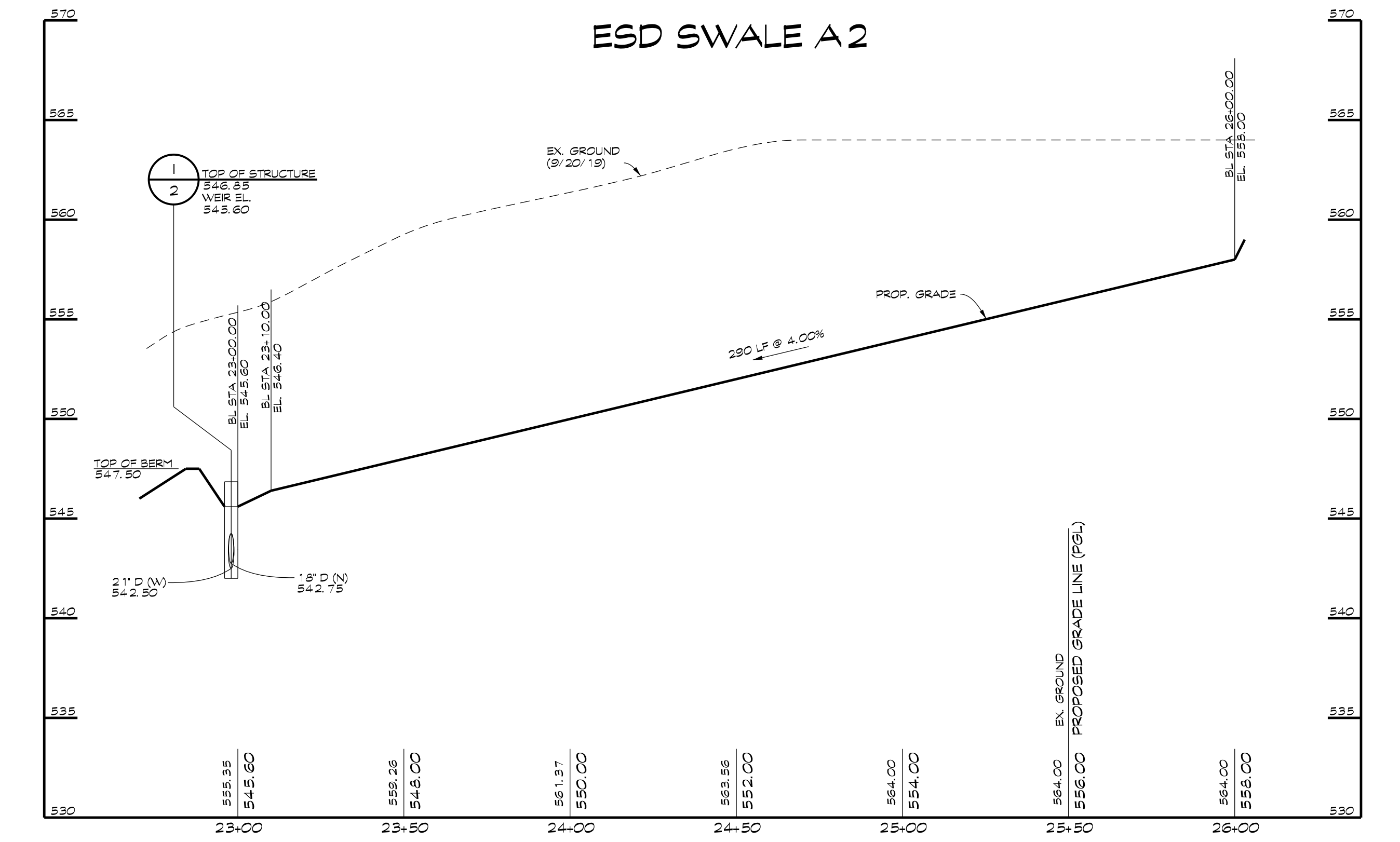
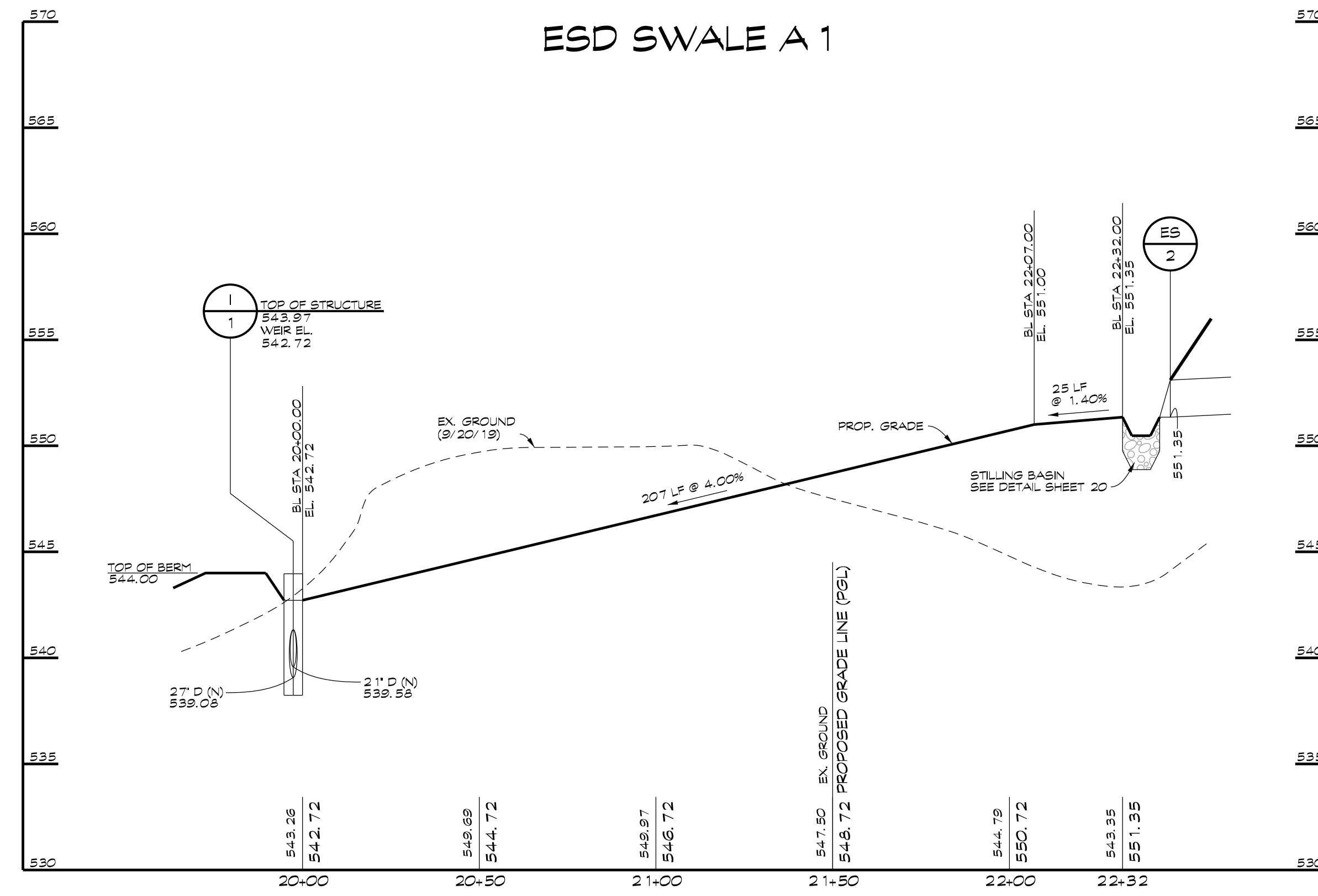
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Date	Revisions	Drawn By: J.W. BOM, AV
		Designed By: BOM, AV
		Reviewed By:
		Date: MARCH, 2020
		Scale: AS SHOWN
		Job No.: 2018074
		Sheet: 6 OF 23

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PROFILE
SCALE: HORIZ. 1" = 30'
VERT. 1" = 5'

STORMWATER MANAGEMENT PROFILES

MINERAL HILL PROPERTY

A CLUSTER SUBDIVISION

5th ELECTION DISTRICT • CARROLL COUNTY, MARYLAND
TAX MAP: 74 • BLOCK: 3 • PARCEL: 7

NOT FOR CONSTRUCTION

Brandon D. Moore, P.E.
3/7/2023

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Date	Revisions	Drawn By:	BDM
		Designed By:	BDM
		Reviewed By:	
		Date:	MARCH, 2020
		Scale:	AS SHOWN
		Job No.:	2016074
		Sheet:	7 OF 23

OWNER / DEVELOPER
MINERAL HILL PROPERTY, LLC.
11175 STRATFIELD COURT
MARRIOTTVILLE MD, 21104
(410) 442-2211

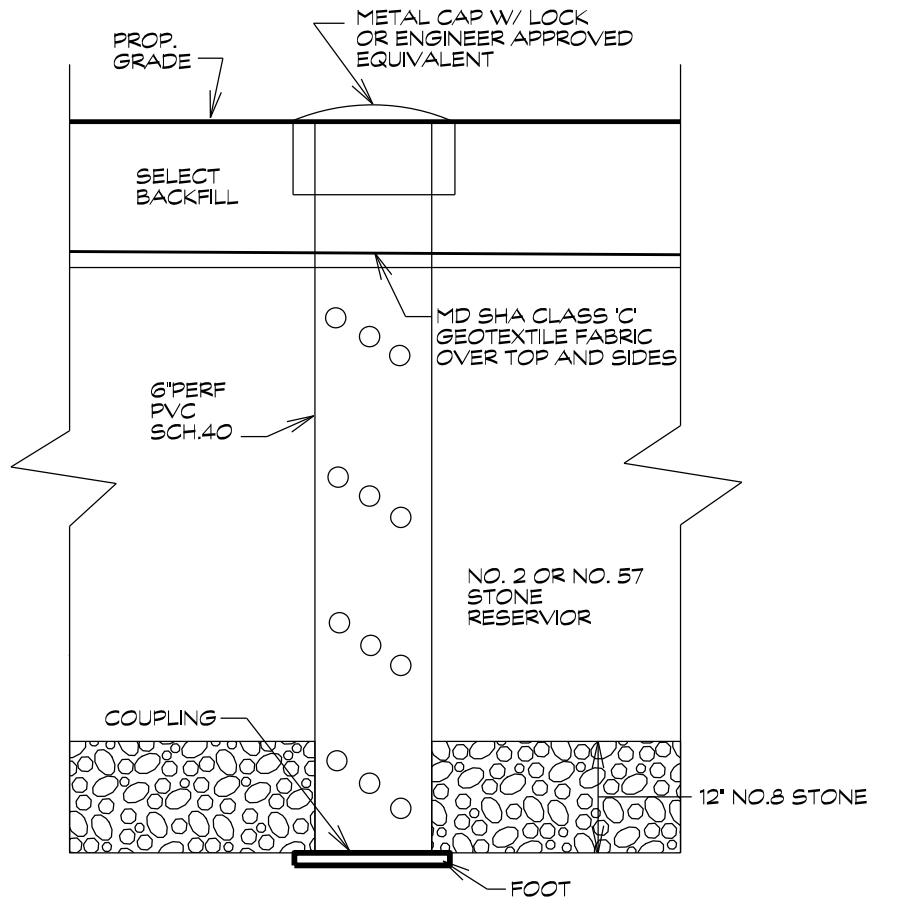
NOT FOR CONSTRUCTION

OBSERVATION WELL DETAIL
N.T.S.

SWM INFILTRATION STUDY
MINERAL HILL PROPERTY
CARROLL COUNTY, MARYLAND
17024MD
MAY 2017

TABLE 2
TEST PIT DATA

Test Pit No.	Depth (Ft) From	To	Soil Descriptions and Remarks
TP-1B (@ 90' N of staked location)	0	0.5	Topsoil
	0.5	2.0	Brown moist SILT & CLAY, and of sand, trace rock frags (ML) (Loam)
	2.0	5.8	Brown moist of SAND, some clayey silt, some rock frags (SM) (Sandy Loam)
	5.8	7.0	Brown of SAND, some rock frags, some silt (SM) (Sandy Loam)
Comments: Hole dry to 7.0' & backfilled upon completion At staked location (TP-1), rock refusal @ 1.2 feet, 25 feet N. of stake (TP-1A), rock refusal @ 2.8 feet.			
TP-2 (@ staked location)	0	0.3	Topsoil
	0.3	4.5	Brown moist Clayey SILT, some of sand, little rock frags (ML) (Loam)
	4.5	7.5	Brown moist of SAND, some silt, trace rock frags (SM) (Sandy Loam)
Comments: Hole dry to 7.5' & backfilled upon completion			



SEQUENCE OF CONSTRUCTION AND INSPECTION CHART FOR SWM FACILITY

STAGE	CERTIFYING PROFESSIONAL'S APPROVAL	
	INITIALS	DATE
1. CARROLL LAND SERVICES, INC. (410) 848-1790 SHALL BE CONTACTED FIVE (5) DAYS PRIOR TO COMMENCEMENT OF ANY WORK.		
2. INSTALL TEMPORARY SEDIMENT CONTROL MEASURES AND CONTACT THE CERTIFYING ENGINEER OFFICE AND INSPECTOR BEFORE PROCEEDING.		
3. CONSTRUCT STORM DRAIN STRUCTURES FROM EM1 TO M2. INSTALL PIPE RAILINGS AND OUTFALL RACK ON EM1.		
4. EXCAVATE FACILITY TO DESIGN DIMENSIONS.		
5. PLACE FILTER CLOTH ON SIDES OF TRENCH AND PIN IN PLACE. PLACE OBSERVATION WELL ON FOOTPLATE.		
6. INSTALL NO. 8 STONE LAYER TO UNDERDRAIN ELEVATION. PLACE UNDERDRAIN. CONNECT UNDERDRAIN TO M1. UNDERDRAIN MUST BE INSPECTED PRIOR TO INSTALLING ADDITIONAL NO. 8 STONE.		
7. PLACE NO. 2 OR NO. 57 STONE TO BOTTOM OF DISTRIBUTION PIPES.		
8. PLACE DISTRIBUTION PIPE. CONNECT PIPE TO M2 AND INSTALL TEMPORARY CAP AT M2. DETAIL THIS SHEET.		
9. INSTALL REMAINING STONE.		
10. WRAP TOP OF FACILITY WITH FILTER CLOTH.		
11. BACKFILL WITH SOL TO PROPOSED CONTOURS.		
12. NO WATER SHALL BE ALLOWED INTO THE FACILITY UNTIL THE ENTIRE DRAINAGE AREA TO THE FACILITY IS PAVED OR SUPPORTING A 2" STAND OF GRASS. BUILDINGS ARE COMPLETED, AND THE CERTIFYING ENGINEER HAS INSPECTED AND GIVEN APPROVAL.		
13. NOTIFY SEDIMENT AND EROSION CONTROL INSPECTOR FOR APPROVAL PRIOR TO REMOVAL OF SEDIMENT AND EROSION CONTROL DEVICES.		
14. REMOVE TEMPORARY PLUG FROM M-2 AND INSTALL 18" 90° ELBOW.		
15. SUBMIT STORMWATER MANAGEMENT AS-BUILT ON PAPER TO THE CARROLL COUNTY BUREAU OF RESOURCE MANAGEMENT WITHIN 60 DAYS.		

SEQUENCE OF CONSTRUCTION/ENGINEERS INSPECTION CHART

STAGE	SWALE A1			SWALE A2			SWALE A3		
	ENGINEER'S APPROVAL			ENGINEER'S APPROVAL			ENGINEER'S APPROVAL		
	INITIALS	DATE		INITIALS	DATE		INITIALS	DATE	
1. EXCAVATE SWALE TO APPROPRIATE DIMENSIONS.									
2. STABILIZE SWALE WITH APPROPRIATE STABILIZATION. SEE TYPICAL CROSS SECTIONS ON SHEET 6.									
3. ONCE 2" STAND OF GRASS ESTABLISHED, SUBMIT SIGNED AND CERTIFIED "AS-BUILT" TO C.C. BUREAU OF RESOURCE MANAGEMENT.									

* PLEASE NOTIFY CERTIFYING ENGINEER 48 HOURS PRIOR TO COMMENCING CONSTRUCTION

ENGINEER'S NAME: CLSI
PHONE NUMBER: (410) 848-1790

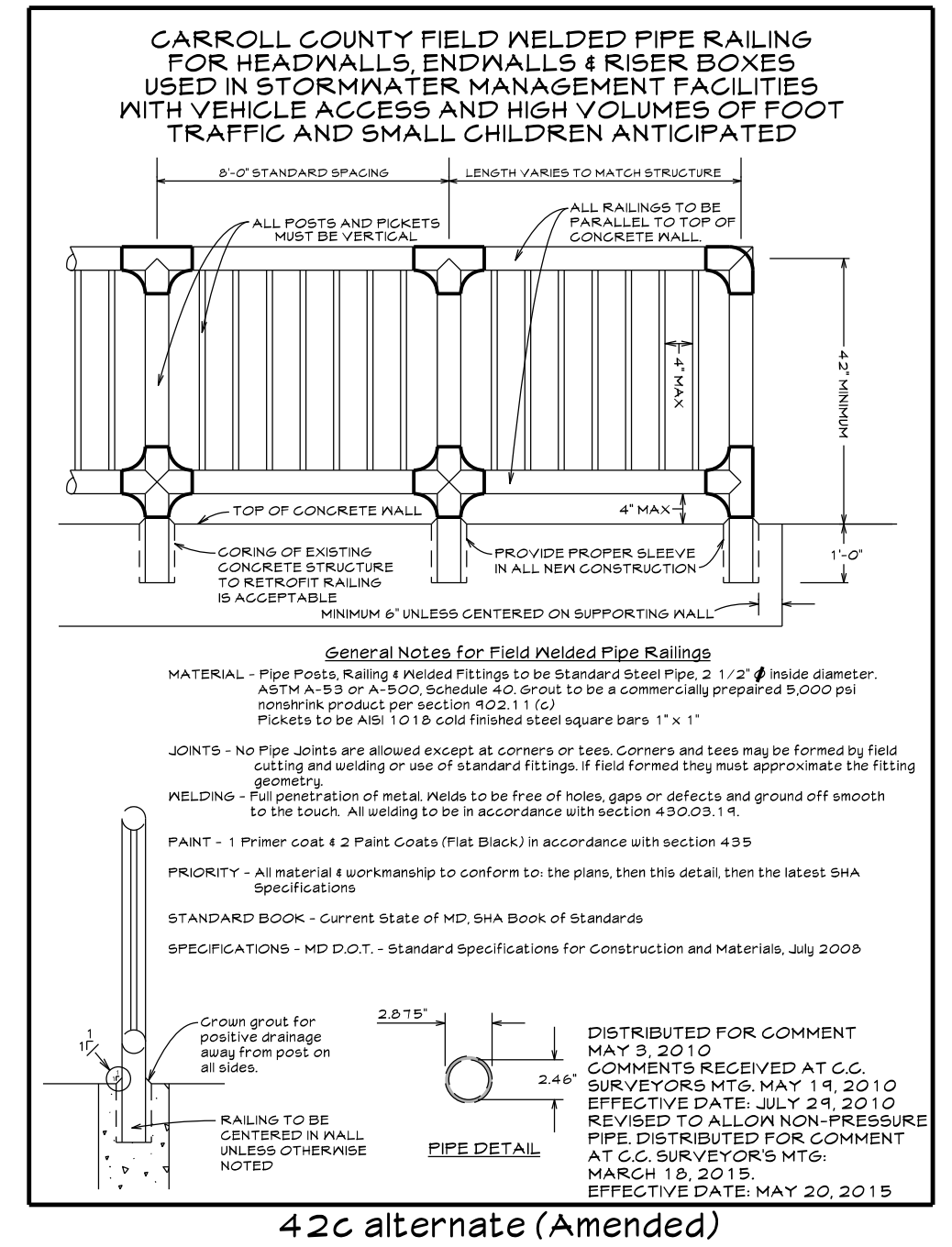
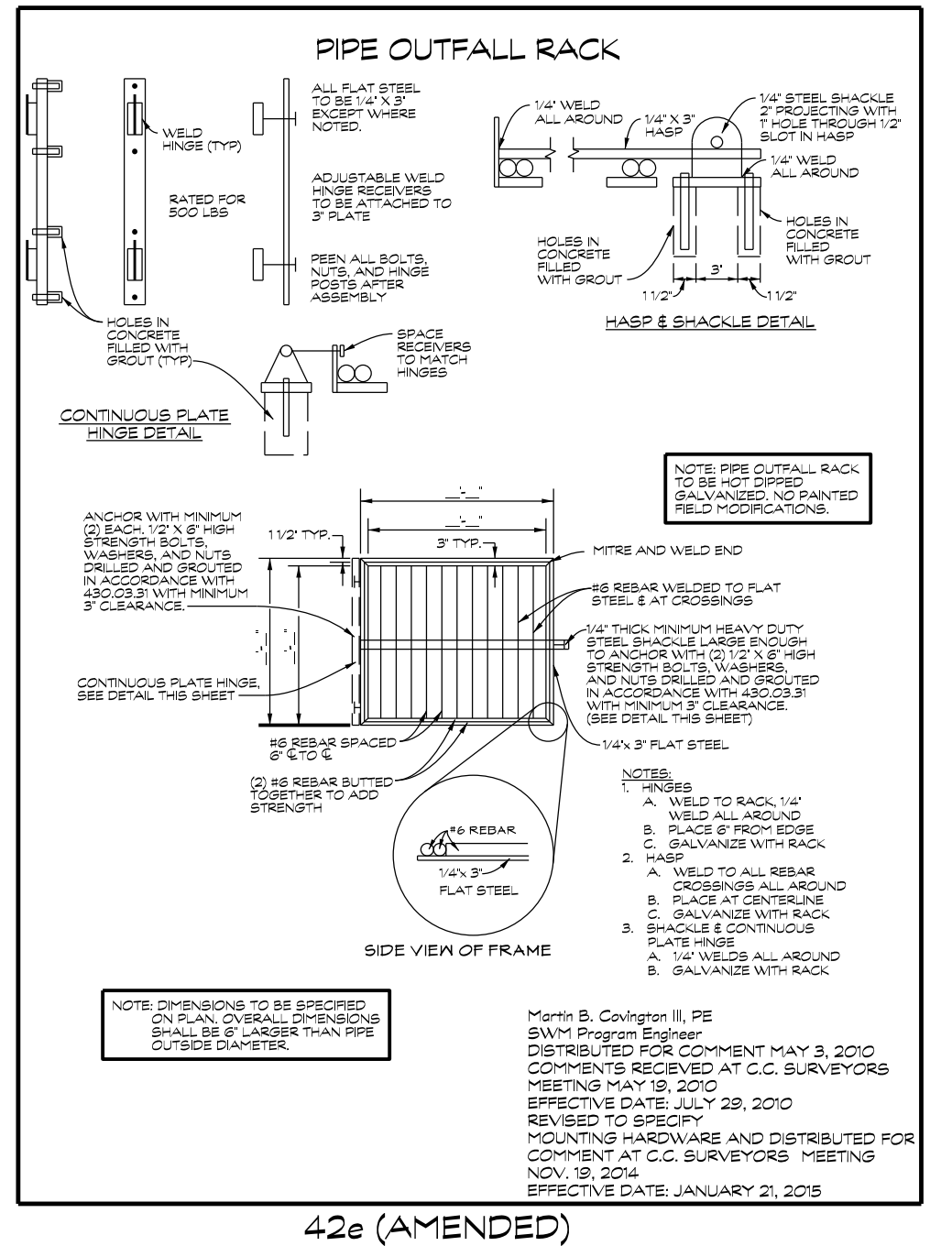
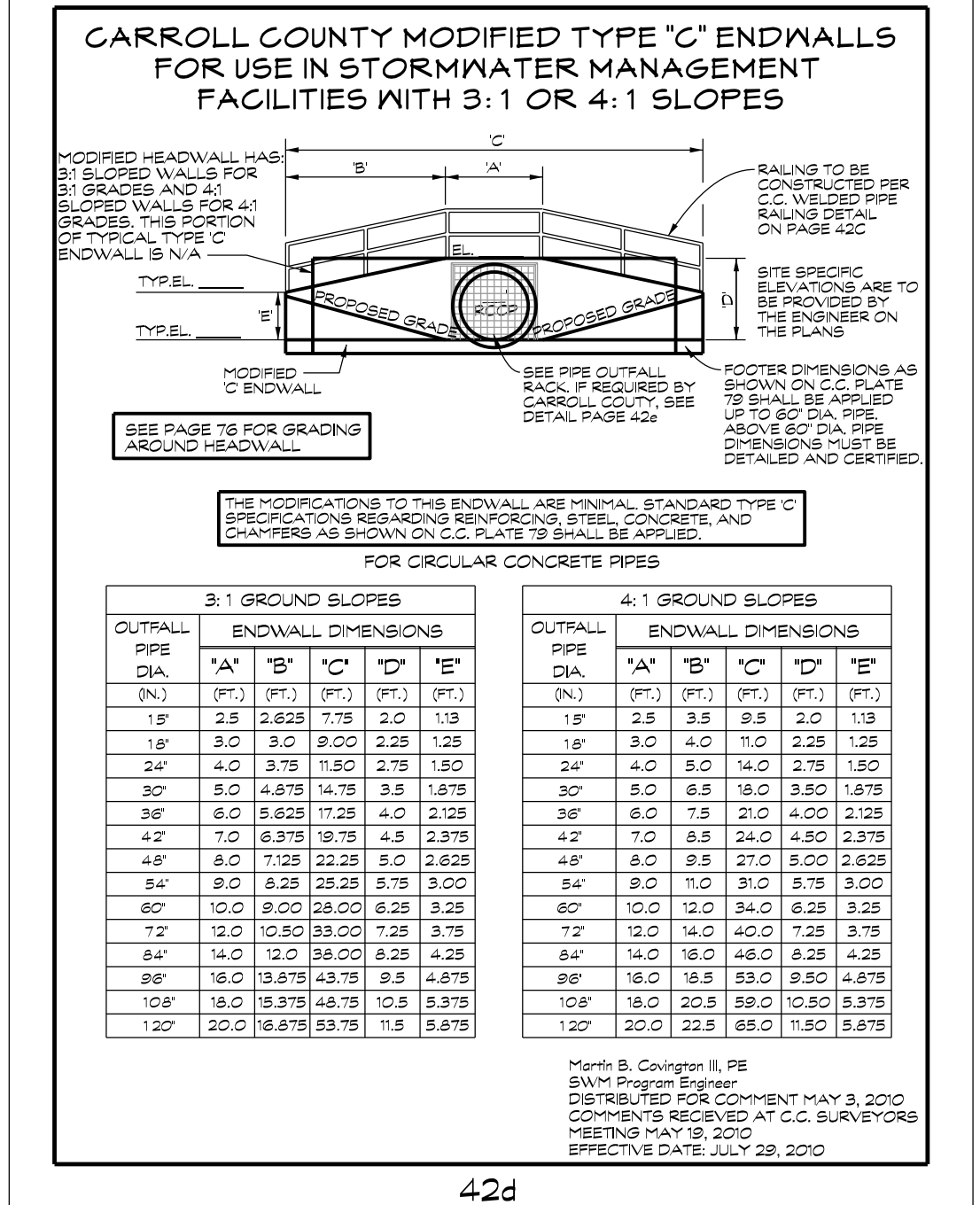
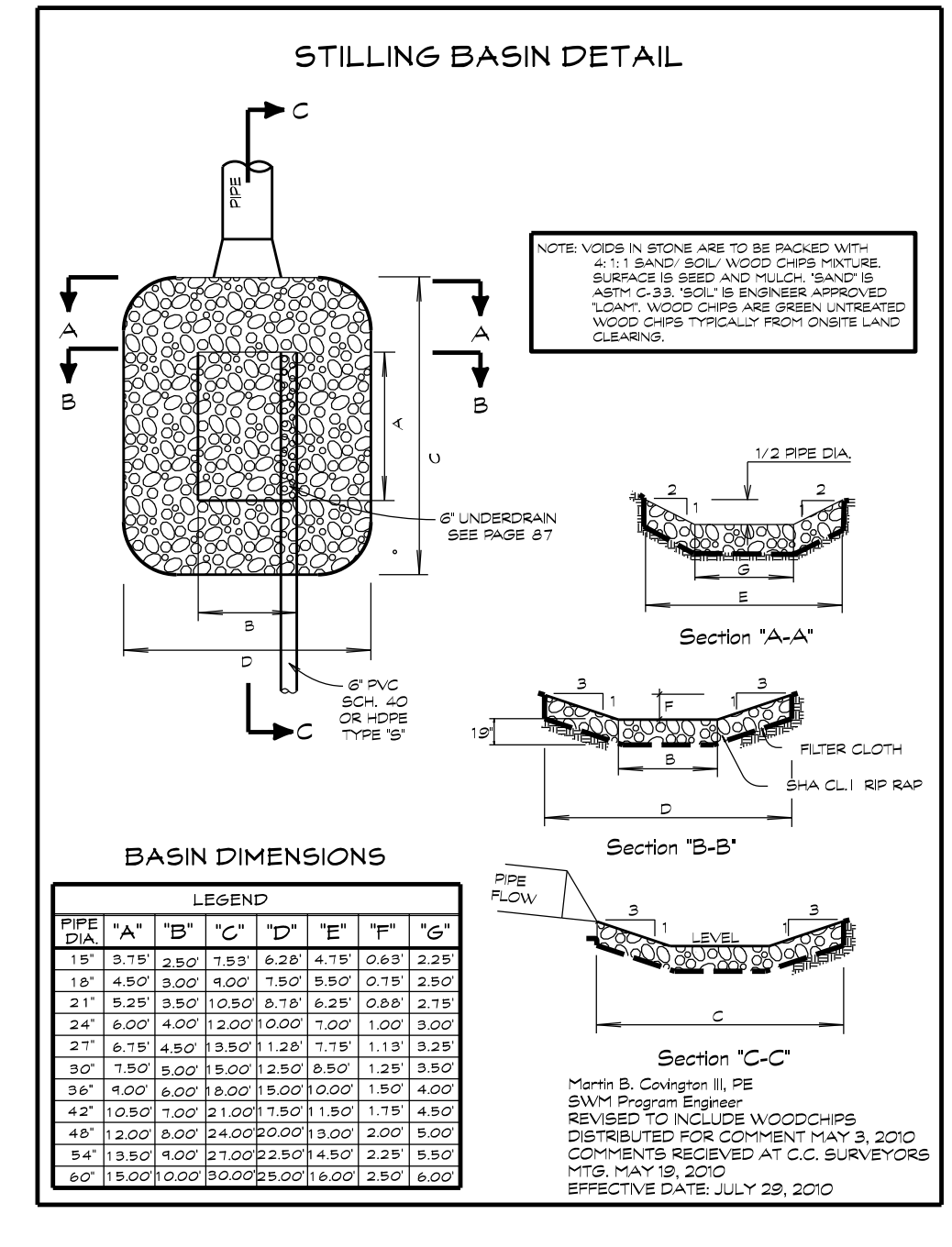
ENGINEER'S NAME: _____
PHONE NUMBER: _____

STORMWATER MAINTENANCE SCHEDULE GRASS SWALE

MONTHLY INSPECTION		
Inspection Item	Inspection Requirements	Remedial Action
Debris and Trash	Check for trash and debris in channel including inlets, outlets, and area around facility.	Remove all trash and debris and dispose in an acceptable manner. Unclog all openings.
Grass Cover	Grass in swale must be maintained at a height of 4 to 6 inches. Check for channelizing and bare spots.	Mow side slopes when grass exceeds 12 inches in height. Mow channel at least bi-annually. Remove grass clippings. Re-plant with topsoil, seed, and matting.
SEASONAL INSPECTION AND AFTER A MAJOR STORM		
Inspection Item	Inspection Requirements	Remedial Action
Sediment Accumulation	Check for accumulated sediment and clogged openings.	When sediment accumulates to 2 inches in depth, remove sediment. Remove sediment from any clogged openings. Dispose of all sediment in an acceptable location.
Erosion	Check inflow, channel, outfall, and side slopes for evidence of erosion, rills, gullies, and runoff channelization.	Re-plant with topsoil, seed, and matting. Re-grade if concentrated runoff to the facility is causing rills or gullies. Grade, vegetate, and/or armor to provide stable conveyance in accordance with approved plans.
ANNUAL INSPECTION		
Inspection Item	Inspection Requirements	Remedial Action
Maintenance Access	Check for accessibility to facility.	Prevent excessive vegetative growth, erosion, and obstructions on access way.
Overall Function of Facility	Check that flow conveyance is operating as designed.	Repair to good condition according to specifications on the approved plans.

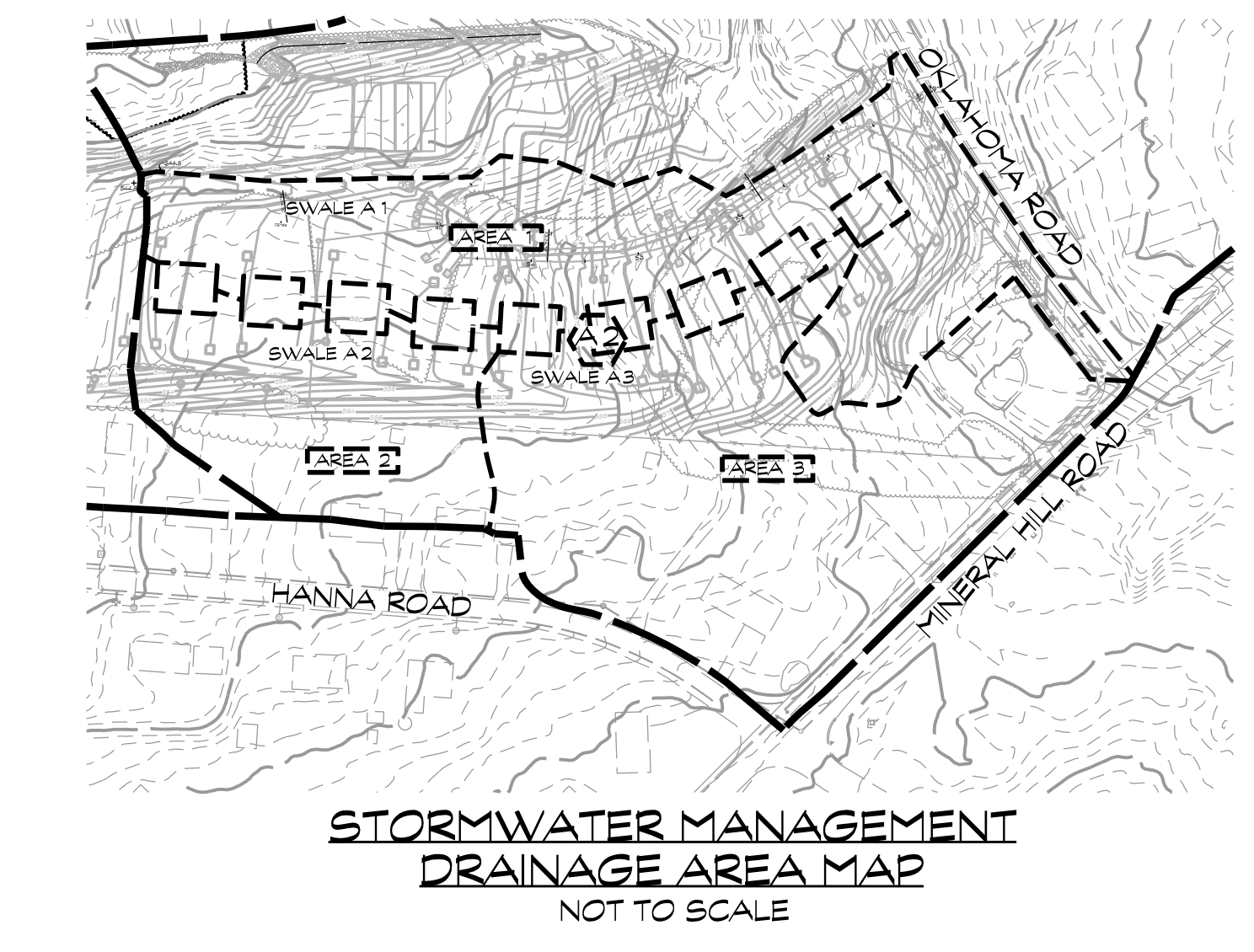
Specific Maintenance Inspection Schedule for Underground Facilities Carroll County, Maryland

- Minimum Annual Inspections & Maintenance** (to be included on plans)
- Remove standing water from inlets/manholes/underground structures.
 - Remove accumulated sediments and debris from inlets/manholes/underground structures.
 - Inspect inlets/manholes/weir walls, low flow orifices, and the underground structure for cracks, spalling and clogging. Remove clogs.
 - Inspect trash rack for attachment and blockages. Remove blockages.
 - Inspect inlets/manholes/weir walls and the underground structure for integrity (holes, corrosion, cracks, spalling, separations and missing parts (manhole lids, grates, plates, etc.)). Repair/replace to good condition according to approved plans and specifications.
 - Document the above steps using the Carroll County Inspection Report form and required photographs. Owner is responsible for providing copies of this form documenting completed annual maintenance when required.



APPROVED UNDERDRAIN PIPES FOR CARROLL COUNTY STORMWATER MANAGEMENT FACILITIES

NOMINAL SIZE	DEGREES	SLOPE	SLOT SIZE		SLOT SPACING	SLOT LENGTH	PERFORATION OPEN AREA (SQ. IN. PER FT. OF PIPE)
			WIDTH	DEPTH			
4"	182	2	0.32	0.16	0.25	1.52	1.92
6"	184	2	0.32	0.16	0.25	1.52	1.92
8"	182	2	0.32	0.16	0.25	1.52	1.92
10"	182	2	0.32	0.16	0.25	1.52	1.92
12"	182	2	0.32	0.16	0.25	1.52	1.92
15"	184	2	0.32	0.16	0.25	1.52	1.92
18"	182	2	0.32	0.16	0.25	1.52	1.92



POND DATA- SWM FACILITY

- STORMWATER MANAGEMENT FACILITY SHOWN ON THESE PLANS IS PUBLIC THEREFORE SHALL BE MAINTAINED BY CARROLL COUNTY AND CONSTRUCTED BY THE DEVELOPER.
- POND TYPE: UNDERGROUND STONE RESERVOIR (NON-MD-378 FACILITY)
- DRAINAGE AREA TO FACILITY = 7.51 ACRES
- IMPERVIOUS AREA TO FACILITY = 1.98 ACRES
- SITE IS DRAINING TO SNOWDENS RUN DRAINAGE BASIN DESIGNATION 021 350907 AND IS CLASSIFIED AS USE III-B.
- FACILITY PROVIDES PEAK DISCHARGE MANAGEMENT FOR THE 10-YEAR STORM EVENT.
- CENTROID: N: 636543 E: 1336522

TEMPORARY PLUG

SWM DATA- ESD PRACTICES

- STORMWATER MANAGEMENT FACILITIES SHOWN ON THESE PLANS IS PUBLIC THEREFORE SHALL BE MAINTAINED BY CARROLL COUNTY AND CONSTRUCTED BY THE DEVELOPER.
- PRACTICES: M-8 1 GRASS SWALE (ESD PRACTICE)
- SITE IS DRAINING TO SNOWDENS RUN DRAINAGE BASIN DESIGNATION 021 350907 AND IS CLASSIFIED AS USE III-B.
- FACILITIES PROVIDE ESD TO THE MEP. TOTAL ESDV REQ = 8,930 CU. FT. TOTAL ESD PROV. = 9,436 CU. FT.
- CENTROID: AS SHOWN ON SHEET 6.

DA	AREA (SF)	IMP. AREA (SF)	ESDV. PROV. (CU. FT.)	PE. PROV.
HOUSES	32,175	32,175	6,396	2.5
AREA 1	118,734	39,874	1,562	0.5
AREA 2	53,574	1,933	403	2.5
AREA 3	132,728	21,958	1,171	0.6

DEVELOPER/LANDOWNER'S CERTIFICATION

I/We hereby certify that all proposed work shown on these construction drawings will be conducted in strict accordance with these plans. I/We also understand that it is my/our responsibility to have the construction supervised and certified, including the submittal of "As-Built" plans certified by a Registered Professional Engineer within thirty (30) days of completion of work on the stormwater management facility/facilities. I/We also certify that these stormwater management facility/facilities were inspected during construction by a Registered Professional Engineer in accordance with Article VII of Chapter 151 of the Code of Public Local Laws and Ordinances of Carroll County.

ENGINEER'S "AS-BUILT" CERTIFICATION

I/We hereby certify that the facility/facilities shown on this/these plan(s) was/were constructed as shown on the "As-Built" plans and meets the approved plans and specifications. I also certify that this/these facility/facilities were inspected in accordance with Article VII of Chapter 151 of the Code of Public Local Laws and Ordinances of Carroll County and 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.

ENGINEER'S DESIGN CERTIFICATION

I hereby certify that these plans have been designed according to Chapter 151 of the Code of Public Local Laws and Ordinances of Carroll County and 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.

STORMWATER MANAGEMENT NOTES & DETAILS

MINERAL HILL PROPERTY

5th ELECTION DISTRICT CARROLL COUNTY, MARYLAND
TAX MAP: 74 BLOCK: 3 PARCEL: 7

NOT FOR CONSTRUCTION

Professional Engineer Seal: CLSI, License No. 9328, Expiration Date: December 1, 2023

439 East Main Street Westminster, MD 21157-5539
(410) 848-1790 FAX (410) 848-1791

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Date	Revisions	Drawn By:	BDM
		Designed By:	BDM
		Reviewed By:	
		Date:	MARCH 2020
		Scale:	AS SHOWN
		Job No.:	2016074
		Sheet:	8 OF 23

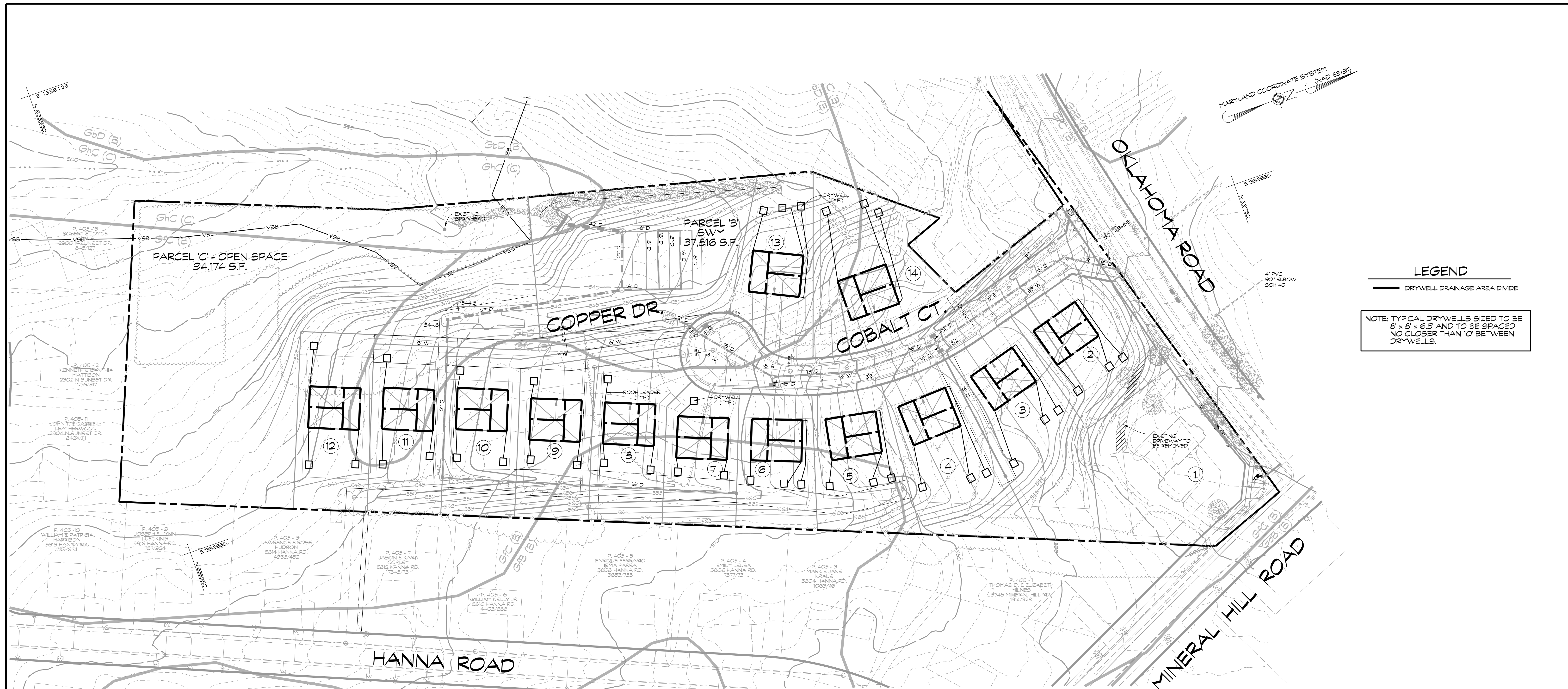
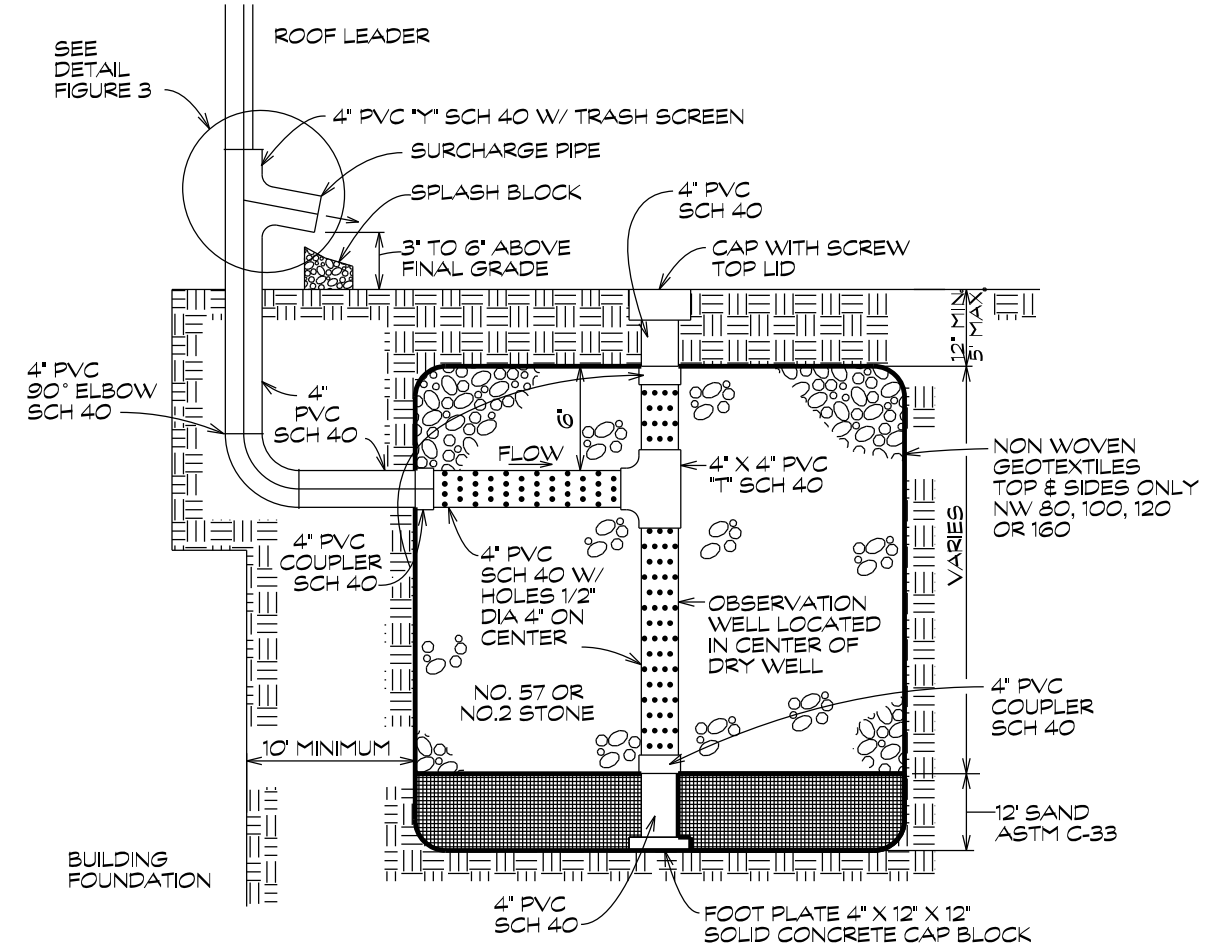
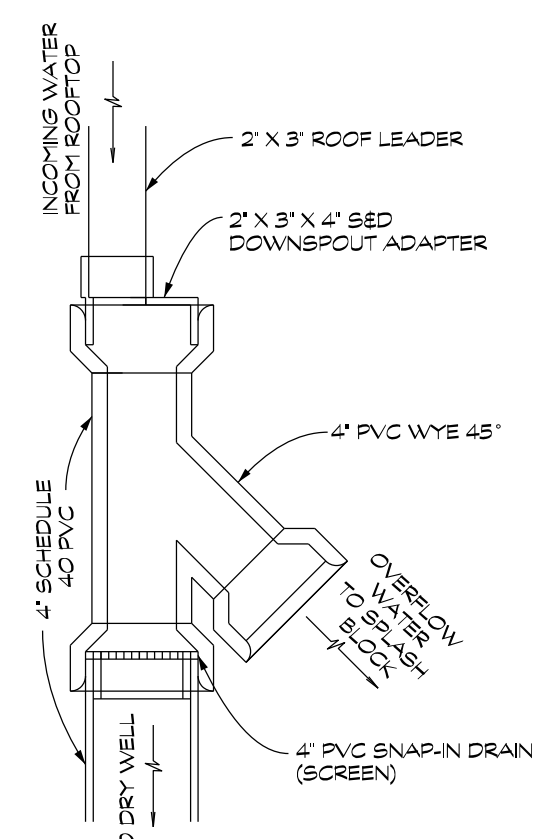


FIGURE 2
STANDARD DRY WELL



- NOTES:
1. MINIMUM SETBACKS:
A. 100 FT FROM WELLS
B. 50 FT FROM SEPTIC AREAS
C. 20 FT FROM BUILDINGS
 2. FROM THE DOWNSPOUT TO THE DRY WELL THE DRAIN PIPE MUST BE AT LEAST 6" BELOW GRADE
 3. THE LOCATIONS AND SIZE OF ALL DRY WELLS MUST BE SHOWN ON THE GRADING PLOT PLAN.
 4. THESE GEOTEXTILES ARE AVAILABLE IN PINKSBURG @ ES & S DISTRIBUTORS 5501 BERRY RD. BLDG 8, 866-744-5001, ANY EQUIVALENT GEOTEXTILE IS ACCEPTABLE

FIGURE 3
STANDARD DRY WELL
DOWNSPOUT FITTINGS



- NOTES:
1. THE SNAP IN SCREEN IS REQUIRED TO PREVENT CLOGGING OF THE DRY WELL WITH DEBRIS.
 2. SEE FIGURE 3a LIST OF POTENTIAL SUPPLIERS TO ACCOMPANY FIGURE 3 STANDARD DRY WELL DOWNSPOUT FITTINGS FOR INFORMATION ON SOME LOCAL RETAILERS THAT SUPPLY COMPONENTS FOR THIS SYSTEM.

FIGURE 3a
LIST OF POTENTIAL SUPPLIERS TO ACCOMPANY FIGURE 3
STANDARD DRY WELL DOWNSPOUT FITTINGS

- 2" x 3" x 4" S & D DOWNSPOUT ADAPTER**
- BT Plumbing Supply, Inc. 456 Lucabaugh Mill Rd, Westminster, MD 21157; 410-878-2118; Part No. PSDDA4234
 - Ferguson Enterprises, Inc. 900 Wakefield Valley Rd, New Windsor, MD 21176; 410-635-6682; Part No. PSDAK4P
 - Lowe's Home Improvement Warehouse of Westminster, 777 Market St, Westminster, MD 21157; 410-857-7448; Part No. NDS LP004
 - The Plumbers Home Center (two locations), 15 North Main Street, Mt. Airy, MD 21177; 301-829-7770 or 410-795-0331; or 418 E. Baltimore St., Tonawanda, MD 21157; 410-751-1113; Part No. requires cutting to fit.
- 4" PVC WYE 45°**
- BT Plumbing Supply, Inc. 456 Lucabaugh Mill Rd, Westminster, MD 21157; 410-878-2118; Part No. PW4
 - Ferguson Enterprises, Inc. 900 Wakefield Valley Rd, New Windsor, MD 21176; 410-635-6682; Part No. PW4V12
 - Lowe's Home Improvement Warehouse of Westminster, 777 Market St, Westminster, MD 21157; 410-857-7448; Part No. CW4545 1400
 - Jones-Stephens Corp. www.slumbest.com; 800-355-6637; Part No. D42-004
 - Lowe's Home Improvement Warehouse of Westminster, 777 Market St, Westminster, MD 21157; 410-857-7448; Part No. Ostry 435623
 - The Plumbers Home Center (two locations), 15 North Main Street, Mt. Airy, MD 21177; 301-829-7770 or 410-795-0331; or 418 E. Baltimore St., Tonawanda, MD 21157; 410-751-1113; Part No. requires cutting to fit.
- 4" PVC Snap-In Drain Screen**
- BT Plumbing Supply, Inc. 456 Lucabaugh Mill Rd, Westminster, MD 21157; 410-878-2118; Part No. JSD42004
 - Jones-Stephens Corp. www.slumbest.com; 800-355-6637; Part No. D42-004
 - Lowe's Home Improvement Warehouse of Westminster, 777 Market St, Westminster, MD 21157; 410-857-7448; Part No. Ostry 435623
 - The Plumbers Home Center (two locations), 15 North Main Street, Mt. Airy, MD 21177; 301-829-7770 or 410-795-0331; or 418 E. Baltimore St., Tonawanda, MD 21157; 410-751-1113; Part No. requires cutting to fit.

Note: The Carroll County Bureau of Resource Management obtained this part information after sending out a letter to known local plumbing supply companies and after receiving information from each respective company. The suppliers listed above are provided for reference purposes only. Any equivalent schedule 40 PVC fittings from any vendor may be used.

NOTE: DRYWELLS SIZED ASSUMING A TYPICAL ROOF AREA OF 2,475 SQ. FT. DRIVEWAYS ARE TREATED IN GRASS SWALE AT FINAL DRYWELL DESIGN TO BE PROVIDED IN THE PLOT PLAN PHASE. EACH PLOT PLAN TO ASSUME A TREATMENT OF 2.5" P₆₀ ON TOTAL ROOF AREA REGARDLESS OF FINAL HOUSE SIZE. ALL DRYWELLS TO HAVE THE GOAL OF A MAXIMUM ROOF DRAINAGE AREA OF 1,000 SQ. FT.

INSPECTION CHART FOR DRY WELL INSTALLATION

STAGE	ENGINEER'S APPROVAL	
	INITIALS	DATE
1. ONCE THE INDIVIDUAL HOUSE HAS BEEN CONSTRUCTED AND FINAL GRADING IS COMPLETE.		
2. PLACEMENT OF SAND		
3. PLACEMENT OF NO. 57 OR NO. 2 STONE AND PIPE		
4. PLACEMENT OF 4" PVC PIPE		
5. FINE GRADE & STABILIZATION OF AREAS DISTURBED DURING CONSTRUCTION OF DRY WELL		

* PLEASE NOTIFY CERTIFYING ENGINEER 48 HRS PRIOR TO CONSTRUCTION *

ENGINEER'S NAME: CLSI
PHONE NUMBER: 410-848-1790

OWNER / DEVELOPER
MINERAL HILL PROPERTY, LLC.
11175 STRATFIELD COURT
MARRIOTTVILLE MD, 21104
(410) 442-2211

DRYWELL PLAN, NOTES & DETAILS

MINERAL HILL PROPERTY
A CLUSTER SUBDIVISION

5th ELECTION DISTRICT CARROLL COUNTY, MARYLAND
TAX MAP: 74 BLOCK: 3 PARCEL: 7

NOT FOR CONSTRUCTION

Brandon D. Moore, P.E.
3/7/2023

Engineers • Surveyors

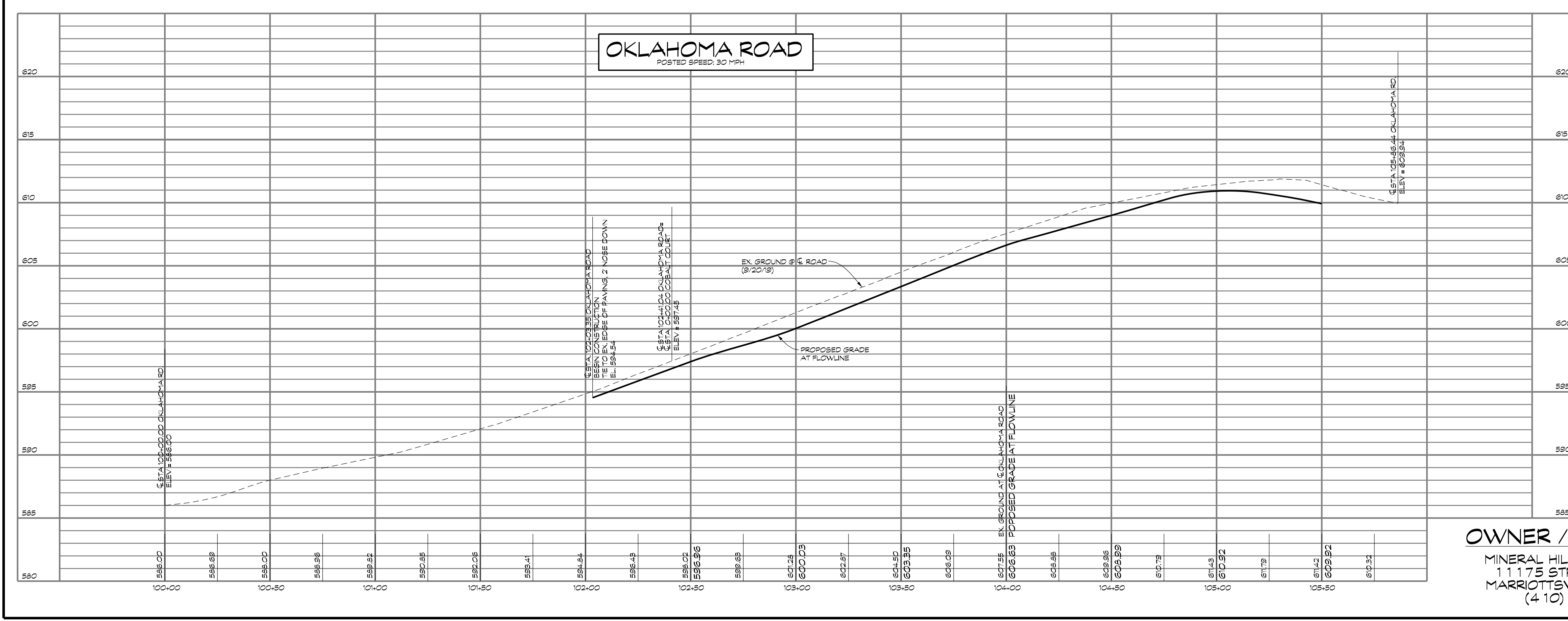
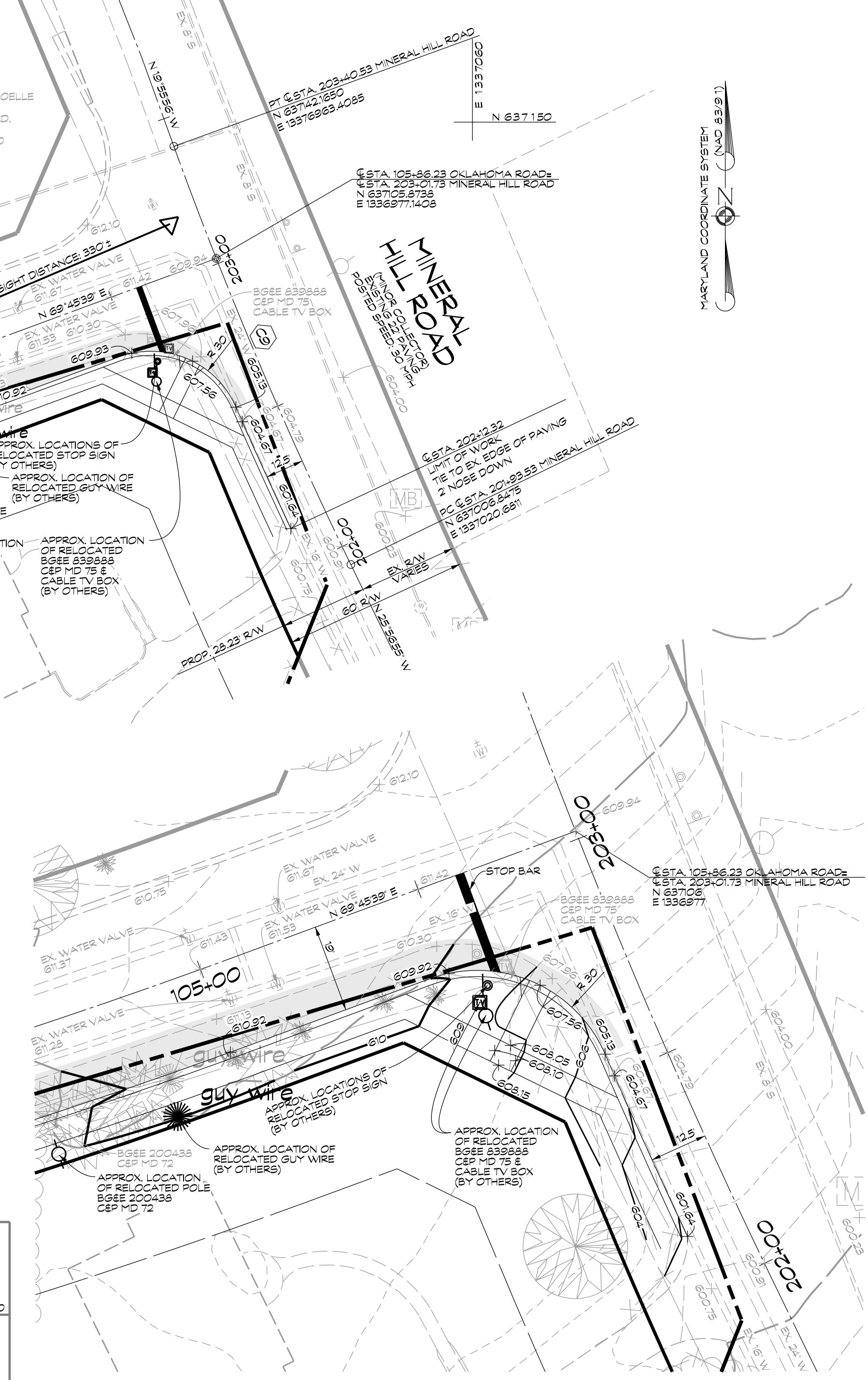
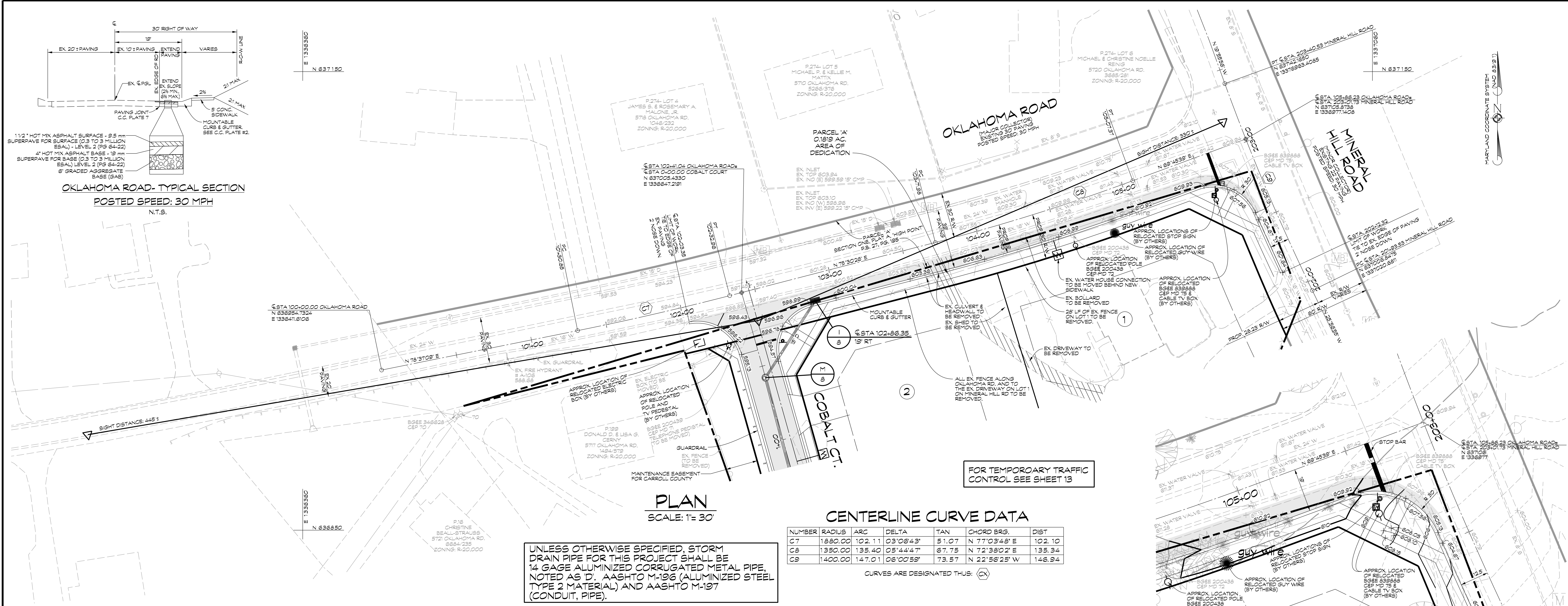
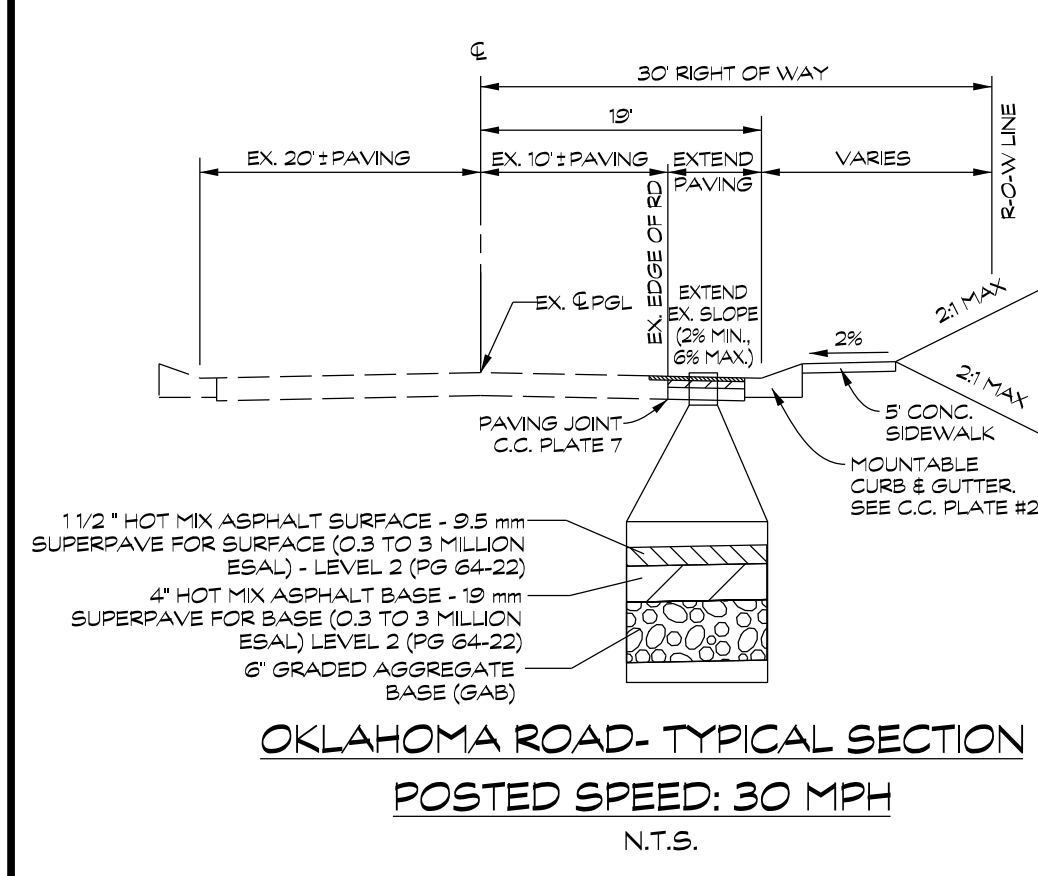
www.clsi-civileng.com

439 East Main Street Westminster, MD 21157-5539
(410) 848-1790 FAX (410) 848-1791

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 81288, EXPIRATION DATE DECEMBER 7, 2023

Date	Revisions	Drawn By: JW, BDM
		Designed By: BDM
		Reviewed By:
		Date: MARCH, 2020
		Scale: 1" = 50'
		Job No.: 2016074
		Sheet: 8 OF 23

NOT FOR CONSTRUCTION



OWNER / DEVELOPER
MINERAL HILL PROPERTY, LLC
11175 STRATFIELD COURT
MARRIOTTVILLE MD, 21104
(410) 442-2211

ROAD IMPROVEMENT PLAN AND PROFILE-
OKLAHOMA ROAD @ STA. 100+00.00 TO @ STA. 105+86.44
MINERAL HILL ROAD @ STA. 202+12.32 TO @ STA. 203+01.73

MINERAL HILL PROPERTY
A CLUSTER SUBDIVISION

5th ELECTION DISTRICT · CARROLL COUNTY, MARYLAND
TAX MAP: 74 · BLOCK: 3 · PARCEL: 7

CLSI
www.clsi-civileng.com

439 East Main Street Westminster, MD 21157-5539
(410) 848-1790 FAX (410) 848-1791

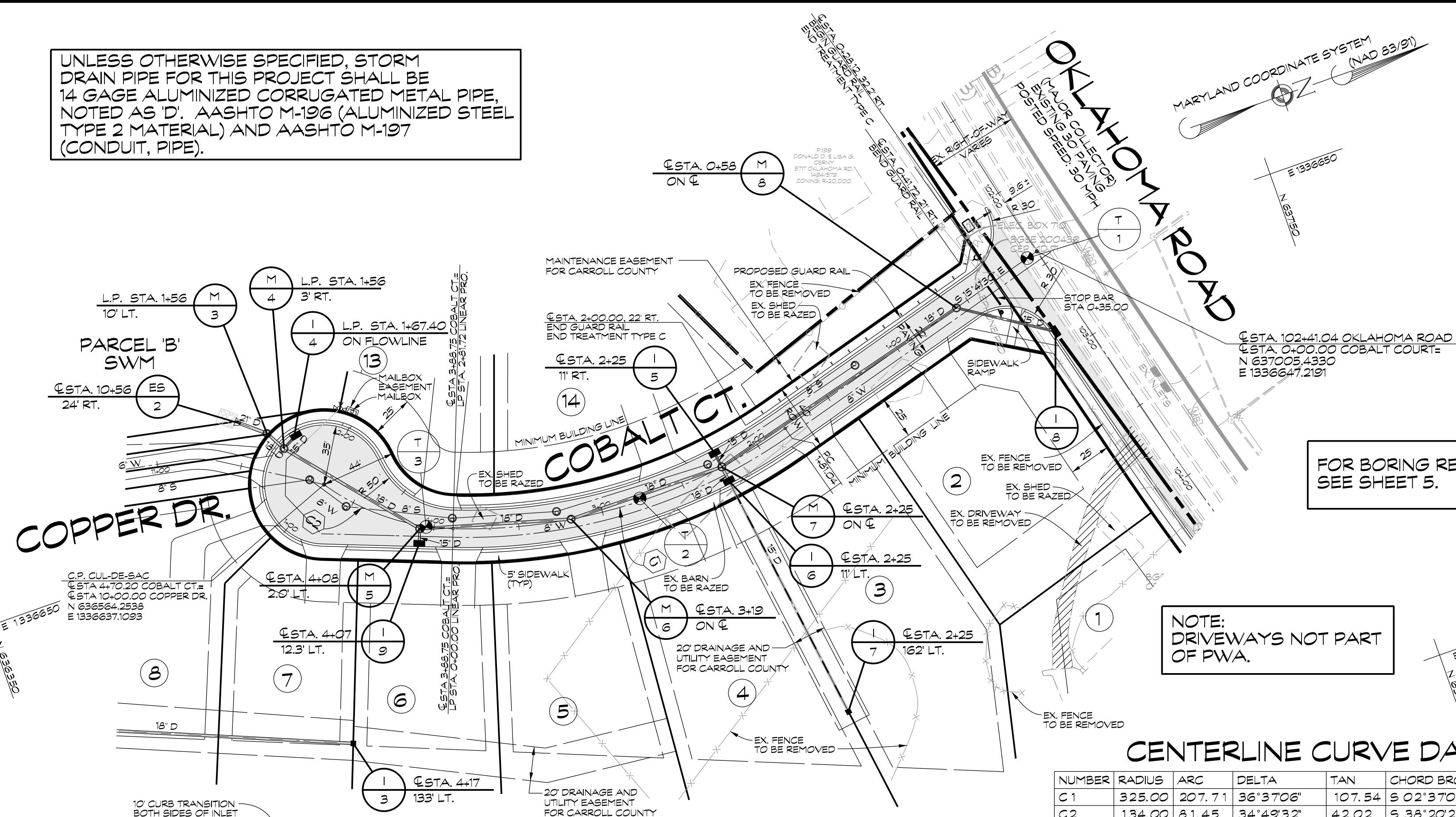
3/7/2023
Bretton D. Moore, P.E.

