

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK ON THESE DRAWINGS:
 - MSU UTILITY: 1-800-257-7777
 - VERIZON TELEPHONE COMPANY: 1-410-944-6281
 - HOWARD COUNTY BUREAU OF UTILITIES: 410-313-2366
 - AT&T CABLE LOCATION DIVISION: 1-800-393-3553
 - B.L.S&E. CO. CONTRACTOR SERVICES: 410-860-4620
 - B.L.S&E. CO. UNDERGROUND DAMAGE CONTROL: 410-787-4820
 - STATE HIGHWAY ADMINISTRATION: 410-531-5533
- THIS FINAL PLAN IS SUBJECT TO THE FOLLOWING DPZ FILES:
 - F-28-153, ECP-17-005, S-17-002, WP-17-058, WP-90-34, P-17-004, CONTRACT# 24-5031-D, WP-18-085
 - THE EXISTING TOPOGRAPHIC SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC. DATED MAY 2017, OFFSITE TOPOGRAPHY FROM HOWARD COUNTY GIS.
- THE PROJECT BOUNDARY IS BASED ON A BOUNDARY SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED APRIL 27, 2017. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1889 AT LEAST FIVE (5) WORKING DAYS PRIOR TO START OF WORK.
- ANY DAMAGE TO PUBLIC RIGHT-OF-WAY, PUBLIC OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- ANY DAMAGE INCURRED TO THE EXISTING UTILITIES, DUE TO CONTRACTOR'S OPERATIONS, SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- TO THE BEST OF THE OWNER'S KNOWLEDGE OR THE HOWARD COUNTY CEMETERY INVENTORY MAP, THERE ARE NO BURIAL GROUNDS, CEMETERIES LOCATED ON THE SUBJECT PROPERTY.
- THIS SITE IS NOT LOCATED IN A HISTORIC DISTRICT, THERE ARE EXISTING HOMES ON EXISTING LOTS 1, 2 & 3 OF PARCEL 163 AND ON PARCEL 465.
- THE HOME ON LOT 1 - PLAT 9114 (PROPOSED LOT 29) IS TO BE REMOVED.
- THE HOMES ON LOTS 2 AND 3 - PLAT 9114 (PROPOSED LOTS 60 AND 61) ARE TO BE REMAIN.
- THE HOME ON PARCEL 465 (PROPOSED LOT 40) IS TO BE REMOVED.
- THE PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT:
 - WATER FOR THIS PROJECT WILL BE FROM AN EXTENSION OF CONTRACT NO. 24-1943-D.
 - SEWER FOR THIS PROJECT WILL BE FROM AN EXTENSION OF CONTRACT NO. 24-1943-D.
 - REFER TO CONTRACT NO. 24-5031-D.
- PUBLIC WATER AND SEWERAGE ALLOWANCE WILL BE GRANTED AT THE TIME OF ISSUANCE OF THE BUILDING PERMIT IF CAPACITY IS AVAILABLE AT THAT TIME. THIS PLAN IS SUBJECT TO THE APPLICABLE EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, 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, ALTERNATIVE COMPLIANCE, OR BUILDING AND GRADING PERMITS.
- THE SUBJECT PROPERTY IS ZONED "R-SC" IN ACCORDANCE WITH THE 10/6/2013 COMPREHENSIVE ZONING PLAN AND IS SUBJECT TO THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS EFFECTIVE 10/2/03 PER COUNCIL BILL 75-2003.
- NO HAZARDOUS MATERIALS OR CONTAMINANTS ARE KNOWN TO BE PRESENT ON THE PROPERTY.
- THERE IS NO 100-YR FLOODPLAIN AND STEEP SLOPES OVER 20.00% OF CONTIGUOUS WITHIN THE LIMITS OF THIS SITE.
- FOREST STAND DELINEATION PLAN WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC., DATED AUGUST 16, 2016.
- IN A REPORT PLAN TITLED "WETLAND DELINEATION & SWAMPED FOREST STAND DELINEATION REPORT" PREPARED BY ECO-SCIENCE PROFESSIONALS, INC., DATED AUGUST 16, 2016 AND UPDATED ON NOVEMBER 16, 2016, MR. CANOLES IDENTIFIED THE ONSITE FOREST, WETLANDS AND STREAMS. MR. CANOLES NOTED: "SPERMATOPHYTES ARE PRESENT WITHIN THE WETLANDS AND CANOLES ON THE SITE, GIVEN THEIR PROTECTED POSITION WITH THESE RESOURCES THEIR SPECIFIC LOCATION WAS NOT DETERMINED."
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS, OR OTHER REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS.
- ALL WORK IN THE WETLANDS, WETLAND BUFFERS SHALL BE COMPLETED PER THE BEST MANAGEMENT PRACTICES FOR WORKING IN WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS.
- THE DEVELOPER HAS OBTAINED ALL NECESSARY STATE PERMITS FOR THE PROPOSED ENVIRONMENTAL IMPACTS.
- REFERENCE MDC TRACKING NUMBER MDC FILE NO. 201961167 - PERMIT NUMBER EN-141-3166 - NTW.
