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**MINIMUM LOT SIZE CHART**

LOT NO.	GROSS AREA	PIPESTEM AREA	MINIMUM LOT SIZE
1	7,122 SF	655 SF	6,467 SF
2	6,516 SF	744 SF	5,772 SF
3	6,634 SF	868 SF	5,766 SF
4	7,349 SF	970 SF	6,379 SF
5	6,578 SF	1,128 SF	5,450 SF
6	7,279 SF	1,058 SF	6,221 SF
7	7,186 SF	1,048 SF	6,138 SF
8	6,296 SF	1,153 SF	5,143 SF

**MIHU ALLOCATION EXEMPTIONS TRACKING**

	PHASE 1	PHASE 2	TOTAL
TOTAL NO. OF LOTS/UNITS PROPOSED	10	12	22
NUMBER OF MIHU REQUIRED	1	2	3
NO. OF MIHU PROVIDED ON-SITE (EXEMPT FROM APFO ALLOCATION)	0	0	0
NO. OF APFO ALLOCATION REQUIRED (REMAINING LOTS/UNITS)	10	11	21
MIHU FEE-IN-LIEU (INDICATE LOT/UNIT NO.)	N/A	N/A	N/A
NO. OF MIHU PROVIDED OFF-SITE (EXEMPT FROM APFO ALLOCATION)	0	0	0
NO. OF LIHU PROVIDED ON-SITE * (EXEMPT FROM APFO ALLOCATION)	1	0	1

\* SEE GENERAL NOTE # 41.

**DENSITY CALCULATIONS:**

GROSS AREA OF THE SITE = 17.26 AC  
 AREA OF FLOODPLAIN (ON-SITE) = 5.59 AC  
 NET AREA OF THE SITE = 11.67 AC (FOR DENSITY)  
 ALLOWABLE DEVELOPABLE LOTS = 2 LOTS / NET ACRE  
 ALLOWABLE DEVELOPABLE LOTS = 2 x 11.67 = 23.34 = 23 LOTS  
 PROPOSED DEVELOPABLE LOTS (PHASE 1): 10 LOTS - F-18-015  
 PROPOSED DEVELOPABLE LOTS (PHASE 2): 12 LOTS - F-18-015  
 PROPOSED DEVELOPABLE LOTS: 22 LOTS

**STORMWATER MANAGEMENT PRACTICES CHART**

LOT #	DRYWELL M-5 (NUMBER)	LOT #	LOT AREA (S.F.)	STRUCTURE AREA (S.F.)	LOT COVERAGE (%)
1	3	1	7,122	1,950	27%
2	3	2	6,516	1,950	30%
3	3	3	6,634	1,950	29%
4	3	4	7,349	1,950	27%
5	2	5	6,578	1,950	30%
6	3	6	7,279	1,950	27%
7	3	7	7,186	1,950	32%
8	3	8	6,296	1,950	38%
9	3	9	5,123	1,950	38%
10	3	10	4,895	1,950	40%

**ENGINEER'S CERTIFICATE**  
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF ENGINEER: *Samer A. Alomer P.E.* DATE: 1/20/22  
 PRINTED NAME OF ENGINEER: SAMER A. ALOMER P.E.

**DEVELOPERS CERTIFICATE**  
 I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. HOWARD SOIL CONSERVATION DISTRICT IS AUTHORIZED TO CONDUCT PERIODIC ON-SITE INSPECTION.

SIGNATURE OF DEVELOPER: *R. Jacob Hikmat* DATE: 1/27/22  
 PRINTED NAME OF DEVELOPER: R. JACOB HIKMAT

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 APPROVED: DEPARTMENT OF PUBLIC WORKS DATE: 1/11/2022  
 CHIEF, BUREAU OF HIGHWAYS: MJK

APPROVED: DEPARTMENT OF PLANNING AND ZONING DATE: 3/21/22  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: SP

APPROVED: DEPARTMENT OF LAND DEVELOPMENT DATE: 1/17/22  
 CHIEF, DIVISION OF LAND DEVELOPMENT: JAM

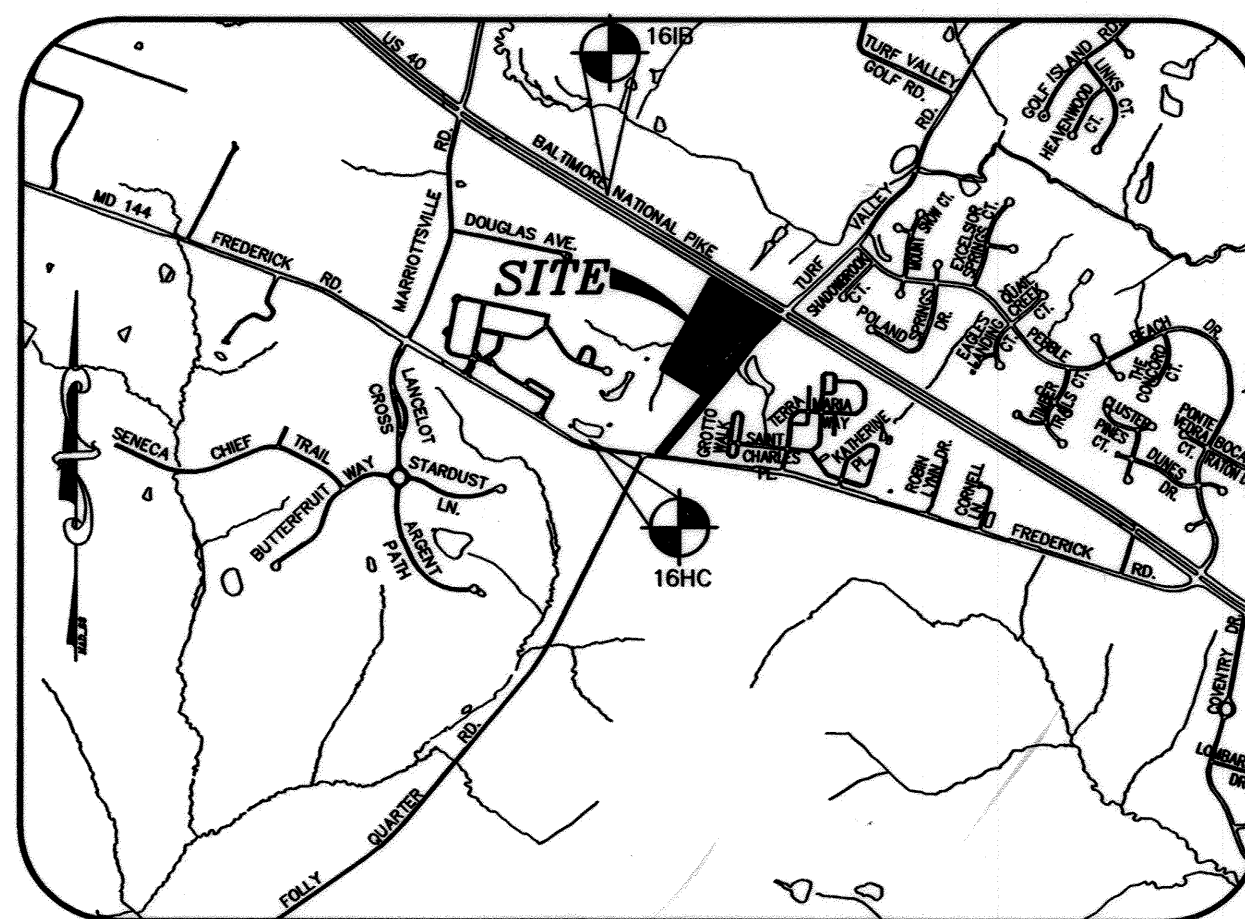
**OWNER / DEVELOPER**

CADOGAN PROPERTY, LLC  
 8318 FORREST ST. SUITE 300  
 ELLICOTT CITY, MD 1043  
 (410)997-0296

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 26859, EXP DATE 03/08/23

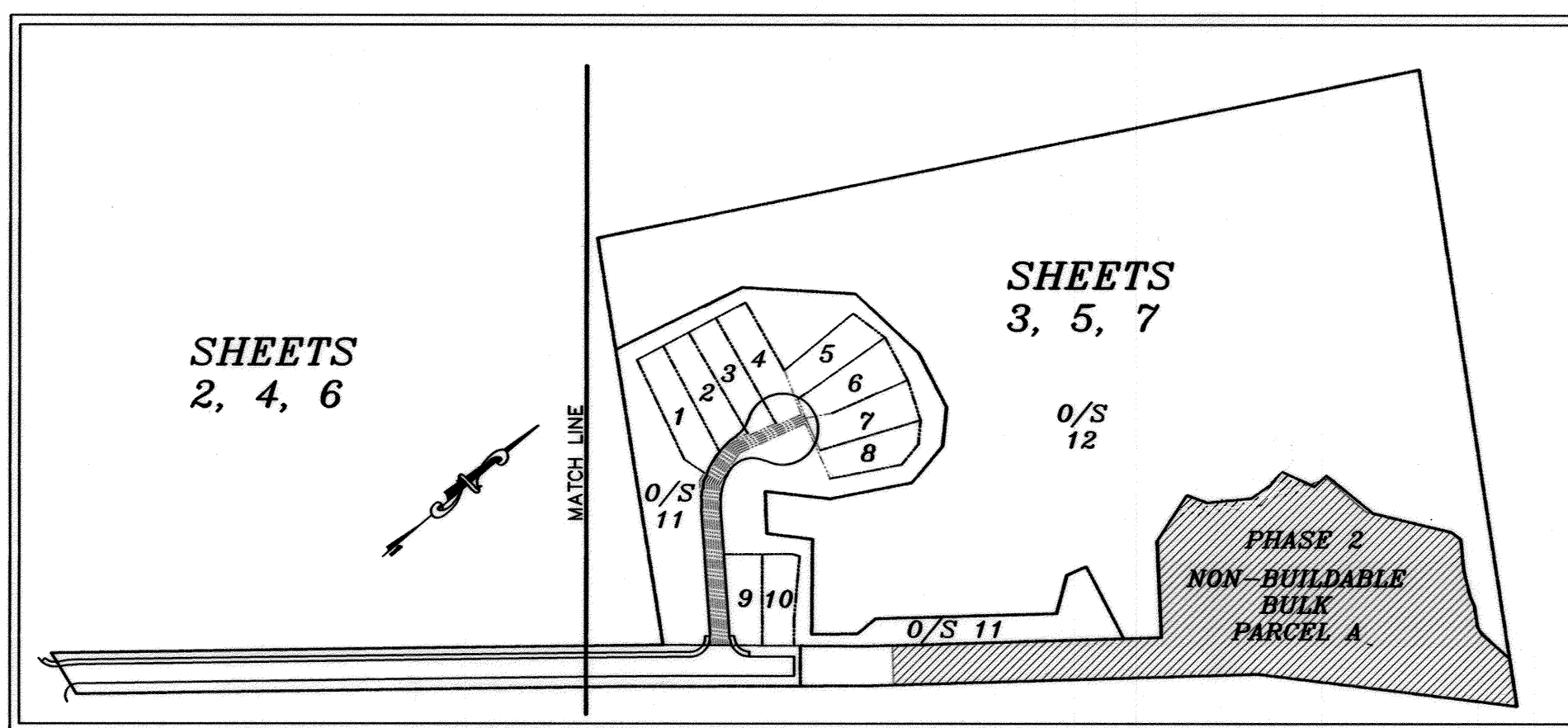
SIGNATURE OF ENGINEER: *Samer A. Alomer P.E.* DATE: 1/20/22

# FINAL ROAD CONSTRUCTION PLAN ST. CHARLES WOODS - PHASE 1 LOTS 1 - 10, OPEN SPACE LOTS 11 AND 12 AND NON-BUILDABLE BULK PARCEL A THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND MDOT SHA TRACKING # 14-APH0025XX



**VICINITY MAP**

SCALE: 1"=2000'  
 ADC MAP: 19 GRID: D5



**LOCATION MAP**

SCALE: 1"=200'

**GENERAL NOTES:**

- THIS SUBJECT PROPERTY IS ZONED R-ED PER THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN.
- THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- ON-SITE TOPOGRAPHY SHOWN HEREON IS BASED ON FIELD RUN SURVEY BY MILDBERG, BOENDER & ASSOCIATES INC. IN DECEMBER, 2009. OFF-SITE TOPOGRAPHY BASED ON HOWARD COUNTY GIS.
- BOUNDARY SHOWN HEREON IS BASED ON FIELD RUN SURVEY BY MILDBERG, BOENDER & ASSOC. IN DECEMBER, 2009.
- HORIZONTAL AND VERTICAL DATUMS ARE RELATED TO THE MARYLAND STATE PLANE COORDINATE SYSTEM AS PROJECTED FROM HOWARD COUNTY CONTROL STATIONS NO. 168C & 168B  
 STA. NO. 168C N 589,780.950 E 1,341,530.091 EL. 448.65  
 STA. NO. 168B N 590,475.297 E 1,344,753.928 EL. 468.84
- PROJECT BACKGROUND:**  
 ADDRESS: 1011 BALTIMORE NATIONAL PkE, ELLICOTT CITY, MD 21042  
 LOCATION TAX MAP 16, GRID 23, PARCEL 248  
 ELECTION DISTRICT: THIRD  
 DEED REFERENCE: 11592, F 327  
 PREVIOUS DPZ NUMBERS: ECP-15-006, AA-14-019, SP-15-010, WP-15-077, WP-16-049, WP-17-075, PB-430  
 MDOT SHA TRACKING NO.: 14-APH0025XX
- SITE DATA ANALYSIS:**  
 TOTAL AREA: 17.26 AC  
 AREA OF FLOODPLAIN: 5.59 AC  
 NET TRACT AREA: 11.67 AC  
 NUMBER OF BUILDABLE LOTS: 10  
 NUMBER OF OPEN SPACE LOTS: 2  
 TYPE OF PROPOSED UNITS: SFA, SFSD  
 AREA OF BUILDABLE LOTS: 2.45 AC  
 AREA OF ROAD ROW: 1.24 AC  
 AREA OF OPEN SPACE REQUIRED (50%): 8.63 AC  
 AREA OF OPEN SPACE PROVIDED (70%): 12.07 AC  
 RECREATIONAL OPEN SPACE REQUIRED (400 SF/LOT): 4,000 SF  
 RECREATIONAL OPEN SPACE PROVIDED: 4,970 SF
- WATER AND SEWER ARE PUBLIC. WATER SERVICE WILL BE PROVIDED BY CONNECTION TO THE EXISTING 12" WATER ON FREDERICK ROAD (CONTRACT 44-3479). SEWER SERVICE WILL BE PROVIDED BY CONNECTION TO FUTURE 8" SEWER CONSTRUCTED PER CAPITAL PROJECT 5-6293.
- THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS (COUNCIL BILL 45-2003). DEVELOPMENT OR CONSTRUCTION OF THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION OR BUILDING/GRADING PERMIT.
- STUDY STAND AND WETLAND DELINEATIONS ARE BASED ON A STUDY PERFORMED BY ECO-SCIENCE PROFESSIONALS IN NOVEMBER, 2009, UPDATED ON OCTOBER 10, 2014 AND JANUARY 17, 2017.
- 100-YEAR FLOODPLAIN DELINEATION BASED ON A STUDY PREPARED BY MILDBERG, BOENDER & ASSOCIATES, INC. IN JUNE, 2012.
- NOISE STUDY WAS PREPARED BY MILDBERG, BOENDER & ASSOCIATES, INC. IN NOVEMBER, 2014 AND APPROVED ON MAY 3, 2017.
- AN APFO TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY MARS GROUP, INC. IN JULY, 2014 AND APPROVED ON MAY 3, 2017.
- THIS SITE IS NOT LOCATED IN A HISTORIC DISTRICT. THERE ARE NO HISTORIC STRUCTURES ON SITE.
- SOIL DELINEATION IS BASED ON HOWARD COUNTY SOIL SURVEY MAP 2003.
- THERE ARE NO EXISTING STRUCTURES ON SITE.
- SLOPES GREATER THAN 25% DO NOT EXIST ON SITE.
- NO BURIAL GROUNDS OR CEMETERIES EXIST ON SITE.
- SITE IS ADJACENT TO A DESIGNATED SCENIC ROAD.
- LOTS 1 THROUGH 8 WILL BE SERVED BY A PRIVATE USE-IN-COMMON DRIVEWAY & UTILITY EASEMENT. DESIGN MANUAL WAIVER REQUEST TO APPENDIX "A" OF DESIGN MANUAL VOLUME III WAS APPROVED ON MARCH 17, 2017 BY DED/DPW TO ALLOW 8 LOTS ON A USE-IN-COMMON DRIVEWAY.
- FOREST CONSERVATION OBLIGATIONS IN ACCORDANCE WITH SECTION 16.1202 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL FOR THIS SUBDIVISION WILL BE FULFILLED BY THE RETENTION OF 4.16 AC. (81,210 SQ.FT.) INTO FOREST CONSERVATION EASEMENTS "A" (2.91 AC), "B" (0.43 AC) AND "C" (0.82 AC).
- NO GRADING OR REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAM(S), OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS, 100 YEAR FLOODPLAIN AND AREAS OF STEEP SLOPES GREATER THAN 25% WITH CONTIGUOUS AREAS OF 20,000 SQUARE FEET OR GREATER UNLESS AN ALTERNATIVE COMPLIANCE PETITION IS GRANTED OR HAS BEEN DETERMINED TO BE A NECESSARY OR ESSENTIAL DISTURBANCE.
- IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL, ALL LANDSCAPING REQUIREMENTS ARE PROVIDED IN A CERTIFIED LANDSCAPE PLAN WHICH IS INCLUDED WITH THIS FINAL ROAD CONSTRUCTION PLAN SET.
- FINANCIAL SURETY FOR THE PROVIDED LANDSCAPING (41 SHADE TREES, 6 EVERGREENS AND 50 SHRUBS), AN ADDITIONAL (3 SHADE TREES AND 4 EVERGREENS) PROVIDED AS A CONDITION OF THE APPROVED WAIVER WP-15-077 AND 550 L.F. OF PRIVACY FENCE WITH AN ADDITIONAL (5) SHRUBS IN THE AMOUNT OF \$23,350 IS TO BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT.
- A SURETY IN THE AMOUNT \$14,400 FOR (48 SHADE TREES) PUBLIC STREET TREES WILL BE ADDRESSED UNDER DED'S COST ESTIMATE.
- STORMWATER MANAGEMENT IS PROVIDED BY M-5 DRY WELLS AND M-6 MICRO-BIOTRENTION FACILITIES IN ACCORDANCE WITH THE 2007 MARYLAND STORMWATER DESIGN MANUAL.
- AN ALTERNATIVE COMPLIANCE WP-15-077 TO SECTION 16.116(a)(1) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS TO ALLOW DISTURBANCE WITHIN THE WETLANDS AND BUFFER FOR THE CONSTRUCTION OF A PUBLIC ROAD WAS GRANTED ON MARCH 13, 2015 WITH THE FOLLOWING CONDITIONS:  
 A. IMPACT IS RESTRICTED TO 0.15 AC OF WETLANDS AND 0.15 AC OF WETLAND BUFFER AS SHOWN AND INDICATED ON THE WAIVER EXHIBIT. ANY PROPOSAL TO INCREASE THE IMPACT TO THE WETLAND AREA/WETLAND BUFFER OR ANY OTHER PROTECTED SOURCE ON SITE WILL REQUIRE AN ADDITIONAL WAIVER PETITION TO BE SUBMITTED OR A RECONSIDERATION OF THIS WAIVER PETITION.  
 B. THE APPLICANT SHALL PROVIDE UPDATED JUSTIFICATION AS TO WHY ACCESS TO THE PROJECT FROM US ROUTE 40 IS THE LESSER TABLE OPTION. THIS JUSTIFICATION SHALL BE PROVIDED WITH THE NEXT REVISED PLAN SUBMISSION OF SP-15-010. AT FINAL PLAN DESIGN STAGE, THE APPLICANT AND CONSULTANT SHALL MAKE EVERY ATTEMPT TO REDUCE THE LENGTH OF THE OUTFALL PIPE (THUS REDUCING THE IMPACT TO THE WETLAND AREA).  
 C. SP-15-010 AND ALL SUBSEQUENT PLANS SHALL REFLECT THE NEWER "THUMBNAIL" DESIGN OF GIBRAN LA. (PREVIOUSLY INSPIRATION WAY), INSTEAD OF THE STANDARD OUL-SAC. ANOTHER REVISED WAIVER PLAN EXHIBIT WHICH DEPICTS THE "THUMBNAIL" DESIGN OF GIBRAN LA. (INSPIRATION WAY) AND THE PROJECT BOUNDARY PROPERTY LINE, ADJACENT TO ANY EXISTING HOMES. THESE OPTIONS WOULD INCLUDE SUCH ITEMS AS BURNING, FENCING AND/OR LANDSCAPING SCREENING. THIS BUFFER/SCREENING WOULD BE IN ADDITION TO ANY REQUIRED PERIMETER LANDSCAPING AND STREET TREES.  
 D. THE PROPOSED WETLAND AND WETLAND BUFFER DISTURBANCE ARE SUBJECT TO OBTAINING ALL NECESSARY PERMITS FROM THE MARYLAND DEPARTMENT OF THE ENVIRONMENT AND U.S. ARMY CORPS OF ENGINEERS, AS REQUIRED
- DESIGN MANUAL WAIVER REQUEST TO SECTION 2.5.8.1, TABLE 2.07 OF THE DESIGN MANUAL VOLUME III WAS APPROVED ON APRIL 24, 2017 BY DED/DPW TO ALLOW REDUCED INTERSECTION SPACING ON MD ROUTE 144 TO 170 LF.
- THIS PROPERTY IS SUBJECT TO ADMINISTRATIVE ADJUSTMENT PETITION (AA-14-019) TO THE DISTRICT MAP LINE FOR DRAFTING ERRORS AND OTHER CORRECTIONS. PETITION WAS GRANTED ON DECEMBER 24, 2014 WITH THE FOLLOWING CONDITIONS:  
 A. THE PETITIONER SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND COUNTY LAWS AND REGULATIONS.  
 B. THE GRANTED ADMINISTRATIVE ADJUSTMENT SHALL APPLY SOLELY TO THE DISTRICT MAP LINE AS DEPICTED ON THE PLAN SUBMITTED BY THE PETITIONER.  
 C. THIS DECISION AND ORDER SHALL BE TRANSFERRED TO ANY SUCCEEDING OWNERS OF THE PROPERTY.
- THIS PROJECT IS SUBJECT TO PLANNING BOARD APPROVAL IN ACCORDANCE WITH ZONING REGULATION SECTION 107.01.6. PLANNING BOARD PB-430 WAS HELD ON AUGUST 17, 2017. PB-430 WAS SIGNED ON SEPTEMBER 28, 2017. APPROVAL WAS ISSUED ON DECEMBER 5, 2017 SUBJECT TO:  
 A. THE PETITIONER FURTHER INVESTIGATES ADDED BUFFERS ALONG GIBRAN LA. TO SHIELD EXISTING PROPERTIES ON THE SOUTH SIDE OF GIBRAN LANE.
- RIE 40 ADVISORY PANEL MEETING ON SEPTEMBER 10, 2014  
**RECOMMENDATION:**  
 1. APPLICANT REVIEW AND IMPROVE OVERALL SITE LAYOUT  
 2. CONSIDER ALL ELEVATIONS OF THE PROPOSED HOUSES  
 3. DAP WILL REVIEW THE BUILDING ELEVATIONS AT SDP DESIGN STAGE.  
**RESPONSE:**  
 1. LOTS AND DRIVEWAY LAYOUT HAS BEEN REVISED AND ACCEPTED UNDER WP-15-077.  
 2. FACADES AND ELEVATIONS OF THE BUILDINGS CONSIDERED AS PART OF ARCHITECTURAL DESIGN PROCESS. SDP WILL CONTAIN FRONT, SIDES AND REAR ELEVATIONS.  
 3. DAP WILL REVIEW THE BUILDING ELEVATIONS AT SDP DESIGN STAGE.
- A WAIVER WP-17-075 TO SECTION 16.116(a)(1) AND SECTION 16.116(a)(2) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS TO ALLOW DISTURBANCE WITHIN THE WETLANDS, STREAMS AND ITS BUFFERS FOR THE CONSTRUCTION OF A PUBLIC ROAD WAS GRANTED ON OCTOBER 5, 2017 WITH THE FOLLOWING CONDITIONS:  
 A. IMPACT IS RESTRICTED TO 0.3 AC OF WETLANDS AND 0.2 AC OF WETLAND BUFFER AND 0.32 AC OF PERENNIAL STREAM AND ITS BUFFER AS SHOWN AND INDICATED ON THE WAIVER EXHIBIT. ANY PROPOSAL TO INCREASE THE IMPACT TO THE WETLAND AREA/WETLAND BUFFER OR THE PERENNIAL STREAM AREA, STREAM BUFFER OR ANY OTHER PROTECTED RESOURCE ON SITE WILL REQUIRE AN ADDITIONAL WAIVER PETITION TO BE SUBMITTED OR A RECONSIDERATION OF THIS WAIVER PETITION.  
 B. WITH SP-15-010 AND THE SUBSEQUENT F PLAN, THE APPLICANT AND CONSULTANT SHALL PURSUE ADDITIONAL BUFFERING/SCREENING OPTIONS BETWEEN PROPOSED GIBRAN LA. AND THE PROJECT BOUNDARY PROPERTY LINE ADJACENT TO ANY EXISTING HOMES. THESE OPTIONS WOULD INCLUDE SUCH ITEMS AS BURNING, FENCING AND/OR LANDSCAPING SCREENING. THIS BUFFER/SCREENING WOULD BE IN ADDITION TO ANY REQUIRED PERIMETER LANDSCAPING AND STREET TREES.  
 C. THE PROPOSED WETLAND AND WETLAND BUFFER, PERENNIAL STREAM AND ITS BUFFER DISTURBANCES ARE SUBJECT TO OBTAINING ALL NECESSARY PERMITS FROM THE MARYLAND DEPARTMENT OF THE ENVIRONMENT AND U.S. ARMY CORPS OF ENGINEERS, AS REQUIRED.
- A PRE-SUBMISSION COMMUNITY MEETING WAS HELD FOR THIS PROJECT ON JUNE 26, 2014 AT THE MILLER LIBRARY AT 6:00 PM.
- A PRIVATE ROAD STREET NAME SIGN FOR "ALMIRA LANE" SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPERS/OWNERS EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-5752 FOR DETAILS AND COST ESTIMATE.
- THE R1-1 "STOP" SIGN AND THE STREET NAME SIGN (SNS) ASSEMBLY FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETED.
- THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO THE INSTALLATION.
- ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED (COUNCH PUNCH), SQUARE TUBE POST (1/4 GAUGE INSERTED INTO A 2-1/2" GALVANIZED STEEL PERFORATED, SQUARE TUBE SLEEVE (1/2 GAUGE)- 3" LONG. THE ANCHOR SHALL NOT EXTEND MORE THAN TWO QUICK PUNCH HOLES ABOVE GROUND LEVEL.
- STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (2009), SECTION 5.5.A. A MINIMUM OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY DEVELOPMENT.
- MODIFIED COMBINATION CURB AND GUTTER, HOWARD COUNTY STANDARDS R-3.01 AND RESIDENTIAL DRIVEWAY ENTRANCE, HOWARD COUNTY STANDARDS R-6.03 ARE TO BE USED.
- ALL RESIDENTIAL LOTS IN THIS SUBDIVISION ARE SUBJECT TO THE MIHU REQUIREMENT WHICH WILL BE SATISFIED BY PROVIDING 1 ON-SITE LIHU UNIT IN ACCORDANCE WITH AGREEMENT DATED FEBRUARY 13, 2019. THIS AGREEMENT COVERS COMPLETE DEVELOPMENT OF 22 RESIDENTIAL UNITS. MIHU AGREEMENT WILL BE RECORDED ALONG WITH THE RECORPATION OF THE RECORD PLAT.
- THIS PROJECT IS SUBJECT TO MDE APPROVAL. MDE TRACKING NO. 2018061701
- THIS PROPERTY IS NOT LOCATED WITHIN THE TIBER BRANCH OR THE PLUM TREE BRANCH WATERSHED.

project	date	approval
09-004	JAN 2022	SAA
illustration	engineering	
MM	MM	
scale	1"=60'	

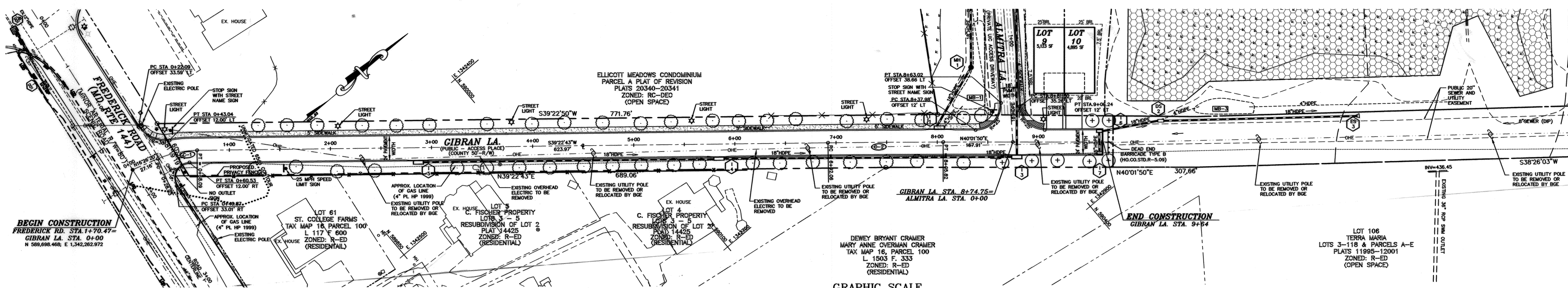
description	revisions
no.	date

**ST. CHARLES WOODS - PHASE 1**  
 LOTS 1-10, OPEN SPACE LOTS 11 & 12, AND NON-BUILDABLE BULK PARCEL A  
 TAX MAP 16 - GRID 23  
 PARCEL 248 - HOWARD COUNTY, MARYLAND  
 THIRD ELECTION DISTRICT  
 COVER SHEET (14-APH0025XX)

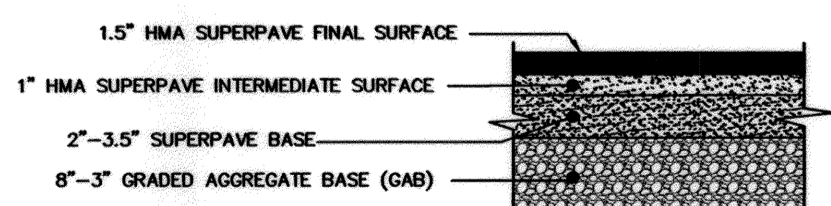
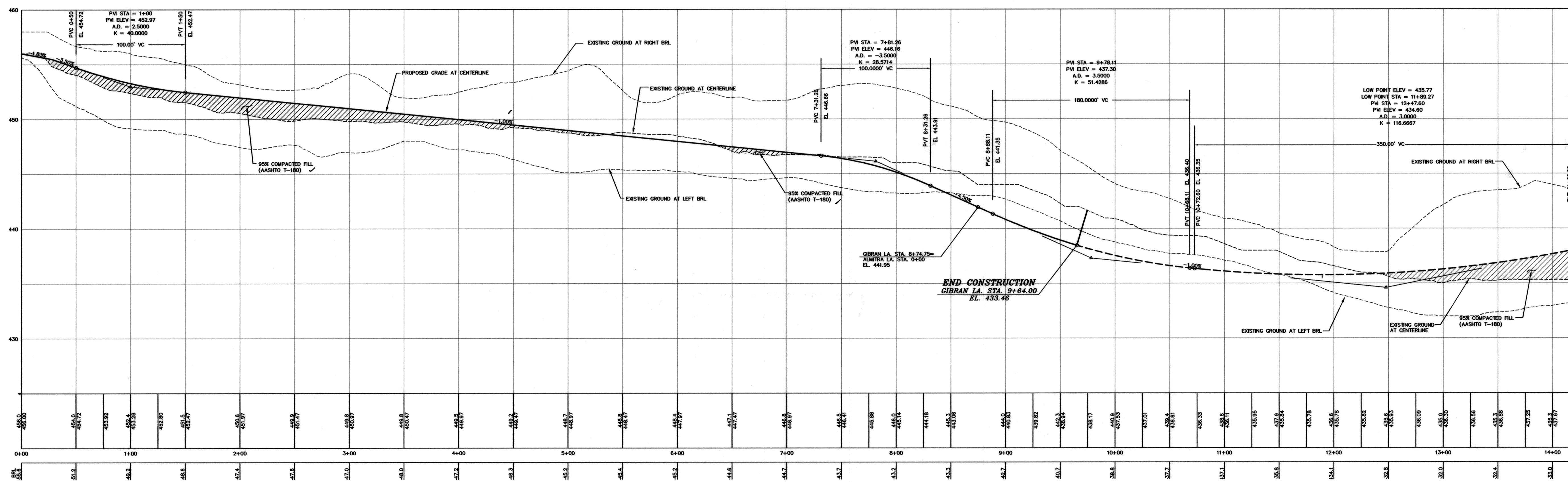
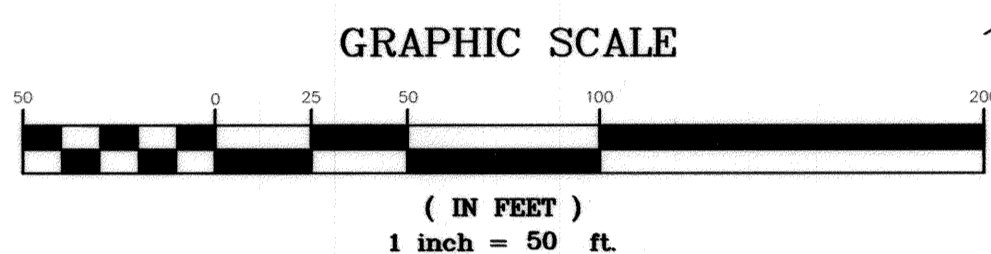
**MILDBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 8318 Forrest Street, Suite 300, Ellicott City, Maryland 21043  
 (410) 997-0296 Tel. (410) 997-0288 Fax

**CENTERLINE CURVE TABLE**

CURVE	LENGTH (FT)	RADIUS (FT)	DELTA	TANGENT (FT)	CHORD LENGTH (FT)	CHORD DIR
C-1	40.049	100.00	22°56'23"	20.29	30.77	N27°54'23"E
C-2	113.77	10,000.00	00°39'07"	56.88	113.77	N39°42'16"E



- NOTES**
- SEE SHEET 12 OF 15 FOR STREET TREE SPECIES AND QUANTITIES
  - USE HOWARD COUNTY STANDARD R-3.01, MODIFIED CURB AND GUTTER, UNLESS OTHERWISE NOTED.
  - NO STREET TREE CAN BE PLANTED WITHIN 30' OF "STOP" SIGN APPROACH DIRECTION. ACTUAL SIGN LOCATION WILL BE DETERMINED IN THE FIELD BY HOWARD COUNTY TRAFFIC DIVISION.
  - NO TREE CAN BE PLANTED WITHIN 20' OF ANY PUBLIC STREET LIGHT.
  - SEE THIS SHEET FOR STREET LIGHT CHART.