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Date	Revisions	Drawn By:
		JW
		Designed By: JW
		Reviewed By:
		Date: MARCH, 2020
		Scale: AS SHOWN
		Job No.: 2018074
		Sheet: 10 OF 23

NOT FOR CONSTRUCTION

UNLESS OTHERWISE SPECIFIED, STORM DRAIN PIPE FOR THIS PROJECT SHALL BE 14 GAGE ALUMINIZED CORRUGATED METAL PIPE, NOTED AS D. AASHTO M-196 (ALUMINIZED STEEL TYPE 2 MATERIAL) AND AASHTO M-197 (CONDUIT, PIPE).



FOR BORING RESULTS, SEE SHEET 5.

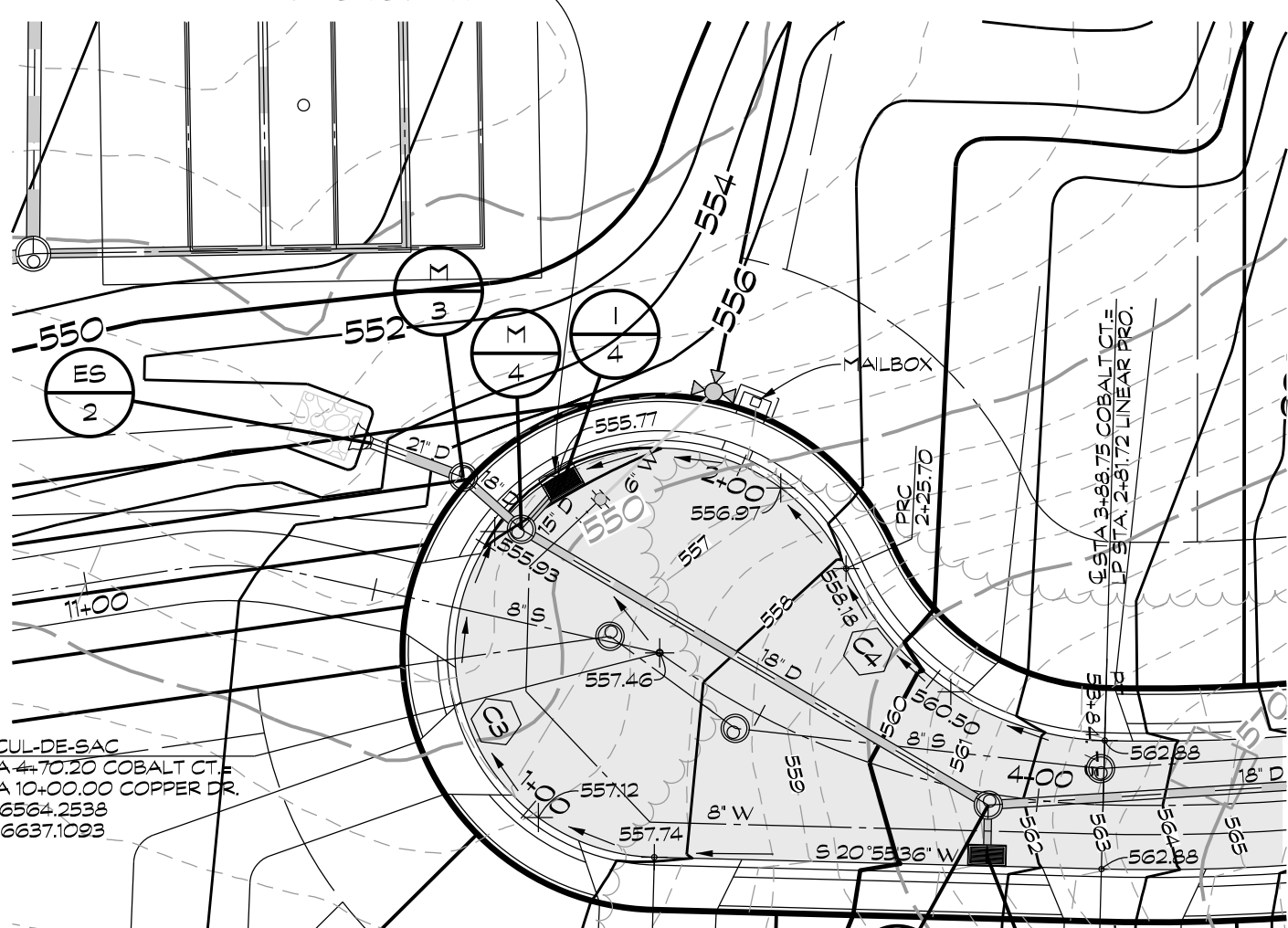
NOTE: DRIVEWAYS NOT PART OF PWA.

CENTERLINE CURVE DATA

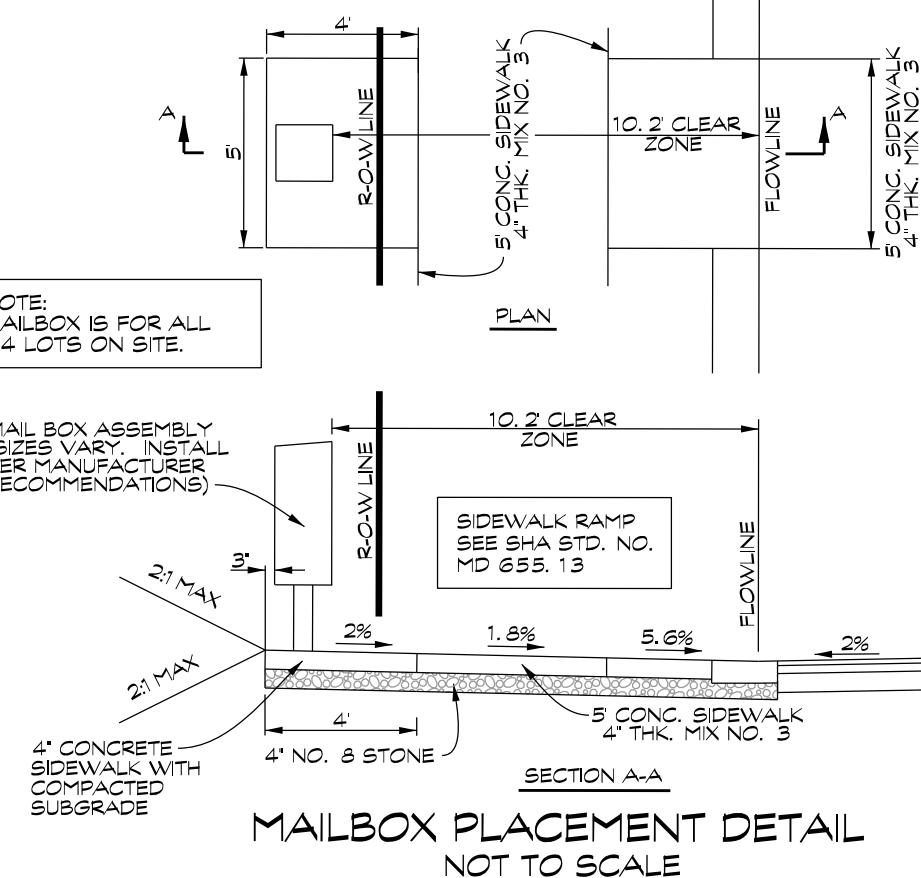
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C1	325.00	207.71	36°37'06"	107.54	S 02°37'03" W	204.19
C2	134.00	81.45	34°49'32"	42.02	S 38°20'22" W	80.20
C3	35.00	149.17	244°11'46"	-1.00	N 36°58'31" W	59.30
C4	50.00	56.02	64°11'46"	31.36	N 53°01'23" E	53.14

CURVES ARE DESIGNATED THUS: (X)

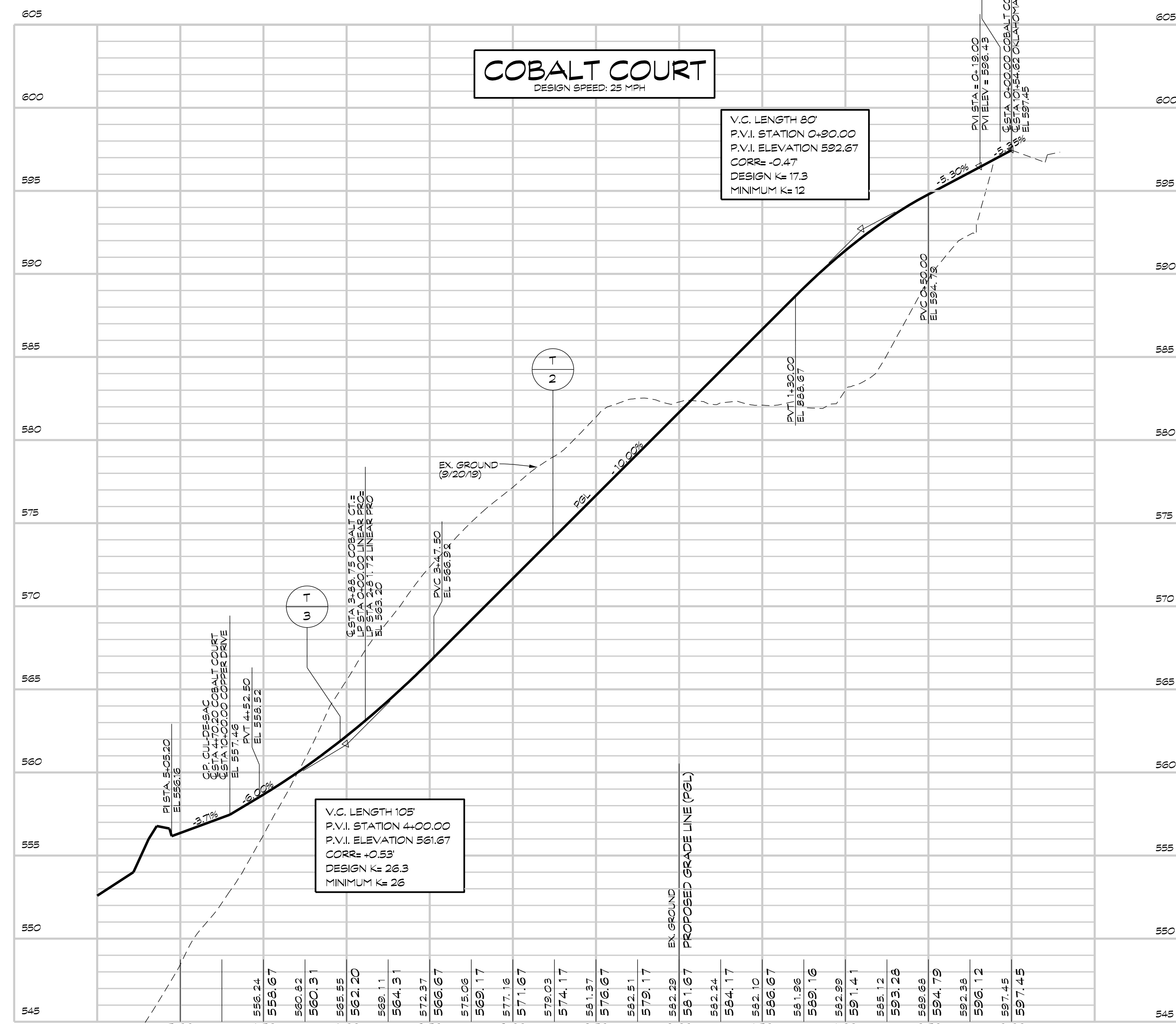
PLAN
SCALE: 1" = 50'



CUL-DE-SAC DETAIL
SCALE: 1" = 30'

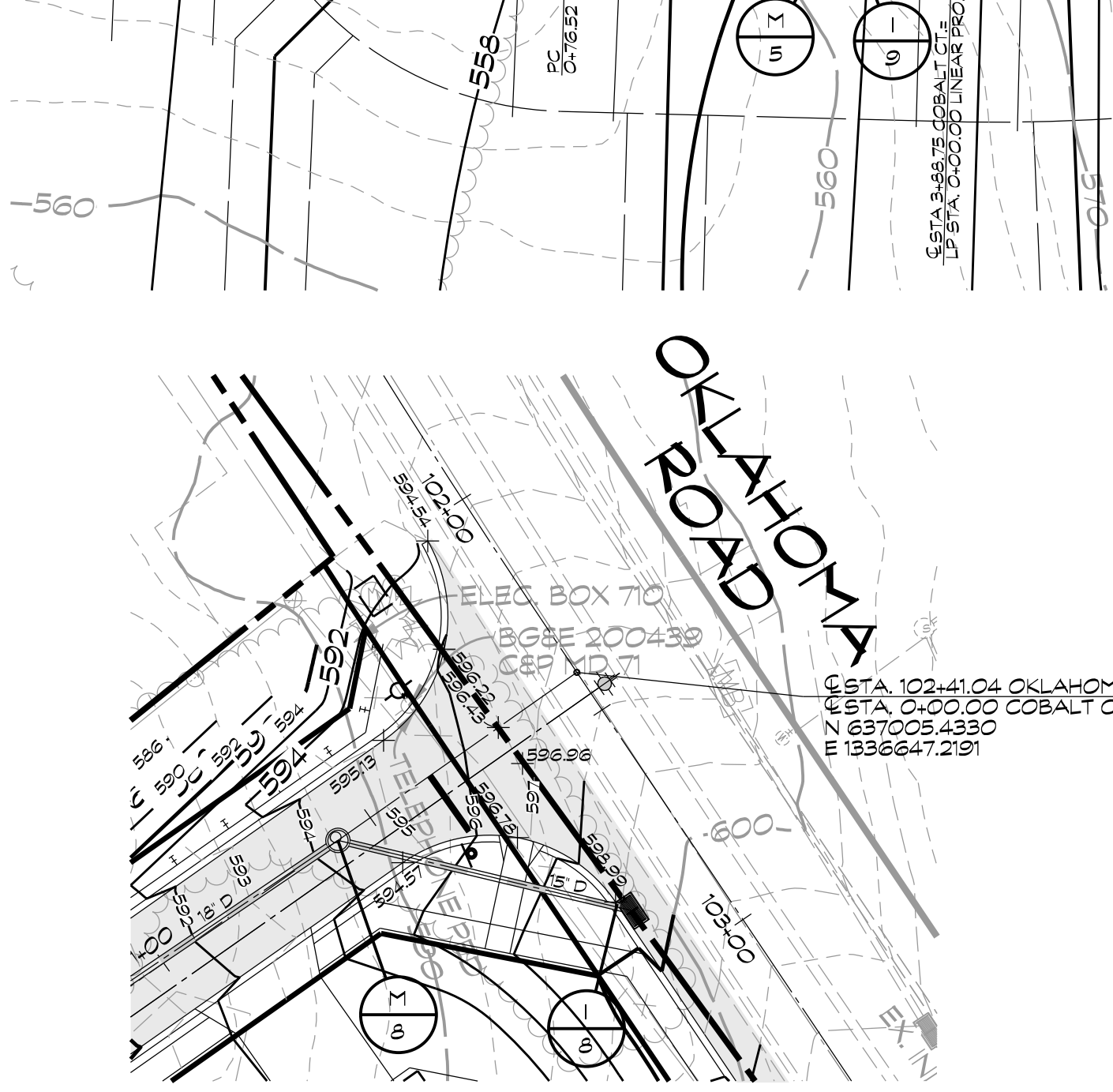


MAILBOX PLACEMENT DETAIL
NOT TO SCALE

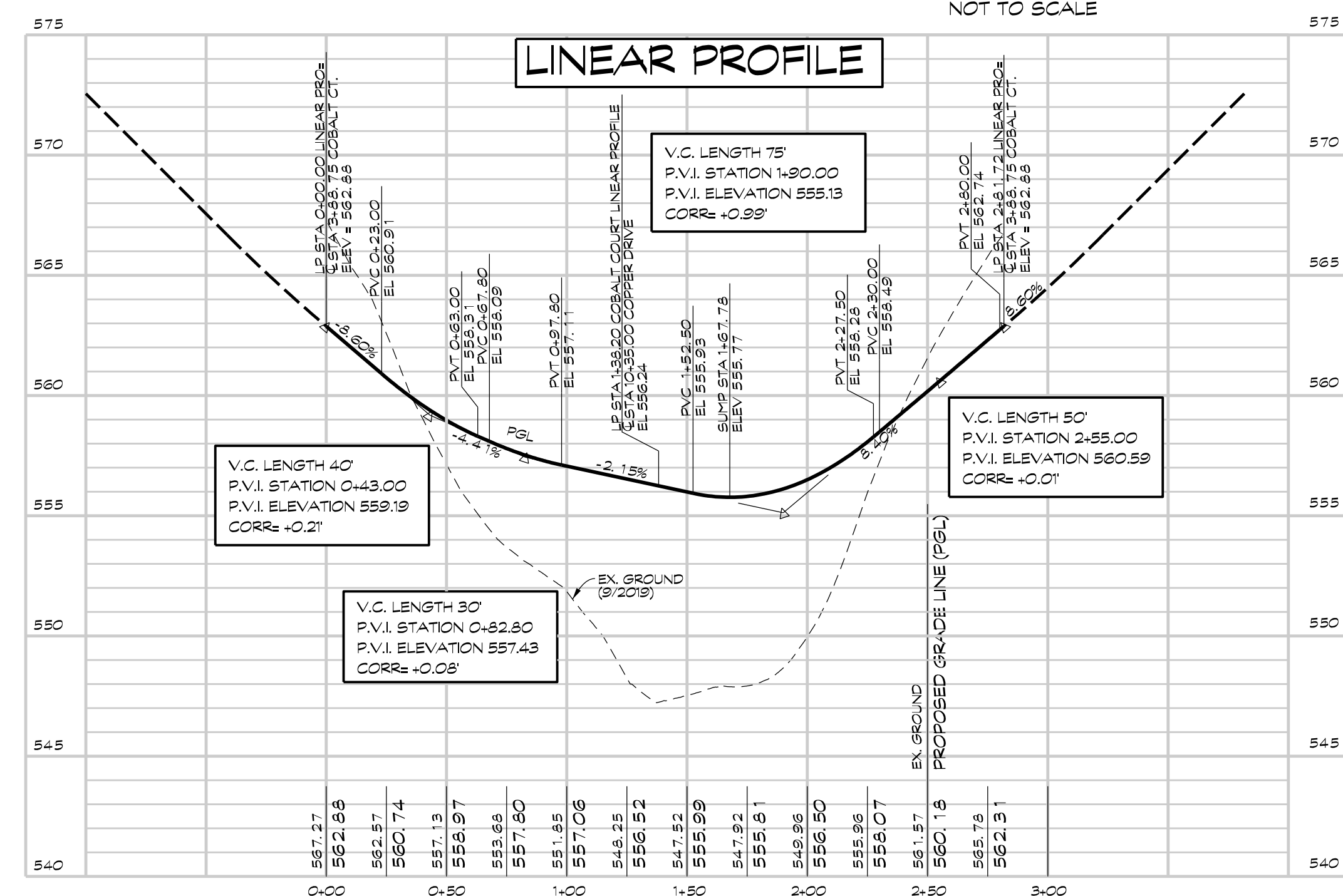


V.C. LENGTH 05
P.V.I. STATION 4+00.00
P.V.I. ELEVATION 561.67
CORR = +0.53
DESIGN K = 26.3
MINIMUM K = 26

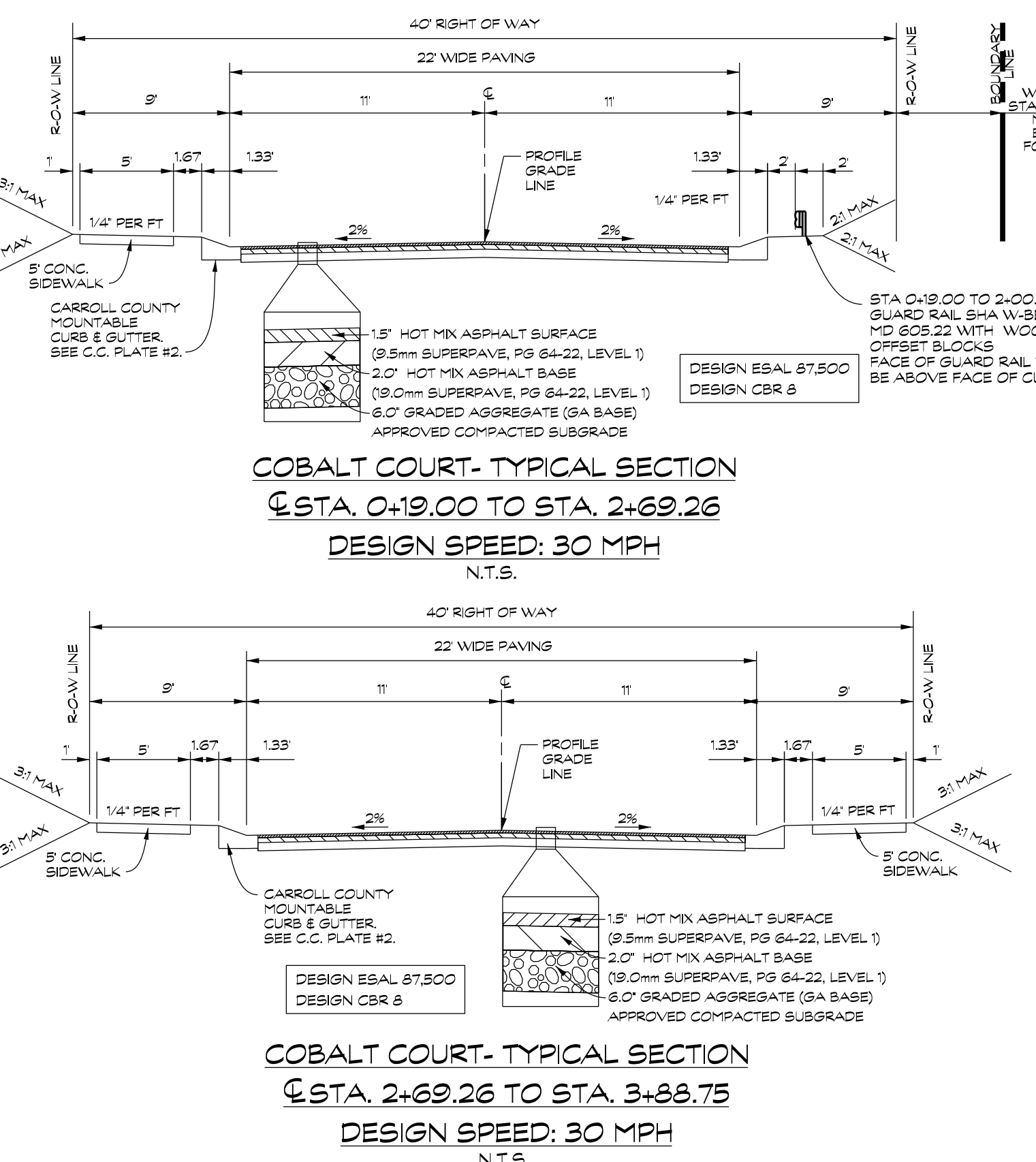
PROFILES
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



INTERSECTION DETAIL
SCALE: 1" = 30'



LINEAR PROFILE



COBALT COURT-TYPICAL SECTION
STA. 0+19.00 TO STA. 2+69.26
DESIGN SPEED: 30 MPH
N.T.S.

COBALT COURT-TYPICAL SECTION
STA. 2+69.26 TO STA. 3+88.75
DESIGN SPEED: 30 MPH
N.T.S.

OWNER / DEVELOPER
MINERAL HILL PROPERTY, LLC.
11175 STRATFIELD COURT
MARRIOTTVILLE MD, 21104
(410) 442-2211

PLAN AND PROFILE- COBALT COURT
STA. 0+00.00 TO STA. 4+70.20

MINERAL HILL PROPERTY

5th ELECTION DISTRICT CARROLL COUNTY, MARYLAND
TAX MAP: 74 BLOCK: 3 PARCEL: 7

NOT FOR CONSTRUCTION

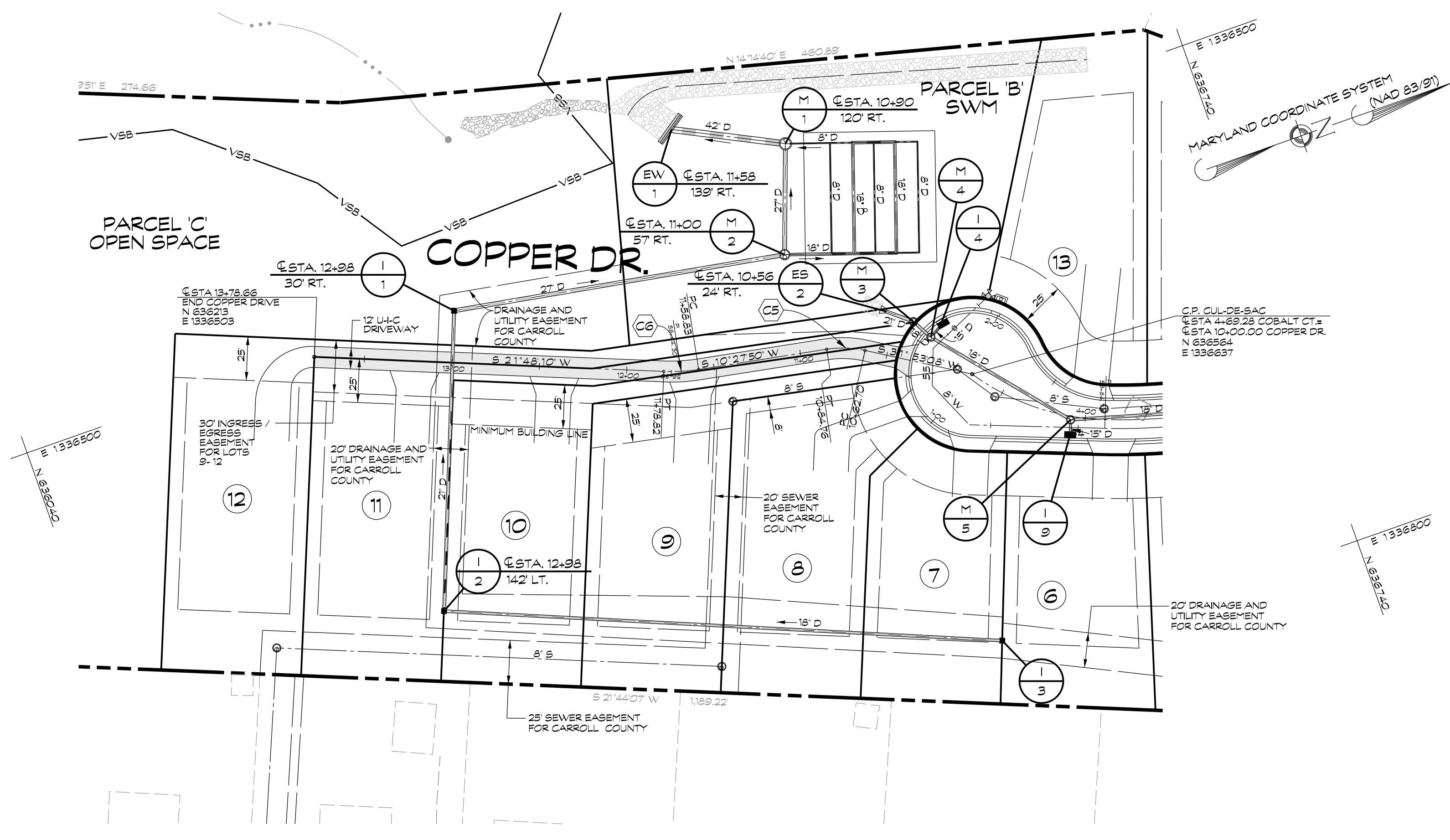
Professional Engineer Seal: BRUCE D. MERRITT, P.E., License No. 21288, Expiration Date: December 7, 2023.

CLSI
Civil Engineering & Surveyors
Land Planning & Environmental Consultants
www.clsi-civileng.com

439 East Main Street Westminster, MD 21157-5539
(410) 848-1790 FAX (410) 848-1791

Date	Revisions	Drawn By: JW
		Designed By: JW
		Reviewed By:
		Date: MARCH, 2020
		Scale: AS SHOWN
		Job No.: 2018074
		Sheet: 11 OF 23

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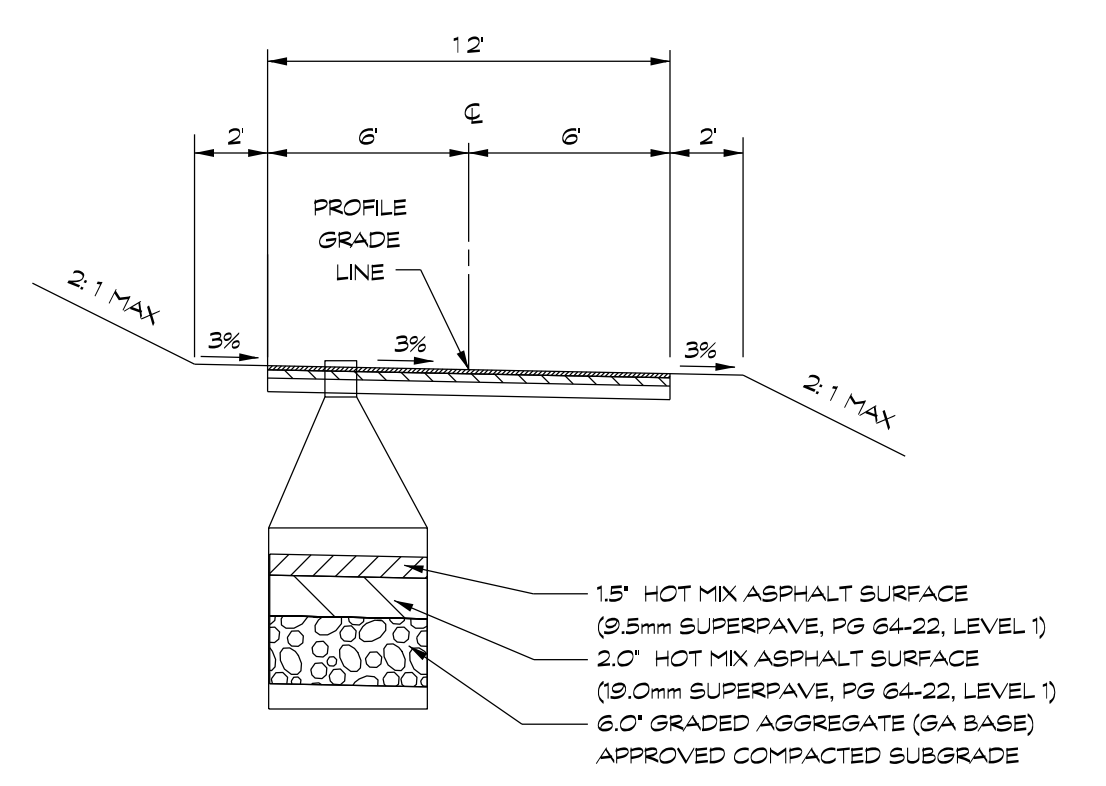
PLAN
SCALE: 1" = 50'

UNLESS OTHERWISE SPECIFIED, STORM DRAIN PIPE FOR THIS PROJECT SHALL BE 14 GAGE ALUMINIZED CORRUGATED METAL PIPE, NOTED AS 'D'. AASHTO M-196 (ALUMINIZED STEEL TYPE 2 MATERIAL) AND AASHTO M-197 (CONDUIT, PIPE).

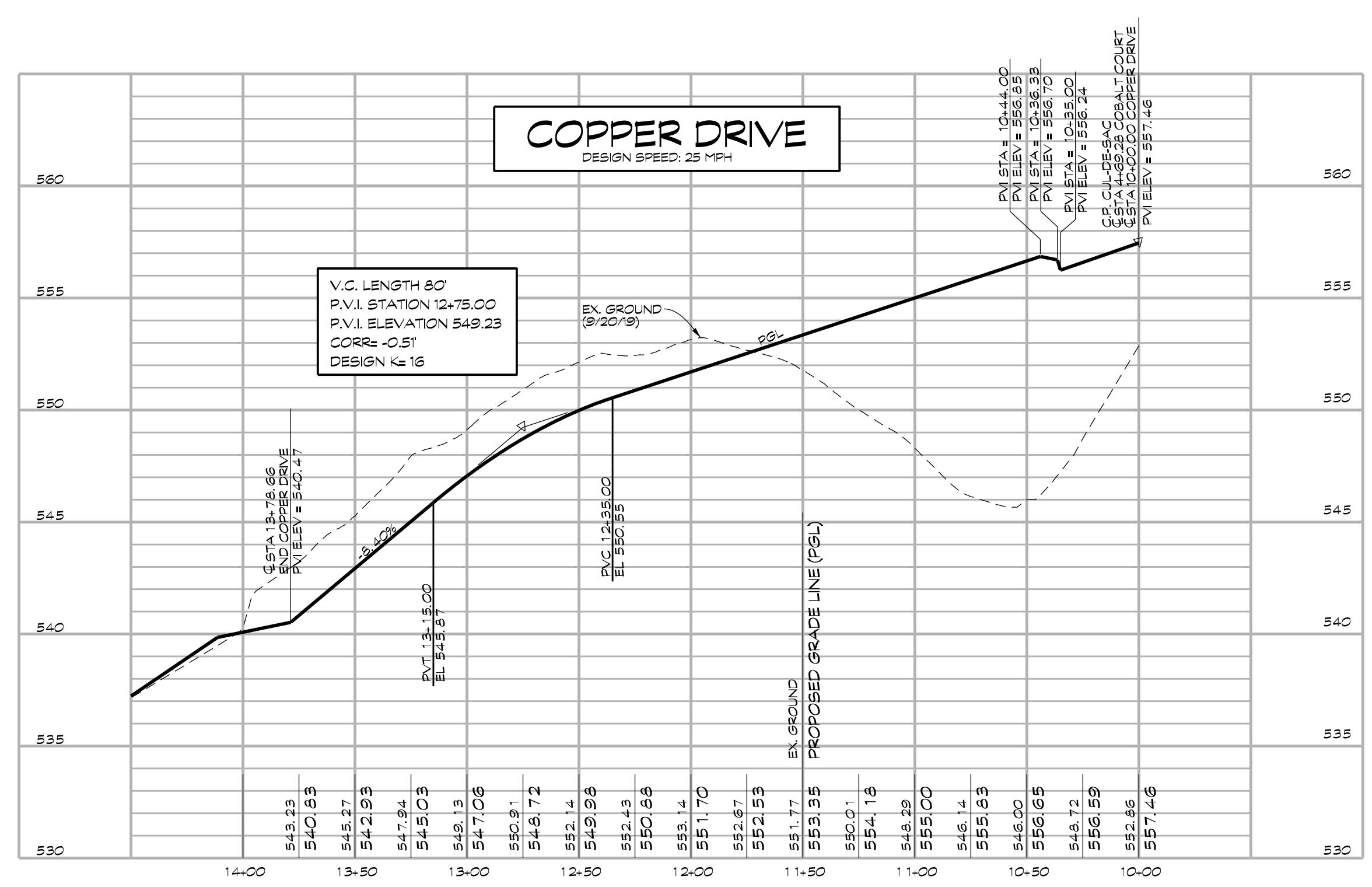
CENTERLINE CURVE DATA

NUMBER	RADIUS	ARC	DELTA	TAN	CHORD BRG.	DIST
C5	59.00	22.06	21°25'17"	11.16	S 21°10'29" W	21.93
C6	101.00	19.89	11°20'20"	10.03	S 16°08'00" W	19.95

CURVES ARE DESIGNATED THUS: (CX)



12' PAVED USE-IN-COMMON DRIVEWAY
TYPICAL SECTION
SUPER RIGHT



PROFILE
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'

OWNER / DEVELOPER
MINERAL HILL PROPERTY, LLC.
11175 STRATFIELD COURT
MARRIOTTVILLE MD, 21104
(410) 442-2211

PLAN AND PROFILE- COPPER DRIVE
ESTA. 10+00.00 TO ESTA. 13+78.66

MINERAL HILL PROPERTY

5th ELECTION DISTRICT · CARROLL COUNTY, MARYLAND
TAX MAP: 74 · BLOCK: 3 · PARCEL: 7

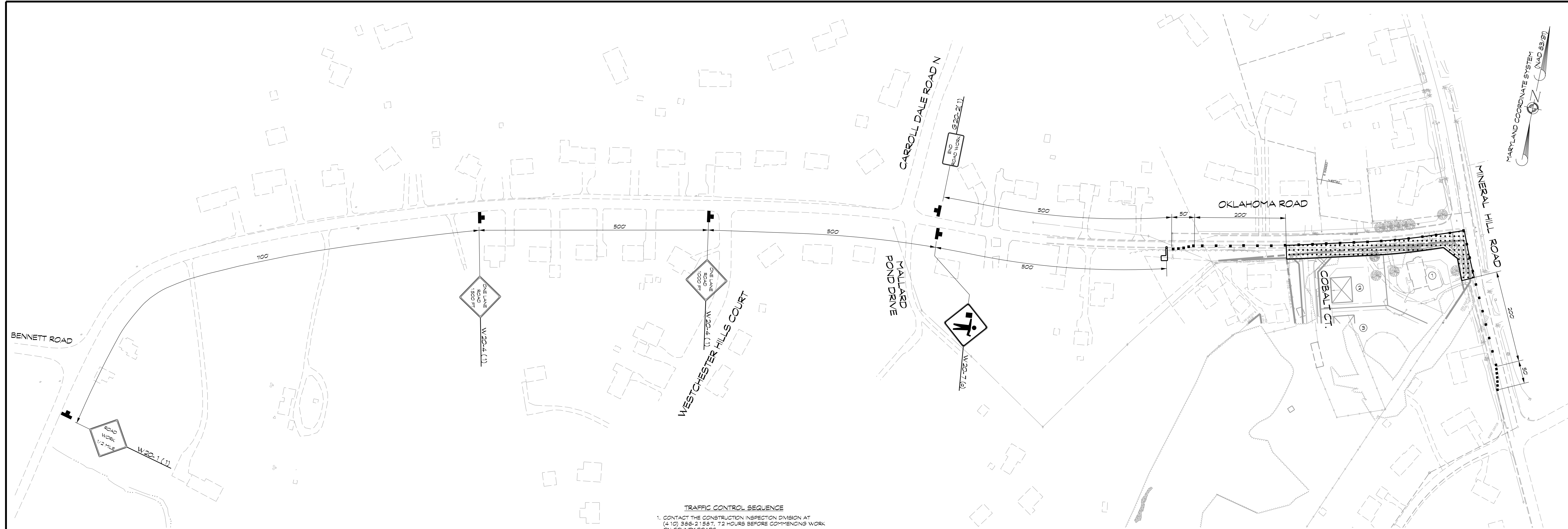


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Date	Revisions	Drawn By:	JW
		Designed By:	JW
		Reviewed By:	
		Date:	MARCH, 2020
		Scale:	AS SHOWN
		Job No.:	2018074
		Sheet:	12 OF 23

NOT FOR CONSTRUCTION



TRAFFIC CONTROL SEQUENCE

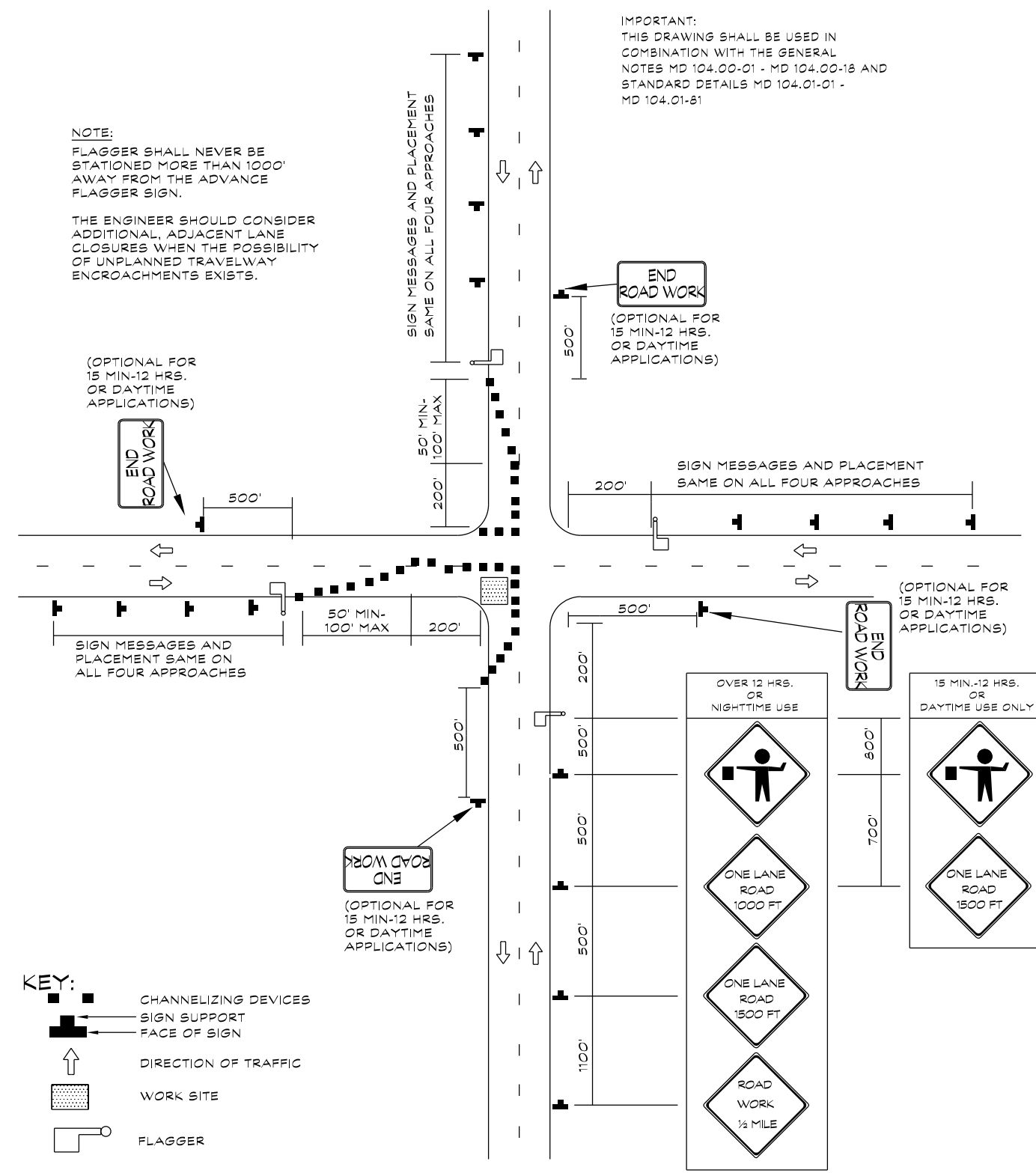
1. CONTACT THE CONSTRUCTION INSPECTION DIVISION AT (410) 386-2157, 72 HOURS BEFORE COMMENCING WORK ON COUNTY ROADS.
2. PLACE TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) AND MARYLAND S.H.A. TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATIONS (TTCTA) STANDARD NO. 104. SET UP TRAFFIC CONTROL AS AN INTERSECTION FLAGGING OPERATION. USE TTCTA STANDARD NO. MD 104.02-14.
3. TRAFFIC CONTROL DEVICES MUST BE LEFT IN PLACE UNTIL APPROVAL FOR REMOVAL IS GIVEN BY THE INSPECTOR IN THE FIELD.
4. CONTRACTOR SHALL PROVIDE UNINTERRUPTED ACCESS TO ALL PRIVATE AND COMMERCIAL DRIVEWAY ENTRANCES DURING CONSTRUCTION AND REPAIR THOSE DRIVEWAYS AS NECESSARY.
5. IF MODIFICATION BECOMES NECESSARY IN FIELD, TRAFFIC CONTROL DEVICES AND PROCEDURES SHALL MEET THE MINIMUM REQUIREMENTS OF S.H.A. TTCTA STANDARD NO. 104.02-14 FOR INTERSECTION FLAGGING OPERATION 2-LANE / 2-WAY / EQUAL / LESS THAN 40 MPH.

TEMPORARY TRAFFIC CONTROL GENERAL NOTES

1. It is the responsibility of the Contractor performing the work on or adjacent to a public road to provide, install and maintain appropriate traffic control devices in accordance with the latest edition of the Maryland Manual on Uniform Traffic Control Devices (MD MUTCD) for the traveling public, pedestrians, bicyclists, road workers, etc. at all times.
2. The Contractor shall notify the Department of Public Works (DPW) Construction Inspection Division at 410-386-2157 three (3) working days in advance of any construction on or adjacent to a county road, including installation of traffic control devices. If DPW Construction Inspection Division is not notified they can stop all work until they are comfortable it is safe for the contractor to proceed.
3. All standard regulatory and warning signs, barricades and other traffic control devices shall be in accordance with the latest edition of the MD MUTCD, Maryland State Highway Administration Standard Specifications for Construction and Materials, the NCHRP 350 and approved by the DPW Construction Inspection Division.
4. The Contractor shall follow the latest standards in accordance with the MSHA Book of Standard for Highways Incidental Structures and the approved Maryland State Highway Administration products list. The standards can be found at www.roads.maryland.gov / Book of Standards - for Highway and Incidental Structures / Category 1 - Preliminary.
5. Work shall not be performed until all applicable traffic control devices are in place. Traffic control devices must be in place any time work in or adjacent to a public road is in progress.
6. Traffic control devices shall be removed when work is not in progress. If approved by the DPW Construction Inspection Division signs may be covered so that the message is not visible to drivers.
7. Locations of devices may be modified as directed by the DPW Construction Inspection Division to accommodate field conditions.
8. The Contractor shall be responsible for maintaining all traffic control devices and immediately replace any which are missing or determined by the DPW Construction Inspection Division to be unsuitable for use.
9. All signs that are to be part of a work zone for more than three (3) days shall be placed on posts.
10. Collector or higher classification county roadways work hours are 9:00 AM and 3:00 PM Monday through Friday, unless approved otherwise by DPW.
11. Access to driveways shall be maintained at all times unless other arrangements are made.
12. Channelizing devices shall be extended to a point where they are visible to approaching traffic. A full length taper shall always be provided in advance of curves.
13. If flaggers are not able to see each other two-way radio communications shall be used.
14. Warning signs shall be mounted in accordance with SHA Standard No. MD 104.01-17A through D or as directed by DPW.
15. When pavement drop offs are present the Contractor shall place temporary traffic control devices, including signs, channelizing devices and barriers, as well as slope fillet wedges in accordance with SHA Standard No. MD 104.06-15 through 104.06-19. The engineer may recommend alternative methods to protect the pavement edge; considering factors such as pedestrians, bicycles, traffic volumes, vehicle speeds, size of the work zone, duration of work, etc.
16. Portable variable message signs may be required by DPW Construction Inspection Division's discretion.
17. Any corrections, modifications or additions to this plan must be approved by the Bureau of Development Review, Engineering Review, through the red-line revision process.

Revised 01/11/2019

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION



**INTERSECTION FLAGGING OPERATION
2-LANE, 2-WAY EQL / LESS THAN 40 MPH
MD 104.02-14**

OWNER / DEVELOPER

MINERAL HILL PROPERTY, LLC.
11175 STRATFIELD COURT
MARRIOTTVILLE MD, 21104
(410) 442-2211

**TEMPORARY TRAFFIC CONTROL PLAN,
NOTES AND DETAILS
OKLAHOMA ROAD
MINERAL HILL PROPERTY
A CLUSTER SUBDIVISION**

5th ELECTION DISTRICT • CARROLL COUNTY, MARYLAND
TAX MAP: 74 • BLOCK: 3 • PARCEL: 7

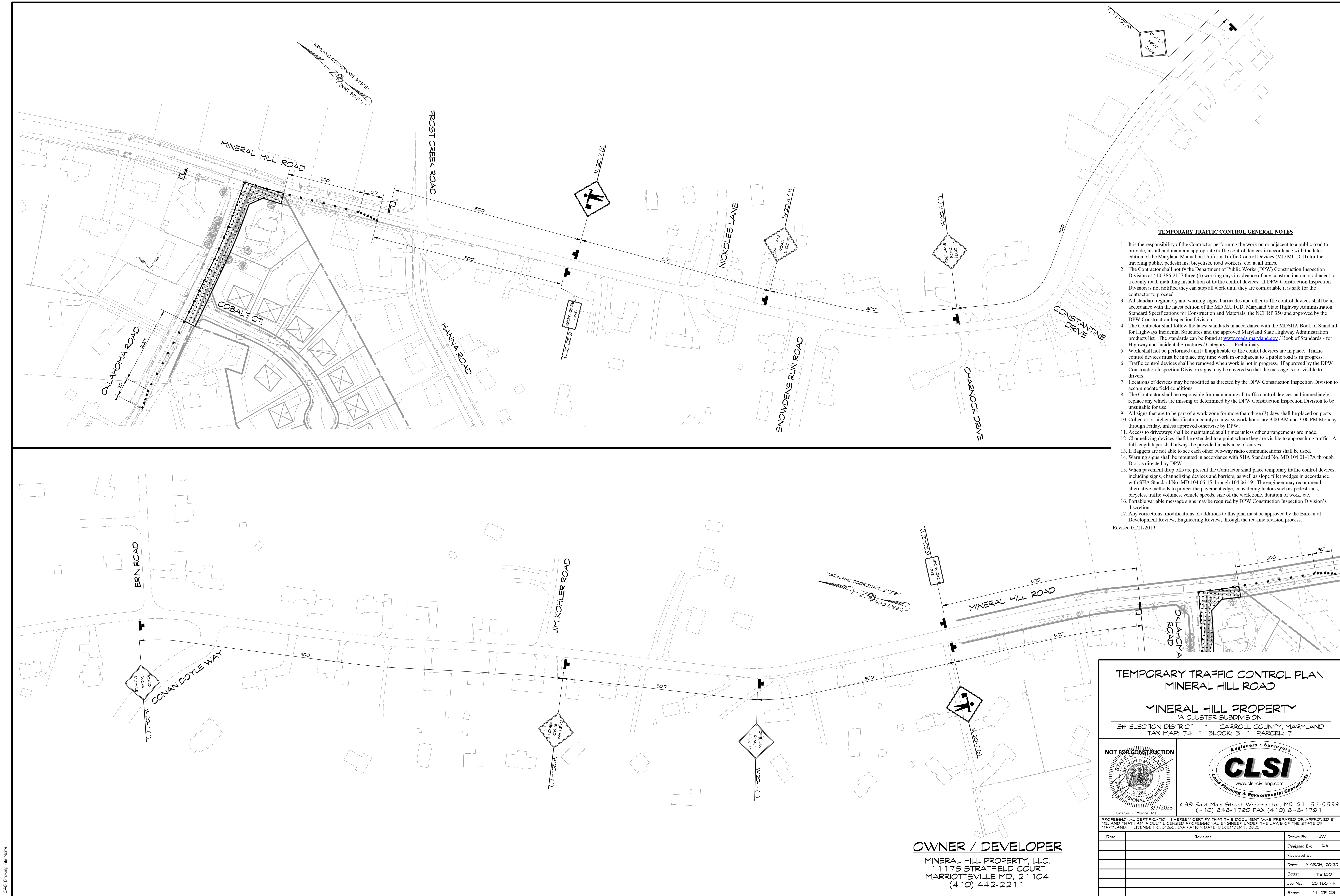


439 East Main Street Westminster, MD 21157-5539
(410) 848-1790 FAX (410) 848-1791

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Date	Revisions	Drawn By:
		JW
		Designed By: DB
		Reviewed By:
		Date: MARCH, 2020
		Scale: 1" = 100'
		Job No.: 2018074
		Sheet: 13 OF 23

NOT FOR CONSTRUCTION



TEMPORARY TRAFFIC CONTROL GENERAL NOTES

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16. Portable variable message signs may be required by DPW Construction Inspection Division's discretion.
17. Any corrections, modifications or additions to this plan must be approved by the Bureau of Development Review, Engineering Review, through the red-line revision process.

Revised 01/11/2019

**TEMPORARY TRAFFIC CONTROL PLAN
MINERAL HILL ROAD**

**MINERAL HILL PROPERTY
A CLUSTER SUBDIVISION**

5th ELECTION DISTRICT CARROLL COUNTY, MARYLAND
TAX MAP: 74 BLOCK: 3 PARCEL: 7



439 East Main Street Westminster, MD 21157-5539
(410) 848-1790 FAX (410) 848-1791

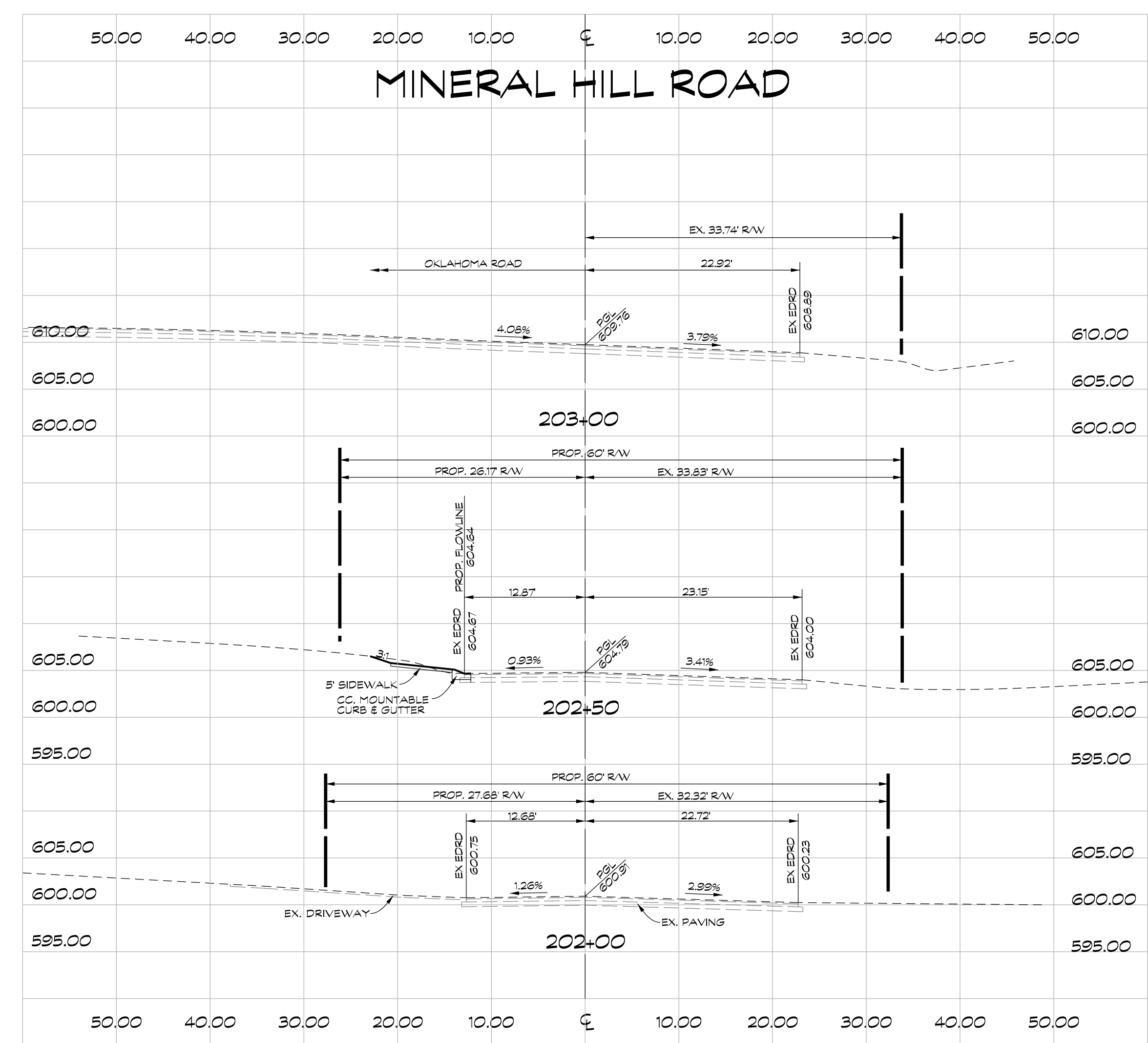
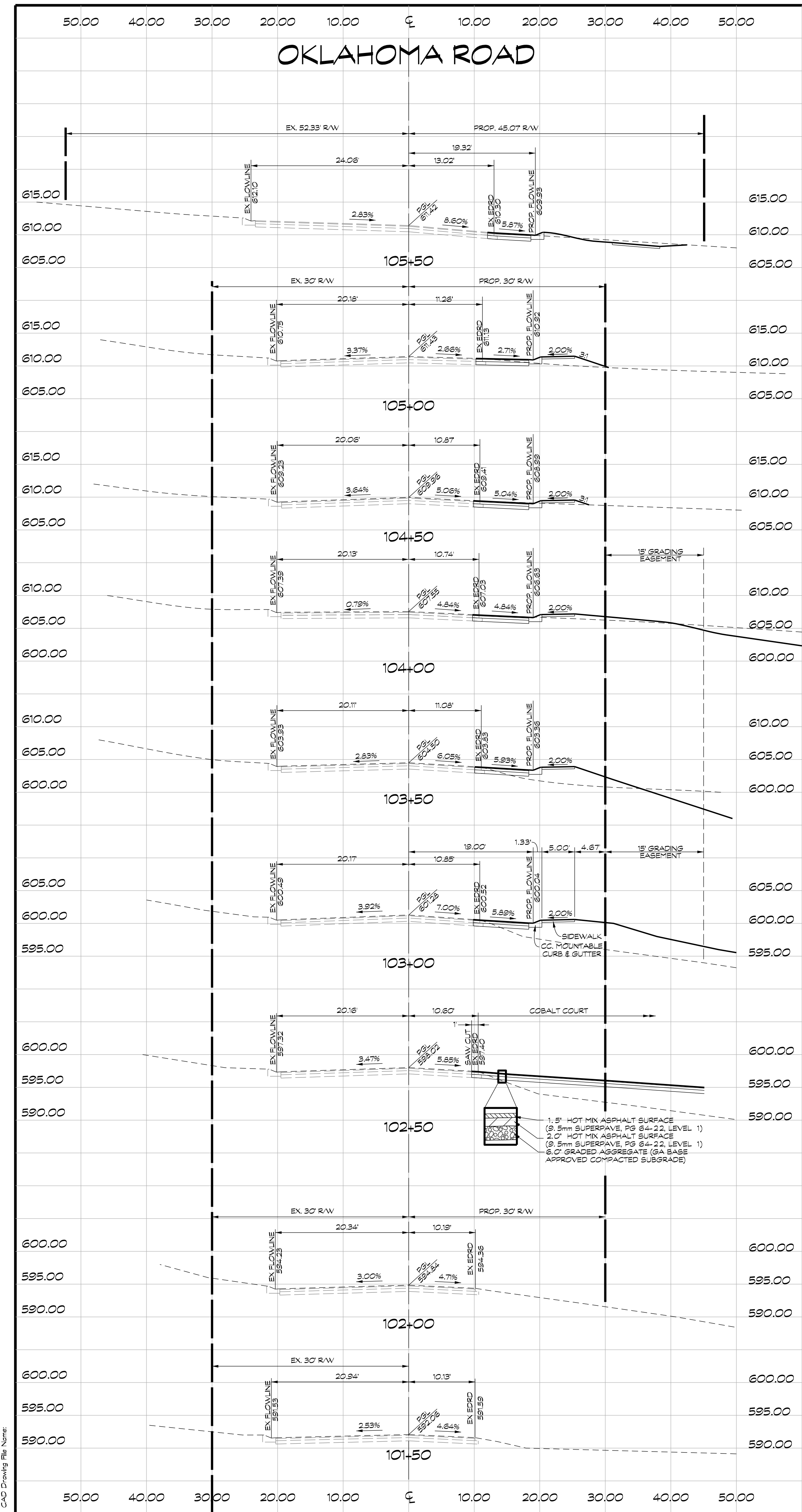
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Date	Revisions	Drawn By:
		JW
		Designed By: DB
		Reviewed By:
		Date: MARCH, 2020
		Scale: 1" = 100'
		Job No.: 2018074
		Sheet: 14 OF 23

OWNER / DEVELOPER

MINERAL HILL PROPERTY, LLC.
11175 STRATFIELD COURT
MARRIOTTVILLE MD, 21104
(410) 442-2211

NOT FOR CONSTRUCTION



OWNER / DEVELOPER
 MINERAL HILL PROPERTY, LLC.
 11175 STRATFIELD COURT
 MARROTTSVILLE MD, 21104
 (410) 442-2211

CROSS SECTIONS- OKLAHOMA ROAD
 & STA. 101+50 TO & STA. 105+50 &
 MINERAL HILL ROAD
 & STA. 202+00 TO & STA. 203+00
 MINERAL HILL PROPERTY

5th ELECTION DISTRICT CARROLL COUNTY, MARYLAND
 TAX MAP: 74 BLOCK: 3 PARCEL: 7

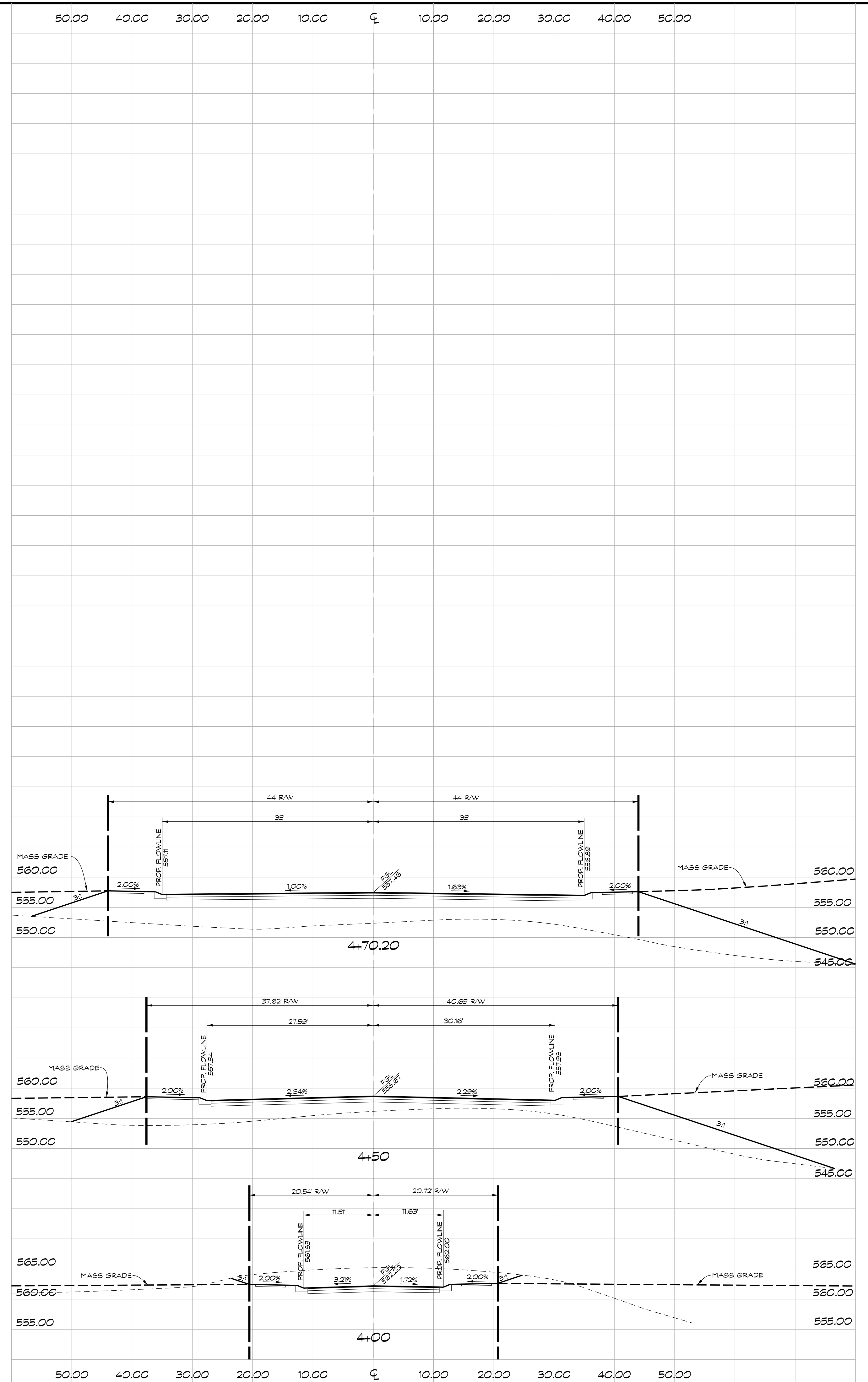
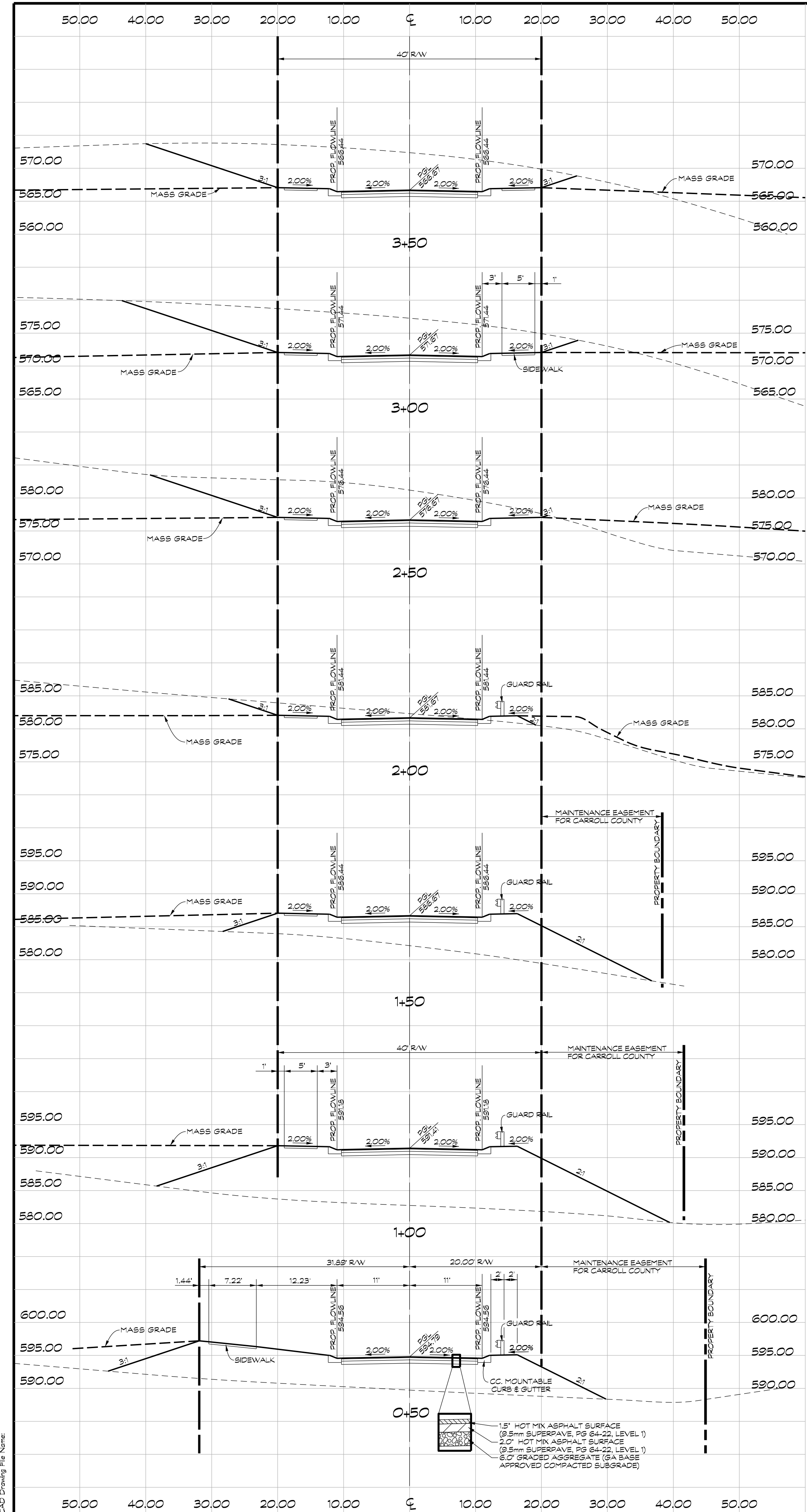


439 East Main Street Westminster, MD 21157-5539
 (410) 848-1790 FAX (410) 848-1791

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 81288, EXPIRATION DATE: DECEMBER 7, 2023

Date	Revisions	Drawn By: JW
		Designed By: JW
		Reviewed By:
		Date: MARCH, 2020
		Scale: 1" = 10'
		Job No.: 2016074
		Sheet: 15 OF 23