- ALL WORK IN THE WETLANDS, WETLAND BUFFERS SHALL BE COMPLETED PER THE BEST MANAGEMENT PRACTICES FOR WORKING IN WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS.
- A TOTAL OF 61 RESIDENTIAL LOTS AND 8 OPEN SPACE LOTS IS PROPOSED UNDER THIS PLAN.
- STORMWATER MANAGEMENT FOR THE PROJECT IS PROVIDED BY USE OF MICRO-SCALE AND NON-STRUCTURAL PRACTICES PRACTICES IN ACCORDANCE WITH ENVIRONMENTAL SITE DESIGN CRITERIA. MICRO-SCALE PRACTICES INCLUDE MICRO-BIORETENTIONS (M-6), PERMEABLE PAVEMENT (P-2), AND DRYWELLS (M-5). THESE FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED.
- A NOISE STUDY IS NOT REQUIRED FOR THIS SITE.
- A TRAFFIC STUDY FOR THIS PROJECT PREPARED BY THE TRAFFIC GROUP, INC., DATED SEPTEMBER 7, 2016, WAS APPROVED APRIL 2017.
- AN ENVIRONMENTAL CONCEPT PLAN (ECP-17-005) WAS APPROVED ON DECEMBER 15, 2016.
- A SITECH PLAN (S-17-002) WAS APPROVED ON APRIL 6, 2017.
- A PRELIMINARY PLAN (P-17-004) WAS APPROVED ON JUNE 6, 2018.
- FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FURNISH A PORTION OF THE REQUIREMENTS OF SECTION 16.120(A) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE HOWARD COUNTY FOREST CONSERVATION MANUAL. NO CLEARING OR CONSTRUCTION OF ANY KIND IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
- TOTAL FOREST CONSERVATION OBLIGATION OF THIS PROJECT TO BE FULFILLED BY:
 - ONSITE RESTORATION OF 3.00 AC. (NO SURETY REQUIRED)
 - ONSITE RESTORATION OF 0.41 AC. FINANCIAL SURETY SHALL BE POSTED WITH THIS FINAL PLAN DEVELOPER AGREEMENT.
 - FINANCIAL SURETY FOR THE REQUIRED RESTORATION = \$ 4,830 (0.41 AC @ \$12,000/SF) SHALL BE POSTED WITH THE DEVELOPERS AGREEMENT.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. A FINANCIAL SURETY IN THE AMOUNT OF \$44,500.00 FOR THE REQUIRED 60 SHADE TREES, 15 EVERGREEN TREES, 8 SPECIES REPLACEMENT TREES, 44 INTERNAL SHADE TREES, 3 PARKING LOT SHADE TREES AND 10 SHRUBS (FRONT PAD) SHALL BE POSTED WITH THE DEVELOPERS AGREEMENT.
- THIS PLAN SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
 - WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE)
 - SURFACE - 6 INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1 1/2" MIN.)
 - GEOMETRY - MAXIMUM 1.5% GRADE, MAXIMUM 10% CHANGE AND MINIMUM OF 45-FOOT TURNING RADIUS.
 - STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 CROSS TONS (VHS LOADING)
 - DRAINAGE ELEMENTS-CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER
 - DRIVEWAY SURFACE.
 - STRUCTURE CLEARANCES-MINIMUM 12 FEET.
 - MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
- REUSE COLLECTION, SNOW REMOVAL AND MAINTENANCE FOR LOTS 47, 48, 50, 51, 54-59, AND 60-61 SHALL BE PROVIDED AT THE JUNCTION OF THE PRIVATE USE-IN-COMMON ACCESS EASEMENT AND THE PROPOSED ROAD RIGHT-OF-WAY. TRASH AND RECYCLING WILL BE COLLECTED WITHIN 50' OF THE COUNTRY ROADWAY.
- OLD SCAGSVILLE ROAD IS CLASSIFIED AS A LOCAL ROAD, AND IT IS NOT A SCENIC ROAD.
- PROPOSED ROADS ARE PUBLIC ACCESS STREETS, AND PRIVATE USE-IN-COMMON DRIVEWAYS.
- A TEST PIT REPORT FOR THIS PROJECT WAS PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED AUGUST 2017.
- IN ACCORDANCE WITH SECTION 16.121(A)(2) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, THE OPEN SPACE REQUIREMENTS FOR THIS R-SC PROJECT (6,000 SF LOT) IS 25% OF GROSS AREA (REFER TO OPEN SPACE TABULATION HEREON).
- THE PRE-SUBMISSION COMMITTEE MEETING WAS HELD FOR THIS PROJECT ON JULY 27, 2016.
- IN ACCORDANCE WITH SECTION 11.2 OF THE COMPREHENSIVE ZONING REGULATIONS, THIS SUBDIVISION IS SUBJECT TO MODERATE INCOME HOUSING UNITS. A MHU AGREEMENT AND MHU COVENANTS WILL BE REQUIRED IN ACCORDANCE WITH SECTION 13.402 OF THE HOWARD COUNTY CODE. THE MHU REQUIREMENTS FOR THIS SUBDIVISION WILL BE 6 UNITS (10% OF 59 UNITS).
- PUBLIC STREET TREES SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 16.124(A)(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. FINANCIAL SURETY (\$19,800) SHALL BE POSTED AS PART OF THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS COST ESTIMATE FOR THE REQUIRED 66 STREET TREES.
- IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL - VOLUME 3, CHAPTER 2 - SECTION 2.9.8 AND THE HOWARD COUNTY ZONING REGULATIONS SECTION 13.3.0.2.2, PARKING IS REQUIRED AT 2.5 SPACES PER UNIT. OFF STREET PARKING TO INCLUDE GARAGE SPACES, DRIVEWAY, PARKING PADS AND COURTS. GARAGES COUNT AS TWO SPACES. SEE TABULATION THIS WAY.
- THE FOLLOWING STANDARDS (CONSTRUCTION AND TEMPORARY TRAFFIC CONTROL) ARE REQUIRED FOR THIS PROJECT:
 - MD-104.02-02 - SHOULDER WORK/2 LANE, 2 WAY - ED/LESS THAN 40 MPH
 - MD-104.02-10 - RIGHT LANE CLOSURE/2 LANE, 2 WAY - ED/LESS THAN 40 MPH
 - FOR ALL STANDARDS REFERRED TO ON THIS PLAN THE CONTRACTOR MUST GO TO THE BOOK OF STANDARDS WHICH WILL HAVE THE MOST CURRENT VERSION. THE BOOK OF STANDARDS CAN BE ACCESSSED AT: <http://apps.roads.maryland.gov/businesswitha/bizstdspecs/desktopdefault.aspx?tabid=126>
- ALL ITEMS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT VERSION OF THE REFERENCED STANDARD AT THE AT THE TIME OF CONSTRUCTION.
- THIS PROJECT IS SUBJECT TO WP-17-058, ON MARCH 29, 2017; THE PLANNING DEPARTMENT APPROVED THE REQUEST FOR ALTERNATIVE COMPLIANCE TO THE FOLLOWING SECTIONS:
 - SECTION 16.120(A)(7) OF THE HOWARD COUNTY SUBDIVISION REGULATIONS - FOREST RESTORATION PRIORITIES: STATE CHAMPION TREES, TREES 75% OF THE DIAMETER OF STATE CHAMPION TREES, AND TREES 30" IN DIAMETER OR LARGER, THE REQUEST IS TO ALLOW FOR THE REMOVAL OF FOUR SPECIEM TREES, (SF#1, ST#5, SF#7 AND SF#17).
 - SECTION 16.116(A) STREAMS & WETLANDS - TO ALLOW APPROXIMATELY 3,500 SQUARE FEET OF DISTURBANCE WITHIN 25' WETLANDS BUFFER FOR CONSTRUCTION OF LAURENS WAY.
 - SECTION 16.120(B)(4)(I) LOT LAYOUT, USABLE DESIGN, RESIDENTIAL LOTS SHALL BE DESIGNED TO BE USABLE IN TERMS OF: NOT BEING ENCUMBERED BY ENVIRONMENTALLY SENSITIVE FEATURES, BUFFERING OF A LOT LESS THAN 10 ACRES FOR EXISTING HOUSE LOT 60.
 - SECTION 16.134 SIDEWALKS AND WALKWAYS - REQUIRING A SIDEWALK ON BOTH SIDES OF LAURENS WAY FOR A MULTIFAMILY DEVELOPMENT.
- APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
 - ADD A GENERAL NOTE FOR THE ALTERNATIVE COMPLIANCE WP-17-058, ON S-17-002, MAGNOLIA MANOR STATING THE REQUEST, SECTION REFERENCE NUMBER, THE APPROVAL DATE AND CONDITIONS.
 - SHOW THE SPECIEM TREES BEING REMOVED AND LABELLED PER WP-17-058 ON THE PLAN WITH ORIGINAL FOR S-17-002.
 - IT IS RECOMMENDED THAT SPECIEM TREES BE REMOVED AS PART OF THIS REQUEST IF THE TREE IS DEAD AS INDICATED IN THE SPECIEM TREE CHART. PRIOR TO REMOVING THE TREE, THE APPLICANT SHALL SUBMIT A REPORT AND/OR PHOTOGRAPHS DOCUMENTING THE CONDITION OF THE TREE.
 - SPECIEM TREES WHERE THE CRITICAL ROOT ZONE IS IMPACTED BY THE LIMIT OF DISTURBANCE WILL REQUIRE PREDEVELOPMENT, DURING DEVELOPMENT AND POST-CONSTRUCTION PRACTICES AND MEASURES TO MINIMIZE IMPACT TO THE TREES. THESE SPECIFIC PRACTICES WILL BE GOVERNED WITHIN THE FINAL SUBDIVISION PLAN AND SHALL BE IMPLEMENTED AND/OR SUPERVISED BY THE FIELD BY A CERTIFIED ARBORIST. SPECIEM TREE #8 THRU SPECIEM TREE #16.
 - THE PROPOSED LIMIT OF DISTURBANCE WITHIN THE 25' WETLANDS BUFFER FOR THE LAURENS WAY DRIVEWAY, ROAD CONSTRUCTION SHALL BE THE MINIMUM NECESSARY FOR THE ROAD CONSTRUCTION.
 - SUBJECT TO OBTAINING ALL THE REQUIRED WETLAND PERMITS FROM MDE AND/OR THE U.S. ARMY OF CORP. OF ENGINEERS.
 - COMPLIANCE WITH DEVELOPMENT ENGINEERING COMMENTS.
 - TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
 - TRAFFIC CONTROL DEVICES:
 - THE 81-(S)TOP SIGNS AND STREET NAME SIGN (SNS) ASSEMBLIES FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETE.
 - 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 OF ANY OF THE TRAFFIC CONTROL DEVICES.
 - ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MAPLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD).
 - ALL SIGN POST USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTRY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, "QUICK PUNCH" SQUARE TUBE POST (1 1/2" DIA) INSERTED INTO A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (1 1/2" DIA, 3' LONG). THE ANCHOR SHALL NOT EXCEED MORE THAN TWO (2) "QUICK PUNCH" HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON THE TOP OF EACH POST.
- STREET LIGHTING IS REQUIRED FOR THIS SITE IN ACCORDANCE WITH SECTION 16.135 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. STREET LIGHT PLACEMENT SHALL BE THE TYPE OF FIXTURES AND SPACING SHALL BE IN ACCORDANCE WITH SECTION 5.3.4. A MAXIMUM OF 20 FEET SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
- A PRIVATE RANGE OF ADDRESS NUMBERS HAS BEEN FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS FOR DRIVEWAYS TO LOTS 47, 48, 50, 54-59, 60-61 AT THE DEVELOPERS/OWNER'S EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-2430 FOR DETAILS AND COST ESTIMATES.
- NO STREET TREE CAN BE PLANTED WITHIN 30' OF A PROPOSED "STOP" SIGN LOCATION (APPROACH DIRECTION).
- NO STORM WATER MANAGEMENT DEVICES OR RECREATIONAL OPEN SPACE SHALL BE LOCATED WITHIN OPEN SPACE LOT 64 WHICH SHALL BE OWNED BY HOWARD COUNTY AND MAINTAINED BY THE HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS.
- THIS PLAN IS SUBJECT TO WP-18-085, ON MARCH 29, 2016; THE PLANNING DEPARTMENT APPROVED THE REQUEST FOR AN ALTERNATIVE COMPLIANCE OF SECTION 16.116(A) WHICH PROHIBITS GRADING, REMOVAL OF VEGETATIVE COVER AND TREES, PAVING AND NEW STRUCTURES WITHIN 100 FEET OF A PERENNIAL STREAMBANK, AND WITHIN 25 FEET OF A WETLAND BUFFER TO INSTALL A SEWER LINE WITH A TRADITIONAL OPEN CUT TRENCH.
- APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
 - COMPLIANCE WITH THE SUBDIVISION REVIEW COMMITTEE COMMENTS ISSUED FOR P-17-004.
 - THE ALTERNATIVE COMPLIANCE NUMBER AND ITS CONDITIONS OF APPROVAL MUST BE ADDED TO ALL SUBDIVISION PLANS.
 - SUBJECT TO OBTAINING ALL THE REQUIRED WETLAND PERMITS FROM MDE AND/OR THE U.S. ARMY OF CORP. OF ENGINEERS, CASE OR PERMIT NUMBERS MUST BE PROVIDED WITHIN NOTES OF ALL SUBDIVISION PLANS FOR THIS PROPOSED DEVELOPMENT.
 - THE PROPOSED LIMIT OF DISTURBANCE WITHIN THE 25' WETLANDS BUFFER FOR THE CONSTRUCTION OF THE SEWER LINE SHALL BE THE MINIMUM NECESSARY FOR THE SEWER INSTALLATION.
- THIS PROJECT IS SUBJECT TO A DESIGN MANUAL WAIVER, ON APRIL 11, 2018, THE CHIEF OF THE DEVELOPMENT ENGINEERING DIVISION APPROVED THE REQUEST TO WAIVE THE REQUIREMENTS OF DESIGN MANUAL VOLUME II, APPENDIX A "PUBLIC ROADWAY DESIGN CRITERIA" ALLOWING A REDUCTION TO THE MINIMUM CURVE RADIUS OF 210 FEET SUBJECT TO THE INSTALLATION OF SIX "NO PARKING" SIGNS ON THE ACCESS PACE PORTION OF LAURENS WAY.
- ALL SIDEWALKS ADJACENT TO PUBLIC STORMWATER MANAGEMENT EASEMENTS SHALL BE SETBACK BEARING FOR THE LIMITS OF THE PUBLIC EASEMENT. REINFORCEMENT SHALL BE IN ACCORDANCE WITH SECTION 16.124(A)(1) OF THE HOWARD COUNTY DESIGN MANUAL, VOLUME II, SECTION 5.3.4. A MAXIMUM OF 20 FEET SHALL.
- NO STREET TREE CAN BE PLANTED WITHIN 40' OF A PROPOSED "STOP" SIGN LOCATION (APPROACH DIRECTION).
- THIS PLAN IS EXEMPT FROM PROVIDING ELECTRICAL CHARGING STATIONS PER COUNCIL BILL 76 BECAUSE THE PRELIMINARY PLAN FOR THIS PROJECT WAS SIGNED PRIOR TO JANUARY 2016.
- ESSENTIAL DISTURBANCE WAS GRANTED PRIOR TO COUNCIL BILL 17 BEING ADOPTED FOR THE DRIVEWAY DISTURBANCE FOR LOTS 60 AND 61.
- THE ADJOINING COMMUNITY, "FIRST RIDGE" PLAT #433 (RESERVED) PROVIDED AN "ACCESS EASEMENT" L 1340 / P. 271 CONNECTION TO TYMART COURT. WITH THE DEVELOPMENT OF THIS PROJECT, THE USE OF THE EXISTENT SHUTTERED ACCESS TO LOT 60 AND 61 SHALL BE REDIRECTED TO LAURENS WAY.
- NEIGHBORHOOD CONNECTION PATHWAY.