APPROVED: DEPARTMENT OF PUBLIC WORKS  
 DATE: 4/11/2022  
 CHIEF, BUREAU OF HIGHWAYS: MKZ

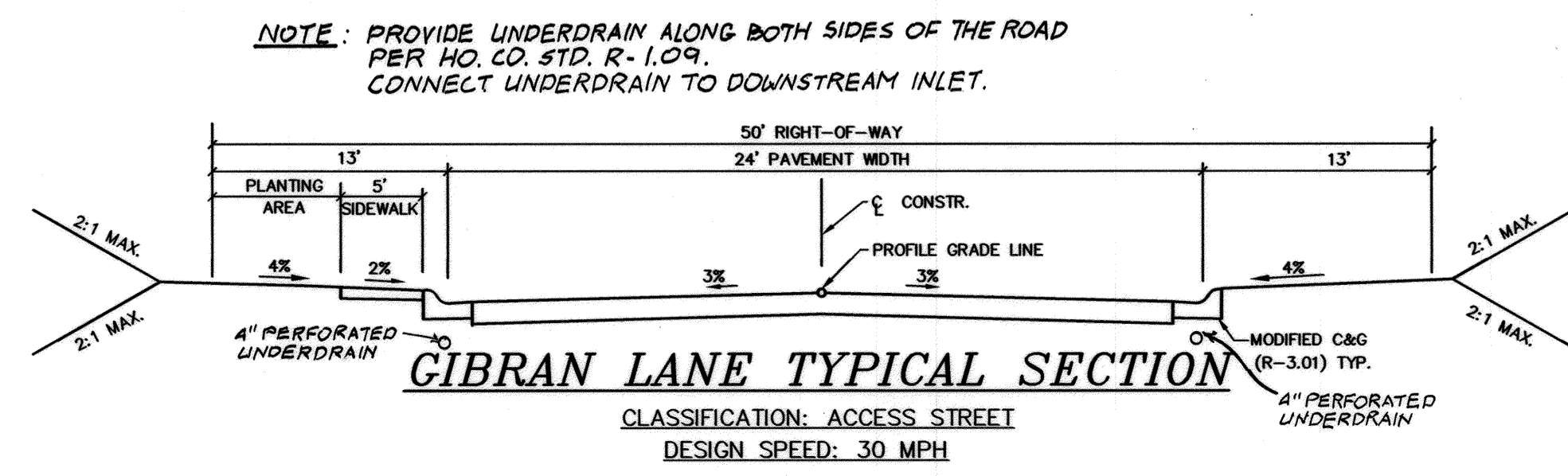
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 DATE: 3/21/22  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: JF

DATE: 6/27/22  
 CHIEF, DIVISION OF LAND DEVELOPMENT: JEM

**OWNER / DEVELOPER**  
 CADOGAN PROPERTY, LLC  
 8318 FORREST ST. SUITE 300  
 ELLICOTT CITY, MD 1043  
 (410)997-0296

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 26859, EXP DATE 08/08/23

SAMER A. ALOMER P.E. DATE: 1.20.22



**STREET LIGHT CHART**

TYPE	LOCATION
LED 150 "COLONIAL" POST TOP FIXTURE	GIBRAN LANE STA. 0+42, OFFSET 25.0' LT.
LED 150 "COLONIAL" POST TOP FIXTURE	GIBRAN LANE STA. 2+05, OFFSET 20.0' LT.
LED 150 "COLONIAL" POST TOP FIXTURE	GIBRAN LANE STA. 3+80, OFFSET 20.0' LT.
LED 150 "COLONIAL" POST TOP FIXTURE	GIBRAN LANE STA. 5+55, OFFSET 20.0' LT.
LED 150 "COLONIAL" POST TOP FIXTURE	GIBRAN LANE STA. 7+30, OFFSET 20.0' LT.
LED 100 "COLONIAL" POST TOP FIXTURE	GIBRAN LANE STA. 9+05, OFFSET 20.0' LT.

NOTE: ALL STREET LIGHTS TO BE MOUNTED ON A 14' BLACK FIBERGLASS POLE.

date: JAN. 2022  
 project: 09-004  
 illustration: MAM  
 scale: 1"=50'  
 approval: MAM  
 SAA

description: ST. CHARLES WOODS - PHASE 1  
 revisions: [blank]

**ST. CHARLES WOODS - PHASE 1**  
 LOTS 1-10, OPEN SPACE LOTS 11 & 12, AND NON-BUILDABLE BULK PARCEL A  
 TAX MAP 16 - PARCEL 248 - GRID 23  
 THIRD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND  
 ROAD PLAN, PROFILE AND TYPICAL SECTION

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Surveyors  
 Planners  
 Engineers  
 8818 Forrest Street, Suite 300, Ellicott City, Maryland 21043  
 (410) 997-0296 Tel. (410) 997-0298 Fax.

project	date
09-004	JAN. 2022
illustration	engineering
MMM	MMM
scale	approval
1"=50'	SAA

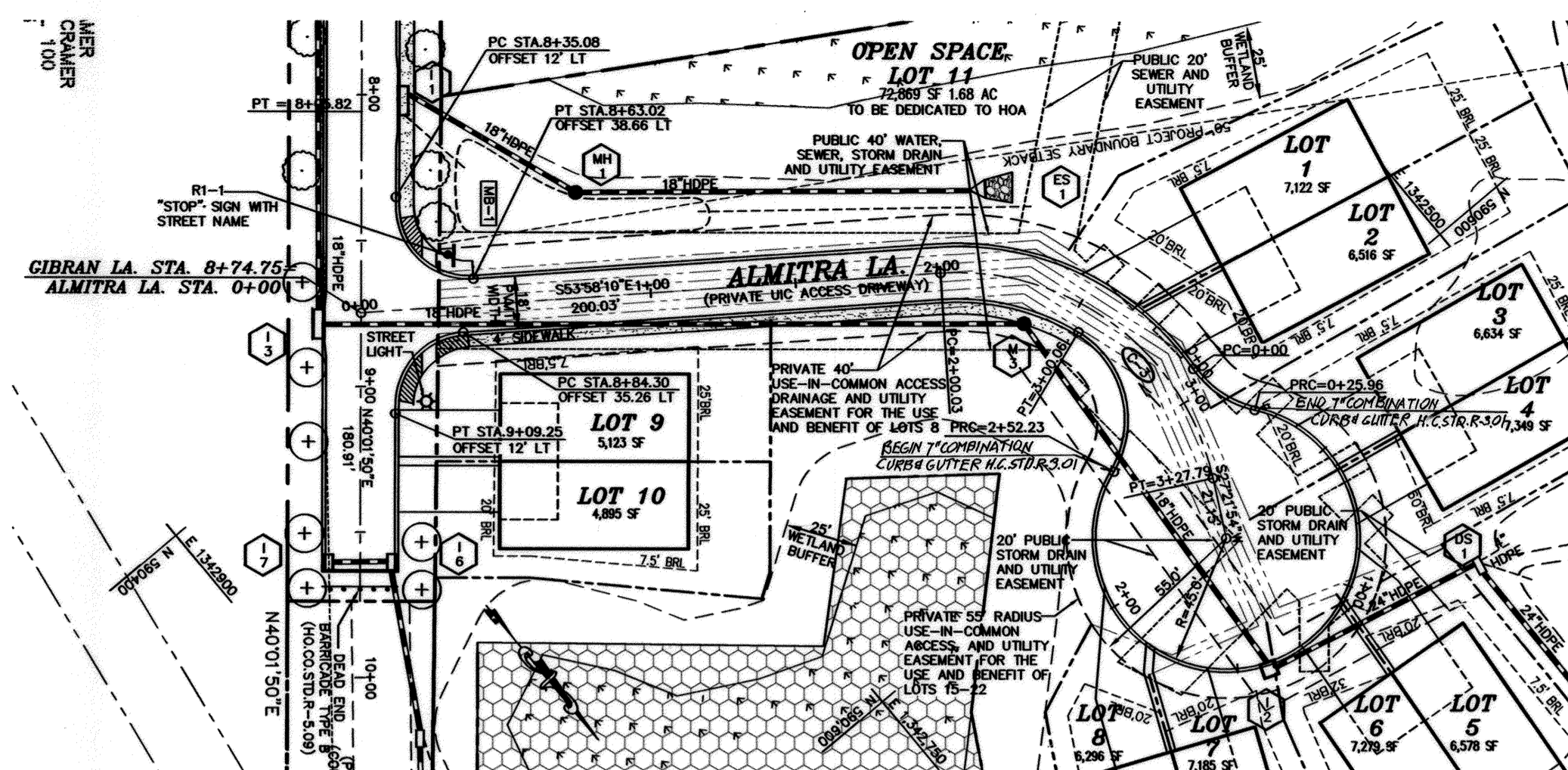
no.	description	date

**ST. CHARLES WOODS - PHASE 1**  
 LOTS 1-10, OPEN SPACE LOTS 11 & 12, AND NON-BUILDABLE BULK PARCEL A  
 TAX MAP 16 - PARCEL 248 - GRID 23  
 THIRD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND  
**ROAD PLANS, PROFILES AND TYPICAL SECTION**

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 8318 Forrest Street, Suite 300, Ellicott City, Maryland 21043  
 (410) 997-0296 Tel. (410) 997-0298 Fax.

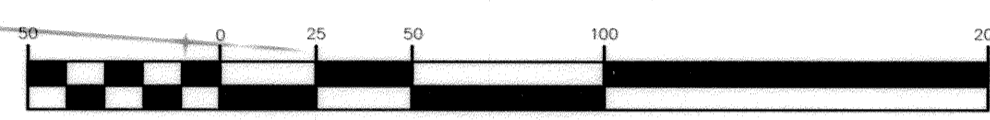
**CENTERLINE CURVE TABLE**

CURVE	LENGTH (FT)	RADIUS (FT)	DELTA	TANGENT (FT)	CHORD LENGTH (FT)	CHORD DIR
C-3	127.56	90.00	81°20'04"	77.32	117.30	N13°18'08"W

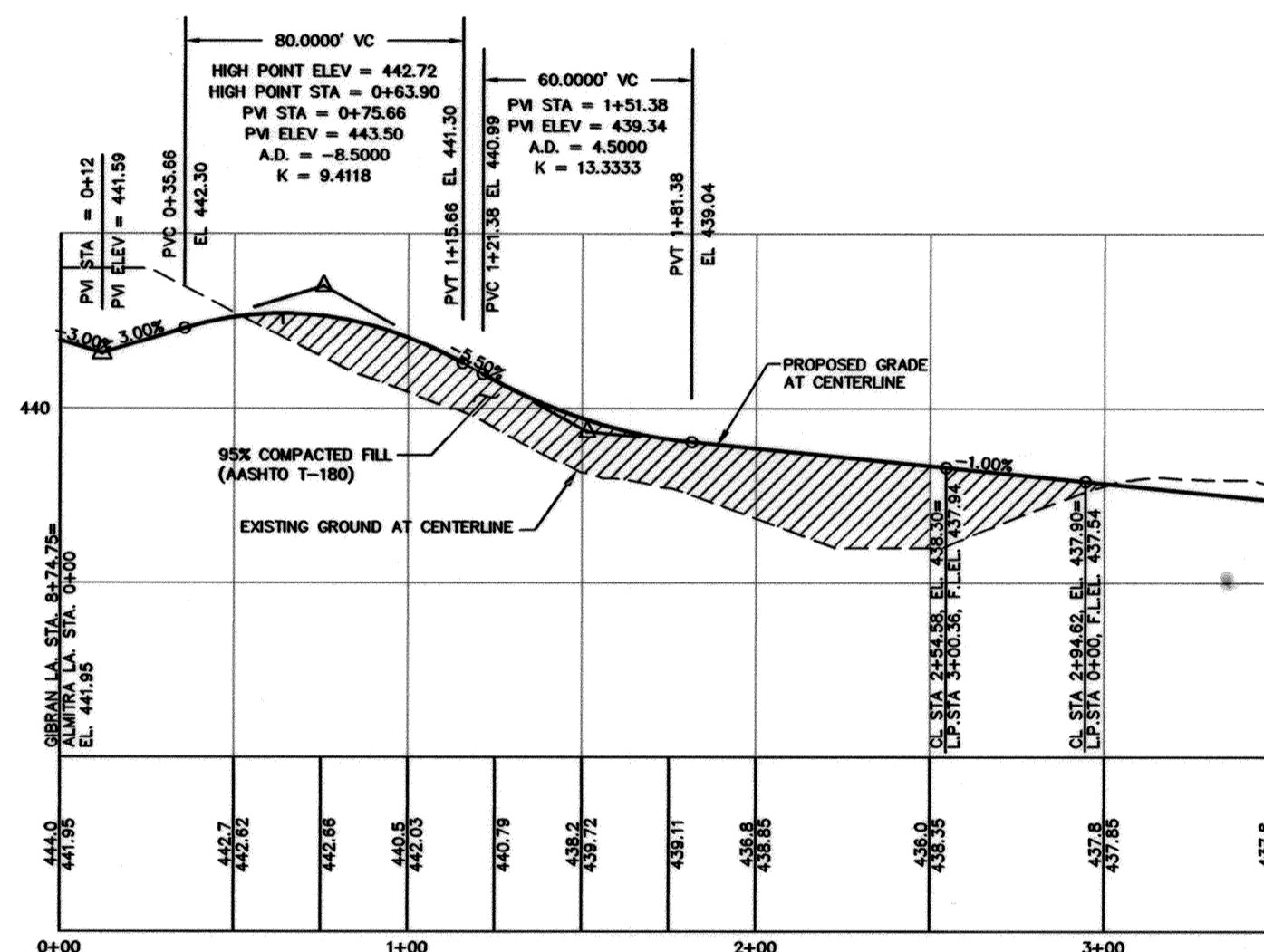


**ALMITRA LANE PLAN VIEW**

GRAPHIC SCALE



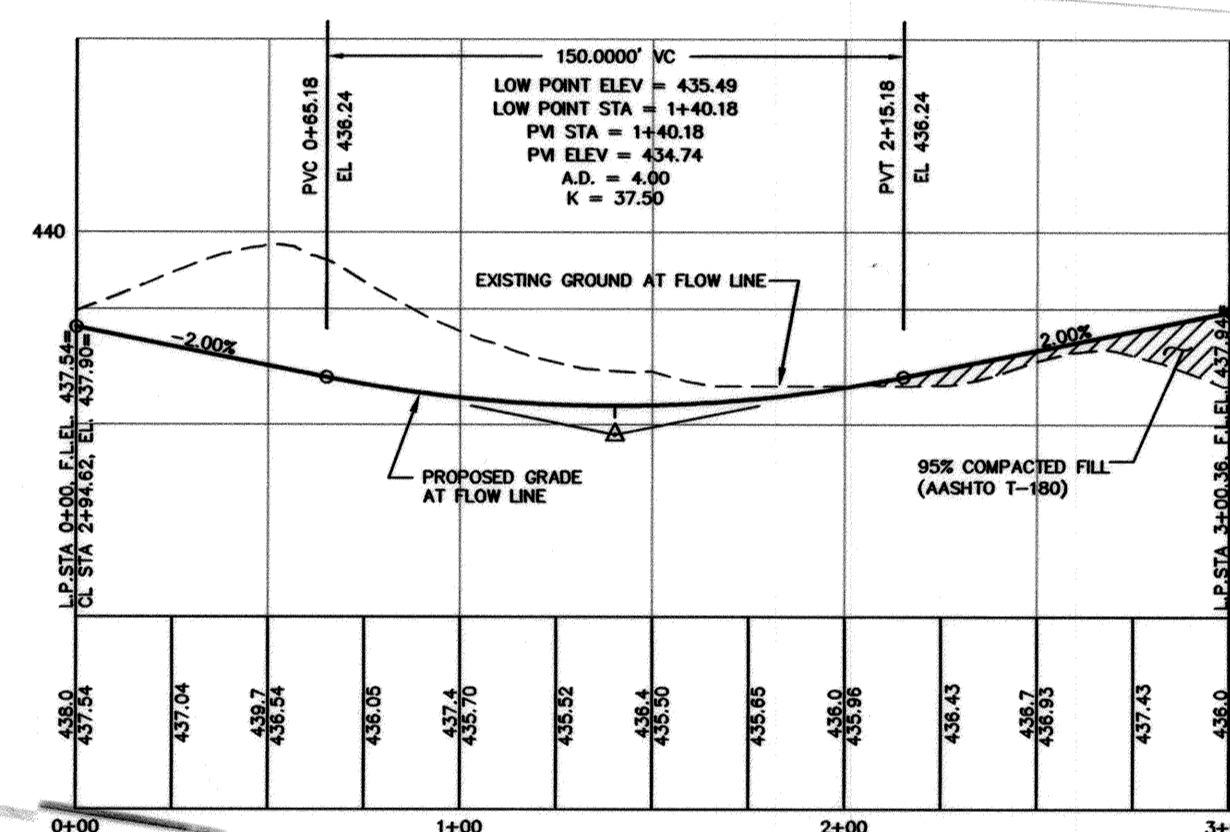
( IN FEET )  
 1 inch = 50 ft.



**ALMITRA LANE PROFILE**  
**PRIVATE UIC DRIVEWAY**

SCALE: 1"=50' HOR  
 1"=5' VER

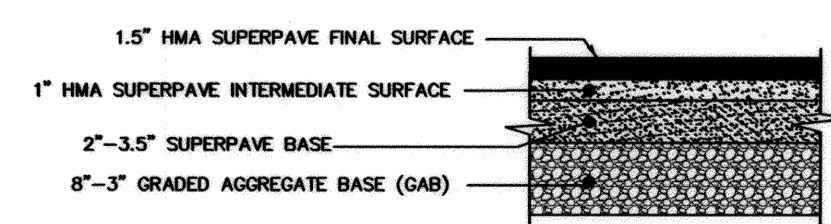
NOTE: PROVIDE 7" COMBINATION CURB & GUTTER ALONG THE CUL-DE-SAC



**ALMITRA LANE LINEAR PROFILE**

SCALE: 1"=50' HOR  
 1"=5' VER

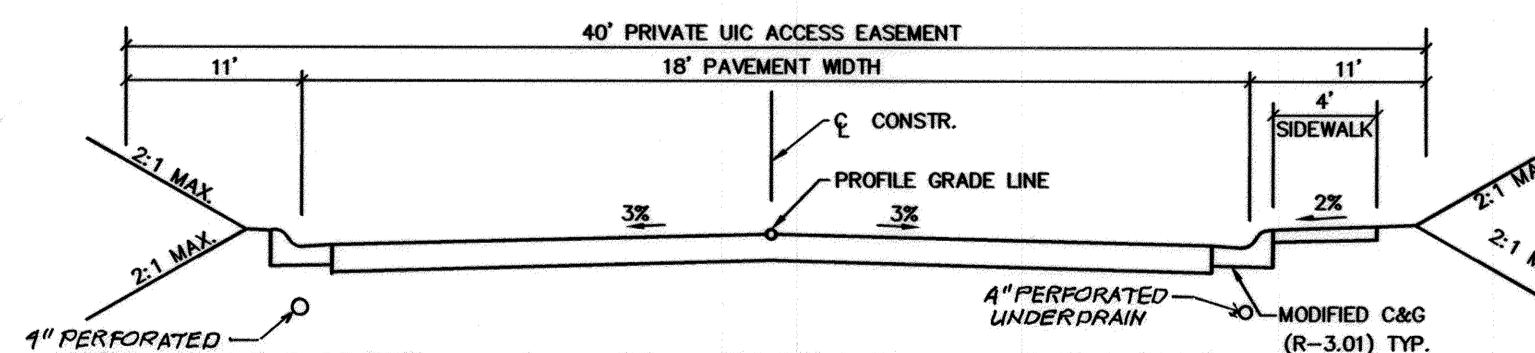
**OWNER / DEVELOPER**  
 CADOGAN PROPERTY, LLC  
 8318 FORREST ST. SUITE 300  
 ELLICOTT CITY, MD 1043  
 (410)997-0296



**PAVING SECTION P-2**

NOTE: DEPTH OF SUPERPAVE BASE AND GRADED AGGREGATE BASE DEPEND ON CBR.

NOTE: PROVIDE UNDERDRAIN ALONG BOTH SIDES OF THE ROAD PER MD. CG. 57B, R-1.09. CONNECT UNDERDRAIN TO DOWNSTREAM INLET.



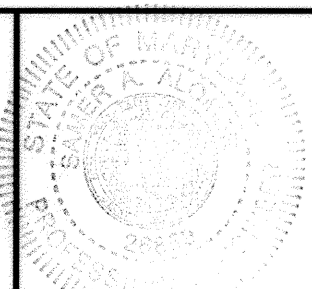
**ALMITRA LANE TYPICAL SECTION**

PRIVATE UIC ACCESS DRIVEWAY  
 DESIGN SPEED: 30 MPH

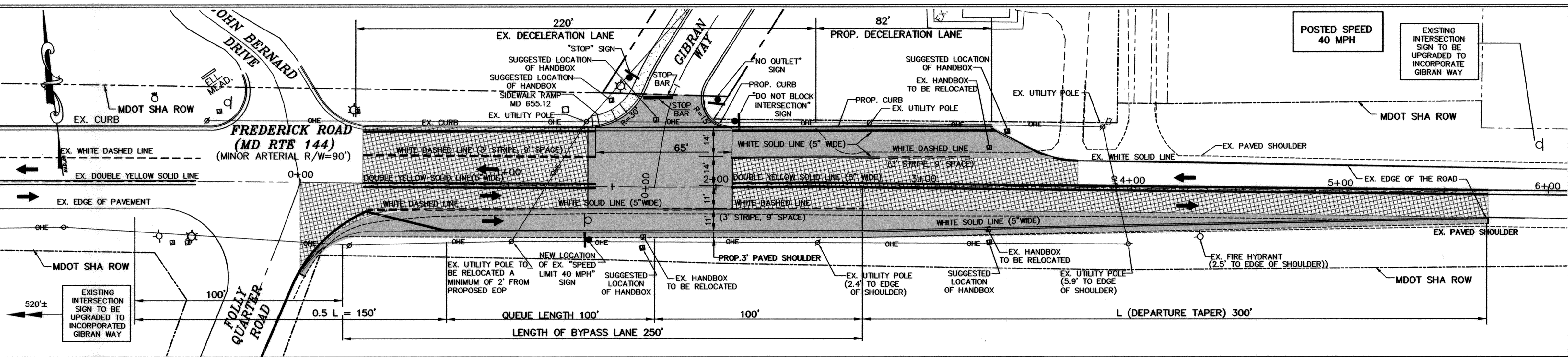
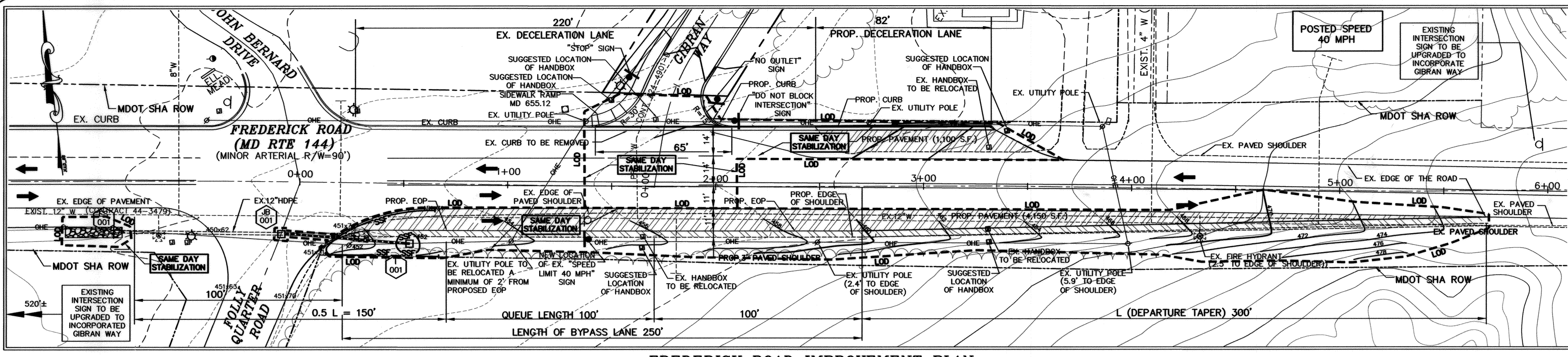
APPROVED: DEPARTMENT OF PUBLIC WORKS  
 [Signature] 01/11/2022  
 CHIEF, BUREAU OF HIGHWAYS MK

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 3/21/22  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION JS  
 [Signature] 6/27/22  
 CHIEF, DIVISION OF LAND DEVELOPMENT oja

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 26859, EXP DATE 08/08/23  
 [Signature] 1.20.22  
 SAMER A. ALOMER P.E. DATE:



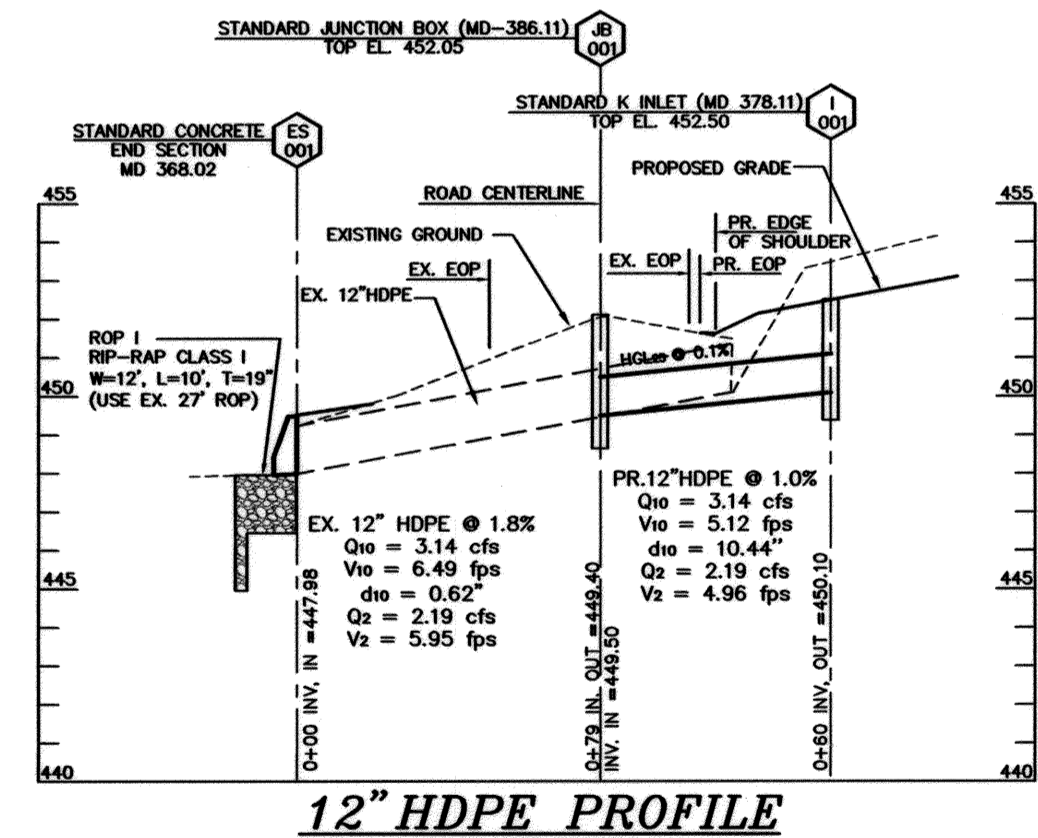
M:\2018\09-004 CADOGAN\FINAL ROAD CONSTRUCTION PLAN-PHASE-1 MYLAB.dwg, 1/20/2022 1:15:13 PM, Moys Milderberg



**LEGEND**

- INLET PROTECTION
- PROPOSED PAVEMENT
- PROPOSED 3' SHOULDER
- LIMIT OF FULL DEPTH PAVEMENT
- LIMIT OF RESURFACING

NOTE: SEE SHEET 5 OF 15 FOR SECTIONS AND DETAIL.