NOT FOR CONSTRUCTION



OWNER / DEVELOPER
 MINERAL HILL PROPERTY, LLC.
 11175 STRATFIELD COURT
 MARRIOTTSTVILLE MD, 21104
 (410) 442-2211

CROSS SECTIONS- COBALT COURT
 STA. 0+50 TO STA. 4+70.20

MINERAL HILL PROPERTY

5th ELECTION DISTRICT CARROLL COUNTY, MARYLAND
 TAX MAP: 74 BLOCK: 3 PARCEL: 7

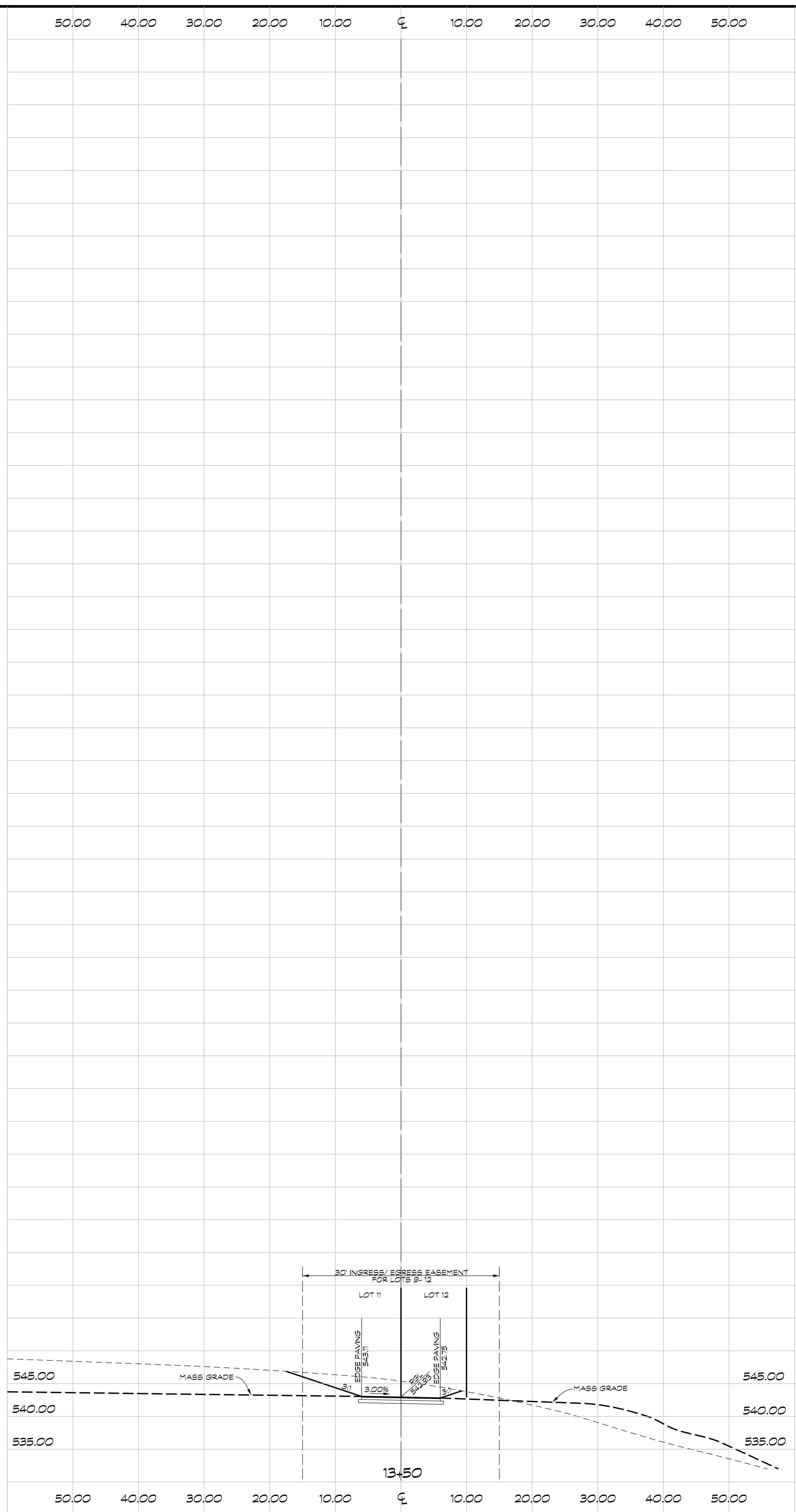
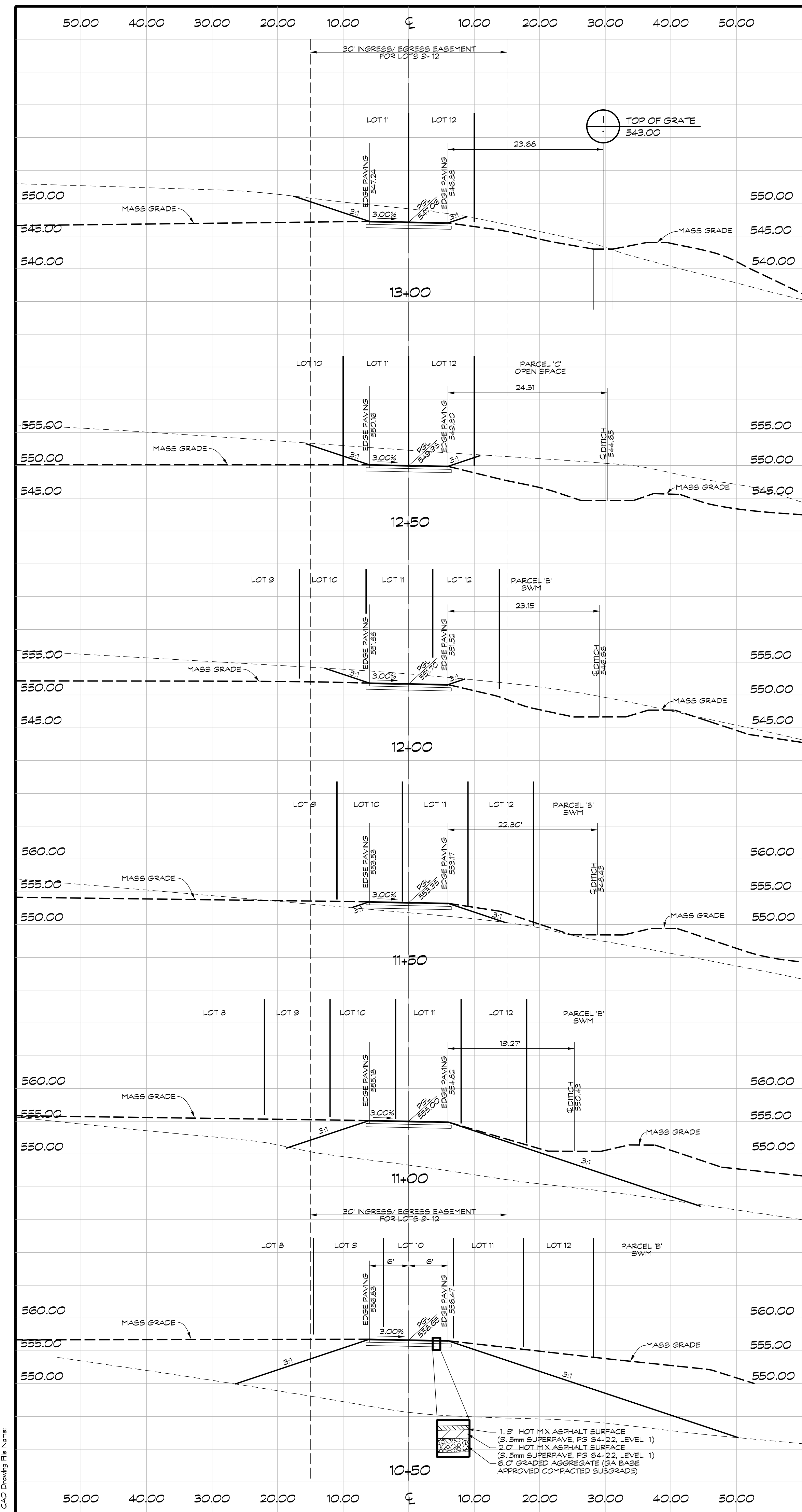


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Date	Revisions	Drawn By: JW
		Designed By: JW
		Reviewed By:
		Date: MARCH, 2020
		Scale: 1" = 10'
		Job No.: 2018074
		Sheet: 16 OF 23

NOT FOR CONSTRUCTION



- 1.5" HOT MIX ASPHALT SURFACE
- (3) 5mm SUPERPAVE, PG 64-22, LEVEL 1)
- 2.0" HOT MIX ASPHALT SURFACE
- (3) 5mm SUPERPAVE, PG 64-22, LEVEL 1)
- 6.0" GRADED AGGREGATE (GA, BASE)
- APPROVED COMPACTED SUBGRADE)

OWNER / DEVELOPER
 MINERAL HILL PROPERTY, LLC.
 11175 STRATFIELD COURT
 MARRIOTTSVILLE MD, 21104
 (410) 442-2211

CROSS SECTIONS- COPPER DRIVE
 ☐ STA. 10+50 TO ☐ STA. 13+50.00

MINERAL HILL PROPERTY

5th ELECTION DISTRICT CARROLL COUNTY, MARYLAND
 TAX MAP: 74 BLOCK: 3 PARCEL: 7

NOT FOR CONSTRUCTION

Brian G. Moore, P.E.
3/7/2023

Engineers • Surveyors

CLSI

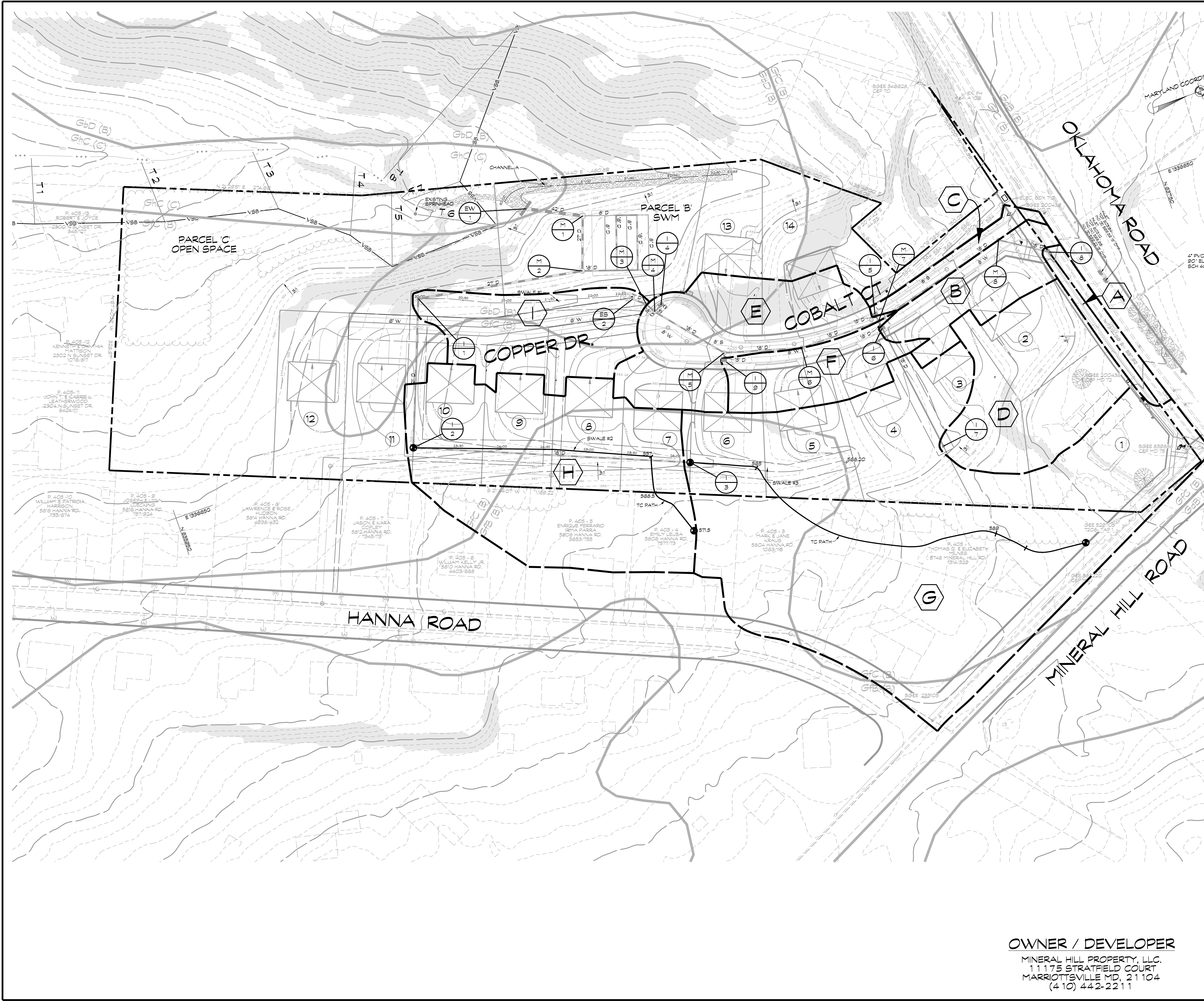
Land Planning & Environmental Consultants
www.clsi-engineers.com

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Date	Reviser	Drawn By: JW
		Designed By: JW
		Reviewed By:
		Date: MARCH, 2020
		Scale: 1" = 10'
		Job No.: 2018074
		Sheet: 17 OF 23

NOT FOR CONSTRUCTION



- LEGEND**
- VSB
 - OVERHEAD UTILITY LINE
 - PRELIMINARY WETLANDS
 - WB
 - SPRINGHEAD
 - WOODS LINE
 - STREAM
 - M+D2
 - M+B2
 - GREATER THAN 25% SLOPES
 - DRAINAGE AREA LINE
 - ⬡ DRAINAGE AREA DESIGNATION
 - TC PATH

STORM DRAIN DRAINAGE AREA MAP

MINERAL HILL PROPERTY
A CLUSTER SUBDIVISION

5th ELECTION DISTRICT • CARROLL COUNTY, MARYLAND
TAX MAP: 74 • BLOCK: 3 • PARCEL: 7

NOT FOR CONSTRUCTION

Brandon D. Moore, P.E.
3/7/2023

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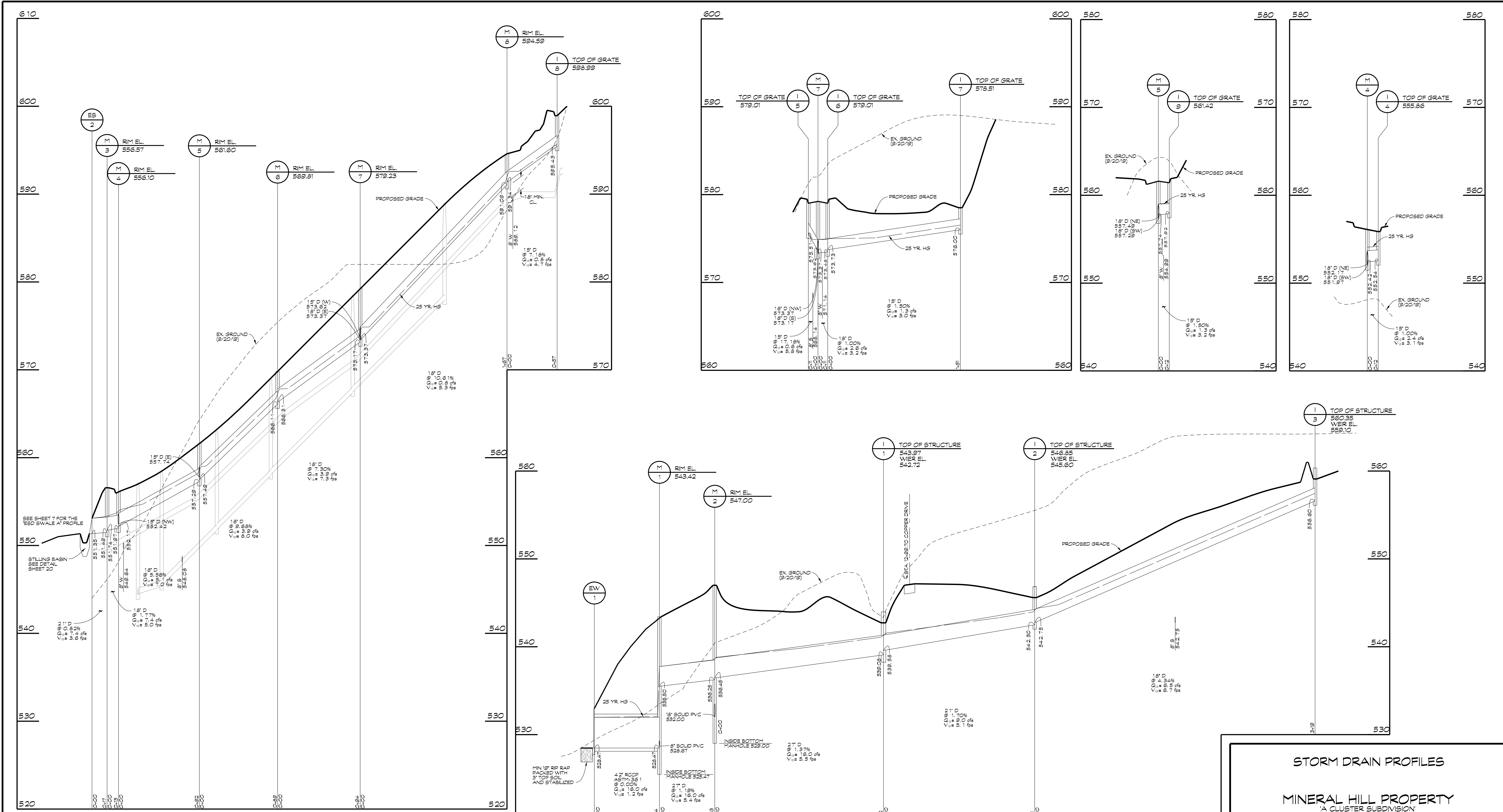
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Date	Revisions	Drawn By:
		JW
		Designed By: JW
		Reviewed By:
		Date: MARCH, 2020
		Scale: 1"=50'
		Job No.: 2018074
		Sheet: 18 OF 23

OWNER / DEVELOPER
 MINERAL HILL PROPERTY, LLC.
 11175 STRATFIELD COURT
 MARRIOTTVILLE MD, 21104
 (410) 442-2211

NOT FOR CONSTRUCTION



UNLESS OTHERWISE SPECIFIED, STORM DRAIN PIPE FOR THIS PROJECT SHALL BE 14 GAGE ALUMINIZED CORRUGATED METAL PIPE, NOTED AS 'D'. AASHTO M-196 (ALUMINIZED STEEL TYPE 2 MATERIAL) AND AASHTO M-197 (CONDUIT, PIPE).

PROFILE
SCALE: HORIZ. 1"=50'
VERT. 1"=5'

OWNER / DEVELOPER
MINERAL HILL PROPERTY, LLC.
11175 STRATFIELD COURT
MARRIOTTVILLE MD, 21104
(410) 442-2211

STORM DRAIN PROFILES

MINERAL HILL PROPERTY
A CLUSTER SUBDIVISION

5th ELECTION DISTRICT • CARROLL COUNTY, MARYLAND
TAX MAP: 74 • BLOCK: 3 • PARCEL: 7

NOT FOR CONSTRUCTION

Brandon D. Moore, P.E.
3/7/2023

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Date	Revisions	Drawn By:
		JW
		Designed By: JW
		Reviewed By:
		Date: MARCH, 2020
		Scale: AS SHOWN
		Job No.: 2018074
		Sheet: 18 OF 23

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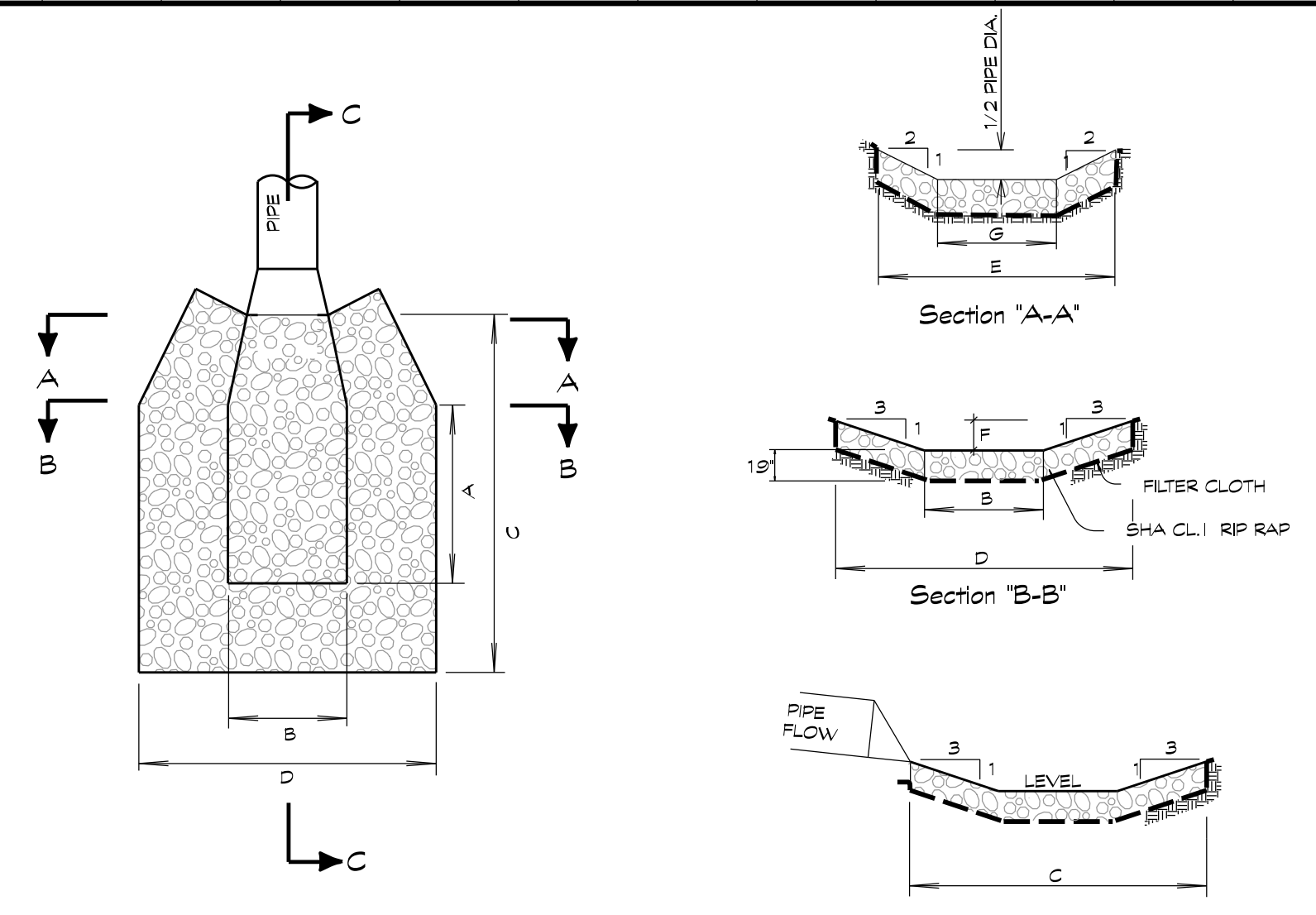
STORM DRAIN TABULATIONS

STRUCTURE		CONTRIBUTING AREA				RUNOFF				PIPE										REMARKS
FROM	TO	C AREA NO.	A AREA (ACRES)	RUNOFF COEFF.	Δ CA	I.A	I.CA	T ₂ TIME OF CONC. (MIN.)	R ₂ RAINFALL INTENS. (IN/HR.)	Q QUANT. (CFB)	SIZE IN.	TYPE	MANNING'S COEF.	S ₂ SLOPE %	L LENGTH FT.	V ₂ VELOCITY FT./SEC.	T ₂ TIME IN PIPE MIN.	CAPAC. FULL (CFB)		
I-6	M-6	A	0.16	0.75	0.12	-	-	5.00	7.00	0.80	15	CMP	0.024	7.18	57	4.7	0.2	9.5		
M-6	M-7	A	-	-	-	0.16	0.12	5.20	6.95	0.80	18	CMP	0.024	10.61	167	5.3	0.5	18.5		
I-7	I-6	D	0.70	0.27	0.19	-	-	5.00	7.00	1.30	15	CMP	0.024	1.50	151	3.0	0.8	4.4		
I-6	M-7	B, D	0.30	0.63	0.19	1.00	0.38	5.80	6.81	2.60	18	CMP	0.024	1.00	11	3.2	0.1	5.8		
I-5	M-7	C	0.10	0.20	0.08	-	-	5.00	7.00	0.60	15	CMP	0.024	17.18	11	5.8	0.0	14.4		
M-7	M-6	A-D	-	-	-	1.26	0.58	5.90	6.79	3.90	18	CMP	0.024	7.30	94	7.3	0.2	15.5		
M-6	M-5	A-D	-	-	0.19	1.26	0.58	6.10	6.75	3.90	18	CMP	0.024	9.68	89	8.0	0.2	18.0		
I-9	M-5	F	.30	.63	.19	-	-	5.00	7.00	5.20	15	CMP	0.024	1.50	12	3.2	0.1	4.3		
M-5	M-4	A-D, F	-	-	-	1.56	.77	6.40	7.00	5.10	18	CMP	0.024	5.56	92	7.0	0.2	13.4		
I-4	M-4	E	.62	.55	.34	-	-	5.00	7.00	7.40	15	CMP	0.024	1.00	92	3.1	0.1	3.5		
M-4	M-3	A-F	-	-	-	2.18	1.11	6.50	6.66	7.40	18	CMP	0.024	1.77	13	5.0	0.0	7.6		
M-3	ES-2	A-F	-	-	-	2.18	1.11	6.50	6.66	7.40	21	CMP	0.024	0.82	17	3.6	0.0	7.9		
I-3	I-2	G	3.34	0.35	1.17	-	-	12.00	5.54	6.50	18	CMP	0.024	4.34	319	6.7	0.8	12.0		
I-2	I-1	G, H	1.41	0.35	0.50	4.75	1.67	12.80	5.40	9.00	21	CMP	0.024	1.70	172	5.1	0.6	11.2		
ES-2	I-1	A-F	-	-	-	2.18	1.11	-	-	-	-	-	-	-	-	-	-	-	ADDED AREA FROM OUTFALL OF ES-2	
I-1	M-2	A-I	0.52	0.38	0.20	7.45	2.98	13.40	5.31	16.00	27	CMP	0.024	1.37	192	5.5	0.6	17.5		
M-2	M-1	A-I	-	-	-	7.45	2.98	14.00	5.21	16.00	27	CMP	0.024	1.19	63	5.4	0.2	19.0		
M-1	E-1	A-I	-	-	-	7.45	2.98	14.20	5.18	16.00	42	RCCP	0.013	0.00	74	1.6	0.8	16.0		

NOTE: INLET GRATES IN SUMPS SHALL BE CONSTRUCTED LEVEL AT ELEVATION GIVEN IN STRUCTURE SCHEDULE. INLETS ON GRADE SHALL BE ADJUSTED SO THAT THE SLOPE OF GRATE MATCHES FINISHED FLOW LINE OF CURB. TOP ELEVATION SHALL APPLY TO CENTERLINE AT FLOW LINE OF CURB.

STORM STRUCTURE SCHEDULE

STRUCT. NO.	TYPE	PLATE	INVERT IN. ELEV.	INVERT N. ELEV.	INVERT OUT. ELEV.	TOP ELEV.	NORTH COORD.	EAST COORD.	REMARKS	
I-1	STANDARD TYPE 'K' INLET	61	-	539.58	539.08	TOP STRUCT 543.97	636297	1336505	WEIR ELEVATION= 542.72	
I-2	STANDARD TYPE 'K' INLET	61	-	542.75	542.50	TOP STRUCT 546.85	636235	1336664	WEIR ELEVATION= 545.60	
I-3	STANDARD TYPE 'K' INLET	61	-	-	556.60	TOP STRUCT 560.35	636530	1336786	WEIR ELEVATION= 559.10	
I-4	STANDARD WR INLET	69	-	-	552.54	555.86	636558	1336603		
I-5	STANDARD TYPE 'S' INLET DOUBLE GRATE TANDEM	65	-	-	575.51	579.01	636787	1336694		
I-6	STANDARD TYPE 'S' INLET DOUBLE GRATE TANDEM	65	-	-	579.73	579.48	636790	1336716		
I-7	STANDARD YARD INLET	59	-	-	576.00	578.51	636811	1336866		
I-8	STANDARD TYPE 'S' INLET DOUBLE GRATE TANDEM	65	-	-	595.43	598.99	636938	1336696		
I-9	STANDARD TYPE 'S' INLET DOUBLE GRATE TANDEM	65	-	-	557.92	561.42	636805	1336690		
M-1	72" DIA. PRECAST MANHOLE	96	-	539.50	528.67	528.47	543.42	636507	1336477	INSIDE BOTTOM EL.= 525.47
M-2	60" DIA. PRECAST MANHOLE	95	-	536.45	536.25	532.00	547.00	636486	1336537	INSIDE BOTTOM EL.= 529.00
M-3	48" DIA. PRECAST MANHOLE	94	-	551.74	551.49	556.57	636542	1336598		
M-4	48" DIA. PRECAST MANHOLE	94	552.42	552.17	551.97	556.10	636548	1336609		
M-5	48" DIA. PRECAST MANHOLE	94	557.74	557.49	557.29	561.60	636609	1336680		
M-6	48" DIA. PRECAST MANHOLE	94	-	566.31	566.11	569.61	636694	1336705		
M-7	48" DIA. PRECAST MANHOLE	94	573.62	573.37	573.17	579.23	636788	1336705		
M-8	48" DIA. PRECAST MANHOLE	94	-	591.34	591.09	594.59	636950	1336663		
BW-1	MODIFIED TYPE 'C' ENDWALL ROUND PIPE	C.C. 120	-	-	528.47	-	636442	1336445	ENDWALL TO HAVE RAILING AND OUTFALL RAIL. SEE DETAILS SHEET 8	
ES-2	STANDARD METAL END SECTION ROUND METAL PIPE	85	-	-	551.95	-	636530	1336587		



PIPE DIA.	"A"	"B"	"C"	"D"	"E"	"F"	"G"
1 1/2"	3.75	2.50	7.53	6.28	4.75	0.63	2.25
1 3/4"	4.50	3.00	8.00	7.80	5.50	0.75	2.50
2"	5.25	3.50	10.50	8.78	6.25	0.88	2.75
2 1/4"	6.00	4.00	12.00	10.00	7.00	1.00	3.00
2 3/4"	6.75	4.50	13.50	11.28	7.75	1.13	3.25
3"	7.50	5.00	15.00	12.50	8.50	1.25	3.50
3 1/2"	8.25	5.50	16.50	13.78	9.25	1.38	3.75
4"	9.00	6.00	18.00	15.00	10.00	1.50	4.00
4 1/2"	9.75	6.50	19.50	16.28	10.75	1.63	4.25
5"	10.50	7.00	21.00	17.50	11.50	1.75	4.50
5 1/2"	11.25	7.50	22.50	18.78	12.25	1.88	4.75
6"	12.00	8.00	24.00	20.00	13.00	2.00	5.00
6 1/2"	12.75	8.50	25.50	21.28	13.75	2.13	5.25
7"	13.50	9.00	27.00	22.50	14.50	2.25	5.50
8"	14.25	9.50	28.50	23.78	15.25	2.38	5.75
9"	15.00	10.00	30.00	25.00	16.00	2.50	6.00

STILLING BASIN DETAIL @ ES-2
SCALE = NONE

OWNER / DEVELOPER
MINERAL HILL PROPERTY, LLC.
11175 STRATFIELD COURT
MARROTTSVILLE MD, 21104
(410) 442-2211

**STORM DRAIN TABULATIONS,
DETAILS & STRUCTURE SCHEDULE**
MINERAL HILL PROPERTY

5th ELECTION DISTRICT · CARROLL COUNTY, MARYLAND
TAX MAP: 74 · BLOCK: 3 · PARCEL: 7



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		Job No.:	2018074
		Sheet:	20 OF 23

NOT FOR CONSTRUCTION

LANDSCAPE SPECIFICATIONS

A. All plants shall be identified in accordance with the latest edition of Hortus Third, by The Staff of the Herbarium.

B. 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.

C. Landscape specifications shall conform to Landscape Guidelines for Maryland, Washington, D.C., and Virginia, latest edition. All nursery stock shall be planted in accordance with the procedures outlined in the guidelines.

D. Three (3) inches topsoil on all disturbed areas to be landscaped, seeded or sodded is required.

INSTALLATION

A. 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 for Maryland, Washington, D.C., and Virginia.

B. 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.

C. A completed and sealed certification by a landscape architect shall be provided at the initial inspection. The completion form with photographs is required.

D. Acceptable plant survival shall be defined as not more than 1/3 mortality. A 12 month inspection will be performed by the County. No inspections shall be finalized from November 1st to March 1st.

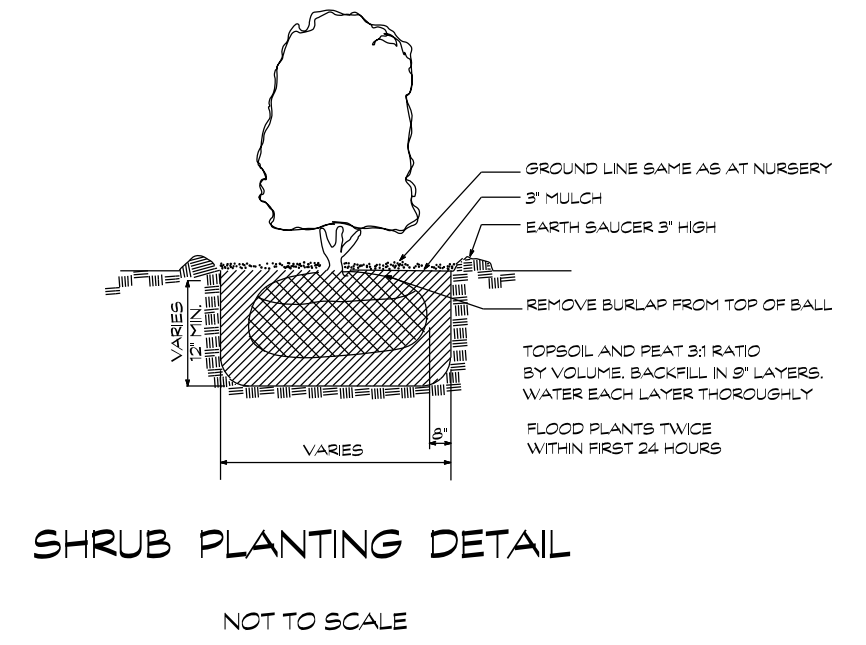
MAINTENANCE RESPONSIBILITY

The owner of any property on which landscaping has been installed pursuant to this chapter shall maintain the landscaping in good condition in perpetuity. A Landscape Maintenance Agreement shall be required. Failure to replace dead or dying Plus or the removal of any installed Plus is a violation of this chapter [Section 157(K) of Carroll County Landscape Ordinance].

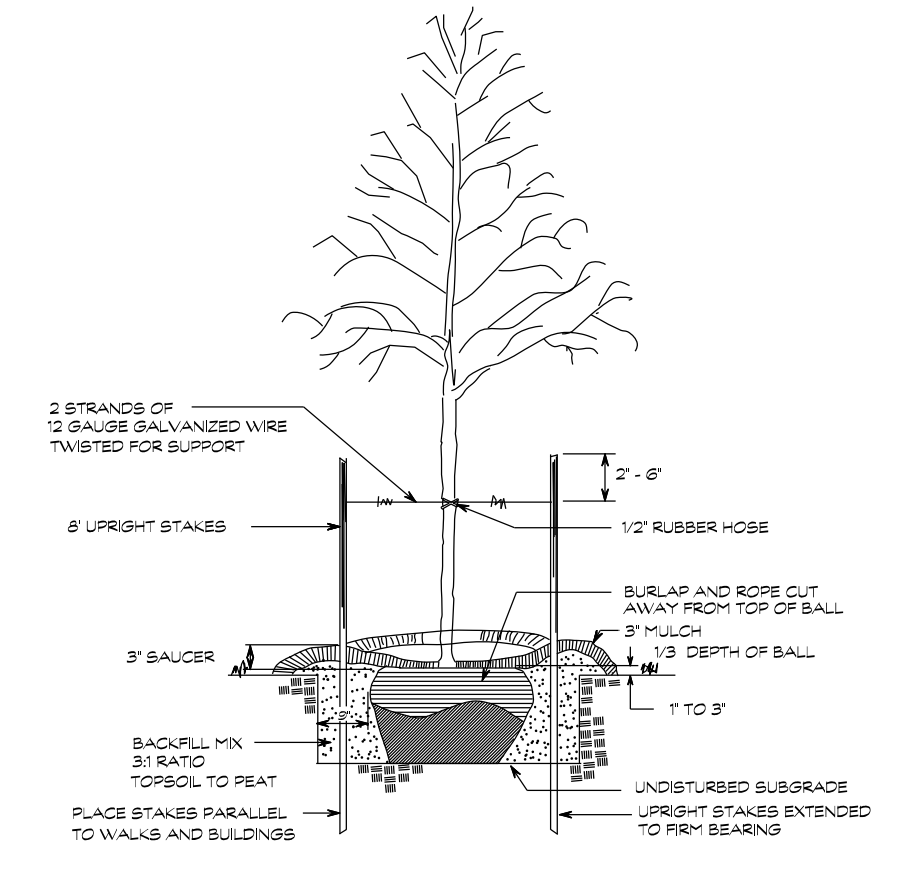
INSPECTIONS

A. Initial inspection. This inspection shall be performed when planting is completed to verify compliance with the approved planting plan. The inspection shall be performed by a landscape architect. A completed and sealed Landscape Certification shall be provided with photographs or other visual documentation. The 12 month survival period will begin upon receipt of the Landscape Certification.

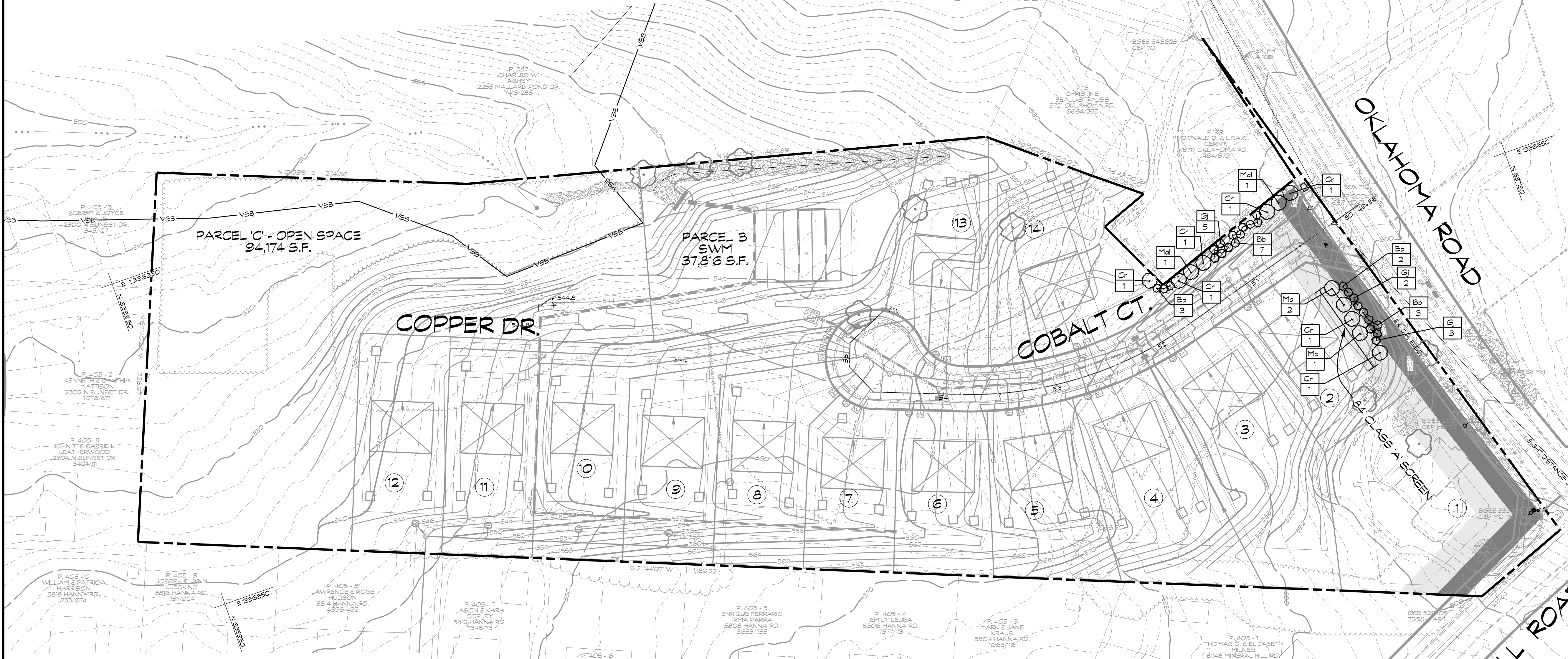
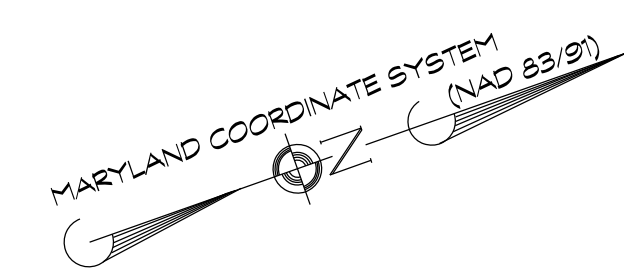
B. Final inspection. This inspection shall be performed by the County 12 months after certification of the initial planting.



SHRUB PLANTING DETAIL
NOT TO SCALE



TREE PLANTING DETAIL
NOT TO SCALE



TREE PROTECTION NOTES

- Upon notification of County approval of the final landscape plan, trees which are to remain shall be marked in the field by the developer and protected in an approved manner. Trees within the construction area which are to remain undisturbed shall be enclosed with a fence for protection (snow fencing or other approved means). The contractor shall not disturb the area within the fence in any manner deleterious to the trees.
- Any trenching operations within the vicinity of trees should be done in a manner to protect the tree roots. Tearing and ripping of tree roots should be avoided. Roots should be severed cleanly.
- All trees to be removed should be removed in a manner that will not damage the remaining trees. Any trees that are to remain that are damaged during clearing operation must be repaired in an approved manner by a tree expert as soon as final clearing has been completed. After construction is completed, temporary barriers, surplus materials and all trash, debris and rubbish shall be removed from the site. All spoils shall be clear of building materials, stone and rubbish.
- Existing trees (particularly mature trees) which are retained will undergo "root sprouting shock" caused by the construction activity. All possible safeguards should be taken to minimize these effects and to provide optimum growth conditions. Foliage feeding and burl or root feeding are encouraged. Branch and foliage thinning are also desirable.

LEGEND

- BGE GREEN ZONE
ALL PLANTS x 25'
- BGE YELLOW ZONE
ALL PLANTS x 40'

CARROLL COUNTY, MARYLAND
DEPARTMENT OF PLANNING
BUREAU OF RESOURCE MANAGEMENT
LANDSCAPE CERTIFICATION

CERTIFICATION IS DUE UPON COMPLETION OF LANDSCAPE INSTALLATION AND BEGINS THE 12 MONTH GUARANTEE PERIOD

PROJECT NAME ON APPROVED PLAN: _____

LOCATION OF PROJECT: _____

NAME OF OWNER/CERTIFIER: _____

MAILING ADDRESS: _____

OWNER/CERTIFIER (SIGNATURE) _____ DATE _____

THIS IS TO CERTIFY THAT THE LANDSCAPE INSTALLATION REQUIREMENTS HAVE BEEN FULFILLED, AS SET FORTH IN THE APPROVED FINAL LANDSCAPE PLAN AND AS SPECIFIED BY THE CARROLL COUNTY LANDSCAPE MANUAL.

LANDSCAPE ARCHITECT (SIGNATURE) _____

LANDSCAPE ARCHITECT SEAL _____

PLEASE RETURN THIS COMPLETED FORM, TOGETHER WITH PHOTOGRAPHS OF THE INSTALLED LANDSCAPINGS, TO THE BUREAU OF RESOURCE MANAGEMENT, 225 N. CENTER STREET, WESTMINSTER, MARYLAND, ROOM 209.

CERTIFICATION PROVIDES THE NECESSARY DOCUMENTATION TO CARROLL COUNTY THAT LANDSCAPE INSTALLATION HAS BEEN COMPLETED IN ACCORDANCE WITH AN APPROVED LANDSCAPE PLAN.

CARROLL COUNTY'S ACCEPTANCE OF THIS COMPLETED CERTIFICATION STATEMENT DOES NOT RELIEVE THE OWNER OF THE RESPONSIBILITY OF PERPETUAL CARE OF THE REQUIRED TREES AND SHRUBS, DEAD OR REMOVED PLANTINGS THAT OCCUR SUBSEQUENT TO CARROLL COUNTY'S ACCEPTANCE OF THIS CERTIFICATION WILL BE DEEMED AS ZONING VIOLATIONS ENFORCEABLE UPON THE CURRENT OWNER.

LANDSCAPE REQUIREMENTS
per Carroll County Landscape Manual, May 2007

Requir.#	Requirement	Basis	Required P.U.'s	Provided P.U.'s
LB.1 a	Rear/Side yard (class A screen) LOT 2	84 LF	4.2 PU	5 PU
LC.3 c	10' Retaining Wall	154 LF	6.2 PU	6 PU
TOTAL			10.4 PU	11 PU

PLANT MATERIALS CHART

KEY	QUANT	SCIENTIFIC NAME	COMMON NAME	CATEGORY	SIZE	SPACING	ROOT	P. U.
Cr	7	Cornus x Rutba	Aurora White Flower Dogwood	mdt	1' cal.	see plan	BEB	3.5
Mal	5	Malus sagentii	Sargent Crabapple	mdt	5'	see plan	BEB	2.5
Gj	10	Juniperus Chinalensis 'gold star'	Gold Star Juniper	SHR	#1 or #2	see plan	container	2
Bb	15	Euonymus alatus 'compactus'	Burning Bush	SHR	3'-4'	see plan	BEB	3
TOTAL PLANTING UNITS PROPOSED:								11

OWNER / DEVELOPER
MINERAL HILL PROPERTY, LLC.
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LANDSCAPE PLAN NOTES & DETAILS
MINERAL HILL PROPERTY
A CLUSTER SUBDIVISION

5th ELECTION DISTRICT • CARROLL COUNTY, MARYLAND
TAX MAP: 74 • BLOCK: 3 • PARCEL: 7

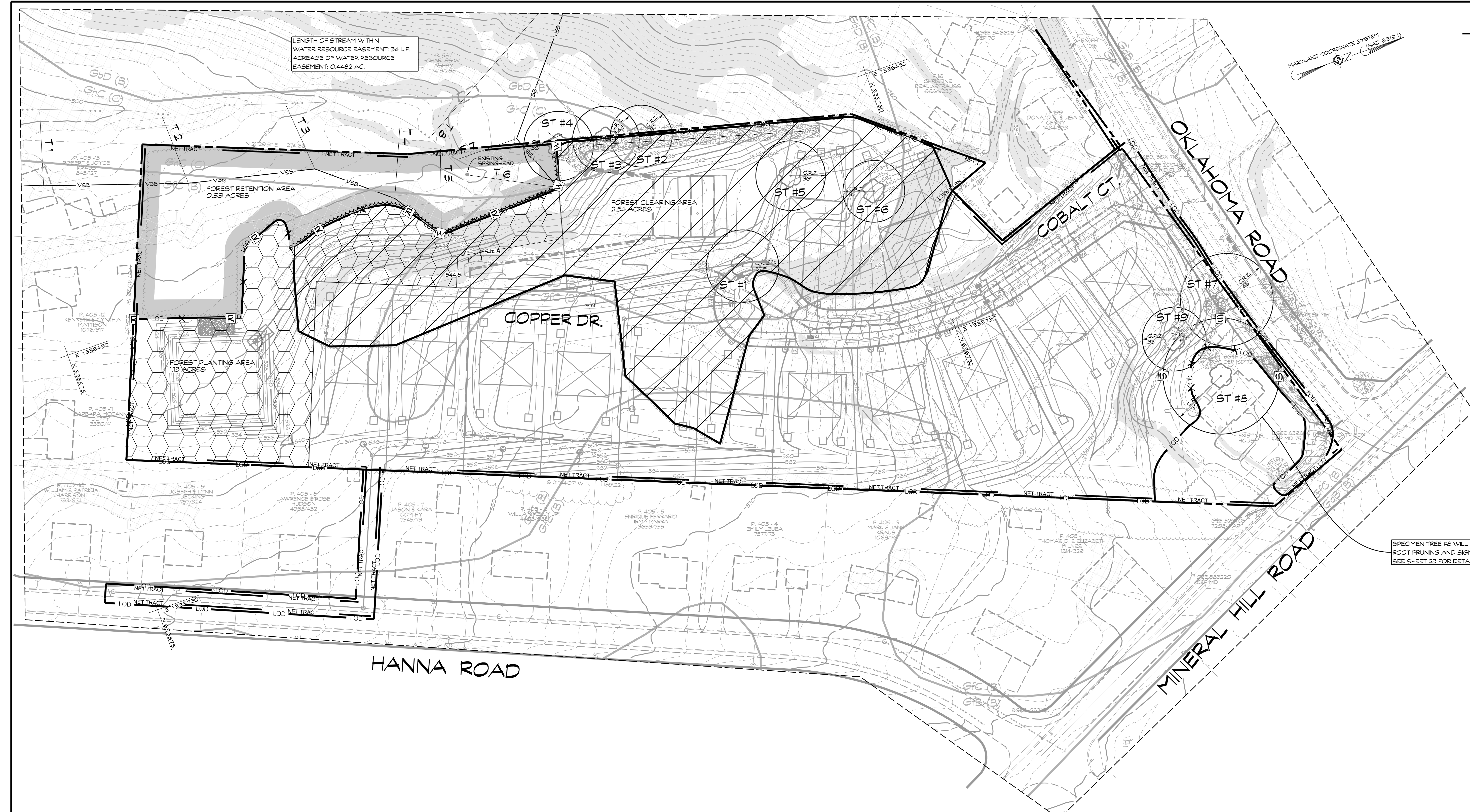
NOT FOR CONSTRUCTION

Engineers • Surveyors
CLSI
Land Planning & Environmental Consultants
www.clsi-civileng.com

439 East Main Street Westminster, MD 21157-5539
(410) 848-1790 FAX (410) 848-1791

Date	Revisions	Drawn By: J.L.W./J.W./L.N.L.
4-23-2020	Addressed county comments dated 03/23/2020	Designed By: JW
		Reviewed By:
		Date: MARCH, 2020
		Scale: 1" = 50'
		Job No.: 2018074
		Sheet: 21 OF 23

NOT FOR CONSTRUCTION



LEGEND

- 25% OR GREATER SLOPES
- 12% - 25% SLOPES
- SOIL LINE
- VARIABLE STREAM BUFFER
- TREE PROTECTION FENCING
- NET TRACT AREA
- EXISTING TREELINE
- FOREST STAND LINE
- STAND DESIGNATION
- SPECIMEN TREE
- CRITICAL ROOT ZONE
- FOREST CLEARING AREA
- FOREST RETENTION AREA
- FOREST PLANTING AREA
- LIMIT OF DISTURBANCE
- FOREST PROTECTION FENCE AND SIGNS
- SPECIMEN TREE SIGN

SPECIMEN TREE #8 WILL REQUIRE ROOT PRUNING AND SIGNAGE SEE SHEET 23 FOR DETAILS

FOREST STAND CHART

STAND	PRIORITY	AREA
A	1	3.53 AC.
TOTAL FOREST		3.53 AC.

SOILS CHART

SOIL SERIES	HYDROLOGIC SOIL GROUP	ERODIBLE (k-factor > .35)	HYDRIC
GLENELG - URBAN	D	-	-
GLENELG	C	-	-
GLENVILLE	C	-	-

SPECIMEN TREE CHART

NO.	D.B.H.	COMMON NAME / SCIENTIFIC NAME	CONDITION	STATUS
1	37.5"	Red Maple / <i>Acer rubrum</i>	Fair - Multistem	REMOVED
2	32"	Black Locust / <i>Robinia pseudoacacia</i>	Fair	REMOVED
3	34.5"	Black Locust / <i>Robinia pseudoacacia</i>	Poor	REMOVED
4	36"	Box Elder / <i>Acer negundo</i>	Poor	REMOVED
5	36"	Black Oak / <i>Quercus rubra</i>	Good	REMOVED
6	32"	Box Elder / <i>Acer negundo</i>	Fair	REMOVED
7	33"	Norway Maple / <i>Acer platanoides</i>	Poor	REMOVED
8	60"	Silver Maple / <i>Acer saccharinum</i>	Poor	DISTURBED
9	48"	Silver Maple / <i>Acer saccharinum</i>	Poor - Multistem	REMOVED

STREAM BUFFER CALCULATIONS

Transect	% Slope	Buffer Exten.	Mh. Buffer	Wetland Width	25% Slope	Total Buffer
T1	13	26	50'			76'
T2	12	24	50'			74'
T3	11	22	50'			72'
T4	15	30	50'		7	87'
T5	17	34	50'		3	87'
T6	14	28	50'		14	92'
T7	9	18	50'			69'
T8	17	34	50'		58'	140'

THERE ARE NO FEMA FLOODPLANS ON THIS SITE

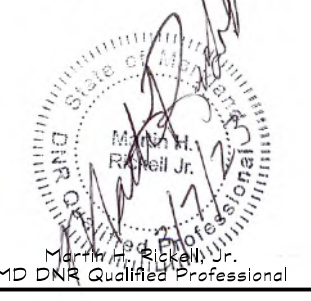
THERE ARE NO WETLANDS ON THIS SITE.

FOREST CONSERVATION PLAN

MINERAL HILL PROPERTY
A CLUSTER SUBDIVISION

5th ELECTION DISTRICT CARROLL COUNTY, MARYLAND
TAX MAP: 74 BLOCK: 3 PARCEL: 7

NOT FOR CONSTRUCTION



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OWNER / DEVELOPER

MINERAL HILL PROPERTY, LLC.
11175 STRATFIELD COURT
MARRIOTTSVILLE MD, 21104
(410) 442-2211

Date	Revisions	Drawn By:	JLW/AV
10/2020	Addressed County Comments (LNL)	Designed By:	AV
		Reviewed By:	
		Date:	MARCH, 2020
		Scale:	1"=50'
		Job No.:	2018074
		Sheet:	22 OF 23

NOT FOR CONSTRUCTION

FOREST CONSERVATION NOTES

- Plan prepared by C.L.S.I.
- Attachment of signs or any other object, to trees is prohibited.
- No equipment, machinery, vehicles, materials or excessive pedestrian traffic shall be allowed in conservation areas.
- Signs to be posted as noted on plan sheet.
- All protective devices must be in place prior to any grading which includes signs and fencing.
- Pre-Construction meeting: Before any disturbance, the developer, contractor or project manager and local inspector shall attend. Temporary parking, stockpile, staging and fueling area will be shown to all personnel.
- Any changes made to the Forest Conservation Plan due to On-Site conditions shall be made in consultation with a Representative of the Bureau of Resource Management.
- No burial of discarded materials will occur on-site.
- No open burning within 100 feet of a wooded area.
- Forest retention and planting areas will be placed within a forest conservation easement in perpetuity and conveyed to Carroll County.

MAINTENANCE AND MANAGEMENT PLAN

- A. PLANTING REQUIREMENT: 344**
B. SURVIVAL REQUIREMENT: 75% = 258 TREES
C. MAINTENANCE AND MANAGEMENT PERIOD: 36 MONTHS
D. TREES WILL BE PLANTED AS SPECIFIED BELOW
- MAINTENANCE AND MANAGEMENT:**
A. The landowner/developer will ensure the tree survival during the maintenance and management period. Within that period any trees dying or in a severely weakened condition will be replaced in the first available planting window; these plantings are reinforcement plantings.
B. Watering and fertilizing will be performed on an as needed basis and be carried out by the landowner/developer to ensure the survival rate.
C. Control of competing vegetation will be carried out at least twice annually, during this maintenance agreement. No mowing will occur between April 1 through July 31, due to the possibility of ground nesting wildlife species.
D. Pest, disease, and mechanical injury will be addressed in the following manner: Mulching the trees will help protect the trees from mechanical damage as it provides some guidance to the person mowing. Pest and disease inspections will be performed annually throughout the maintenance agreement.

- INSPECTIONS:**
 Inspections must meet the requirements of Section 150.31 of the Carroll County Forest Conservation Ordinance.
A. Within one month of the completed plan, a landowner representative and a county representative will perform an initial inspection.
B. At the end of the first growing season, the landowner/developer will make another inspection to check survival rate; if the planting survival rate is below the survival requirement, the landowner/developer will re-forest the planting (see Inspection form to County).
C. Planting inspections will be carried out for the entire maintenance agreement, during each growing season and continue until the final inspection, upon which time the survival requirement will be ensured. The same procedure for notification will be used to inform the County.
D. At the end of the M & M period, if the planting meets or exceeds the survival requirement, the remaining amount of the cash bond, letter of credit, surety bond, or other guarantee shall be returned or released upon written request of the person required to provide said guarantee.

- PLANT SPECIFICATIONS**
 Planting material will conform to the current issue of "The American Standards for Nursery Stock", published by the "American Association of Nurserymen". Bare root plants are best planted in early spring from March 15 to May 15.

- PROTECTION DEVICES:**
 The planting site shall be protected with appropriate signs and/or approximately every 100' (see detail). This acreage will also be placed in a Forest Conservation Easement in perpetuity.

- SEQUENCE OF EVENTS**
 1. Order plant material for spring or fall planting.
 2. Have C.L.S.I. stake out Forest Conservation Easement area.
 3. Perform site prep.
 4. Flag planting area.
 5. Install plants according to plan.
 6. Install signs and fence.
 7. Contact County- 410-386-2210 for inspection.
 8. Maintain planting per guidelines.
 9. Call County for 15 month inspection.
 10. Maintain planting per plan guidelines.
 11. Call for final inspection at the end of the 3 year maintenance period.

MITIGATION MEASURES FOR UNANTICIPATED UNAUTHORIZED INJURY TO TREES

Disturbance within the forest protection area is not proposed at this time; however, if unauthorized impacts within the forest protection area were to occur, the following corrective measures will be required, as appropriate, to insure tree health and survival:

- ROOT INJURY**
 If an increase in grade within an identified forest protection area occurs, this may result in root injury. The use of a porous topsoil will be used to allow for exchange of oxygen through the soil. The opposite of this, lowering if the grade within the protected area, shall be mitigated by covering the roots with a fine wood chip or organic mulch material. This will help retain moisture and therefore, stimulate root re-growth into the disturbed area.

SOIL COMPACTION
 Soil compaction is a problem on most construction sites; however, the highly visible orange blaze plastic mesh fence should eliminate the compaction problem. If heavy equipment did come in contact with a critical root zone, a fiber mat should be laid down to increase the weight bearing capacity and minimize soil compaction.

SOIL PH CHANGE
 Since designated areas have been established for cement truck wash out and vehicle fueling, little to no change in the soil pH should be seen. Cement and fuel spills are the two main causes of soil pH change.

TREE WOUNDS
 Wounds to the tree trunk are unlikely to occur, due to the mesh fence protection device; however, crown branching structures may be damaged by vehicular movement. If this should occur, proper pruning will be initiated, "Crown Reduction".

APPLICATIONS OF FERTILIZERS BY INJECTION
 As mentioned above, trees inside the protection area shall not be damaged due to the establishment of Forest Protection Devices. If trees are damaged and show signs of stress, they will receive liquid fertilizer injections. Fertilizer injections will improve the health and vigor of the damaged tree and increase the survival potential. For recommended rates and time of application, contact a licensed tree expert.

GENERAL GUIDANCE FOR MAINTENANCE OF PLANTED AREAS

a. Watering: A watering plan should only be implemented to compensate for deficient rainfall patterns. Trees can die from too much water as well as too little. Newly planted trees may need water as much as once a week for the entire first growing season. The next two years, in contrast, may require watering only a few times a year (once a month during July and August). After that, trees should only need water in severe droughts. Bare root transplants, if sufficiently watered during planting, may not need water for almost 2-4 weeks after growth begins. Balled and burlap material may require more frequent watering.

Soil and Watering: Soil texture influences the downward flow of water. Soils with more clay tend to retain more water and can be watered less often; soils with more sand drain more quickly and need to be watered more often. For examples of on-site evaluation recommendations, if the soil was well prepared before planting, there should be few drainage problems. Restricted downward penetration indicates the soil may have been compacted during construction and not aerated before planting, or there may be a clay hardpan.

How to Water: The best way to water is deeply and slowly using a regular hose, a soaker hose, or drip irrigation. For larger trees, start by watering the root ball thoroughly. The watered area shall be enlarged to include the whole root zone as the tree becomes more established. Mulching around the base of newly transplanted trees prevents roots from drying too quickly while providing air movement to the roots.

b. Fertilizing: Fertilizing is the chemical modification of soils to correct for a specific nutrient deficiency. These deficiencies are most effectively identified in laboratory soils analysis. Nothing should be added to the soil without first testing to determine any nutrient needs.

What Nutrients to Apply: Trees depend on three major nutrients, nitrogen, phosphorus and potassium and a host of other minor ones (or micronutrients) such as calcium, magnesium and iron. In most soils, most of the micronutrients are available in abundance. Of the major nutrients, nitrogen is usually the limiting one.

When to Fertilize: Even when soils are deficient in nitrogen, fertilizing within the first growing season after planting is recommended. Too much nitrogen may cause a spurt of canopy growth which the roots cannot support. It is therefore, best to wait until after the end of the first growing season, either in the late fall or early spring.

What Type of Fertilizer: Organic fertilizers are preferred to synthetic fertilizers. Bone meal or seaweed based products are available commercially. Organic fertilizers have a slow-release effect that can supply nutrients to the plant as needed while minimizing the risk of excessive nutrients entering the forest system and water supply.

c. Control of Competing Vegetation: Unfortunately, good sites for reforestation and afforestation are generally good sites for unwanted vegetation as well. Unwanted vegetation growing near newly planted trees can take over the site. The need to control this problem depends on the ability of the plant material to withstand the intrusion. Smaller trees may need more care, although some seedlings survive with the overgrowth and will shade it out as the trees grow. As a preventive measure, consider the potential for growth of invasive species.

Mulch is one of the best weed deterrents. Spread a 2-4 inch layer of mulch over the root area of a newly planted tree avoiding direct contact with the trunk's prime spot for fungal growth. Mulch also helps maintain the soil moisture level and may provide a buffer for any equipment that may be used to maintain the area.

d. Protection: Pests, Disease and Mechanical Injury.
 Integrated pest management (IPM) is one of the most effective and safest approaches for maintaining a healthy forest. IPM basics include proper species selection for the site, good pruning, mulching and fertilizing practices, regular monitoring, and proper timing of necessary sprays. Good cultural practices will minimize the amount of spraying. Professional IPM programs have reduced pesticide use by 80%. Some aspects of a full IPM program include:

- Elimination of some low vegetation before planting to help control the rodent population which thrives in brushy environment.
- Use of tree shelters to protect the trunks of seedlings or whips from animal damage. The shelters act as mini-greenhouses to speed growth. These trees need more water than those planted without tree shelters.
- Mulching around the trees to minimize trunk damage from mowers. Wounds provide an entryway for pests.
- Pruning dead and disease branches to prevent establishment or spreading of disease.

SPECIMEN TREE MITIGATION

SPECIMEN TREE #	DBH (IN.)	CONDITION
5	36	GOOD
SUM	36	

35" caliper trees are to be required for specimen tree mitigation.
 Mitigation trees are to be planted at 200 trees per acre.
 36 / 200 = 0.18 acres

NET TRACT TABULATION

SITE: 9.13 ACRES
 100 YEAR FLOOD PLAIN: 0.00 ACRES
 AREA OF LOD OUTSIDE THE SITE: 0.24 ACRES
 NET TRACT AREA: 9.37 ACRES

NOTE: This estimate for bond purposes only. Contractor is responsible to confirm or provide own estimate for bidding purposes.

SIGNS

R

FOREST RETENTION AREA

VIOLATORS SUBJECT TO FINES AS IMPOSED BY THE HANDBOOK FOR FOREST CONSERVATION ACT OF 1987.

PROHIBITED

PLACED APPROXIMATELY EVERY 100 FT.

S

SPECIMEN TREE

DO NOT REMOVE

VIOLATORS SUBJECT TO FINES AS IMPOSED BY THE HANDBOOK FOR FOREST CONSERVATION ACT OF 1987.

PROHIBITED

100 PER TREE

W

WATER RESOURCE PROTECTION AREA

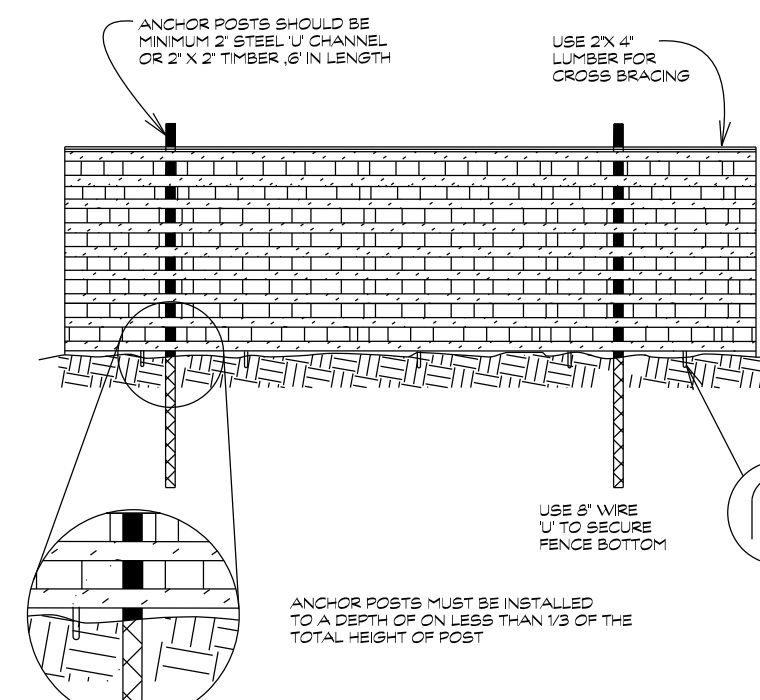
This area is being maintained to protect and enhance water quality.

Clean Water For Your Future

Carroll County Government

PLACED APPROXIMATELY EVERY 100 FT.

Forest/Tree Protection Fence Blaze Orange Plastic Mesh Fence



- NOTES:**
- FOREST PROTECTION DEVICE ONLY.
 - RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
 - DO NOT REMOVE ANY MATERIALS.
 - DEVICE
 - BLAZE ORANGE SHOULD BE ADDED.
 - PROTECTIVE SIGNAGE MAY ALSO BE ADDED.
 - DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

FOREST RETENTION AREA

FOREST RETENTION AREA

DISTURBANCE AREA

EXAMPLE

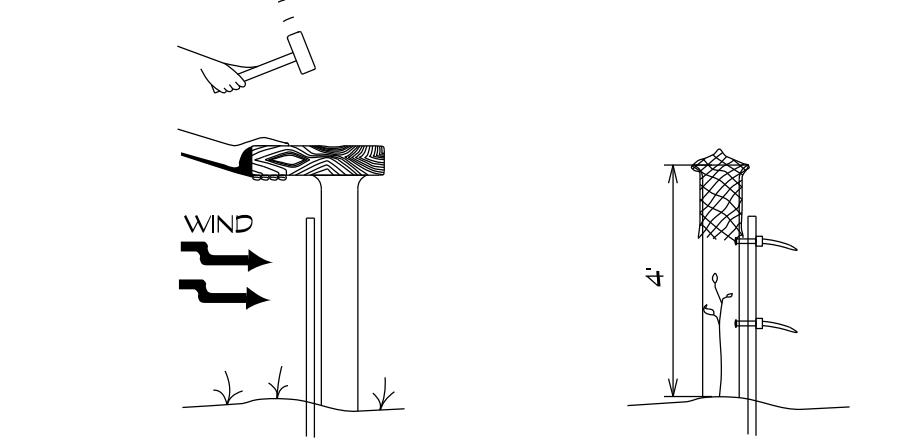
TREE	STATUS	NOTES
1	SAVE	Preliminary retention edge crossing more than 30% of the CRZ can be moved to accommodate.
2	SAVE	Preliminary retention edge can be moved to protect the entire CRZ.
3	REMOVE	Tree is completely within the disturbance zone.
4	REMOVE	Tree is completely within the disturbance zone.
5	SAVE	Preliminary retention edge can be moved to protect the entire CRZ.
6	REMOVE	Preliminary retention edge is over trunk.

FIELD EDGE DETERMINATION

FIGURE A/B

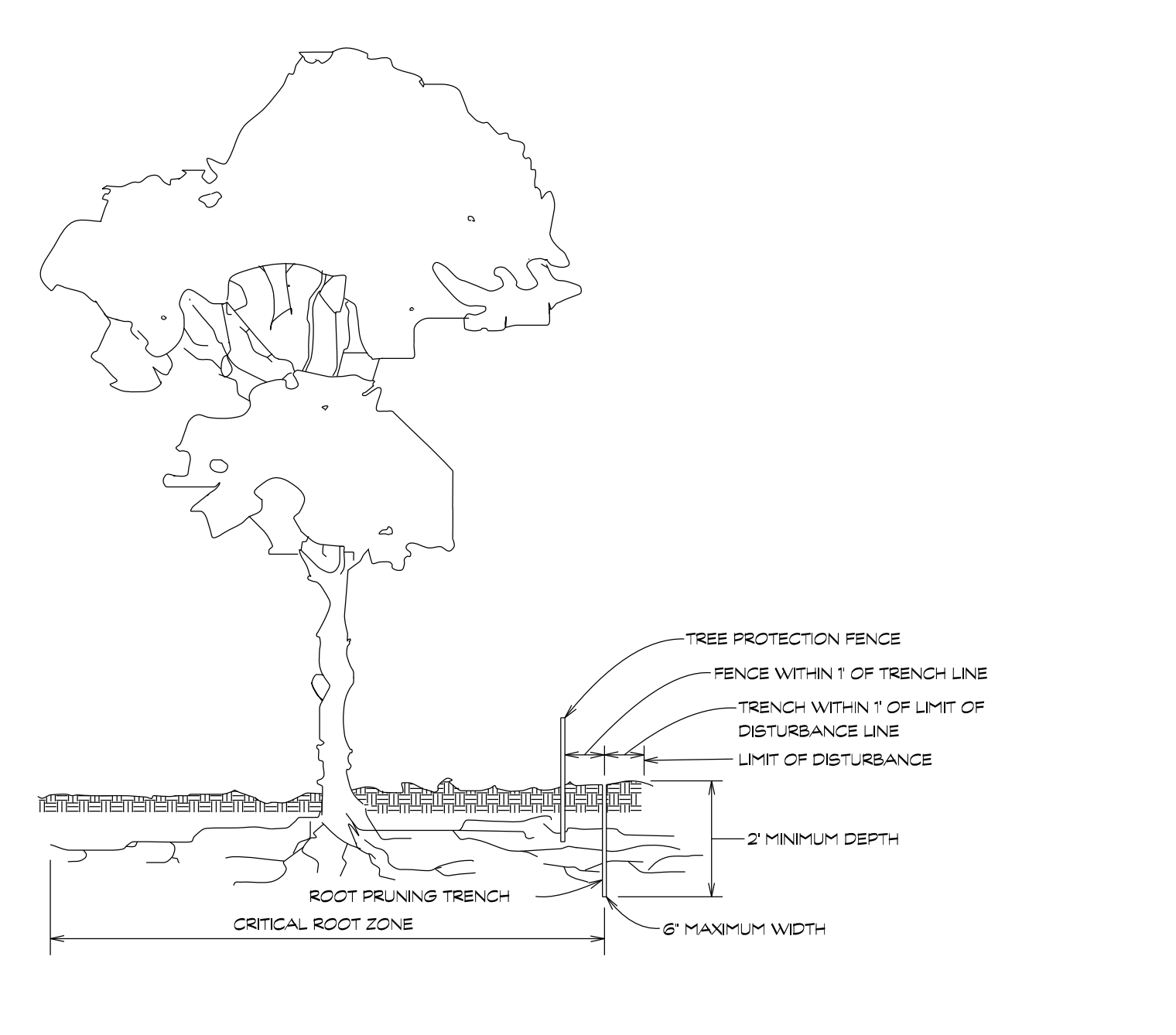
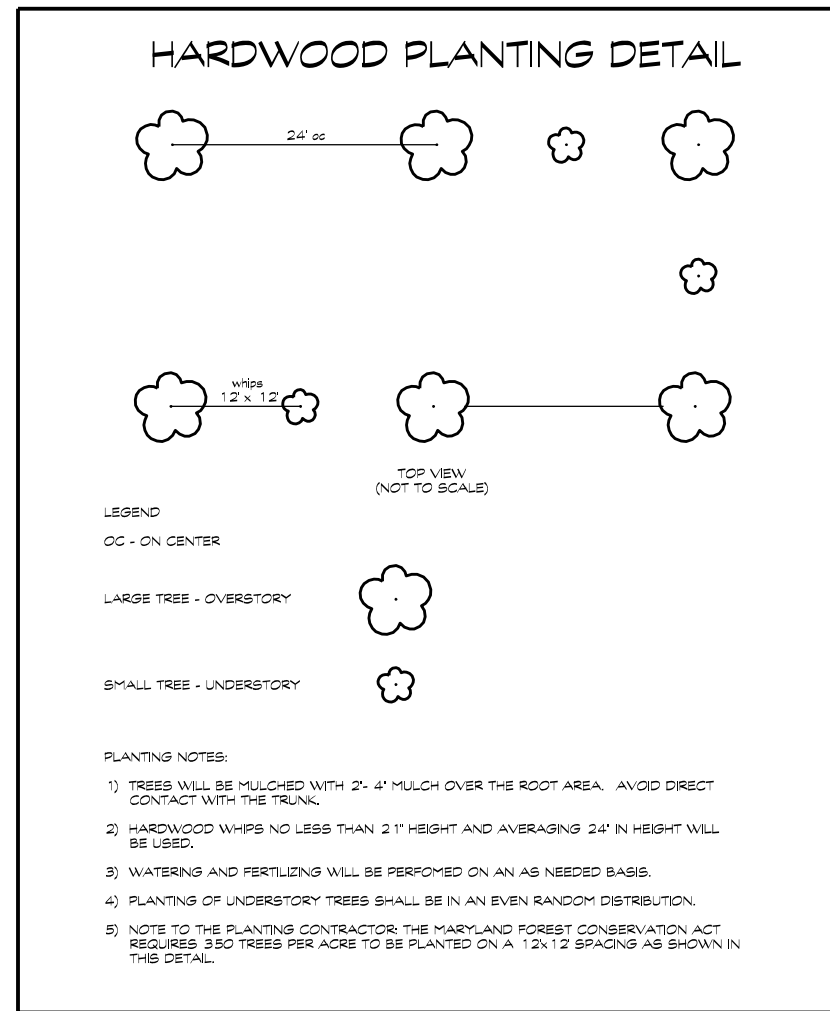
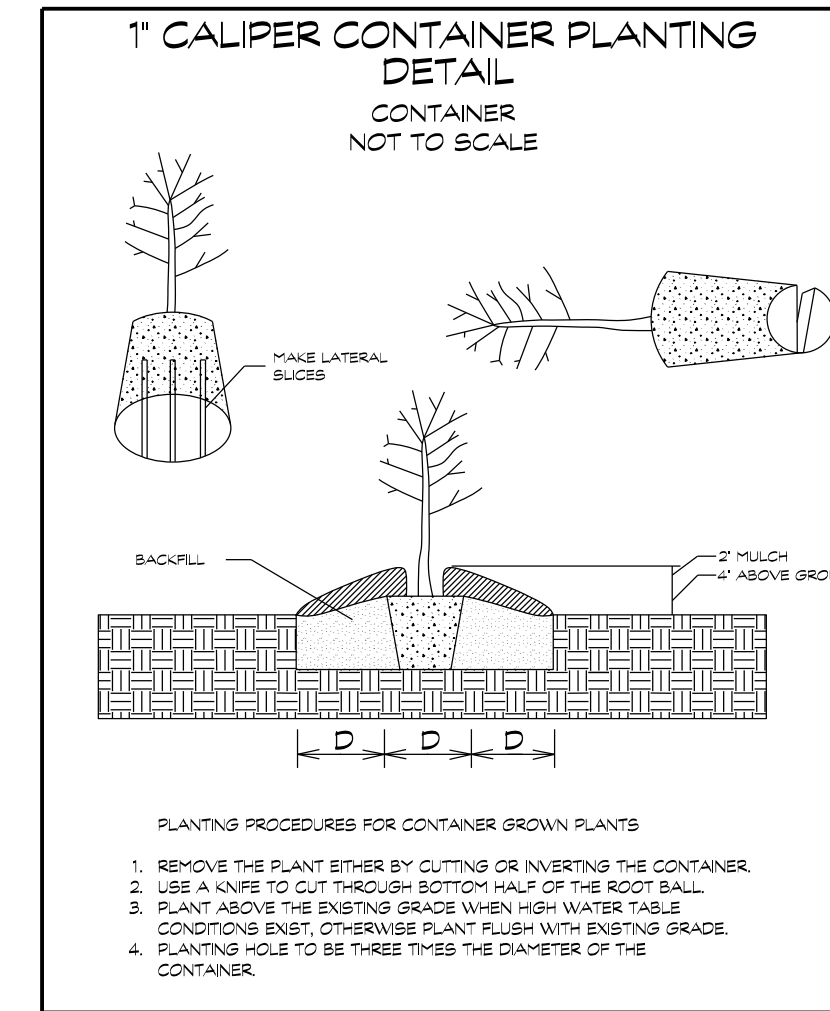
- When using tree shelters the number of plants per acre is adjusted.
- If necessary, trim seedlings or whips to a single leader.
- Drive stake into ground approximately 1/2" from the base of the seedling or whip, to a depth of 12 inches. NOTE: In open fields drive the stake on windward side of the seedling or whip. In shaded conditions, drive the stake on the north side of the seedling or whip.
- Slit the tree shelter over the plant. Do not damage the terminal bud or root collar of the plant.
- With the flat end of the shelter on top and before tightening the ties, use a block of wood and hammer to seat the base of the shelter into the ground. The shelter must be seated at least one inch below ground surface.
- Tighten the ties to secure the shelter to the stake.
- Install poly netting over the top opening of the shelter to prevent bird entry.