OPEN SPACE TABULATION:

IN ACCORDANCE WITH SECTION 16.121(A)(2) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS THE OPEN SPACE REQUIREMENTS FOR THIS R-SC PROJECT IS 25% OF GROSS AREA.

(15.33 AC. GROSS AREA x 25% = 3.83 AC.)

OPEN SPACE PROVIDED IS 7.54 ACRES±

CREDITED: 7.24 ACRES±

NON-CREDITED: 0.30 ACRES±

-OPEN SPACE LOTS 62, 63 AND 65-69 SHALL BE OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION (H.O.A.)

-OPEN SPACE LOT 64 SHALL BE OWNED BY HOWARD COUNTY AND MAINTAINED BY THE DEPARTMENT OF RECREATION AND PARKS.

FINAL ROAD CONSTRUCTION PLANS

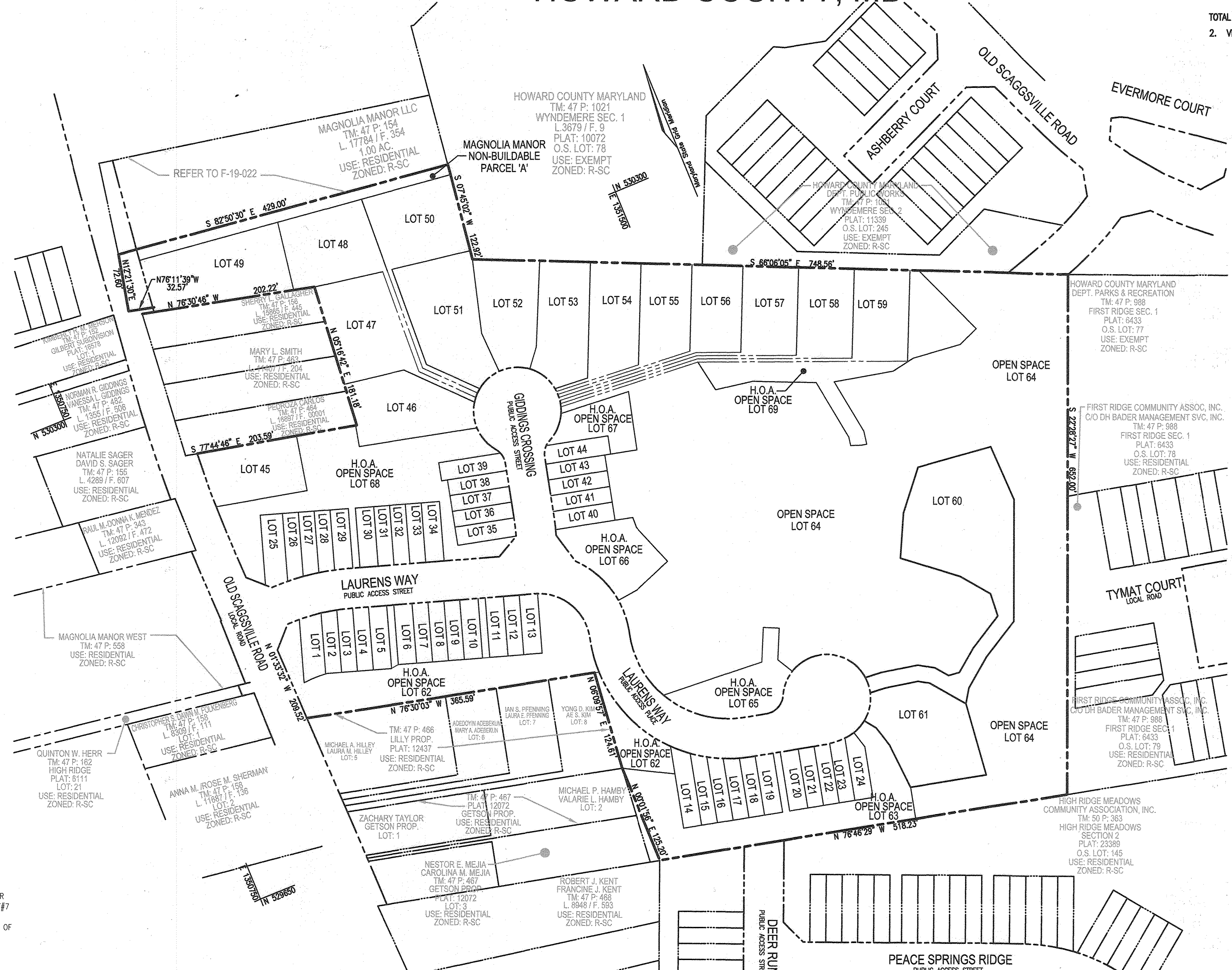
MAGNOLIA MANOR

LOTS 1 - 61, OPEN SPACE LOTS 62 - 69, AND NON BUILDABLE PARCEL 'A'

A SUBDIVISION OF TAX MAP 47 - PARCEL 465 AND A RESUBDIVISION OF TAX MAP 47 - PARCEL 163

GIDDINGS PROPERTY - SECTION 1 AREA 1 - LOTS 1-4 (PLAT 9114)

HOWARD COUNTY, MD



SITE DATA

DEED REFERENCE: PARCEL 465 - LOTS 1-4 - PLAT# 9114

DEED REFERENCE: PARCEL 163 - LOTS 1-4 - PLAT# 9114

EXISTING DISTRICT: 61H

LOCATION: OLD SCAGSVILLE ROAD, LAUREL, MD

R-SC

EXISTING ZONING: R-SC

GROSS AC: 15.33± AC

AREA OF 100 YEAR FLOODPLAIN: 0.00 AC

AREA OF STEEP SLOPES (20% & GREATER): 0.00 SF OR 0.00 AC

AREA OF WETLANDS & BUFFERS: 122,371.06 SF OR 2.98 AC

NET AREA (GROSS-STEEP SLOPES & FLOODPLAIN): 15.33± AC

BASE DENSITY: 61 LOTS (15.33 x 4)

NUMBER OF PROPOSED RESIDENTIAL LOTS: 61 LOTS

- 59 PROPOSED HOMES
- 44 SINGLE FAMILY ATTACHED HOMES
- 15 SINGLE FAMILY DETACHED HOMES
- 2 EXISTING DWELLINGS TO REMAIN

AREA OF PROPOSED RESIDENTIAL LOTS: 5.27 AC

AREA OF ROAD RIGHT-OF-WAY (ON-SITE): 0.00 AC

AREA OF ROAD DEDICATION (MD 216): 0.0109 AC

OPEN SPACE REQUIRED: 25% OF GROSS AREA = 3.83 AC± PROJECT TOTAL

OPEN SPACE PROVIDED: SEE TABULATION

LIMIT OF DISTURBANCE: 0.41 AC±

RESIDENTIAL, SFD & SFA: 15.33± AC

PROPOSED USE OF SITE: PUBLIC - 24-1943-D & 1-W

PROPOSED WATER SYSTEM: 6,000 SF

PROPOSED SEWER SYSTEM: 6,000 SF

MINIMUM LOT AREA: 6,000 SF

DPZ REF: 5

RECREATION OPEN SPACE TABULATION:

RECREATION OPEN SPACE REQUIRED PER SECTION 16.121(A)(4)(i)

IS 300 SF/UNIT X 17 UNITS = 5,100 SF

MAGNOLIA MANOR - SINGLE FAMILY ATTACHED (SFA)

IS 400 SF/UNIT X 44 UNITS = 17,600 SF

TOTAL RECREATION OPEN SPACE REQUIRED = 22,700 SF

TOTAL RECREATION OPEN SPACE TO BE PROVIDED FOR MAGNOLIA MANOR:

LAND AREAS:

- P/O OPEN SPACE 68 - 9,140 SF
- P/O OPEN SPACE 67 - 2,375 SF
- P/O OPEN SPACE 62 - 1,265 SF
- 5,999± SF ASPHALT AMENITY PATHWAY: 5,999 x 3 = 17,997 SF

TOTAL LAND CREDIT = 12,780 SF

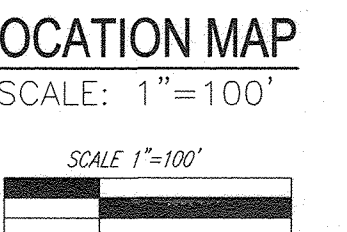
TOTAL AMENITY CREDIT = 17,997 SF

REQUIREMENT MET IN COMBINATION WITH THE JUNE 2012 POLICY REGARDING THE ALLOWANCE OF A MAXIMUM 50% CREDIT FOR RECREATIONAL OPEN SPACE IN LIEU OF LAND AREA.

AMENITIES:

-NEIGHBORHOOD CONNECTION PATHWAY.