**PROPOSED STORM DRAIN DATA:**

Drainage Area (A): 2.24 AC  
Imperious Area: 0.27 AC  
Wooded Area: 1.87 AC

Time of Concentration: 15.35 MIN.  
Sheet Flow: 100' @ 0.2% = 11.28 MIN.  
Shallow Concentrated Flow: 230' @ 12% = 0.69 MIN.  
Channel Flow: 190' @ 2.8% = 3.38 MIN.  
Channel Velocity: V<sub>2</sub> = 2.31 FPS

**EXISTING STORM DRAIN DATA:**

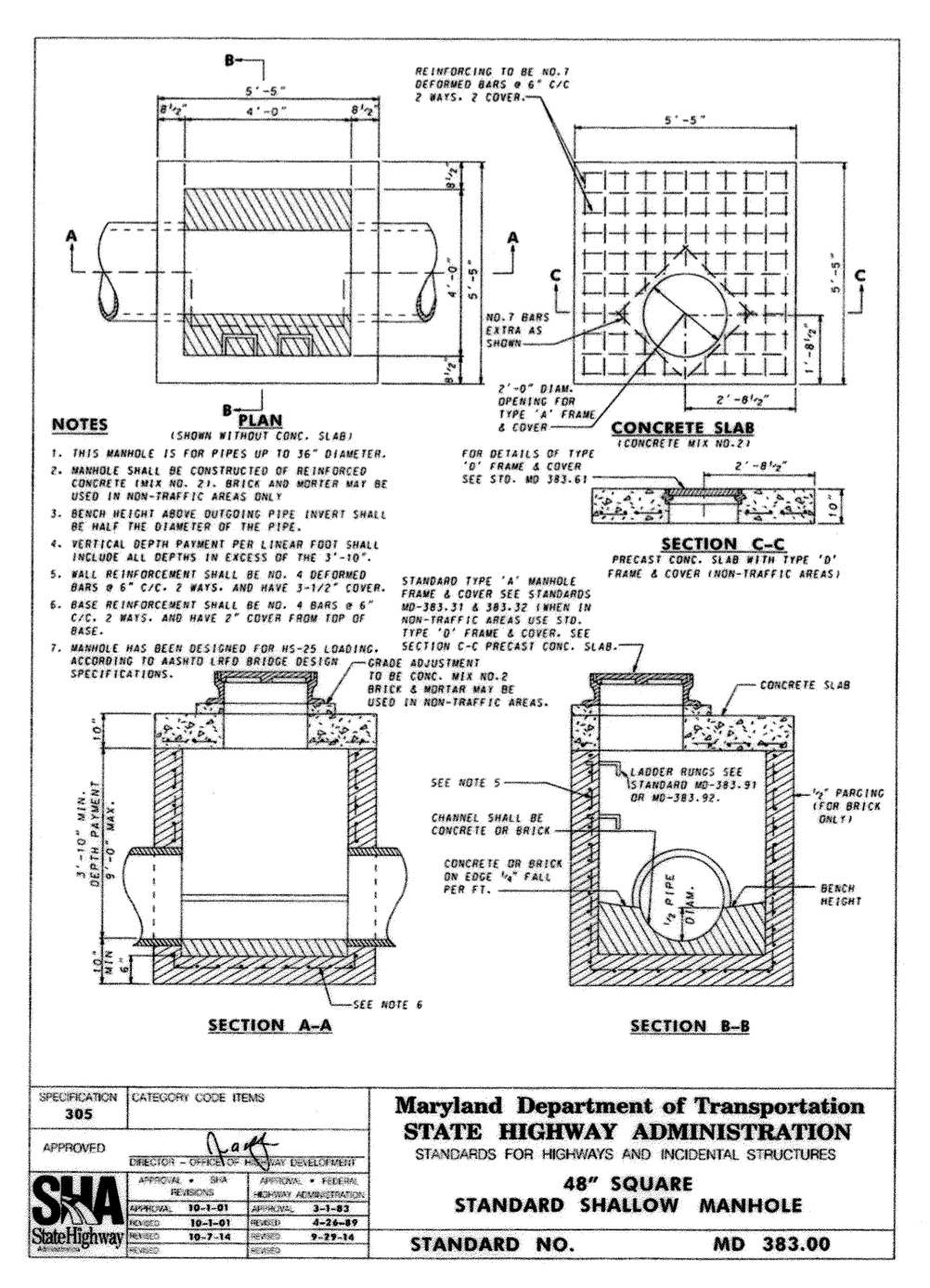
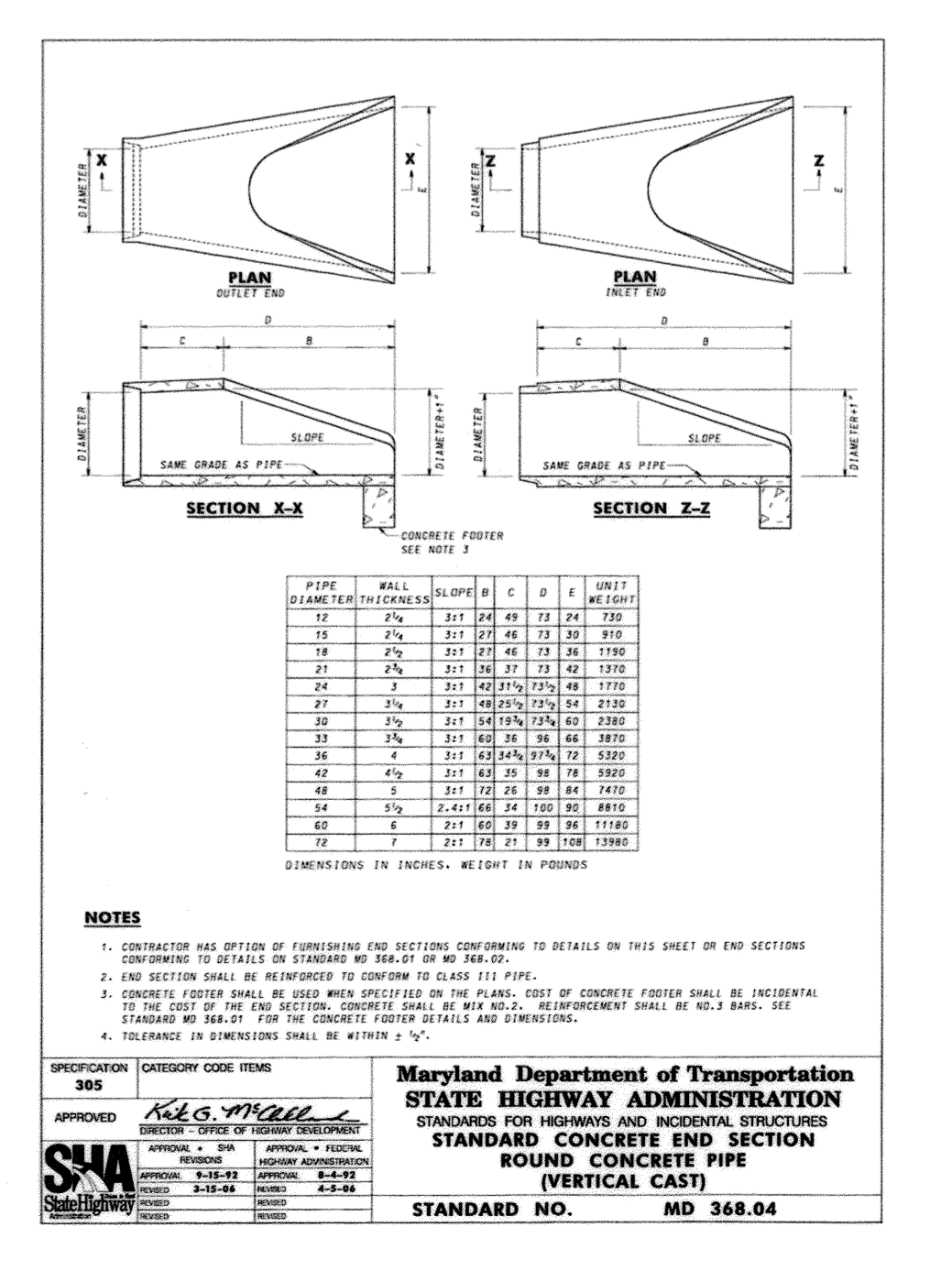
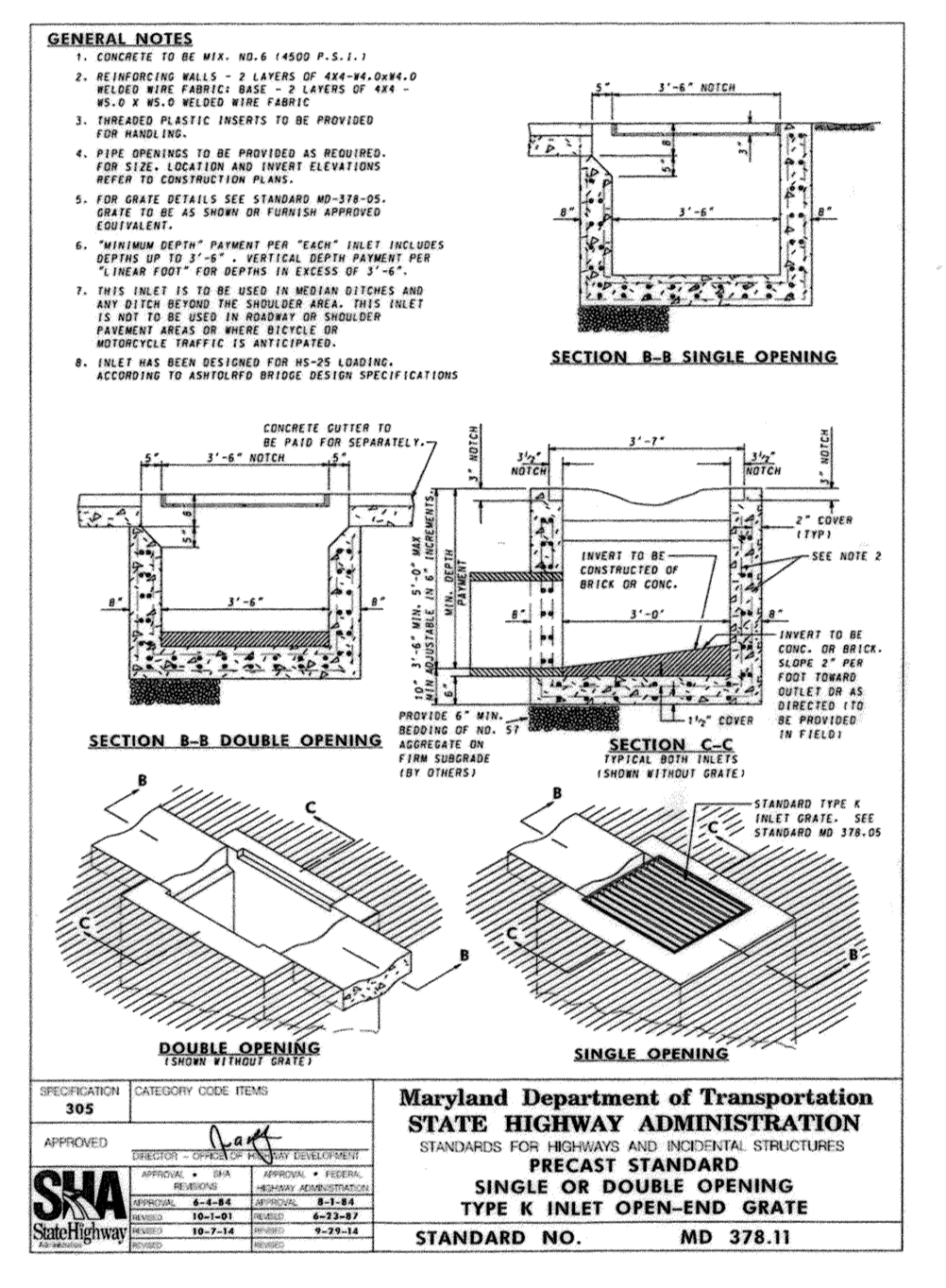
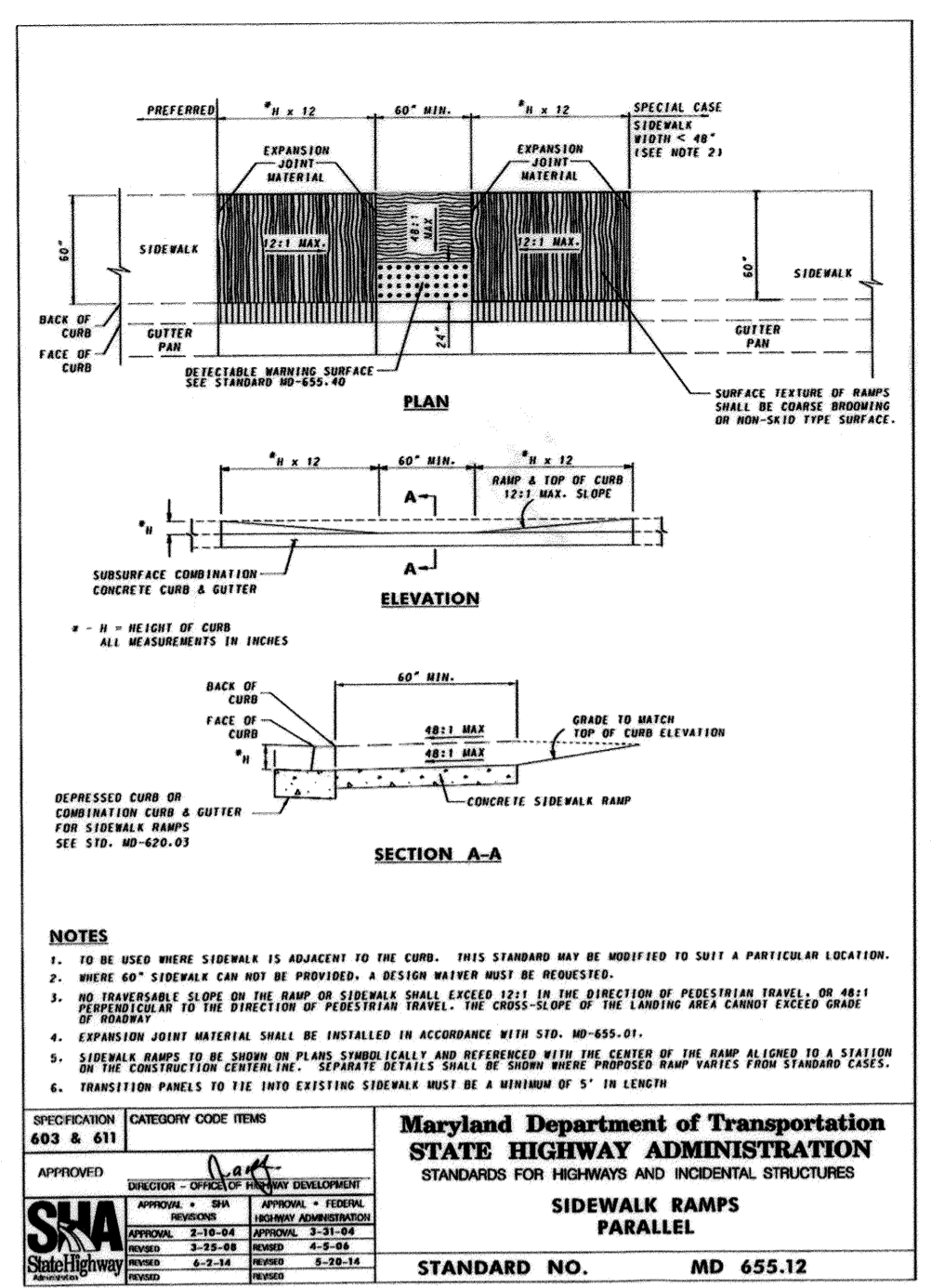
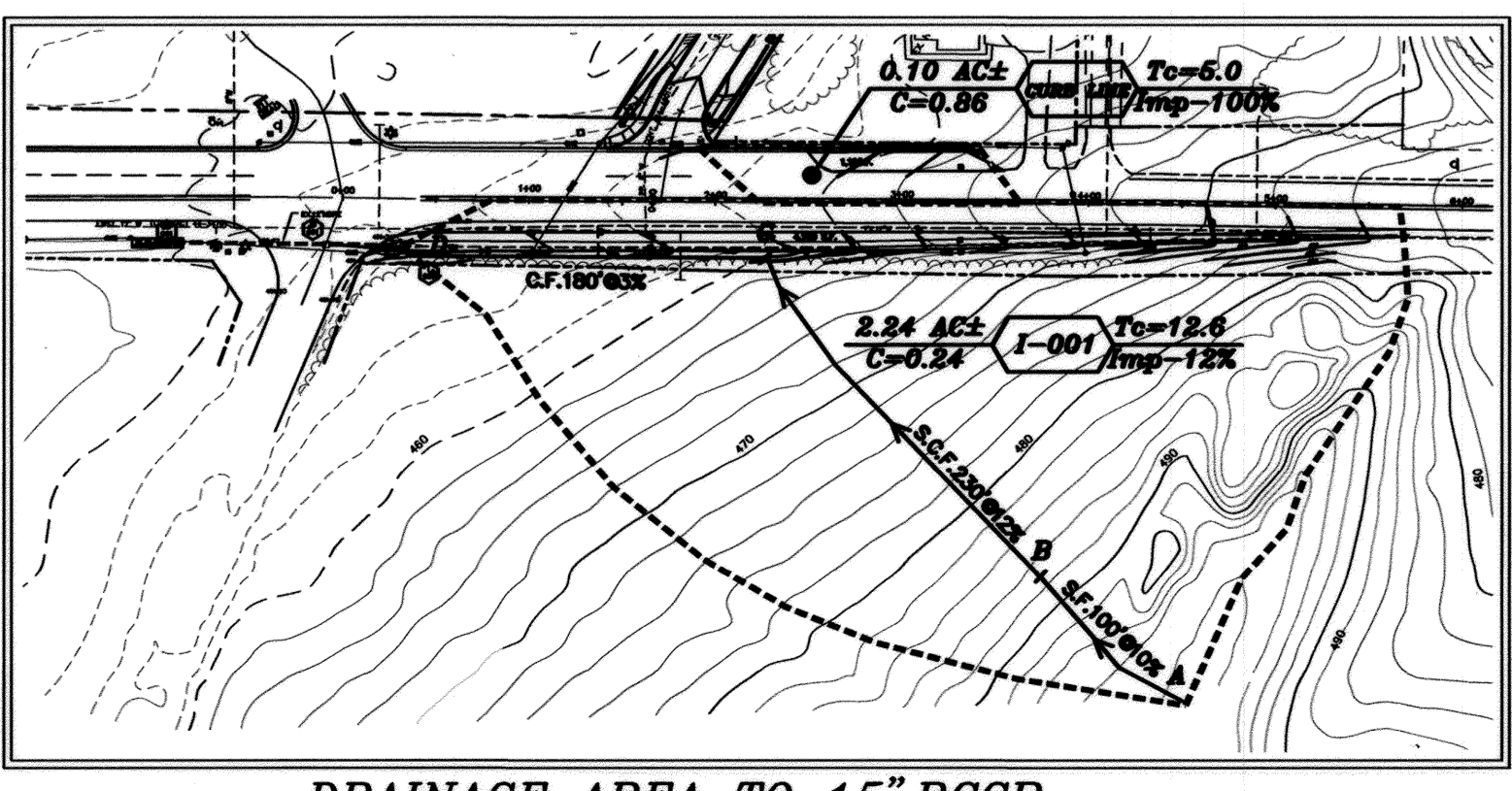
Drainage Area (A): 2.24 AC  
Imperious Area: 0.17 AC  
Wooded Area: 1.97 AC

Time of Concentration: 14.16 MIN.  
Sheet Flow: 100' @ 0.2% = 11.28 MIN.  
Shallow Concentrated Flow: 230' @ 12% = 0.69 MIN.  
Channel Flow: 190' @ 3% = 2.19 MIN.  
Channel Velocity: V<sub>2</sub> = 2.33 FPS

**C FACTOR:** 0.26  
Percent Imperious: 12%  
Percent of Wooded Area: 88%  
Soil Group: B  
Runoff Coefficient: 0.18

**RAIN INTENSITY (I):**  
Q = CIA  
Q = (0.26)(3.76)(2.24) = 2.19 CFS  
Q = (0.26)(5.40)(2.24) = 3.14 CFS  
Q = (0.26)(6.26)(2.24) = 3.65 CFS

**K INLET CAPACITY:**  
WEST BOUND LANE  
Q = 3.0 (PH)  
Q = CAPACITY  
P = GRATE OPENING PERIMETER = 13'  
H = HEAD OVER GRATE = 0.38'  
Q = 9.14 CFS



**ENGINEER'S CERTIFICATE**  
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

SAMER A. ALOMER P.E.  
PRINTED NAME OF ENGINEER

**DEVELOPER'S CERTIFICATE**  
I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. HOWARD SOIL CONSERVATION DISTRICT IS AUTHORIZED TO CONDUCT PERIODIC ON-SITE INSPECTION.

R. JACOB HIMMAT  
PRINTED NAME OF DEVELOPER

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

APPROVED: DEPARTMENT OF PUBLIC WORKS  
APPROVED: DEPARTMENT OF PLANNING AND ZONING

**HGL CALCULATION**  
JUNCTION BOX JB-001 25-YR STORM

Q = 3.65 CFS  
V = 5.16 FPS  
Q = 3.65 CFS  
V = 5.16 FPS  
LOSSES: A=0.21; B=0.05; C=0  
FACTOR: A=1; B=1; C=0  
TOTAL LOSS: 0.21+0.05+0=0.26'  
TOP OF PIPE EL. @ JB-001=450.50  
HGLs EL.: 450.40+0.26=450.66  
MIN. SLOPE: 1.0%

**OWNER / DEVELOPER**  
CADOGAN PROPERTY, LLC  
8318 FOREST ST., SUITE 300  
ELLCOTT CITY, MD 21043  
(410)997-0296

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 26858, EXP. DATE 08/08/23

SAMER A. ALOMER P.E.  
DATE: 2/24/22

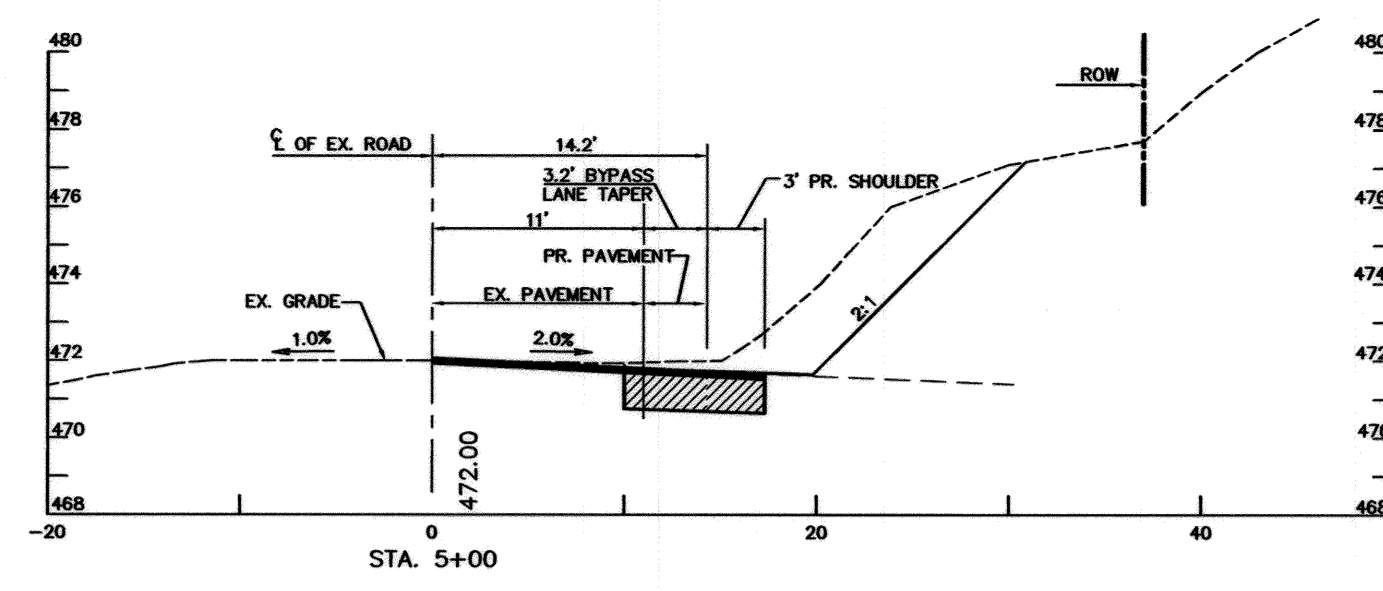
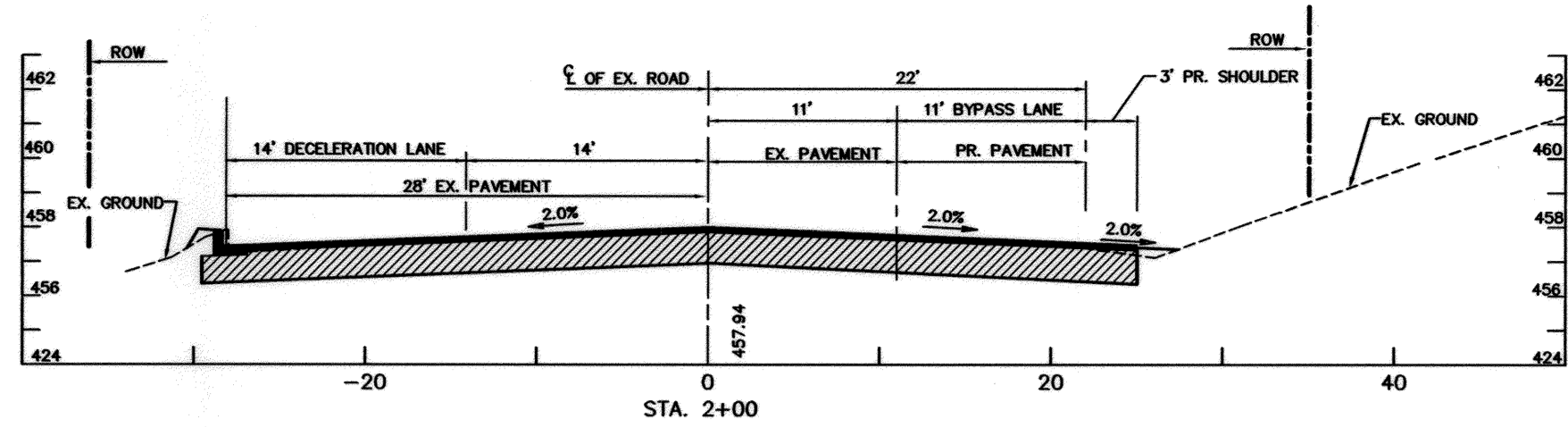
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illustration	MMM	engineering	MMM
scale	1"=50'	approval	MMM
revisions			

no.		date	
description			
revisions			

**ST. CHARLES WOODS - PHASE 1**  
LOTS 1-10, OPEN SPACE LOTS 11 & 12, AND NON-BUILDABLE BULK PARCEL A  
TAX MAP 16 - PARCEL 248 - GRID 23  
HOWARD COUNTY, MARYLAND  
THIRD ELECTION DISTRICT  
FREDERICK ROAD IMPROVEMENT PLAN AND DETAILS (14APH0025XX)

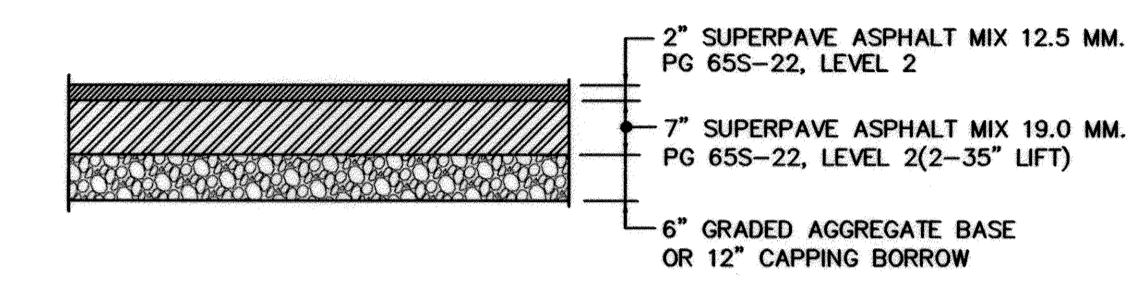
**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
8318 Forest Street, Suite 300, Ellicott City, Maryland 21043  
(410) 997-0296 Fax: (410) 997-0298

M:\2018\09-004 CADOGAN\FINAL ROAD CONSTRUCTION PLAN-PHASE-1.MXD, 1/20/2022 1:20:06 PM, Moys Mildenberg