Note: Contractor to follow manufacturer installation procedures



THE NETTING SHOULD EXTEND 7-8 INCHES DOWN THE TUBE PREVENT ACCIDENTAL REMOVAL

GENERAL TREE SHELTER INSTALLATION DETAIL N.T.S.



- Notes:**
- RETENTION AREAS TO BE ESTABLISHED AS PART OF THE FOREST CONSERVATION PLAN REVIEW PROCESS.
 - BOUNDARIES OF RETENTION AREAS TO BE STAKED, FLAGGED AND/OR FENCED PRIOR TO TRENCHING.
 - EXACT LOCATION OF TRENCH SHOULD BE IDENTIFIED.
 - TRENCH SHOULD BE IMMEDIATELY BACKFILLED WITH SOIL REMOVED OR ORGANIC SOIL.
 - ROOTS SHOULD BE CLEANLY CUT USING VIBRATORY KNIFE OR OTHER ACCEPTABLE EQUIPMENT.

ROOT PRUNING

OWNER / DEVELOPER

MINERAL HILL PROPERTY, LLC.
 11175 STRATFIELD COURT
 MARRIOTTVILLE MD, 21104
 (410) 442-2211

FOREST CONSERVATION NOTES & DETAILS
MINERAL HILL PROPERTY

5th ELECTION DISTRICT CARROLL COUNTY, MARYLAND
 TAX MAP: 74 BLOCK: 3 PARCEL: 7

NOT FOR CONSTRUCTION

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		Job No.: 2018074
		Sheet: 23 OF 23

NOT FOR CONSTRUCTION

GENERAL NOTES-ROADS

- Construction shall be performed in accordance with latest editions of the following, including all addenda, supplements or updates:
 - Design Manual - Volume One - Roads and Storm Drains, 1994 edition, of the Carroll County Department of Public Works.
 - Design Guide for Flexible Pavement, 2004, of the Carroll County Department of Public Works.
 - Book of Standards, Highway and Incident Structures of the Maryland Department of Transportation, State Highway Administration.
 - Standard Specifications for Construction and Materials, 2008 edition, of the Maryland Department of Transportation, State Highway Administration.
 - Maryland Manual on Uniform Traffic Control Devices (MUTCD) 2003 Edition of the Maryland Department of Transportation, State Highway Administration.
 - Maryland Standards and Specifications for Soil Erosion and Sediment Control, 2011 edition, published jointly by Water Resources Administration, Soil Conservation Service and State Soil Conservation Committee.
 All of the above noted publications are included by reference as part of these construction plans.
- The Contractor shall notify the Carroll County Department of Public Works, Construction Inspection Division (4 10-386-2157) a minimum of three (3) working days before beginning work.
- Contractor shall furnish, place and maintain traffic control measures as shown in these plans and as specified in the MUTCD. 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.
- 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 1-800-257-7177 for verifying existence and location of all utilities prior to beginning work. Any damage to existing utilities due to Contractor's operation shall be repaired immediately at Contractor's expense.
- Developer is responsible in all regards for relocation of any existing utilities.
- In case of discrepancy between scaled and figured dimensions, figured dimensions shall govern.
- If for any reason proposed facilities cannot be constructed in accordance with approved plans, Contractor must immediately inform Construction Inspector or Construction Inspection Division (4 10-386-2157) 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.
- 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.
- Contractor shall fill 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.
- Developer is responsible for providing soil, base aggregate and hot mix asphalt compaction testing. A certified technician must be onsite 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.
- 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.
- Pipe elevations shown on storm drain profiles are invert elevations unless otherwise noted.
- 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 1:1 stabilized depth, unless otherwise indicated on plans.
- All existing paving disturbed by utility cuts shall be replaced in accordance with Carroll County Standard Plans 4-7, Option 1 or Option 3 in the Design Manual, Volume 1 or as noted in the Utility Permit.
- 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.
- Off-site borrow material to be imported for embankment construction and support of pavement 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 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 test 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.
- The design Equivalent Single Axle Loads (ESAL) and the design CBR value shall be noted on the construction plans.
- 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 4 10-386-6717 a minimum of three (3) weeks prior to starting work and then again 48 hours prior to completion of work.
- Construction vehicles, contractor or private, or construction materials or equipment shall not be parked, placed, or stored within any public right-of-way.
- Topography shown hereon is a combination of Carroll County GIS topography and field run topography, Dated September 2019, and prepared by CLSI.
- Based on November 2, 2017 memorandum from Donnell Davis, Deputy director of Public Works, the request for the intersection spacing to be reduced to 340 feet is granted. A slight distance waiver is not required since the slight distance to the left meets the required slight distance and slight distance to the right can be achieved for the entire distance to the intersection of Mineral Hill Road.

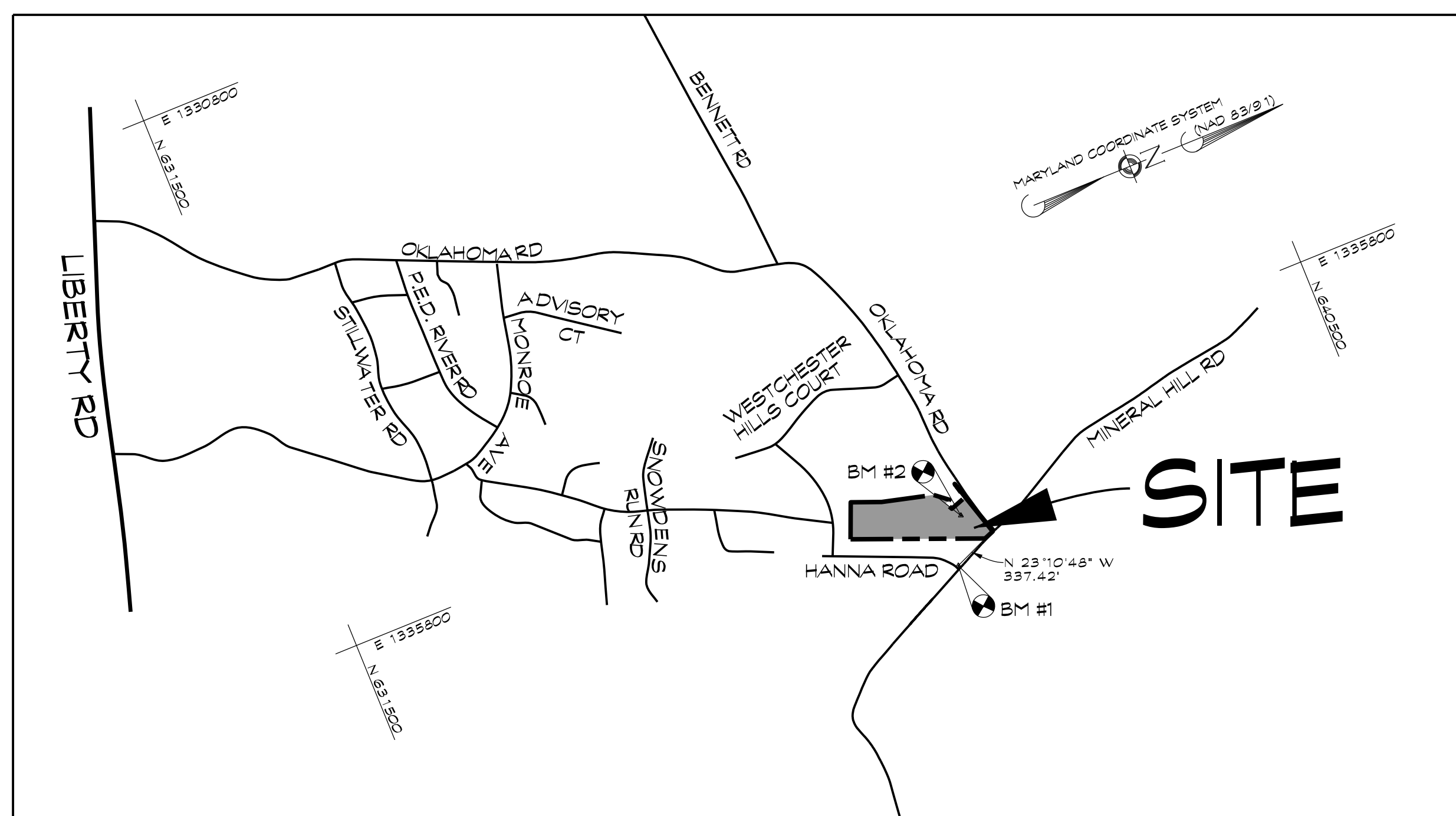
CONSTRUCTION PLANS FOR MINERAL HILL PROPERTY

'A CLUSTER SUBDIVISION'

5th ELECTION DISTRICT * CARROLL COUNTY, MARYLAND

OWNER / DEVELOPER

MINERAL HILL PROPERTY, LLC.
11175 STRATFIELD COURT
MARRIOTTVILLE MD, 21104
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LOCATION MAP
SCALE: 1" = 1000'

FIRE PROTECTION COMPLIANCE NOTE:
IN ACCORDANCE WITH THE CARROLL COUNTY CODE OF PUBLIC LOCAL LAWS AND ORDINANCES CHAPTER 112, FIRE PROTECTION IS BEING MET BY INDIVIDUAL HOUSE SPRINKLER SYSTEMS.

INDEX OF SHEETS

- TITLE SHEET
- SEDIMENT CONTROL PLAN
- SEDIMENT CONTROL NOTES AND DETAILS
- MASS GRADING PLAN
- FINAL GRADING PLAN
- STORMWATER MANAGEMENT PLAN, NOTES & DETAILS
- STORMWATER MANAGEMENT PROFILES
- STORMWATER MANAGEMENT NOTES & DETAILS
- DRYWELL PLAN, NOTES AND DETAILS
- ROAD IMPROVEMENT PLAN & PROFILE: OKLAHOMA ROAD & MINERAL HILL ROAD
- PLAN AND PROFILE: COBALT COURT & STA. 0+00.00 TO & STA. 4+70.20
- PLAN AND PROFILE: COPPER DRIVE & STA. 10+00.00 TO & STA. 13+78.66
- TEMPORARY TRAFFIC CONTROL PLAN, NOTES AND DETAILS- OKLAHOMA ROAD
- TEMPORARY TRAFFIC CONTROL PLAN- MINERAL HILL ROAD
- CROSS SECTIONS- OKLAHOMA ROAD & STA. 10+1+50 TO & STA. 105+50 & MINERAL HILL ROAD & STA. 202+00 TO & STA. 203+00
- CROSS SECTIONS- COBALT COURT & STA. 0+50.00 TO & STA. 4+70.20
- CROSS SECTIONS- COPPER DRIVE & STA. 10+50.00 TO & STA. 13+50.00
- STORM DRAIN DRAINAGE AREA MAP
- STORM DRAIN PROFILES
- STORM DRAIN TABULATIONS, DETAILS AND STRUCTURE SCHEDULE
- LANDSCAPE PLAN, NOTES & DETAILS
- FOREST CONSERVATION PLAN
- FOREST CONSERVATION NOTES AND DETAILS

#	DATE	REVISIONS

PROJECT CERTIFICATIONS

<p>ENGINEER</p> <p>I CERTIFY THAT THIS PLAN OF SEDIMENT CONTROL IS DESIGNED WITH MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND HAS BEEN DESIGNED TO THE STANDARDS AND SPECIFICATIONS ADOPTED BY THE CARROLL SOIL CONSERVATION DISTRICT.</p> <p><i>Braton D. Moore</i> Braton D. Moore, P.E. Professional Engineer Registration No. 51285</p> <p>DATE: 3/7/2023</p>	<p>DEVELOPER</p> <p>I CERTIFY THAT THIS PLAN OF SEDIMENT CONTROL WILL BE IMPLEMENTED TO THE FULLEST EXTENT, AND ALL STRUCTURES WILL BE INSTALLED TO THE DESIGN AND SPECIFICATIONS AS SPELLED OUT IN THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THIS CONSTRUCTION PROJECT WILL HAVE A CERTIFICATION OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE EVALUATION BY THE CARROLL SOIL CONSERVATION DISTRICT PERSONNEL AND COOPERATING AGENCIES.</p> <p>DATE: _____</p>	<p>OWNERS CERTIFICATION</p> <p>I/WE HEREBY CERTIFY THAT ALL PROPOSED WORK SHOWN ON THESE CONSTRUCTION DRAWING(S) HAS BEEN REVIEWED BY ME/US AND THAT I/WE FULLY UNDERSTAND WHAT IS NECESSARY TO ACCOMPLISH THIS WORK AND THAT THE WORK WILL BE CONDUCTED IN STRICT ACCORDANCE WITH THESE PLANS. I/WE ALSO UNDERSTAND THAT ANY CHANGES TO THESE PLANS WILL REQUIRE AN AMENDED PLAN TO BE REVIEWED AND APPROVED BY THE CARROLL CO PLANNING AND ZONING COMMISSION BEFORE ANY CHANGE IN THE WORK IS MADE.</p> <p>OWNER: _____ DATE: _____</p>
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LEGEND

APPROX. 100 YR. FLOOD PLAN	FOREST DRIPLINE	SSP SUPER SILT FENCE
100' SB 100' STREAM BUFFER	STREAM	STONE CONSTRUCTION ENTRANCE
OVERHEAD UTILITY LINE	LIMIT OF DISTURBANCE	STONE DAM
WETLANDS	M/D2 SOL LINE	
SPRINGHEAD	M/B2	
GROUNDWATER CONTOUR	GREATER THAN 25% SLOPES	
ROCK CONTOUR		
MALBOX	APPROVED PERC TEST	UTILITY POLE
DISAPPROVED PERC TEST	PROPOSED DWELLING	PROPOSED WELL
		EXISTING WELL

BENCHMARKS:

- B.M. # 1 N 636690.1700, E 1337145.8100, EL. 590.82
CONC. MONUMENT ELR AZI.
- B.M. # 2 N 636677.6900, E 1336744.7900, EL. 587.79
CLSI PT # F3 REBAR AND CAP FOUND

THIS PLAN HAS BEEN REVIEWED FOR COMPLIANCE WITH THE CARROLL COUNTY DEPARTMENT OF PUBLIC WORKS DESIGN MANUAL - VOLUME 1 ROAD AND STORM DRAINS. THE DESIGN ENGINEER OR ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE ACCURACY OF ALL DATA AND MODIFICATIONS FOR CONSTRUCTION.

PLANS REVIEWER- ENGINEERING DATE: _____

CARROLL SOIL CONSERVATION DISTRICT

THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE CARROLL SOIL CONSERVATION DISTRICT.

BY: _____ DATE: _____

439 East Main Street Westminster, MD 21157-5539
(410) 848-1790 FAX (410) 848-1791

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 51285 EXPIRATION DATE: DECEMBER 7, 2023

NOT FOR CONSTRUCTION

Braton D. Moore, P.E.

MINERAL HILL PROPERTY
'A CLUSTER SUBDIVISION'

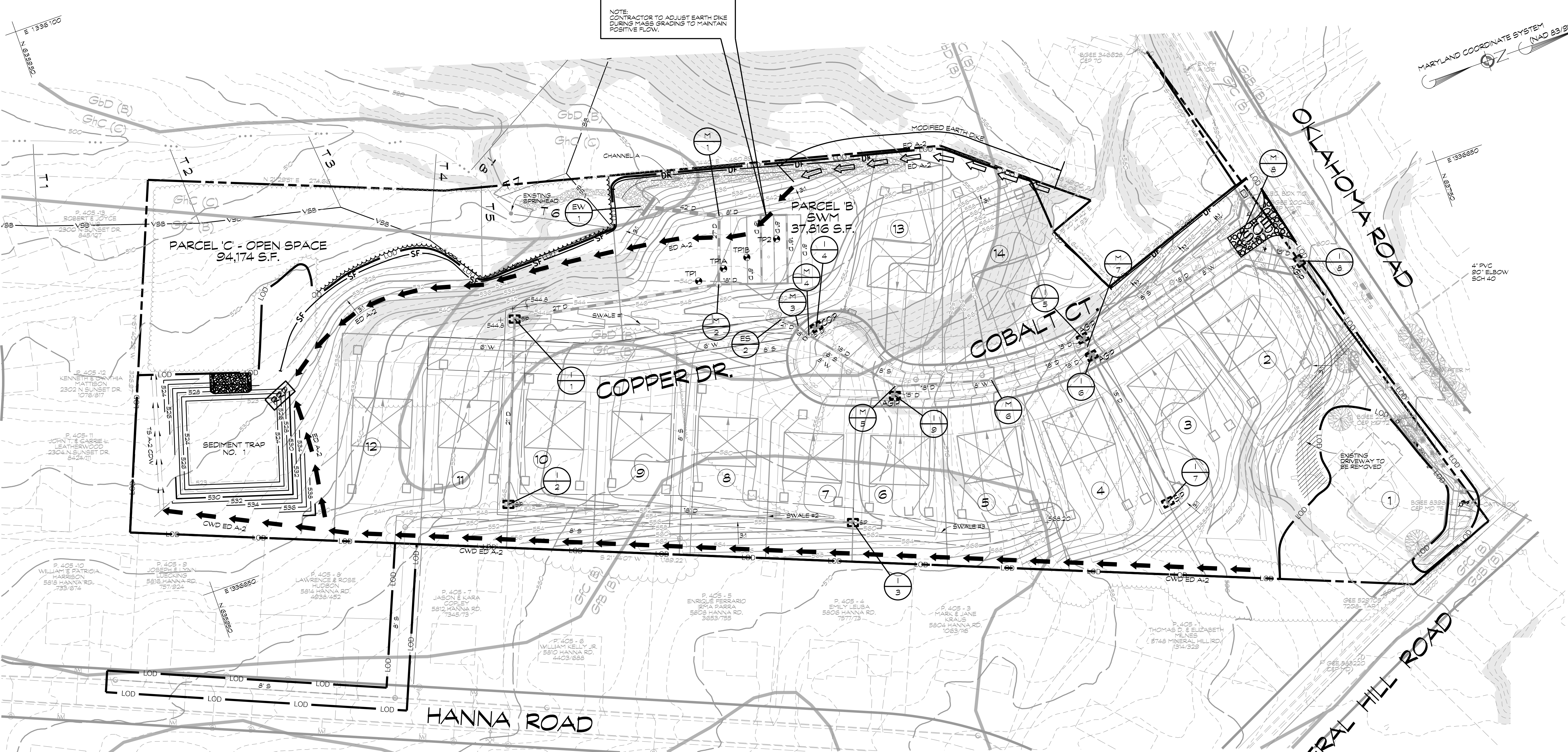
5th ELECTION DISTRICT * CARROLL COUNTY, MARYLAND
TAX MAP: 74 * BLOCK: 3 * PARCEL: 7

TITLE SHEET

DATE: MARCH, 2020	CC FILE #: FX-20-0001	JOB NO.: 2016074	1 of 23
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NOT FOR CONSTRUCTION

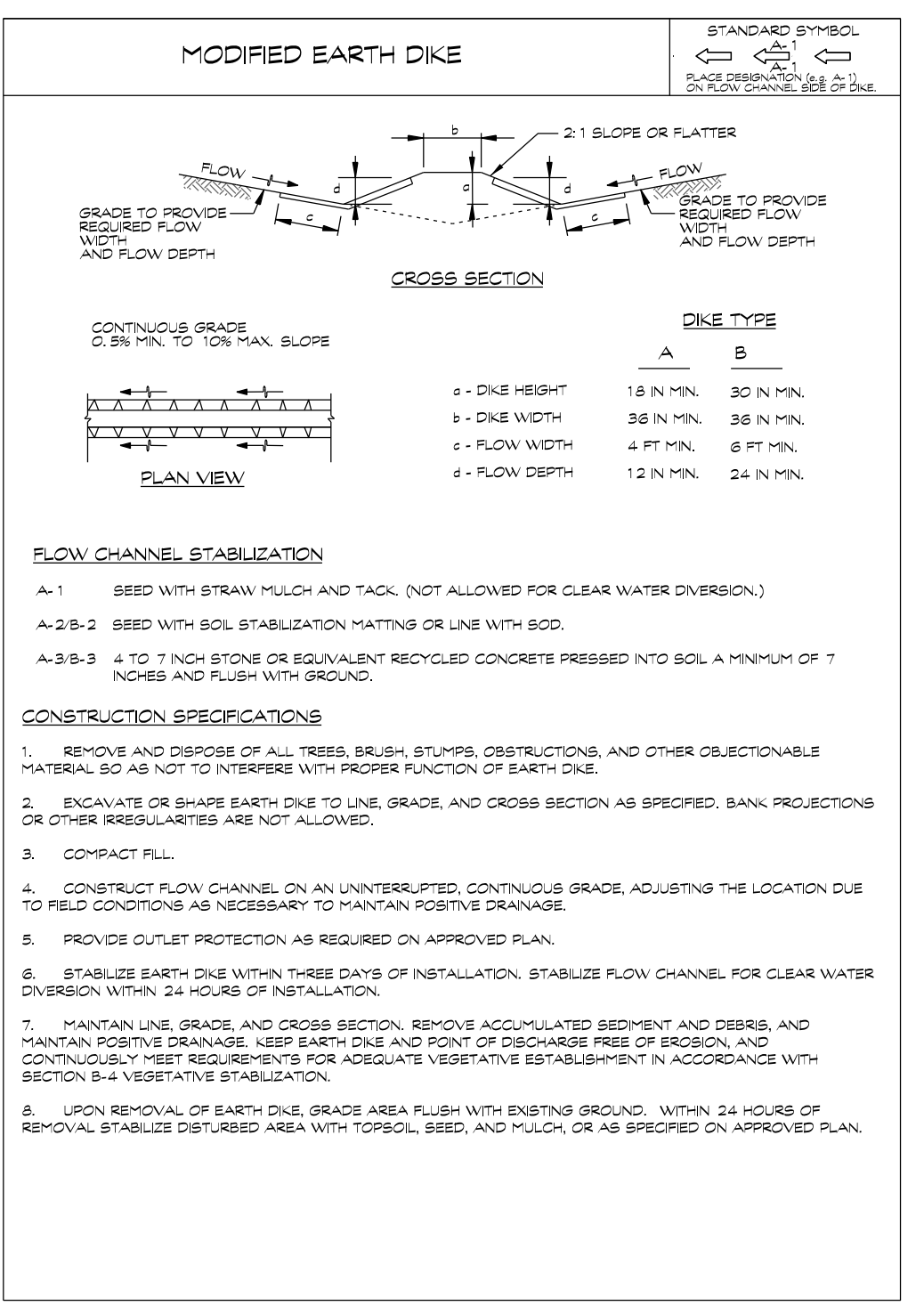
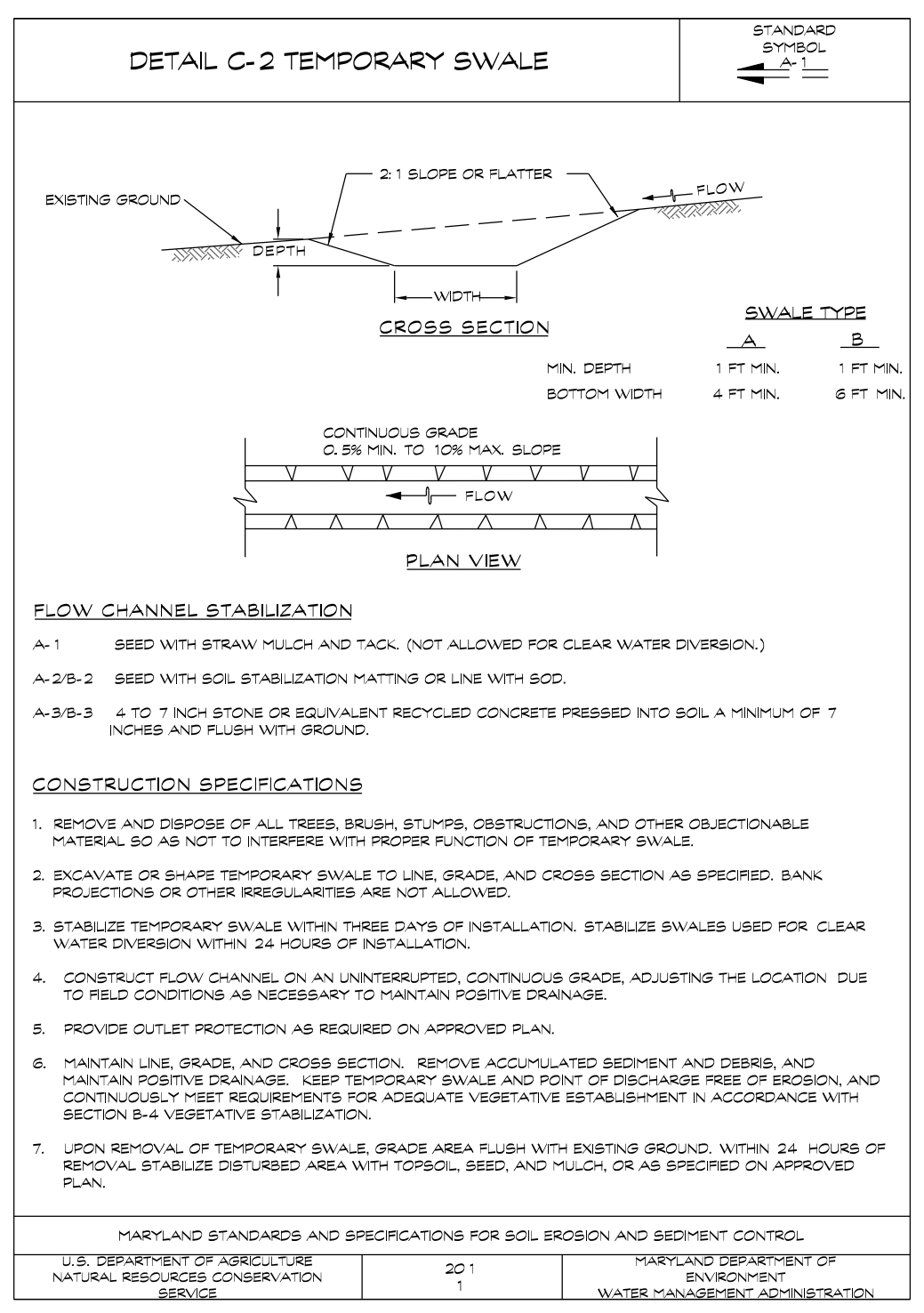
CAD Drawing File Name:



LEGEND:

- PROPERTY LINE
- WETLANDS BUFFER
- > 25% SLOPS
- SOILS
- EX. BUILDINGS
- AGP/CP/SIP
- SF
- SSF
- DF
- EARTH DIKE
- EARTH DIKE TO BE ADJUSTED
- STABILIZED CONSTRUCTION ENTRANCE
- LOD
- RRP

STONE/RIPRAP OUTLET SEDIMENT TRAP ST-II, TRAP NO. 1		
DRAINAGE AREA - INITIAL	8	ACRES
DRAINAGE AREA - INTERIM	8	ACRES
DRAINAGE AREA - FINAL	8	ACRES
TOTAL STORAGE REQUIRED	28,800	CF
TOTAL STORAGE PROVIDED	29,120	CF
WET STORAGE REQUIRED	14,400	CF
WET STORAGE PROVIDED	14,580	CF
DRY STORAGE REQUIRED	14,400	CF
DRY STORAGE PROVIDED	14,580	CF
EXISTING GROUND ELEVATION AT OUTLET (WET STORAGE ELEVATION)	525.00	FT
TRAP BOTTOM ELEVATION	523.00	FT
TRAP BOTTOM DIMENSIONS	80' x 74'	FT x FT
WEIR LENGTH	32'	FT
WEIR CREST (DRY STORAGE) ELEVATION	527.00	FT
CLEANOUT ELEVATION	524.00	FT
TOP OF EMBANKMENT ELEVATION	528.00	FT
SIDE SLOPE	2:1	H:V RATIO
EMBANKMENT TOP WIDTH	4'	FT
OUTLET PROTECTION - LENGTH	10'	FT
OUTLET PROTECTION - DEPTH	18"	IN



UNLESS OTHERWISE SPECIFIED, STORM DRAIN PIPE FOR THIS PROJECT SHALL BE 14 GAGE ALUMINIZED CORRUGATED METAL PIPE, NOTED AS 'D'. AASHTO M-196 (ALUMINIZED STEEL TYPE 2 MATERIAL) AND AASHTO M-197 (CONDUIT, PIPE).

OWNER / DEVELOPER
 MINERAL HILL PROPERTY, LLC.
 11175 STRATFIELD COURT
 MARRIOTTVILLE MD, 21104
 (410) 442-2211

SEDIMENT CONTROL PLAN

MINERAL HILL PROPERTY
 'A CLUSTER SUBDIVISION'

5th ELECTION DISTRICT • CARROLL COUNTY, MARYLAND
 TAX MAP: 74 • BLOCK: 3 • PARCEL: 7

NOT FOR CONSTRUCTION

Braton D. Morris, P.E.
3/7/2023

439 East Main Street Westminster, MD 21157-5539
 (410) 848-1790 FAX (410) 848-1791

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 51285, EXPIRATION DATE: DECEMBER 7, 2023.

Date	Revisions	Drawn By:
		JW
		Designed By: JW/ABR
		Reviewed By:
		Date: MARCH, 2022
		Scale: 1" = 50'
		Job No.: 2016074
		Sheet: 2 OF 23

NOT FOR CONSTRUCTION

SEDIMENT & EROSION CONTROL NOTES

1. ALL EROSION/SEDIMENT CONTROL MEASURES SHALL COMPLY WITH THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION IN ASSOCIATION WITH THE NATURAL RESOURCES CONSERVATION SERVICE AND MARYLAND ASSOCIATION OF SOIL CONSERVATION DISTRICTS (REFERENCED AS THE 2011 STANDARDS AND SPECS).
2. AREAS THAT HAVE BEEN CLEARED AND/OR GRADED, BUT WILL NOT BE CONSTRUCTED ON OR PERMANENTLY VEGETATED FOR MORE THAN 5 DAYS (5 DAYS FOR SEDIMENT CONTROL MEASURES STEEP SLOPES) MUST BE STABILIZED WITH MULCH OR TEMPORARY STABILIZATION. ANY AREAS THAT ARE IN TEMPORARY VEGETATION FOR OVER 6 MONTHS WILL NEED TO BE PERMANENTLY VEGETATED.
3. FOR SPECIFICATIONS ON PERMANENT OR TEMPORARY STABILIZATION SEE B-4.4 AND B-4.5.
4. MULCHING CAN ONLY BE USED ON DISTURBED AREAS AS A TEMPORARY COVER WHERE VEGETATION IS NOT FEASIBLE OR WHERE SEEDING GERMINATION CANNOT BE COMPLETED BECAUSE OF WEATHER CONDITIONS. FOR SPECIFICATIONS SEE B-4.3, A.18.
5. FOR SPECIFICATIONS ON THE STABILIZATION OF CUT AND FILL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL, SEE INCREMENTAL STABILIZATION B-4.1.
6. THE EXISTING TOPSOIL FROM ON OR OFF SITE THAT IS USED MUST MEET THE MINIMUM SPECIFICATIONS IN B-4.2.
7. THE REQUIRED SEQUENCE OF CONSTRUCTION MUST BE FOLLOWED DURING SITE DEVELOPMENT. ANY CHANGE IN THE SEQUENCE OF CONSTRUCTION MUST BE APPROVED BY THE SOIL CONSERVATION DISTRICT.
8. ANY REVISIONS TO THE SEDIMENT CONTROL PLAN, NOT COVERED UNDER THE LIST OF PLAN MODIFICATIONS THAT CAN BE APPROVED BY THE SEDIMENT CONTROL INSPECTOR, NEED TO BE SUBMITTED TO THE SOIL CONSERVATION DISTRICT FOR APPROVAL.
9. NO PROPOSED SLOPE THAT IS SEEDED AND/OR MULCHED SHALL BE GREATER THAN 2:1 SLOPES GREATER THAN 2:1 SHALL REQUIRE AN ENGINEERED DESIGN FOR STABILIZATION.
10. ALL SEDIMENT CONTROL STRUCTURES WILL BE INSPECTED ONCE A WEEK AND AFTER EACH RAINFALL AND WILL BE REPAIRED, AS NEEDED, SO THAT THE STRUCTURE MEETS THE MINIMUM SPECIFICATIONS AS SHOWN IN THE 2011 STANDARDS AND SPECS.

STABILIZATION SPECIFICATIONS

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 NONVEGETATIVE 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.

1. 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.
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.
3. LIME SHALL BE APPLIED AT A RATE OF 2 TONS PER ACRE (80 LB. PER SQ. FT.) AND SHALL MEET THE REQUIREMENTS IN SECTION B-4.2 AND B-4.4.
3. 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. MULCH 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.
4. 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.

HARDINESS ZONE (FROM FIGURE B. 3):			SEED MIXTURE (FROM TABLE B. 1):			FERTILIZER RATE (10-20-20)	LIME RATE
NO.	SPECIES	APPLICATION RATE (LB./AC)	SEEDING DATES	SEEDING DEPTHS	SEEDING RATES		
1	ANNUAL RYEGRASS (CULMUM CRISTATUS)	40 LB./AC	3/15 - 5/31	0.5"	436 LB./AC (1000 SF)	2 TONS/AC (80 LB./AC)	

DUST CONTROL SCHEDULE

MAY-OCTOBER - ALL GRADED AREAS NOT BEING IMMEDIATELY STABILIZED AS NOTED IN THE REQUIRED SEQUENCE OF CONSTRUCTION SHALL BE WATERED ON A CONTINUING BASIS AS NECESSARY TO PROVIDE FOR DUST PROOFING. CONTRACTOR SHALL PROVIDE TANK TRUCK WITH SPRAY BAR ON SITE AT ANY TIME THE DISTURBED AREA EXCEEDS THREE (3) ACRES.

SITE ANALYSIS

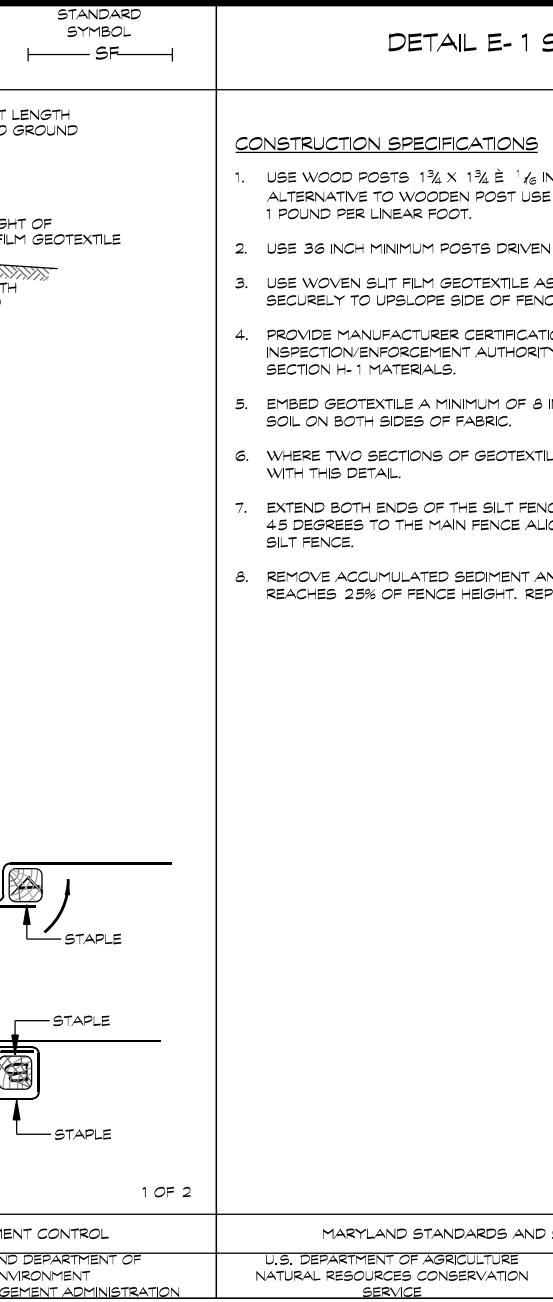
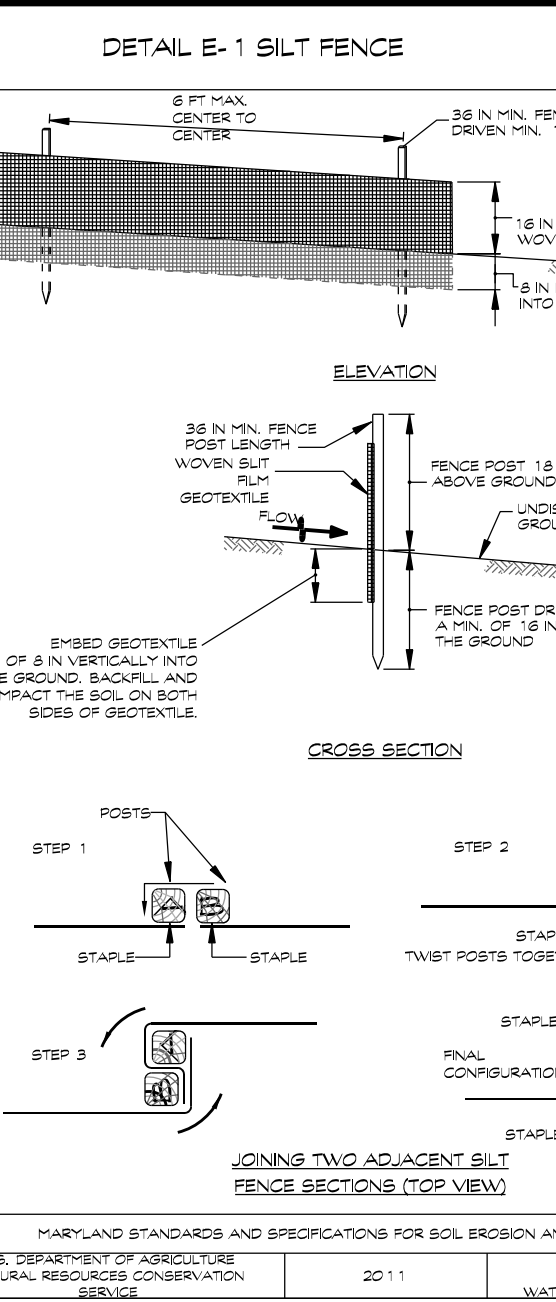
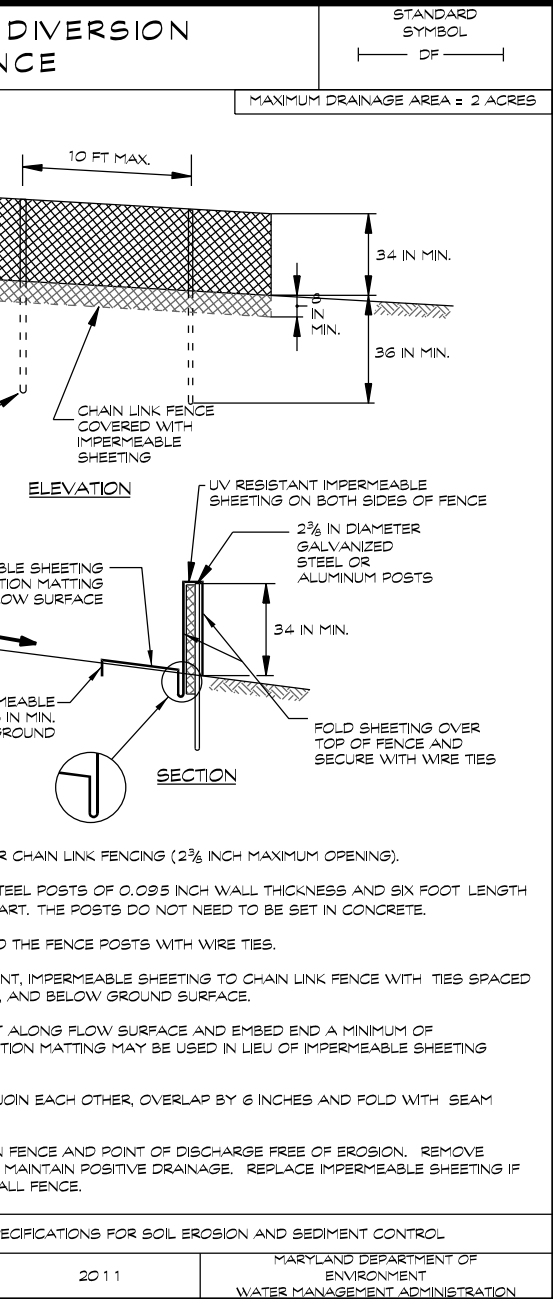
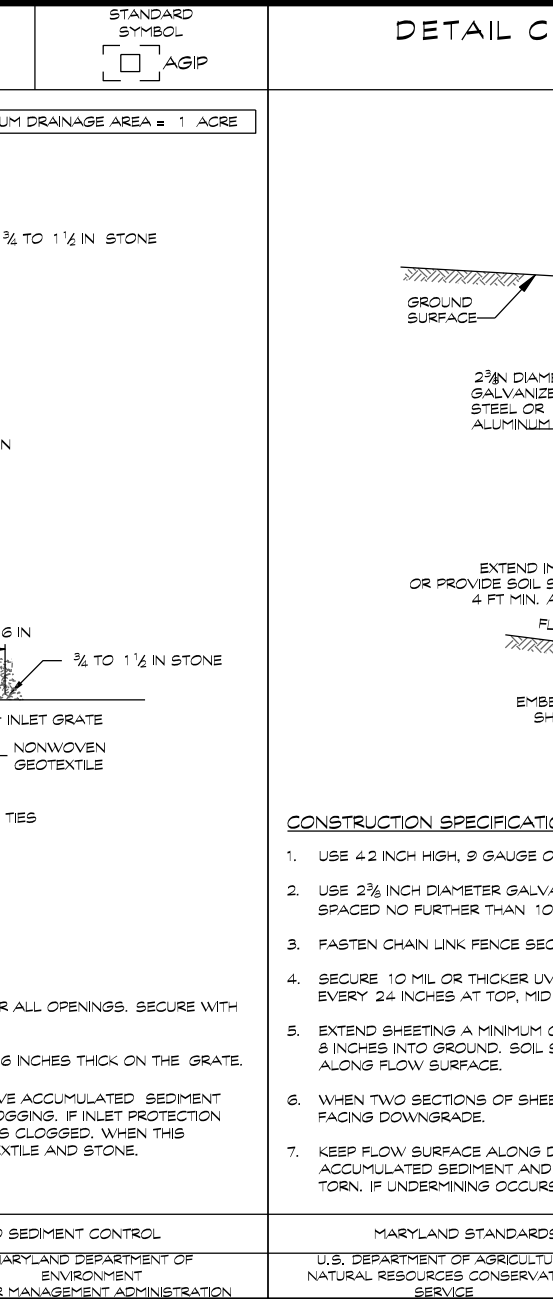
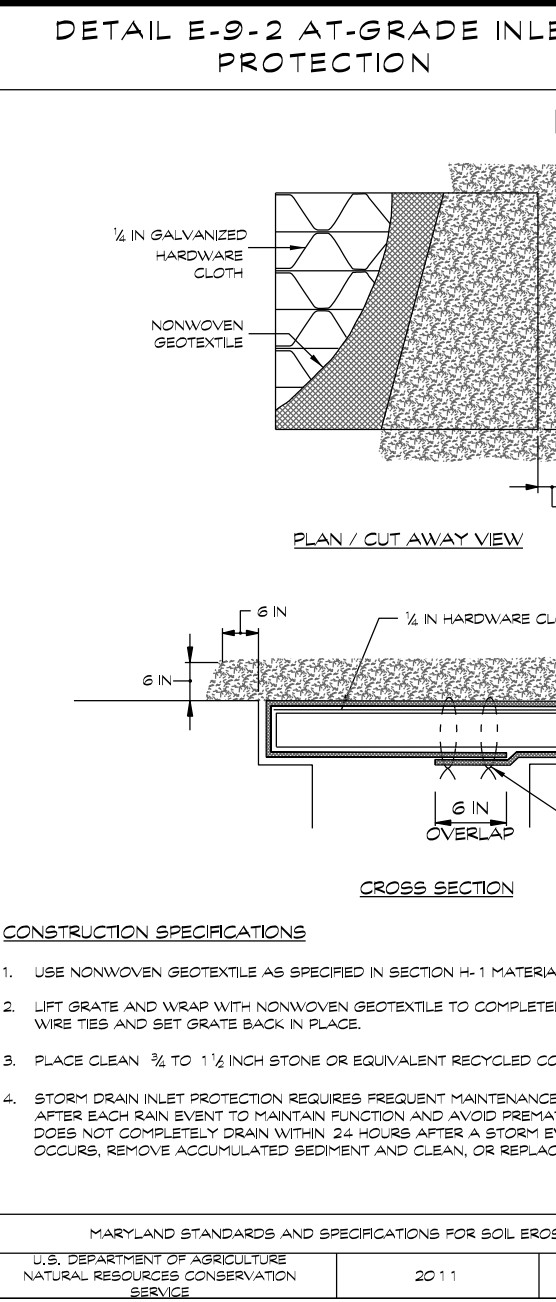
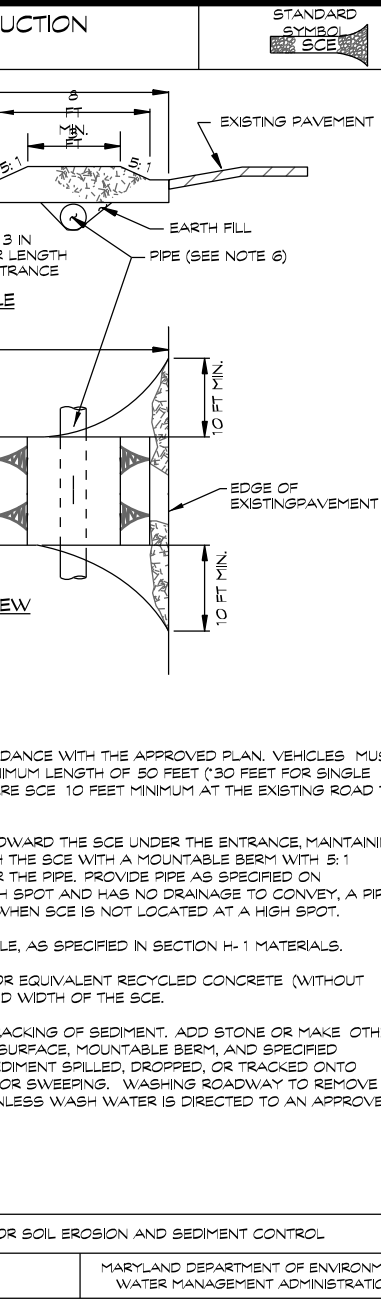
1. TOTAL AREA OF SITE: 9.28 AC.
2. AREA DISTURBED: 7.45 AC.
3. TOTAL CUT: 29,121 CU. YD.
4. TOTAL FILL: 27,411 CU. YD.

NOTE: EARTHWORK CUT AND FILL QUANTITIES INDICATED ON THIS PLAN ARE SHOWN FOR PURPOSES OF OBTAINING SEDIMENT CONTROL PLAN APPROVAL AND NOT TO BE USED FOR CONTRACTUAL OBLIGATIONS. CONTRACTOR IS RESPONSIBLE TO VERIFY QUANTITIES.

REQUIRED SEQUENCE OF CONSTRUCTION

1. NOTIFY THE CARROLL COUNTY BUREAU OF SEDIMENT CONTROL, (410-388-2210) 24 HOURS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. ALL PROTECTION FENCING AND PERMANENT SIGNS REQUIRED UNDER THE CARROLL COUNTY CODE OF PUBLIC LAWS AND ORDINANCES, FOREST CONSERVATION (CHAPTER 150) AND WATER RESOURCE MANAGEMENT (CHAPTER 154) SHALL BE INSTALLED PRIOR TO THE PRE-CONSTRUCTION MEETING WITH THE CARROLL COUNTY SEDIMENT INSPECTOR.
2. INSTALL TEMPORARY STABILIZED CONSTRUCTION ENTRANCE OFF OF OULANDIA ROAD.
3. WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB SITE TO INSTALL PERIMETER CONTROL MEASURES, SEDIMENT TRAP, SILT FENCE, SLOPE SILT FENCE, EARTH DIKES, CLEAN WATER DIVERSION AND SWALES, PLACE EXCAVATED MATERIAL IN STOCKPILE LOCATIONS.
4. BEGIN MASS GRADING SITE IN AREA OF STORMWATER MANAGEMENT FACILITY, MASS GRADE TO APPROXIMATELY ELEVATION 537.00.
5. DURING MASS GRADING ADJUST ED, A-2 IN AREA OF STORMWATER MANAGEMENT FACILITY AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.
6. INSTALL STORM DRAIN SYSTEM FROM B-W1 TO M-2. CONSTRUCT STORM WATER MANAGEMENT FACILITY, SEE STORM WATER MANAGEMENT SEQUENCE OF CONSTRUCTION SHEET B.
7. ONCE STORMWATER MANAGEMENT FACILITY IS COMPLETE, RESUME MASS GRADING AND CONTINUE ADJUSTING THE EARTH DIKE AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.
8. INSTALL SANITARY SEWER GRAVITY MAINS AND SERVICES.
9. INSTALL REMAINING STORM DRAIN SYSTEM, INSTALL INLET PROTECTION AS SHOWN ON PLANS.
10. INSTALL WATER MAINS AND SERVICES.
11. CONSTRUCT CURBS AND GRADE ROADS TO STONE BASE INSTALL PAVING BASE COURSE.
12. INDIVIDUAL LOT AND SIDEWALK CONSTRUCTION MAY BE IN PROGRESS, CONTRACTOR TO PROVIDE SEDIMENT CONTROL IN THE FORM OF SILT FENCE FOR EACH INDIVIDUAL LOTS.
13. TEMPORARY SEDIMENT CONTROL TRAP, SWALES AND EARTH DIKES MAY BE REMOVED AS INTERFERENCE OCCURS AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THE SEDIMENT TRAP AND ASSOCIATED EARTH DIKES AND SILT FENCE WILL REMAIN IN PLACE FOR FUTURE CONSTRUCTION.
14. WITH APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ANY REMAINING TEMPORARY SEDIMENT CONTROL MEASURES.
15. PLACE FINAL COURSE PAVING.

NOTE:
ALL SEDIMENT CONTROL MEASURES SHOWN HEREON ARE TEMPORARY UNLESS OTHERWISE NOTED.



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 AND 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. SOIL AMENDMENTS MUST MEET THE REQUIREMENTS AS SET FORTH IN SECTION B-4.2-C AND MUST BE APPLIED AS INDICATED BY THE SOIL 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.), P2O5 = 90 LB. PER ACRE (2 LB. PER 1000 SQ. FT.), K2O = 90 LB. PER ACRE (2 LB. PER 1000 SQ. FT.) LIME SHALL BE APPLIED AT A RATE OF 2 TONS PER ACRE (80 LB. PER 1000 SQ. FT.)

SEED TYPE, TURFGRASS OR SOD APPLICATION SHALL MEET THE REQUIREMENTS IN SECTION B-4.3. SEED TAGS SHALL BE MADE AVAILABLE TO THE INSPECTOR TO VERIFY THE TYPE AND APPLICATION RATE OF SEED USED. MULCH 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.

HARDINESS ZONE (FROM FIGURE B. 3):			SEED MIXTURE (FROM TABLE B. 1):			FERTILIZER RATE (10-20-20)	LIME RATE
NO.	SPECIES	APPLICATION RATE (LB./AC)	SEEDING DATES	SEEDING DEPTHS	SEEDING RATES		
1	IMPROVED TALL FESCUE (CULMUM ALAUDINACEUM)	80 LB./AC	3/15 - 5/31	1/4 - 1/2 IN	45 POUNDS PER ACRE (10 LB./AC)	2 TONS/AC (80 LB./AC)	
2	IMPROVED KENTUCKY BLUEGRASS	10 LB./AC	3/15 - 5/31	1/4 - 1/2 IN	90 LB./AC (1000 SF)	90 LB./AC (1000 SF)	
3	IMPROVED PERENNIAL RYEGRASS	10 LB./AC	3/15 - 5/31	1/4 - 1/2 IN	90 LB./AC (1000 SF)	90 LB./AC (1000 SF)	

1- USE 2-4 VARIETIES ON THE M/DVA RECOMMENDED LIST (TT-77)
2- USE 1 VARIETY ON THE M/DVA RECOMMENDED LIST (TT-77)
3- USE 1 VARIETY ON THE M/DVA RECOMMENDED LIST (TT-77)

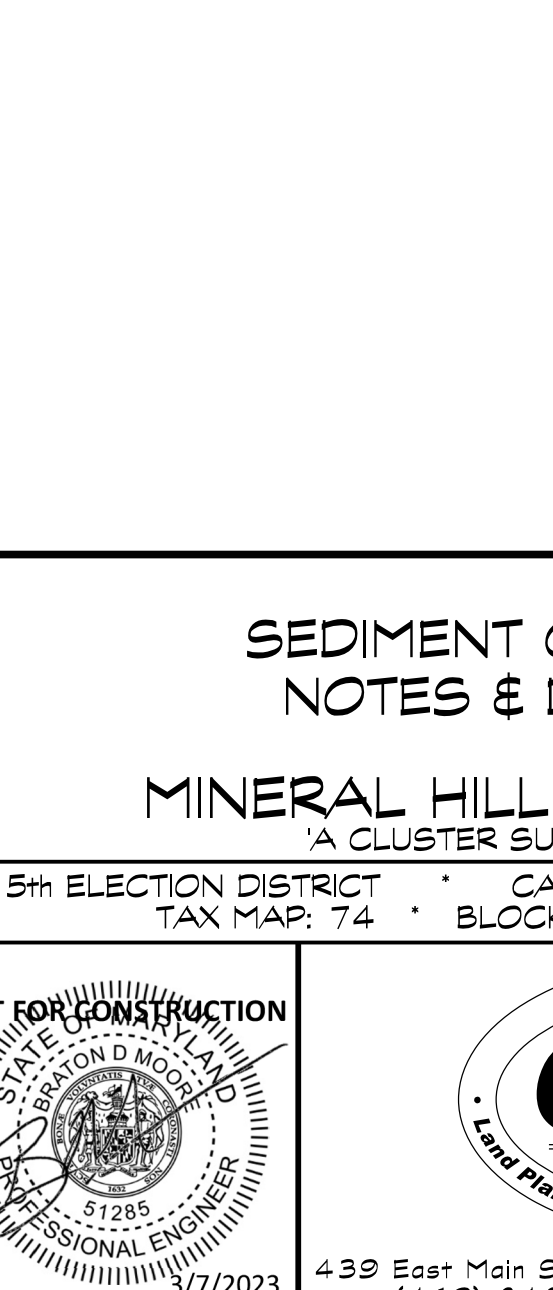
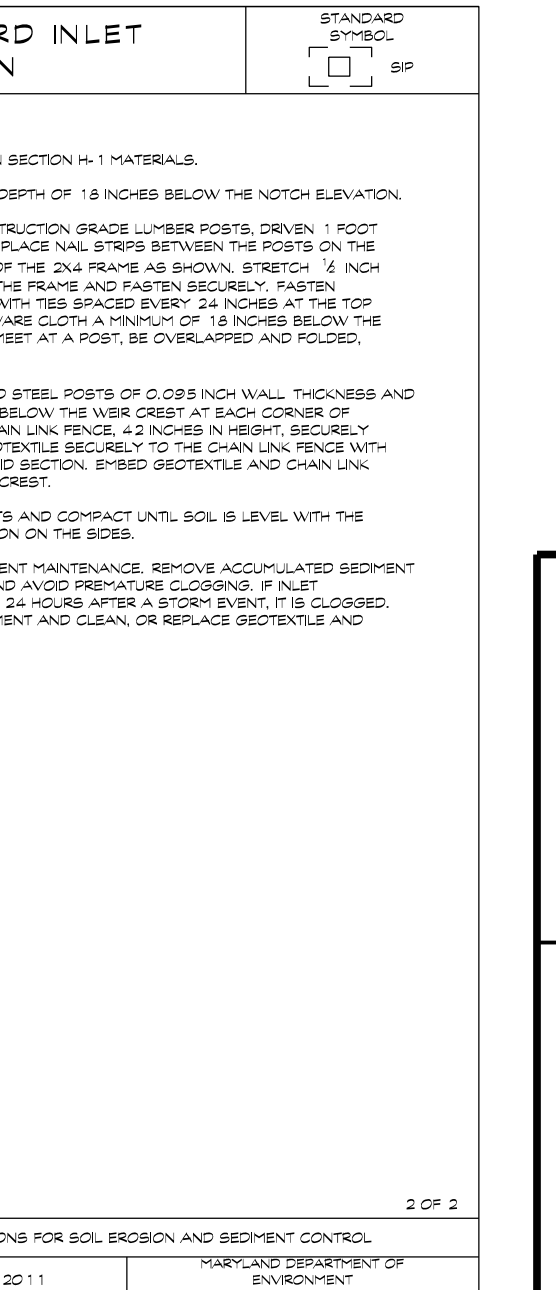
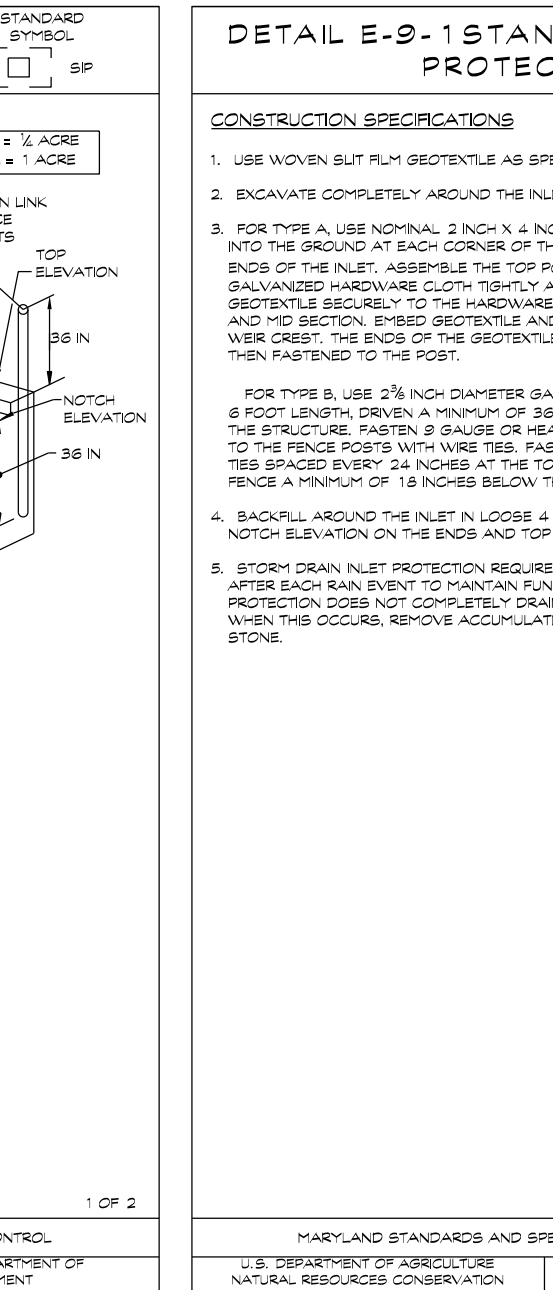
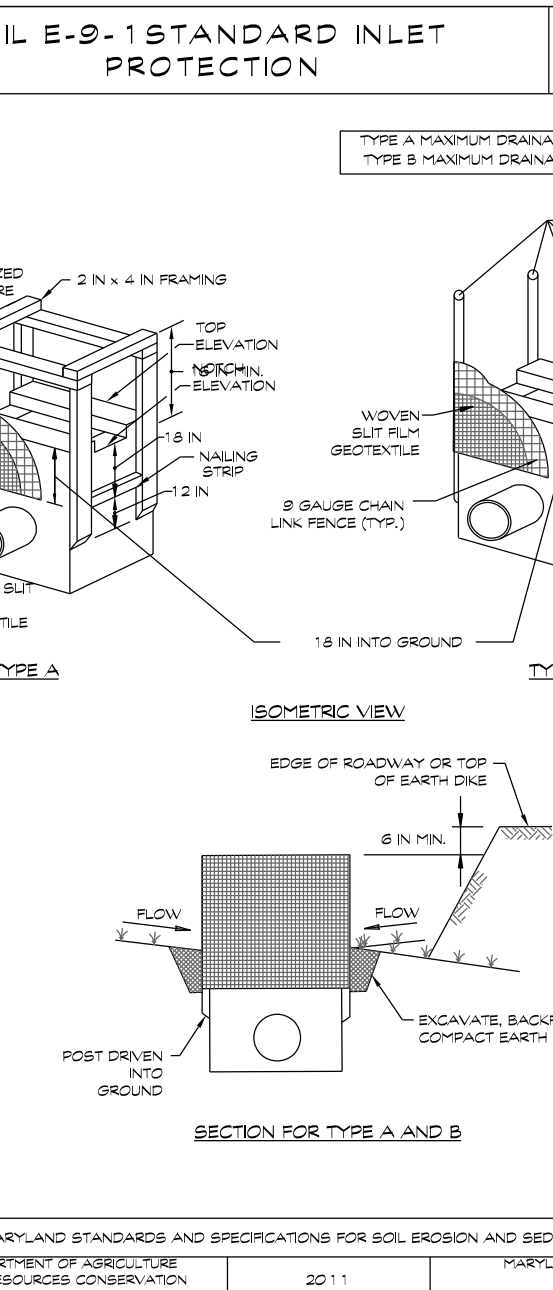
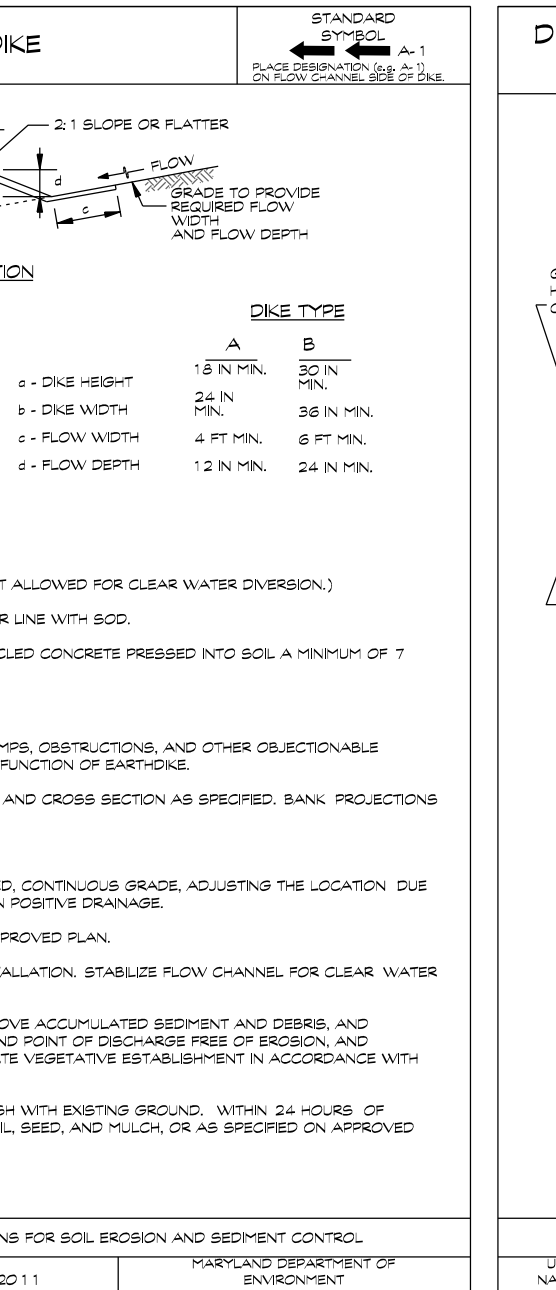
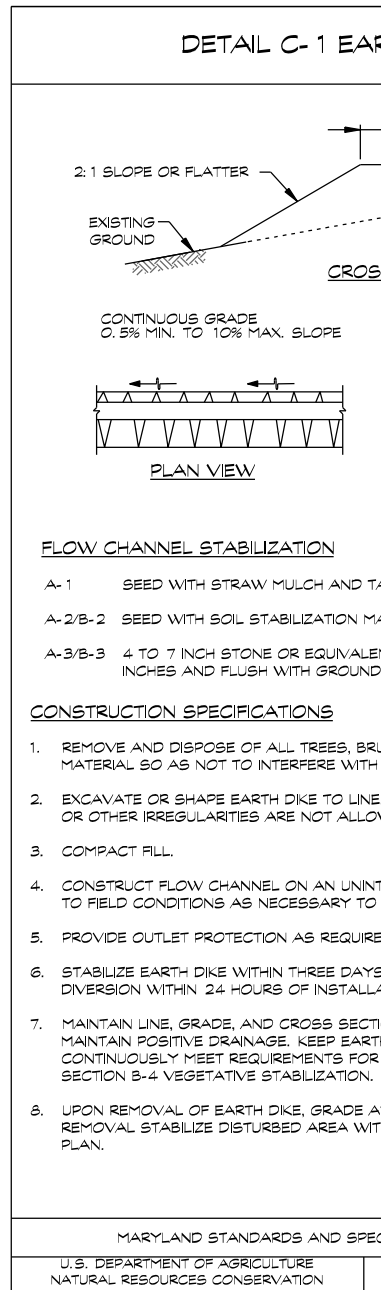
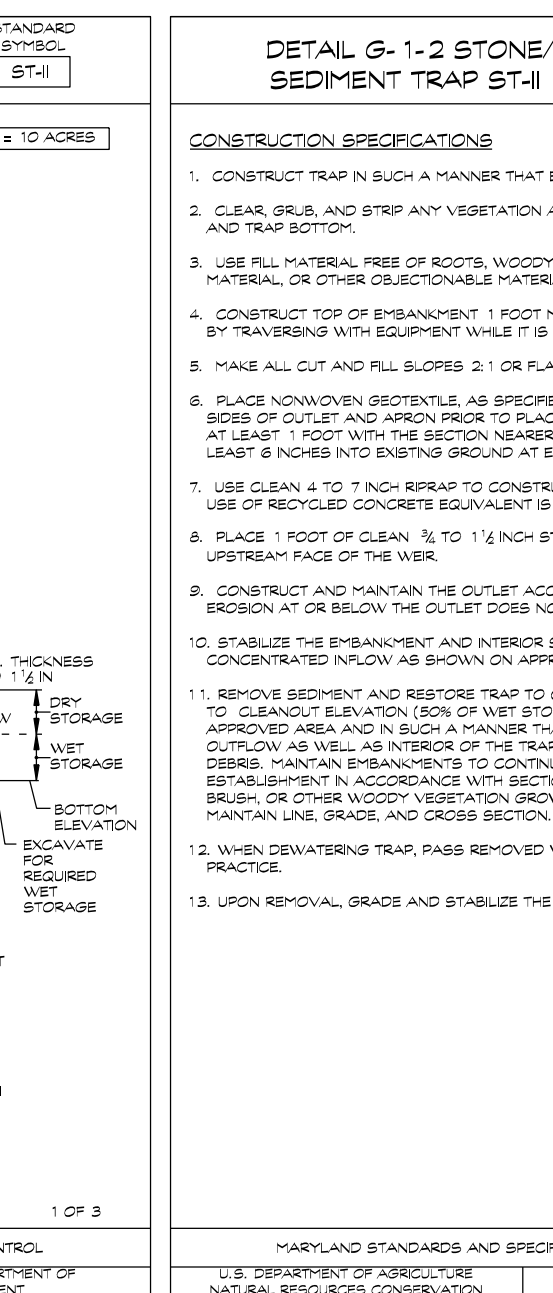
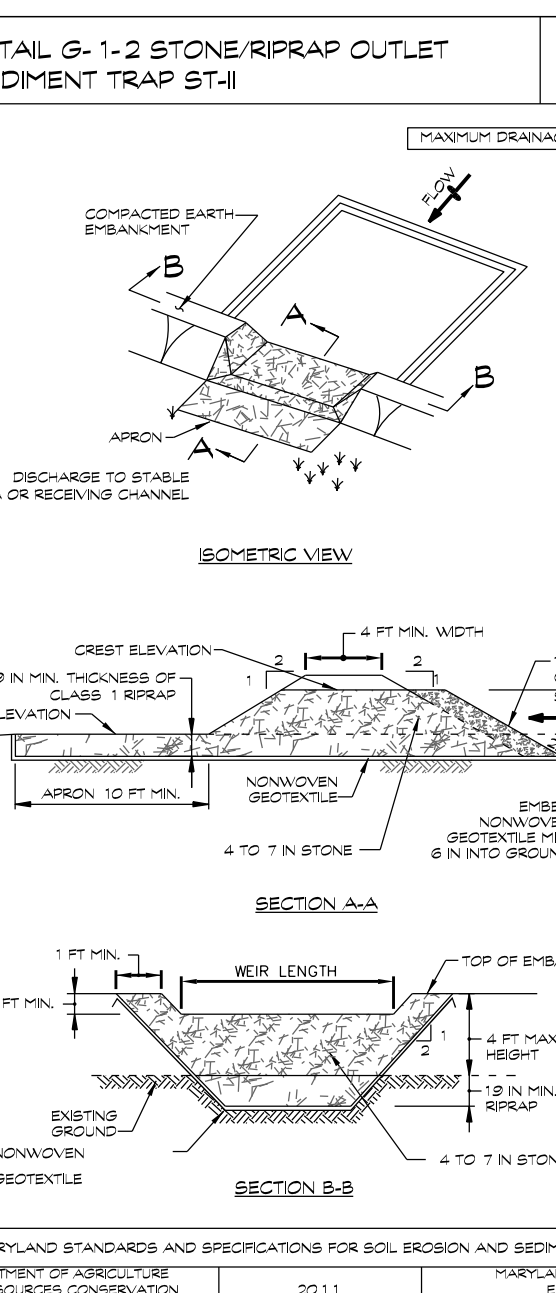
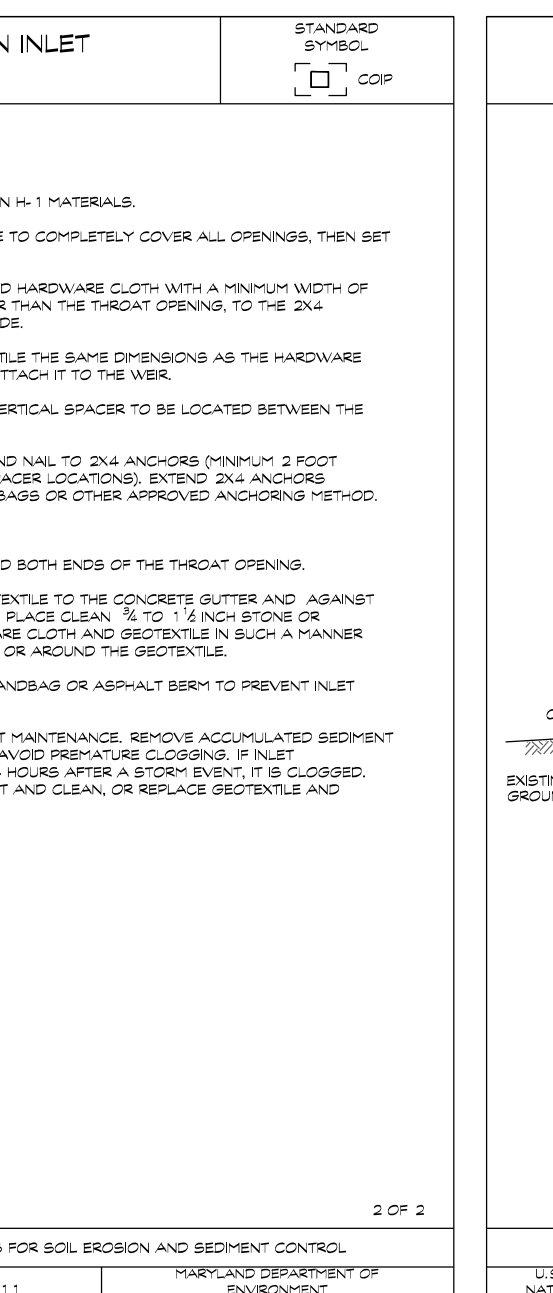
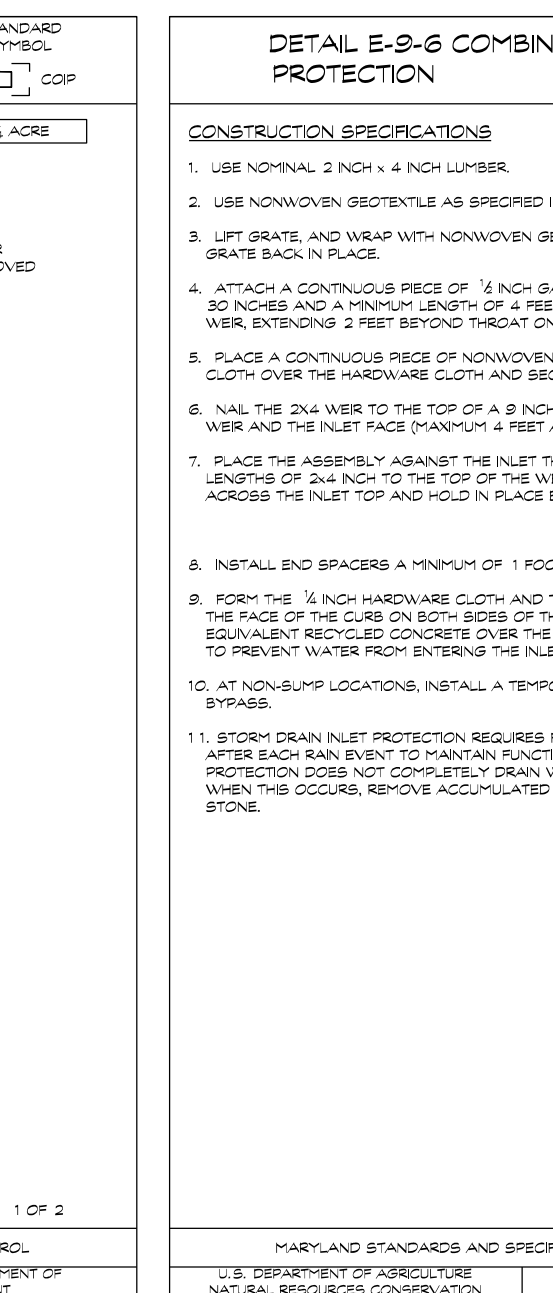
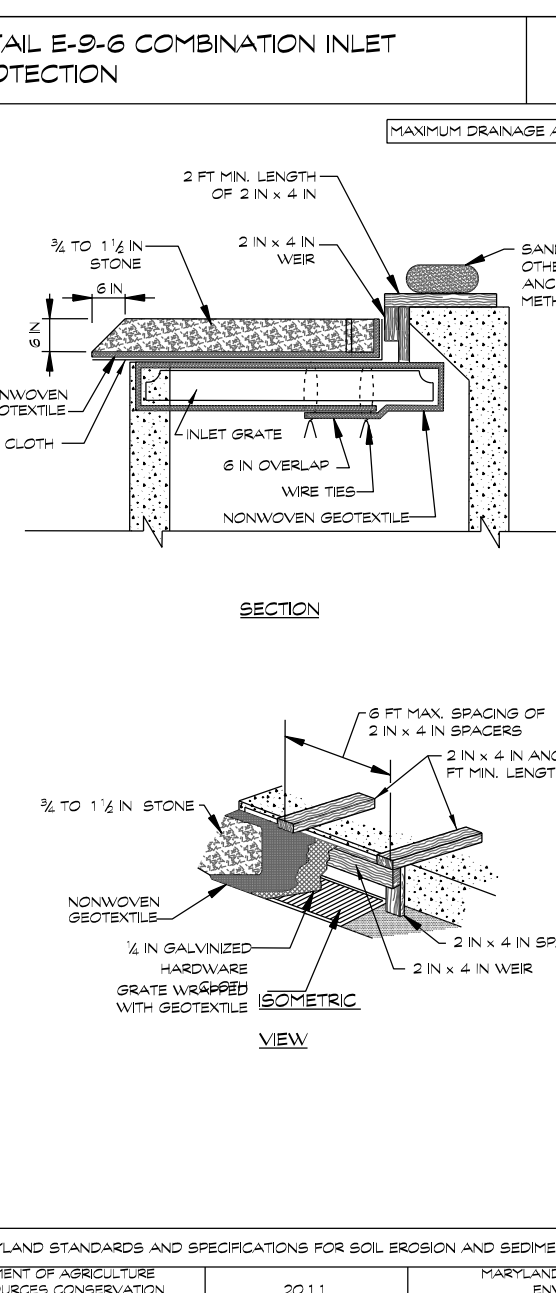
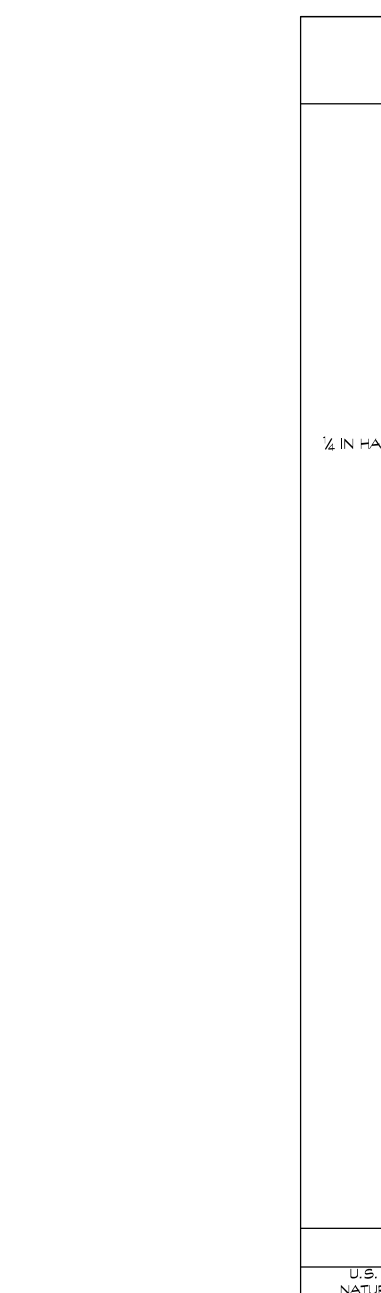
TRACKING NOTE
ON AREAS WHERE THE SLOPE IS 3:1 OR STEEPER AND THE HEIGHT IS 8' OR GREATER, CONTRACTOR SHALL TRACK THE SLOPE USING CLEATED DOZER PRIOR TO PLACING ASPHALT BINDER. DOZER SHALL RUN UP-AND-DOWN SO THAT CLEAT MARKS ARE HORIZONTAL. WHERE TRACKING IS REQUIRED, IT SHALL BE DONE FROM EXISTING GRADE LEVEL TO FINISHED GRADE LEVEL WITHIN THE LIMITS ESTABLISHED BY THE 8' HEIGHT CRITERIA.