TOTAL = 30,777 SF CREDIT



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PARKING TABULATION:

TOTAL NUMBER OF DWELLING UNITS PROPOSED: 61

SINGLE FAMILY ATTACHED (SFA) = 44 LOTS

SINGLE FAMILY DETACHED (SFD) = 2 LOTS EXISTING

SINGLE FAMILY DETACHED (SFD) = 15 LOTS EXISTING

1. OFF-STREET PARKING SPACES REQUIRED: 2 SPACES PER UNIT

PARKING SPACES PROVIDED: 61 x 2 = 122 SPACES REQUIRED

20' SFA = 1 GARAGE / 1 DRIVEWAY

1. SPACES IN GARAGE = 44 SPACES (FOR 44 UNITS)

SPACES ON DRIVEWAY = 44 SPACES (FOR 44 UNITS)

SFD = 2 GARAGE / 2 DRIVEWAY

2. SPACES IN GARAGE = 34 SPACES (FOR 17 UNITS)

2 SPACES ON DRIVEWAY = 34 SPACES (FOR 17 UNITS)

TOTAL OFF STREET PARKING SPACES PROVIDED = 156 SPACES

2. VISITOR PARKING REQUIRED:

SFA = 44 UNITS @ 0.5 SPACES PER UNIT = 22 SPACES REQUIRED

27 ON-STREET INDENTED SPACES PROVIDED

SFD = 17 UNITS @ 0.5 SPACES PER UNIT = 8.5 SPACES REQUIRED

17 x 0.5 = 8.5 SPACES REQUIRED

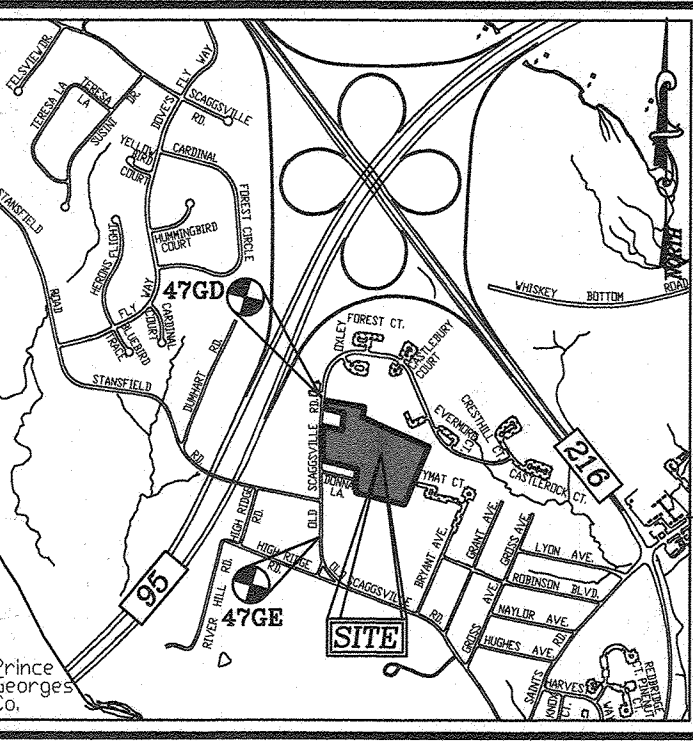
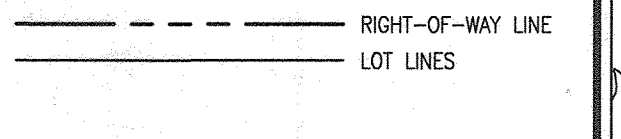
-REFER TO 34 OFF-STREET EXCESS FOR SFD

BENCHMARKS

HOWARD COUNTY BENCHMARK - 47GE
N 52004.04 E 1350855.03 ELEV: 337.61

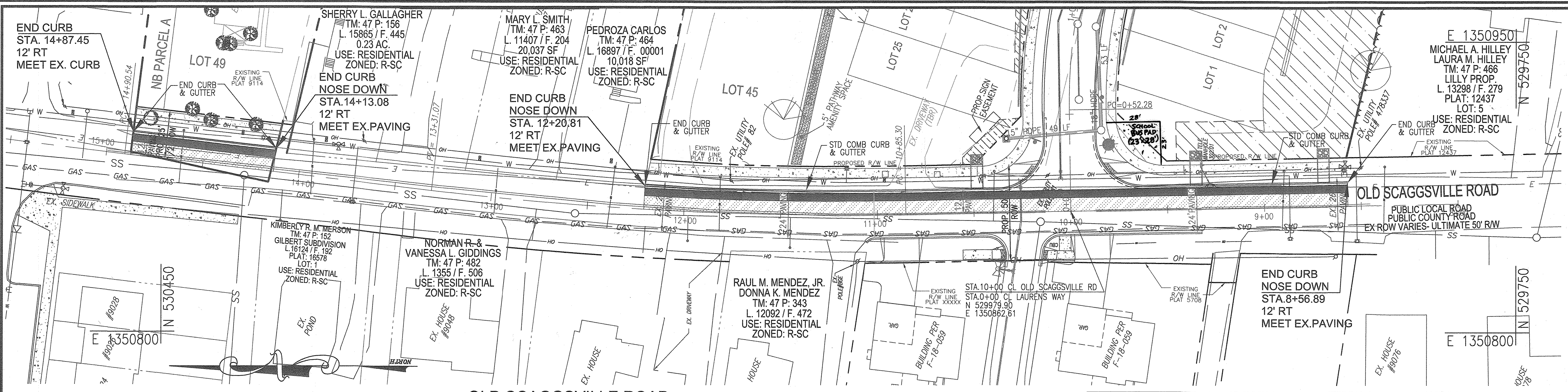
HOWARD COUNTY BENCHMARK 47GD
N 530494.49 E 1350872.35 ELEV: 312.28

LEGEND



STORMWATER MANAGEMENT PRACTICES

LOT NUMBER	ADDRESS	GREEN ROOFS (Y/N)	PERMEABLE (Y/N)	REINFORCED (Y/N)	DISCONNECTION OF ROOFTOP RUNOFF (NUMBER)	DISCONNECTED N OF NON-RUNOFF (Y/N)	SHEETFLOW TO CONSERVATION AREAS (Y/N)	BARRIERS TO PAVEMENT (NUMBER)	SUBMERGED GRAVEL (NUMBER)	LANDSCAPE INFILTRATION (NUMBER)	INFILTRATION BEBAS (NUMBER)	DRY WELLS (NUMBER)
1	2926 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
2	9266 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
3	9210 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
4	9214 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
5	9214 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
6	9211 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
7	9222 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
8	9222 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
9	9226 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
10	9226 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
11	9215 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
12	9242 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
13	9244 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
14	9244 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
15	9244 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
16	9244 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
17	9246 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
18	9248 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
19	9250 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
20	9254 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
21	9256 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
22	9258 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
23	9260 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
24	9262 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
25	9264 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
26	9266 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
27	9268 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
28	9268 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	0
29	9268 LAURENS WAY	NO	YES	NO	0	NO	NO	0	0	0	0	