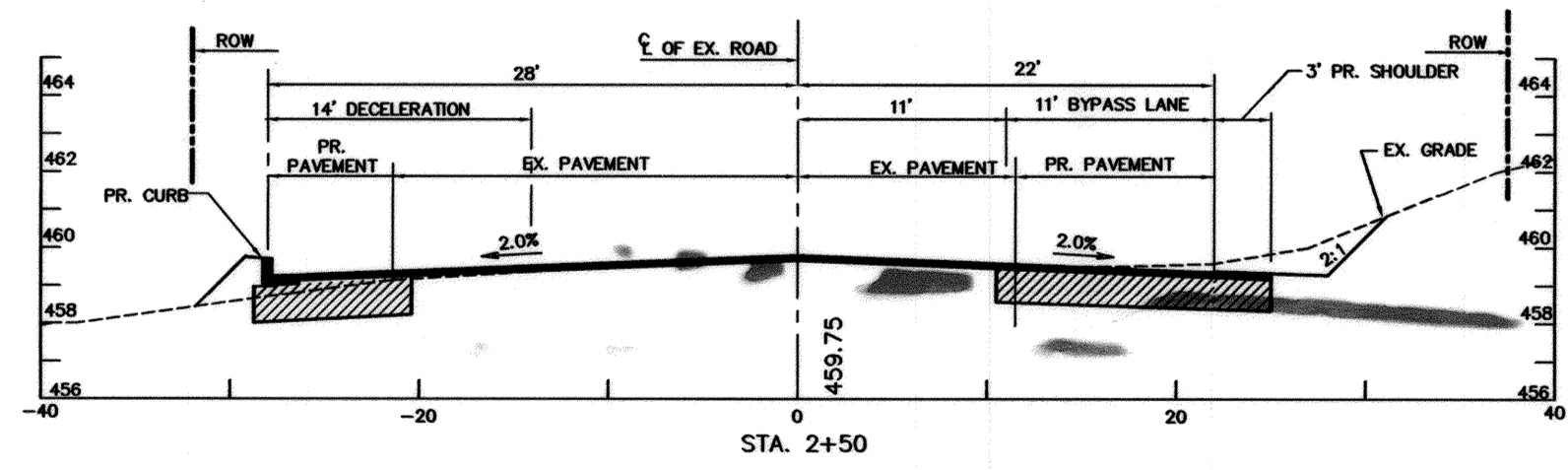
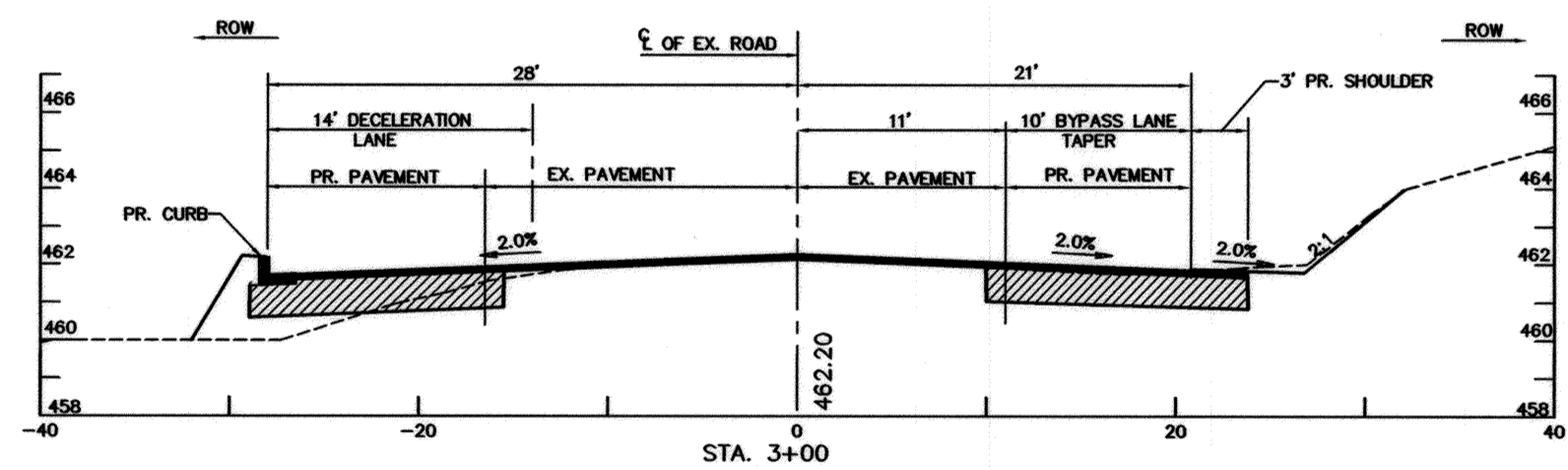
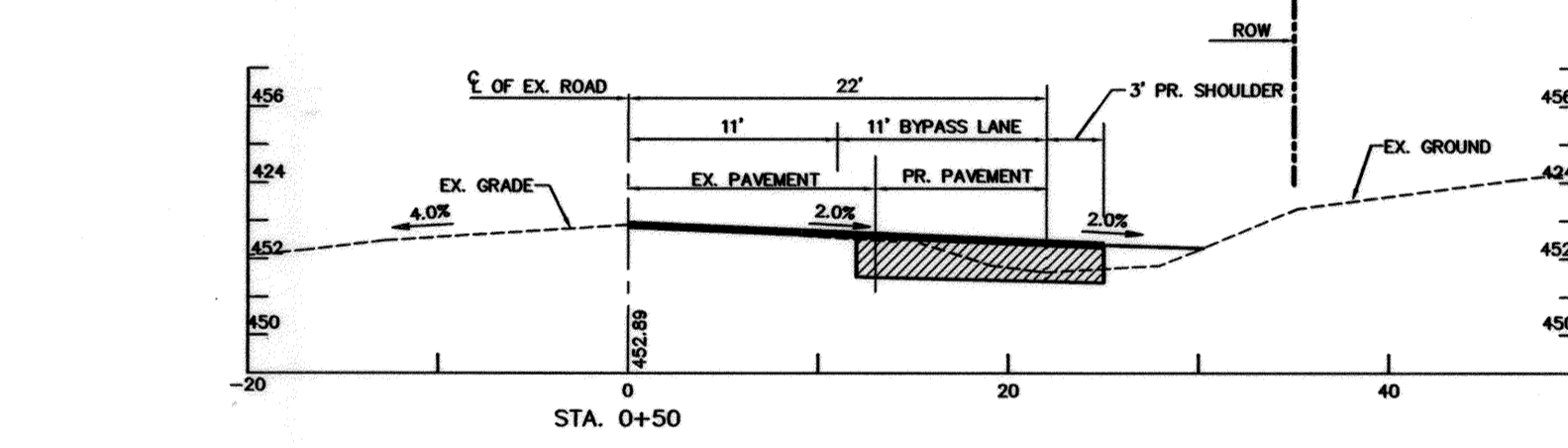
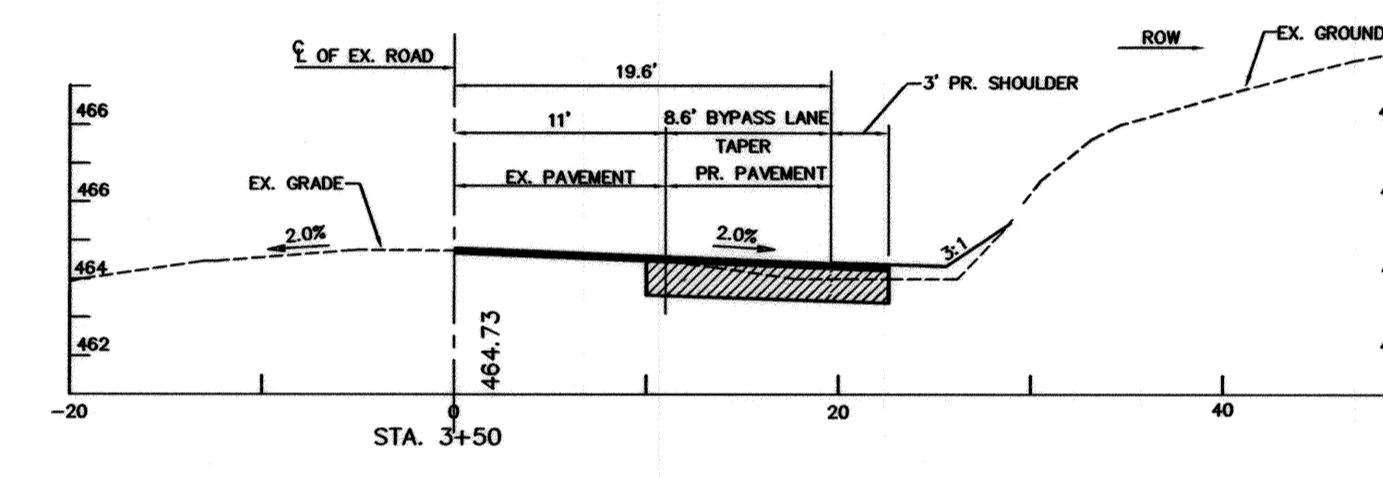
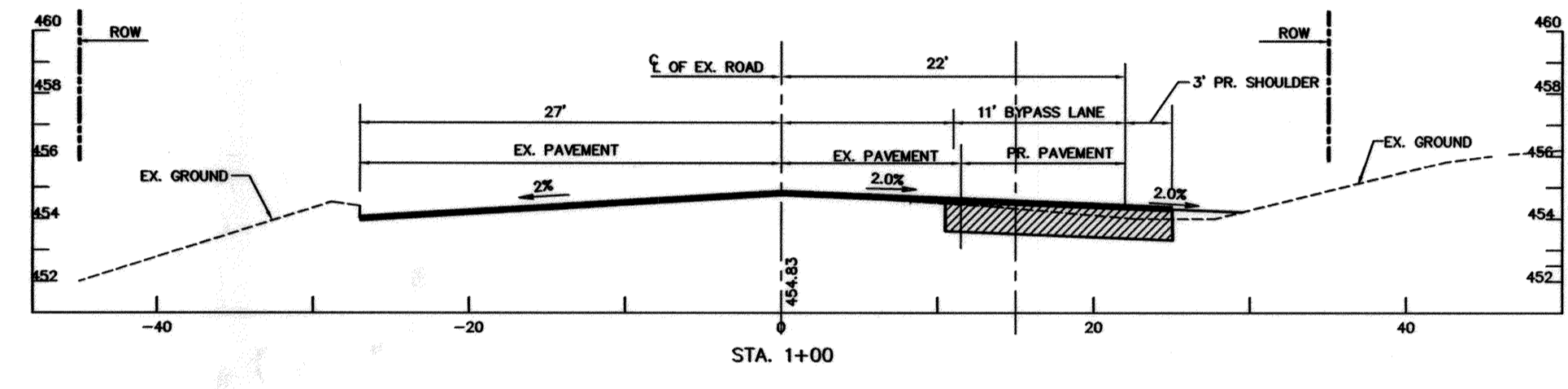
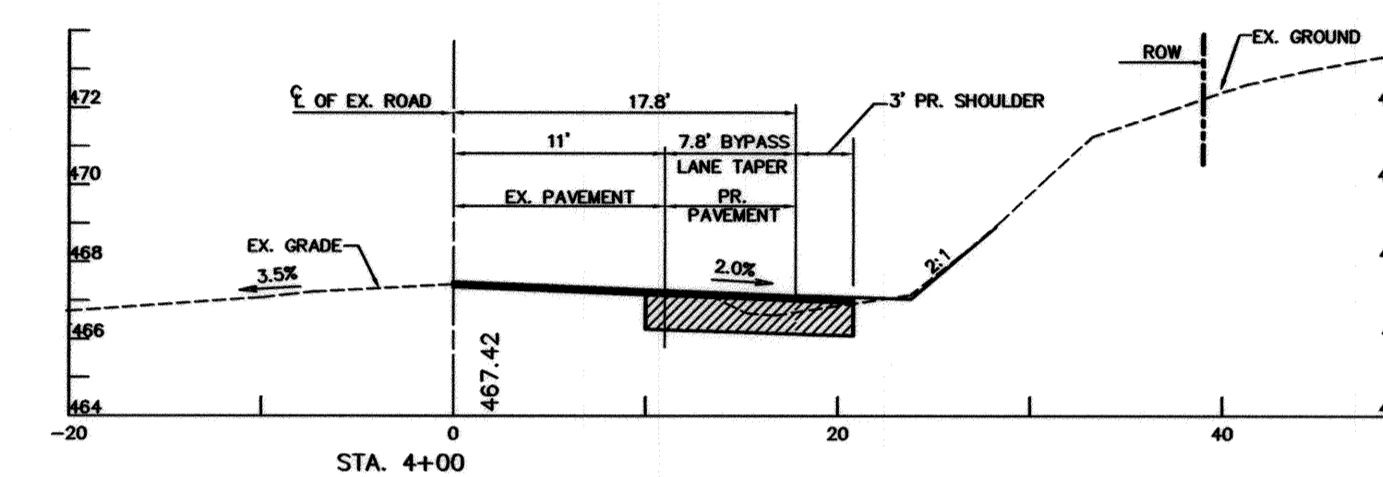
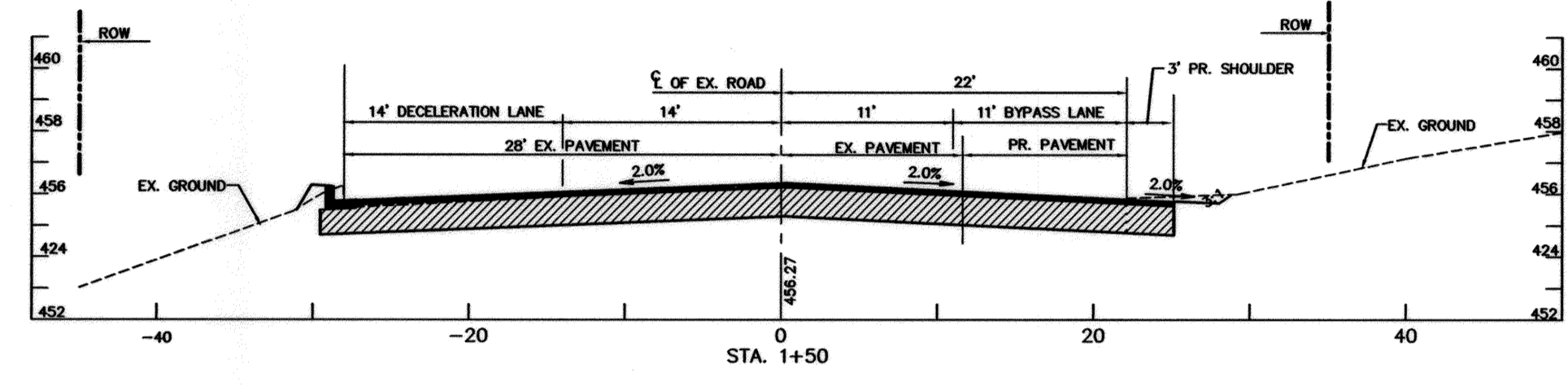
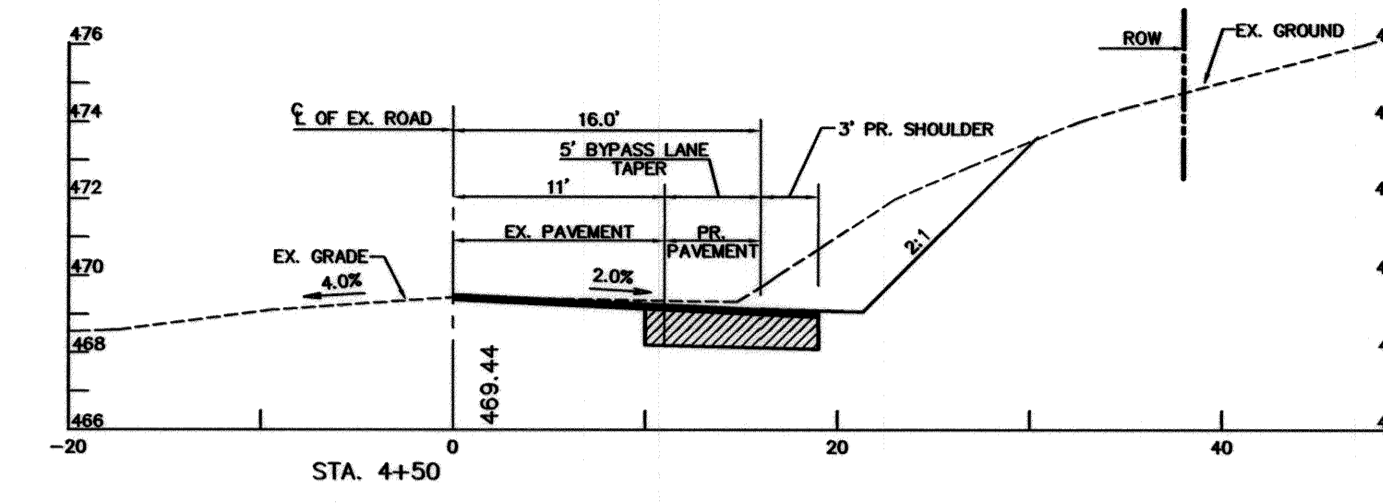
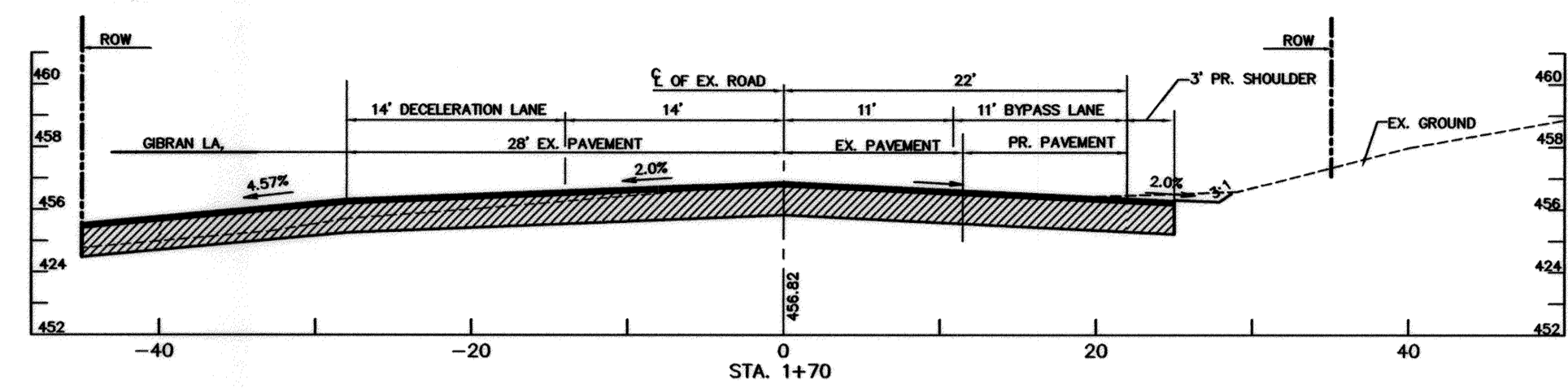


**LEGEND**

- FULL DEPTH PAVNG
- MILL AND OVERLAY
- EXISTING ROW
- ROAD CENTERLINE
- PROPOSED CURB



**TYPICAL PAVEMENT SECTION**  
(NEW FULL DEPT CONSTRUCTION IN MDOT SHA ROW)  
NOT TO SCALE



**FREDERICK ROAD IMPROVEMENT**  
**CROSS SECTIONS**  
SCALE: HOR. 1"=10'  
VER. 1"=5'

**ENGINEER'S CERTIFICATE**  
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

1-20-22  
SIGNATURE OF ENGINEER: *Samer A. Alomer*  
DATE: 1-20-22  
PRINTED NAME OF ENGINEER: SAMER A. ALOMER P.E.

---

**DEVELOPER'S CERTIFICATE**  
I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. HOWARD SOIL CONSERVATION DISTRICT IS AUTHORIZED TO CONDUCT PERIODIC ON-SITE INSPECTION.

1/27/22  
SIGNATURE OF DEVELOPER: *R. Jacob Hikmat*  
DATE: 1/27/22  
PRINTED NAME OF DEVELOPER: R. JACOB HIKMAT

---

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

02/28/22  
*Alexander Butcher*  
DATE: 02/28/22  
HOWARD SOIL CONSERVATION DISTRICT

---

APPROVED: DEPARTMENT OF PUBLIC WORKS  
DATE: 4/11/2022  
CHIEF, BUREAU OF HIGHWAYS: *MK*

---

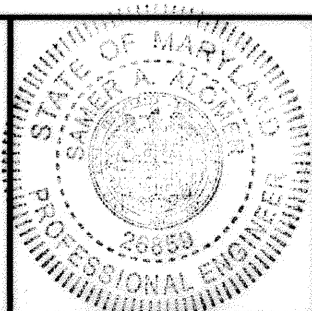
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
DATE: 3/21/22  
CHIEF, DEVELOPMENT ENGINEERING DIVISION: *JR*  
DATE: 6/27/22  
CHIEF, DIVISION OF LAND DEVELOPMENT: *SR*

---

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 26859, EXP DATE 08/08/23

1-20-22  
SIGNATURE OF ENGINEER: *Samer A. Alomer*  
DATE: 1-20-22  
PRINTED NAME OF ENGINEER: SAMER A. ALOMER P.E.

**OWNER / DEVELOPER**  
CADOGAN PROPERTY, LLC  
8308 FORREST ST. SUITE 300  
ELLCOTT CITY, MD 21043  
(410)997-0296

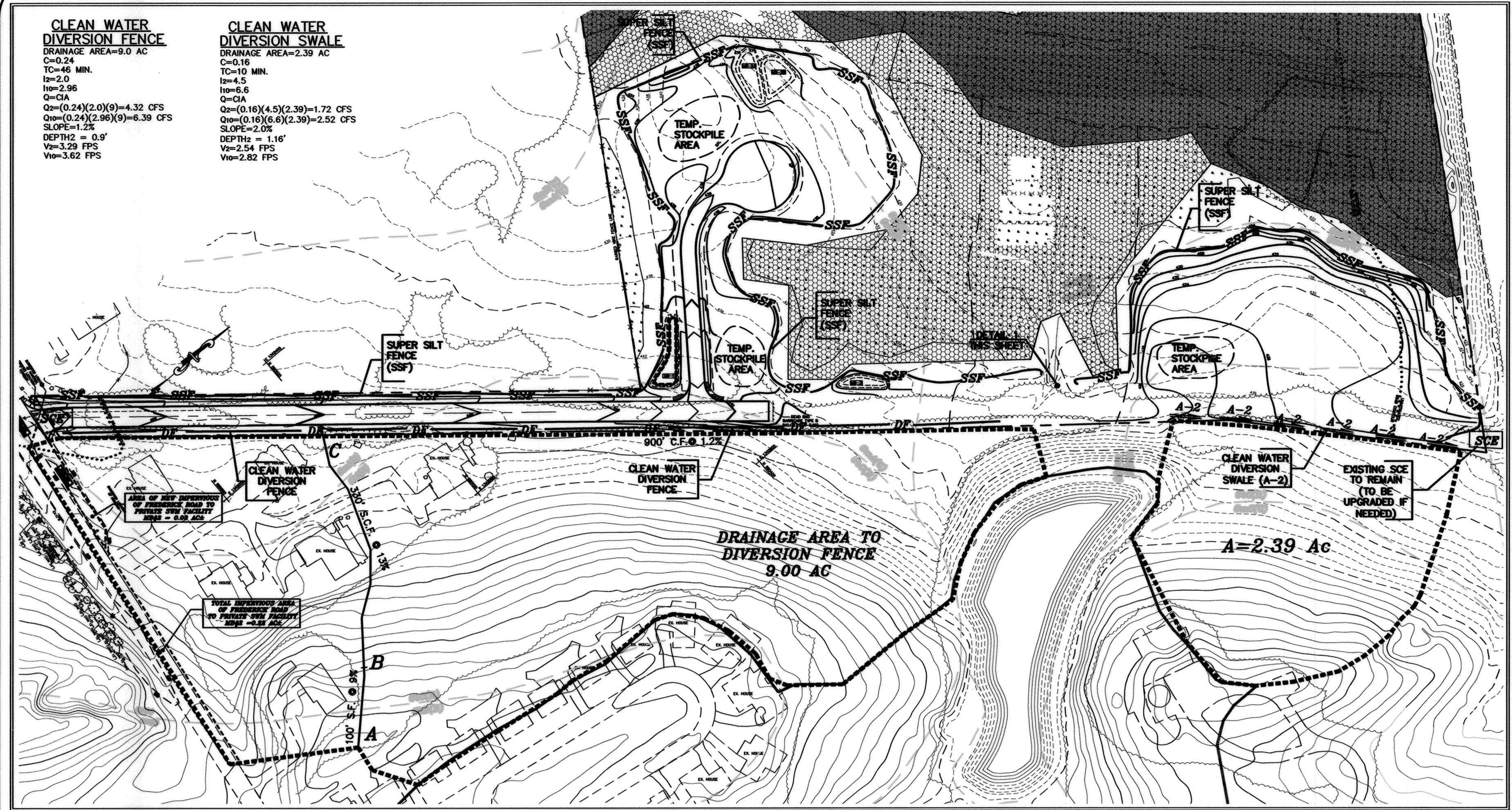


date	JAN. 2022
project	09-004
illustration	MM
scale	1"=60'
approval	SAA

no.	
description	
revisions	
date	

**ST. CHARLES WOODS - PHASE 1**  
LOTS 1-10, OPEN SPACE LOTS 11 & 12, AND NON-BUILDABLE BULK PARCEL A  
TAX MAP 16 - PARCEL 248 - GRID 23  
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
FREDERICK ROAD IMPROVEMENT CROSS SECTIONS (14APH0025XX)

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
8318 Forrest Street, Suite 300, Ellicott City, Maryland 21043  
(410) 997-0296 Tel. (410) 997-0296 Fax.



INITIAL GRADING & SEDIMENT CONTROL PLAN AND DRAINAGE AREA MAP TO DIVERSION FENCE AND DIVERSION SWALE  
SCALE: 1"=100'

**LEGEND**

	AREA OF EXISTING WETLANDS
	AREA OF 100-YEAR FLOODPLAIN
	AREA OF FOREST CONSERVATION EASEMENT
	UNMITIGATED 65dB CONTOUR
	EXISTING TREELINE
	PROPOSED TREELINE
	PROPOSED 5' SIDEWALK
	LIMIT OF DISTURBANCE
	SUPER SILT FENCE
	DIVERSION FENCE
	DIVERSION SWALE
	STABILIZED CONSTRUCTION ENTRANCE

**ENGINEER'S CERTIFICATE**  
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

2/24/22  
SIGNATURE OF ENGINEER: *[Signature]* DATE  
Samer A. Alomer P.E.  
PRINTED NAME OF ENGINEER

**DEVELOPER'S CERTIFICATE**  
I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. HOWARD SOIL CONSERVATION DISTRICT IS AUTHORIZED TO CONDUCT PERIODIC ON-SITE INSPECTIONS.

2/23/22  
SIGNATURE OF DEVELOPER: *[Signature]* DATE  
R. JACOB HRKMAT  
PRINTED NAME OF DEVELOPER

APPROVED: DEPARTMENT OF PUBLIC WORKS  
4/11/2022  
DATE

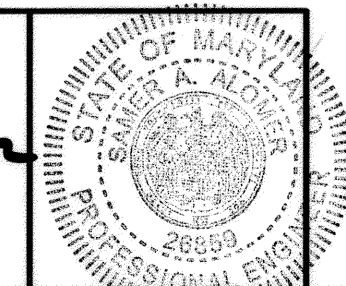
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
3/21/22  
DATE

APPROVED: DEPARTMENT OF LAND DEVELOPMENT  
6/27/22  
DATE

**OWNER/DEVELOPER**  
CADOGAN PROPERTY, LLC  
8318 FORREST ST. SUITE 300  
ELLICOTT CITY, MD 21043  
(410)997-0296

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 26859, EXP DATE 08/08/23

2/24/2022  
SIGNATURE OF ENGINEER: *[Signature]* DATE  
Samer A. Alomer P.E.



**MGWC 4.2: UTILITY CROSSING**

**Temporary in-stream construction**

**DESCRIPTION**  
The work should consist of installing erosion control devices in and adjacent to the construction of utility crossings.

**INSTALLATION GUIDELINES**  
All erosion and sediment control devices, including dewatering basins, should be implemented as the first order of business according to a plan approved by the WMA or local authority. (See the 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control.) The proposed construction sequence is as follows (refer to detail 4.2):

The contractor should insure that a continuous perimeter control barrier is in place to minimize the amount of pollutants entering the flow. A diversion pipe as shown in MGWC 1.4: Diversion Pipe or other measure should be installed and sandbag or stone barriers as shown in MGWC 1.5: Sandbag/Stone Diversion should be constructed according to specifications to divert the streamflow.

Excavated topsoil and subsoil should be kept separate, placed on the upland side of the excavation, and replaced in their natural order.

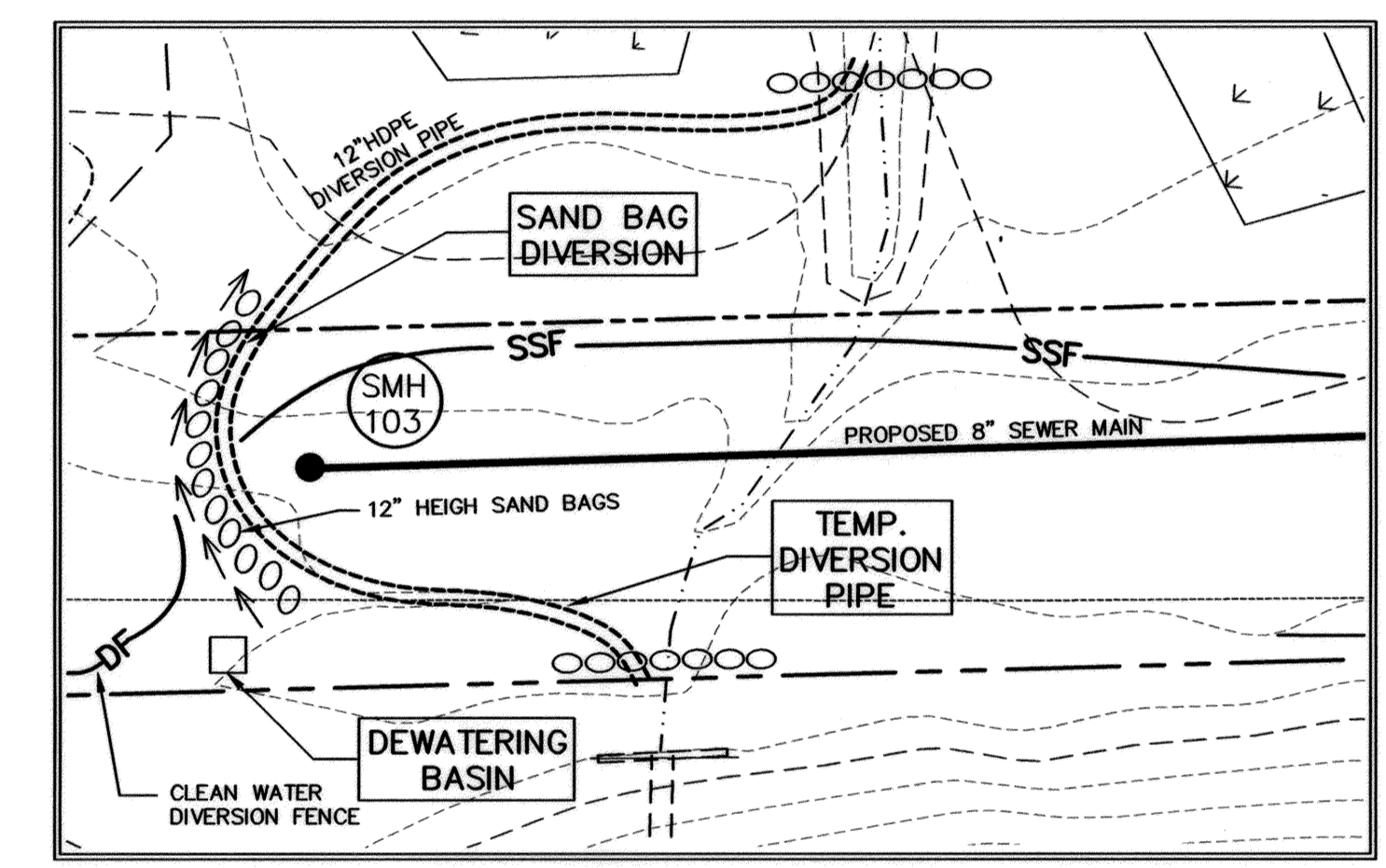
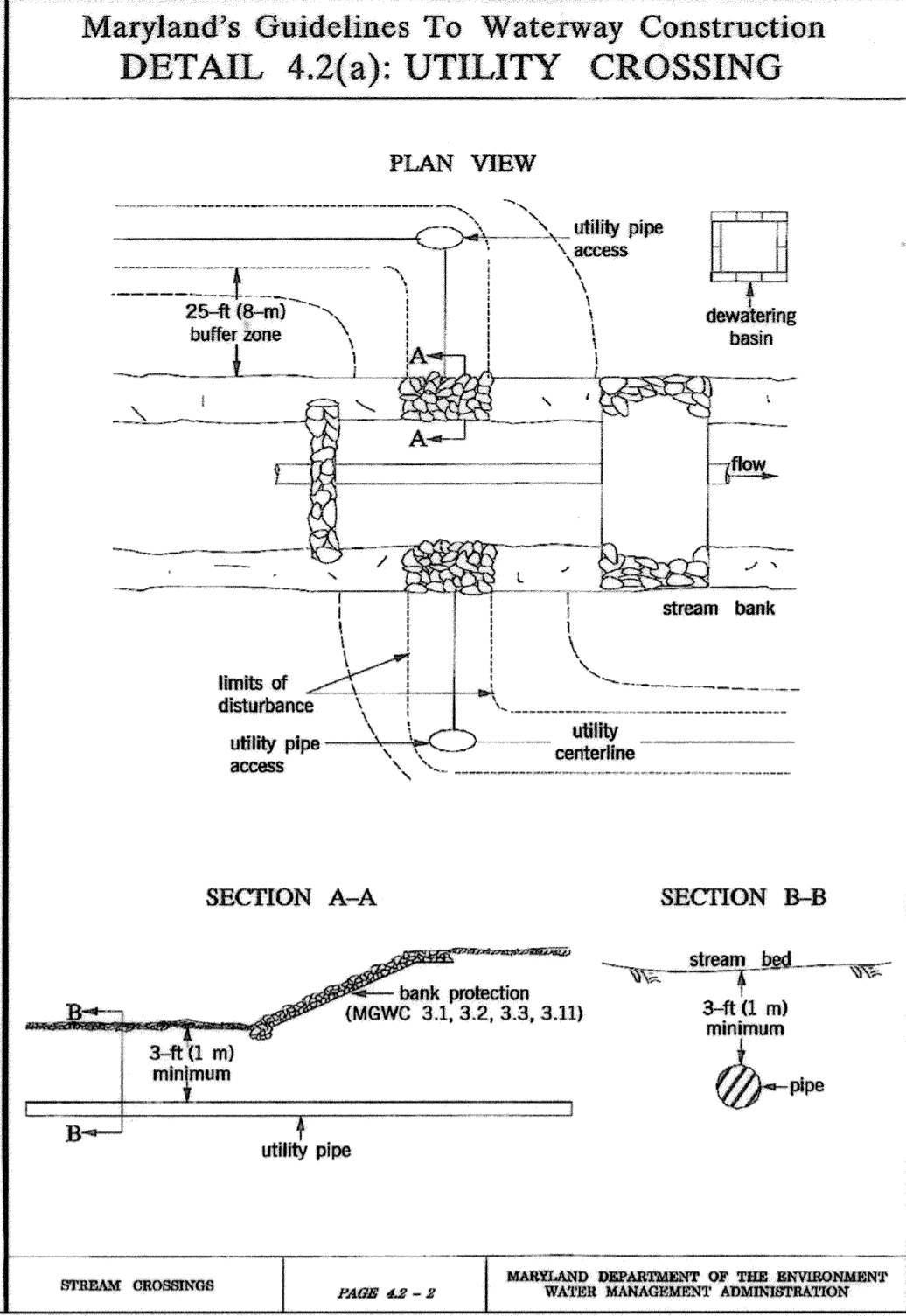
All construction should take place during stream low flows. The length of construction time should be limited to a maximum of 5 consecutive days for each crossing.

All utility crossings should be placed a minimum of 3 feet (1 meter) beneath the stream bed unless an alternative section is specifically approved by the WMA. For instances where a 3-foot cover is not viable, two alternate stabilization options are given in the Detail 4.2. A low flow channel shall be constructed through all riprap placements across the stream bed.

The stream should be diverted by an approved temporary stream diversion, the construction area should be dewatered, and any disturbed banks should be stabilized. The contractor may elect to construct the utility crossing in two stages. In this case, a WMA approved flow barrier may be constructed to keep the construction area dry.

Once the crossing is completed, the diversion should be removed from upstream to downstream. Sediment control devices, including perimeter erosion controls, are to remain in place until all disturbed areas are stabilized in accordance with an approved sediment and erosion control plan and the inspection authority approves their removal.

STREAM CROSSINGS  
MARYLAND DEPARTMENT OF THE ENVIRONMENT  
WATERWAY CONSTRUCTION GUIDELINES  
REVISED NOVEMBER 2000  
PAGE 4.2 - 1



**BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS AND 100-YEAR FLOODPLAINS**

- NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS OR 100-YEAR FLOODPLAIN.
- PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR 100-YEAR FLOODPLAIN.
- DO NOT USE EXCAVATED MATERIALS AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIALS, OR OTHER DELETERIOUS SUBSTANCE.
- PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR 100-YEAR FLOODPLAIN.
- REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR PERMANENT MODIFICATION OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER ORIGINALLY AUTHORIZED STRUCTURE OR FILL.
- RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
- ALL STABILIZATION IN THE NONTIDAL WETLANDS AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA) BARLEY (HORDEUM SP.) OATS (Avena sp.) OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES; OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
- AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST-CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
- TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM:  
-USE I WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.  
-USE II WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD OCTOBER 1 THROUGH APRIL 30, INCLUSIVE, DURING ANY YEAR.  
-USE IV WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH MAY 31, INCLUSIVE, DURING ANY YEAR.
- STORMWATER RUNOFF FROM IMPERVIOUS SURFACE SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.
- CULVERTS SHALL BE CONSTRUCTED AND ANY RIP RAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF ACTIVITY IS TO IMPOUND WATER.

Project: 09-004  
date: JAN. 2022  
illustration: MAM  
scale: 1"=50'  
approval: SAA

ST. CHARLES WOODS - PHASE 1  
LOTS 1-10, OPEN SPACE LOTS 11 & 12, AND NON-BUILDABLE BULK PARCEL A  
TAX MAP 16 - PARCEL 248 - GRID 23  
THIRD ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
GRADING AND SEDIMENT CONTROL PLAN

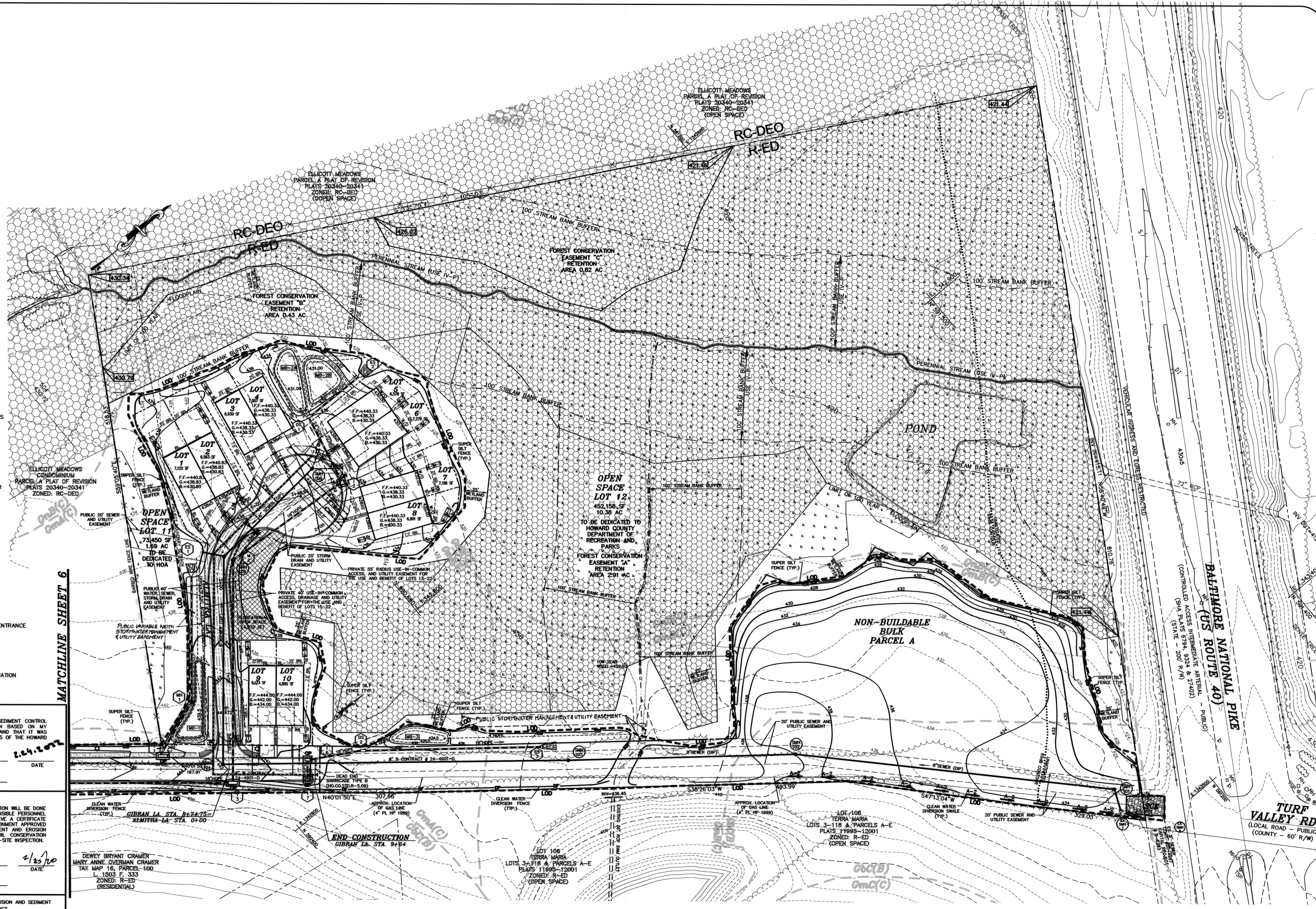
**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
8818 Forrest Street, Suite 300, Ellicott City, Maryland 21043  
(410) 997-0296 Fax

date	JAN. 2022
project	09-004
illustration	MMX
scale	1"=50'
approval	MMM
revisions	SAA

no.	description	date

**ST. CHARLES WOODS - PHASE 1**  
 LOTS 1 THRU 10 AND OPEN SPACE LOTS 11 AND 12  
 TAX MAP 16 - PARCEL 248 - GRID 23  
 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
**GRADING AND SEDIMENT CONTROL PLAN**

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 8318 Forrest Street, Suite 300, Ellicott City, Maryland 21043  
 (410) 997-0296 Tel. (410) 997-0298 Fax.