UTILITY CONSTRUCTION NOTES

1. PLACE ALL EXCAVATED MATERIAL ON THE HIGH SIDE OF THE TRENCH.
2. ONLY DO AS MUCH WORK AS CAN BE DONE IN ONE DAY SO BACKFILLING, FINAL GRADING, AND PERMANENT STABILIZATION CAN OCCUR.
3. ANY SEDIMENT CONTROL MEASURES DISTURBED BY THE UTILITY CONSTRUCTION WILL BE REPAIRED THE SAME DAY.

STOCKPILE/TOPSOIL NOTES

1. STOCKPILING WILL NOT BE ALLOWED ON ANY IMPERVIOUS AREA.
2. ALL STOCKPILES LEFT AT THE END OF THE DAY WILL NEED TO BE TEMPORARILY STABILIZED UNTIL THEY ARE AGAIN DISTURBED, UNLESS THEY ARE WITHIN EXISTING PERIMETER SEDIMENT CONTROLS.
3. ALL STOCKPILE AREAS SHALL BE CONFINED WITH PERIMETER CONTROLS. IN THE EVENT THAT STOCKPILE AREAS MUST BE LOCATED OUTSIDE DISTURBED AREAS, THE LOCATION SHALL BE AS DIRECTED BY THE INSPECTOR IN THE FIELD.



NOTE:
ALL STOCKPILE AREAS SHALL BE CONFINED WITH PERIMETER CONTROLS. IN THE EVENT THAT STOCKPILE AREAS MUST BE LOCATED OUTSIDE OF DISTURBED AREAS, THE LOCATION SHALL BE AS DIRECTED BY THE INSPECTOR IN THE FIELD.

OWNER / DEVELOPER

MINERAL HILL PROPERTY, LLC.
11175 STRATFIELD COURT
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SEDIMENT CONTROL NOTES & DETAILS

MINERAL HILL PROPERTY 'A CLUSTER SUBDIVISION'

5th ELECTION DISTRICT • CARROLL COUNTY, MARYLAND
TAX MAP: 74 • BLOCK: 3 • PARCEL: 7

NOT FOR CONSTRUCTION

Brett D. Moore, P.E.

Engineers • Surveyors

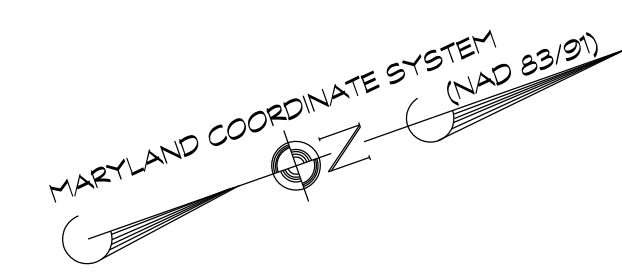
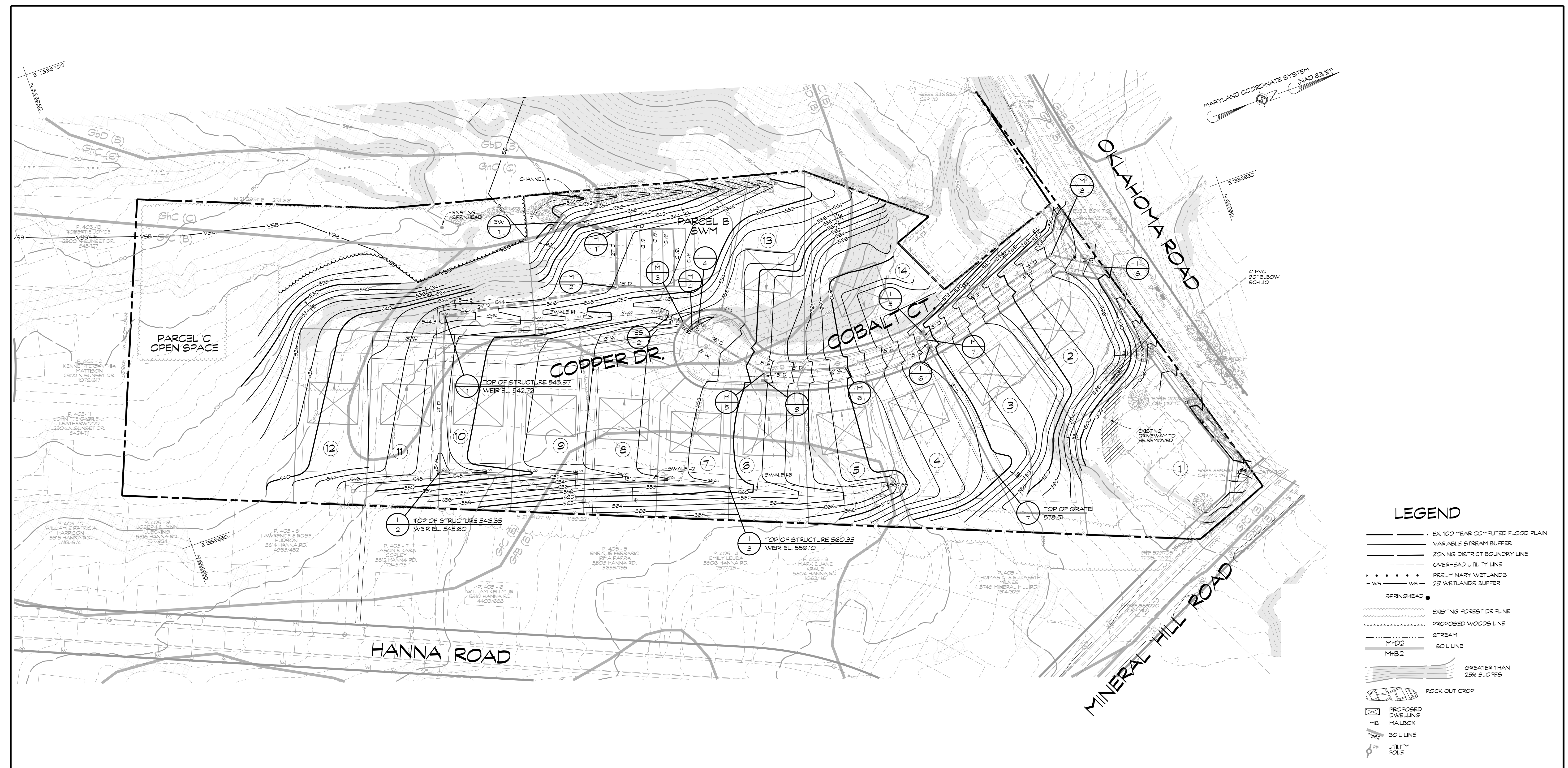
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Date	Revisions	Drawn By: JW
		Designed By: JW/ABR
		Reviewed By:
		Date: MARCH, 2020
		Scale: N/A
		Job No.: 2018074
		Sheet: 3 OF 23

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NOT FOR CONSTRUCTION



LEGEND

- EX. 100 YEAR COMPUTED FLOOD PLAN
- VARIABLE STREAM BUFFER
- ZONING DISTRICT BOUNDARY LINE
- OVERHEAD UTILITY LINE
- PRELIMINARY WETLANDS
- 25' WETLANDS BUFFER
- SPRINGHEAD
- EXISTING FOREST DRIPLINE
- PROPOSED WOODS LINE
- STREAM
- MHD2 SOIL LINE
- MB2 SOIL LINE
- GREATER THAN 25% SLOPES
- ROCK OUT CROP
- PROPOSED DWELLING
- MB MANHOLE
- SOIL LINE
- UTILITY POLE

UNLESS OTHERWISE SPECIFIED, STORM DRAIN PIPE FOR THIS PROJECT SHALL BE 14 GAGE ALUMINIZED CORRUGATED METAL PIPE, NOTED AS 'D'. AASHTO M-196 (ALUMINIZED STEEL TYPE 2 MATERIAL) AND AASHTO M-197 (CONDUIT, PIPE).

MASS GRADING PLAN

MINERAL HILL PROPERTY
A CLUSTER SUBDIVISION

5th ELECTION DISTRICT CARROLL COUNTY, MARYLAND
TAX MAP: 74 BLOCK: 3 PARCEL: 7

NOT FOR CONSTRUCTION

3/7/2023
Clayton D. Moore, P.E.

Engineers • Surveyors

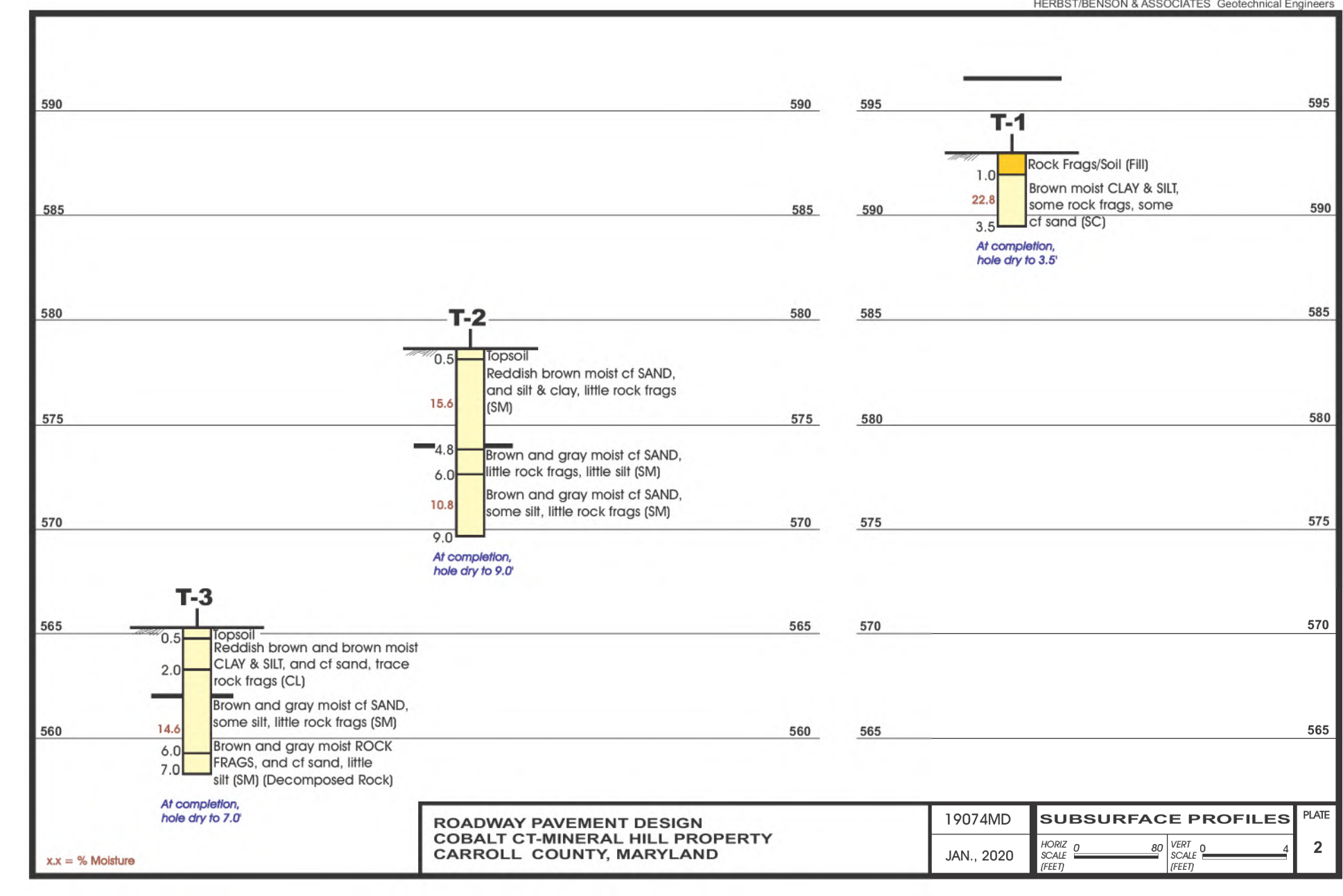
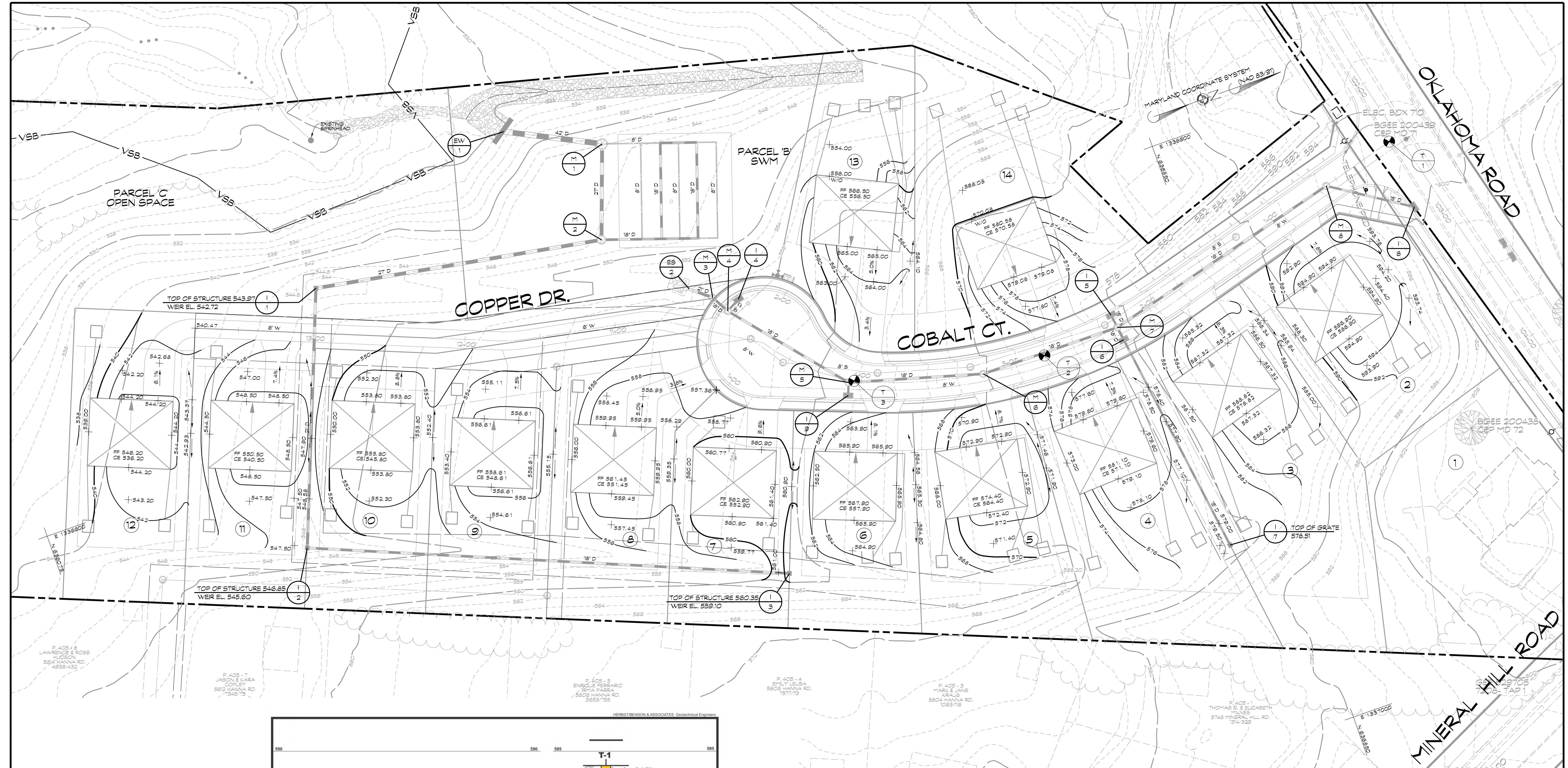
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Date	Revisions	Drawn By:
		JW, MC
		Designed By: ABR
		Reviewed By:
		Date: MARCH, 2020
		Scale: 1"=50'
		Job No.: 2018074
		Sheet: 4 OF 23

OWNER / DEVELOPER
MINERAL HILL PROPERTY, LLC.
11175 STRATFIELD COURT
MARRIOTTVILLE MD, 21104
(410) 442-2211

NOT FOR CONSTRUCTION



UNLESS OTHERWISE SPECIFIED, STORM DRAIN PIPE FOR THIS PROJECT SHALL BE 14 GAGE ALUMINIZED CORRUGATED METAL PIPE, NOTED AS D. AASHTO M-196 (ALUMINIZED STEEL TYPE 2 MATERIAL) AND AASHTO M-197 (CONDUIT, PIPE).

NOTE:
DRIVEWAY SLOPES SHOWN HEREON ARE APPROXIMATE.

LEGEND

- EX. 100 YEAR COMPUTED FLOOD PLAN
- VSB — VARIABLE STREAM BUFFER
- ZONING DISTRICT BOUNDARY LINE
- OVERHEAD UTILITY LINE
- PRELIMINARY WETLANDS
- WS — 25 WETLANDS BUFFER
- SPRING-HEAD
- EXISTING FOREST DRIPLINE
- PROPOSED WOODS LINE
- STREAM
- ES — UTILITY POLE
- — PAVEMENT DESIGN BORINGS

OWNER / DEVELOPER

MINERAL HILL PROPERTY, LLC.
11175 STRATFIELD COURT
MARRIOTTVILLE MD, 21104
(410) 442-2211

FINAL GRADING PLAN

MINERAL HILL PROPERTY
A CLUSTER SUBDIVISION

5th ELECTION DISTRICT CARROLL COUNTY, MARYLAND
TAX MAP: 74 BLOCK: 3 PARCEL: 7

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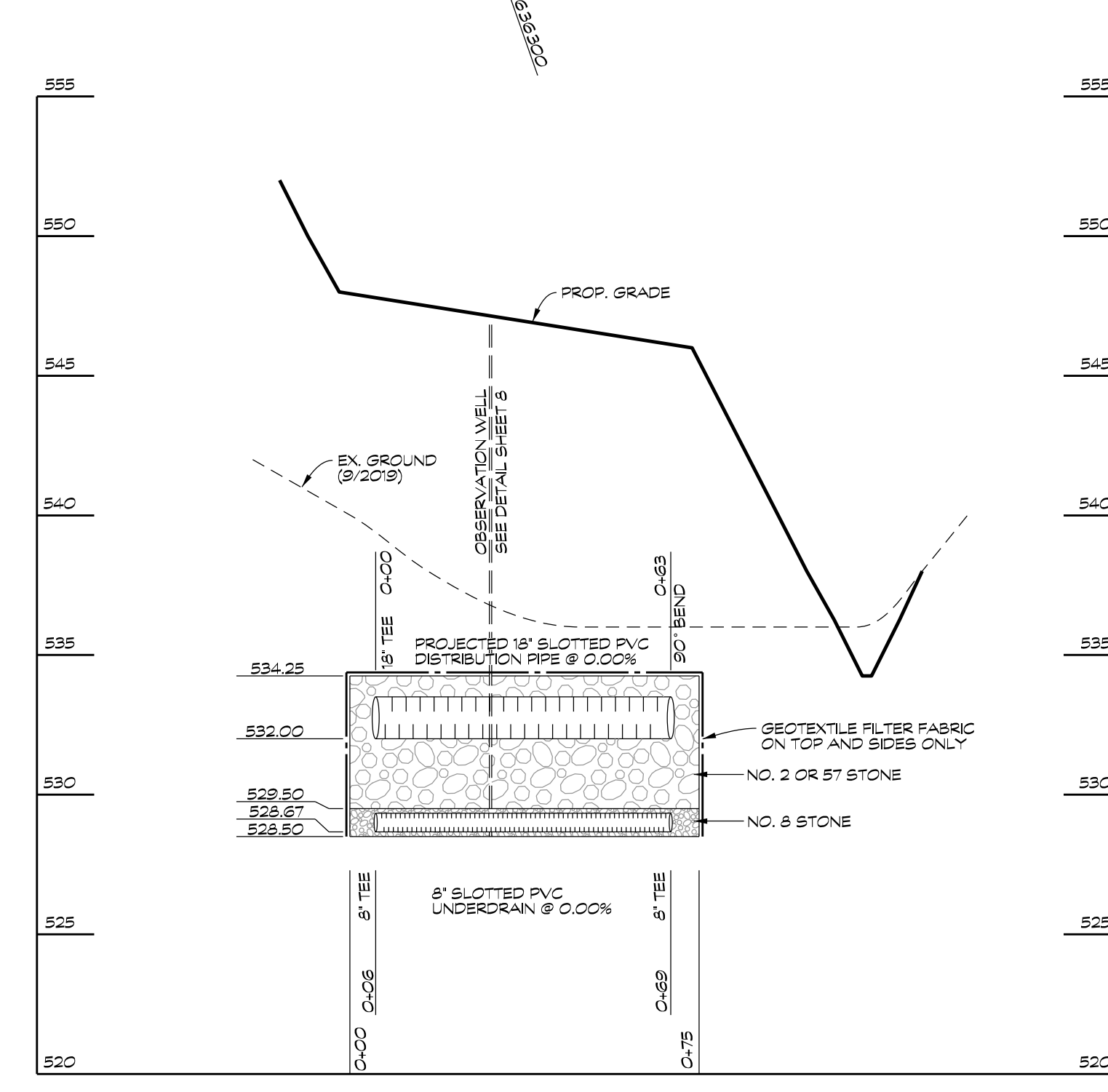
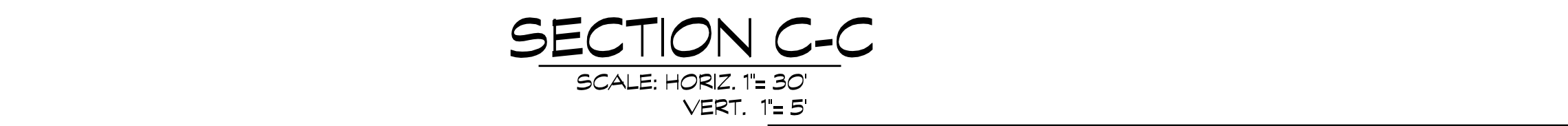
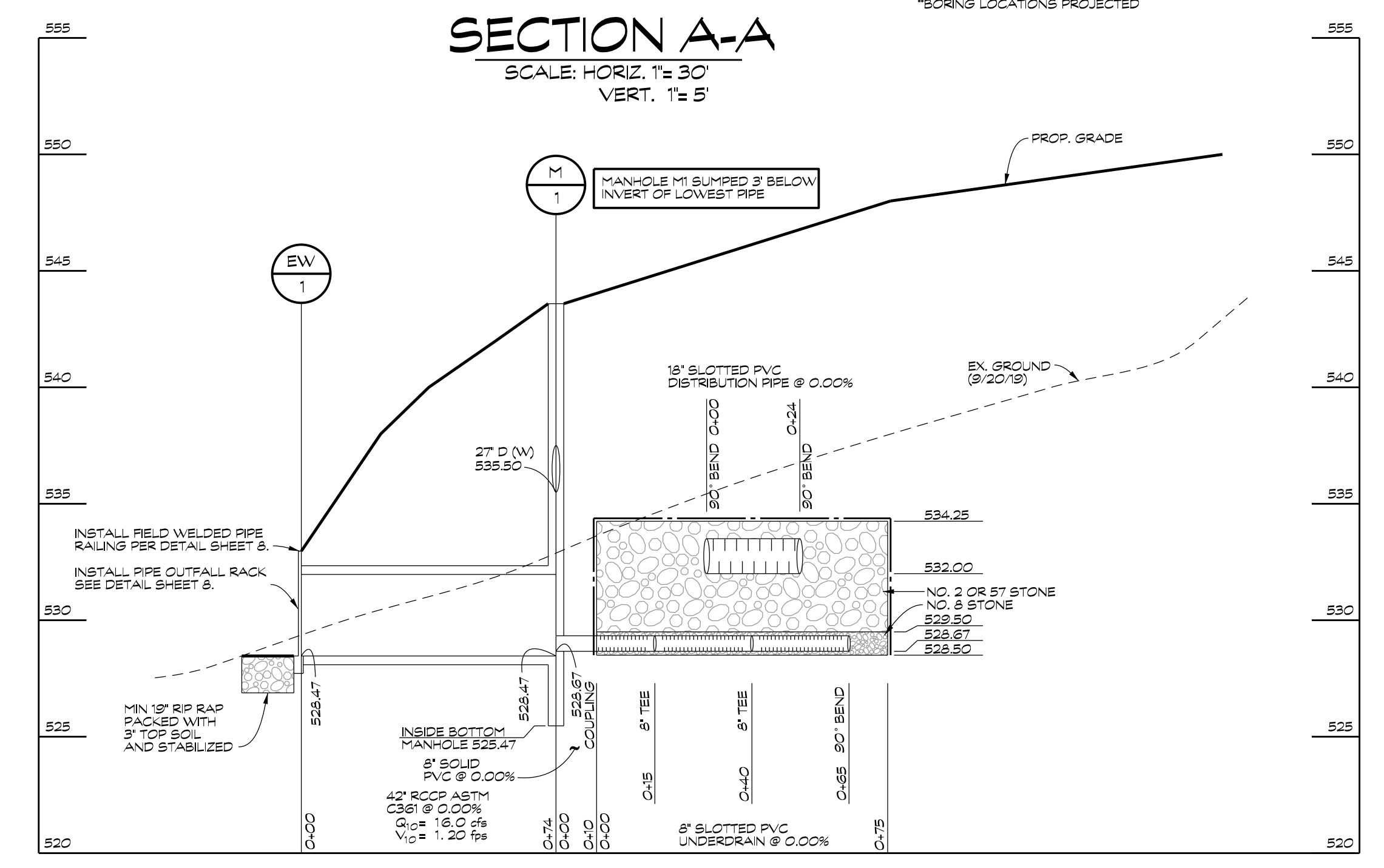
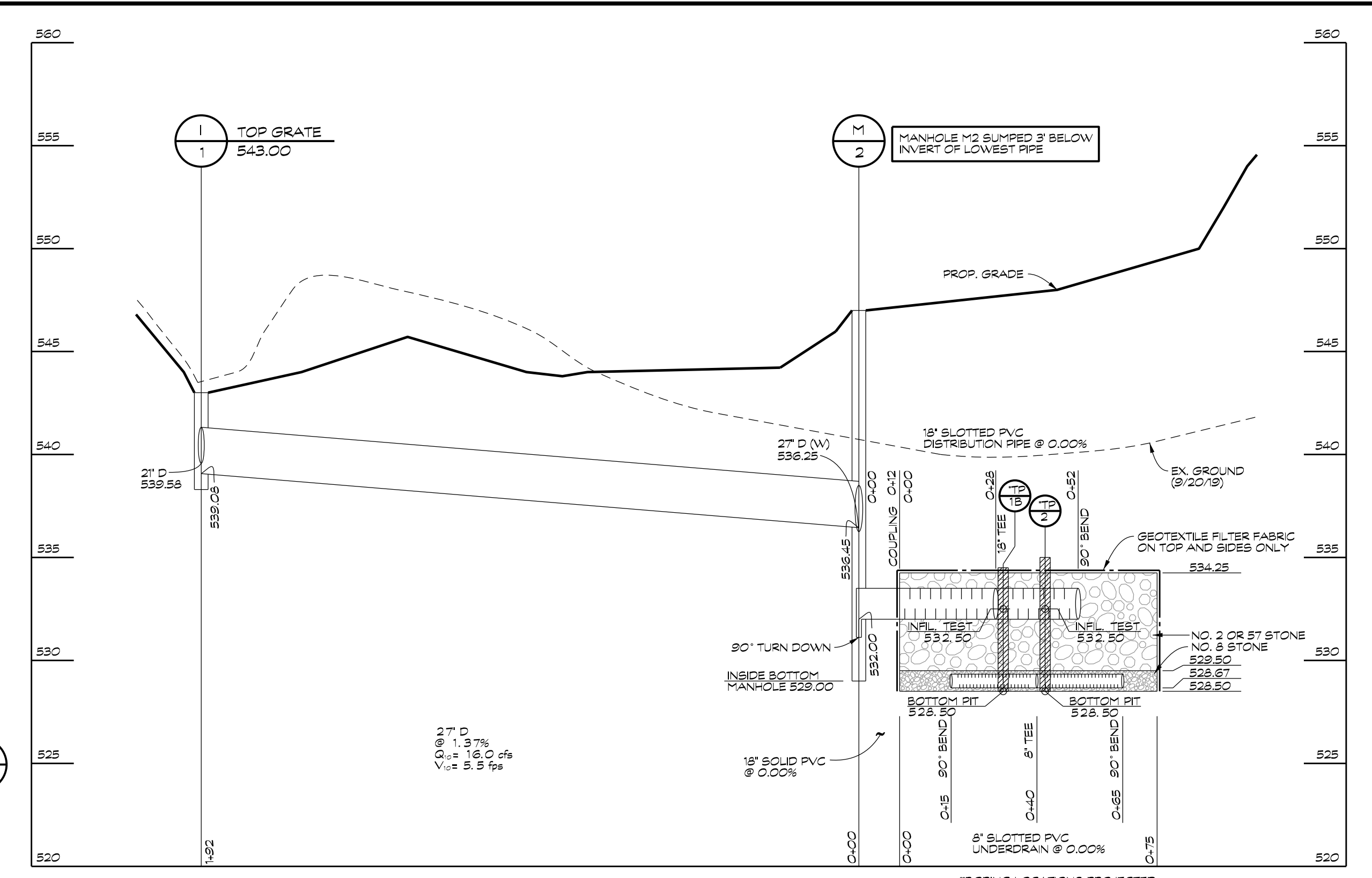
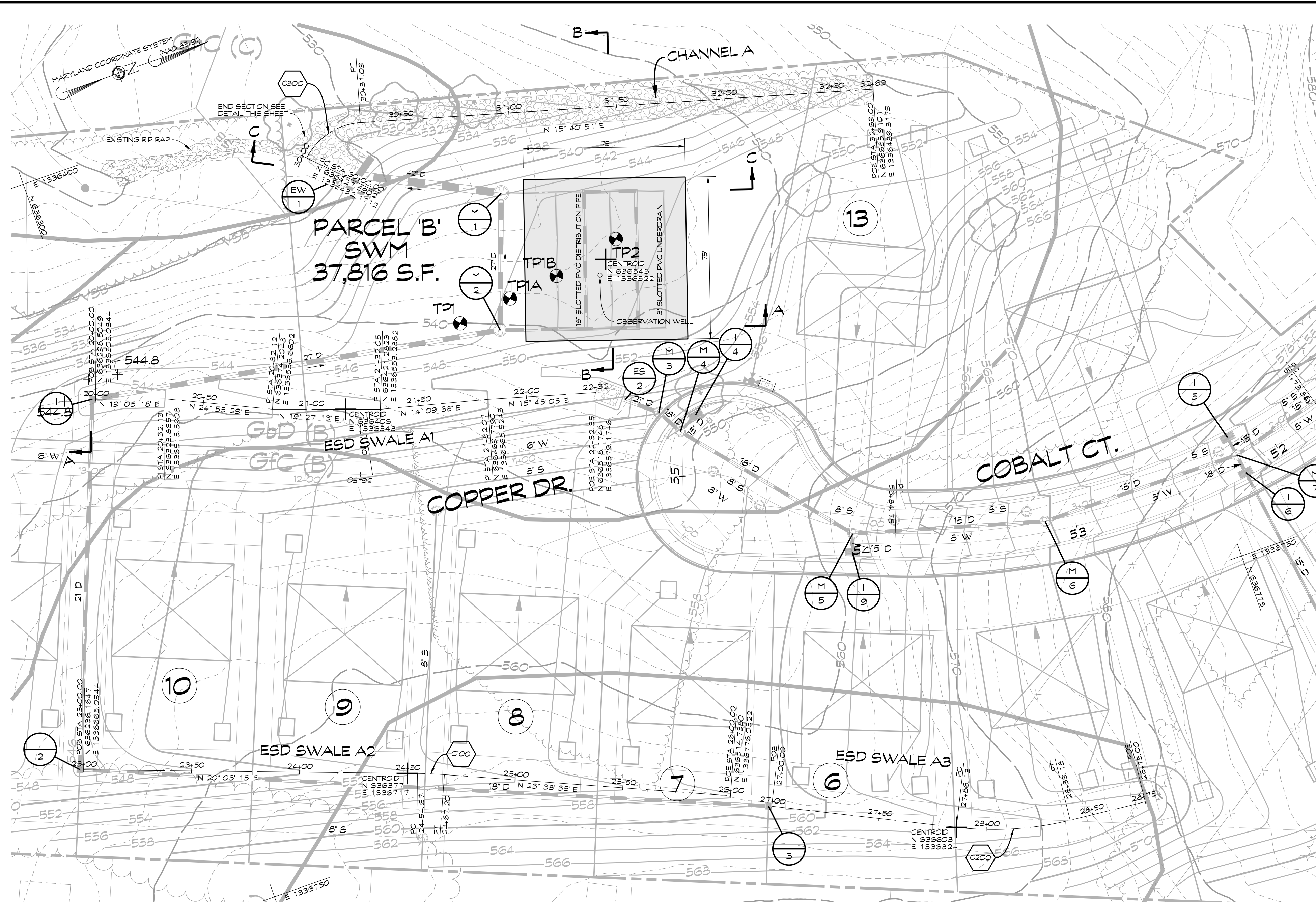
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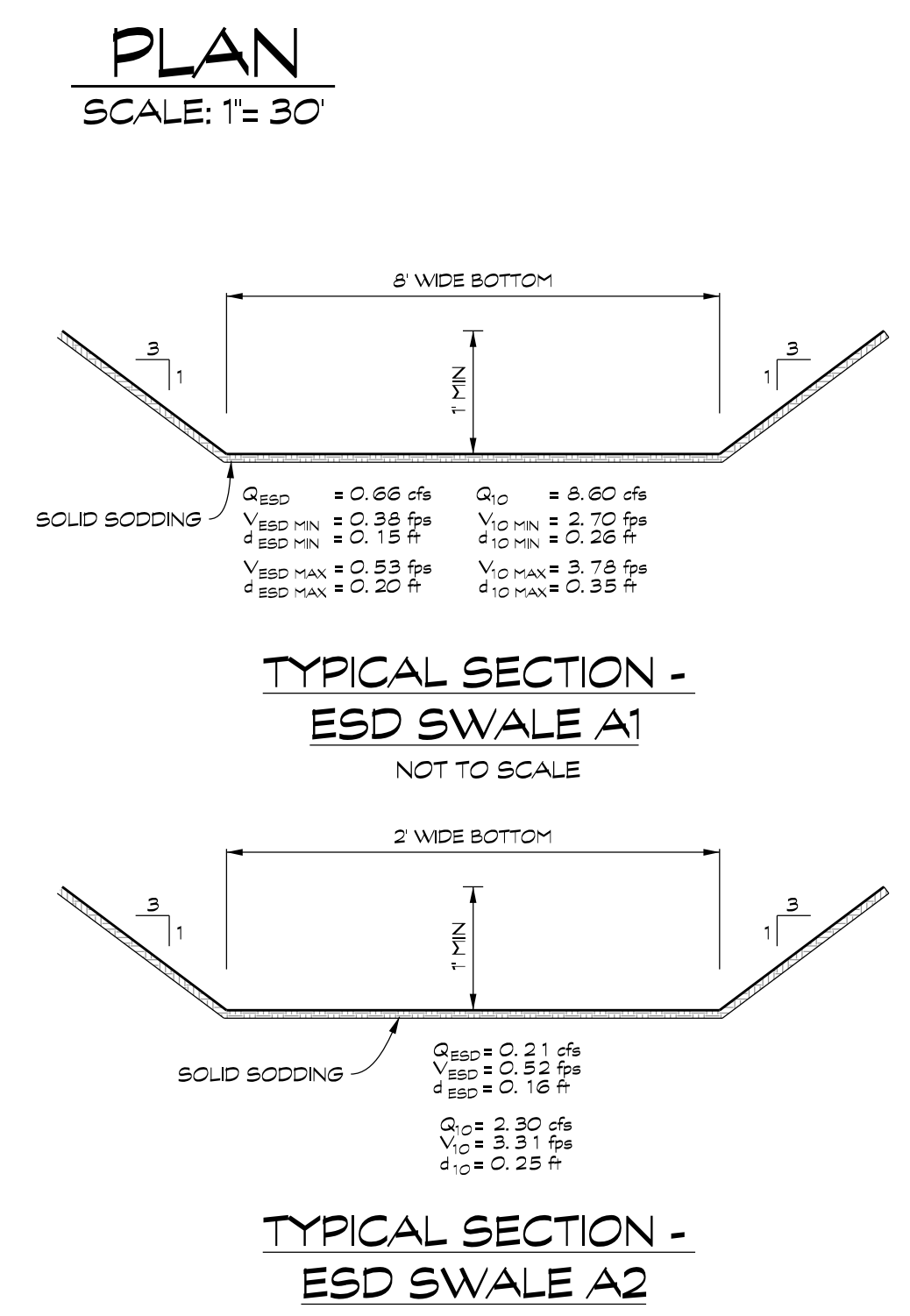
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Date	Revisions	Drawn By:
		JW, MC
		Designed By: ASB
		Reviewed By:
		Date: MARCH, 2020
		Scale: 1"=30'
		Job No.: 2018074
		Sheet: 5 OF 23

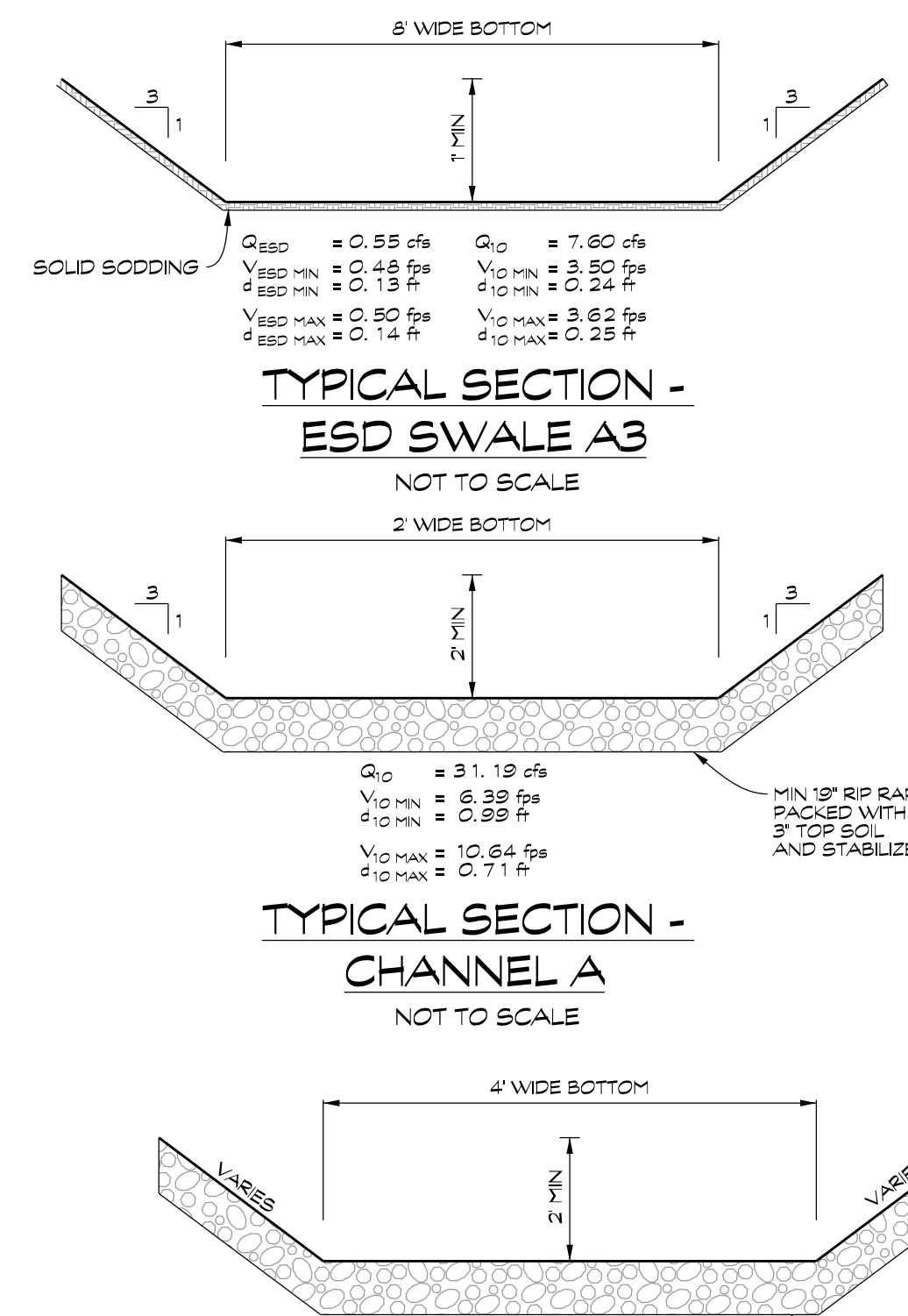
NOT FOR CONSTRUCTION



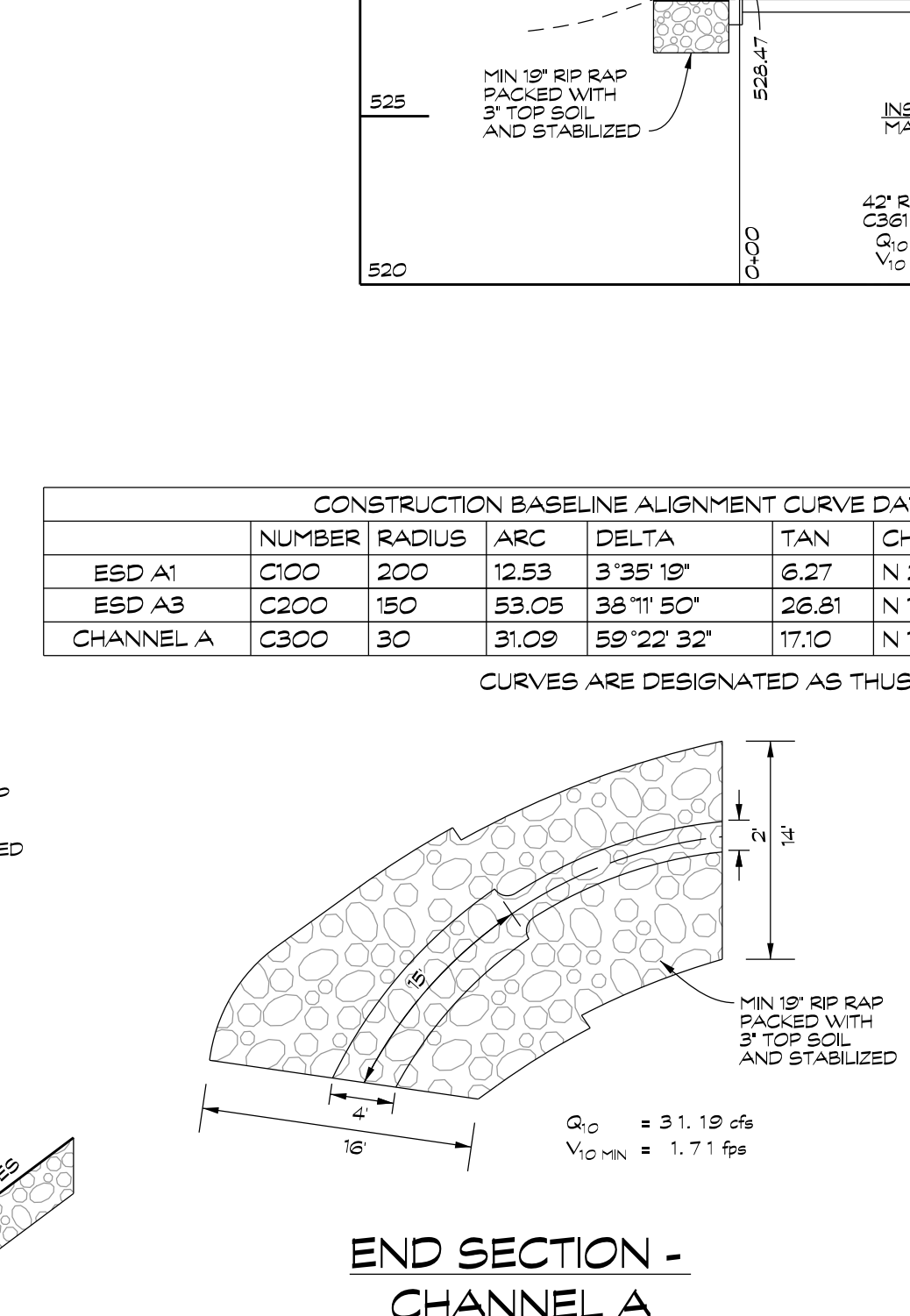
SECTION B-B
SCALE: HORIZ. 1" = 30'
VERT. 1" = 5'



TYPICAL SECTION - ESD SWALE A1
NOT TO SCALE



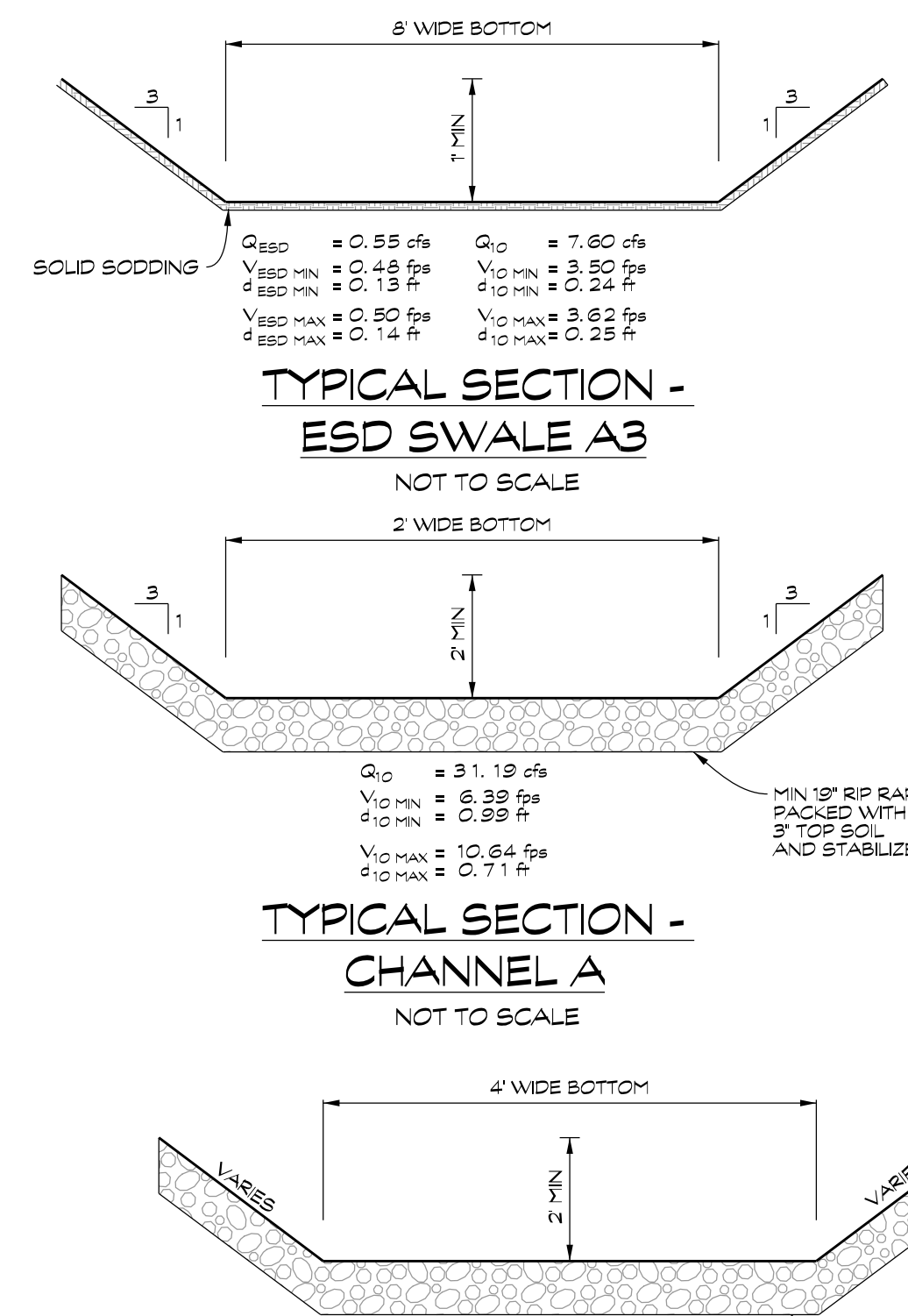
TYPICAL SECTION - END SECTION CHANNEL A
NOT TO SCALE



TYPICAL SECTION - CHANNEL A
NOT TO SCALE



TYPICAL SECTION - ESD SWALE A2
NOT TO SCALE

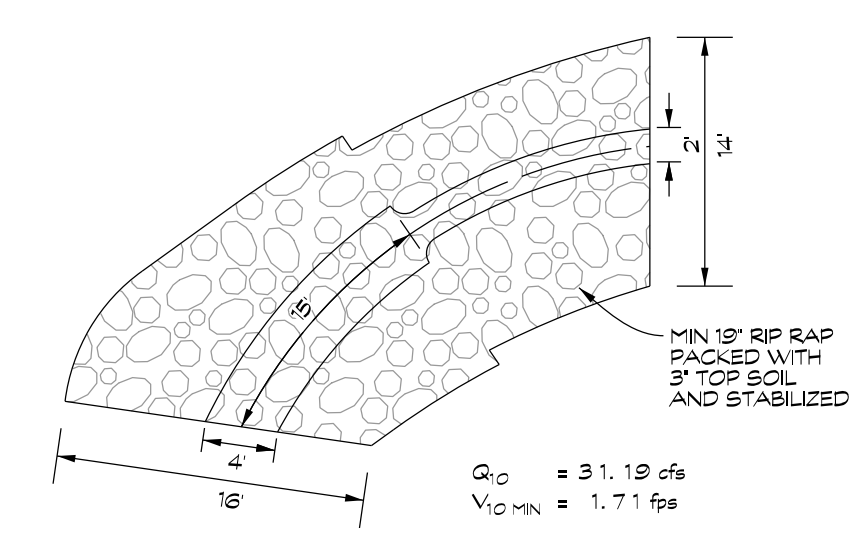


TYPICAL SECTION - ESD SWALE A3
NOT TO SCALE

CONSTRUCTION BASELINE ALIGNMENT CURVE DATA

ESD A1	ESD A3	CHANNEL A
NUMBER	C100	200
RADIUS	150	200
ARC	53.05	12.53
DELTA	59°22'32"	3°35'19"
TAN	17.10	6.27
CHORD BRG.	N 14°00'25" W	N 21°50'55" E
DIST	29.72	12.53

CURVES ARE DESIGNATED AS THUS:



END SECTION - CHANNEL A
NOT TO SCALE

STORMWATER MANAGEMENT PLAN, NOTES & DETAILS
MINERAL HILL PROPERTY

5th ELECTION DISTRICT • CARROLL COUNTY, MARYLAND
TAX MAP: 74 • BLOCK: 3 • PARCEL: 7

NOT FOR CONSTRUCTION

Professional Engineer Seal: D. Masre, P.E., License No. 51395, Exp. 12/31/2023

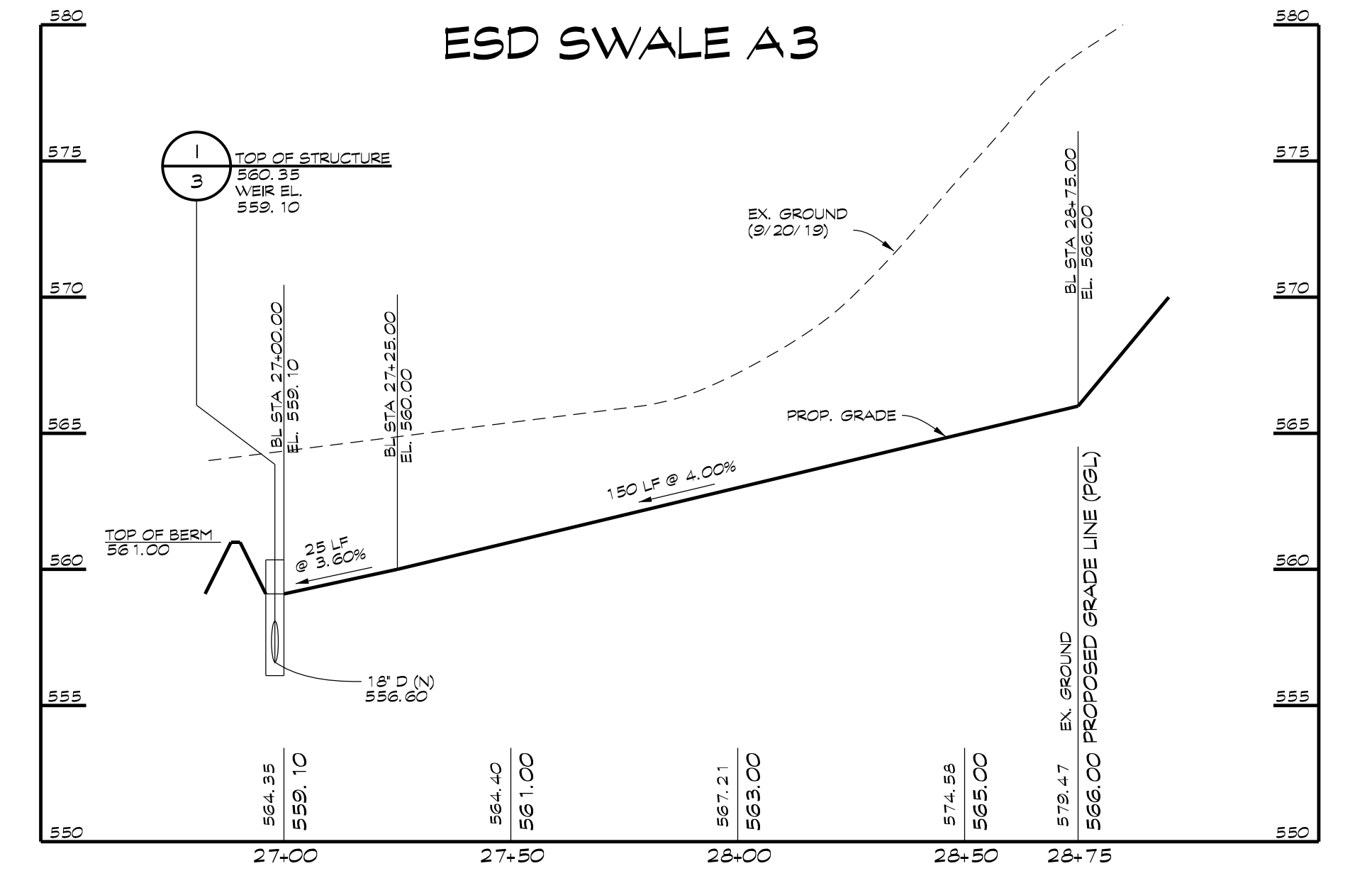
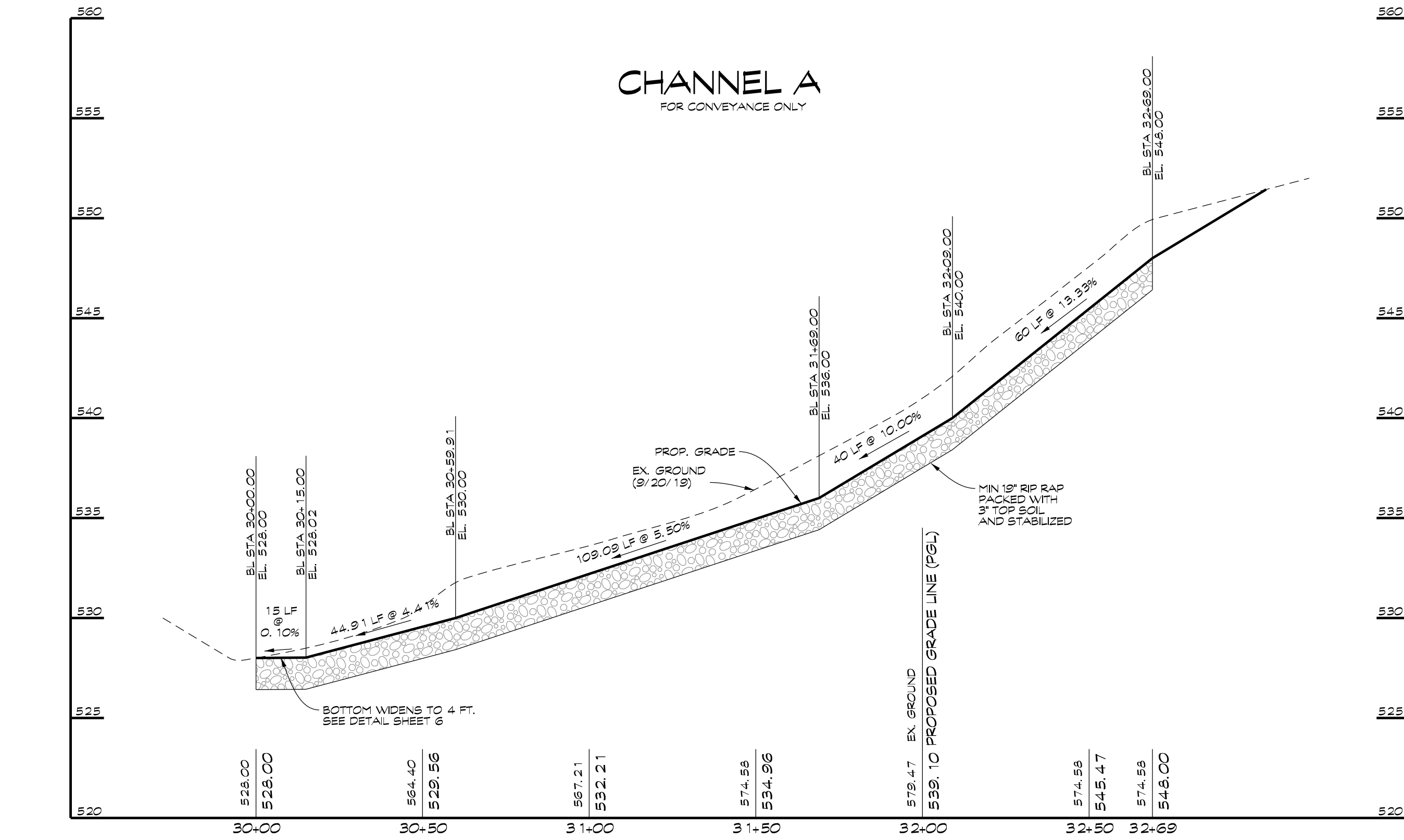
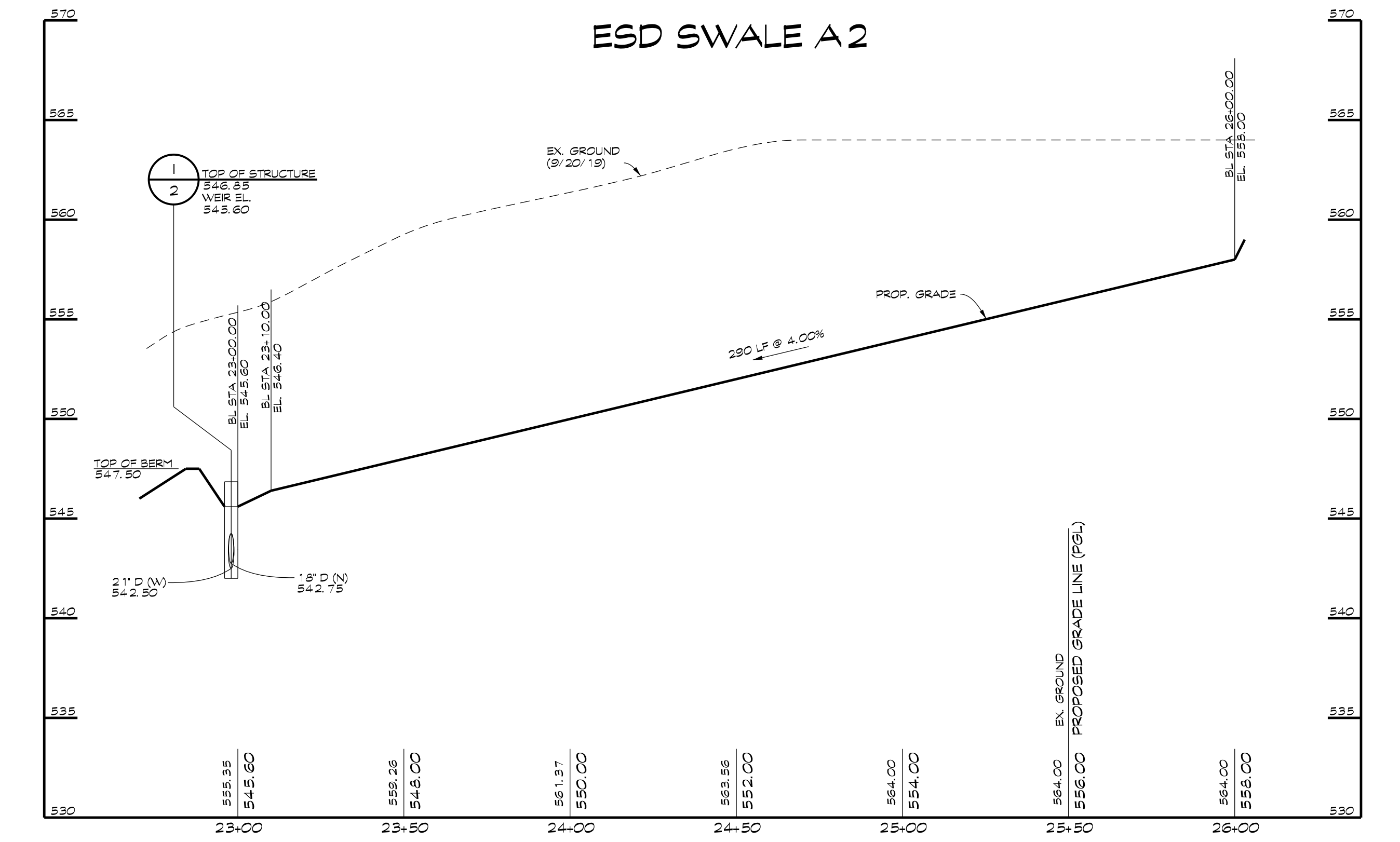
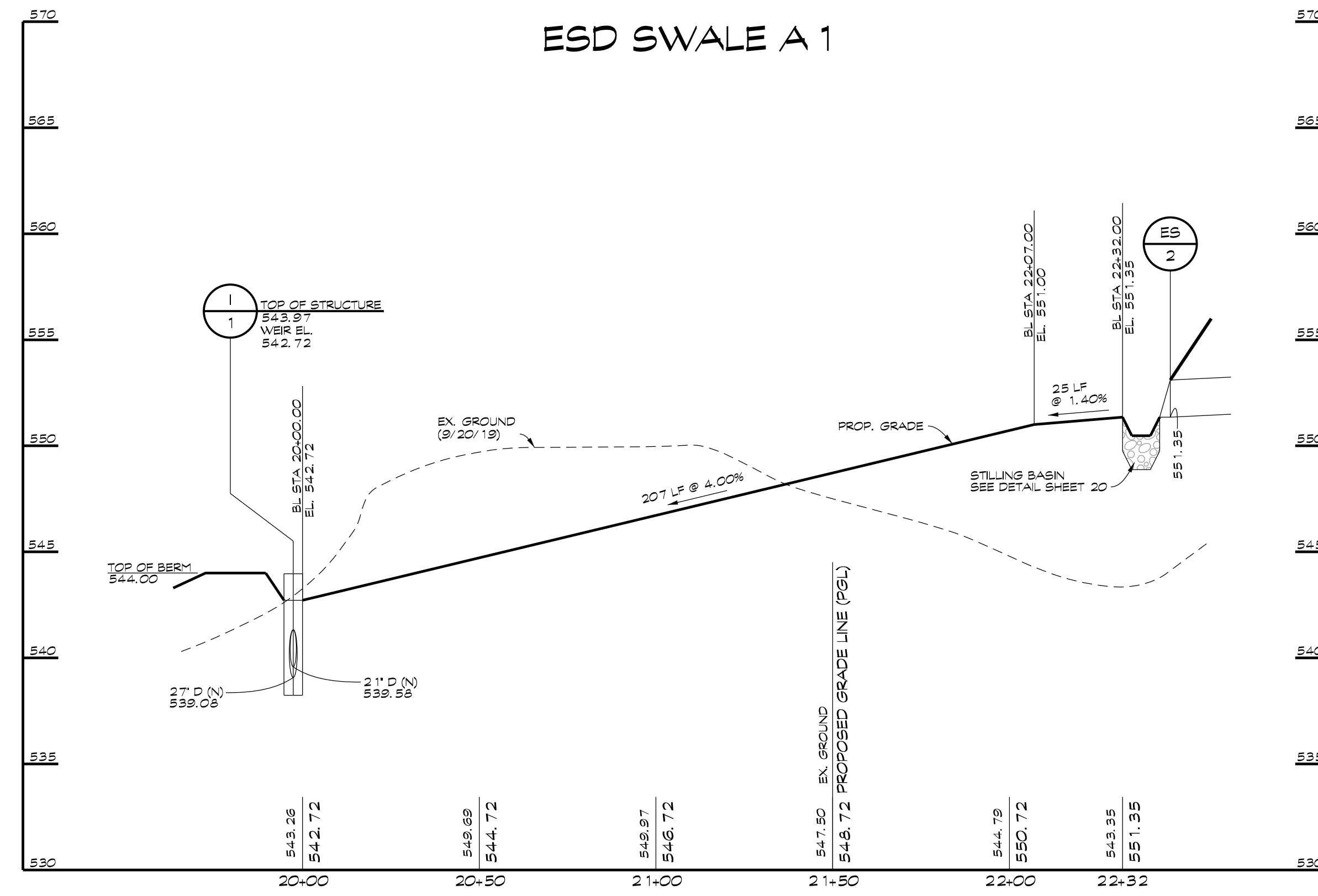
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Date	Revisions	Drawn By: J.W. BOM, AV
		Designed By: BOM, AV
		Reviewed By:
		Date: MARCH, 2020
		Scale: AS SHOWN
		Job No.: 2018074
		Sheet: 6 OF 23

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 51395, EXPIRATION DATE: DECEMBER 31, 2023

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PROFILE
SCALE: HORIZ. 1" = 30'
VERT. 1" = 5'

STORMWATER MANAGEMENT PROFILES

MINERAL HILL PROPERTY
A CLUSTER SUBDIVISION

5th ELECTION DISTRICT • CARROLL COUNTY, MARYLAND
TAX MAP: 74 • BLOCK: 3 • PARCEL: 7

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Brandon D. Moore, P.E.
3/7/2023

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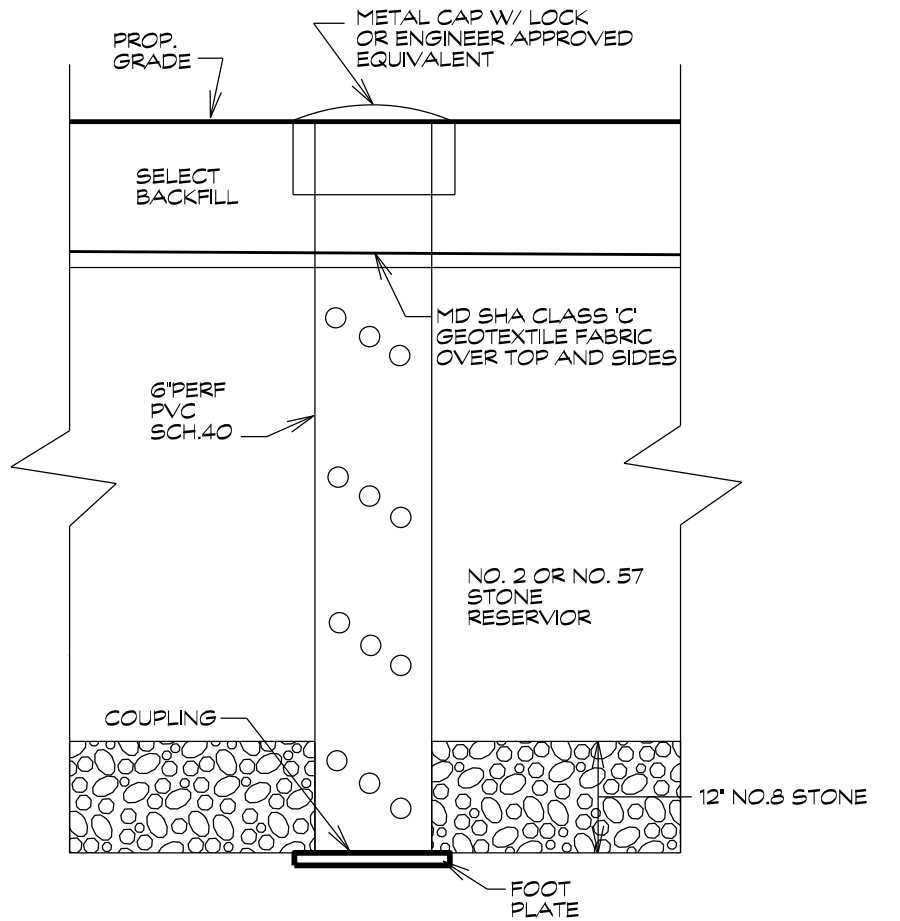
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Date	Revisions	Drawn By: BDM
		Designed By: BDM
		Reviewed By:
		Date: MARCH, 2020
		Scale: AS SHOWN
		Job No.: 2018074
		Sheet: 7 OF 23

OWNER / DEVELOPER
MINERAL HILL PROPERTY, LLC.
11175 STRATFIELD COURT
MARRIOTTVILLE MD, 21104
(410) 442-2211

NOT FOR CONSTRUCTION

OBSERVATION WELL DETAIL
N.T.S.