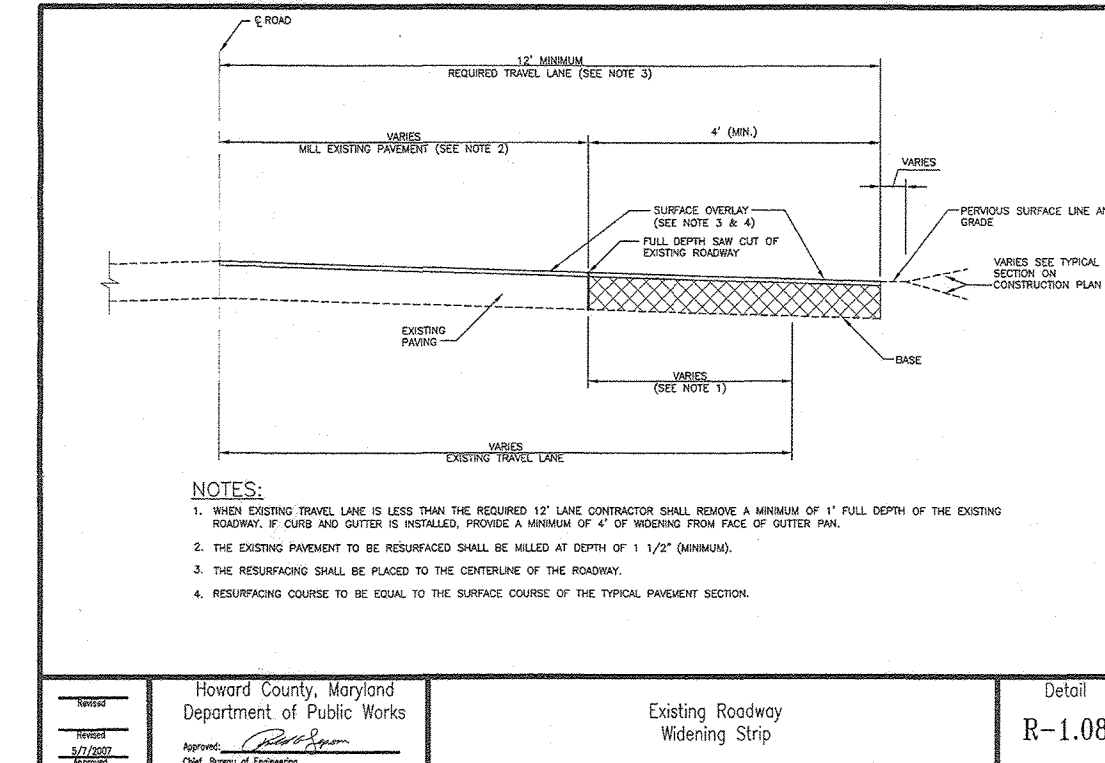


OLD SCAGGSVILLE ROAD ROAD IMPROVEMENT PLAN

PUBLIC LOCAL ROAD
50' ROW - 24' PAVING
SCALE 1"=30'

LEGEND:

[Pattern]	FULL DEPTH PAVEMENT SECTION REQUIRED REFER TO R-1.08
[Pattern]	GRINDING, REQ'D. 1.5" MILL, POSSIBLE VARIABLE DEPTH WEDGE/LEVEL TO ESTABLISH CROSS SLOPE AND RESURFACING. REFER TO R-1.08