**LEGEND**

- AREA OF EXISTING WETLANDS
- AREA OF 100-YEAR FLOODPLAIN
- AREA OF FOREST CONSERVATION EASEMENT
- UNMITIGATED 65dB CONTOUR
- EXISTING TREELINE
- PROPOSED TREELINE
- PROPOSED 5' SIDEWALK
- RECREATIONAL OPEN SPACE AREA
- LOD
- SUPER SILT FENCE
- DIVERSION FENCE
- DIVERSION SWALE
- SCE
- MICRO-BIORETENTION FACILITY I.D.
- DRYWELL
- ROOF DRAIN LEADER
- 100.00

MATCHLINE SHEET 6

**ENGINEER'S CERTIFICATE**  
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF ENGINEER: *Samer A. Alomer* DATE: 2.24.2022  
 PRINTED NAME OF ENGINEER: SAMER A. ALOMER P.E.

**DEVELOPERS CERTIFICATE**  
 I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. HOWARD SOIL CONSERVATION DISTRICT IS AUTHORIZED TO CONDUCT PERIODIC ON-SITE INSPECTION.  
 SIGNATURE OF DEVELOPER: *R. Jacob Himat* DATE: 2/23/20  
 PRINTED NAME OF DEVELOPER: R. JACOB HIMAT, PE.

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 SIGNATURE: *Alexander Brattini* DATE: 02/28/22  
 HOWARD SOIL CONSERVATION DISTRICT

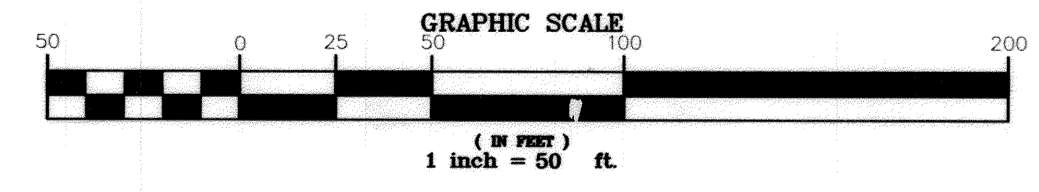
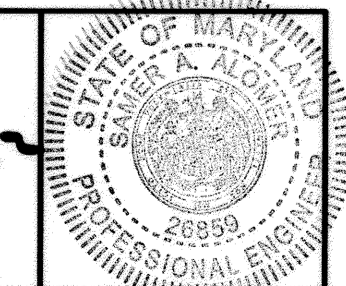
APPROVED: DEPARTMENT OF PUBLIC WORKS  
 SIGNATURE: *James* DATE: 4/11/2022  
 CHIEF, BUREAU OF HIGHWAYS MK

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 SIGNATURE: *Shel Clark* DATE: 3/2/22  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION JP  
 SIGNATURE: *Samer A. Alomer* DATE: 2/24/2022  
 CHIEF, DIVISION OF LAND DEVELOPMENT

**OWNER/DEVELOPER**  
 CADOGAN PROPERTY, LLC  
 8318 FORREST ST, SUITE 300  
 ELLICOTT CITY, MD 21043  
 (410)997-0296

DEWEY BRYANT CRAMER  
 MARY ANNE CRAMER  
 TAX MAP 16, PARCELS 1-100  
 L 1503 F. 333  
 ZONED: R-ED (RESIDENTIAL)

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 28859, EXP DATE 08/08/23  
 SIGNATURE: *Samer A. Alomer* DATE: 2.24.2022  
 SAMER A. ALOMER P.E.



M:\1-2018\09-004 CADOGAN\FINAL ROAD CONSTRUCTION PLAN-PHASE-1\W\LAR rev fbs 2022.dwg, 2/23/2022, 3:33:25 PM, Mgrs, Mildenberg

B-4-2) STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

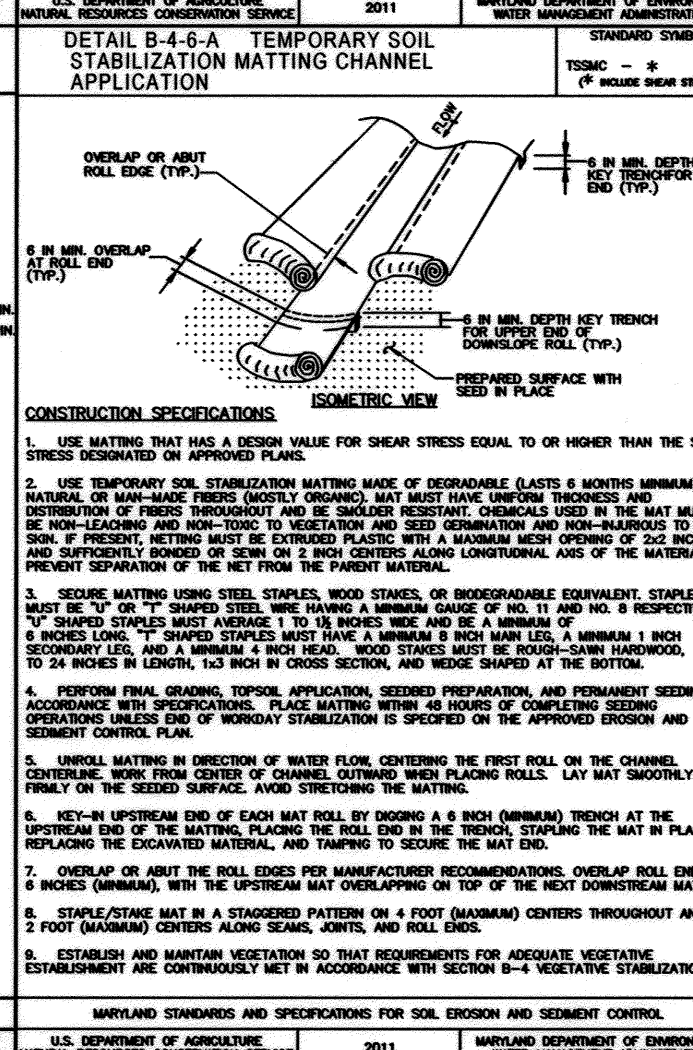
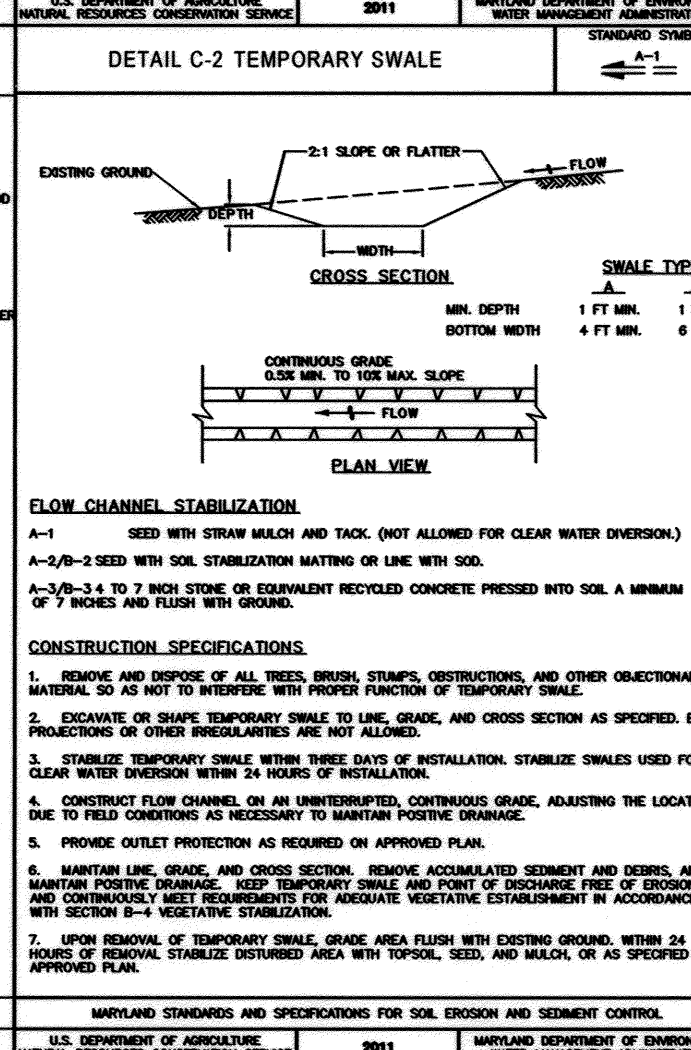
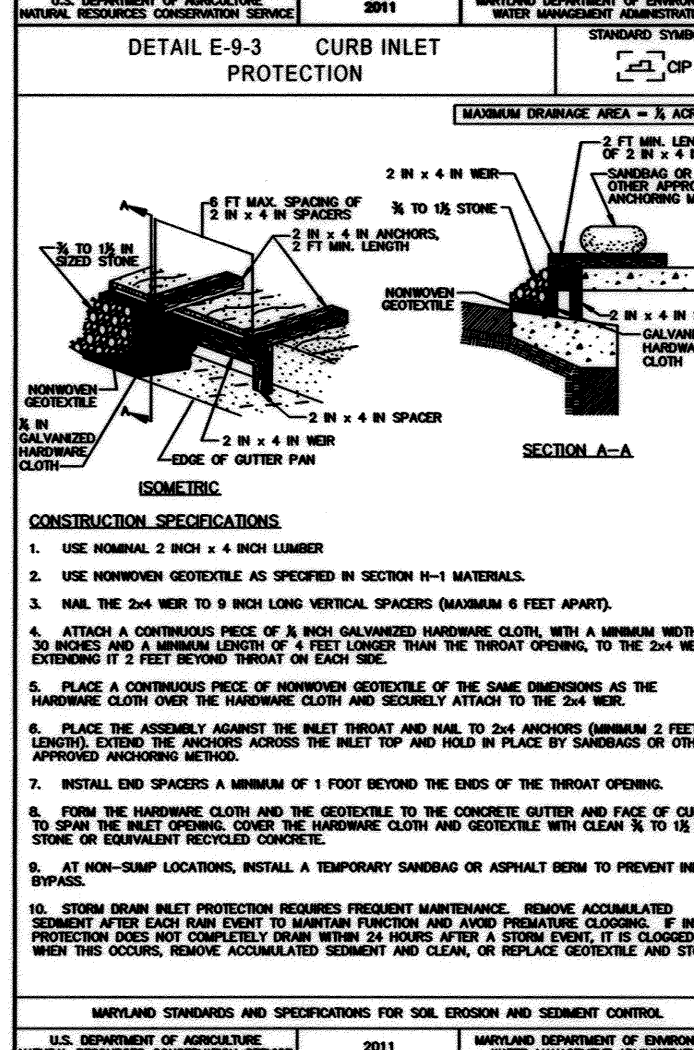
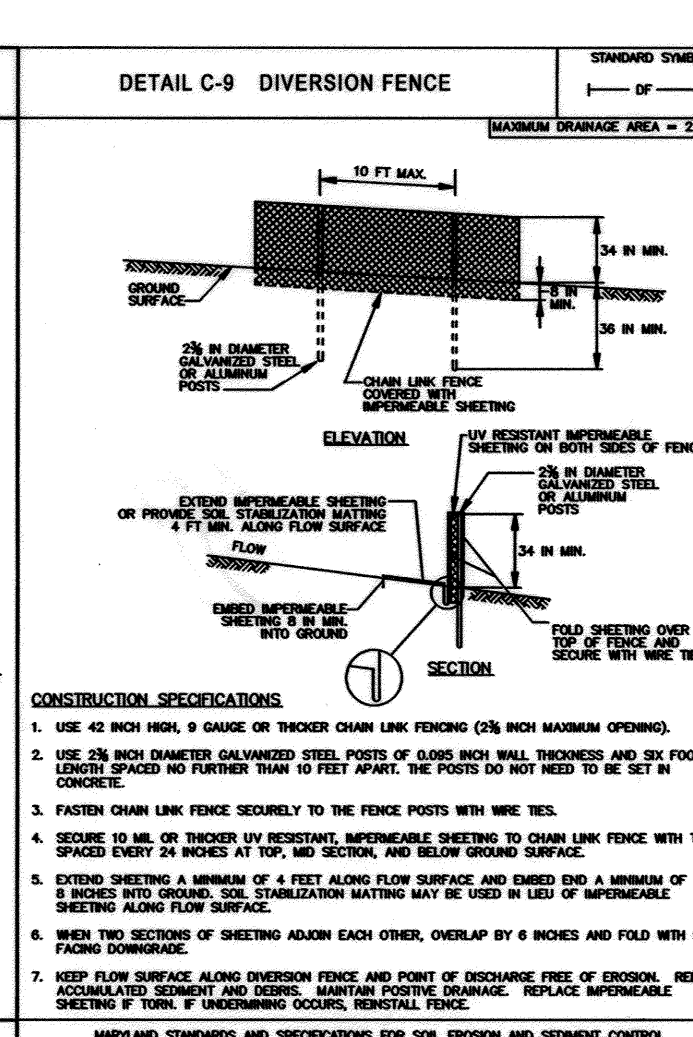
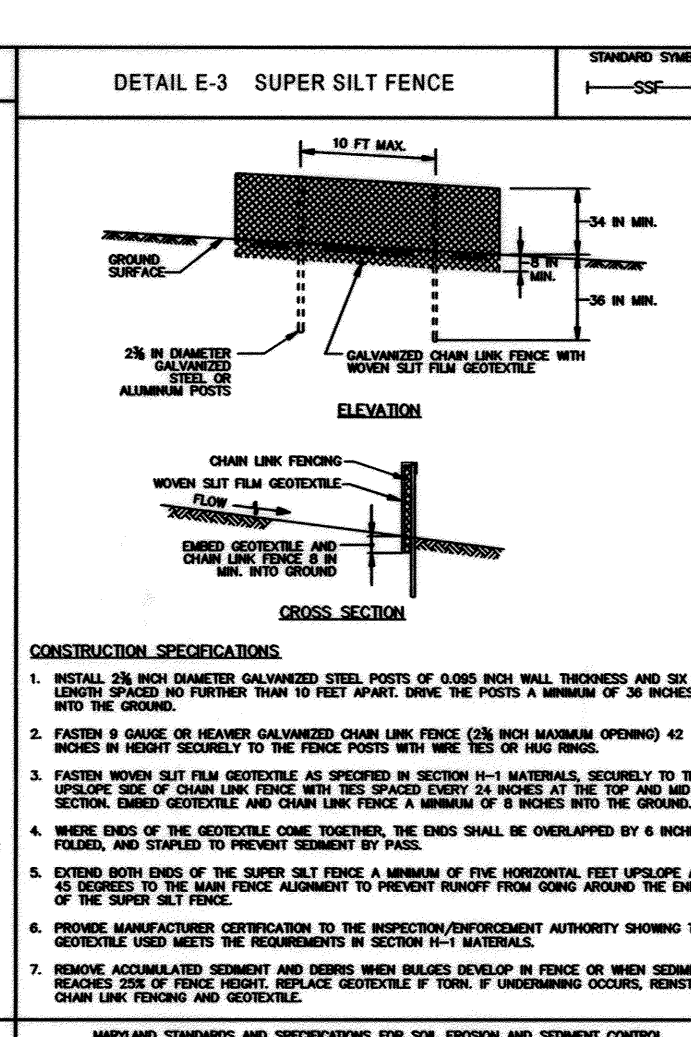
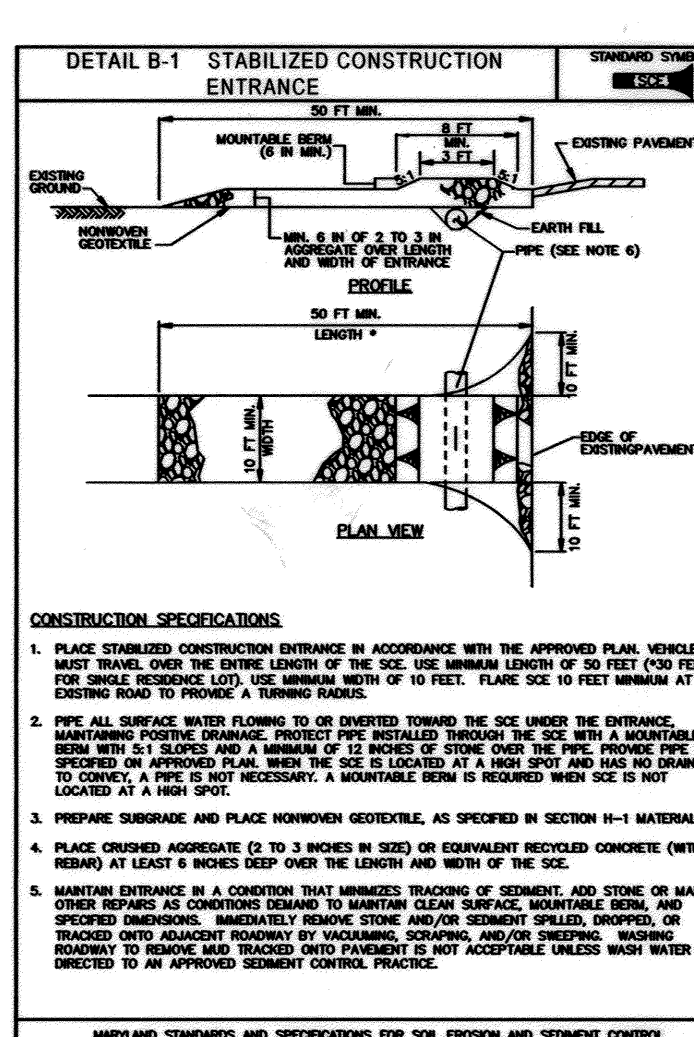
DEFINITION THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION. PURPOSE TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

B-4-3) STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

DEFINITION THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER. PURPOSE TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

B-4-5) STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION TO STABILIZE DISTURBED SOIL WITH PERMANENT VEGETATION. PURPOSE TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER OF DISTURBED EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.



1. SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE: I. SOIL PH BETWEEN 6.0 AND 7.0. II. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM). III. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOESS/LASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE. IV. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT. V. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.

1. MULCH MATERIALS (IN ORDER OF PREFERENCE) a. STRAW CONSISTING OF THOROUGHLY DRESSED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT CITY, COUNTY, OR STATE. b. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE. II. WCFM IS TO BE DRY, CLEAN, AND FREE OF CONTAMINANTS THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMITY OF SPREAD SLURRY. III. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS. IV. WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE. V. WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.

1. STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN. 2. THE FOOTPRINT OF STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND BE LOCATED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1. BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION 8.4.3. 3. RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE. 4. ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE. 5. CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A DIVERSION DEVICE SUCH AS HOPE PIPES. PROMISSONS MUST BE MADE FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE MANNER. 6. WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE. 7. STOCKPILE MUST BE STABILIZED IN ACCORDANCE WITH THE 3/4 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-1 INCREASING STABILIZATION AND STANDARD B-4-2 INCREASING STABILIZATION. 8. IF THE STOCKPILE IS LOCATED ON AN IMPERVIOUS SURFACE, A LINER SHOULD BE PROVIDED BELOW THE STOCKPILE TO FACILITATE CLEANUP. STOCKPILES CONTAINING CONTAMINATED MATERIAL MUST COVERED WITH IMPERMEABLE MATERIAL.

OWNER/DEVELOPER CADOGAN PROPERTY, LLC 8518 FOREST STREET, SUITE 300 ELLICOTT CITY, MD 21043 (410)997-0296

ENGINEER'S CERTIFICATE I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY CONSERVATION DISTRICT.

DEVELOPERS CERTIFICATE I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AS A REQUIREMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

APPROVED: DEPARTMENT OF PUBLIC WORKS APPROVED: DEPARTMENT OF PLANNING AND ZONING APPROVED: CHIEF, BUREAU OF HIGHWAYS APPROVED: CHIEF, DIVISION OF LAND DEVELOPMENT

STANDARD SEDIMENT CONTROL NOTES

1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 BEFORE THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES: A. PRIOR TO THE START OF EARTH DISTURBANCE. B. UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. C. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT. D. PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.

TEMPORARY SEEDING FOR SITE STABILIZATION

Table with columns: PLANT SPECIES, SEEDING RATE (LB/AC), SEEDING DEPTH (INCHES), RECOMMENDED SEEDING DATED BY PLANT HARDINESS ZONE. Rows include COOL SEASON GRASSES (Annual Ryegrass, Barley, Wheat) and WARM SEASON GRASSES (Festuca, Pearl Millet).

PERMANENT SEEDING SUMMARY

Table with columns: HARDNESS ZONE, SEED MIXTURE, APPLICATION RATE (LB/AC), SEEDING DATES, SEEDING DEPTHS, FERTILIZER RATE, LIME RATE. Includes a row for Tall Fescue with application rate of 100 and seeding dates of March 1-May 15.

HOPE PIPES OF CONSTRUCTION

- 1. OBTAIN GRADING PERMIT (1 DAY). 2. PERFORM CLEARING AND GRUBBING AS NECESSARY FOR THE INSTALLATION OF PERIMETER CONTROLS (5 DAYS). 3. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCES AT LOCATION INDICATED (1 DAY). 4. CONSTRUCT PERIMETER CONTROLS: SUPER SILT FENCES (SSF) (1 DAY) 5. CONSTRUCT DIVERSION SWALES (A-2) AS SHOWN ON PLAN (6 DAYS) 6. CONSTRUCT SEWER MAIN FROM MH-001 TO MH-003 (15 DAYS) 7. GRADE AND STABILIZE SITE PART OF THE SITE BETWEEN THE STREAM CROSSING AND US ROUTE 40 (7 DAYS) 8. CONSTRUCT DIVERSION FENCE (DF), CLEAR AND GRUB REMAINING PART OF THE SITE (2 DAYS) 9. PERFORM INITIAL GRADING (7 DAYS) 10. CONSTRUCT WATER MAIN AND REMAINING PART OF SEWER MAIN AS SHOWN ON PLAN (20 DAYS) 11. INSTALL STORM DRAIN SYSTEM, BLOCK 4" HOPE PIPES FROM I-1, D5-1, AND D5-2 (7 DAYS). 12. INSTALL INLET PROTECTION (1 DAY) 13. CONSTRUCT WATER MAIN AND REMAINING PART OF SEWER MAIN AS SHOWN ON PLAN (20 DAYS) 14. STABILIZE ALL DISTURBED AREA (14 DAYS) 15. CONSTRUCT MICRO-BIORETENTION FACILITIES (14 DAYS) 16. WITH THE APPROVAL OF SEDIMENT CONTROL INSPECTOR, UNBLOCK 4" CONSTRUCT WATER MAIN AND REMAINING PART OF SEWER MAIN AS SHOWN ON PLAN (20 DAYS) 17. COMPLETE FINE GRADING (2 DAYS) 18. WITH THE APPROVAL OF SEDIMENT CONTROL INSPECTOR, REMOVE DIVERSION FENCE (DF) FROM STA. 0+00 TO STA. 1+10 AND SUPER SILT FENCE (SSF) ALONG NORTHERN SIDE OF GIBBS LA FROM STA. 0+00 TO ALMIRA WAY AND WEST SIDE OF ALMIRA WAY FROM STA. 0+00 TO STA. 2+50 (5 DAY). 19. STABILIZE ALL DISTURBED AREAS. 20. WITH THE APPROVAL OF THE REMAINING SEDIMENT CONTROL DEVICES (SSF) FOR FUTURE CONSTRUCTION.

TEMPORARY SEEDING FOR SITE STABILIZATION

Table with columns: PLANT SPECIES, SEEDING RATE (LB/AC), SEEDING DEPTH (INCHES), RECOMMENDED SEEDING DATED BY PLANT HARDINESS ZONE. Rows include COOL SEASON GRASSES (Annual Ryegrass, Barley, Wheat) and WARM SEASON GRASSES (Festuca, Pearl Millet).

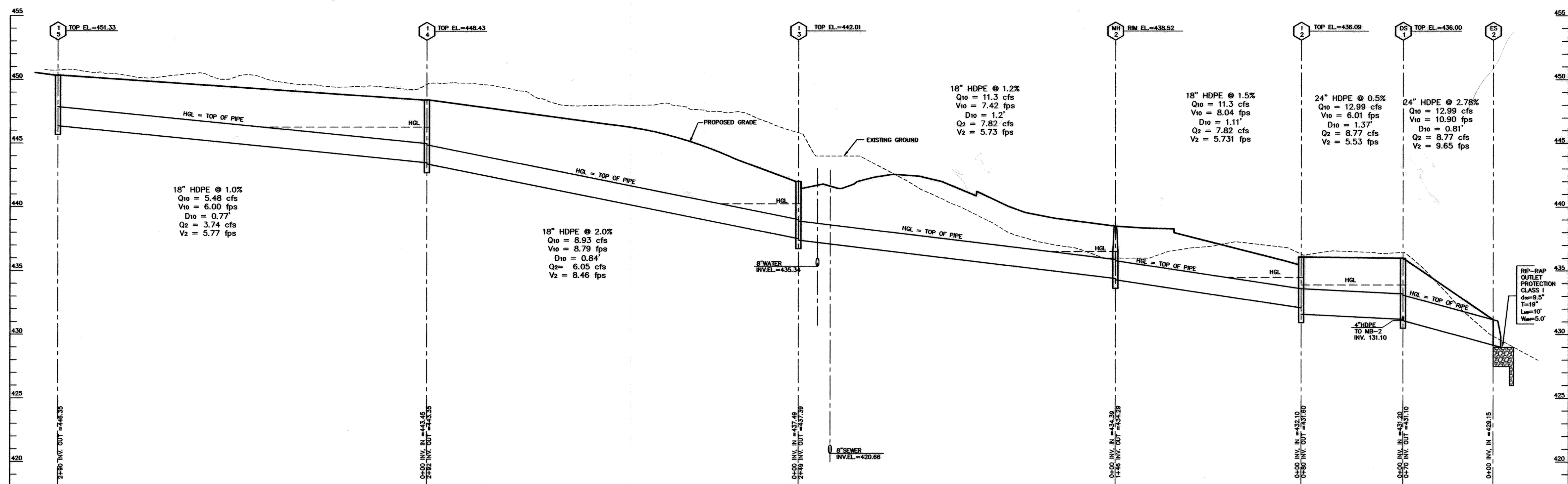
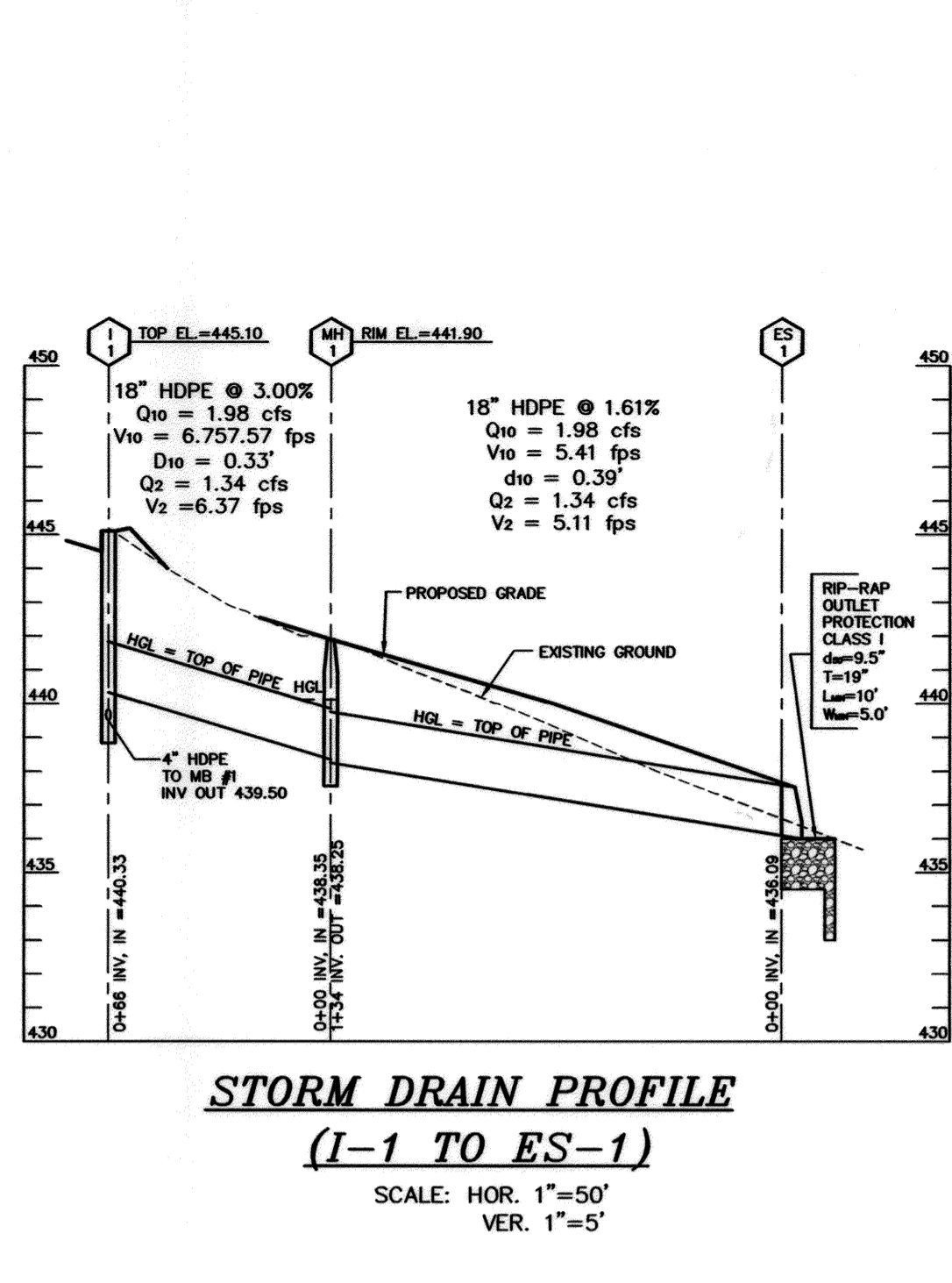
ST. CHARLES WOODS - PHASE 1

LOTS 1-10, OPEN SPACE LOTS 11 & 12, AND NON-BUILDABLE BULK PARCEL A TAX MAP 16 - PARCEL 248 - GRID 23 HOWARD COUNTY, MARYLAND THIRD ELECTION DISTRICT





M:\1-2018\09-004 CADOGAN\FINAL PHASE 1\DWG\FINAL ROAD CONSTRUCTION PLAN-PHASE-1.MXD, 1/20/2022 3:01:21 PM, Mayo Misenberg



**STRUCTURE SCHEDULE**

NO.	LOCATION*	TOP**	INV. IN	INV. OUT	COMMENTS	OWNERSHIP
ES-1	ALMITRA LANE, STA. 2+9.45, OFFSET 28.34 LT.	-	436.00	-	18" HDPE END SECTION	PRIVATE
ES-2	N 590,764.446 E 1,342,563.633	-	429.15	-	24" HDPE END SECTION	PRIVATE
ES-3	N 590,658.971 E 1,313,001.242	-	433.89	-	18" HDPE END SECTION	PUBLIC
I-1	GIBRAN LANE, STA. 8+02.00, OFFSET 12.33' RT.	445.10	-	440.33	INLET TYPE A-10 (HO. CO. STD D-4.03)	PUBLIC
I-2	ALMITRA LANE LINEAR PROFILE STA. 1+40.18	446.09	432.10	431.60	INLET TYPE A-5 (HO. CO. STD D-4.01)	PRIVATE
I-3	GIBRAN LANE, STA. 8+78.50, OFFSET 12.33' RT.	442.01	437.49	437.39	INLET TYPE A-10 (HO. CO. STD D-4.03)	PUBLIC
I-4	GIBRAN LANE, STA. 5+84.00, OFFSET 12.33' RT.	448.43	443.45	443.35	INLET TYPE A-10 (HO. CO. STD D-4.03)	PUBLIC
I-5	GIBRAN LANE, STA. 3+87.00, OFFSET 12.33' RT.	451.33	-	446.35	INLET TYPE A-10 (HO. CO. STD D-4.03)	PUBLIC
I-6	GIBRAN LANE, STA. 9+60.00, OFFSET 11.00' LT.	438.26	435.44	435.19	INLET TYPE A-10 (HO. CO. STD D-4.26)	PUBLIC
I-7	GIBRAN LANE, STA. 9-60.00, OFFSET 11.00' RT.	438.26	-	435.55	INLET TYPE S (HO. CO. STD D-4.26)	PUBLIC
DS-1	GIBRAN LANE LINEAR PROFILE STA. 2+17.10	436.00	431.20	431.10	INLET TYPE A-10 (HO. CO. STD D-4.03)	PRIVATE
DS-2	N 590,507.493 E 1,313,879.902	439.55	434.91	434.81	INLET TYPE A-10 (HO. CO. STD D-4.03)	PUBLIC
MH-1	ALMITRA LANE, STA. 0+76.50, OFFSET 36.00 LT.	441.00	438.35	438.25	MH (HO. CO. STD G 5.12)	PRIVATE
MH-2	ALMITRA LANE, STA. 2+33.38, OFFSET 14.00' RT.	438.52	434.39	434.29	MH (HO. CO. STD G 5.12)	PRIVATE

- NOTES:  
 1. STATIONS GIVEN TO CENTERLINE FACE OF INLET AT TOP OF CURB FOR INLETS LOCATED WITHIN THE ROAD RIGHT-OF-WAY.  
 2. STATIONS FOR YARD INLETS TO CL OF INLET.  
 3. LOCATION OF MANHOLES IS TO CL OF MANHOLE COVER.  
 4. LOCATION OF END SECTION GIVEN TO THE CENTERLINE OF PIPE AT THE CONNECTION OF THE STORM DRAIN PIPE TO THE END SECTION.  
 5. ELEVATIONS MEASURED TO CENTER OF ALL INLETS.