SWM INFILTRATION STUDY
MINERAL HILL PROPERTY
CARROLL COUNTY, MARYLAND
17024MD

MAY 2017

TABLE 2
TEST PIT DATA

Test Pit No.	Depth (Ft) From	To	Soil Descriptions and Remarks
TP-1B (@ 90' N of staked location)	0	0.5	Topsoil
	0.5	2.0	Brown moist SILT & CLAY, and of sand, trace rock frags (ML) (Loam)
	2.0	5.8	Brown moist of SAND, some clayey silt, some rock frags (SM) (Sandy Loam)
	5.8	7.0	Brown of SAND, some rock frags, some silt (SM) (Sandy Loam)
Comments: Hole dry to 7.0' & backfilled upon completion At staked location (TP-1), rock refusal @ 1.2 feet, 25 feet N. of stake (TP-1A), rock refusal @ 2.8 feet.			
TP-2 (@ staked location)	0	0.3	Topsoil
	0.3	4.5	Brown moist Clayey SILT, some of sand, little rock frags (ML) (Loam)
	4.5	7.5	Brown moist of SAND, some silt, trace rock frags (SM) (Sandy Loam)
Comments: Hole dry to 7.5' & backfilled upon completion			

SEQUENCE OF CONSTRUCTION AND INSPECTION CHART FOR SWM FACILITY

STAGE	CERTIFYING PROFESSIONAL'S APPROVAL	
	INITIALS	DATE
1. CARROLL LAND SERVICES, INC. (410) 848-1790 SHALL BE CONTACTED FIVE (5) DAYS PRIOR TO COMMENCEMENT OF ANY WORK.		
2. INSTALL TEMPORARY SEDIMENT CONTROL MEASURES AND CONTACT THE CERTIFYING ENGINEER OFFICE AND INSPECTOR BEFORE PROCEEDING.		
3. CONSTRUCT STORM DRAIN STRUCTURES FROM EM1 TO M2. INSTALL PIPE RAILINGS AND OUTFALL RACK ON EM1.		
4. EXCAVATE FACILITY TO DESIGN DIMENSIONS.		
5. PLACE FILTER CLOTH ON SIDES OF TRENCH AND PIN IN PLACE. PLACE OBSERVATION WELL ON FOOTPLATE.		
6. INSTALL NO. 8 STONE LAYER TO UNDERDRAIN ELEVATION. PLACE UNDERDRAIN. CONNECT UNDERDRAIN TO M1. UNDERDRAIN MUST BE INSPECTED PRIOR TO INSTALLING ADDITIONAL NO. 8 STONE.		
7. PLACE NO. 2 OR NO. 57 STONE TO BOTTOM OF DISTRIBUTION PIPES.		
8. PLACE DISTRIBUTION PIPE. CONNECT PIPE TO M2 AND INSTALL TEMPORARY CAP AT M2. DETAIL THIS SHEET.		
9. INSTALL REMAINING STONE.		
10. WRAP TOP OF FACILITY WITH FILTER CLOTH.		
11. BACKFILL WITH SOL TO PROPOSED CONTOURS.		
12. NO WATER SHALL BE ALLOWED INTO THE FACILITY UNTIL THE ENTIRE DRAINAGE AREA TO THE FACILITY IS PAVED OR SUPPORTING A 2" STAND OF GRASS. BUILDINGS ARE COMPLETED, AND THE CERTIFYING ENGINEER HAS INSPECTED AND GIVEN APPROVAL.		
13. NOTIFY SEDIMENT AND EROSION CONTROL INSPECTOR FOR APPROVAL PRIOR TO REMOVAL OF SEDIMENT AND EROSION CONTROL DEVICES.		
14. REMOVE TEMPORARY PLUG FROM M-2 AND INSTALL 18" 90° ELBOW.		
15. SUBMIT STORMWATER MANAGEMENT AS-BUILT ON PAPER TO THE CARROLL COUNTY BUREAU OF RESOURCE MANAGEMENT WITHIN 60 DAYS.		

SEQUENCE OF CONSTRUCTION/ ENGINEERS INSPECTION CHART

STAGE	SWALE A1		SWALE A2		SWALE A3	
	ENGINEER'S APPROVAL	DATE	ENGINEER'S APPROVAL	DATE	ENGINEER'S APPROVAL	DATE
1. EXCAVATE SWALE TO APPROPRIATE DIMENSIONS.						
2. STABILIZE SWALE WITH APPROPRIATE STABILIZATION. SEE TYPICAL CROSS SECTIONS ON SHEET 6.						
3. ONCE 2" STAND OF GRASS ESTABLISHED, SUBMIT SIGNED AND CERTIFIED "AS-BUILT" TO C.C. BUREAU OF RESOURCE MANAGEMENT.						

* PLEASE NOTIFY CERTIFYING ENGINEER 48 HOURS PRIOR TO COMMENCING CONSTRUCTION
ENGINEER'S NAME: CLSI
PHONE NUMBER: (410) 848-1790
ENGINEER'S NAME:
PHONE NUMBER:

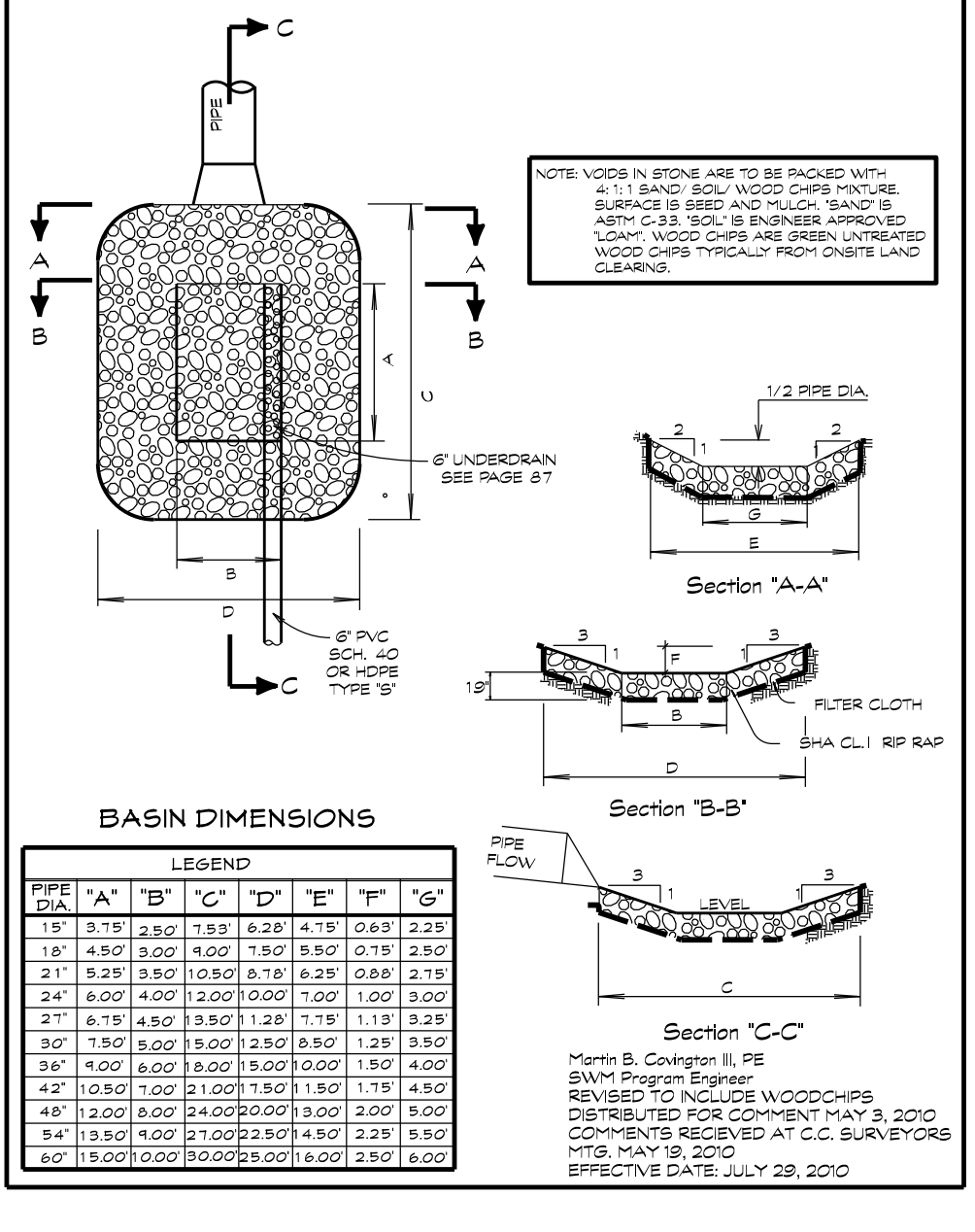
STORMWATER MAINTENANCE SCHEDULE GRASS SWALE

MONTHLY INSPECTION		
Inspection Item	Inspection Requirements	Remedial Action
Debris and Trash	Check for trash and debris in channel including inlets, outlets, and area around facility.	Remove all trash and debris and dispose in an acceptable manner. Unclog all openings.
Grass Cover	Grass in swale must be maintained at a height of 4 to 6 inches. Check for channelizing and bare spots.	Mow side slopes when grass exceeds 12 inches in height. Mow channel at least bi-annually. Remove grass clippings. Re-plant with topsoil, seed, and matting.
SEASONAL INSPECTION AND AFTER A MAJOR STORM		
Inspection Item	Inspection Requirements	Remedial Action
Sediment Accumulation	Check for accumulated sediment and clogged openings.	When sediment accumulates to 2 inches in depth, remove sediment. Remove sediment from any clogged openings. Dispose of all sediment in an acceptable location.
Erosion	Check inflow, channel, outfall, and side slopes for evidence of erosion, rills, gullies, and runoff channelization.	Re-plant with topsoil, seed, and matting. Re-grade if concentrated runoff to the facility is causing rills or gullies. Grade, vegetate, and/or armor to provide stable conveyance in accordance with approved plans.
ANNUAL INSPECTION		
Inspection Item	Inspection Requirements	Remedial Action
Maintenance Access	Check for accessibility to facility.	Prevent excessive vegetative growth, erosion, and obstructions on access way.
Overall Function of Facility	Check that flow conveyance is operating as designed.	Repair to good condition according to specifications on the approved plans.

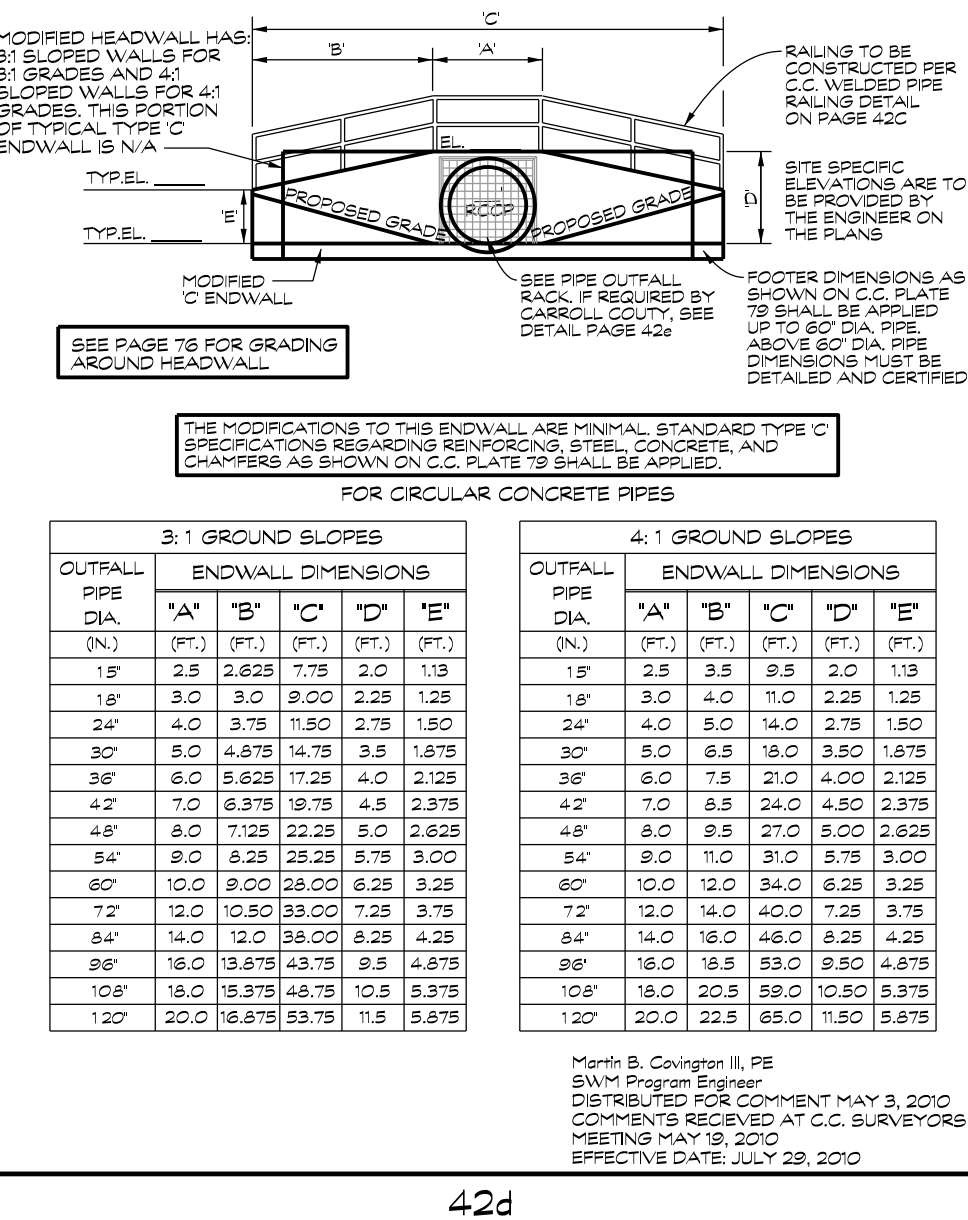
Specific Maintenance Inspection Schedule for Underground Facilities Carroll County, Maryland

- Minimum Annual Inspections & Maintenance** (to be included on plans)
- Remove standing water from inlets/manholes/underground structures.
 - Remove accumulated sediments and debris from inlets/manholes/underground structures.
 - Inspect inlets/manholes/weir walls, low flow orifices, and the underground structure for cracks, spalling and clogging. Remove clogs.
 - Inspect trash rack for attachment and blockages. Remove blockages.
 - Inspect inlets/manholes/weir walls and the underground structure for integrity (holes, corrosion, cracks, spalling, separations and missing parts (manhole lids, grates, plates, etc.)). Repair/replace to good condition according to approved plans and specifications.
 - Document the above steps using the Carroll County Inspection Report form and required photographs. Owner is responsible for providing copies of this form documenting completed annual maintenance when required.

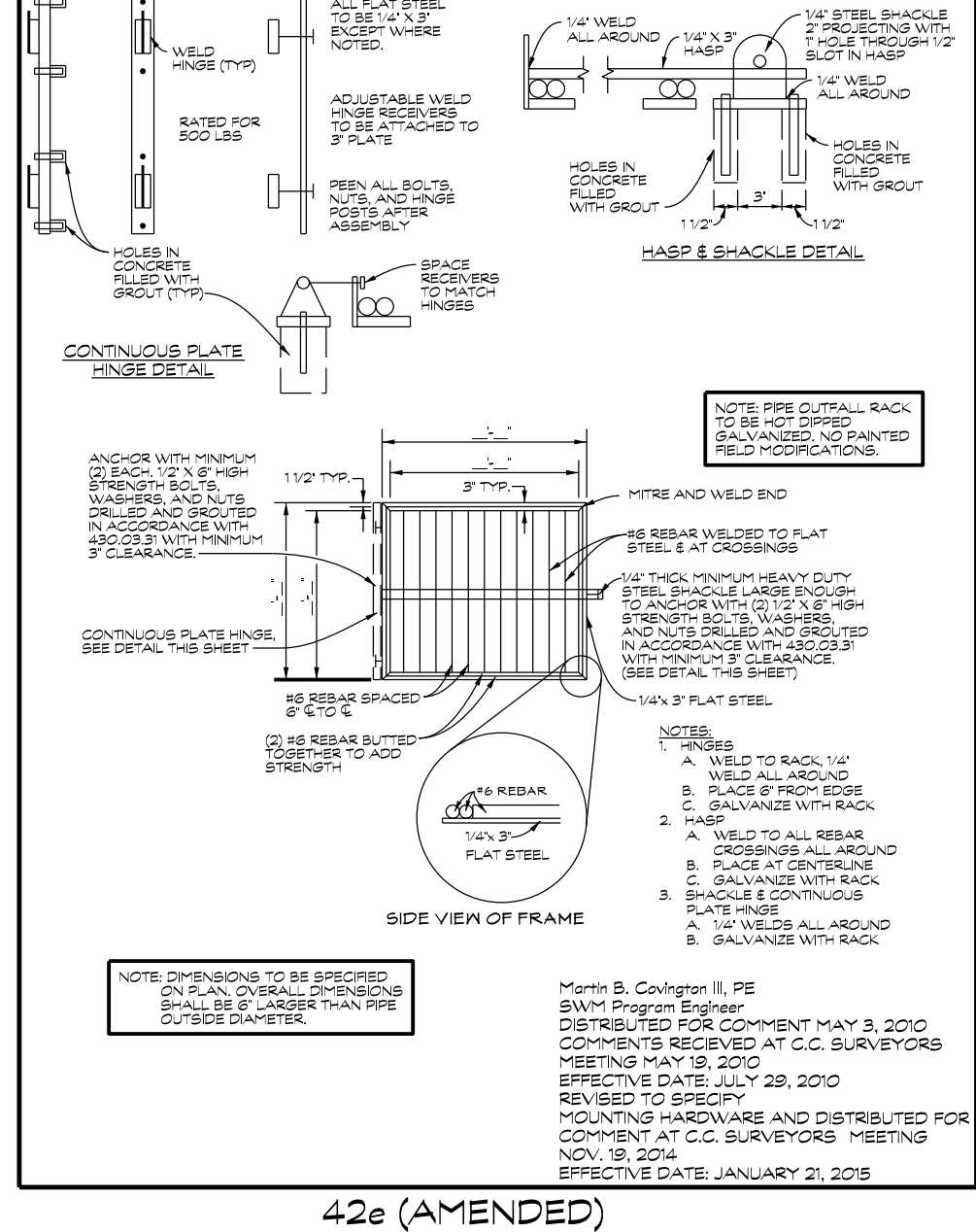
STILLING BASIN DETAIL



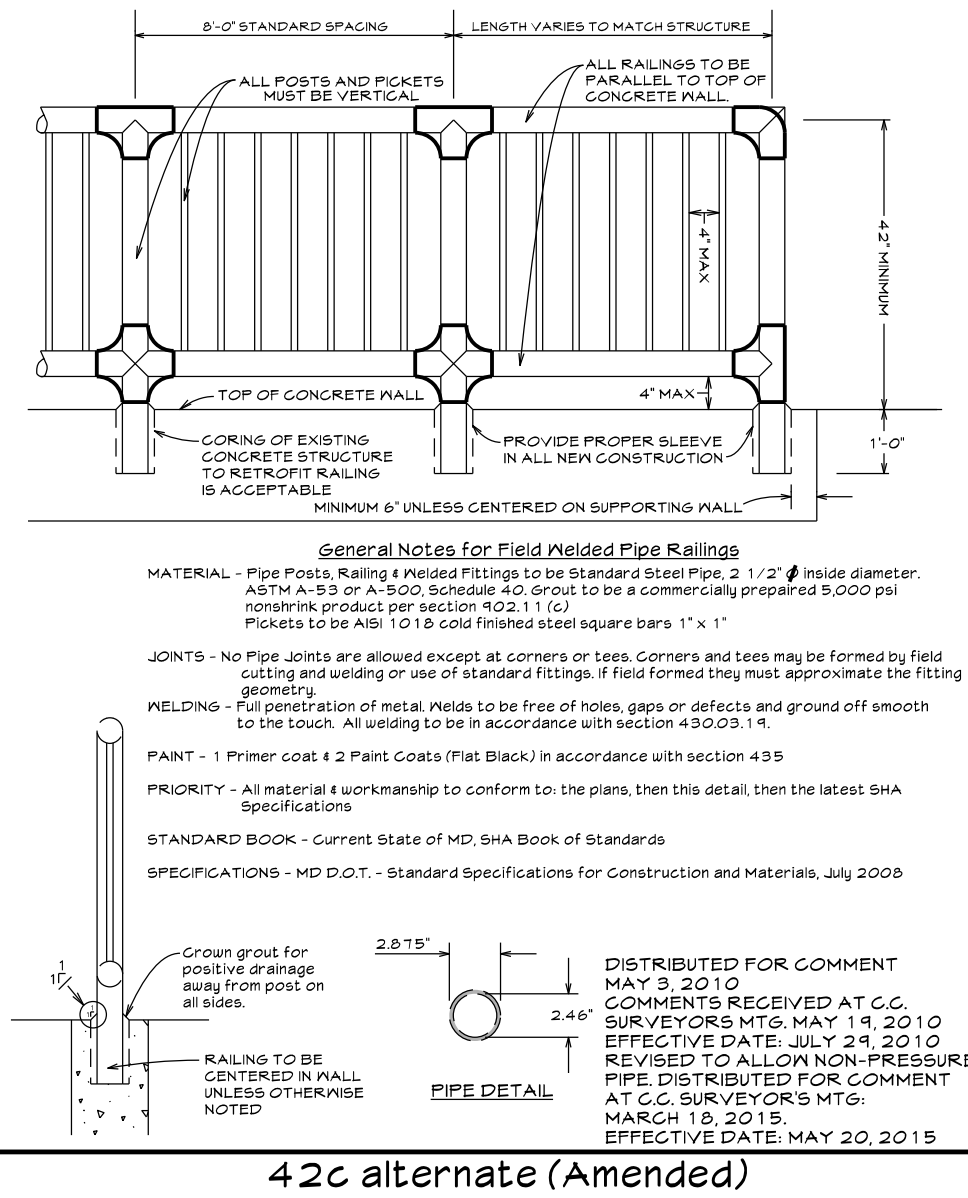
CARROLL COUNTY MODIFIED TYPE 'C' ENDWALLS FOR USE IN STORMWATER MANAGEMENT FACILITIES WITH 3:1 OR 4:1 SLOPES



PIPE OUTFALL RACK

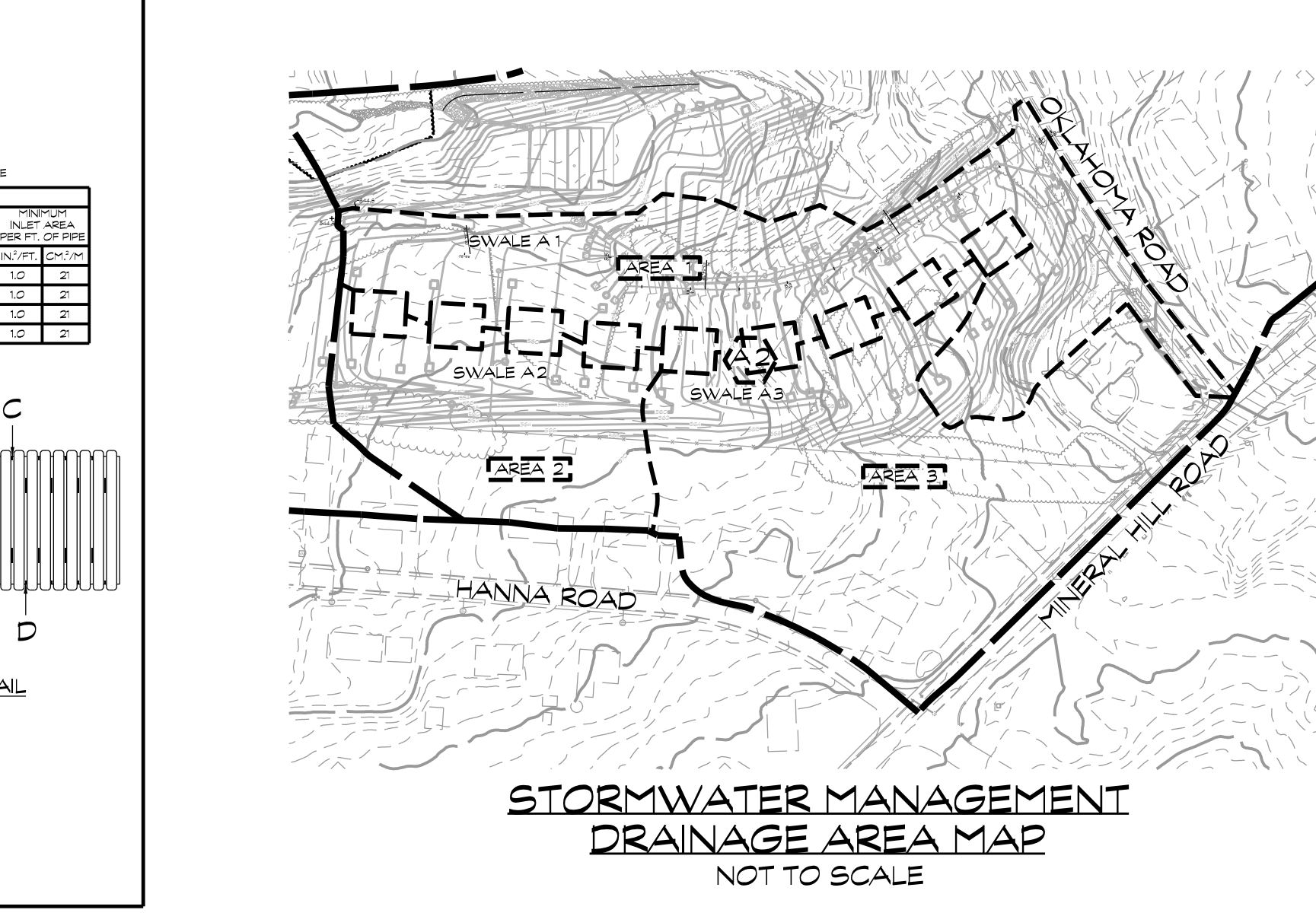


CARROLL COUNTY FIELD WELDED PIPE RAILING FOR HEADWALLS, ENDWALLS & RISER BOXES WITH VEHICLE ACCESS AND HIGH VOLUMES OF FOOT TRAFFIC AND SMALL CHILDREN ANTICIPATED



APPROVED UNDERDRAIN PIPES FOR CARROLL COUNTY STORMWATER MANAGEMENT FACILITIES

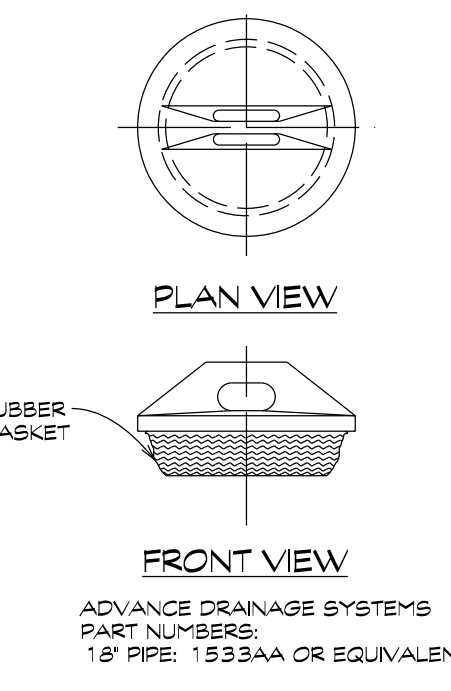
NOMINAL SIZE	DEGREES	SLOPE	SLOT SIZE		SLOT SPACING	SLOT LENGTH	PERFORATION TYPE	MANUFACTURER	MINIMUM SLOPE	MINIMUM PERCENT COVER
			WIDTH	LENGTH						
4"	182	2	0.32	1.16	0.36	1.82	CONCRETE	CONTECH	0.01	10
6"	184	2	0.32	1.59	0.36	1.82	CONCRETE	CONTECH	0.01	10
8"	182	2	0.32	1.34	0.36	1.82	CONCRETE	CONTECH	0.01	10
10"	182	2	0.32	1.59	0.36	1.82	CONCRETE	CONTECH	0.01	10
12"	182	2	0.32	1.59	0.36	1.82	CONCRETE	CONTECH	0.01	10
14"	182	2	0.32	1.59	0.36	1.82	CONCRETE	CONTECH	0.01	10
16"	182	2	0.32	1.59	0.36	1.82	CONCRETE	CONTECH	0.01	10



POND DATA- SWM FACILITY

- STORMWATER MANAGEMENT FACILITY SHOWN ON THESE PLANS IS PUBLIC THEREFORE SHALL BE MAINTAINED BY CARROLL COUNTY AND CONSTRUCTED BY THE DEVELOPER.
- DRAINAGE AREA TO FACILITY = 7.51 ACRES
- IMPERVIOUS AREA TO FACILITY = 1.98 ACRES
- SITE IS DRAINING TO SNOWDENS RUN DRAINAGE BASIN DESIGNATION 021309071 AND IS CLASSIFIED AS USE III-B.
- FACILITY PROVIDES PEAK DISCHARGE MANAGEMENT FOR THE 10-YEAR STORM EVENT.
- CENTROID: N: 636543 E: 1336522

TEMPORARY PLUG



SWM DATA- ESD PRACTICES

- STORMWATER MANAGEMENT FACILITIES SHOWN ON THESE PLANS IS PUBLIC THEREFORE SHALL BE MAINTAINED BY CARROLL COUNTY AND CONSTRUCTED BY THE DEVELOPER.
- PRACTICES: M-8 1 GRASS SWALE (ESD PRACTICE)
- SITE IS DRAINING TO SNOWDENS RUN DRAINAGE BASIN DESIGNATION 021309071 AND IS CLASSIFIED AS USE III-B.
- FACILITIES PROVIDE ESD TO THE MEP. TOTAL ESDV REQ = 8,930 CU. FT. TOTAL ESD PROV. = 9,436 CU. FT.
- CENTROID: AS SHOWN ON SHEET 6.

DEVELOPER/LANDOWNER'S CERTIFICATION
I/We hereby certify that all proposed work shown on these construction drawings will be conducted in strict accordance with these plans. I/We also understand that it is my/our responsibility to have the construction supervised and certified, including the submittal of "As-Built" plans certified by a Registered Professional Engineer within thirty (30) days of completion of work on the stormwater management facility/facilities. I/We also certify that these stormwater management facility/facilities were inspected during construction by a Registered Professional Engineer in accordance with Article VII of Chapter 151 of the Code of Public Local Laws and Ordinances of Carroll County.

SIGNED: _____ DATE: _____
LICENSE NO. _____ EXPIRATION DATE: _____

ENGINEER'S "AS-BUILT" CERTIFICATION
I/We hereby certify that the facility/facilities shown on this/these plan(s) was/were constructed as shown on the "As-Built" plans and meets the approved plans and specifications. I also certify that this/these facilities were inspected in accordance with Article VII of Chapter 151 of the Code of Public Local Laws and Ordinances of Carroll County and 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.

SIGNED: _____ DATE: _____
LICENSE NO. _____ EXPIRATION DATE: _____

ENGINEER'S DESIGN CERTIFICATION
I hereby certify that these plans have been designed according to Chapter 151 of the Code of Public Local Laws and Ordinances of Carroll County and 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.

SIGNED: _____ DATE: _____
LICENSE NO. _____ EXPIRATION DATE: _____

STORMWATER MANAGEMENT NOTES & DETAILS
MINERAL HILL PROPERTY

5th ELECTION DISTRICT CARROLL COUNTY, MARYLAND
TAX MAP: 74 BLOCK: 3 PARCEL: 7

NOT FOR CONSTRUCTION

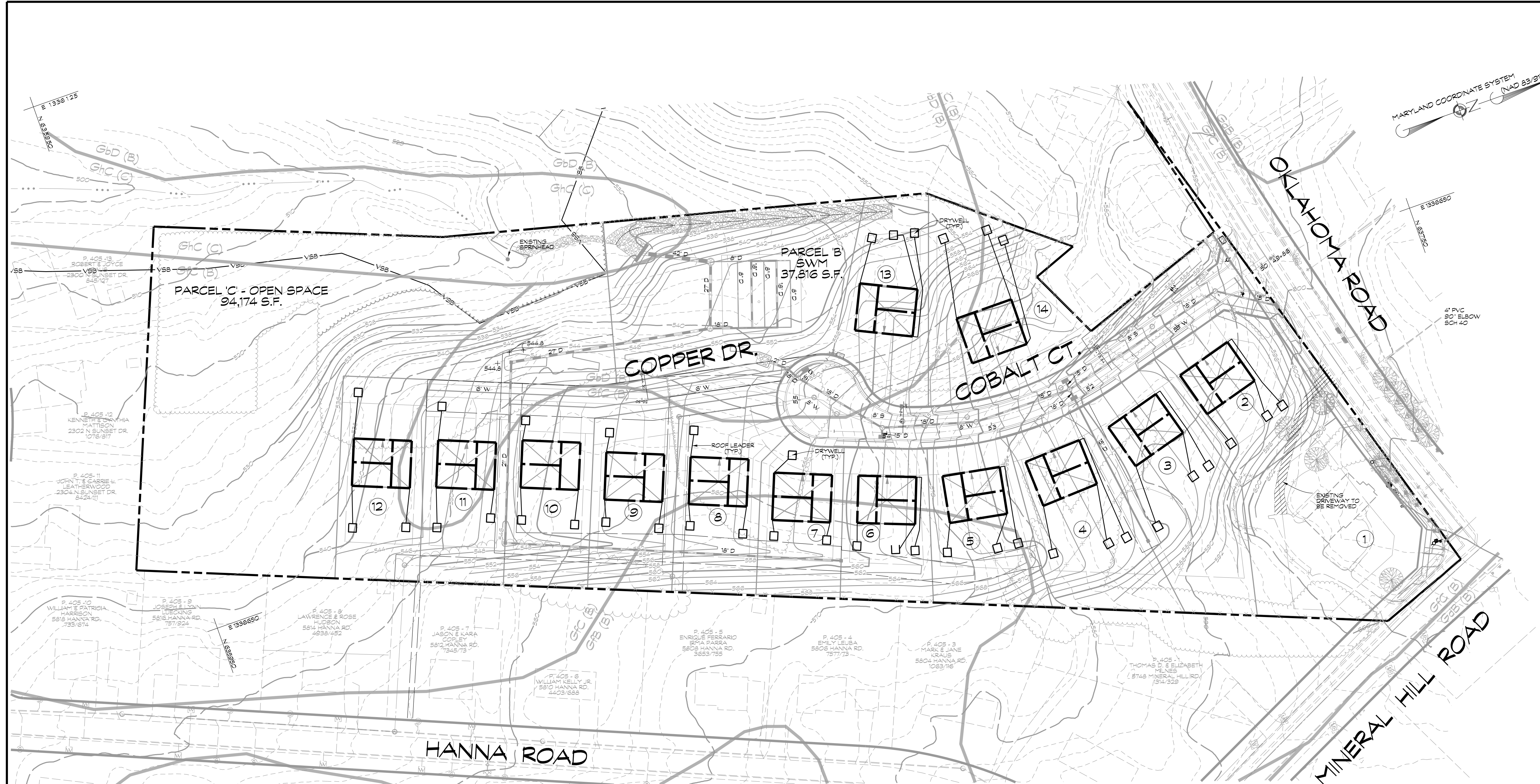
Engineers - Surveyors
CLSI
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(410) 848-1790 FAX (410) 848-1791

Prepared: D. Moseley 9/7/2023

Date	Revisions	Drawn By:	BDM
		Designed By:	BDM
		Reviewed By:	
		Date:	MARCH 2020
		Scale:	AS SHOWN
		Job No.:	2016074
		Sheet:	8 OF 23

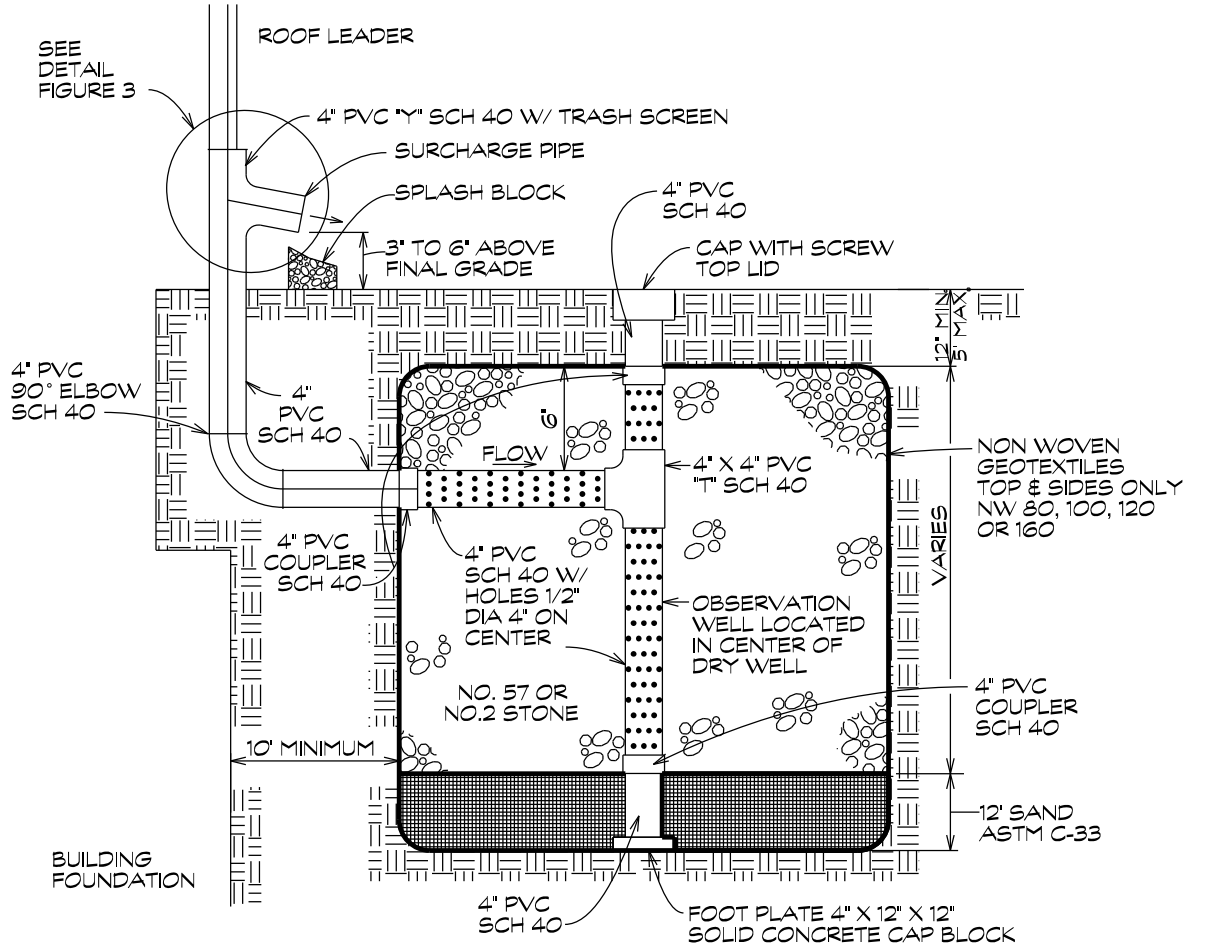
NOT FOR CONSTRUCTION



LEGEND
 — DRYWELL DRAINAGE AREA DIVIDE

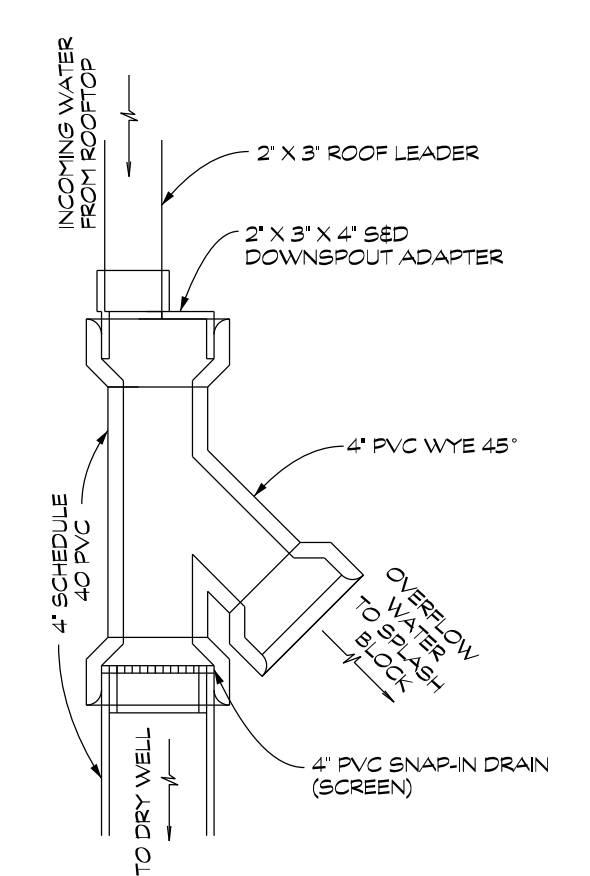
NOTE: TYPICAL DRYWELLS SIZED TO BE 8' x 8' x 6.5' AND TO BE SPACED NO CLOSER THAN 10' BETWEEN DRYWELLS.

FIGURE 2
STANDARD DRY WELL



- NOTES:
- MINIMUM SETBACKS:
A. 100 FT FROM WELLS
B. 50 FT FROM SEPTIC AREAS
C. 20 FT FROM BUILDINGS
 - FROM THE DOWNSPOUT TO THE DRY WELL THE DRAIN PIPE MUST BE AT LEAST 6" BELOW GRADE
 - THE LOCATIONS AND SIZE OF ALL DRY WELLS MUST BE SHOWN ON THE GRADING PLOT PLAN.
 - THESE GEOTEXTILES ARE AVAILABLE IN PINKSBURG @ ES & S DISTRIBUTORS 5501 BERRY RD. BLDG 8, 666-744-5001, ANY EQUIVALENT GEOTEXTILE IS ACCEPTABLE

FIGURE 3
STANDARD DRY WELL
DOWNSPOUT FITTINGS



- NOTES:
- THE SNAP IN SCREEN IS REQUIRED TO PREVENT CLOGGING OF THE DRY WELL WITH DEBRIS.
 - SEE FIGURE 3a LIST OF POTENTIAL SUPPLIERS TO ACCOMPANY FIGURE 3 STANDARD DRY WELL DOWNSPOUT FITTINGS FOR INFORMATION ON SOME LOCAL RETAILERS THAT SUPPLY COMPONENTS FOR THIS SYSTEM.

FIGURE 3a
LIST OF POTENTIAL SUPPLIERS TO ACCOMPANY FIGURE 3
STANDARD DRY WELL DOWNSPOUT FITTINGS

- 2' x 3' x 4' S & D DOWNSPOUT ADAPTER**
- BT Plumbing Supply, Inc. 456 Lucabaugh Mill Rd, Westminster, MD 21157; 410-878-2118; Part No. PSDDA4234
 - Ferguson Enterprises, Inc. 900 Wakefield Valley Rd, New Windsor, MD 21176; 410-635-6682; Part No. PSDAK4P
 - Lowe's Home Improvement Warehouse of Westminster, 777 Market St, Westminster, MD 21157; 410-857-7448; Part No. NDS LP004
 - The Plumbers Home Center (two locations), 15 North Main Street, Mt. Airy, MD 21177; 301-829-7770 or 410-795-0331; or 418 E. Baltimore St., Tonawanda, MD 21157; 410-751-1113; Part No. requires cutting to fit.
- 4" PVC WYE 45°**
- BT Plumbing Supply, Inc. 456 Lucabaugh Mill Rd, Westminster, MD 21157; 410-878-2118; Part No. PW4
 - Ferguson Enterprises, Inc. 900 Wakefield Valley Rd, New Windsor, MD 21176; 410-635-6682; Part No. PW4V12
 - Lowe's Home Improvement Warehouse of Westminster, 777 Market St, Westminster, MD 21157; 410-857-7448; Part No. CW4545 1400
 - Jones-Stephens Corp. www.slumbest.com; 800-355-6637; Part No. D42-004
 - Lowe's Home Improvement Warehouse of Westminster, 777 Market St, Westminster, MD 21157; 410-857-7448; Part No. Oteye 435623
 - The Plumbers Home Center (two locations), 15 North Main Street, Mt. Airy, MD 21177; 301-829-7770 or 410-795-0331; or 418 E. Baltimore St., Tonawanda, MD 21157; 410-751-1113; Part No. requires cutting to fit.
- 4" PVC Snap-in Drain Screen**
- BT Plumbing Supply, Inc. 456 Lucabaugh Mill Rd, Westminster, MD 21157; 410-878-2118; Part No. JSD42004
 - Jones-Stephens Corp. www.slumbest.com; 800-355-6637; Part No. D42-004
 - Lowe's Home Improvement Warehouse of Westminster, 777 Market St, Westminster, MD 21157; 410-857-7448; Part No. Oteye 435623
 - The Plumbers Home Center (two locations), 15 North Main Street, Mt. Airy, MD 21177; 301-829-7770 or 410-795-0331; or 418 E. Baltimore St., Tonawanda, MD 21157; 410-751-1113; Part No. requires cutting to fit.

Note: The Carroll County Bureau of Resource Management obtained this part information after sending out a letter to known local plumbing supply companies and after receiving information from each respective company. The suppliers listed above are provided for reference purposes only. Any equivalent schedule 40 PVC fittings from any vendor may be used.

NOTE: DRYWELLS SIZED ASSUMING A TYPICAL ROOF AREA OF 2,475 SQ. FT. DRIVEWAYS ARE TREATED IN GRASS SWALE AT FINAL DRYWELL DESIGN TO BE PROVIDED IN THE PLOT PLAN PHASE. EACH PLOT PLAN TO ASSUME A TREATMENT OF 2.5" P₆₀ ON TOTAL ROOF AREA REGARDLESS OF FINAL HOUSE SIZE. ALL DRYWELLS TO HAVE THE GOAL OF A MAXIMUM ROOF DRAINAGE AREA OF 1,000 SQ. FT.

INSPECTION CHART FOR DRY WELL INSTALLATION

STAGE	ENGINEER'S APPROVAL	
	INITIALS	DATE
1. ONCE THE INDIVIDUAL HOUSE HAS BEEN CONSTRUCTED AND FINAL GRADING IS COMPLETE.		
2. PLACEMENT OF SAND		
3. PLACEMENT OF NO. 57 OR NO. 2 STONE AND PIPE		
4. PLACEMENT OF 4" PVC PIPE		
5. FINE GRADE & STABILIZATION OF AREAS DISTURBED DURING CONSTRUCTION OF DRY WELL		

* PLEASE NOTIFY CERTIFYING ENGINEER 48 HRS PRIOR TO CONSTRUCTION *

ENGINEER'S NAME: CLSI
 PHONE NUMBER: 410-848-1790

OWNER / DEVELOPER
 MINERAL HILL PROPERTY, LLC.
 11175 STRATFIELD COURT
 MARRIOTTVILLE MD, 21104
 (410) 442-2211

DRYWELL PLAN, NOTES & DETAILS

MINERAL HILL PROPERTY
 A CLUSTER SUBDIVISION

5th ELECTION DISTRICT CARROLL COUNTY, MARYLAND
 TAX MAP: 74 BLOCK: 3 PARCEL: 7

NOT FOR CONSTRUCTION

Professional Engineer Seal: **CLSI**
 License No. 81288, EXPIRATION DATE: DECEMBER 7, 2023

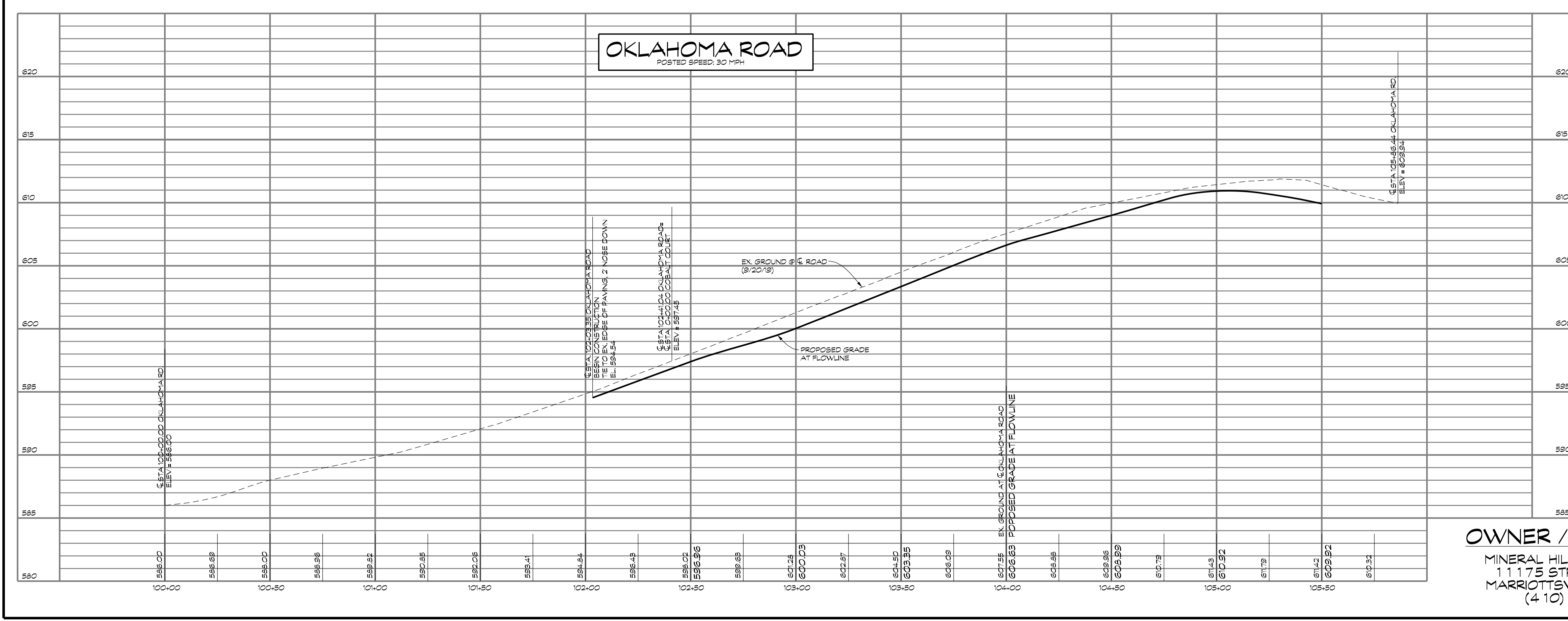
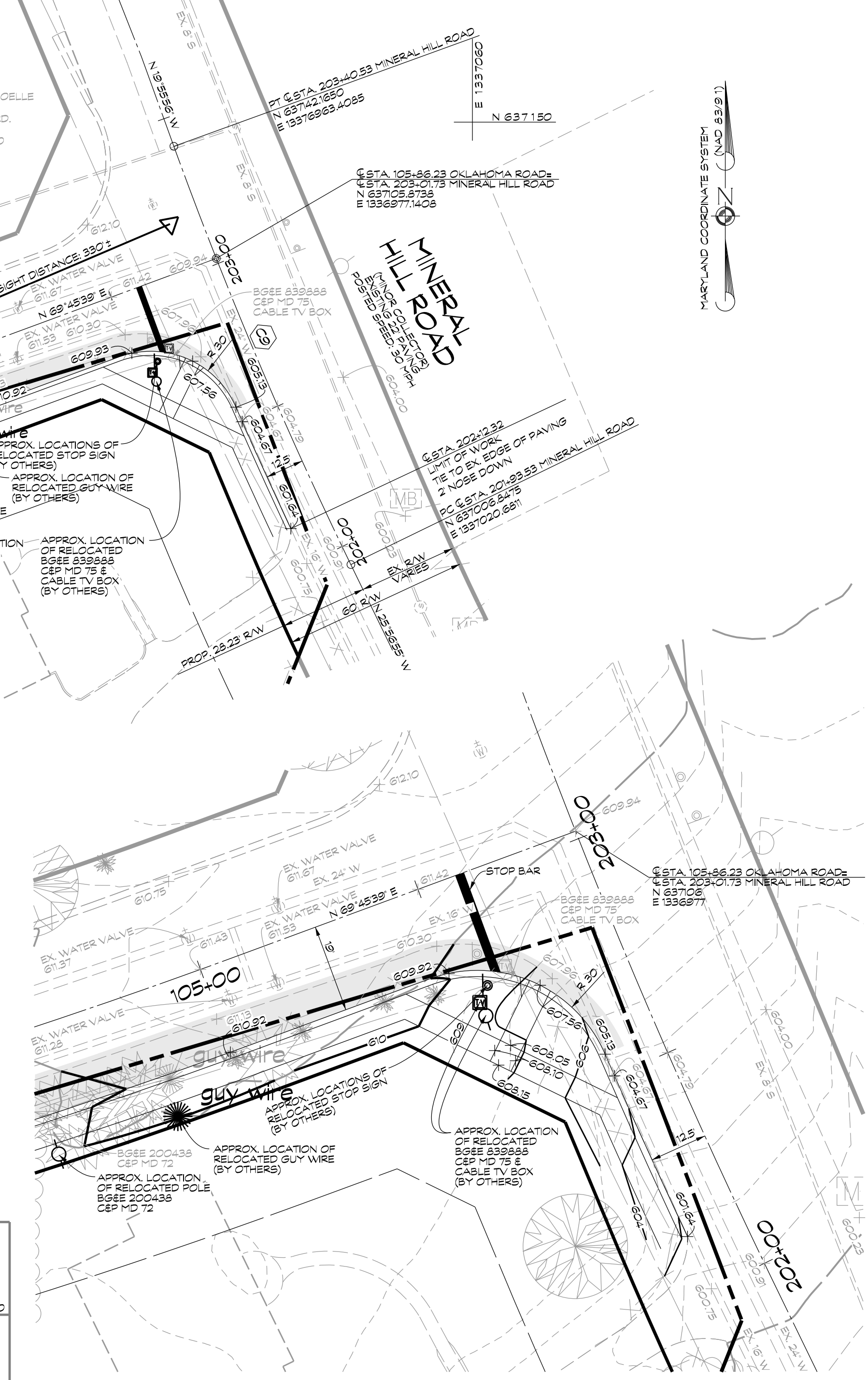
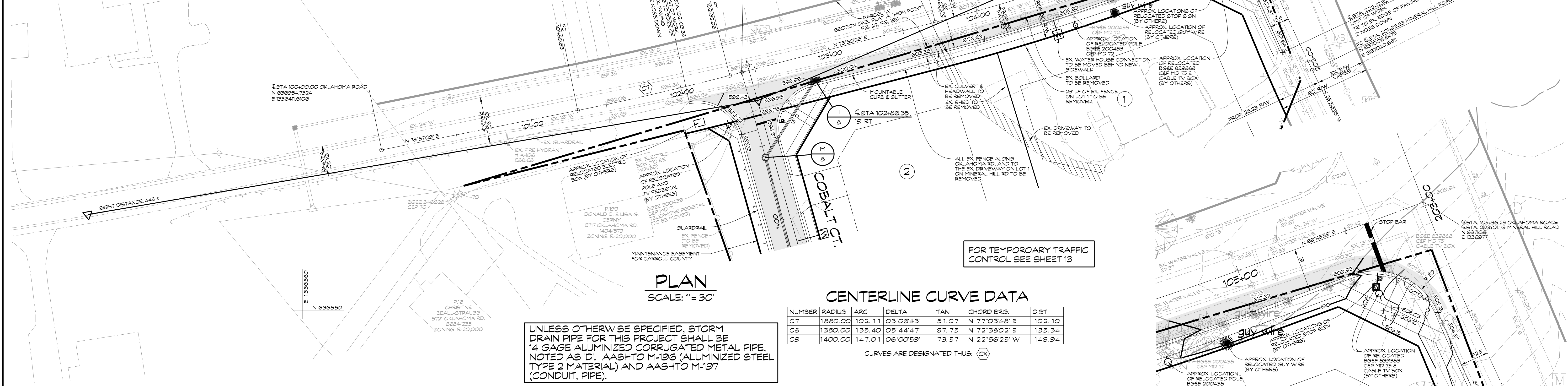
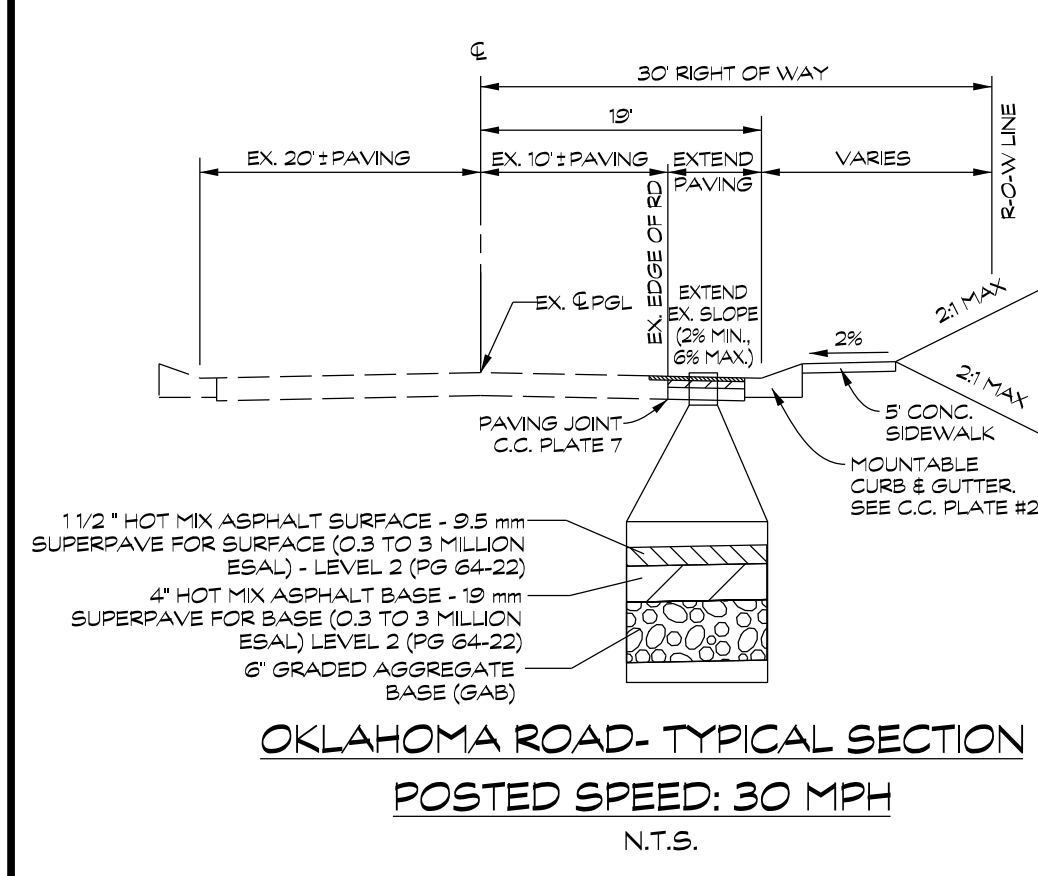
439 East Main Street Westminster, MD 21157-5539
 (410) 848-1790 FAX (410) 848-1791

3/7/2023
 Brian D. Moore, P.E.

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

Date	Revisions	Drawn By:	JW, BDM
		Designed By:	BDM
		Reviewed By:	
		Date:	MARCH, 2020
		Scale:	1" = 50'
		Job No.:	2016074
		Sheet:	8 OF 23

NOT FOR CONSTRUCTION



ROAD IMPROVEMENT PLAN AND PROFILE-
OKLAHOMA ROAD @ STA. 100+00.00 TO @ STA. 105+86.44
MINERAL HILL ROAD @ STA. 202+12.32 TO @ STA. 203+01.73

MINERAL HILL PROPERTY
"A CLUSTER SUBDIVISION"

5th ELECTION DISTRICT • CARROLL COUNTY, MARYLAND
TAX MAP: 74 • BLOCK: 3 • PARCEL: 7

NOT FOR CONSTRUCTION

CLSI
Engineers • Surveyors
Land Planning & Environmental Consultants
www.clsi-civileng.com

439 East Main Street Westminster, MD 21157-5539
(410) 848-1790 FAX (410) 848-1791

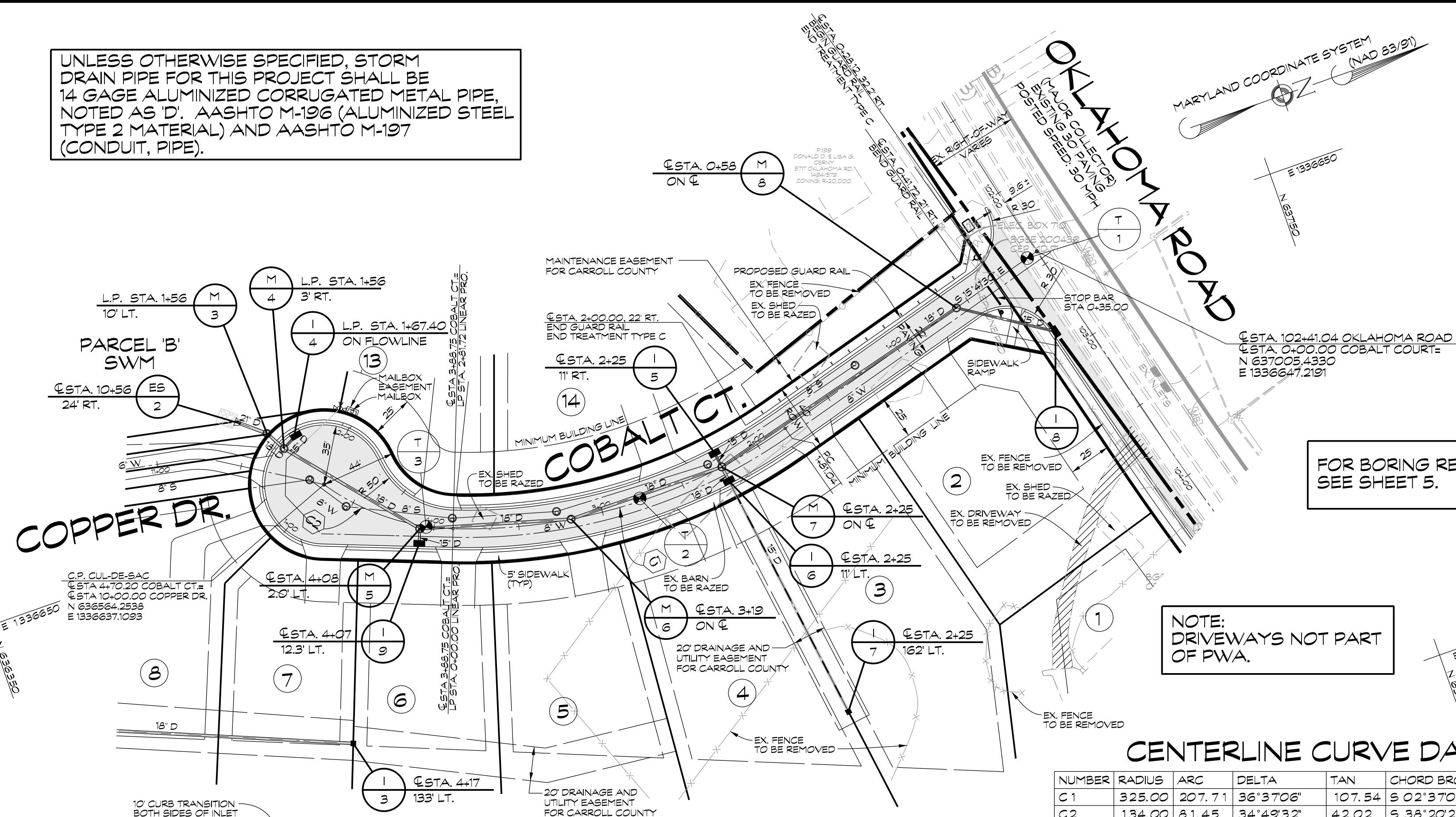
3/7/2023
Bretton D. Moore, P.E.