**PIPE SCHEDULE**

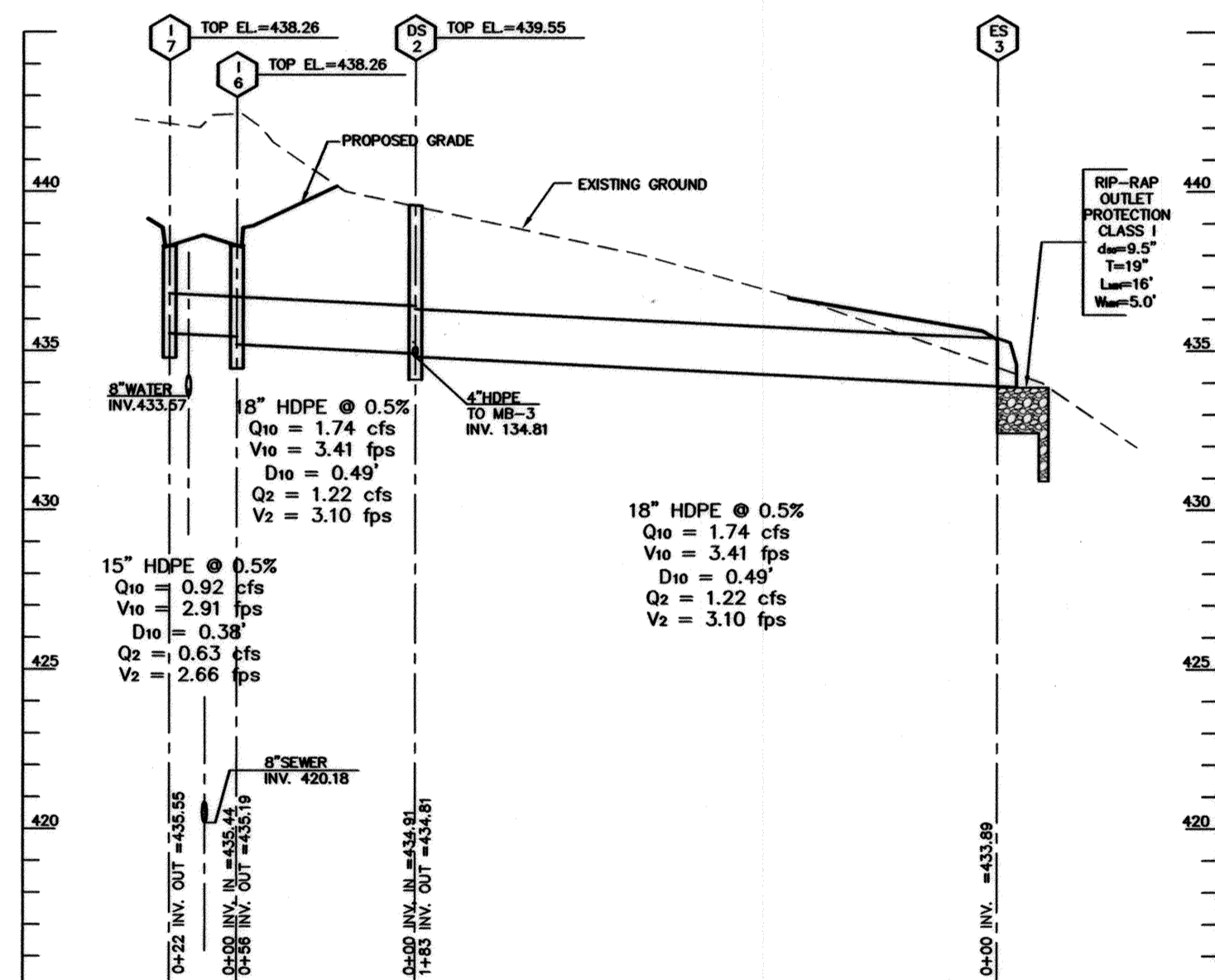
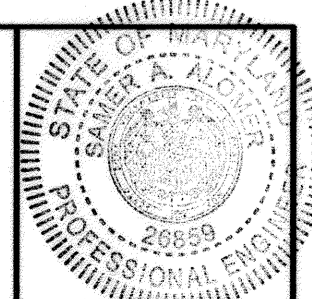
PIPE SIZE	QUANTITY
15" HDPE	22 L.F.
18" HDPE	1,316 L.F.
24" HDPE	150 L.F.

**OWNER/DEVELOPER**

CADOGAN PROPERTY, LLC  
 8318 FORREST ST. SUITE 300  
 ELLICOTT CITY, MD 21043  
 (410)997-0296

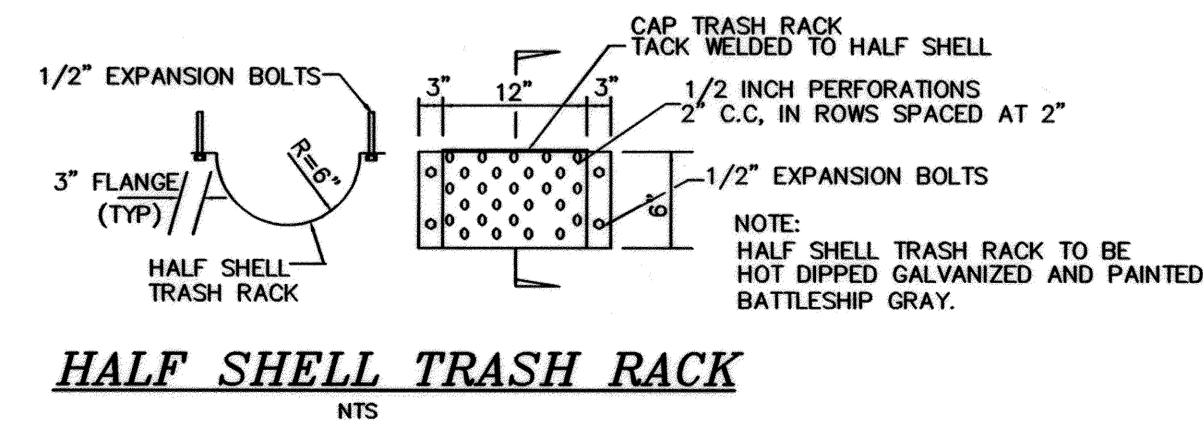
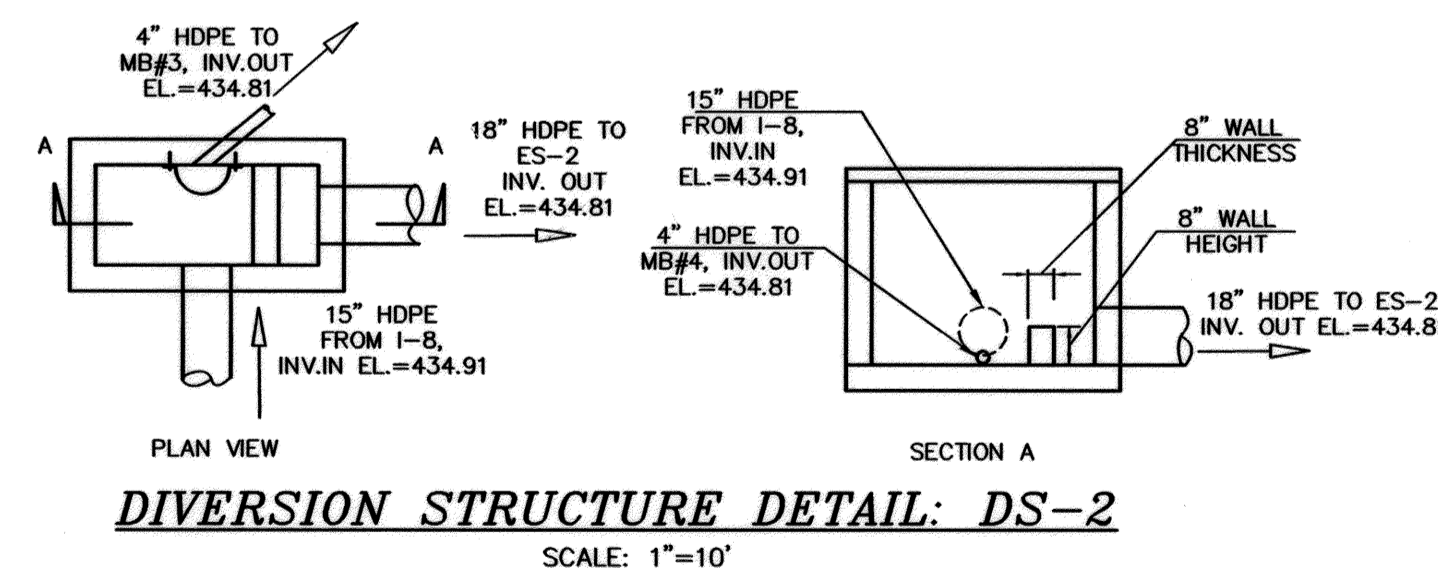
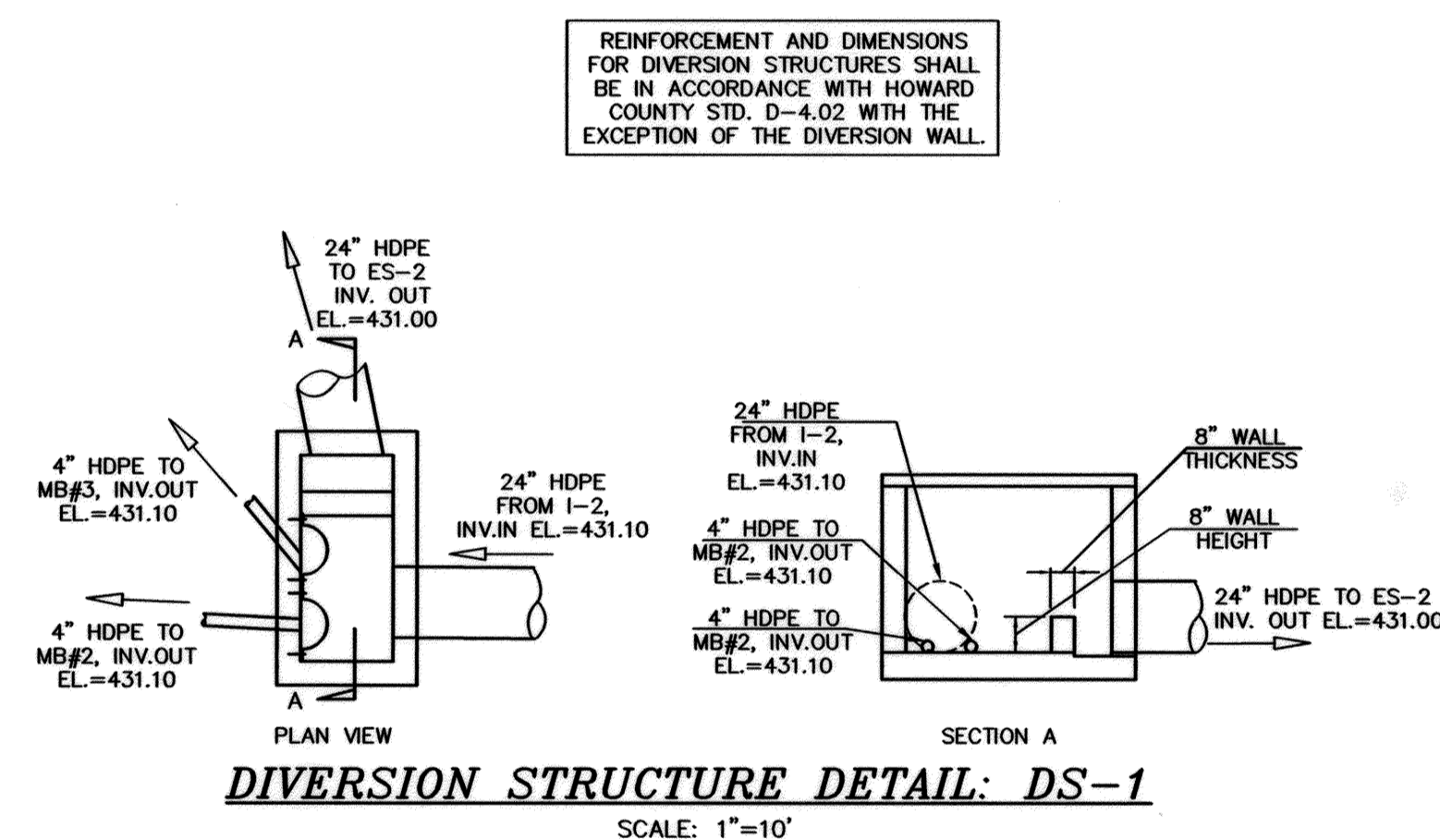
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 26859, EXP. DATE 08/08/23

SAMER A. ALOMER P.E.  
 DATE: 1.20.22



**STORM DRAIN PROFILE (I-5 TO ES-2)**

SCALE: HOR. 1"=50'  
VER. 1"=5'



Project	date	approval
09-004	JAN. 2022	SA
Illustration	MM	MM
scale	1"=50'	

**ST. CHARLES WOODS - PHASE 1**  
 LOTS 1-10, OPEN SPACE LOTS 11 & 12, AND NON-BUILDABLE BULK PARCEL A  
 TAX MAP 16 - PARCEL 248 - GRID 23  
 HOWARD COUNTY, MARYLAND  
 THIRD ELECTION DISTRICT

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 8318 Forrest Street, Suite 300, Ellicott City, Maryland 21043  
 (410) 997-0296 Fax

M:\2018\09-004 CADOGAN\FINAL PHASE 1\DWG\FINAL ROAD CONSTRUCTION PLAN-PHASE-1.MXD, 1/20/2022 3:03:05 PM, Moysa Misenberg



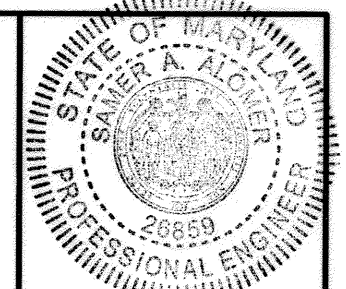
APPROVED: DEPARTMENT OF PUBLIC WORKS  
 CHIEF, BUREAU OF HIGHWAYS  
 DATE: 4/11/2022

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 3/21/22

CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 4/13/22

**OWNER/DEVELOPER**  
 CADOGAN PROPERTY, LLC  
 8318 FORREST ST. SUITE 300  
 ELLICOTT CITY, MD 21043  
 (410)997-0296

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 28559, EXP. DATE 08/08/23  
 DATE: 1/2022  
 SAMER A. ALQOMER P.E.



**LEGEND**

- AREA OF EXISTING WETLANDS
- AREA OF 100-YEAR FLOODPLAIN
- 100-YEAR FLOODPLAIN ELEVATION
- AREA OF FOREST CONSERVATION EASEMENT
- (M-6) MICRO-BIORETENTION FACILITY I.D.
- M-5, DRY WELL
- DRAINAGE AREA TO M-6
- AREA TREATED BY M-5, DRY WELLS
- AREA TREATED BY M-6, MICRO-BIORETENTION

**SOIL BORING TABLE FOR DRYWELLS (M-5)**

PIPE NO.	RISER HEIGHT (FT.)	EMBEDDED DEPTH (FT.)	DEPTH OF FILL MATERIAL	INFILTRATION RATE (IN/HR)
DRI-1	1.0	2.0	6.0'	0.6
DRI-2	2.0	2.0	6.0'	0.7
DRI-3	1.0	2.0	6.0'	0.2
DRI-4	1.0	2.0	6.0'	0.8
DRI-5	2.0	2.0	6.0'	1.0
DRI-6	N/A	N/A	4.0'	-
DRI-7	N/A	N/A	6.0'	-
DRI-8	1.0	2.0	3.0'	0.8
DRI-9	1.0	2.0	2.5'	1.02
DRI-10	1.0	2.0	2.0'	1.02
DRI-11	1.0	2.0	5.0'	0.7

**SOIL BORING TABLE FOR MICRO-BIORETENTION (M-6)**

BORING NO.	EXISTING GROUND ELEVATION	GROUND WATER ELEVATION	BIO-RETENTION NO.
HA-1	428.39	N/A	MB-3
HA-2	422.28	N/A	MB-4
HA-3	424.82	N/A	-
HA-4	427.30	422.30	-
HA-5	434.56	431.56	-
HA-6	437.11	N/A	-
HA-7	432.07	N/A	-
HA-7A	431.24	N/A	-
HA-8	429.65	N/A	MB-2
HA-9	436.67	N/A	MB-1
HA-10	440.15	434.48	MB-1

**SWM PRACTICES SCHEDULE**

AREA	ESD METHOD	ESD+ (REQ)	ESD+ PROVIDED	Pe (REQUIRED)	Pe (PROVIDED)
LOT 1	SC-740 STORMTECH CHAMBERS, MODIFIED DRYWELL (M-5) - 3 UNITS	170 CF	225 CF	1.12"	1.46"
LOT 2	SC-740 STORMTECH CHAMBERS, MODIFIED DRYWELL (M-5) - 3 UNITS	170 CF	225 CF	1.12"	1.46"
LOT 3	SC-740 STORMTECH CHAMBERS, MODIFIED DRYWELL (M-5) - 3 UNITS	170 CF	225 CF	1.12"	1.46"
LOT 5	SC-740 STORMTECH CHAMBERS, MODIFIED DRYWELL (M-5) - 2 UNITS	87 CF	150 CF	1.12"	1.93"
LOT 6	SC-740 STORMTECH CHAMBERS, MODIFIED DRYWELL (M-5) - 3 UNITS	170 CF	225 CF	1.12"	1.46"
LOT 7	SC-740 STORMTECH CHAMBERS, MODIFIED DRYWELL (M-5) - 3 UNITS	170 CF	225 CF	1.12"	1.46"
LOT 8	SC-740 STORMTECH CHAMBERS, MODIFIED DRYWELL (M-5) - 3 UNITS	170 CF	225 CF	1.12"	1.46"
LOT 9	SC-740 STORMTECH CHAMBERS, MODIFIED DRYWELL (M-5) - 3 UNITS	170 CF	225 CF	1.12"	1.46"
LOT 10	SC-740 STORMTECH CHAMBERS, MODIFIED DRYWELL (M-5) - 3 UNITS	170 CF	225 CF	1.12"	1.46"
GIBRAN LA. SOUTHBOUND (STA 0+00 - 8+00)	BIORETENTION FACILITY MB#1 (M-6)	1,286 CF	1,424 CF	1.12"	1.24"
RT. 140 IMPROVEMENT, GIBRAN LA. WESTBOUND (STA 6+00 - 8+75)	BIORETENTION FACILITY MB#2 (M-6)	2,963 CF	3,011 CF	1.12"	1.14"
ALMIRA LA. DRIVEWAYS ON LOTS 1-8, HOUSES ON LOTS 4 & P/O HOUSE ON LOT 5	BIORETENTION FACILITY MB#3 (M-6)	751 CF	760 CF	1.12"	1.13"
GIBRAN LA. (STA 8+00 - 10+80), DRIVEWAYS ON LOTS 9 AND 10	BIORETENTION FACILITY MB#3 (M-6)	6,447 CF	7,145 CF	1.12"	1.43"
TOTAL					

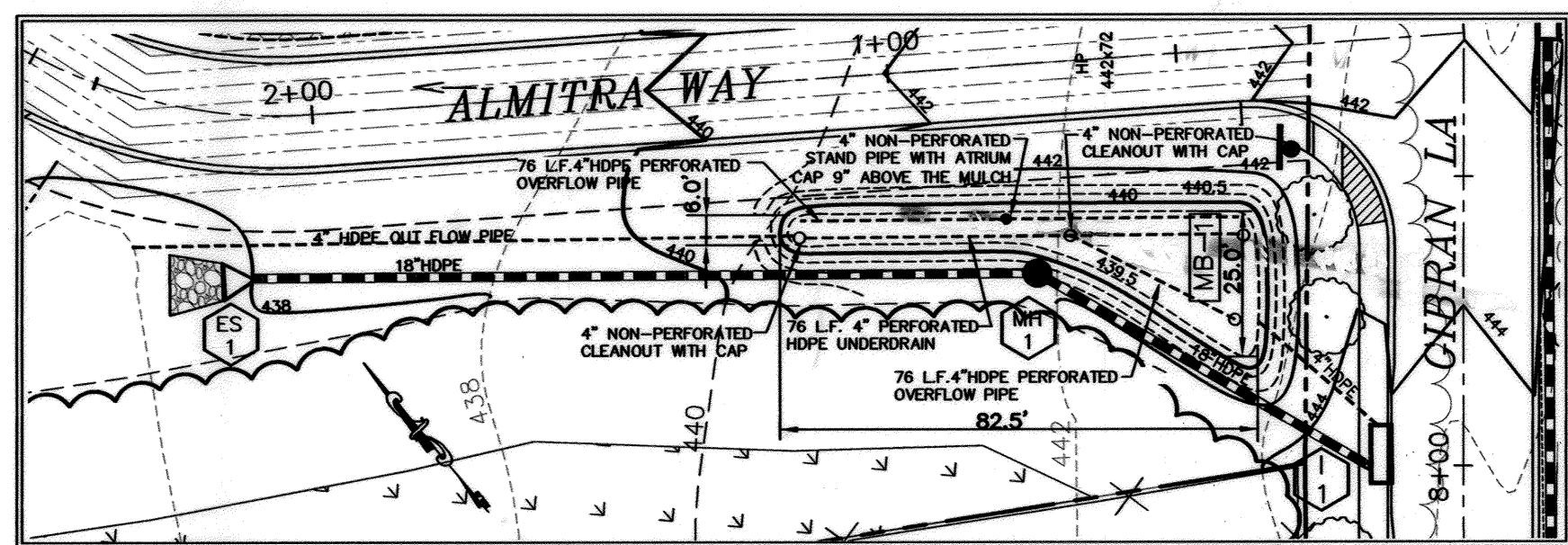
\* BY DESIGNING ESD MEASURES FOR "WOODS IN GOOD CONDITION", Qp REQUIREMENTS ARE MET.  
 \*\* STORMWATER MANAGEMENT QUANTITY CONTROL FOR THE 10- AND 100-YEAR (Qp, Q2) STORM EVENTS IS NOT REQUIRED.

project: 09-004  
 date: JAN. 2022  
 illustration: MAM  
 engineering: MAM  
 scale: 1"=60'  
 approval: SAA

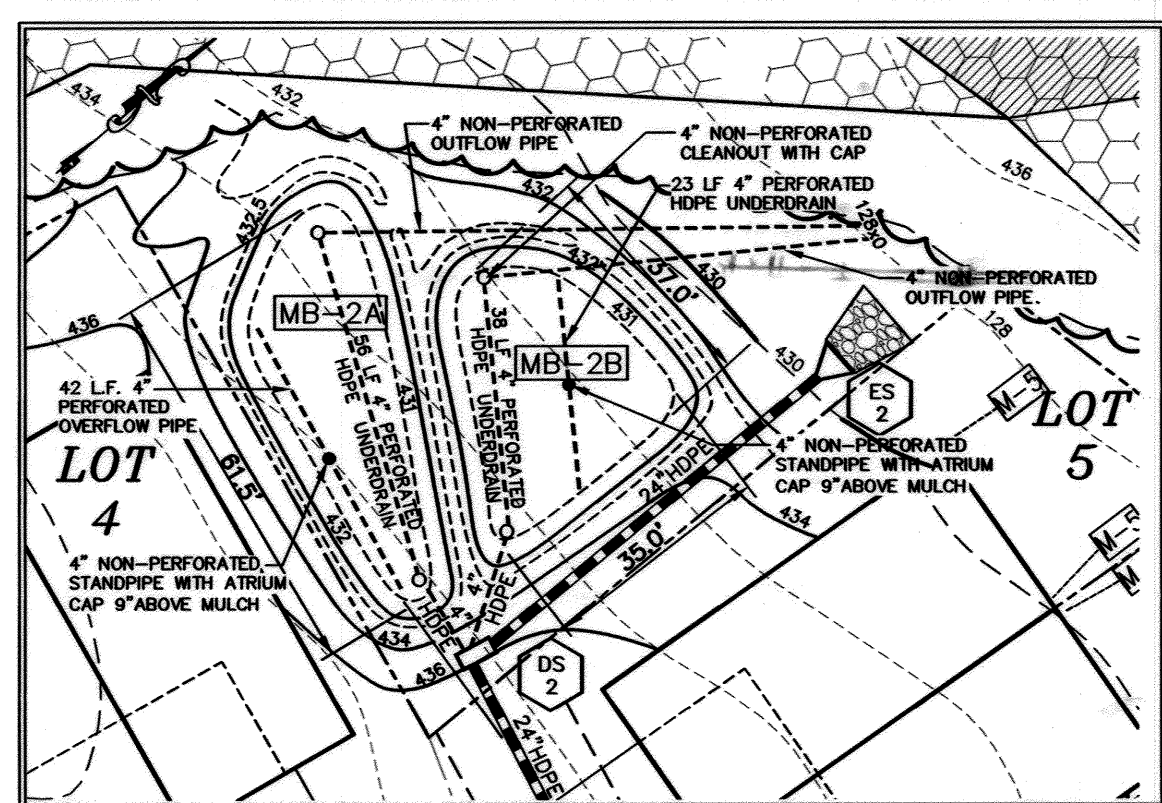
no. description revisions

**ST. CHARLES WOODS - PHASE 1**  
 LOTS 1-10, OPEN SPACE LOTS 11 & 12, AND NON-BUILDABLE BULK PARCEL A  
 TAX MAP 16 - PARCEL 248 - GRID 23  
 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
**STORMWATER MANAGEMENT PLAN**

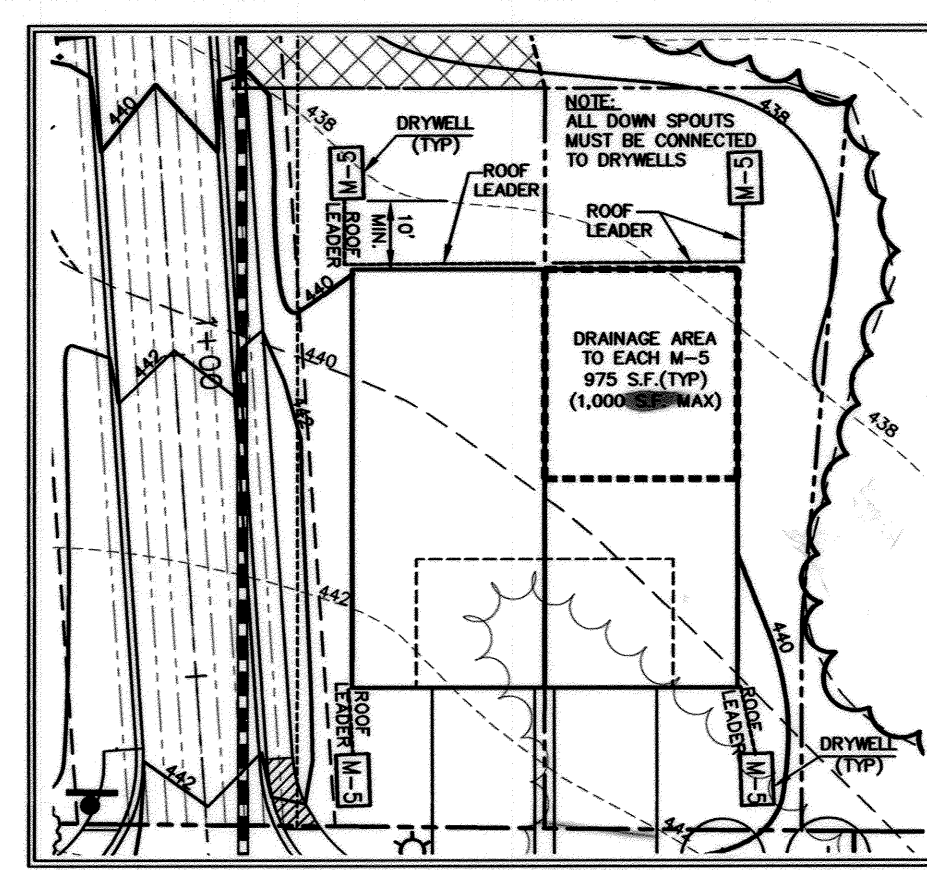
**MILDENBERG, BOENDER & ASSOC., INC.**  
 Planners Surveyors  
 8318 Forrest Street, Suite 300, Ellicott City, Maryland 21043  
 (410) 997-0296 Fax



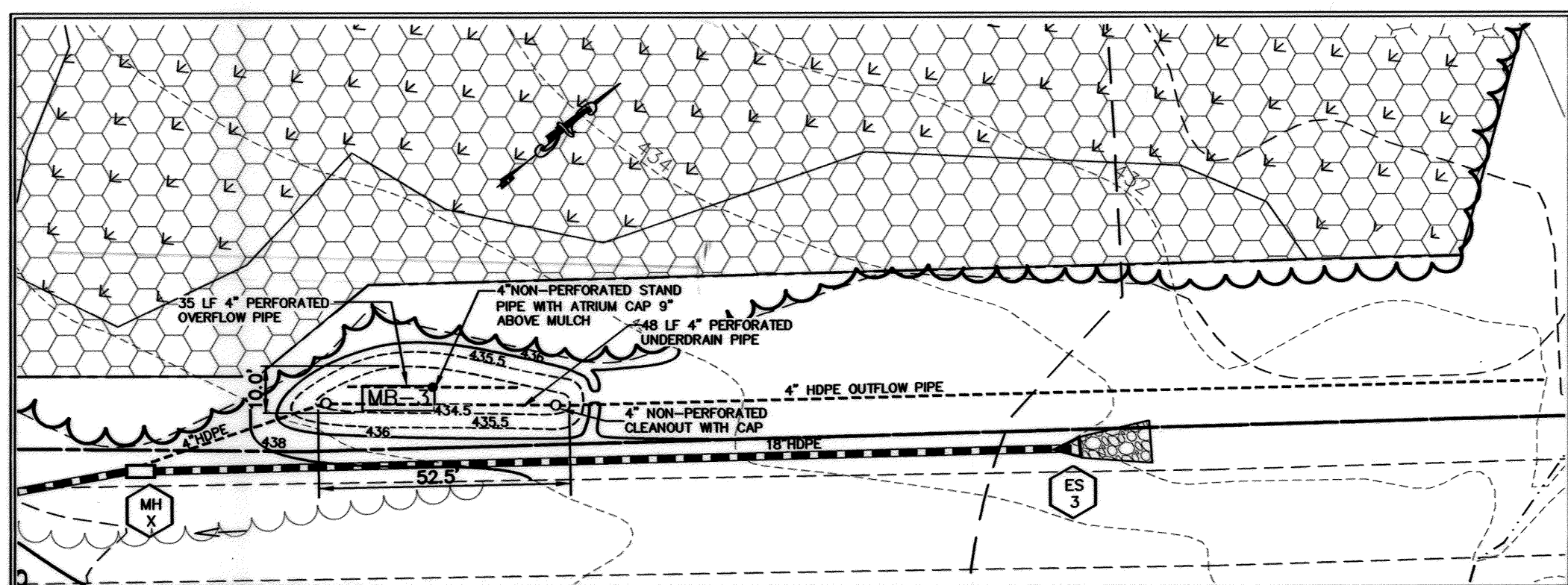
**MICRO-BIORETENTION (MB-1) PLAN**  
SCALE: 1"=30'



**MICRO-BIORETENTION (MB-2A & 2B) PLAN**  
SCALE: 1"=30'



**SCHEMATIC DRYWELL (M-5) LOCATION PLAN**  
SCALE: 1"=30'

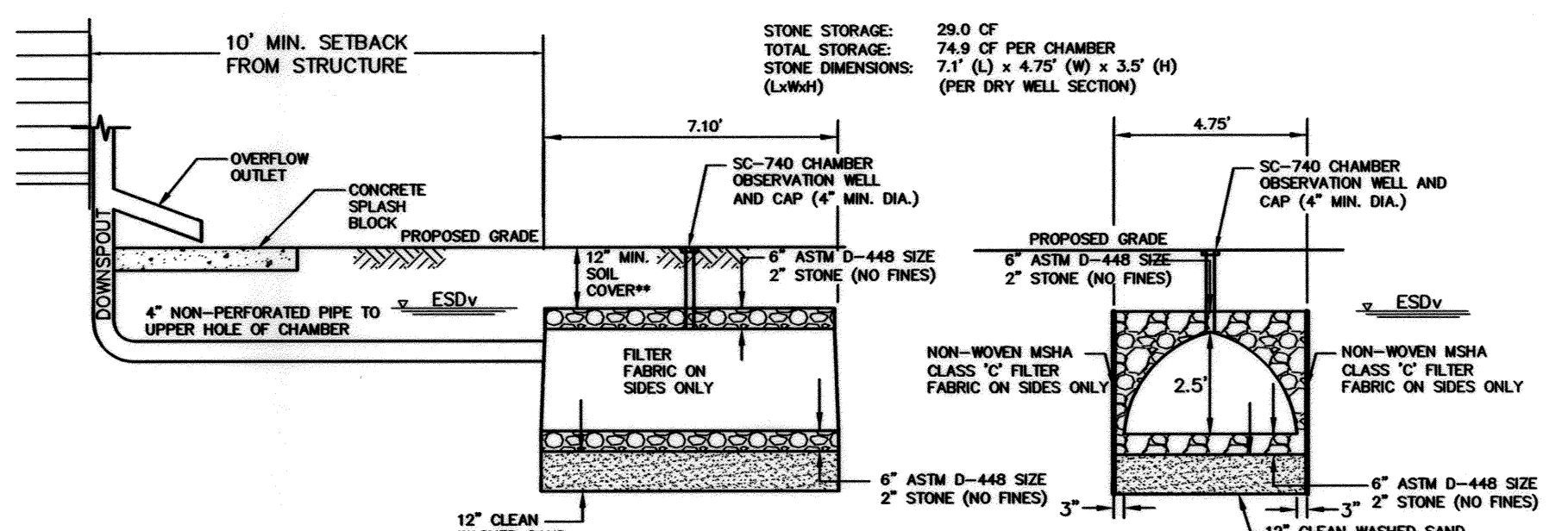


**MICRO-BIORETENTION (MB-3) PLAN**  
SCALE: 1"=30'

NOTE: ALL SMM FACILITIES (M-5 & M-6) ARE PRIVATELY OWNED AND MAINTAINED.