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED OR APPROVED BY ME AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 81288, EXPIRATION DATE: DECEMBER 1, 2025

Date	Revisions	Drawn By:
		JW
		Designed By: JW
		Reviewed By:
		Date: MARCH, 2020
		Scale: AS SHOWN
		Job No.: 2018074
		Sheet: 10 OF 23

NOT FOR CONSTRUCTION

UNLESS OTHERWISE SPECIFIED, STORM DRAIN PIPE FOR THIS PROJECT SHALL BE 14 GAGE ALUMINIZED CORRUGATED METAL PIPE, NOTED AS D. AASHTO M-196 (ALUMINIZED STEEL TYPE 2 MATERIAL) AND AASHTO M-197 (CONDUIT, PIPE).



FOR BORING RESULTS, SEE SHEET 5.

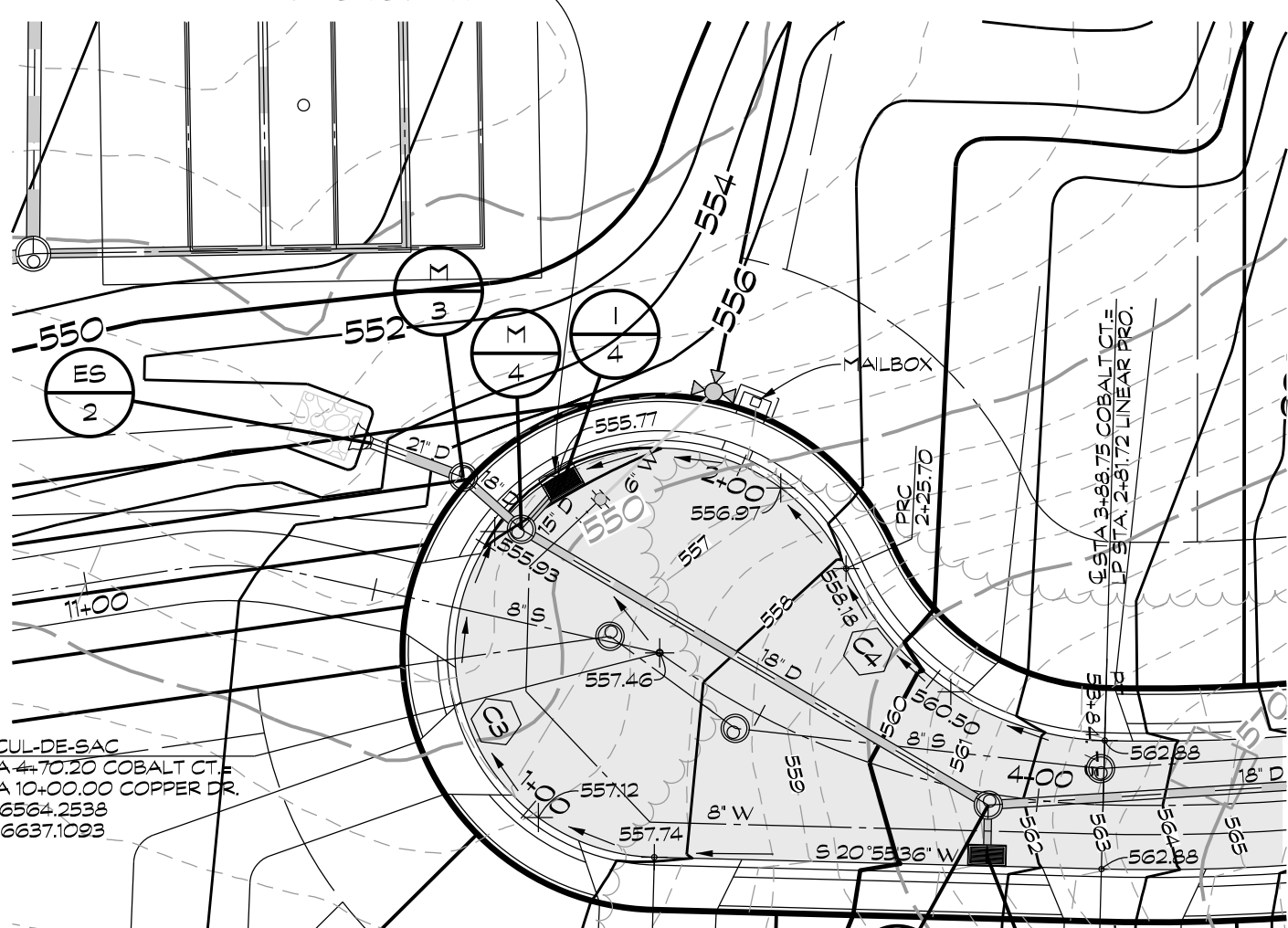
NOTE: DRIVEWAYS NOT PART OF PWA.

CENTERLINE CURVE DATA

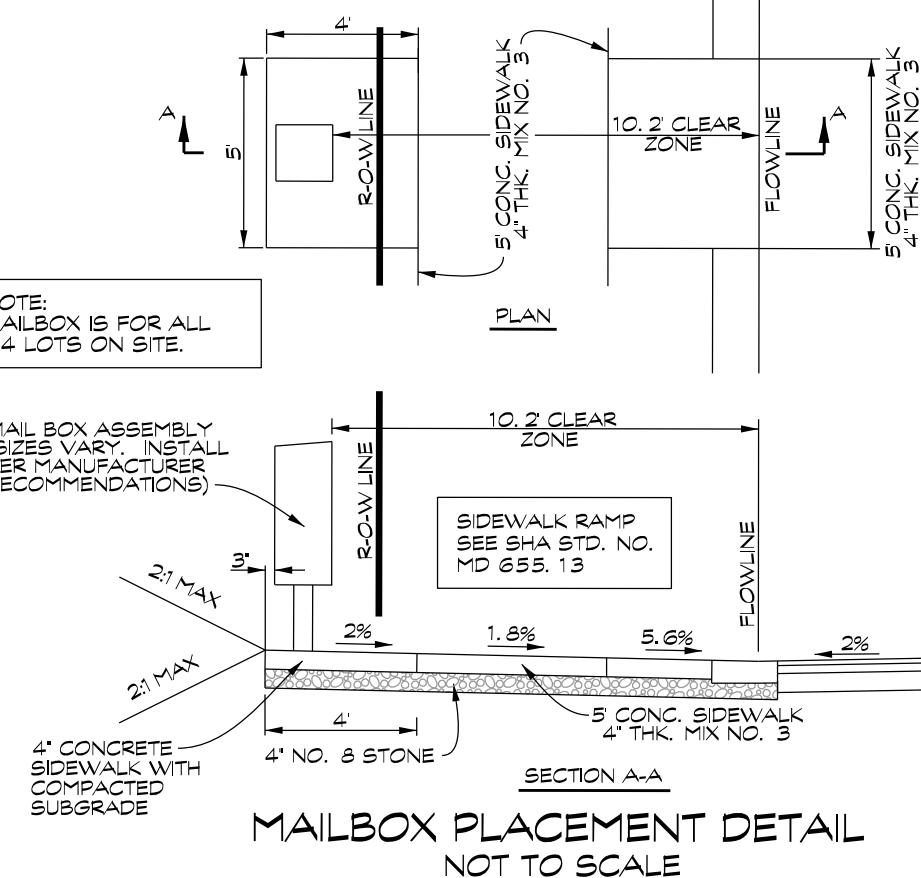
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C1	325.00	207.71	36°37'06"	107.54	S 02°37'03" W	204.19
C2	134.00	81.45	34°49'32"	42.02	S 38°20'22" W	80.20
C3	35.00	149.17	244°11'46"	-1.00	N 36°58'31" W	59.30
C4	50.00	56.02	64°11'46"	31.36	N 53°01'23" E	53.14

CURVES ARE DESIGNATED THUS: (X)

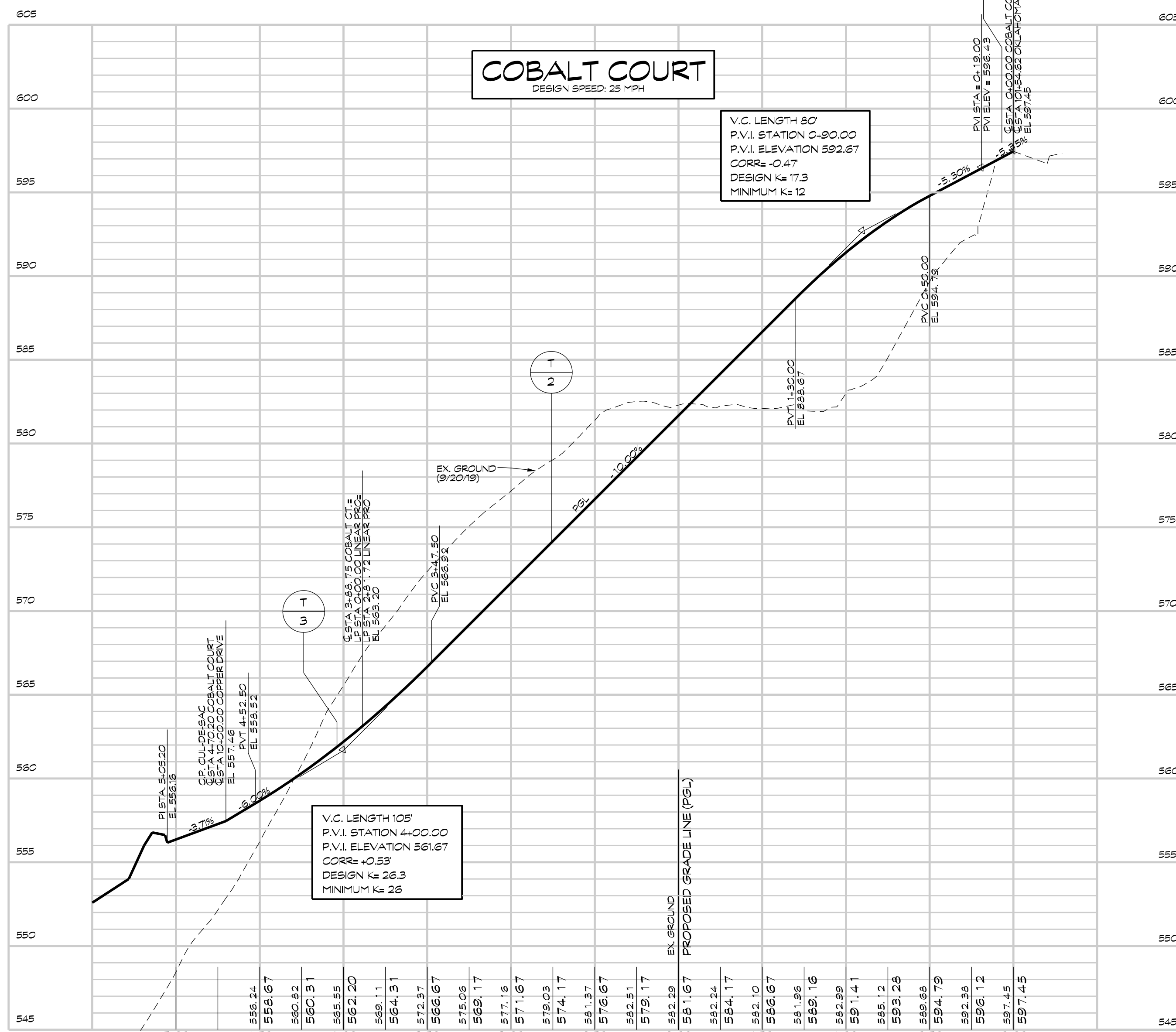
PLAN
SCALE: 1" = 50'



CUL-DE-SAC DETAIL
SCALE: 1" = 30'



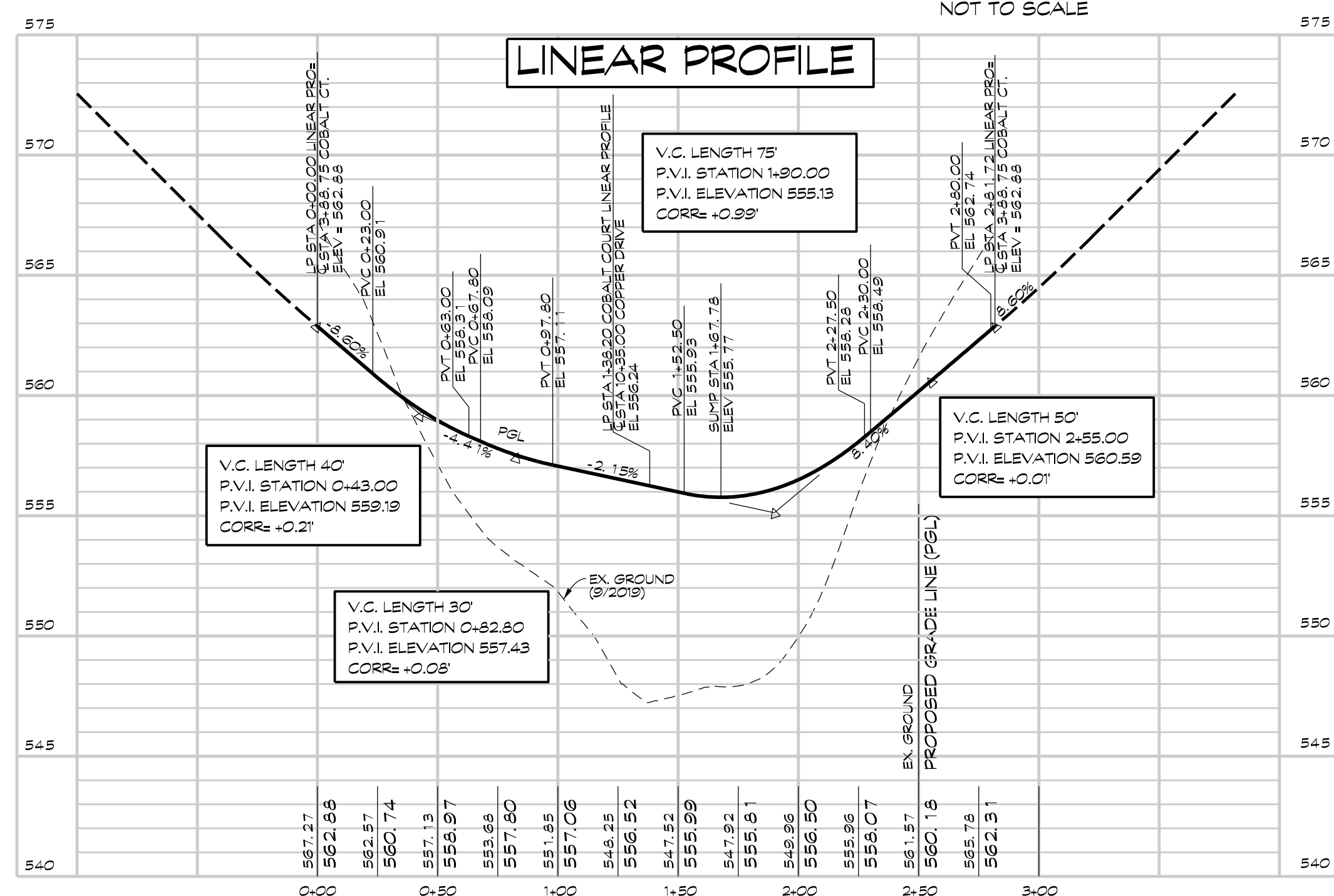
MAILBOX PLACEMENT DETAIL
NOT TO SCALE



V.C. LENGTH 80
P.V.I. STATION 0+80.00
P.V.I. ELEVATION 592.67
CORR = -0.47
DESIGN K = 17.3
MINIMUM K = 12

V.C. LENGTH 05
P.V.I. STATION 4+00.00
P.V.I. ELEVATION 561.67
CORR = +0.53
DESIGN K = 26.3
MINIMUM K = 26

PROFILES
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'

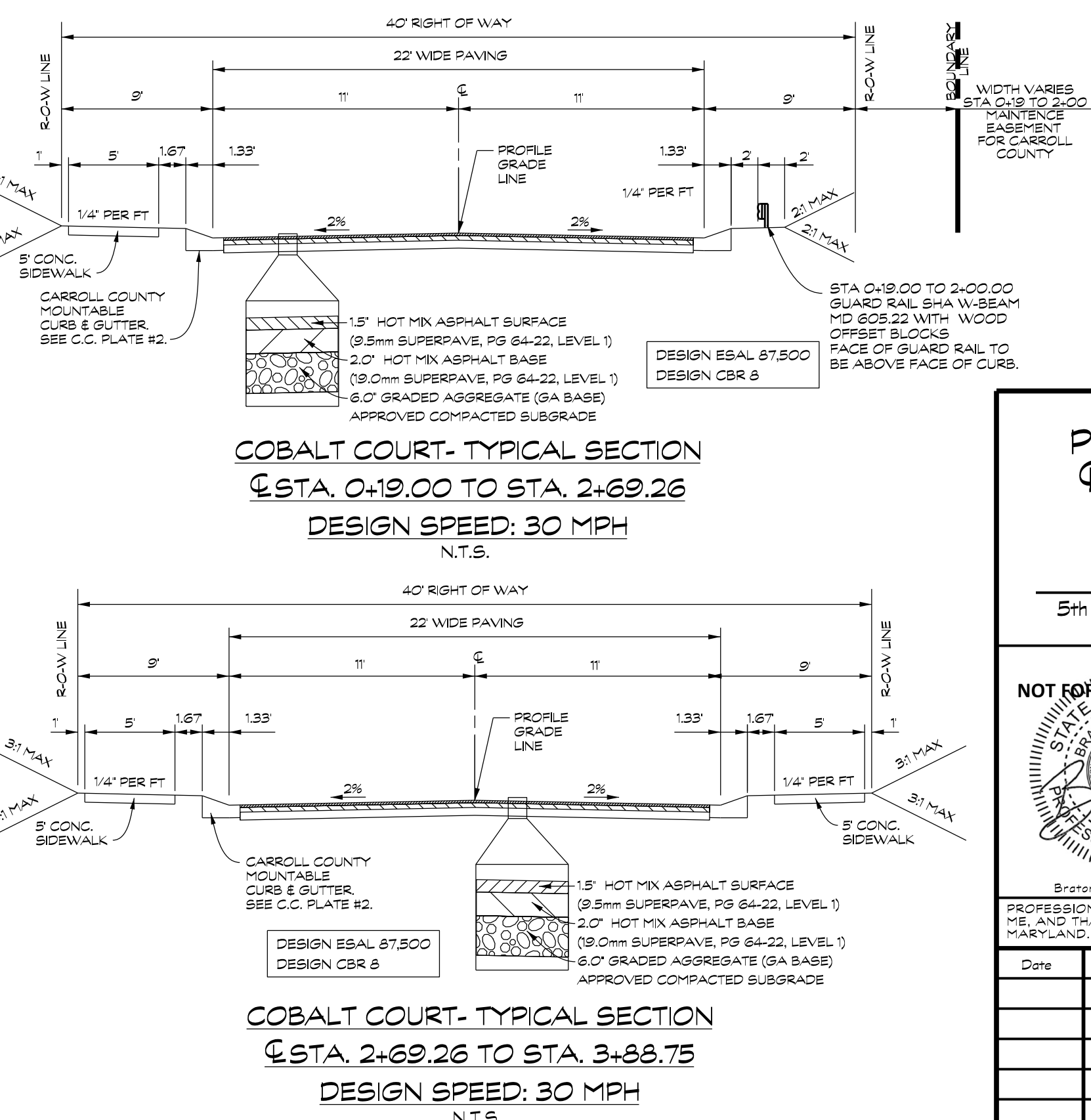


V.C. LENGTH 40
P.V.I. STATION 0+43.00
P.V.I. ELEVATION 559.19
CORR = +0.21

V.C. LENGTH 30
P.V.I. STATION 0+82.80
P.V.I. ELEVATION 557.43
CORR = -0.05

V.C. LENGTH 75
P.V.I. STATION 1+90.00
P.V.I. ELEVATION 555.13
CORR = +0.39

V.C. LENGTH 50
P.V.I. STATION 2+55.00
P.V.I. ELEVATION 560.59
CORR = -0.01



COBALT COURT-TYPICAL SECTION
STA. 0+19.00 TO STA. 2+69.26
DESIGN SPEED: 30 MPH
N.T.S.

COBALT COURT-TYPICAL SECTION
STA. 2+69.26 TO STA. 3+88.75
DESIGN SPEED: 30 MPH
N.T.S.

OWNER / DEVELOPER
MINERAL HILL PROPERTY, LLC.
11175 STRATFIELD COURT
MARROTTVILLE MD, 21104
(410) 442-2211

PLAN AND PROFILE- COBALT COURT
STA. 0+00.00 TO STA. 4+70.20

MINERAL HILL PROPERTY

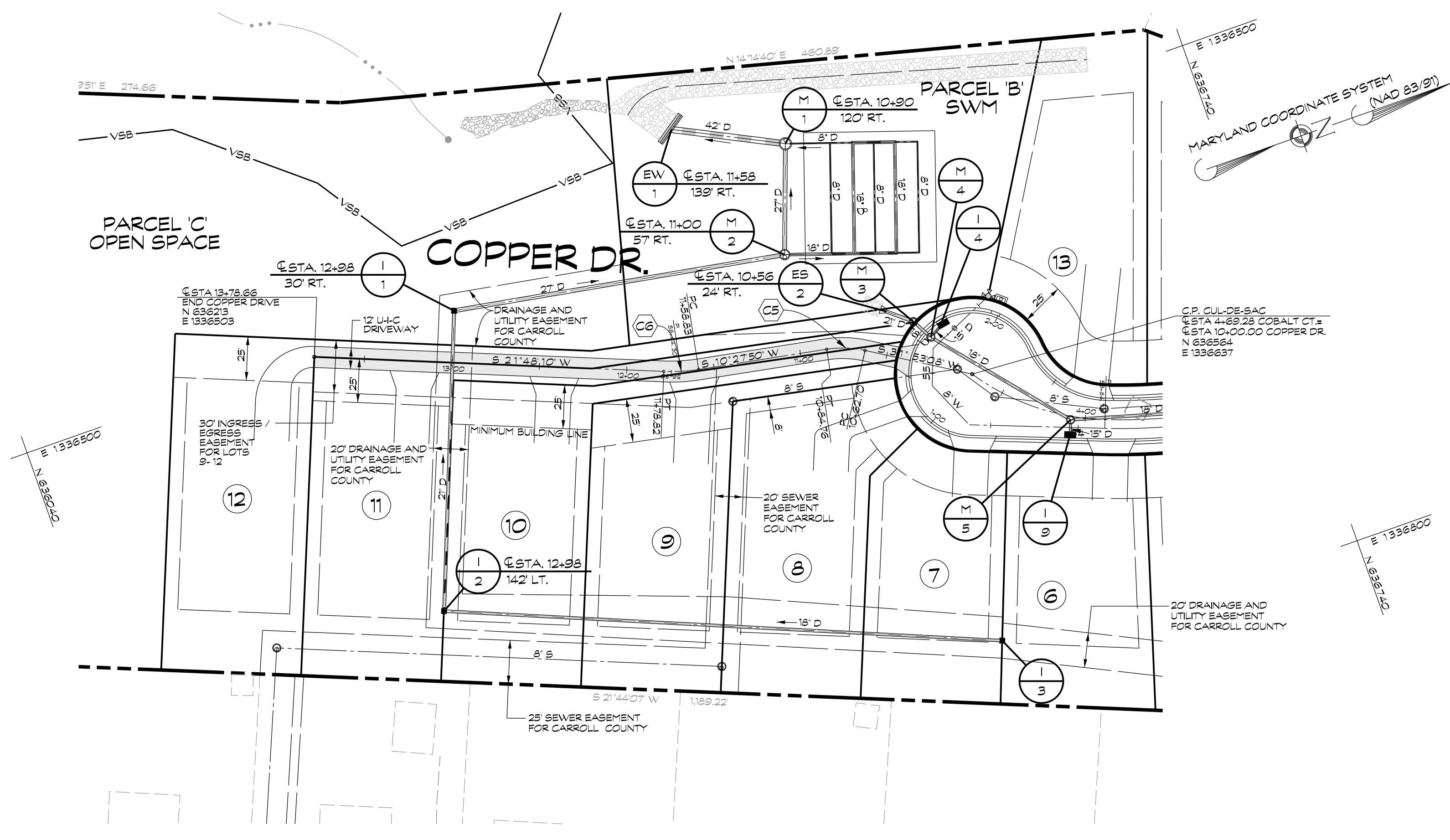
5th ELECTION DISTRICT CARROLL COUNTY, MARYLAND
TAX MAP: 74 BLOCK: 3 PARCEL: 7



439 East Main Street Westminster, MD 21157-5539
(410) 848-1790 FAX (410) 848-1791

Date	Revisions	Drawn By:	JW
		Designed By:	JW
		Reviewed By:	
		Date:	MARCH, 2020
		Scale:	AS SHOWN
		Job No.:	2018074
		Sheet:	11 OF 23

NOT FOR CONSTRUCTION

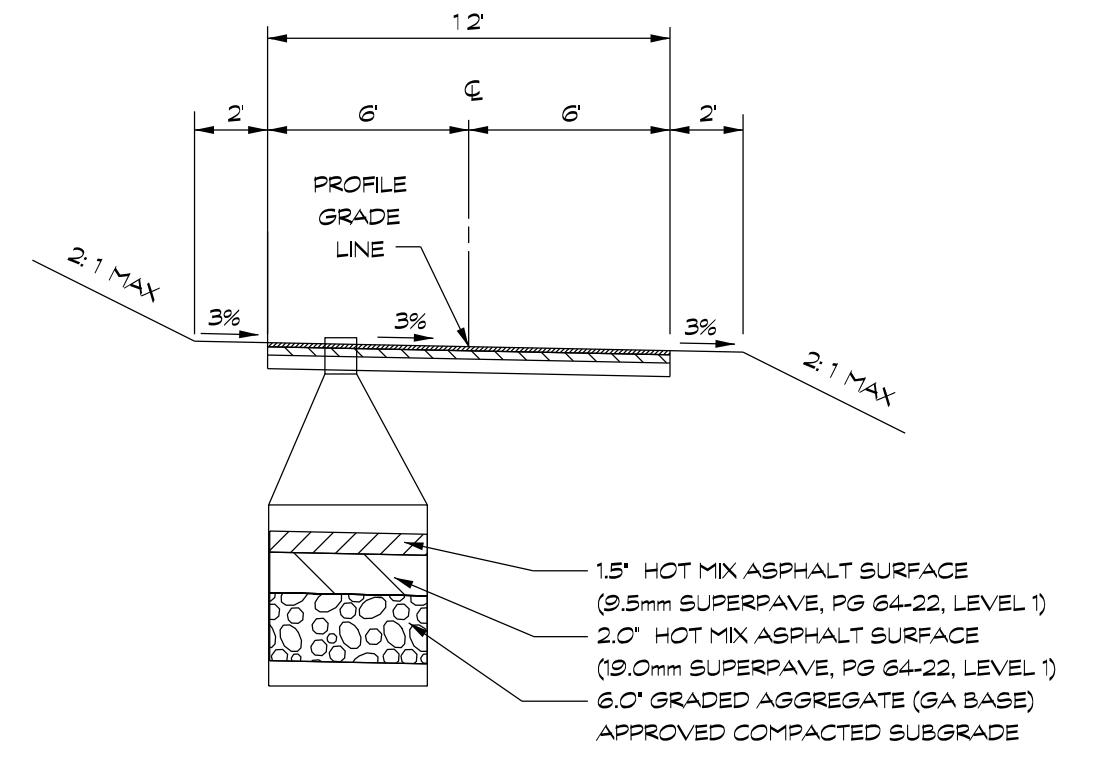


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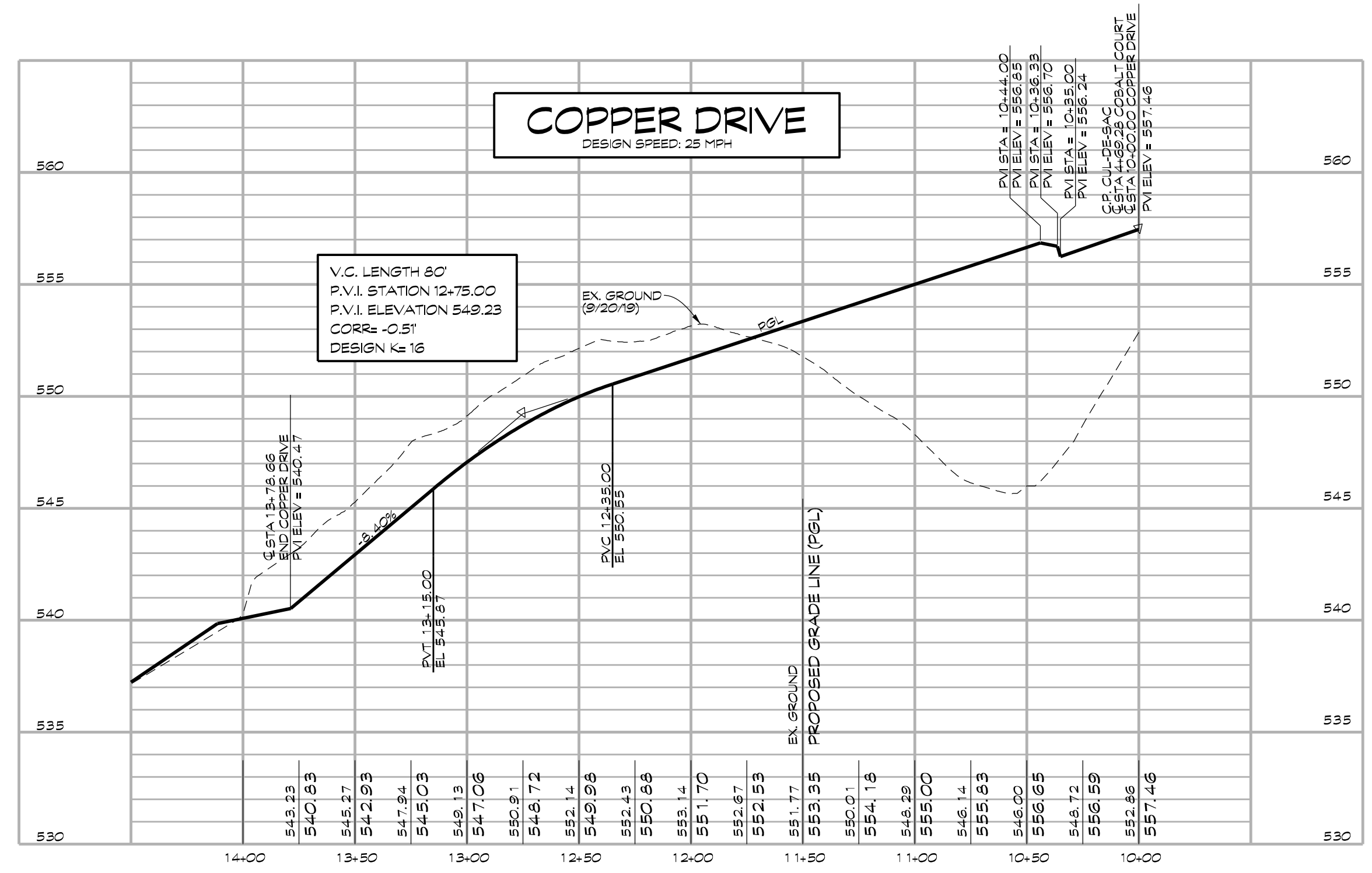
CENTERLINE CURVE DATA

NUMBER	RADIUS	ARC	DELTA	TAN	CHORD BRG.	DIST
C5	59.00	22.06	21°25'17"	11.16	S 21°10'29" W	21.93
C6	101.00	19.89	11°20'20"	10.03	S 16°08'00" W	19.95

CURVES ARE DESIGNATED THUS: (CX)



PLAN
SCALE: 1"= 50'



PROFILE
SCALE: HORIZ. 1"= 50'
VERT. 1"= 5'

OWNER / DEVELOPER
MINERAL HILL PROPERTY, LLC.
11175 STRATFIELD COURT
MARROTTSVILLE MD, 21104
(410) 442-2211

PLAN AND PROFILE- COPPER DRIVE
STA. 10+00.00 TO STA. 13+78.66

MINERAL HILL PROPERTY

5th ELECTION DISTRICT · CARROLL COUNTY, MARYLAND
TAX MAP: 74 · BLOCK: 3 · PARCEL: 7

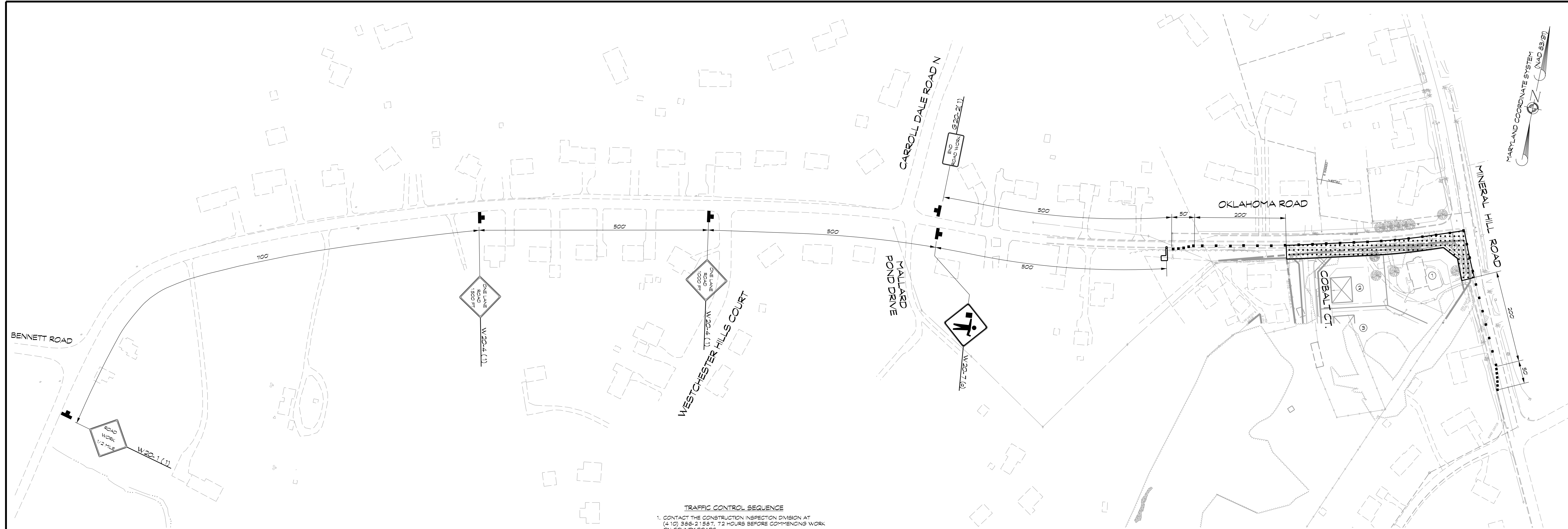


439 East Main Street Westminster, MD 21157-5539
(410) 848-1790 FAX (410) 848-1791

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Date	Revisions	Drawn By:	JW
		Designed By:	JW
		Reviewed By:	
		Date:	MARCH, 2020
		Scale:	AS SHOWN
		Job No.:	2018074
		Sheet:	12 OF 23

NOT FOR CONSTRUCTION



TRAFFIC CONTROL SEQUENCE

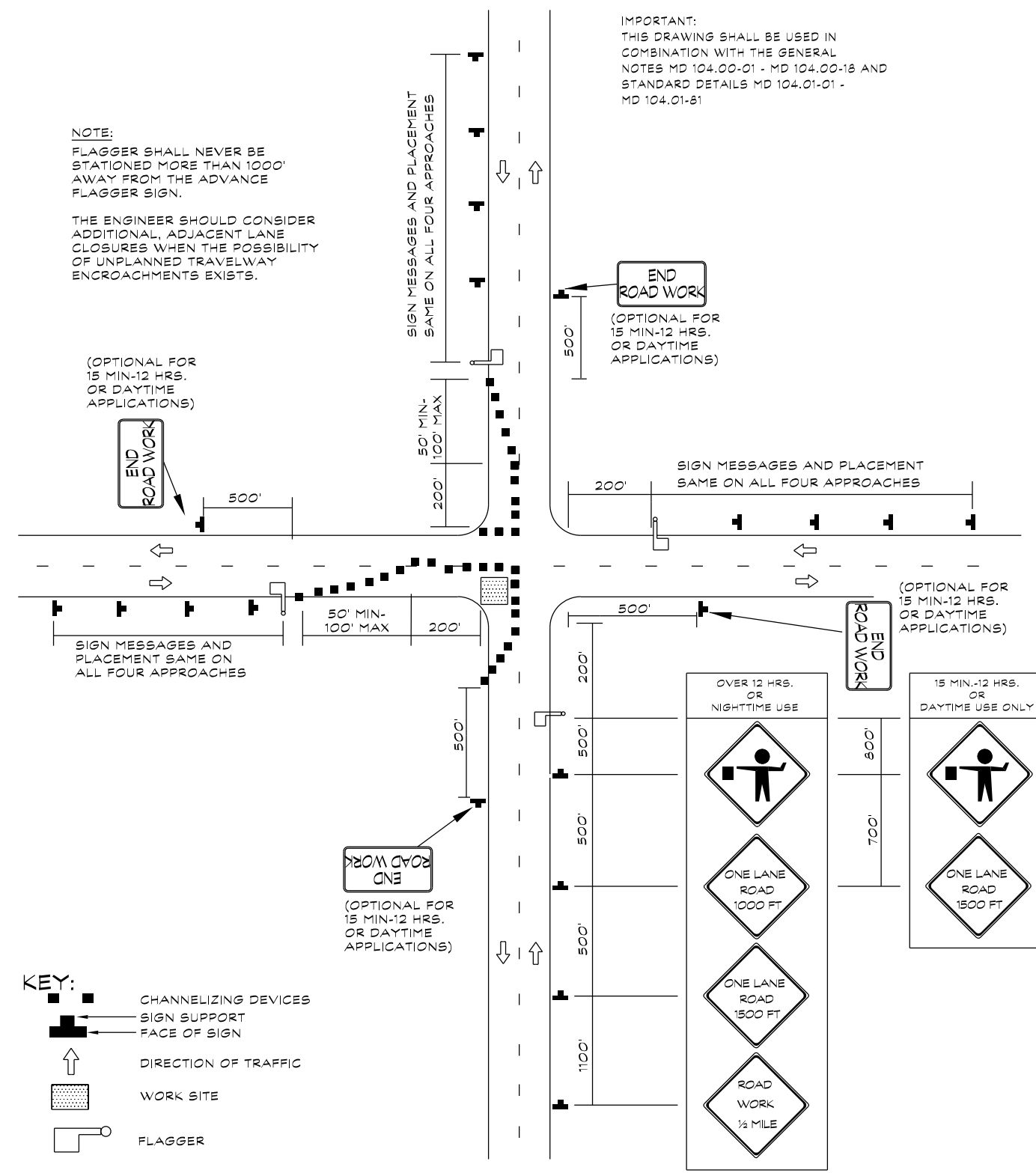
1. CONTACT THE CONSTRUCTION INSPECTION DIVISION AT (410) 386-2157, 72 HOURS BEFORE COMMENCING WORK ON COUNTY ROADS.
2. PLACE TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) AND MARYLAND S.H.A. TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATIONS (TTCTA) STANDARD NO. 104. SET UP TRAFFIC CONTROL AS AN INTERSECTION FLAGGING OPERATION. USE TTCTA STANDARD NO. MD 104.02-14.
3. TRAFFIC CONTROL DEVICES MUST BE LEFT IN PLACE UNTIL APPROVAL FOR REMOVAL IS GIVEN BY THE INSPECTOR IN THE FIELD.
4. CONTRACTOR SHALL PROVIDE UNINTERRUPTED ACCESS TO ALL PRIVATE AND COMMERCIAL DRIVEWAY ENTRANCES DURING CONSTRUCTION AND REPAIR THOSE DRIVEWAYS AS NECESSARY.
5. IF MODIFICATION BECOMES NECESSARY IN FIELD, TRAFFIC CONTROL DEVICES AND PROCEDURES SHALL MEET THE MINIMUM REQUIREMENTS OF S.H.A. TTCTA STANDARD NO. 104.02-14 FOR INTERSECTION FLAGGING OPERATION 2-LANE / 2-WAY / EQUAL / LESS THAN 40 MPH.

TEMPORARY TRAFFIC CONTROL GENERAL NOTES

1. It is the responsibility of the Contractor performing the work on or adjacent to a public road to provide, install and maintain appropriate traffic control devices in accordance with the latest edition of the Maryland Manual on Uniform Traffic Control Devices (MD MUTCD) for the traveling public, pedestrians, bicyclists, road workers, etc. at all times.
2. The Contractor shall notify the Department of Public Works (DPW) Construction Inspection Division at 410-386-2157 three (3) working days in advance of any construction on or adjacent to a county road, including installation of traffic control devices. If DPW Construction Inspection Division is not notified they can stop all work until they are comfortable it is safe for the contractor to proceed.
3. All standard regulatory and warning signs, barricades and other traffic control devices shall be in accordance with the latest edition of the MD MUTCD, Maryland State Highway Administration Standard Specifications for Construction and Materials, the NCHRP 350 and approved by the DPW Construction Inspection Division.
4. The Contractor shall follow the latest standards in accordance with the MSHA Book of Standard for Highways Incidental Structures and the approved Maryland State Highway Administration products list. The standards can be found at www.roads.maryland.gov / Book of Standards - for Highway and Incidental Structures / Category 1 - Preliminary.
5. Work shall not be performed until all applicable traffic control devices are in place. Traffic control devices must be in place any time work in or adjacent to a public road is in progress.
6. Traffic control devices shall be removed when work is not in progress. If approved by the DPW Construction Inspection Division signs may be covered so that the message is not visible to drivers.
7. Locations of devices may be modified as directed by the DPW Construction Inspection Division to accommodate field conditions.
8. The Contractor shall be responsible for maintaining all traffic control devices and immediately replace any which are missing or determined by the DPW Construction Inspection Division to be unsuitable for use.
9. All signs that are to be part of a work zone for more than three (3) days shall be placed on posts.
10. Collector or higher classification county roadways work hours are 9:00 AM and 3:00 PM Monday through Friday, unless approved otherwise by DPW.
11. Access to driveways shall be maintained at all times unless other arrangements are made.
12. Channelizing devices shall be extended to a point where they are visible to approaching traffic. A full length taper shall always be provided in advance of curves.
13. If flaggers are not able to see each other two-way radio communications shall be used.
14. Warning signs shall be mounted in accordance with SHA Standard No. MD 104.01-17A through D or as directed by DPW.
15. When pavement drop offs are present the Contractor shall place temporary traffic control devices, including signs, channelizing devices and barriers, as well as slope fillet wedges in accordance with SHA Standard No. MD 104.06-15 through 104.06-19. The engineer may recommend alternative methods to protect the pavement edge; considering factors such as pedestrians, bicycles, traffic volumes, vehicle speeds, size of the work zone, duration of work, etc.
16. Portable variable message signs may be required by DPW Construction Inspection Division's discretion.
17. Any corrections, modifications or additions to this plan must be approved by the Bureau of Development Review, Engineering Review, through the red-line revision process.

Revised 01/11/2019

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION



**INTERSECTION FLAGGING OPERATION
2-LANE, 2-WAY EQL / LESS THAN 40 MPH
MD 104.02-14**

OWNER / DEVELOPER

MINERAL HILL PROPERTY, LLC.
11175 STRATFIELD COURT
MARRIOTTVILLE MD, 21104
(410) 442-2211

**TEMPORARY TRAFFIC CONTROL PLAN,
NOTES AND DETAILS
OKLAHOMA ROAD
MINERAL HILL PROPERTY
A CLUSTER SUBDIVISION**

5th ELECTION DISTRICT • CARROLL COUNTY, MARYLAND
TAX MAP: 74 • BLOCK: 3 • PARCEL: 7

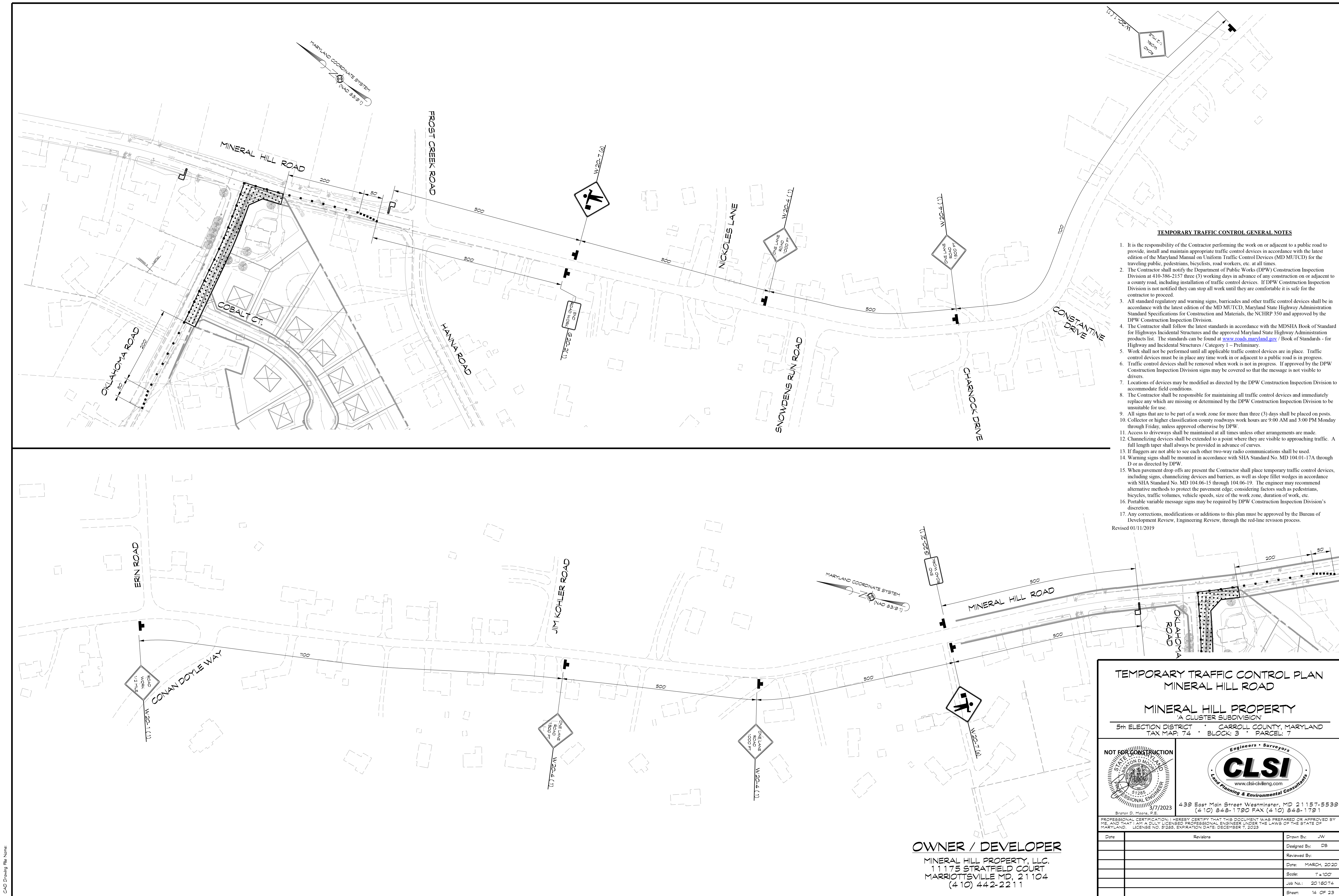


439 East Main Street Westminster, MD 21157-5539
(410) 848-1790 FAX (410) 848-1791

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Date	Revisions	Drawn By:	JW
		Designed By:	DB
		Reviewed By:	
		Date:	MARCH, 2020
		Scale:	1" = 100'
		Job No.:	2018074
		Sheet:	13 OF 23

NOT FOR CONSTRUCTION



TEMPORARY TRAFFIC CONTROL GENERAL NOTES

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17. Any corrections, modifications or additions to this plan must be approved by the Bureau of Development Review, Engineering Review, through the red-line revision process.

Revised 01/11/2019

**TEMPORARY TRAFFIC CONTROL PLAN
MINERAL HILL ROAD**

**MINERAL HILL PROPERTY
A CLUSTER SUBDIVISION**

5th ELECTION DISTRICT CARROLL COUNTY, MARYLAND
TAX MAP: 74 BLOCK: 3 PARCEL: 7



439 East Main Street Westminster, MD 21157-5539
(410) 848-1790 FAX (410) 848-1791

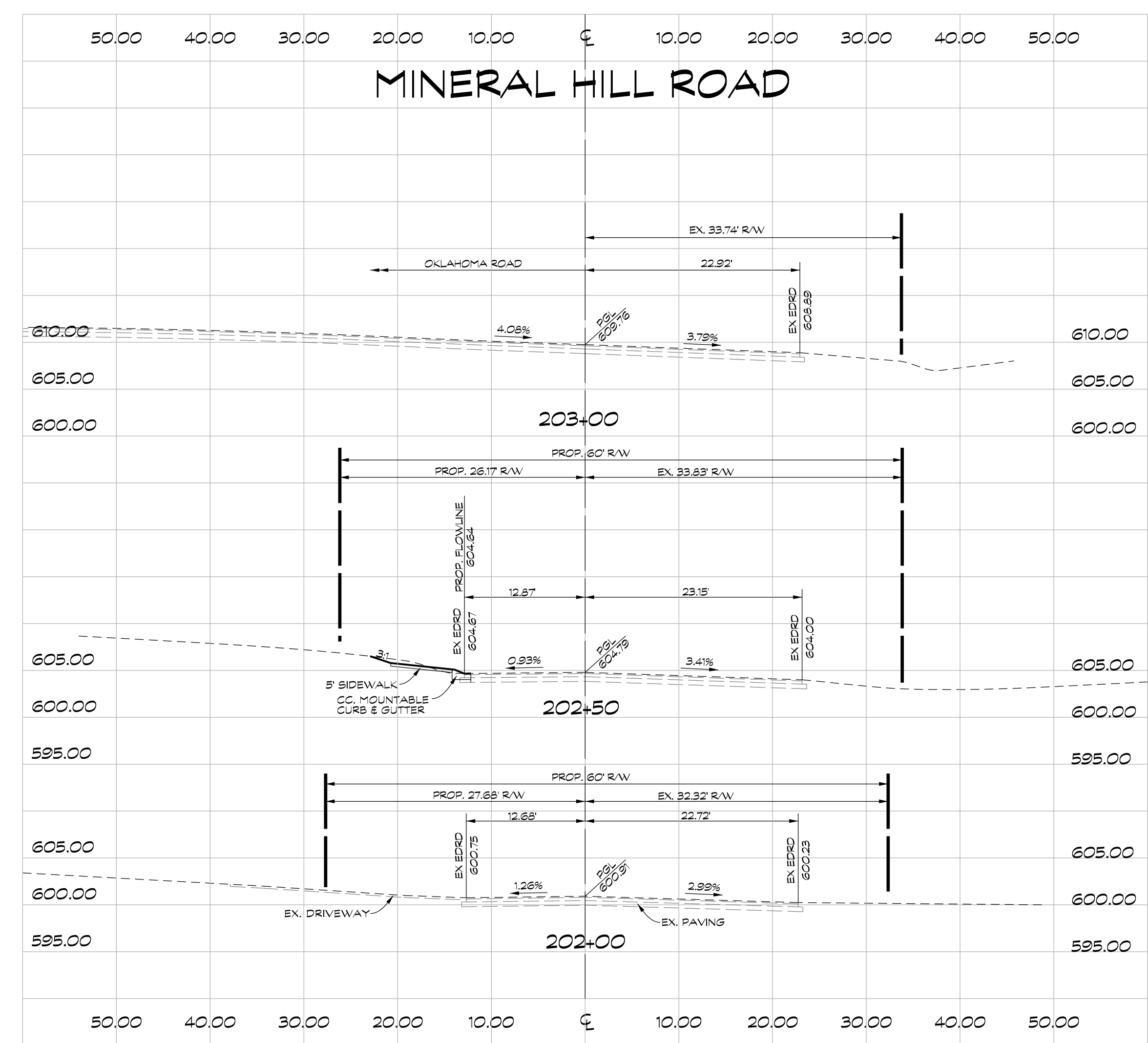
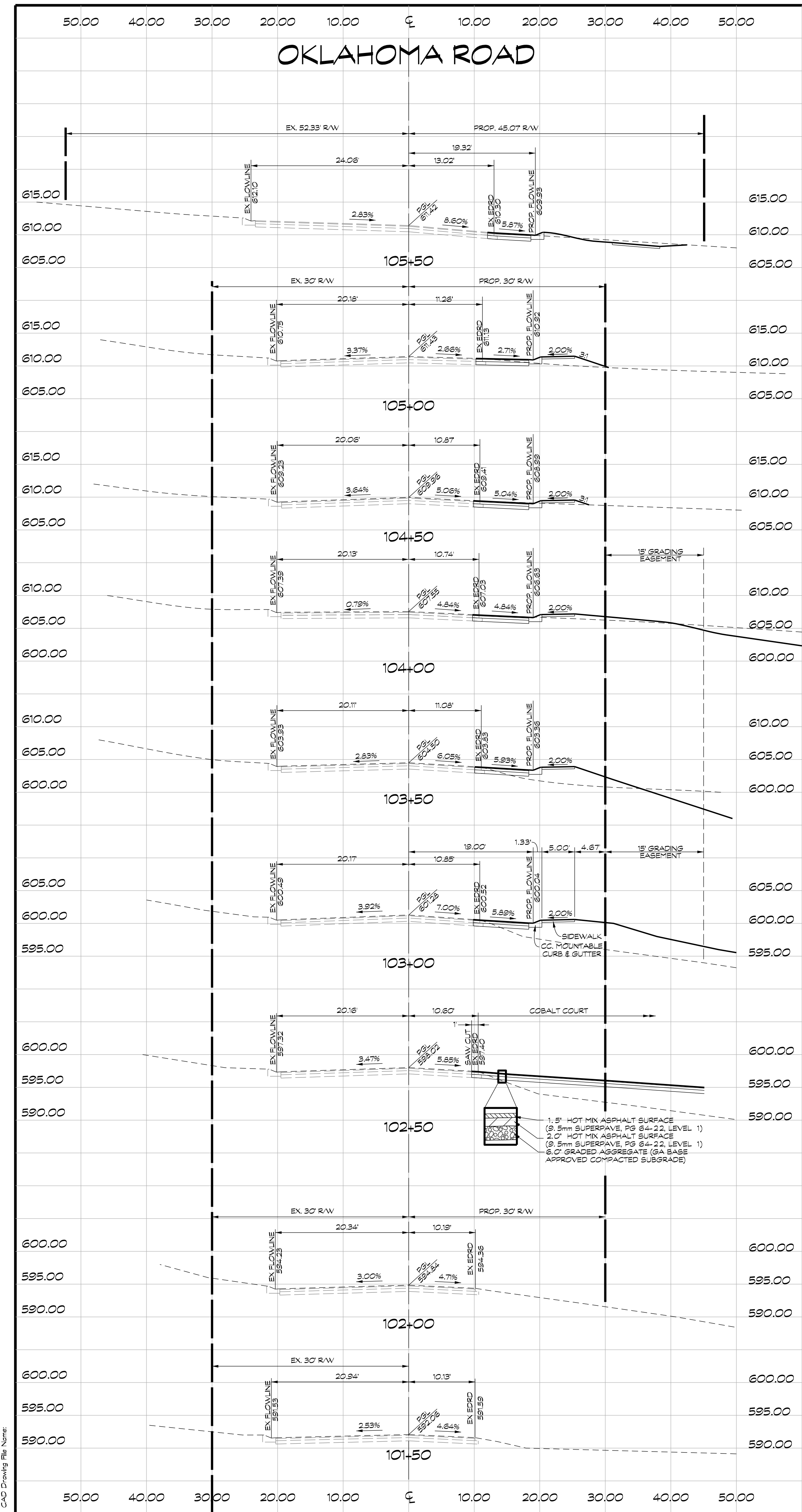
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Date	Revisions	Drawn By:
		JW
		Designed By: DB
		Reviewed By:
		Date: MARCH, 2020
		Scale: 1" = 100'
		Job No.: 2018074
		Sheet: 14 OF 23

OWNER / DEVELOPER

MINERAL HILL PROPERTY, LLC.
11175 STRATFIELD COURT
MARRIOTTVILLE MD, 21104
(410) 442-2211

NOT FOR CONSTRUCTION



OWNER / DEVELOPER
 MINERAL HILL PROPERTY, LLC.
 11175 STRATFIELD COURT
 MARROTTSVILLE MD, 21104
 (410) 442-2211

CROSS SECTIONS- OKLAHOMA ROAD
 & STA. 101+50 TO & STA. 105+50 &
 MINERAL HILL ROAD
 & STA. 202+00 TO & STA. 203+00
 MINERAL HILL PROPERTY

5th ELECTION DISTRICT CARROLL COUNTY, MARYLAND
 TAX MAP: 74 BLOCK: 3 PARCEL: 7

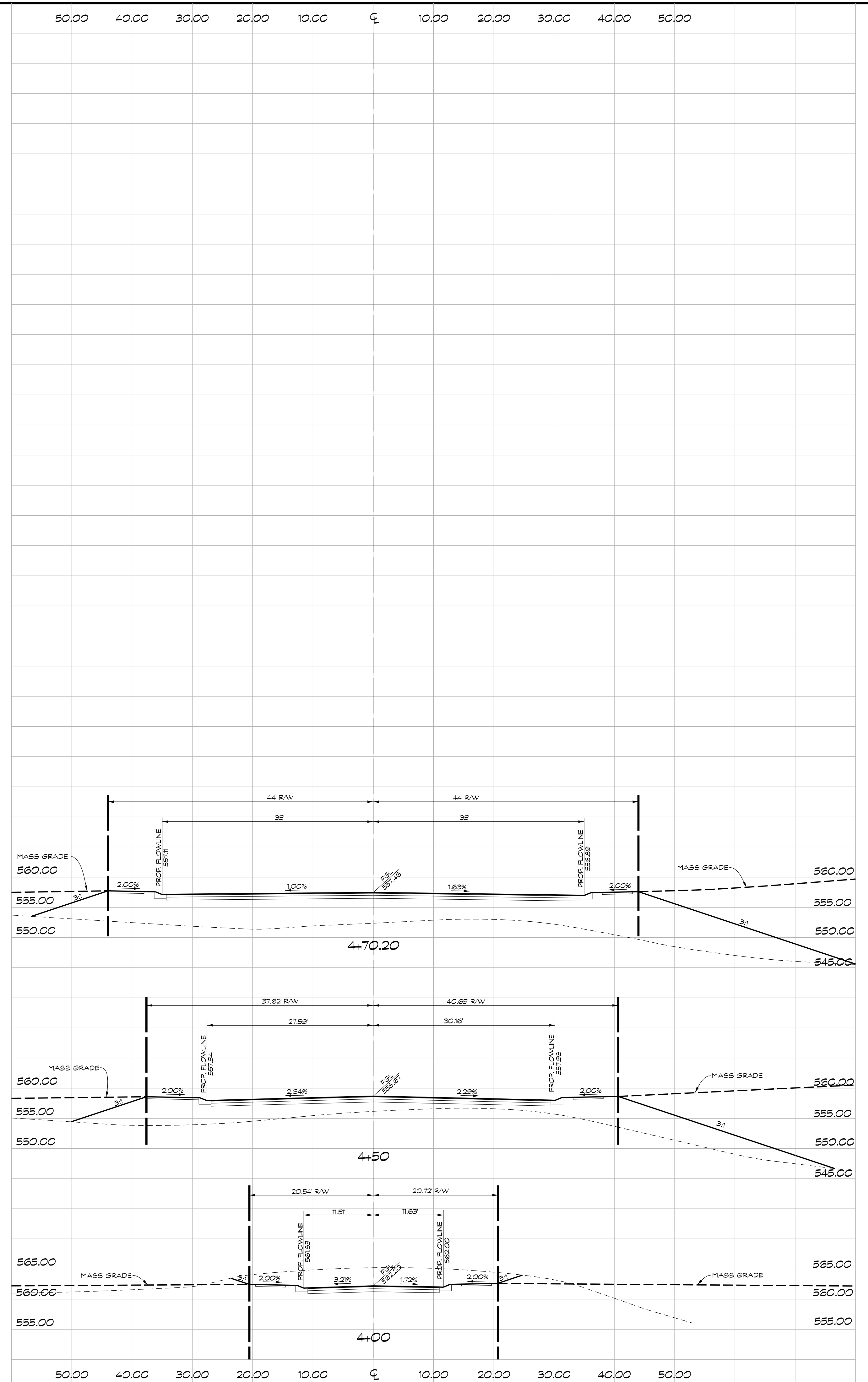
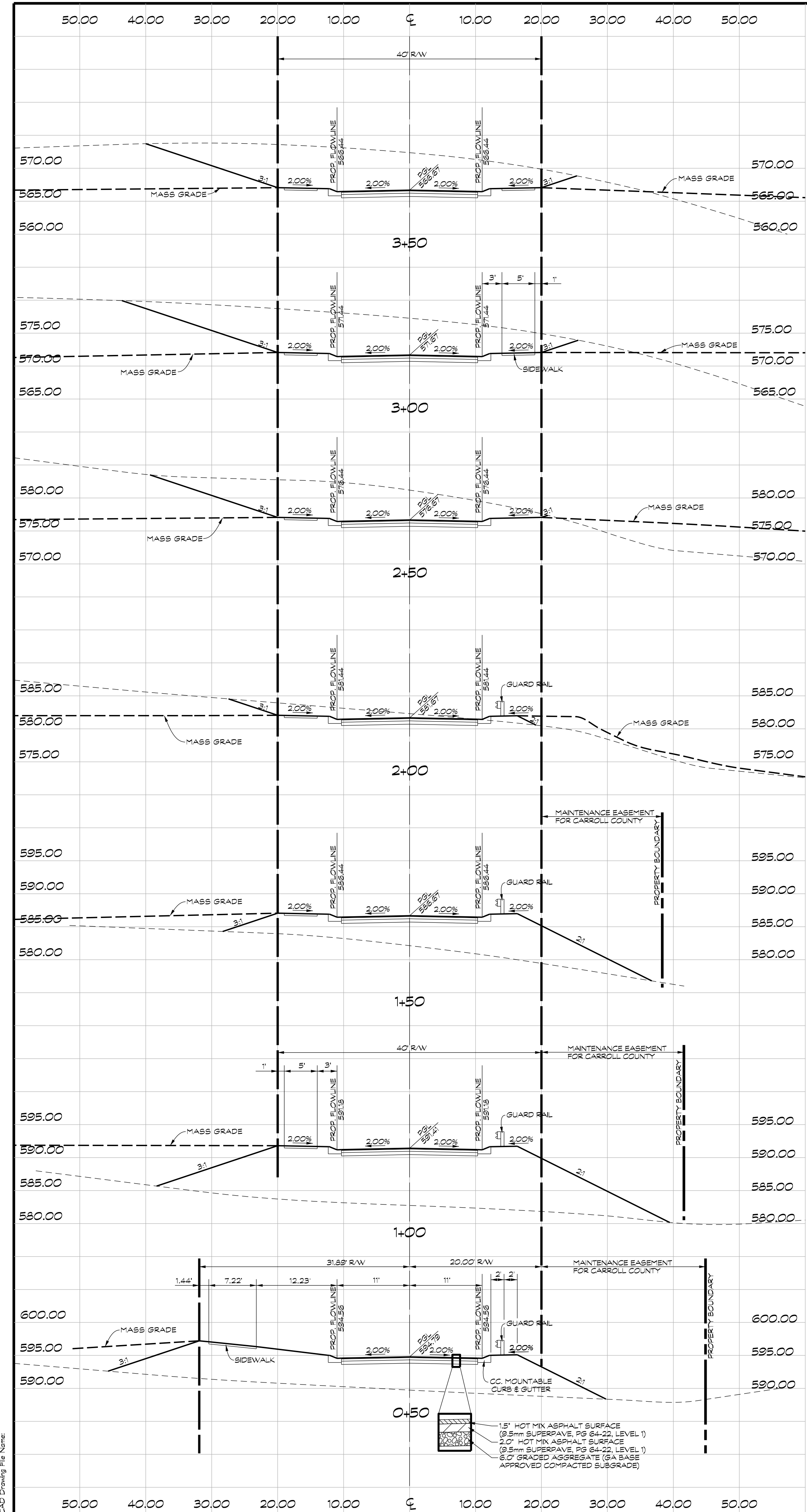


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Date	Revisions	Drawn By: JW
		Designed By: JW
		Reviewed By:
		Date: MARCH, 2020
		Scale: 1" = 10'
		Job No.: 2018074
		Sheet: 15 OF 23

NOT FOR CONSTRUCTION



OWNER / DEVELOPER
 MINERAL HILL PROPERTY, LLC.
 11175 STRATFIELD COURT
 MARRIOTTSTVILLE MD, 21104
 (410) 442-2211

CROSS SECTIONS- COBALT COURT
 STA. 0+50 TO STA. 4+70.20

MINERAL HILL PROPERTY

5th ELECTION DISTRICT • CARROLL COUNTY, MARYLAND
 TAX MAP: 74 • BLOCK: 3 • PARCEL: 7

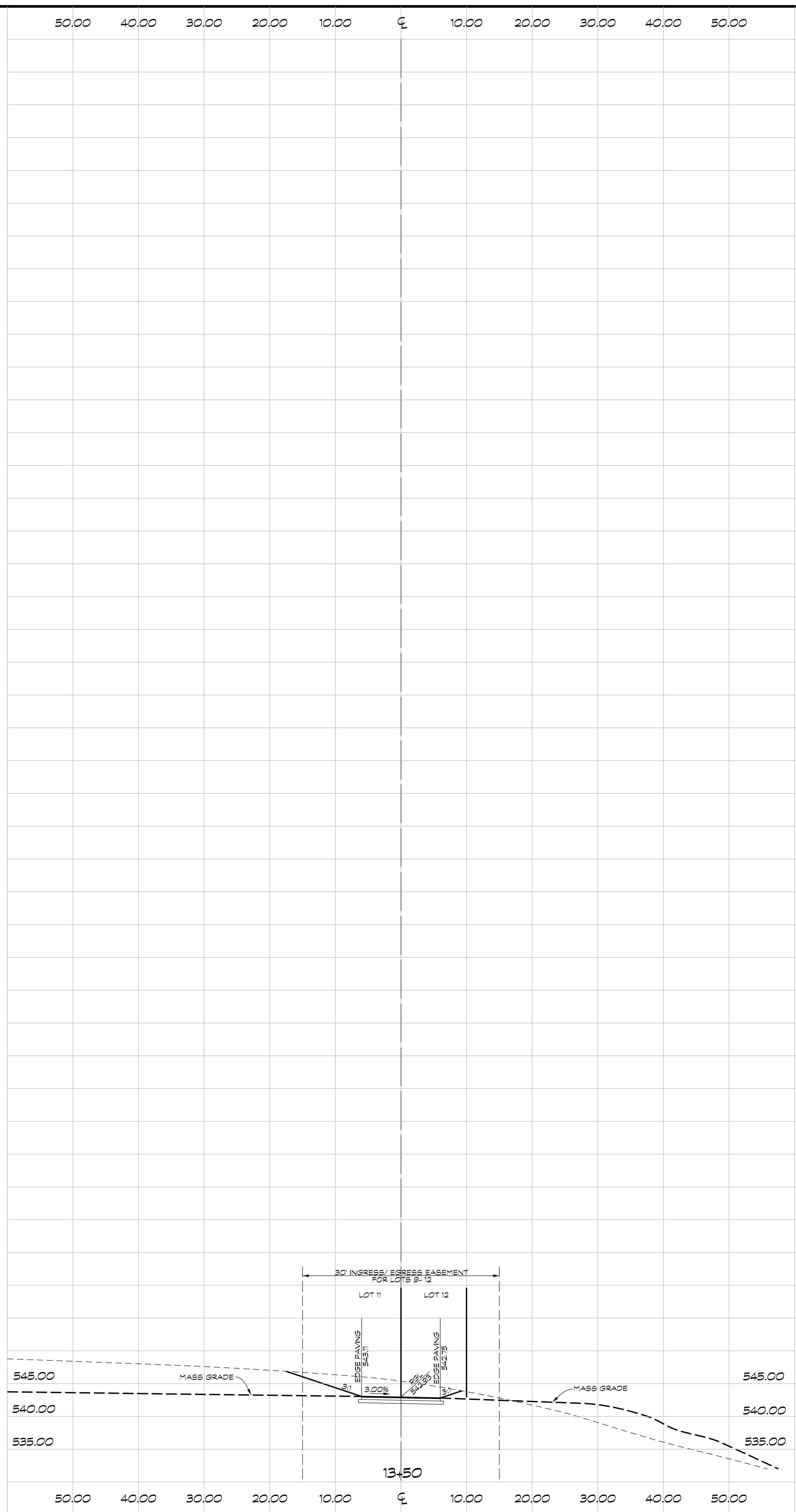
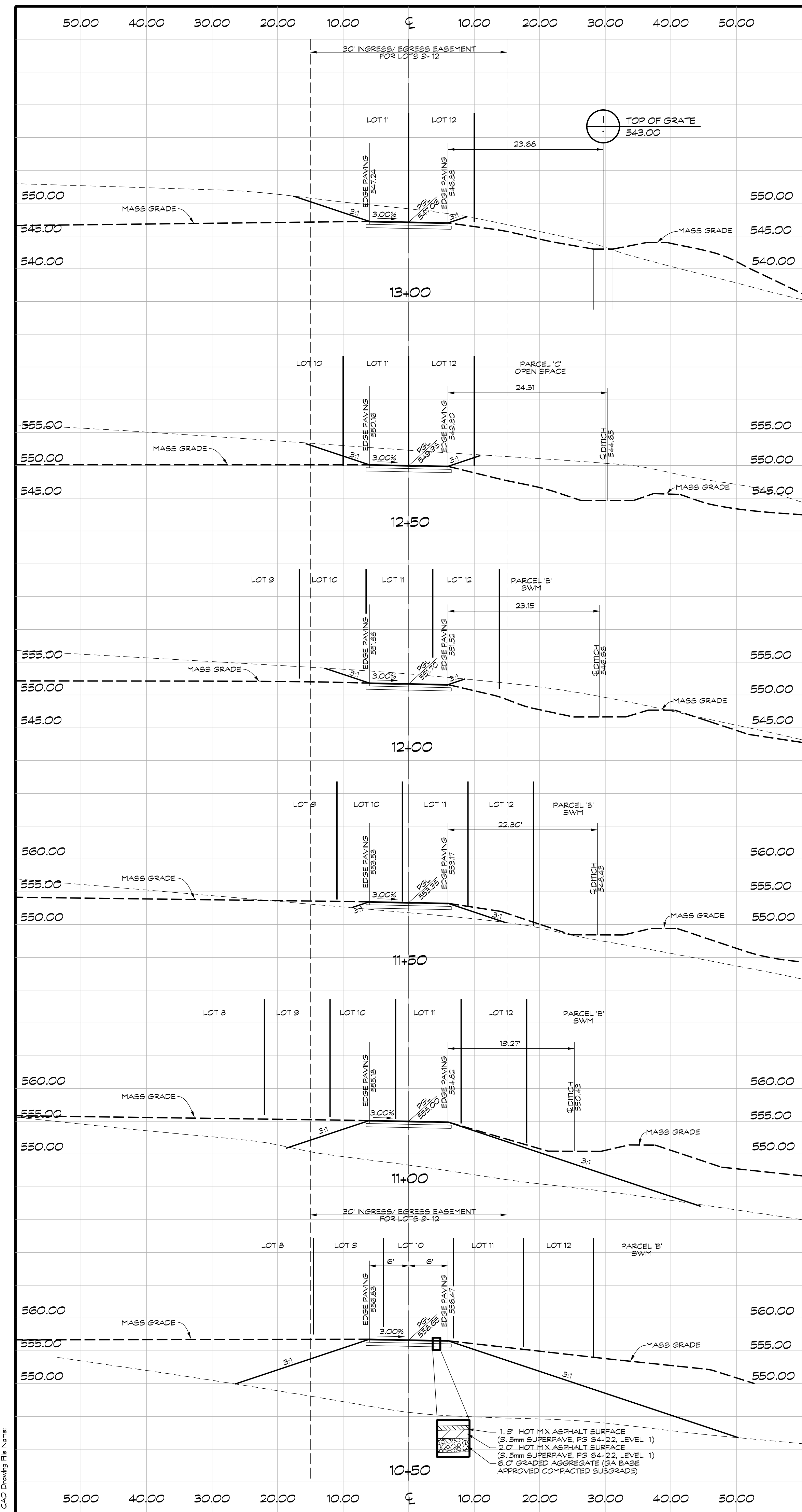


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Date	Revisions	Drawn By: JW
		Designed By: JW
		Reviewed By:
		Date: MARCH, 2020
		Scale: 1" = 10'
		Job No.: 2018074
		Sheet: 16 OF 23

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- 1.5" HOT MIX ASPHALT SURFACE
- (3) 5mm SUPERPAVE, PG 64-22, LEVEL 1)
- 2.0" HOT MIX ASPHALT SURFACE
- (3) 5mm SUPERPAVE, PG 64-22, LEVEL 1)
- 6.0" GRADED AGGREGATE (GA, BASE)
- APPROVED COMPACTED SUBGRADE)

OWNER / DEVELOPER
 MINERAL HILL PROPERTY, LLC.
 11175 STRATFIELD COURT
 MARRIOTTSVILLE MD, 21104
 (410) 442-2211

CROSS SECTIONS- COPPER DRIVE
 CL STA. 10+50 TO CL STA. 13+50.00

MINERAL HILL PROPERTY

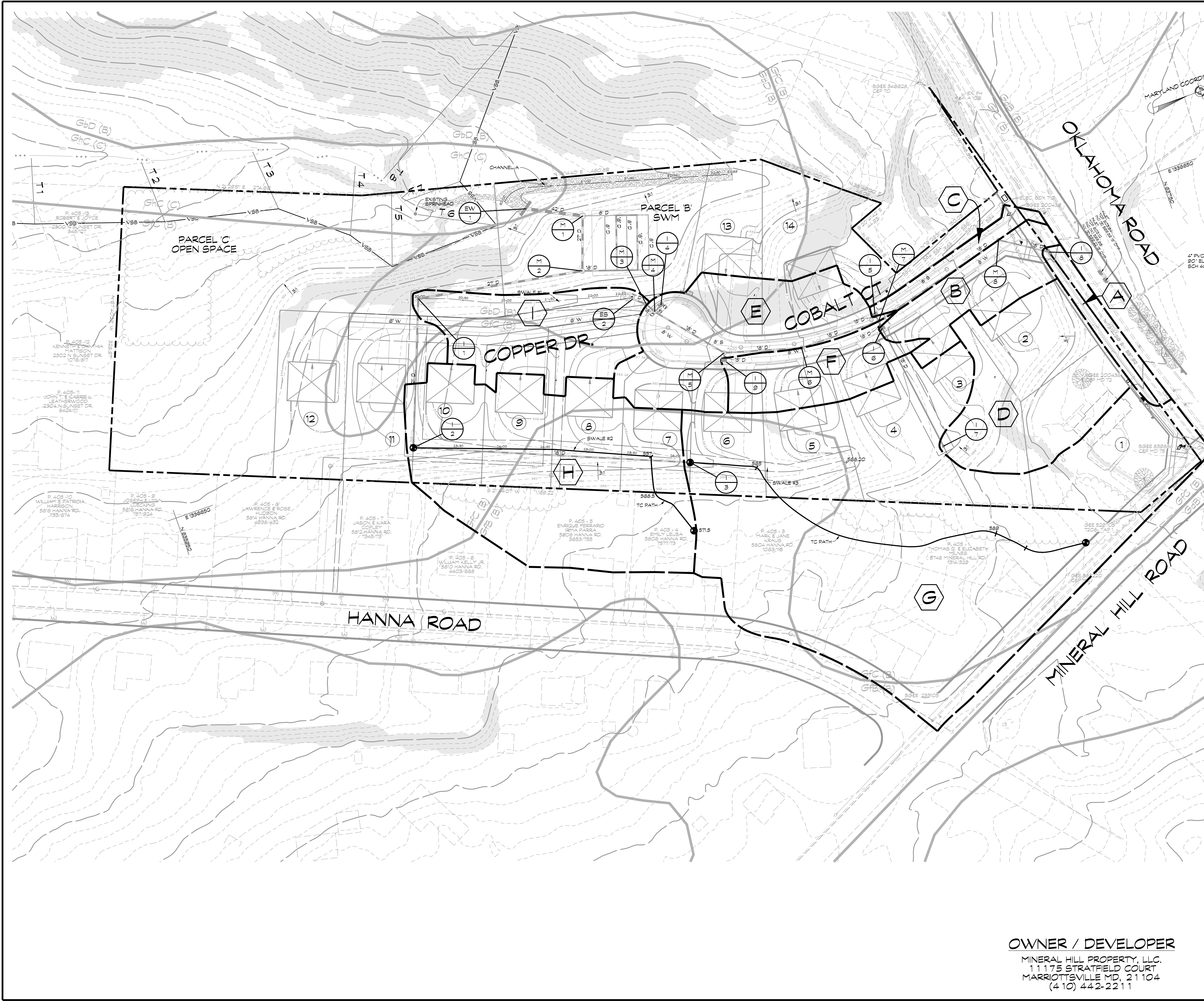
5th ELECTION DISTRICT CARROLL COUNTY, MARYLAND
 TAX MAP: 74 BLOCK: 3 PARCEL: 7



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Date	Revisors	Drawn By: JW
		Designed By: JW
		Reviewed By:
		Date: MARCH, 2020
		Scale: 1" = 10'
		Job No.: 2018074
		Sheet: 17 OF 23

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- LEGEND**
- VSB --- VARIABLE STREAM BUFFER
 - OVERHEAD UTILITY LINE
 - PRELIMINARY WETLANDS
 - WB --- 25' WETLANDS BUFFER
 - SPRINGHEAD
 - WOODS LINE
 - STREAM
 - M+D2 --- SOIL LINE
 - M+B2 ---
 - GREATER THAN 25% SLOPES
 - DRAINAGE AREA LINE
 - ⬡ A --- DRAINAGE AREA DESIGNATION
 - TC PATH

STORM DRAIN DRAINAGE AREA MAP

MINERAL HILL PROPERTY
A CLUSTER SUBDIVISION

5th ELECTION DISTRICT CARROLL COUNTY, MARYLAND
TAX MAP: 74 BLOCK: 3 PARCEL: 7

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Brandon D. Moore, P.E.
3/7/2023

Engineers • Surveyors

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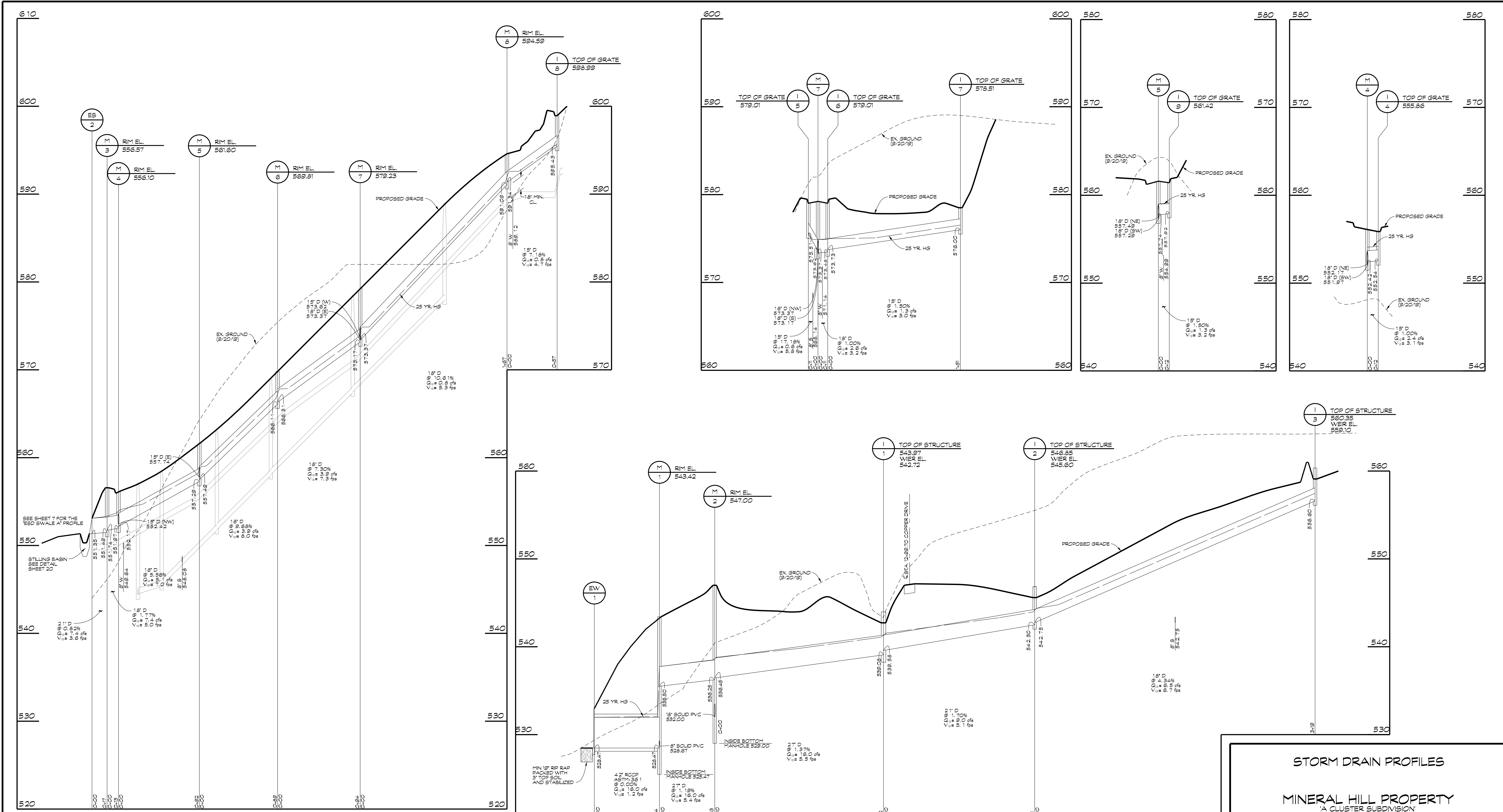
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Date	Revisions	Drawn By:
		JW
		Designed By: JW
		Reviewed By: JW
		Date: MARCH, 2020
		Scale: 1"=50'
		Job No.: 2018074
		Sheet: 18 OF 23

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UNLESS OTHERWISE SPECIFIED, STORM DRAIN PIPE FOR THIS PROJECT SHALL BE 14 GAGE ALUMINIZED CORRUGATED METAL PIPE, NOTED AS 'D'. AASHTO M-196 (ALUMINIZED STEEL TYPE 2 MATERIAL) AND AASHTO M-197 (CONDUIT, PIPE).

PROFILE
SCALE: HORIZ. 1"=50'
VERT. 1"=5'

OWNER / DEVELOPER
MINERAL HILL PROPERTY, LLC.
11175 STRATFIELD COURT
MARRIOTTVILLE MD, 21104
(410) 442-2211

STORM DRAIN PROFILES

MINERAL HILL PROPERTY
A CLUSTER SUBDIVISION

5th ELECTION DISTRICT • CARROLL COUNTY, MARYLAND
TAX MAP: 74 • BLOCK: 3 • PARCEL: 7

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3/7/2023

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Date	Revisions	Drawn By:
		JW
		Designed By: JW
		Reviewed By:
		Date: MARCH, 2020
		Scale: AS SHOWN
		Job No.: 2018074
		Sheet: 18 OF 23

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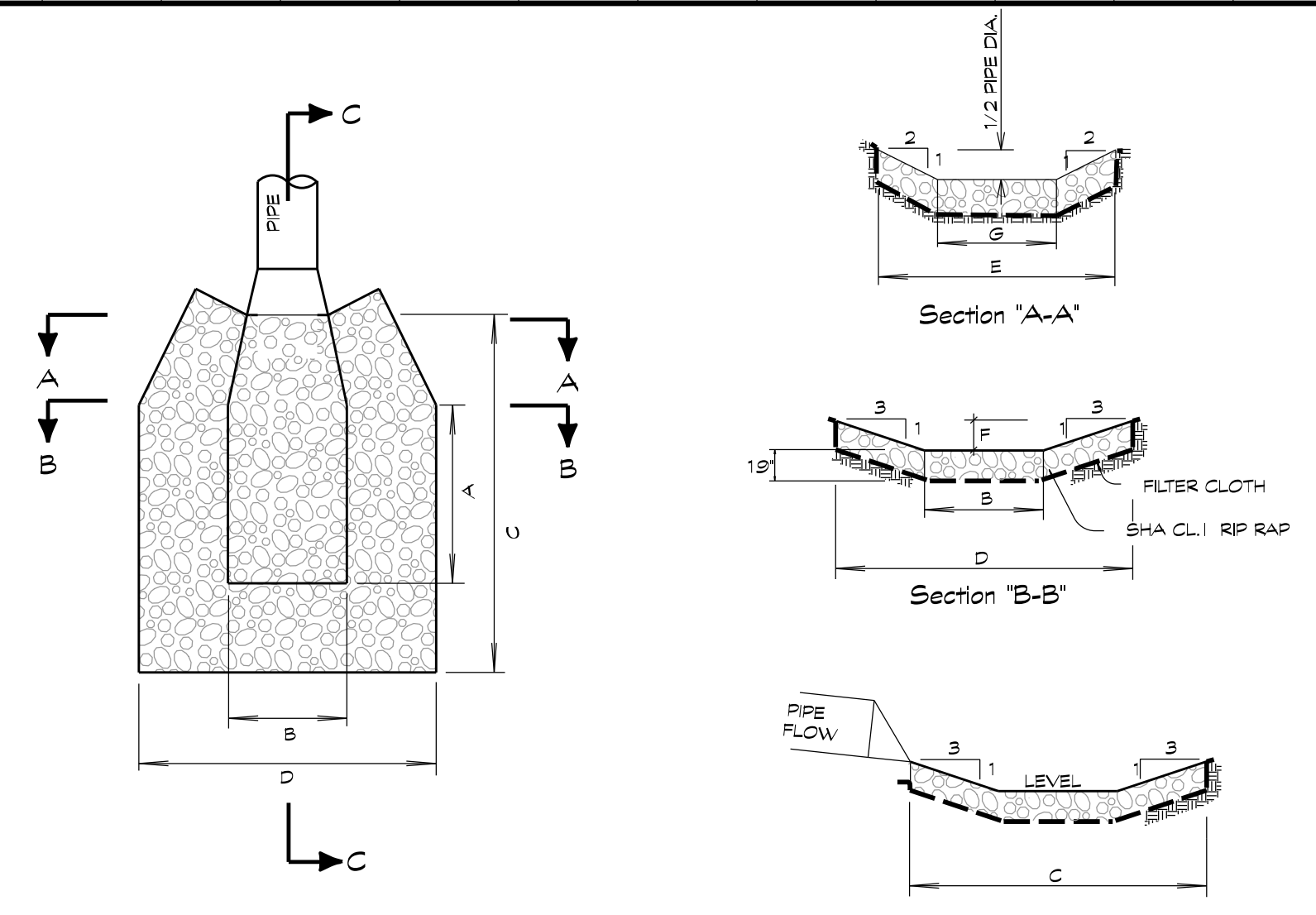
STORM DRAIN TABULATIONS

STRUCTURE		CONTRIBUTING AREA				RUNOFF				PIPE										REMARKS
FROM	TO	C AREA NO.	A AREA (ACRES)	RUNOFF COEFF.	Δ CA	I.A	I.CA	T ₂ TIME OF CONC. (MIN.)	R ₂ RAINFALL INTENS. (IN/HR.)	Q QUANT. (CFB)	SIZE IN.	TYPE	MANNING'S COEF.	S ₂ SLOPE %	L LENGTH FT.	V ₂ VELOCITY FT./SEC.	T ₂ TIME IN PIPE MIN.	CAPAC. FULL (CFB)		
I-6	M-6	A	0.16	0.75	0.12	-	-	5.00	7.00	0.80	15	CMP	0.024	7.18	57	4.7	0.2	9.5		
M-6	M-7	A	-	-	-	0.16	0.12	5.20	6.95	0.80	18	CMP	0.024	10.61	167	5.3	0.5	18.5		
I-7	I-6	D	0.70	0.27	0.19	-	-	5.00	7.00	1.30	15	CMP	0.024	1.50	151	3.0	0.8	4.4		
I-6	M-7	B, D	0.30	0.63	0.19	1.00	0.38	5.80	6.81	2.60	18	CMP	0.024	1.00	11	3.2	0.1	5.8		
I-5	M-7	C	0.10	0.20	0.08	-	-	5.00	7.00	0.60	15	CMP	0.024	17.18	11	5.8	0.0	14.4		
M-7	M-6	A-D	-	-	-	1.26	0.58	5.90	6.79	3.90	18	CMP	0.024	7.30	94	7.3	0.2	15.5		
M-6	M-5	A-D	-	-	0.19	1.26	0.58	6.10	6.75	3.90	18	CMP	0.024	9.68	89	8.0	0.2	18.0		
I-9	M-5	F	.30	.63	.19	-	-	5.00	7.00	5.20	15	CMP	0.024	1.50	12	3.2	0.1	4.3		
M-5	M-4	A-D, F	-	-	-	1.56	.77	6.40	7.00	5.10	18	CMP	0.024	5.56	92	7.0	0.2	13.4		
I-4	M-4	E	.62	.55	.34	-	-	5.00	7.00	7.40	15	CMP	0.024	1.00	92	3.1	0.1	3.5		
M-4	M-3	A-F	-	-	-	2.18	1.11	6.50	6.66	7.40	18	CMP	0.024	1.77	13	5.0	0.0	7.6		
M-3	ES-2	A-F	-	-	-	2.18	1.11	6.50	6.66	7.40	21	CMP	0.024	0.82	17	3.6	0.0	7.9		
I-3	I-2	G	3.34	0.35	1.17	-	-	12.00	5.54	6.50	18	CMP	0.024	4.34	319	6.7	0.8	12.0		
I-2	I-1	G, H	1.41	0.35	0.50	4.75	1.67	12.80	5.40	9.00	21	CMP	0.024	1.70	172	5.1	0.6	11.2		
ES-2	I-1	A-F	-	-	-	2.18	1.11	-	-	-	-	-	-	-	-	-	-	-	ADDED AREA FROM OUTFALL OF ES-2	
I-1	M-2	A-I	0.52	0.38	0.20	7.45	2.98	13.40	5.31	16.00	27	CMP	0.024	1.37	192	5.5	0.6	17.5		
M-2	M-1	A-I	-	-	-	7.45	2.98	14.00	5.21	16.00	27	CMP	0.024	1.19	63	5.4	0.2	19.0		
M-1	E-1	A-I	-	-	-	7.45	2.98	14.20	5.18	16.00	42	RCCP	0.013	0.00	74	1.6	0.8	16.0		

NOTE: INLET GRATES IN SUMPS SHALL BE CONSTRUCTED LEVEL AT ELEVATION GIVEN IN STRUCTURE SCHEDULE. INLETS ON GRADE SHALL BE ADJUSTED SO THAT THE SLOPE OF GRATE MATCHES FINISHED FLOW LINE OF CURB. TOP ELEVATION SHALL APPLY TO CENTERLINE AT FLOW LINE OF CURB.

STORM STRUCTURE SCHEDULE

STRUCT. NO.	TYPE	PLATE	INVERT IN. ELEV.	INVERT N. ELEV.	INVERT OUT. ELEV.	TOP ELEV.	NORTH COORD.	EAST COORD.	REMARKS	
I-1	STANDARD TYPE 'K' INLET	61	-	539.58	539.08	TOP STRUCT 543.97	636297	1336505	WEIR ELEVATION= 542.72	
I-2	STANDARD TYPE 'K' INLET	61	-	542.75	542.50	TOP STRUCT 546.85	636235	1336664	WEIR ELEVATION= 545.60	
I-3	STANDARD TYPE 'K' INLET	61	-	-	556.60	TOP STRUCT 560.35	636530	1336786	WEIR ELEVATION= 559.10	
I-4	STANDARD WR INLET	69	-	-	552.54	555.86	636558	1336603		
I-5	STANDARD TYPE 'S' INLET DOUBLE GRATE TANDEM	65	-	-	575.51	579.01	636787	1336694		
I-6	STANDARD TYPE 'S' INLET DOUBLE GRATE TANDEM	65	-	-	579.73	579.01	636790	1336716		
I-7	STANDARD YARD INLET	59	-	-	576.00	578.51	636811	1336866		
I-8	STANDARD TYPE 'S' INLET DOUBLE GRATE TANDEM	65	-	-	595.43	598.99	636938	1336696		
I-9	STANDARD TYPE 'S' INLET DOUBLE GRATE TANDEM	65	-	-	557.92	561.42	636805	1336690		
M-1	72" DIA. PRECAST MANHOLE	96	-	539.50	528.67	528.47	543.42	636507	1336477	INSIDE BOTTOM EL= 525.47
M-2	60" DIA. PRECAST MANHOLE	95	-	536.45	536.25	532.00	547.00	636486	1336537	INSIDE BOTTOM EL= 529.00
M-3	48" DIA. PRECAST MANHOLE	94	-	551.74	551.49	556.57	636542	1336598		
M-4	48" DIA. PRECAST MANHOLE	94	552.42	552.17	551.97	556.10	636548	1336609		
M-5	48" DIA. PRECAST MANHOLE	94	557.74	557.49	557.29	561.60	636609	1336680		
M-6	48" DIA. PRECAST MANHOLE	94	-	566.31	566.11	569.61	636694	1336705		
M-7	48" DIA. PRECAST MANHOLE	94	573.62	573.37	573.17	579.23	636788	1336705		
M-8	48" DIA. PRECAST MANHOLE	94	-	591.34	591.09	594.59	636950	1336663		
BW-1	MODIFIED TYPE 'C' ENDWALL ROUND PIPE	C.C. 120	-	-	528.47	-	636442	1336445	ENDWALL TO HAVE RAILING AND OUTFALL RAIL. SEE DETAILS SHEET 8	
ES-2	STANDARD METAL END SECTION ROUND METAL PIPE	85	-	-	551.95	-	636530	1336587		



LEGEND							
PIPE DIA.	'A'	'B'	'C'	'D'	'E'	'G'	
15"	3.75"	2.50"	7.53"	6.28"	4.75"	0.63"	2.25"
18"	4.50"	3.00"	8.00"	7.80"	5.50"	0.75"	2.50"
21"	5.25"	3.50"	10.50"	8.78"	6.25"	0.88"	2.75"
24"	6.00"	4.00"	12.00"	10.00"	7.00"	1.00"	3.00"
27"	6.75"	4.50"	13.50"	11.28"	7.75"	1.13"	3.25"
30"	7.50"	5.00"	15.00"	12.50"	8.50"	1.25"	3.50"
36"	9.00"	6.00"	18.00"	15.00"	10.00"	1.50"	4.00"
42"	10.50"	7.00"	21.00"	17.50"	11.50"	1.75"	4.50"
48"	12.00"	8.00"	24.00"	20.00"	13.00"	2.00"	5.00"
54"	13.50"	9.00"	27.00"	22.50"	14.50"	2.25"	5.50"
60"	15.00"	10.00"	30.00"	25.00"	16.00"	2.50"	6.00"

STILLING BASIN DETAIL @ ES-2
SCALE = NONE

OWNER / DEVELOPER
MINERAL HILL PROPERTY, LLC.
11175 STRATFIELD COURT
MARROTTSVILLE MD, 21104
(410) 442-2211

**STORM DRAIN TABULATIONS,
DETAILS & STRUCTURE SCHEDULE**
MINERAL HILL PROPERTY

5th ELECTION DISTRICT · CARROLL COUNTY, MARYLAND
TAX MAP: 74 · BLOCK: 3 · PARCEL: 7



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		JW
		Designed By: JW
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		Date: MARCH, 2020
		Scale: N/A
		Job No.: 2018074
		Sheet: 20 OF 23

NOT FOR CONSTRUCTION

LANDSCAPE SPECIFICATIONS

A. All plants shall be identified in accordance with the latest edition of Hortus Third, by The Staff of the Herbarium.

B. 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.

C. Landscape specifications shall conform to Landscape Guidelines for Maryland, Washington, D.C., and Virginia, latest edition. All nursery stock shall be planted in accordance with the procedures outlined in the guidelines.

D. Three (3) inches topsoil on all disturbed areas to be landscaped, seeded or sodded is required.

INSTALLATION

A. 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 for Maryland, Washington, D.C., and Virginia.

B. 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.

C. A completed and sealed certification by a landscape architect shall be provided at the initial inspection. The completion form with photographs is required.

D. Acceptable plant survival shall be defined as not more than 1/3 mortality. A 12 month inspection will be performed by the County. No inspections shall be finalized from November 1st to March 1st.

MAINTENANCE RESPONSIBILITY

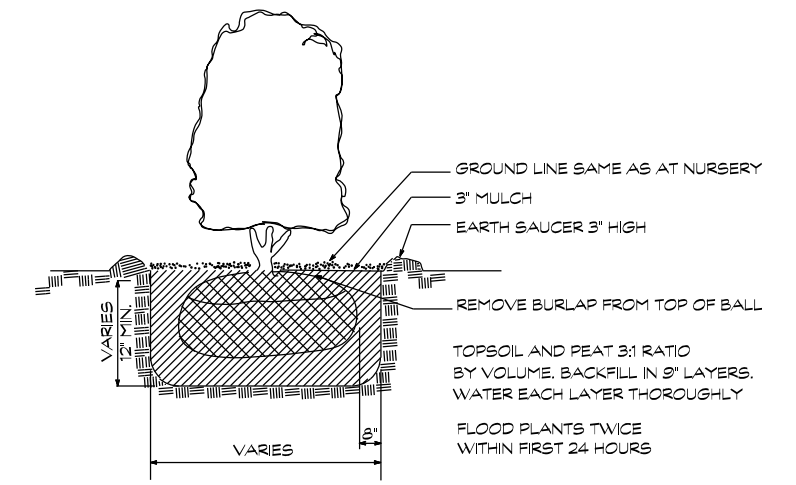
The owner of any property on which landscaping has been installed pursuant to this chapter shall maintain the landscaping in good condition in perpetuity. A Landscape Maintenance Agreement shall be required. Failure to replace dead or dying Plus or the removal of any installed Plus is a violation of this chapter [Section 157(K) of Carroll County Landscape Ordinance].

INSPECTIONS

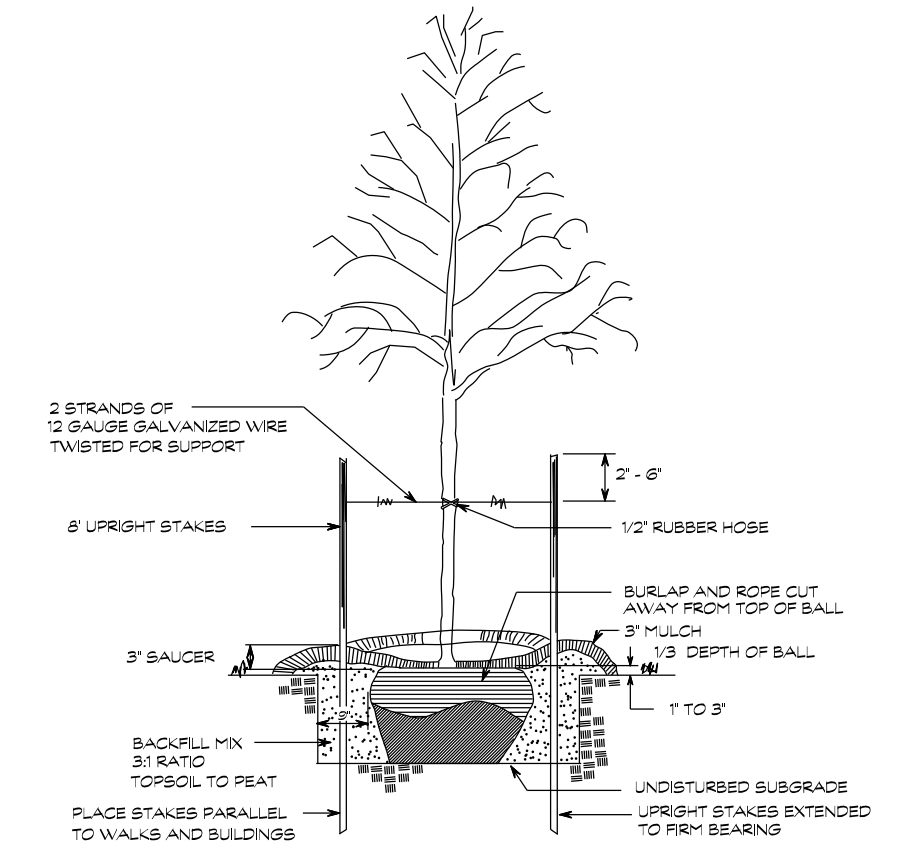
A. Initial inspection. This inspection shall be performed when planting is completed to verify compliance with the approved planting plan. The inspection shall be performed by a landscape architect. A completed and sealed Landscape Certification shall be provided with photographs or other visual documentation. The 12 month survival period will begin upon receipt of the Landscape Certification.

B. Final inspection. This inspection shall be performed by the County 12 months after certification of the initial planting.

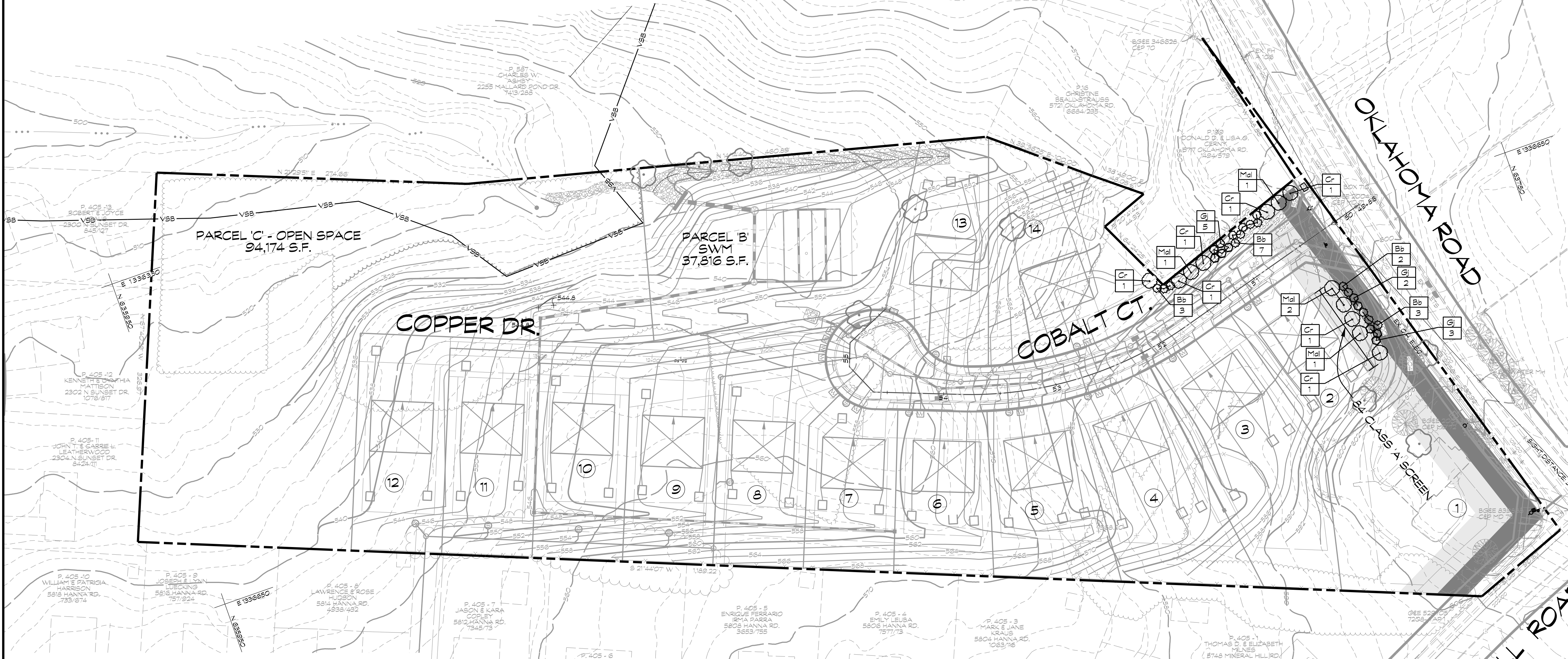
SHRUB PLANTING DETAIL
NOT TO SCALE



TREE PLANTING DETAIL
NOT TO SCALE



MARYLAND COORDINATE SYSTEM (NAD 83/97)



TREE PROTECTION NOTES

- Upon notification of County approval of the final landscape plan, trees which are to remain shall be marked in the field by the developer and protected in an approved manner. Trees within the construction area which are to remain undisturbed shall be enclosed with a fence for protection (snow fencing or other approved means). The contractor shall not disturb the area within the fence in any manner deleterious to the trees.
- Any trenching operations within the vicinity of trees should be done in a manner to protect the tree roots. Tearing and ripping of tree roots should be avoided. Roots should be severed cleanly.
- All trees to be removed should be removed in a manner that will not damage the remaining trees. Any trees that are to remain that are damaged during clearing operation must be repaired in an approved manner by a tree expert as soon as final clearing has been completed. After construction is completed, temporary barriers, surplus materials and all trash, debris and rubbish shall be removed from the site. All spoils shall be clear of building materials, stone and rubbish.
- Existing trees (particularly mature trees) which are retained will undergo "root sprouting shock" caused by the construction activity. All possible safeguards should be taken to minimize these effects and to provide optimum growth conditions. Foliage feeding and burl or root feeding are encouraged. Branch and foliage thinning are also desirable.

LEGEND

- BGE GREEN ZONE ALL PLANTS x 25'
- BGE YELLOW ZONE ALL PLANTS x 40'

CARROLL COUNTY, MARYLAND
DEPARTMENT OF PLANNING
BUREAU OF RESOURCE MANAGEMENT
LANDSCAPE CERTIFICATION

CERTIFICATION IS DUE UPON COMPLETION OF LANDSCAPE INSTALLATION AND BEGINS THE 12 MONTH GUARANTEE PERIOD

PROJECT NAME ON APPROVED PLAN: _____

LOCATION OF PROJECT: _____

NAME OF OWNER/CERTIFIER: _____

MAILING ADDRESS: _____

OWNER/CERTIFIER (SIGNATURE) _____ DATE _____

THIS IS TO CERTIFY THAT THE LANDSCAPE INSTALLATION REQUIREMENTS HAVE BEEN FULFILLED, AS SET FORTH IN THE APPROVED FINAL LANDSCAPE PLAN AND AS SPECIFIED BY THE CARROLL COUNTY LANDSCAPE MANUAL.

LANDSCAPE ARCHITECT (SIGNATURE) _____

LANDSCAPE ARCHITECT SEAL _____

PLEASE RETURN THIS COMPLETED FORM, TOGETHER WITH PHOTOGRAPHS OF THE INSTALLED LANDSCAPINGS, TO THE BUREAU OF RESOURCE MANAGEMENT, 225 N. CENTER STREET, WESTMINSTER, MARYLAND, ROOM 209.

CERTIFICATION PROVIDES THE NECESSARY DOCUMENTATION TO CARROLL COUNTY THAT LANDSCAPE INSTALLATION HAS BEEN COMPLETED IN ACCORDANCE WITH AN APPROVED LANDSCAPE PLAN.

CARROLL COUNTY'S ACCEPTANCE OF THIS COMPLETED CERTIFICATION STATEMENT DOES NOT RELIEVE THE OWNER OF THE RESPONSIBILITY OF PERPETUAL CARE OF THE REQUIRED TREES AND SHRUBS, DEAD OR REMOVED PLANTINGS THAT OCCUR SUBSEQUENT TO CARROLL COUNTY'S ACCEPTANCE OF THIS CERTIFICATION WILL BE DEEMED AS ZONING VIOLATIONS ENFORCEABLE UPON THE CURRENT OWNER.

LANDSCAPE REQUIREMENTS
per Carroll County Landscape Manual, May 2007

Requir.#	Requirement	Basis	Required P.U.'s	Provided P.U.'s
LB.1 a	Rear/Side yard (class A screen) LOT 2	84 LF	4.2 PU	5 PU
LC.3 c	10' Retaining Wall	154 LF	6.2 PU	6 PU
TOTAL			10.4 PU	11 PU

PLANT MATERIALS CHART

KEY	QUANT	SCIENTIFIC NAME	COMMON NAME	CATEGORY	SIZE	SPACING	ROOT	P. U.
Cr	7	Cornus x Rutba	Aurora White Flower Dogwood	mdt	1" cal.	see plan	BEB	3.5
Mal	5	Malus sagentii	Sargent Crabapple	mdt	5'	see plan	BEB	2.5
Gj	10	Juniperus Chinensis 'gold star'	Gold Star Juniper	SHR	#1 or #2	see plan	container	2
Bb	15	Euonymus alatus 'compactus'	Burning Bush	SHR	3'-4'	see plan	BEB	3
TOTAL PLANTING UNITS PROPOSED:								11

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LANDSCAPE PLAN NOTES & DETAILS
MINERAL HILL PROPERTY
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5th ELECTION DISTRICT • CARROLL COUNTY, MARYLAND
TAX MAP: 74 • BLOCK: 3 • PARCEL: 7

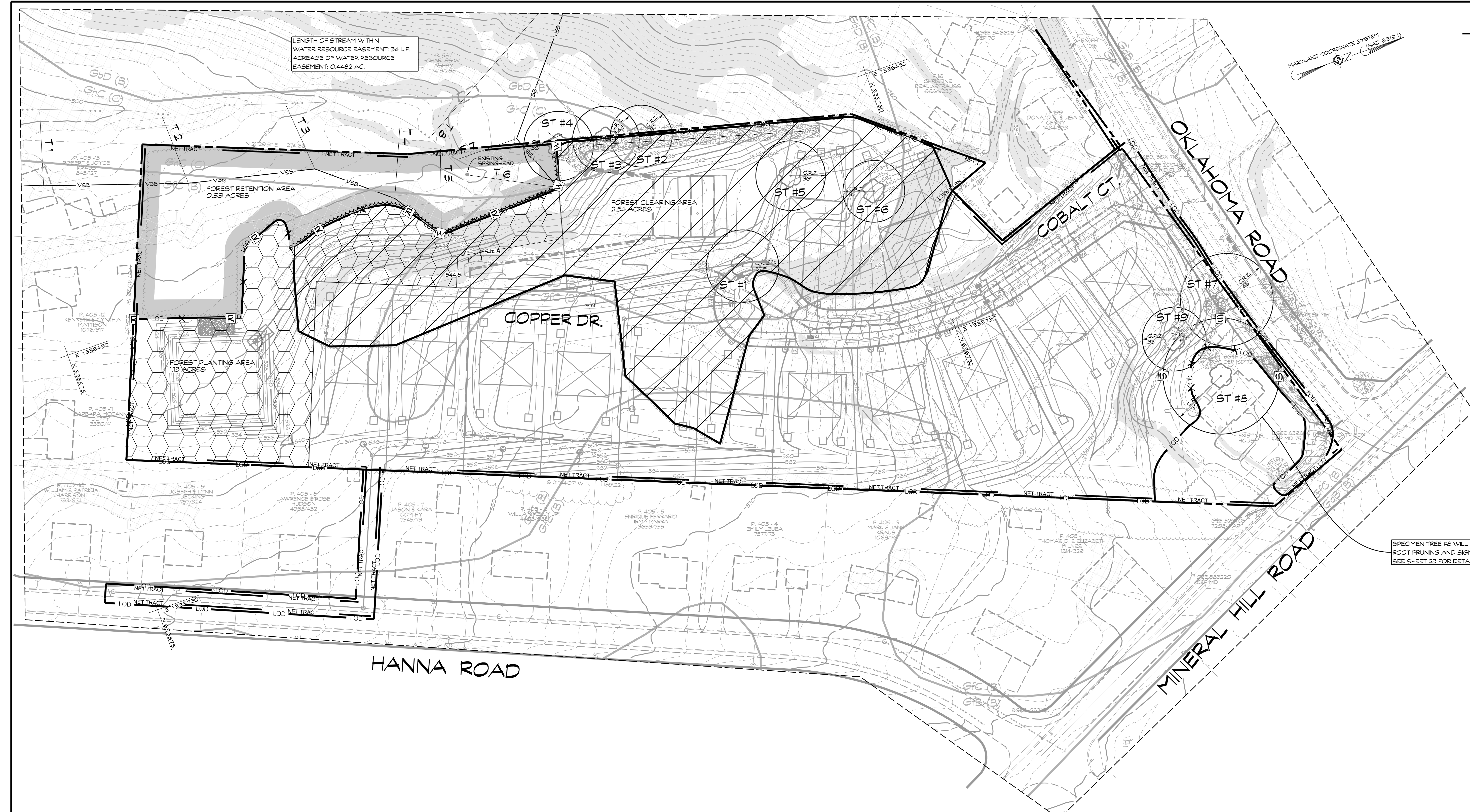
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Land Planning & Environmental Consultants
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439 East Main Street Westminster, MD 21157-5539
(410) 848-1790 FAX (410) 848-1791

Date	Revisions	Drawn By: J.L.W./J.W.L.N.L.
4-23-2020	Addressed county comments dated 03/23/2020	Designed By: JW
		Reviewed By:
		Date: MARCH, 2020
		Scale: 1" = 50'
		Job No.: 2018074
		Sheet: 21 OF 23

NOT FOR CONSTRUCTION



LEGEND

- 25% OR GREATER SLOPES
- 12% - 25% SLOPES
- SOIL LINE
- VARIABLE STREAM BUFFER
- TREE PROTECTION FENCING
- NET TRACT AREA
- EXISTING TREELINE
- FOREST STAND LINE
- STAND DESIGNATION
- SPECIMEN TREE
- CRITICAL ROOT ZONE
- FOREST CLEARING AREA
- FOREST RETENTION AREA
- FOREST PLANTING AREA
- LIMIT OF DISTURBANCE
- FOREST PROTECTION FENCE AND SIGNS
- SPECIMEN TREE SIGN

SPECIMEN TREE #8 WILL REQUIRE ROOT PRUNING AND SIGNAGE SEE SHEET 23 FOR DETAILS

FOREST STAND CHART

STAND	PRIORITY	AREA
A	1	3.53 AC.
TOTAL FOREST		3.53 AC.

SOILS CHART

SOIL SERIES	HYDROLOGIC SOIL GROUP	ERODIBLE (k-factor > .35)	HYDRIC
GLENELG - URBAN	D	-	-
GLENELG	C	-	-
GLENVILLE	C	-	-

SPECIMEN TREE CHART

NO.	D.B.H.	COMMON NAME / SCIENTIFIC NAME	CONDITION	STATUS
1	37.5"	Red Maple / <i>Acer rubrum</i>	Fair - Multistem	REMOVED
2	32"	Black Locust / <i>Robinia pseudoacacia</i>	Fair	REMOVED
3	34.5"	Black Locust / <i>Robinia pseudoacacia</i>	Poor	REMOVED
4	36"	Box Elder / <i>Acer negundo</i>	Poor	REMOVED
5	36"	Black Oak / <i>Quercus rubra</i>	Good	REMOVED
6	32"	Box Elder / <i>Acer negundo</i>	Fair	REMOVED
7	33"	Norway Maple / <i>Acer platanoides</i>	Poor	REMOVED
8	60"	Silver Maple / <i>Acer saccharinum</i>	Poor	DISTURBED
9	48"	Silver Maple / <i>Acer saccharinum</i>	Poor - Multistem	REMOVED

STREAM BUFFER CALCULATIONS

Transect	% Slope	Buffer Exten.	Mh. Buffer	Wetland Width	25% Slope	Total Buffer
T1	13	26	50'			76'
T2	12	24	50'			74'
T3	11	22	50'			72'
T4	15	30	50'		7	87'
T5	17	34	50'		3	87'
T6	14	28	50'		14	92'
T7	9	18	50'			68'
T8	17	34	50'		58'	140'

THERE ARE NO FEMA FLOODPLANS ON THIS SITE

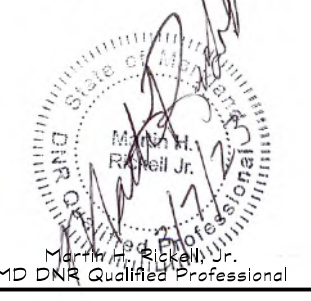
THERE ARE NO WETLANDS ON THIS SITE.

FOREST CONSERVATION PLAN

MINERAL HILL PROPERTY
A CLUSTER SUBDIVISION

5th ELECTION DISTRICT CARROLL COUNTY, MARYLAND
TAX MAP: 74 BLOCK: 3 PARCEL: 7

NOT FOR CONSTRUCTION



439 East Main Street Westminster, MD 21157-5539
(410) 848-1790 FAX (410) 848-1791

OWNER / DEVELOPER

MINERAL HILL PROPERTY, LLC.
11175 STRATFIELD COURT
MARRIOTTSVILLE MD, 21104
(410) 442-2211

Date	Revisions	Drawn By:	JLW/AV
10/2020	Addressed County Comments (LNL)	Designed By:	AV
		Reviewed By:	
		Date:	MARCH, 2020
		Scale:	1"=50'
		Job No.:	2018074
		Sheet:	22 OF 23

NOT FOR CONSTRUCTION

FOREST CONSERVATION NOTES

- Plan prepared by C.L.S.I.
- Attachment of signs or any other object, to trees is prohibited.
- No equipment, machinery, vehicles, materials or excessive pedestrian traffic shall be allowed in conservation areas.
- Signs to be posted as noted on plan sheet.
- All protective devices must be in place prior to any grading which includes signs and fencing.
- Pre-Construction meeting: Before any disturbance, the developer, contractor or project manager and local inspector shall attend. Temporary parking, stockpile, staging and fueling area will be shown to all personnel.
- Any changes made to the Forest Conservation Plan due to On-Site conditions shall be made in consultation with a Representative of the Bureau of Resource Management.
- No burial of discarded materials will occur on-site.
- No open burning within 100 feet of a wooded area.
- Forest retention and planting areas will be placed within a forest conservation easement in perpetuity and conveyed to Carroll County.

MAINTENANCE AND MANAGEMENT PLAN

- A. PLANTING REQUIREMENT: 344**
B. SURVIVAL REQUIREMENT: 75% = 258 TREES
C. MAINTENANCE AND MANAGEMENT PERIOD: 36 MONTHS
D. TREES WILL BE PLANTED AS SPECIFIED BELOW
- MAINTENANCE AND MANAGEMENT:**
A. The landowner/developer will ensure the tree survival during the maintenance and management period. Within that period any trees dying or in a severely weakened condition will be replaced in the first available planting window; these plantings are reinforcement plantings.
B. Watering and fertilizing will be performed on an as needed basis and be carried out by the landowner/developer to ensure the survival rate.
C. Control of competing vegetation will be carried out at least twice annually, during this maintenance agreement. No mowing will occur between April 1 through July 31, due to the possibility of ground nesting wildlife species.
D. Pest, disease, and mechanical injury will be addressed in the following manner: Mulching the trees will help protect the trees from mechanical damage as it provides some guidance to the person mowing. Pest and disease inspections will be performed annually throughout the maintenance agreement.

- INSPECTIONS:**
 Inspections must meet the requirements of Section 150.31 of the Carroll County Forest Conservation Ordinance.
A. Within one month of the completed plan, a landowner representative and a county representative will perform an initial inspection.
B. At the end of the first growing season, the landowner/developer will make another inspection to check survival rate; if the planting survival rate is below the survival requirement, the landowner/developer will re-forest the planting (see Inspection form to County).
C. Planting inspections will be carried out for the entire maintenance agreement, during each growing season and continue until the final inspection, upon which time the survival requirement will be ensured. The same procedure for notification will be used to inform the County.
D. At the end of the M & M period, if the planting meets or exceeds the survival requirement, the remaining amount of the cash bond, letter of credit, surety bond, or other guarantee shall be returned or released upon written request of the person required to provide said guarantee.

- PLANT SPECIFICATIONS**
 Planting material will conform to the current issue of "The American Standards for Nursery Stock", published by the "American Association of Nurserymen". Bare root plants are best planted in early spring from March 15 to May 15.

- PROTECTION DEVICES:**
 The planting site shall be protected with appropriate signs and/or approximately every 100' (see detail). This acreage will also be placed in a Forest Conservation Easement in perpetuity.

- SEQUENCE OF EVENTS**
 1. Order plant material for spring or fall planting.
 2. Have C.L.S.I. stake out Forest Conservation Easement area.
 3. Perform site prep.
 4. Flag planting area.
 5. Install plants according to plan.
 6. Install signs and fence.
 7. Contact County- 410-386-2210 for inspection.
 8. Maintain planting per guidelines.
 9. Call County for 15 month inspection.
 10. Maintain planting per plan guidelines.
 11. Call for final inspection at the end of the 3 year maintenance period.

MITIGATION MEASURES FOR UNANTICIPATED UNAUTHORIZED INJURY TO TREES

Disturbance within the forest protection area is not proposed at this time; however, if unauthorized impacts within the forest protection area were to occur, the following corrective measures will be required, as appropriate, to insure tree health and survival:

- ROOT INJURY**
 If an increase in grade within an identified forest protection area occurs, this may result in root injury. The use of a porous topsoil will be used to allow for exchange of oxygen through the soil. The opposite of this, lowering if the grade within the protected area, shall be mitigated by covering the roots with a fine wood chip or organic mulch material. This will help retain moisture and therefore, stimulate root re-growth into the disturbed area.

SOIL COMPACTION
 Soil compaction is a problem on most construction sites; however, the highly visible orange blaze plastic mesh fence should eliminate the compaction problem. If heavy equipment did come in contact with a critical root zone, a fiber mat should be laid down to increase the weight bearing capacity and minimize soil compaction.

SOIL PH CHANGE
 Since designated areas have been established for cement truck wash out and vehicle fueling, little to no change in the soil pH should be seen. Cement and fuel spills are the two main causes of soil pH change.

TREE WOUNDS
 Wounds to the tree trunk are unlikely to occur, due to the mesh fence protection device; however, crown branching structures may be damaged by vehicular movement. If this should occur, proper pruning will be initiated, "Crown Reduction".

APPLICATIONS OF FERTILIZERS BY INJECTION
 As mentioned above, trees inside the protection area shall not be damaged due to the establishment of Forest Protection Devices. If trees are damaged and show signs of stress, they will receive liquid fertilizer injections. Fertilizer injections will improve the health and vigor of the damaged tree and increase the survival potential. For recommended rates and time of application, contact a licensed tree expert.

GENERAL GUIDANCE FOR MAINTENANCE OF PLANTED AREAS

a. Watering: A watering plan should only be implemented to compensate for deficient rainfall patterns. Trees can die from too much water as well as too little. Newly planted trees may need water as much as once a week for the entire first growing season. The next two years, in contrast, may require watering only a few times a year (once a month during July and August). After that, trees should only need water in severe droughts. Bare root transplants, if sufficiently watered during planting, may not need water for almost 2-4 weeks after growth begins. Balled and burlap material may require more frequent watering.

Soil and Watering: Soil texture influences the downward flow of water. Soils with more clay tend to retain more water and can be watered less often; soils with more sand drain more quickly and need to be watered more often. For examples of on-site evaluation recommendations, if the soil was well prepared before planting, there should be few drainage problems. Restricted downward penetration indicates the soil may have been compacted during construction and not aerated before planting, or there may be a clay hardpan.

How to Water: The best way to water is deeply and slowly using a regular hose, a soaker hose, or drip irrigation. For larger trees, start by watering the root ball thoroughly. The watered area shall be enlarged to include the whole root zone as the tree becomes more established. Mulching around the base of newly transplanted trees prevents roots from drying too quickly while providing air movement to the roots.

b. Fertilizing: Fertilizing is the chemical modification of soils to correct for a specific nutrient deficiency. These deficiencies are most effectively identified in laboratory soils analysis. Nothing should be added to the soil without first testing to determine any nutrient needs.

What Nutrients to Apply: Trees depend on three major nutrients, nitrogen, phosphorus and potassium and a host of other minor ones (or micronutrients) such as calcium, magnesium and iron. In most soils, most of the micronutrients are available in abundance. Of the major nutrients, nitrogen is usually the limiting one.

When to Fertilize: Even when soils are deficient in nitrogen, fertilizing within the first growing season after planting is recommended. Too much nitrogen may cause a spurt of canopy growth which the roots cannot support. It is therefore, best to wait until after the end of the first growing season, either in the late fall or early spring.

What Type of Fertilizer: Organic fertilizers are preferred to synthetic fertilizers. Bone meal or seaweed based products are available commercially. Organic fertilizers have a slow-release effect that can supply nutrients to the plant as needed while minimizing the risk of excessive nutrients entering the forest system and water supply.

c. Control of Competing Vegetation: Unfortunately, good sites for reforestation and afforestation are generally good sites for unwanted vegetation as well. Unwanted vegetation growing near newly planted trees can take over the site. The need to control this problem depends on the ability of the plant material to withstand the intrusion. Smaller trees may need more care, although some seedlings survive with the overgrowth and will shade it out as the trees grow. As a preventive measure, consider the potential for growth of invasive species.

Mulch is one of the best weed deterrents. Spread a 2-4 inch layer of mulch over the root area of a newly planted tree avoiding direct contact with the trunk's prime spot for fungal growth. Mulch also helps maintain the soil moisture level and may provide a buffer for any equipment that may be used to maintain the area.

d. Protection: Pests, Disease and Mechanical Injury.
 Integrated pest management (IPM) is one of the most effective and safest approaches for maintaining a healthy forest. IPM basics include proper species selection for the site, good pruning, mulching and fertilizing practices, regular monitoring, and proper timing of necessary sprays. Good cultural practices will minimize the amount of spraying. Professional IPM programs have reduced pesticide use by 80%. Some aspects of a full IPM program include:

- Elimination of some low vegetation before planting to help control the rodent population which thrives in brushy environment.
- Use of tree shelters to protect the trunks of seedlings or whips from animal damage. The shelters act as mini-greenhouses to speed growth. These trees need more water than those planted without tree shelters.
- Mulching around the trees to minimize trunk damage from mowers. Wounds provide an entryway for pests.
- Pruning dead and disease branches to prevent establishment or spreading of disease.

SPECIMEN TREE MITIGATION

SPECIMEN TREE #	DBH (IN.)	CONDITION
5	36	GOOD
SUM	36	

35" caliper trees are to be required for specimen tree mitigation.
 Mitigation trees are to be planted at 200 trees per acre.
 36 / 200 = 0.18 acres

NET TRACT TABULATION

SITE: 9.13 ACRES
 100 YEAR FLOOD PLAIN: 0.00 ACRES
 AREA OF LOD OUTSIDE THE SITE: 0.24 ACRES
 NET TRACT AREA: 9.37 ACRES

NOTE: This estimate for bond purposes only. Contractor is responsible to confirm or provide own estimate for bidding purposes.

SIGNS

R

FOREST RETENTION AREA

VIOLATORS SUBJECT TO FINES AS IMPOSED BY THE HANDBOOK FOR FOREST CONSERVATION ACT OF 1987.

PLACED APPROXIMATELY EVERY 100 FT.

S

SPECIMEN TREE

DO NOT REMOVE

VIOLATORS SUBJECT TO FINES AS IMPOSED BY THE HANDBOOK FOR FOREST CONSERVATION ACT OF 1987.

PLACED APPROXIMATELY EVERY 100 FT.

W

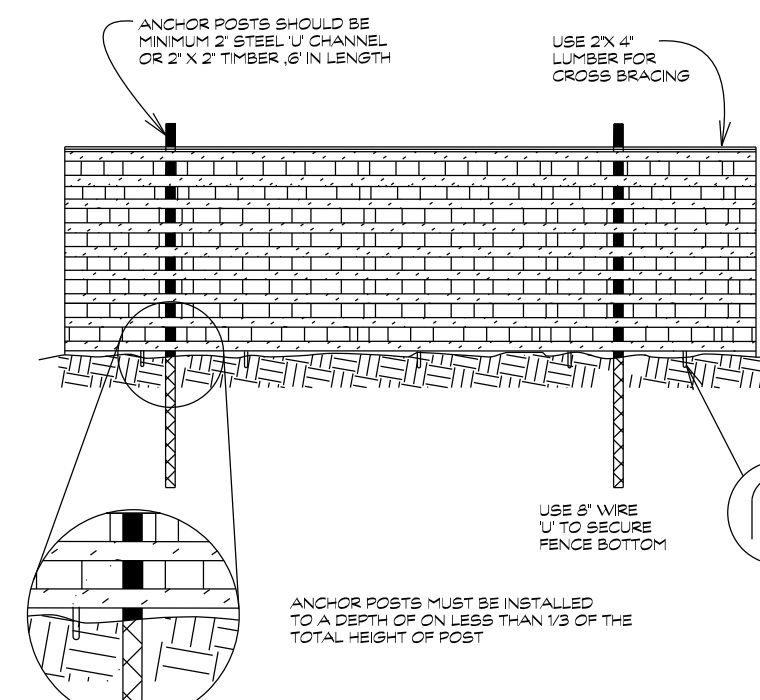
WATER RESOURCE PROTECTION AREA

This area is being maintained to protect and enhance water quality.

Carroll County Government

PLACED APPROXIMATELY EVERY 100 FT.

Forest/Tree Protection Fence Blaze Orange Plastic Mesh Fence



- NOTES:**
 1. FOREST PROTECTION DEVICE ONLY.
 2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
 3. EXACT LOCATION OF TRENCH SHOULD BE IDENTIFIED.
 4. DEVICES SHOULD BE IDENTIFIED.
 5. PROTECTIVE SIGNAGE SHOULD BE ADDED.
 6. PROTECTIVE SIGNAGE MAY ALSO BE ADDED.
 7. DEVICES SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

FIELD EDGE DETERMINATION

FOREST RETENTION AREA vs DISTURBANCE AREA

Legend:
 Critical Root Zone (CRZ)
 Preliminary Retention Edge
 Final Retention Edge

FOREST RETENTION AREA	DISTURBANCE AREA	EXAMPLE	TREE STATUS	NOTES
1	1	1	SAVE	Preliminary retention edge crossing more than 30% of the CRZ can be moved to accommodate.
2	2	2	SAVE	Preliminary retention edge can be moved to protect the entire CRZ.
3	3	3	REMOVE	Tree is completely within the disturbance zone.
4	4	4	REMOVE	Tree is completely within the disturbance zone.
5	5	5	SAVE	Preliminary retention edge can be moved to protect the entire CRZ.
6	6	6	REMOVE	Preliminary retention edge is over trunk.

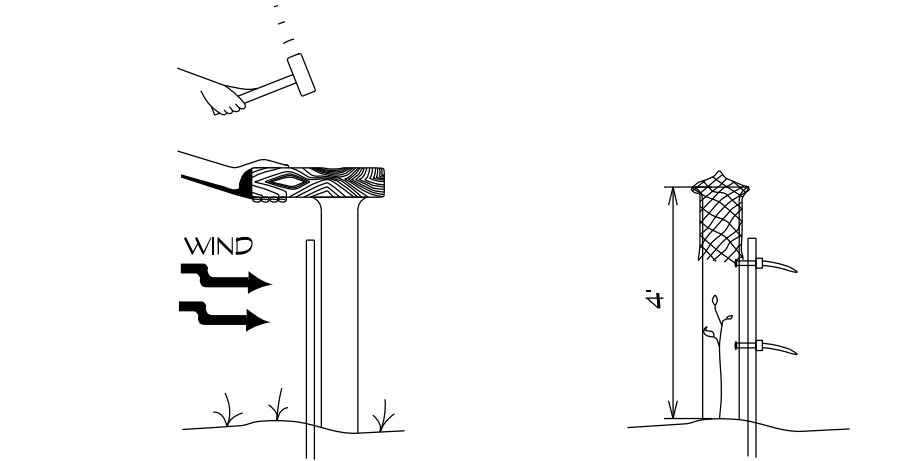
Striking Retention Edge in a field requires tree by tree decisions. The above example demonstrates use of Critical Root Zone but tree health and tree species must also be considered when laying out a final retention line.

NOTE:
 PRIOR TO ANY ADJUSTMENT ALL ADJUSTMENTS MUST FIRST BE APPROVED BY CARROLL COUNTY BUREAU OF RESOURCE MANAGEMENT. THIS DETAIL PERTAINS TO INDIVIDUAL FOREST PROTECTION DEVICES. ADJUSTMENTS ONLY ADJUSTMENTS MUST NOT INTERFERE WITH LIMIT OF GRADING STAKES OR BEST MANAGEMENT PRACTICE LOCATIONS UNLESS APPROVED BY CARROLL COUNTY.

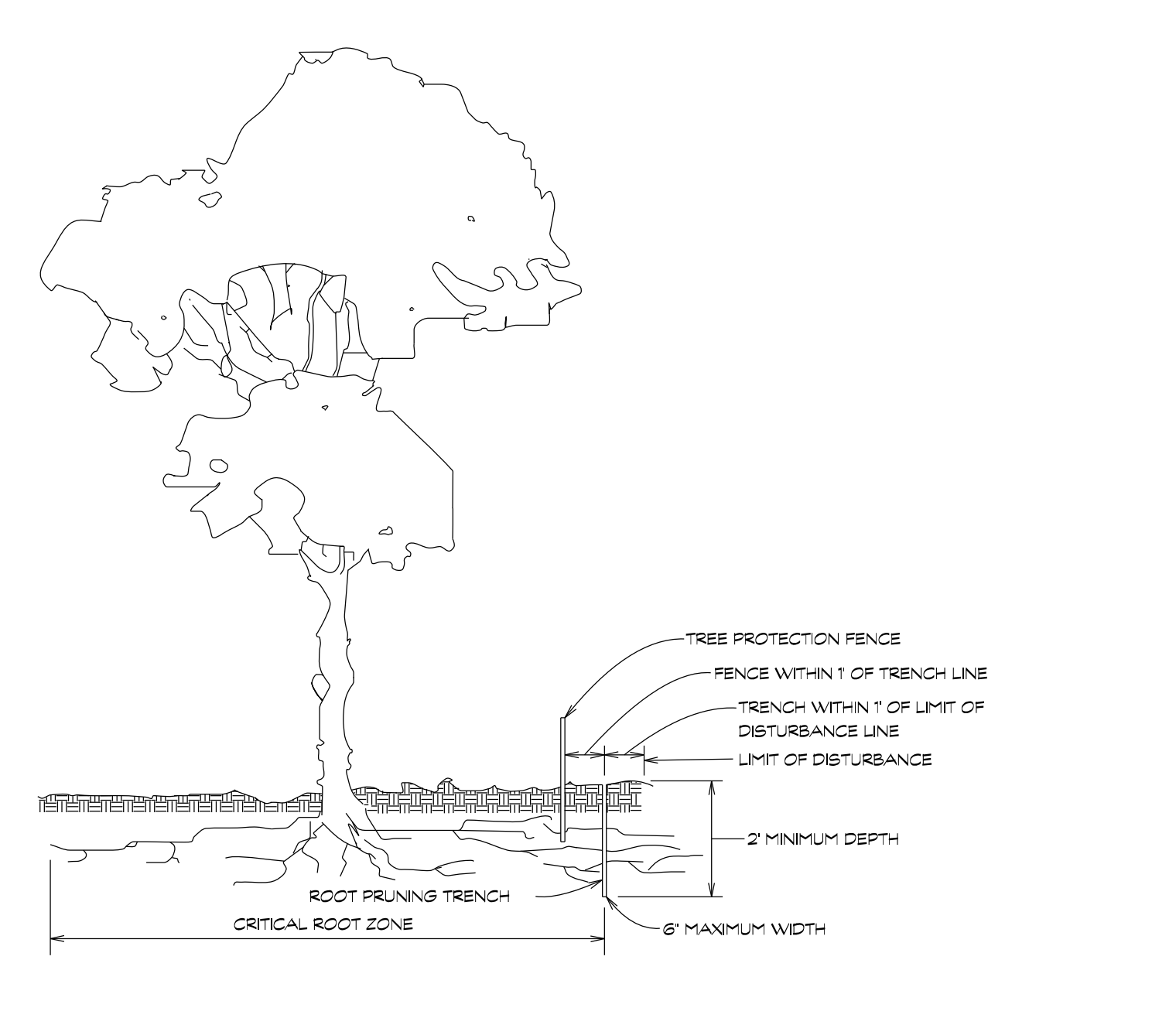
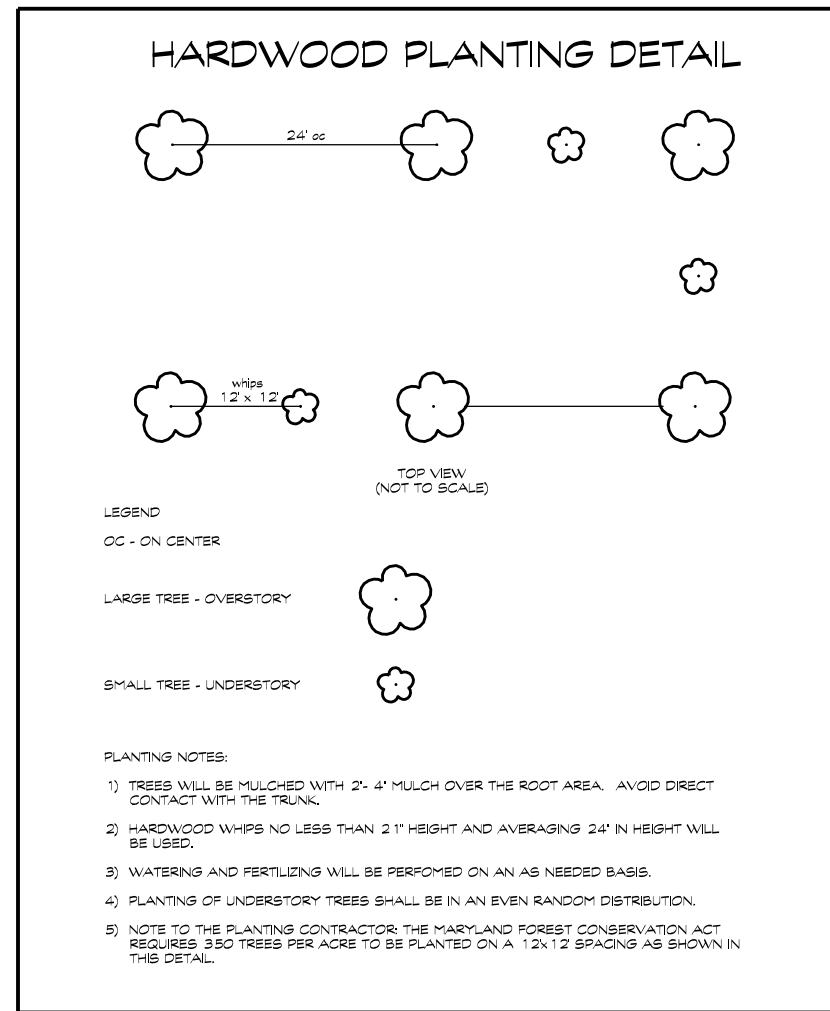
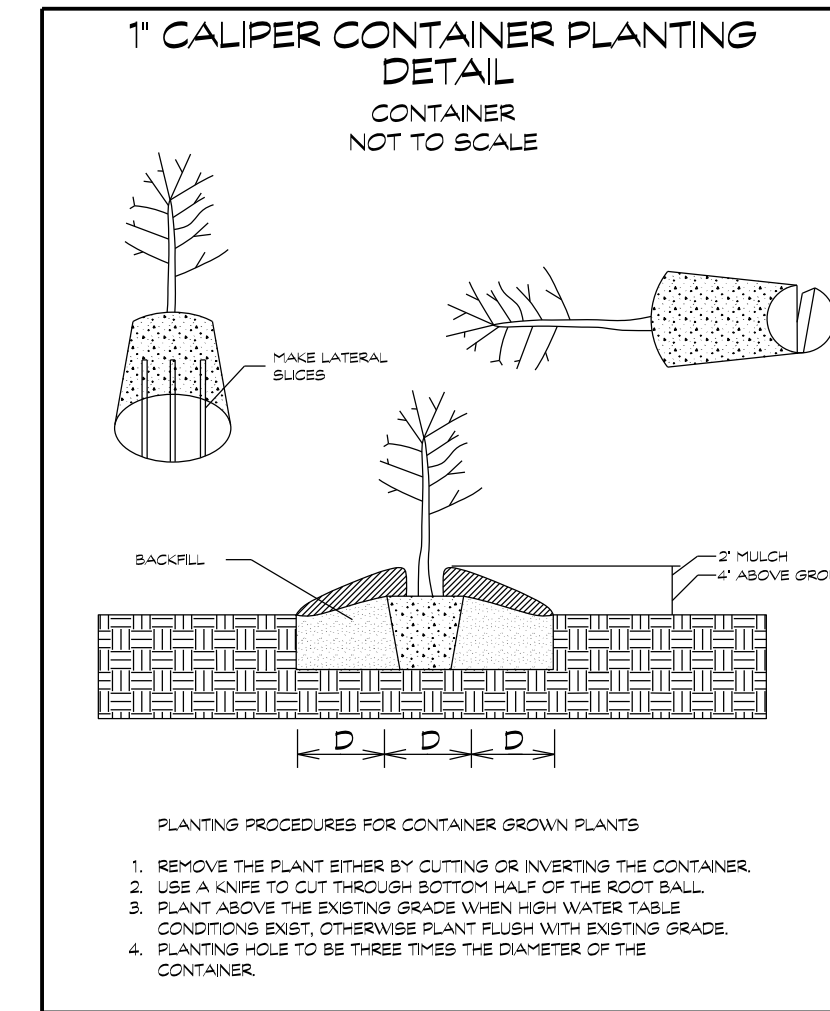
FIELD EDGE DETERMINATION TO BE REVIEWED BY FOREST CONSERVATION QUALIFIED PROFESSIONAL

FIGURE A-2

- When using tree shelters the number of plants per acre is adjusted.
 - If necessary, trim seedlings or whips to a single leader.
 - Drive stake into ground approximately 1/2" from the base of the seedling or whip, to a depth of 12 inches. NOTE: In open fields drive the stake on windward side of the seedling or whip. In shaded conditions, drive the stake on the north side of the seedling or whip.
 - Slit the tree shelter over the plant. Do not damage the terminal bud or root collar of the plant.
 - With the flat end of the shelter on top and before tightening the ties, use a block of wood and hammer to seat the base of the shelter into the ground. The shelter must be seated at least one inch below ground surface.
 - Tighten the ties to secure the shelter to the stake.
 - Install poly netting over the top opening of the shelter to prevent bird entry.
- Note: Contractor to follow manufacturer installation procedures



GENERAL TREE SHELTER INSTALLATION DETAIL N.T.S.



- NOTES:**
- RETENTION AREAS TO BE ESTABLISHED AS PART OF THE FOREST CONSERVATION PLAN REVIEW PROCESS.
 - BOUNDARIES OF RETENTION AREAS TO BE STAKED, FLAGGED AND/OR FENCED PRIOR TO TRENCHING.
 - EXACT LOCATION OF TRENCH SHOULD BE IDENTIFIED.
 - TRENCH SHOULD BE IMMEDIATELY BACKFILLED WITH SOIL REMOVED OR ORGANIC SOIL.
 - ROOTS SHOULD BE CLEANLY CUT USING VIBRATORY KNIFE OR OTHER ACCEPTABLE EQUIPMENT.

ROOT PRUNING

OWNER / DEVELOPER

MINERAL HILL PROPERTY, LLC.
 11175 STRATFIELD COURT
 MARRIOTTVILLE MD, 21104
 (410) 442-2211

FOREST CONSERVATION NOTES & DETAILS
MINERAL HILL PROPERTY

5th ELECTION DISTRICT CARROLL COUNTY, MARYLAND
 TAX MAP: 74 BLOCK: 3 PARCEL: 7

NOT FOR CONSTRUCTION

MD Civil Engineers & Surveyors

CLSI

Lead Planning & Environmental Consultants

www.clsi-civileng.com

439 East Main Street Westminster, MD 21157-5539
 (410) 848-1790 FAX (410) 848-1791

Date	Revisions	Drawn By:
10/20/20	Addressed County Comments (LNL)	JLW
		Designed By: AV
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		Sheet: 23 OF 23

NOT FOR CONSTRUCTION