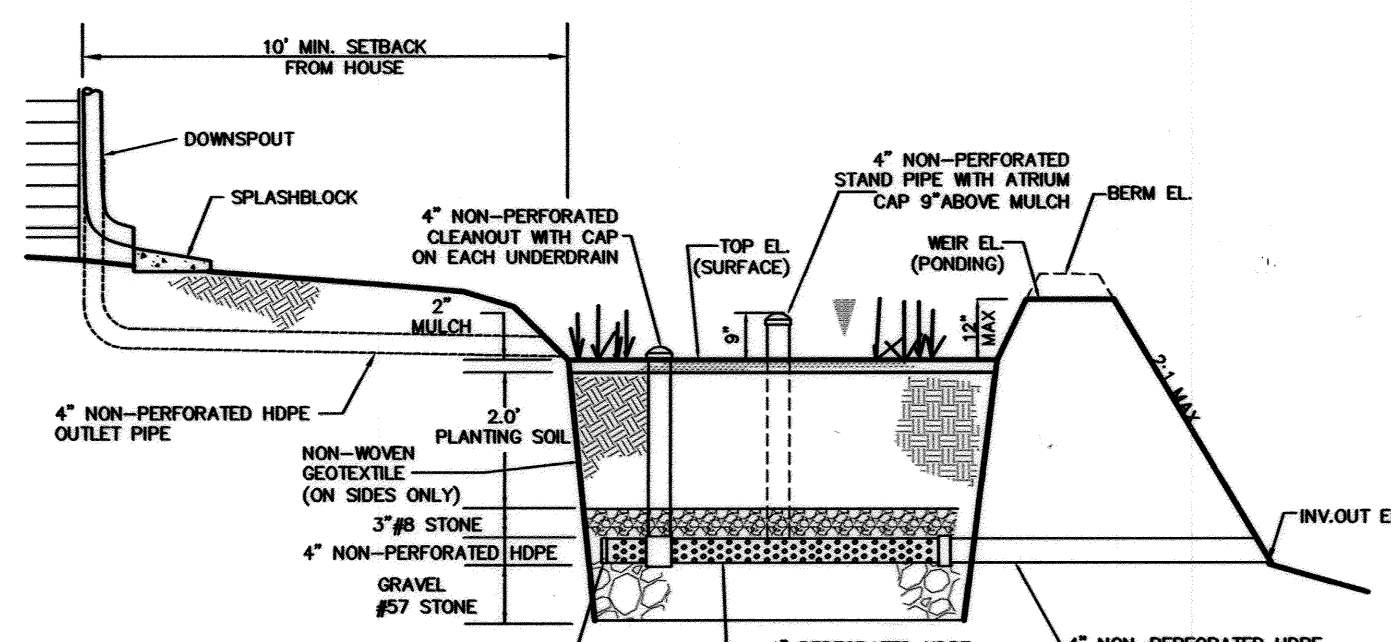
**MICRO-BIORETENTION SCHEDULE**

FACILITY	TOP EL. (SURFACE)	WEIR EL. (PONING)	BERM EL.	INV. IN	INV. OUT	SURFACE AREA	PONDING AREA	PONDING DEPTH	GRAVEL DEPTH BELOW UNDERDRAIN	SITE SLOPE
MB-1	439.50	440.50	441.00	436.75	428.00	810 S.F.	1,400 S.F.	12"	12"	3:1
MB-2A	431.00	432.00	432.25	428.25	428.00	900 S.F.	1,360 S.F.	12"	13"	3:1
MB-2B	431.00	432.00	432.50	428.25	428.00	900 S.F.	1,330 S.F.	12"	13"	3:1
MB-3	434.50	435.50	436.00	431.75	431.50	380 S.F.	760 S.F.	12"	15"	3:1



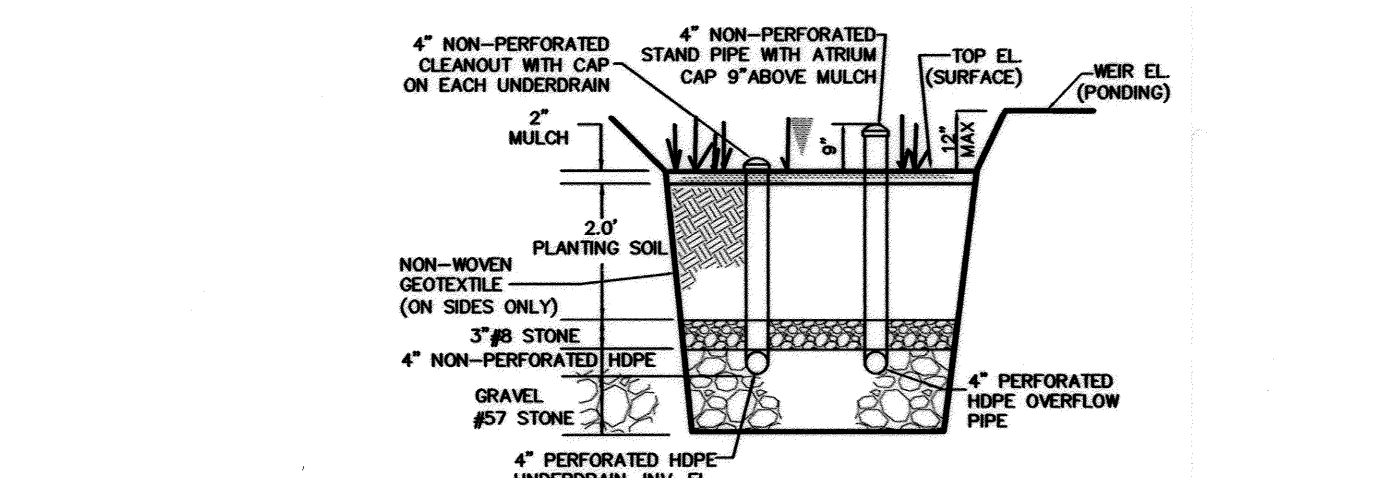
**MODIFIED DRYWELL (M-5) DETAIL**  
NOT TO SCALE

NOTE: ADJUST COVER OVER CHAMBER TO ENSURE THAT THE CLEAN WASHED SAND LAYER IS NOT PLACED IN FILTER.

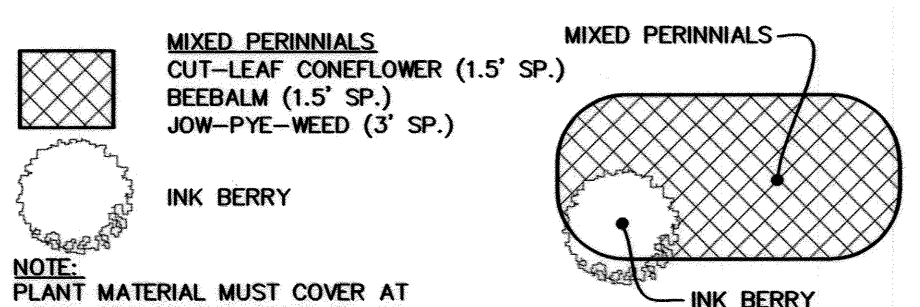


NOTE- THE ENTIRE DRAINAGE AREA MUST BE FULLY STABILIZED BEFORE RUNOFF CAN BE DIRECTED TO THE FACILITY.

**TYPICAL MICRO-BIORETENTION PROFILE**  
NTS



**TYP. SECTION MICRO-BIORETENTION (M-6)**  
NTS



**TYP. MICRO-BIORETENTION (M-6) PLANTING DETAIL**  
SCALE: NTS

Sheet	1 of 1	Sheet	1 of 1	Sheet	1 of 1	Sheet	1 of 1	Sheet	1 of 1
MB-1	MB-2A	MB-2B	MB-3	M-5	M-6	M-5	M-6	M-5	M-6
439.50	431.00	431.00	434.50	440.50	432.00	432.00	432.00	435.50	435.50
441.00	432.25	432.50	436.00	441.00	432.25	432.50	432.50	436.00	436.00
436.75	428.25	428.25	431.75	436.75	428.25	428.25	428.25	431.75	431.75
428.00	428.00	428.00	431.50	428.00	428.00	428.00	428.00	431.50	431.50
810 S.F.	900 S.F.	900 S.F.	380 S.F.	1,400 S.F.	1,360 S.F.	1,330 S.F.	760 S.F.	1,400 S.F.	1,360 S.F.
1,400 S.F.	1,360 S.F.	1,330 S.F.	760 S.F.	12"	13"	13"	12"	12"	13"
12"	13"	13"	15"	12"	13"	13"	15"	12"	13"
3:1	3:1	3:1	3:1	3:1	3:1	3:1	3:1	3:1	3:1

**OWNER/DEVELOPER**  
CADOGAN PROPERTY, LLC  
8318 FORREST ST. SUITE 300  
ELLICOTT CITY, MD 21043  
(410)997-0296

**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRY WELLS (M-5)**

- THE OWNER SHALL INSPECT THE MONITORING WELLS AND STRUCTURES ON A QUARTERLY BASIS AND AFTER EVERY HEAVY STORM EVENT.
- THE OWNER SHALL RECORD THE WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS OVER A PERIOD OF SEVERAL DAYS TO ENSURE TRENCH DRAINAGE.
- THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN A SEVENTY-TWO (72) HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
- THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO ENSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
- ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

**OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)**

- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A-4.1 AND 2.
- THE OWNER SHALL PERFORM A PLANT INSPECTION IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THIS INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

**ENGINEER'S CERTIFICATE**  
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF ENGINEER: *Samer A. Alomer* DATE: 1.20.22  
NAME OF ENGINEER: SAMER A. ALOMER P.E.  
PRINTED NAME OF ENGINEER

**DEVELOPER'S CERTIFICATE**  
I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. HOWARD SOIL CONSERVATION DISTRICT IS AUTHORIZED TO CONDUCT PERIODIC ON-SITE INSPECTION.

SIGNATURE OF DEVELOPER: *Alomer* DATE: 1/27/22  
NAME OF DEVELOPER: R. JACOB HIKMAT  
PRINTED NAME OF DEVELOPER

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

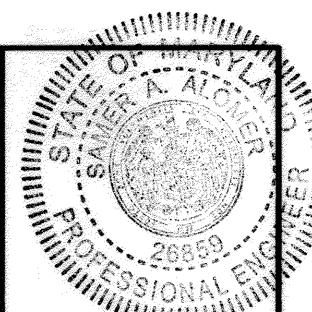
SIGNATURE OF DISTRICT: *Alomer* DATE: 02/28/22  
NAME OF DISTRICT: HOWARD SOIL CONSERVATION DISTRICT

APPROVED: DEPARTMENT OF PUBLIC WORKS  
SIGNATURE: *James* DATE: 4/11/2022  
NAME: CHIEF, BUREAU OF HIGHWAYS MK

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
SIGNATURE: *Alomer* DATE: 3-21-22  
NAME: CHIEF, DEVELOPMENT ENGINEERING DIVISION JP

APPROVED: DEPARTMENT OF LAND DEVELOPMENT  
SIGNATURE: *Alomer* DATE: 6/27/22  
NAME: CHIEF, DIVISION OF LAND DEVELOPMENT qer

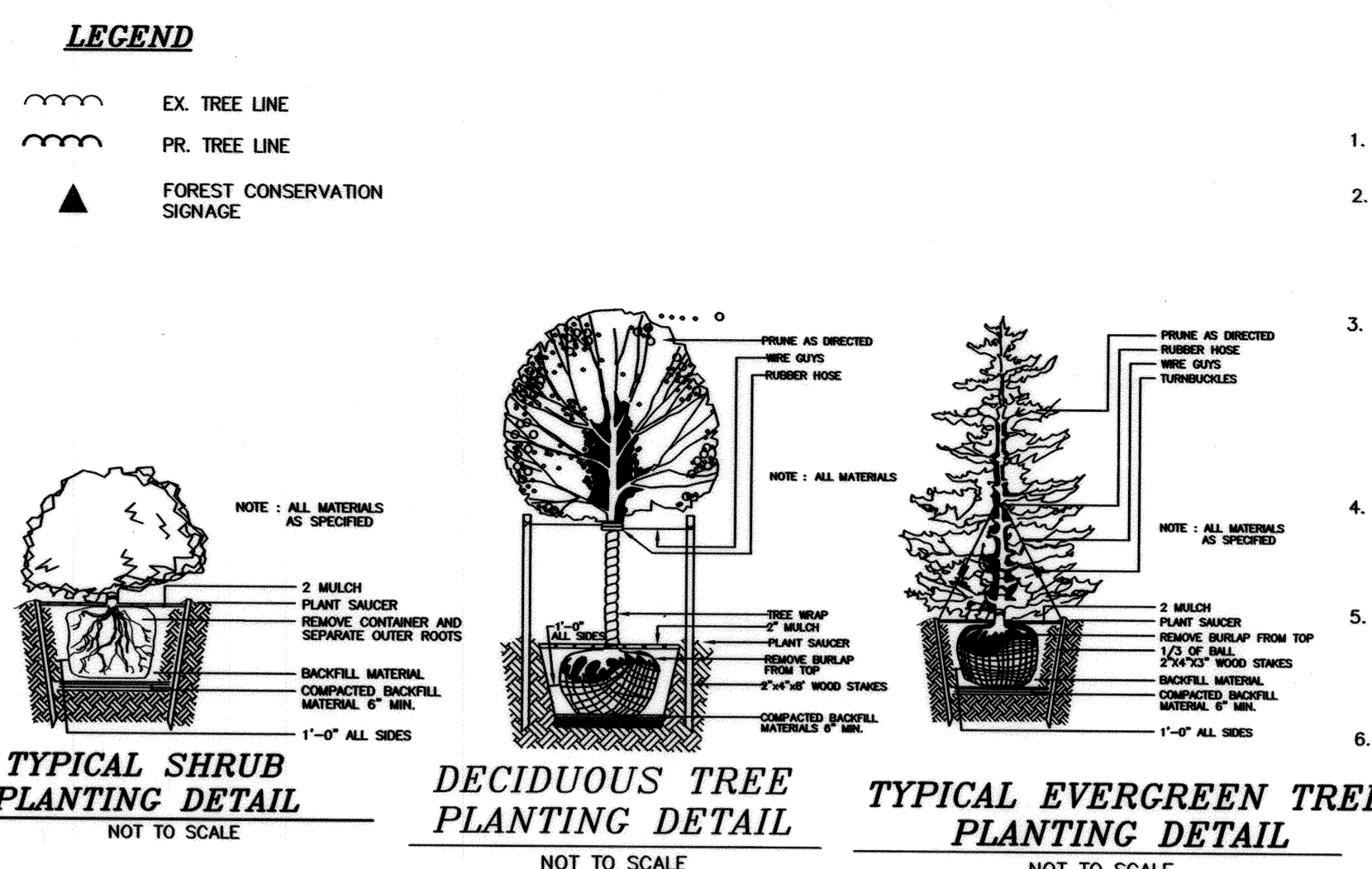
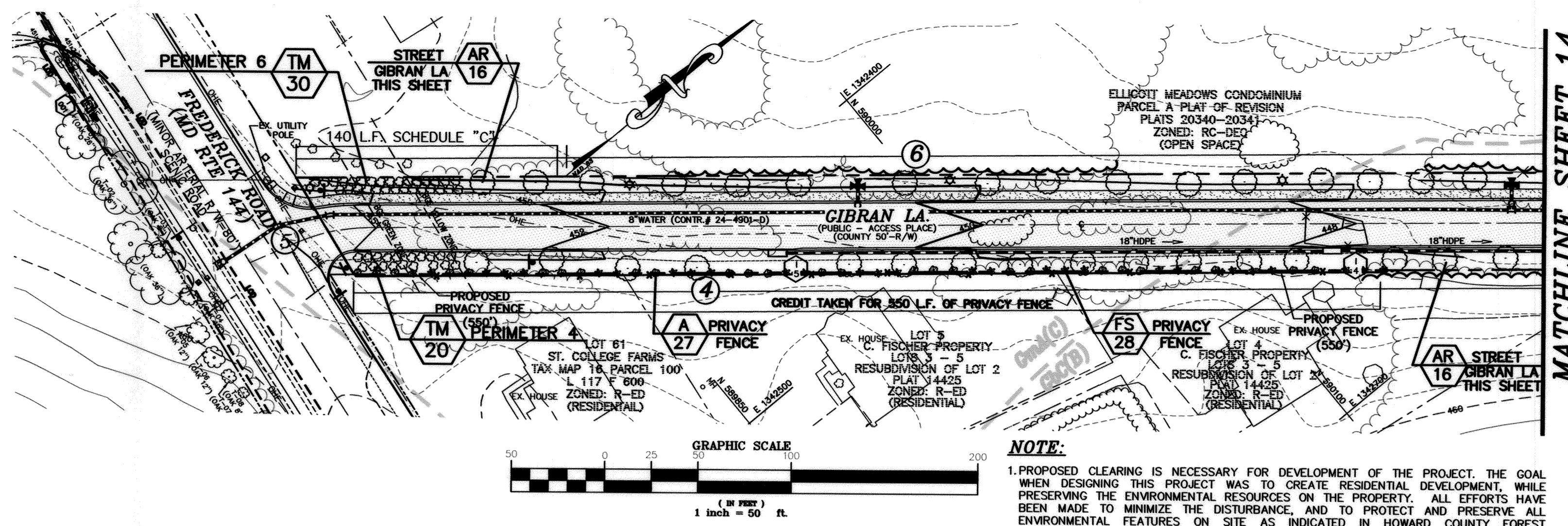
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 26859, EXP. DATE 08/03/23  
SIGNATURE: *Samer A. Alomer* DATE: 1.20.22  
NAME: SAMER A. ALOMER P.E.



date: JAN 2022  
project: 09-004  
description: illustration  
revision: MAM  
scale: MAM  
approval: MAM  
date: 1'-60'

**ST. CHARLES WOODS - PHASE 1**  
LOTS 1-10, OPEN SPACE LOTS 11 & 12, AND NON-BUILDABLE BULK PARCELS  
TAX MAP 16 - PARCEL 248 - GRID 23  
THIRD ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
STORMWATER MANAGEMENT DETAILS AND SOIL BORINGS

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
8318 Forrest Street, Suite 300, Ellicott City, Maryland 21043  
(410) 997-0298 Fax



- NOTES:**
- NO CLEARING OF EXISTING VEGETATION IS PERMITTED WITHIN THE LANDSCAPE EDGE FOR WHICH CREDIT IS BEING TAKEN. HOWEVER, LANDSCAPE MAINTENANCE IS AUTHORIZED.
  - THE OWNER, TENANT AND / OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, PLANT MATERIALS, BERM, FENCES, AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
  - AT THE TIME OF INSTALLATION, ALL SHRUBS AND OTHER PLANTINGS HEREWITHE LISTED AND APPROVED FOR THIS SITE SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.
  - SHOULD ANY TREE DESIGNATED FOR PRESERVATION, FOR WHICH CREDIT IS GIVEN, BE REMOVED OR DIE PRIOR TO RELEASE OF BONDS, THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR WITH A TREE WHICH WILL OBTAIN THE SAME HEIGHT, SPREAD AND GROWTH CHARACTERISTICS. THE REPLACEMENT TREE MUST BE A MINIMUM OF 3 INCHES IN CALIPER AND INSTALLED AS REQUIRED IN THE LANDSCAPE MANUAL.
  - FINANCIAL SURETY FOR THE PROVIDED LANDSCAPING (41 SHADE TREES, 6 EVERGREENS AND 50 SHRUBS), AN ADDITIONAL (3 SHADE TREES AND 4 EVERGREENS) PROVIDED AS A CONDITION OF THE APPROVED WAIVER WP-15-077 AND 550 L.F. OF PRIVACY FENCE WITH AN ADDITIONAL 5.5 SHRUBS IN THE AMOUNT OF \$23,350 IS TO BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT.
  - A SURETY IN THE AMOUNT \$14,400 FOR (48 SHADE TREES) PUBLIC STREET TREES WILL BE ADDRESSED UNDER DEED'S COST ESTIMATE.

**NOTE:**  
1. PROPOSED CLEARING IS NECESSARY FOR DEVELOPMENT OF THE PROJECT. THE GOAL WHEN DESIGNING THIS PROJECT WAS TO CREATE RESIDENTIAL DEVELOPMENT, WHILE PRESERVING THE ENVIRONMENTAL RESOURCES ON THE PROPERTY. ALL EFFORTS HAVE BEEN MADE TO MINIMIZE THE DISTURBANCE, AND TO PROTECT AND PRESERVE ALL ENVIRONMENTAL FEATURES ON SITE AS INDICATED IN HOWARD COUNTY FOREST CONSERVATION MANUAL, CHAPTER II, FOREST RETENTION PRIORITIES (PAGE II-4).

**SCHEDULE "A": PERIMETER LANDSCAPED EDGE**

CATEGORY	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES	TOTAL
LANDSCAPE TYPE	A (PERIMETER 1)	A (PERIMETER 2)	C (PERIMETER 3)	A (PERIMETER 4)**	B (PERIMETER 5)*	A (PERIMETER 6)**
LINEAR FEET OF PERIMETER	518.5 LF	1,057 LF	811 LF	1,820 LF	60 LF	772 LF
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	YES, 518.5 LF	YES, 1,057 LF	YES, 682 LF	YES	N/A	NO
CREDIT FOR WALL, FENCE, OR BERM (YES, NO, LINEAR FEET)	NO	NO	NO	550' L.F. OF PRIVACY FENCE	N/A	NO
NUMBER OF PLANTS REQUIRED	0 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	0 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	3 SHADE TREES 6 EVERGREEN TREES 0 SHRUBS	20 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	0 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	13 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS
NUMBER OF PLANTS PROVIDED	0 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	0 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	3 SHADE TREES 6 EVERGREEN TREES 0 SHRUBS	18 SHADE TREES 0 EVERGREEN TREES 20 SHRUBS	0 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	10 SHADE TREES 6 EVERGREEN TREES 30 SHRUBS

\* LANDSCAPING ALONG PERIMETER 5 IS NOT REQUIRED SINCE THE WIDTH AT THE PROPERTY LINE IS 60' AND THE WIDTH OF PROPOSED ENTRANCE ONTO GIBRAN LANE IS 50', RESULTING IN NO LANDSCAPING OBLIGATION FOR PERIMETER 5.  
\*\* PLEASE NOTE THAT DUE TO LACK OF SUFFICIENT SPACE FOR LANDSCAPING ALONG PERIMETERS 4 AND 5, THE REQUIRED LANDSCAPING HAS BEEN PROVIDED IN VARIOUS LOCATIONS THROUGHOUT THE SUBDIVISION.

**PERIMETER LANDSCAPE PLANTING SCHEDULE**

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
6	●	ACER SACCHARUM 'GREEN MOUNTAIN'	GREEN MOUNTAIN SUGAR MAPLE OR EQUIVALENT	2 1/2" - 3" CAL.
10	●	QUERCUS PALUSTRIS	PIN OAK OR EQUIVALENT	2 1/2" - 3" CAL.
18	●	GLEDITSIA TRIACANTHOS INTERMIS 'IMPERIAL'	IMPERIAL THORNLESS HONEYLOCUST OR EQUIVALENT	2 1/2" - 3" CAL.
10	●	CUPRESSOCYPARIS LEYLANDI	LEYLAND CYPRESS OR EQUIVALENT	6"-8" HEIGHT
50	●	TAXUS MEDIA 'HICKSI'	HICKS YEW OR EQUIVALENT	2 1/2" - 3" HT.
<b>TOTAL</b>				<b>94 (34 SHADE TREES, 10 EVERGREEN TREES, 50 SHRUBS)</b>

**SCHEDULE "C" ADDITIONAL LANDSCAPING PER WP-15-077**

CATEGORY	ADJACENT TO PERIMETER PROPERTIES	TOTAL
LANDSCAPE TYPE	B (PERIMETER 4)	B (PERIMETER 6)
LINEAR FEET OF PERIMETER	550 LF	140 LF
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	NO	NO
CREDIT FOR WALL, FENCE, OR BERM (YES, NO, LINEAR FEET)	NO	NO
NUMBER OF PLANTS PROVIDED	0 SHADE TREES 4 EVERGREEN TREES 0 SUBSTITUTION TREES 0 SHRUBS	3 SHADE TREES 4 EVERGREEN TREES 0 SUBSTITUTION TREES 0 SHRUBS

-NOTE: THIS ADDITIONAL LANDSCAPING HAS BEEN PROVIDED AS ONE OF THE REQUIRED CONDITIONS FOR APPROVAL OF WP-15-077. FINANCIAL SURETY FOR THIS ADDITIONAL LANDSCAPING WILL BE PROVIDED WITH THIS PLAN.

**SCHEDULE B: RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING**

NUMBER OF DWELLING LOTS	10
DWELLING TYPE	SFA
NUMBER OF PLANTS REQUIRED	10 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS
NUMBER OF PLANTS PROVIDED	10 SHADE TREES 0 EVERGREEN TREES 0 OTHER TREES (2:1 SUBSTITUTION) 0 SHRUBS (10:1 SUBSTITUTION)

**SCHEDULE D: STREET TREE CALCULATIONS**

STREET NAME	PERIMETER LENGTH	PLANTING REQUIREMENT	TREES REQUIRED	TREES PROVIDED
GIBRAN LANE	1,928 L.F.	1 TREE / 40 L.F.	48	48
ALMITRA LANE (PRIVATE ROAD)	N/A	N/A	N/A	N/A

**SCHEDULE "E": PRIVACY FENCE PLANTING CALCULATIONS**

LF OF FENCE	PLANTING REQUIREMENT	NUMBER OF SHRUBS REQUIRED	SHRUBS PROVIDED
550	1 SHRUB / 10 L.F.	55	55

**STREET TREE PLANTING SCHEDULE**

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
41	●	ACER RUBRUM OR EQUIVALENT	RED MAPLE OR EQUIVALENT	2 1/2" - 3" CAL.
7	●	QUERCUS RUBRA OR EQUIVALENT	NORTHERN RED OAK OR EQUIVALENT	2 1/2" - 3" CAL.
<b>TOTAL</b>				<b>54 STREET TREES</b>

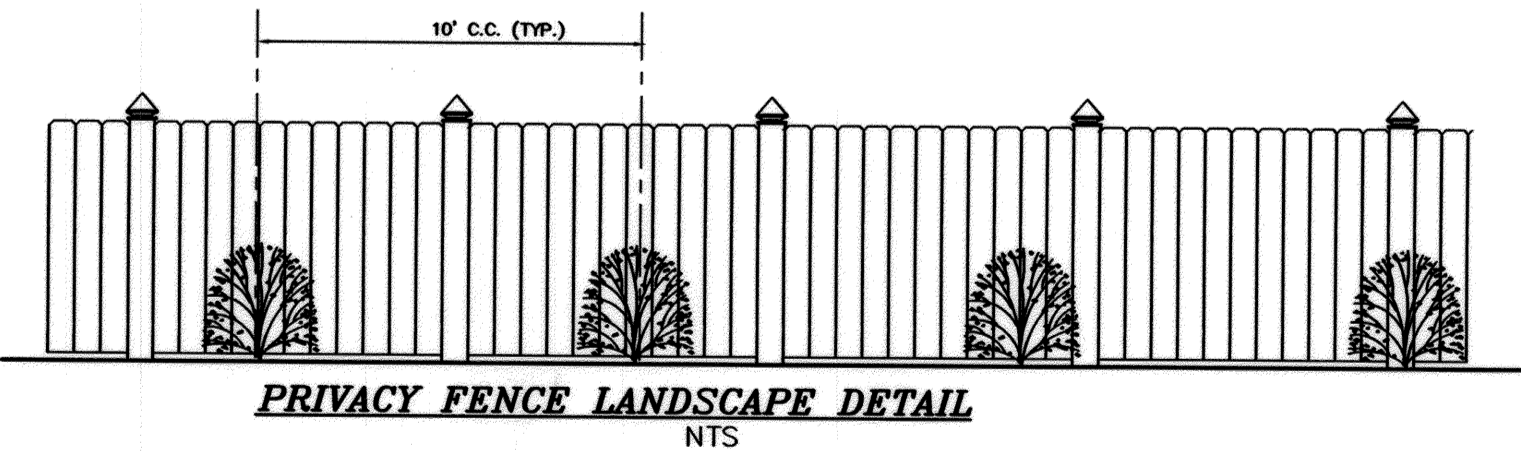
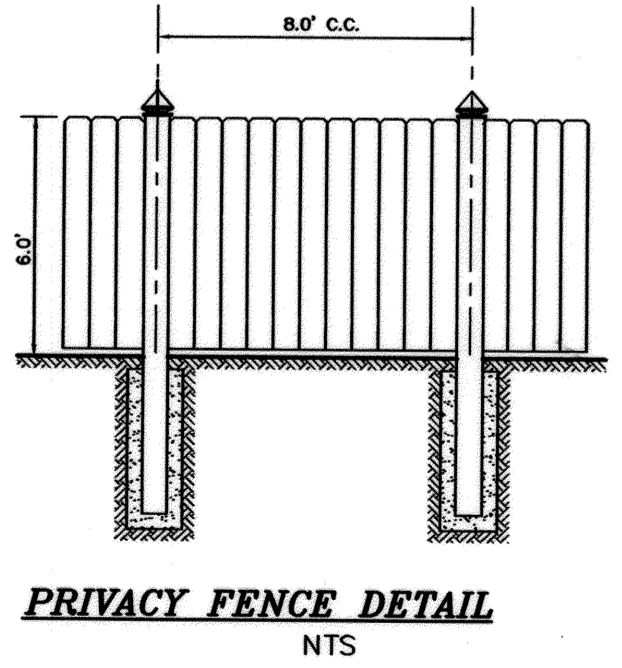
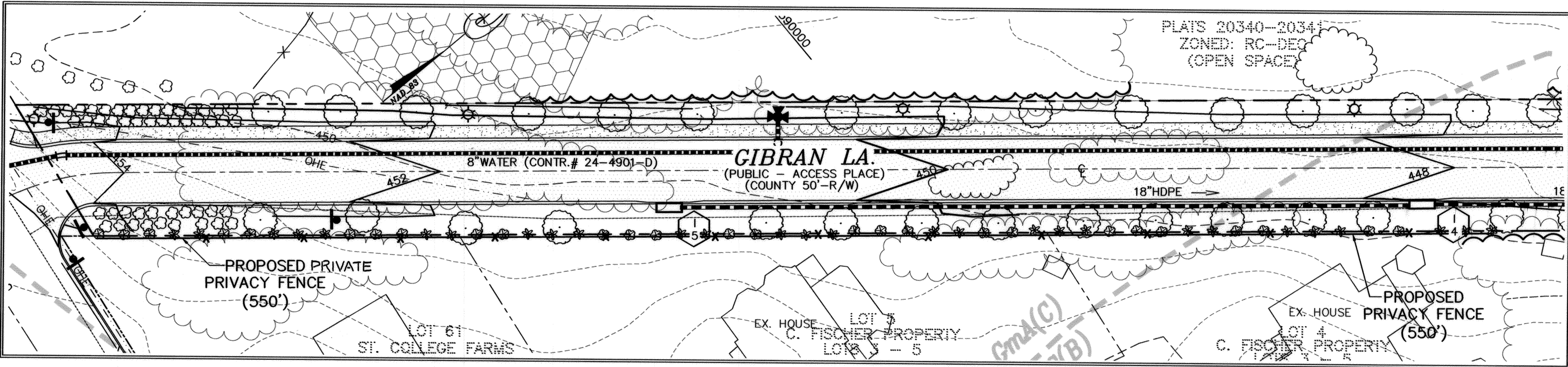
**INTERNAL LANDSCAPE PLANTING SCHEDULE**

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
10	●	PRUNUS SARGENTII	SARGENT CHERRY OR EQUIVALENT	2 1/2" - 3" CAL.
<b>TOTAL</b>				<b>10 INTERNAL LANDSCAPE TREES</b>

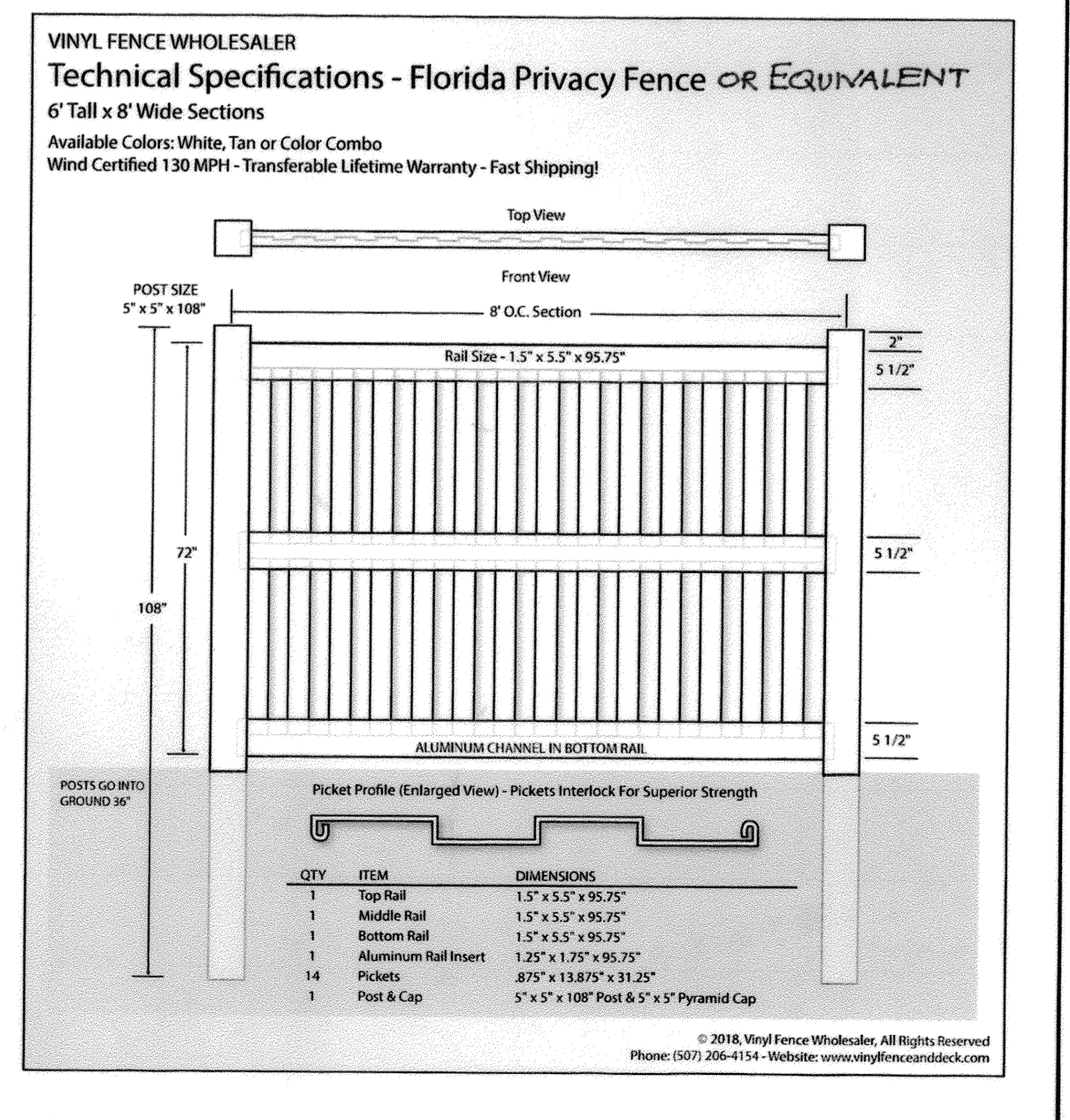
**PRIVACY FENCE LANDSCAPE PLANTING SCHEDULE**

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
28	●	FORSYTHIA SUSPENSUA VAR. 'SEBOLDII'	SEBOLD HOPPING FORSYTHIA OR EQUIVALENT	2 1/2" - 3" HT.
27	●	AZALEA 'HERSHEY RED'	HERSHEY RED AZALEA OR EQUIVALENT	18"-24" SPREAD
<b>TOTAL</b>				<b>55 SHRUBS</b>

**NOTE: PRIVACY FENCE LANDSCAPE WILL BE PRIVATELY MAINTAINED**



**VINYL FENCE WHOLESALER**  
 Technical Specifications - Florida Privacy Fence or Equivalent  
 6" Tall x 8" Wide Sections  
 Available Colors: White, Tan or Color Combo  
 Wind Certified 130 MPH - Transferable Lifetime Warranty - Fast Shipping!



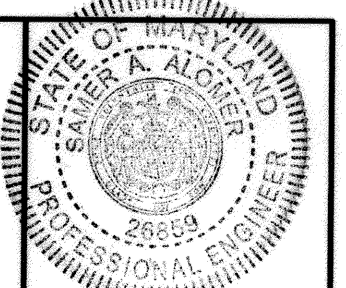
APPROVED: DEPARTMENT OF PUBLIC WORKS  
 [Signature] 4/11/2022  
 CHIEF, BUREAU OF HIGHWAYS MK DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 3-21-22  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION JP DATE  
 CHIEF, DIVISION OF LAND DEVELOPMENT [Signature] 6/2/22 DATE

**OWNER/DEVELOPER**  
 CADOGAN PROPERTY, LLC  
 8318 FORREST ST, SUITE 300  
 ELLICOTT CITY, MD 21043  
 (410)997-0296

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 26859, EXP. DATE 08/08/23.

SAMER A. ALOMER P.E. 1.20.22 DATE



**DEVELOPER'S/OWNER'S CERTIFICATE**  
 I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE, AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

OWNER DATE

Project: 09-004, Date: JAN 2022, Illustration: MAM, Scale: 1"=60', Approval: MAM, Description: ST. CHARLES WOODS - PHASE 1, LOTS 1-10, OPEN SPACE LOTS 11 & 12, AND NON-BUILDABLE BULK PARCEL A, TAX MAP 16 - PARCEL 24B - GRID 23, THIRD ELECTION DISTRICT, HOWARD COUNTY, MARYLAND, LANDSCAPE PLAN NOTES AND DETAILS.

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Planners, Surveyors, Engineers  
 8818 Forrest Street, Suite 300, Ellicott City, Maryland 21043  
 (410) 997-0296 Tel. (410) 997-0298 Fax.

13 OF 15  
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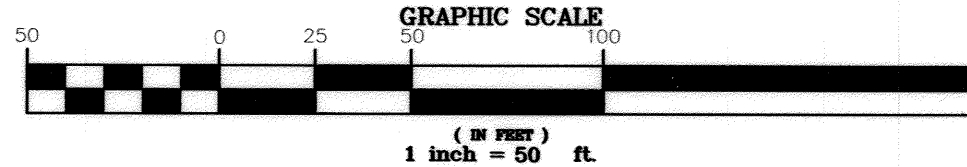
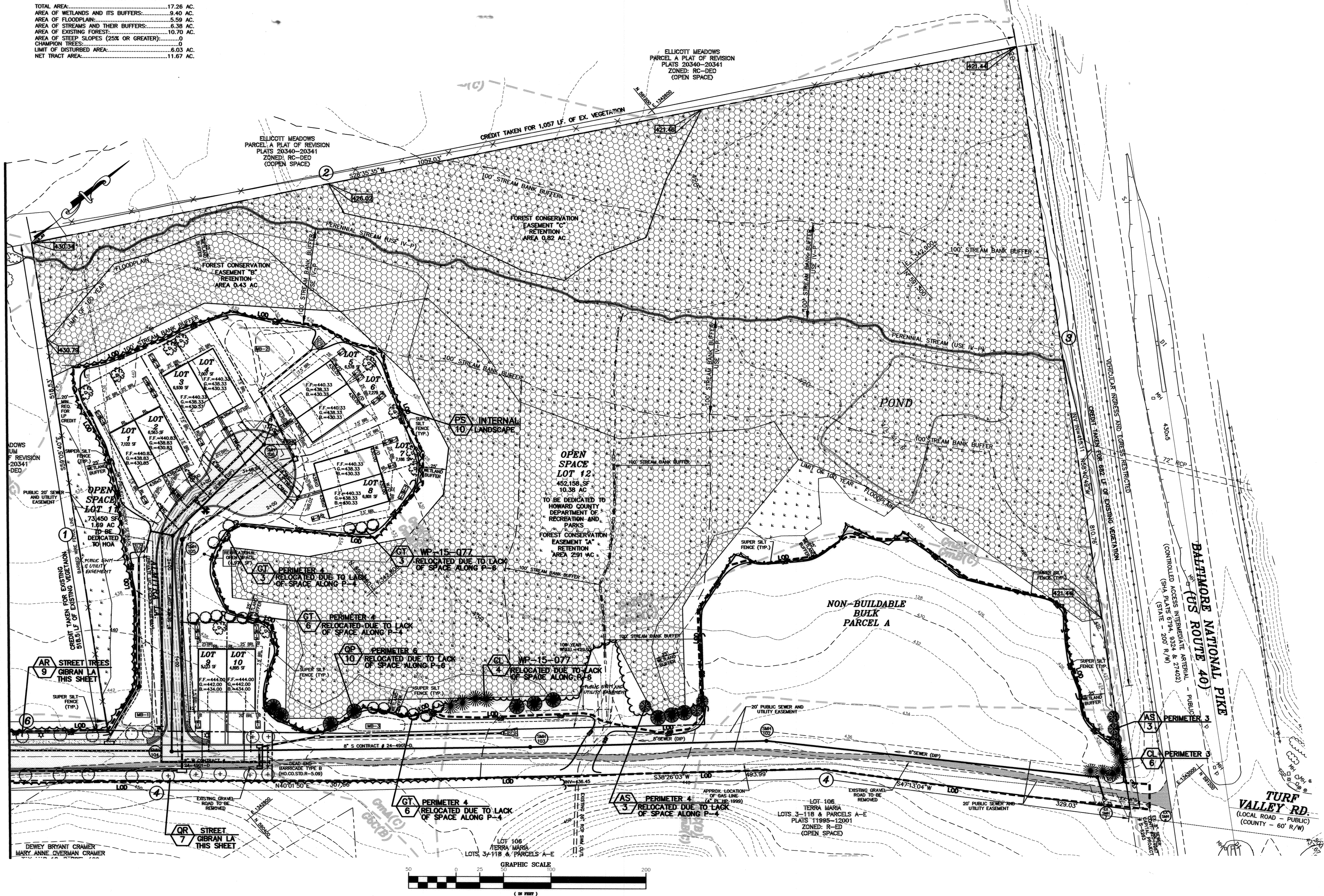
**LEGEND**

- EX. TREE LINE
- PR. TREE LINE
- AREA OF WETLANDS
- AREA OF FOREST CONSERVATION RETENTION
- FOREST CONSERVATION SIGNAGE

**SITE ANALYSIS DATA**

TOTAL AREA: 17.26 AC.  
 AREA OF WETLANDS AND ITS BUFFERS: 9.40 AC.  
 AREA OF FLOODPLAIN: 5.59 AC.  
 AREA OF STREAMS AND THEIR BUFFERS: 6.38 AC.  
 AREA OF EXISTING FOREST: 10.70 AC.  
 AREA OF STEEP SLOPES (25% OR GREATER): 0  
 CHAMPION TREES: 0  
 LIMIT OF DISTURBED AREA: 6.03 AC.  
 NET TRACT AREA: 11.67 AC.

MATCHLINE SHEET 13

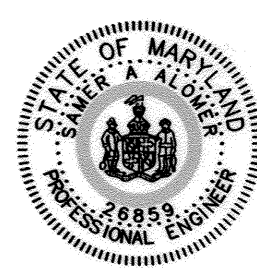


**OWNER/DEVELOPER**

CADOGAN PROPERTY, LLC  
 8318 FORREST ST. SUITE 300  
 ELLICOTT CITY, MD 21043  
 (410)997-0296

**DEVELOPER'S/OWNER'S CERTIFICATE**

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SAMER A. ALOMER P.E. DATE: 1/27/24

OWNER DATE: 1/27/24

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 [Signature] 4/11/2022  
 CHIEF, BUREAU OF HIGHWAYS MK DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 3-21-22  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION JP DATE  
 [Signature] 1/27/24  
 CHIEF, DIVISION OF LAND DEVELOPMENT sam DATE

project	date	description	scale
09-004	JAN 2022	engineering	1"=50'
illustration	MMM	approval	SAA

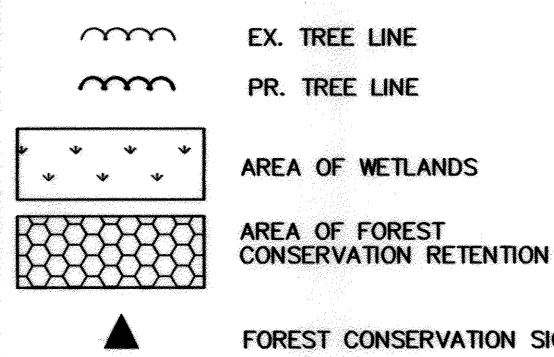
no.	description	revisions

**ST. CHARLES WOODS - PHASE 1**  
 LOTS 1-10, OPEN SPACE LOTS 11 & 12, AND NON-BUILDABLE BULK PARCEL A  
 TAX MAP 16 - PARCEL 248 - GRID 23  
 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
**LANDSCAPE PLAN**

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 8318 Forrest Street, Suite 300, Ellicott City, Maryland 21043  
 (410) 997-0298 Fax

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**LEGEND**

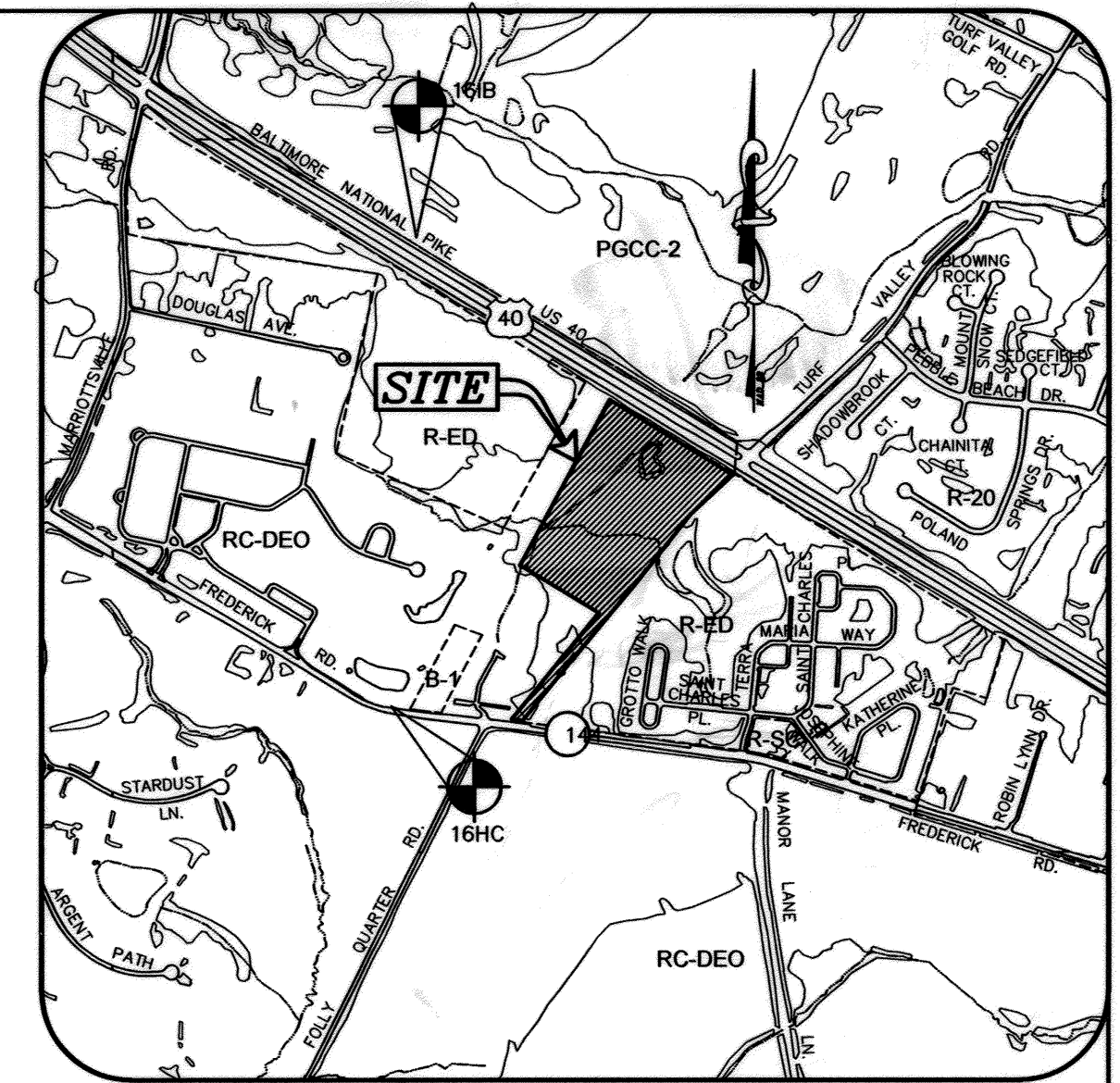
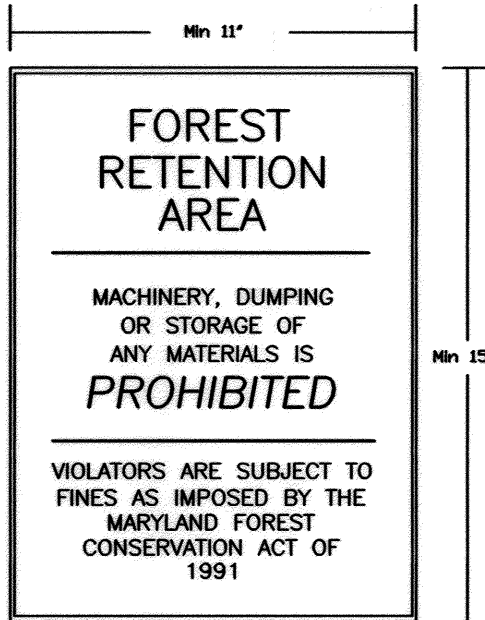
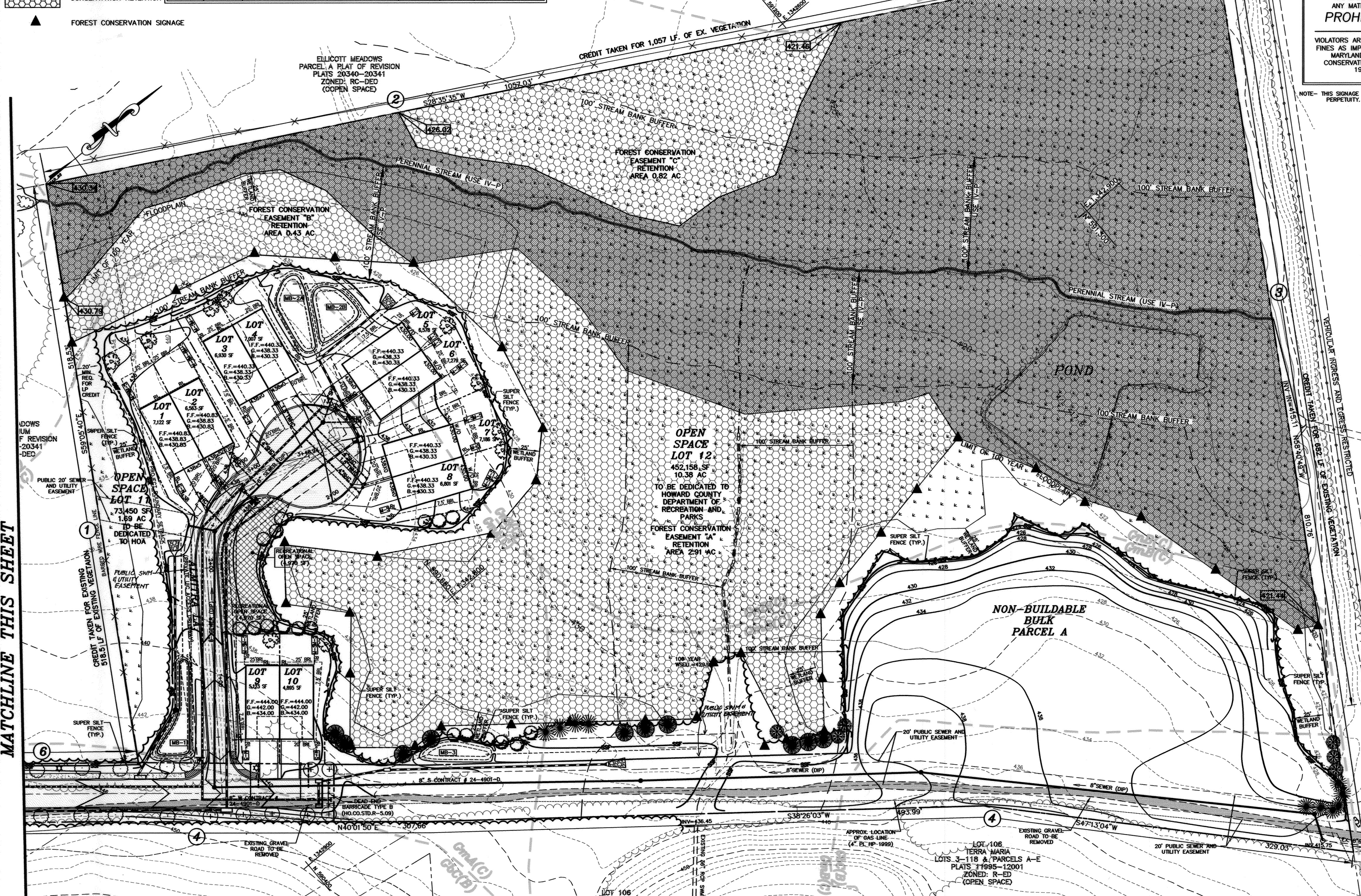


**SOILS TABLE**

SYMBOL	RATING	NAME	K FACTOR	MAP #	COMMENTS
GbC	(B)	GLADSTONE LOAM, 8-15% SLOPES	.20	12	----
GmC	(C)	GLENVILLE SILT LOAM, 0-3% SLOPES	.37	12	----
GmB	(C)	GLENVILLE SILT LOAM, 3-8% SLOPES	.37	12	----
GmC	(C)	GLENVILLE SILT LOAM, 8-15% SLOPES	.37	12	----
GnB	(C)	GLENVILLE-BAILE SILT LOAM, 0-8% SLOPES	.37	12	HYDRIC SOIL

**SITE ANALYSIS DATA**

TOTAL AREA: 17.26 AC.  
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 AREA OF FLOODPLAIN: 5.59 AC.  
 AREA OF STREAMS AND THEIR BUFFERS: 6.38 AC.  
 AREA OF EXISTING FOREST: 10.70 AC.  
 AREA OF STEEP SLOPES (25% OR GREATER): 0  
 CHAMPION TREES: 0  
 LIMIT OF DISTURBED AREA: 6.03 AC.  
 NET TRACT AREA: 11.67 AC.



**FSD NOTES:**

- NO RARE, THREATENED OR ENDANGERED SPECIES OR THEIR HABITATS WERE OBSERVED ON THE PROPERTY.
- SURROUNDING LAND USE IS MEDIUM-HIGH DENSITY RESIDENTIAL DEVELOPMENT.
- APPROXIMATELY 2.4 ACRES OF FOREST IS PRESENT WITHIN 100 FEET OF THE SUBJECT PROPERTY.
- ALL WETLANDS AND STREAMS ON THE PROPERTY ARE PART OF THE USE IV-P WATERSHED OF THE LITTLE PATUXENT RIVER. PERENNIAL STREAMS WILL REQUIRE 100 FOOT BUFFERS, INTERMITTENT STREAMS WILL REQUIRE 50 FOOT BUFFERS AND WETLANDS WILL REQUIRE 25 FOOT BUFFERS.
- APPROXIMATELY 5.6 ACRES OF 100 YEAR FLOODPLAIN IS PRESENT ON THE SUBJECT PROPERTY.
- THERE ARE NO STEEP SLOPES (25% OR GREATER) ON THE PROPERTY.
- THERE ARE NO KNOWN HISTORIC STRUCTURES OR CEMETERIES ON THE PROPERTY.
- THERE ARE NO SPECIFIC TREES ON THE PROPERTY. THERE ARE NO KNOWN TREES THAT ARE STATE CHAMPION TREES AND/OR TREES 75% OF THE SIZE OF THE STATE CHAMPION TREE ON THE PROPERTY.

**FOREST CONSERVATION WORKSHEET**  
 VERSION 1.0

NET TRACT AREA:	VALUE
A. Total tract area	17.26
B. Area within 100 year floodplain	5.59
C. Area to remain in agricultural production	0.00
D. Net tract area	11.67

LAND USE CATEGORY:  
 AREA MDR DA HRM MFD OA  
 0 0 0 0 0 0

EXISTING FOREST COVER:  
 E. Afforestation threshold: 100% x D = 11.67  
 F. Conservation threshold: 200% x D = 23.34

BREAK EVEN POINT:  
 G. Existing forest cover (including floodplain): 10.70  
 H. Area of forest above afforestation threshold: 0.00  
 I. Area of forest above conservation threshold: 0.00

PROPOSED FOREST CLEARING:  
 L. Total area of forest to be cleared: 0.00  
 M. Area of forest to be retained: 10.70

PLANNING REQUIREMENTS:  
 N. Reafforestation for clearing above conservation threshold: 0.00  
 O. Reafforestation for clearing below conservation threshold: 0.00  
 P. Credit for retention above conservation threshold: 0.00  
 Q. Total reafforestation required: 0.00  
 R. Total afforestation required: 0.00  
 S. Total reafforestation and afforestation required: 0.00  
 T. Net area of existing forest: 10.70  
 U. Total area of forest to be cleared: 0.00  
 V. Total area of forest to be retained: 10.70

**GENERAL NOTES**

**FOREST PROTECTION**  
 ALL FOREST RETENTION AREAS SHALL BE TEMPORARILY PROTECTED BY WELL ANCHORED BLAZE ORANGE PLASTIC MESH FENCING AND SIGNAGE AS INDICATED ON THE PLANS. THE DEVICES SHALL BE INSTALLED ALONG THE FOREST RETENTION BOUNDARY PRIOR TO ANY LAND CLEARING, GRUBBING, OR GRADING ACTIVITIES. THE FOREST PROTECTION DEVICES SHALL BE INSTALLED SUCH THAT THE CRITICAL ROOT ZONES OF ALL TREES WITHIN THE RETENTION AREA NOT OTHERWISE PROTECTED WILL BE WITHIN FOREST PROTECTION DEVICES. ALL PROTECTION DEVICES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION, INCLUDING SILT FENCE BEING USED AS PROTECTIVE FENCING. ALL DEVICES SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION HAS CEASED IN THE IMMEDIATE VICINITY. ATTACHMENT OF SIGNS, OR ANY OTHER OBJECTS TO TREES IS PROHIBITED. NO EQUIPMENT, MACHINERY, VEHICLES, MATERIALS OR EXCESSIVE PEDESTRIAN TRAFFIC SHALL BE ALLOWED WITHIN THESE PROTECTED AREAS. INSTALLATION AND MAINTENANCE PROTECTIVE FENCING AND SIGNAGE SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL TAKE THE UTMOST CARE TO PROTECT TREE ROOT SYSTEMS DURING ALL CONSTRUCTION ACTIVITIES. TREE ROOT SYSTEMS SHALL BE PROTECTED FROM SMOTHERING, FLOODING, EXCESSIVE WEETING FROM DE-WATERING OPERATIONS, OR SITE RISK OF CONSTRUCTION DRAINING OF MATERIALS THAT MAY BE HARMFUL TO TREES. THE GENERAL CONTRACTOR SHALL PREVENT PARKING OF CONSTRUCTION VEHICLES AND EQUIPMENT, AND THE STORING OF BUILDING SUPPLIES OR STOCKPILING OF EARTH WITHIN FOREST CONSERVATION EASEMENTS. REMOVAL OF TOPSOIL OR ROOT MAT WITHIN THE TREE PRESERVATION AREA SHALL BE PROHIBITED. THE GENERAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY TREES DAMAGED OR DESTROYED WITHIN THE FOREST CONSERVATION EASEMENTS. ROOT PRUNING SHALL BE USED AT THE LIMIT OF DISTURBANCE OR LIMIT OF GRADING WITHIN AND ADJACENT TO ALL PRESERVATION AREAS, AS NECESSARY.

**POST-CONSTRUCTION MEETING**  
 AFTER THE BOUNDARIES OF THE FOREST RETENTION AREAS HAVE BEEN FIELD LOCATED AND MARKED, AND AFTER THE FOREST PROTECTION DEVICES HAVE BEEN INSTALLED, BUT BEFORE OTHER DISTURBANCE HAS TAKEN PLACE ON SITE, THE DEVELOPER, CONTRACTOR OR PROJECT MANAGER AND HOWARD COUNTY INSPECTORS SHALL ATTEND THE PURPOSE OF THIS MEETING WILL BE:  
 A. TO IDENTIFY THE LOCATIONS OF THE FOREST RETENTION AREAS, SPECIFIC TREES WITHIN 50 FEET OF THE LIMIT OF DISTURBANCE, LIMITS OF CONSTRUCTION, EMPLOYEE PARKING AREAS AND EQUIPMENT STORAGE AREAS.  
 B. INSPECT ALL FLAGGED BOUNDARIES AND PROTECTION DEVICES; MAKE ALL NECESSARY ADJUSTMENTS.  
 C. ASSIGN RESPONSIBILITIES AS APPROPRIATE AND DISCUSS PENALTIES.

**CONSTRUCTION MONITORING**  
 1. THE SITE SHALL BE INSPECTED PERIODICALLY DURING THE CONSTRUCTION PHASE OF THE PROJECT. A QUALIFIED PROFESSIONAL SHALL BE RESPONSIBLE FOR IDENTIFYING DAMAGE TO PROTECTED FOREST AREAS OR INDIVIDUAL TREES WHICH MAY HAVE BEEN CAUSED BY CONSTRUCTION ACTIVITIES, SUCH AS SOIL COMPACTION, ROOT INJURY, TRUNK WOUNDS, LIMB INJURY, OR STRESS CAUSED BY FLOODING OR BROUGHT CONDITIONS. SUCH DAMAGE THAT MAY OCCUR SHALL BE IMMEDIATELY REPORTED USING APPROPRIATE MEASURES. SEVERE PROBLEMS MAY REQUIRE CONSULTATION WITH A PROFESSIONAL ARBORIST.  
 2. THE CONSTRUCTION PROCEDURE SHALL NOT DAMAGE AREAS OUTSIDE OF THE LIMITS OF DISTURBANCE AS DESIGNATED ON THE PLANS. ANY DAMAGE SHALL BE RESTORED BY THE CONTRACTOR AT HIS EXPENSE AND TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.

**FOREST STAND DATA**

KEY	COMMUNITY TYPE	ACREAGE (NET)	DOMINANT VEGETATION	GENERAL CONDITION	PRIORITY ACREAGE
F1	MAPLE-POPULAR	7.4	ACER RUBRUM, UROSAEDRON TULIPIFERA, FRAXINUS PENNSYLVANICA, SALIX NIGRA, QUERCUS PALUSTRIS	GOOD	7.4 ± WETLANDS, BUFFERS
F2	SUCCESIONAL	3.3	ACER RUBRUM, UROSAEDRON TULIPIFERA, ROBINIA PSEUDO-ACACIA, SASSAPARILLA ALBIDUM, PRUNUS SEROTINA	GOOD	2.0 ± BUFFERS

**FSD NOTES:**

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- SURROUNDING LAND USE IS MEDIUM DENSITY RESIDENTIAL AND AGRICULTURE.

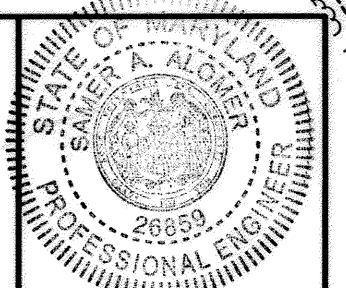
APPROVED: DEPARTMENT OF PUBLIC WORKS  
 [Signature] 4/1/2022  
 CHIEF, BUREAU OF HIGHWAYS MK

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 3/21/22  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION JP  
 [Signature] 4/17/22  
 CHIEF, DIVISION OF LAND DEVELOPMENT gm

**WETLAND DATA**

WETLAND SYSTEM	COMPARISON CLASSIFICATION	DOMINANT VEGETATION
A	RFOA/RUBH	ACER RUBRUM, FRAXINUS PENNSYLVANICA, SALIX NIGRA, QUERCUS PALUSTRIS, IMPATIENS CAPENSIS, ONOCLEA SENSIBILIS

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 SAMER A. ALOMER P.E. DATE: 1-20-22



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date	JAN 2022	engineering	MM	approval	SAA
project	09-004	illustration	MM	scale	1"=50'

date		description	revisions
no.			

**ST. CHARLES WOODS - PHASE 1**  
 LOTS 1-10, OPEN SPACE LOTS 11 & 12, AND NON-BUILDABLE BULK PARCEL A  
 TAX MAP 16 - PARCEL 24B - GRID 23  
 HOWARD COUNTY, MARYLAND  
 THIRD ELECTION DISTRICT  
**FOREST CONSERVATION PLAN**

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 Surveyors  
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15 OF 15