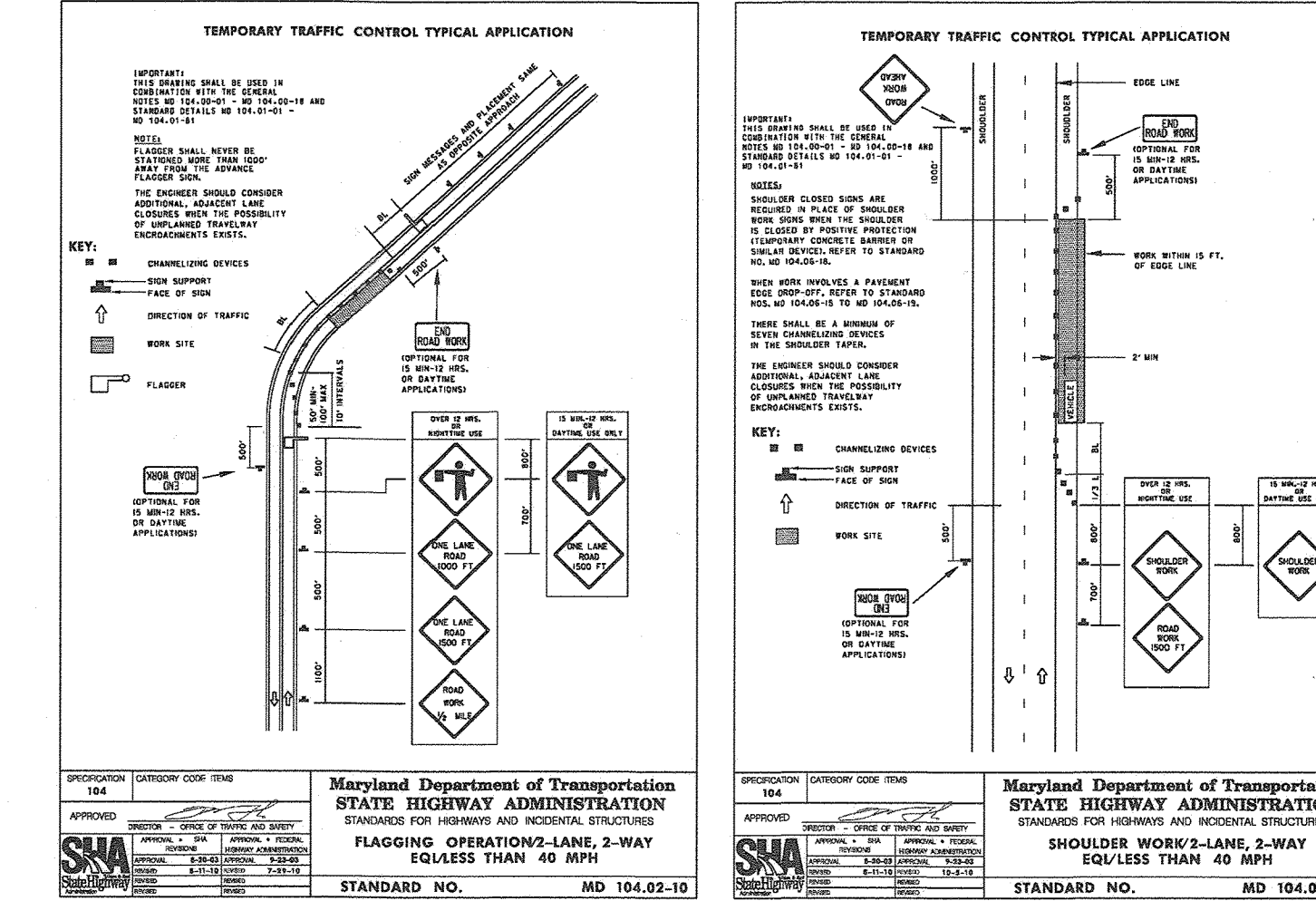
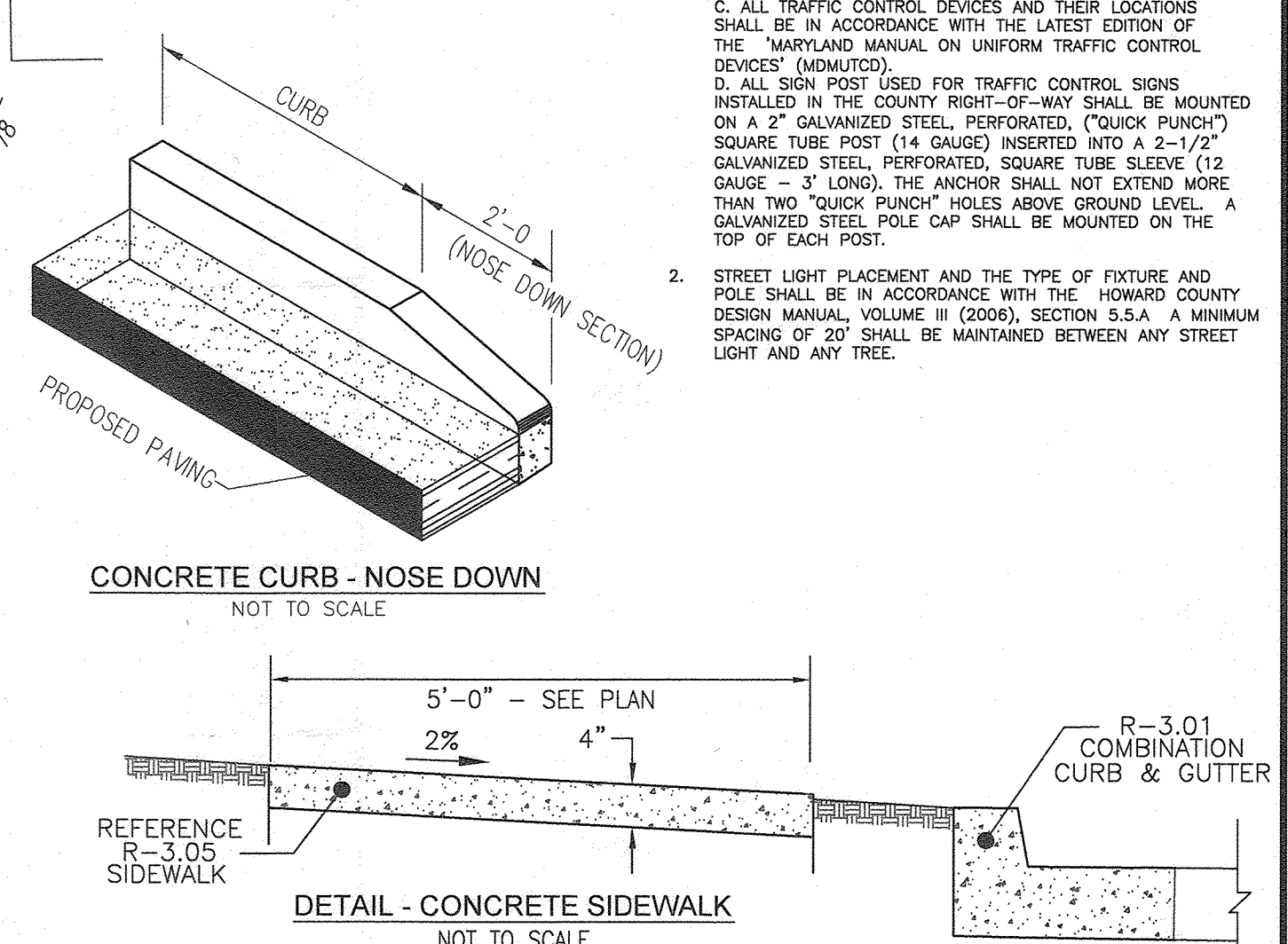


NOTES:
1. WHEN EXISTING TRAILER LANE IS LESS THAN THE REQUIRED 12' LANE WIDTH, CONTRACTOR SHALL REGRADE A MINIMUM OF 1' FULL DEPTH OF THE EXISTING TRAILER LANE TO MEET THE REQUIRED 12' LANE WIDTH. PROVIDE A MINIMUM OF 1/2" OF FINISH FROM FACE OF EXISTING WAYS.
2. THE EXISTING PAVEMENT TO BE REGRADED SHALL BE REGRADED AT A MINIMUM OF 1/2" FINISH.
3. THE REGRADED PAVEMENT SHALL BE REGRADED TO THE CENTERLINE OF THE ROADWAY.
4. RECONSTRUCTION SHALL BE DONE TO THE SURFACE COURSE OF THE EXISTING PAVEMENT SECTION.

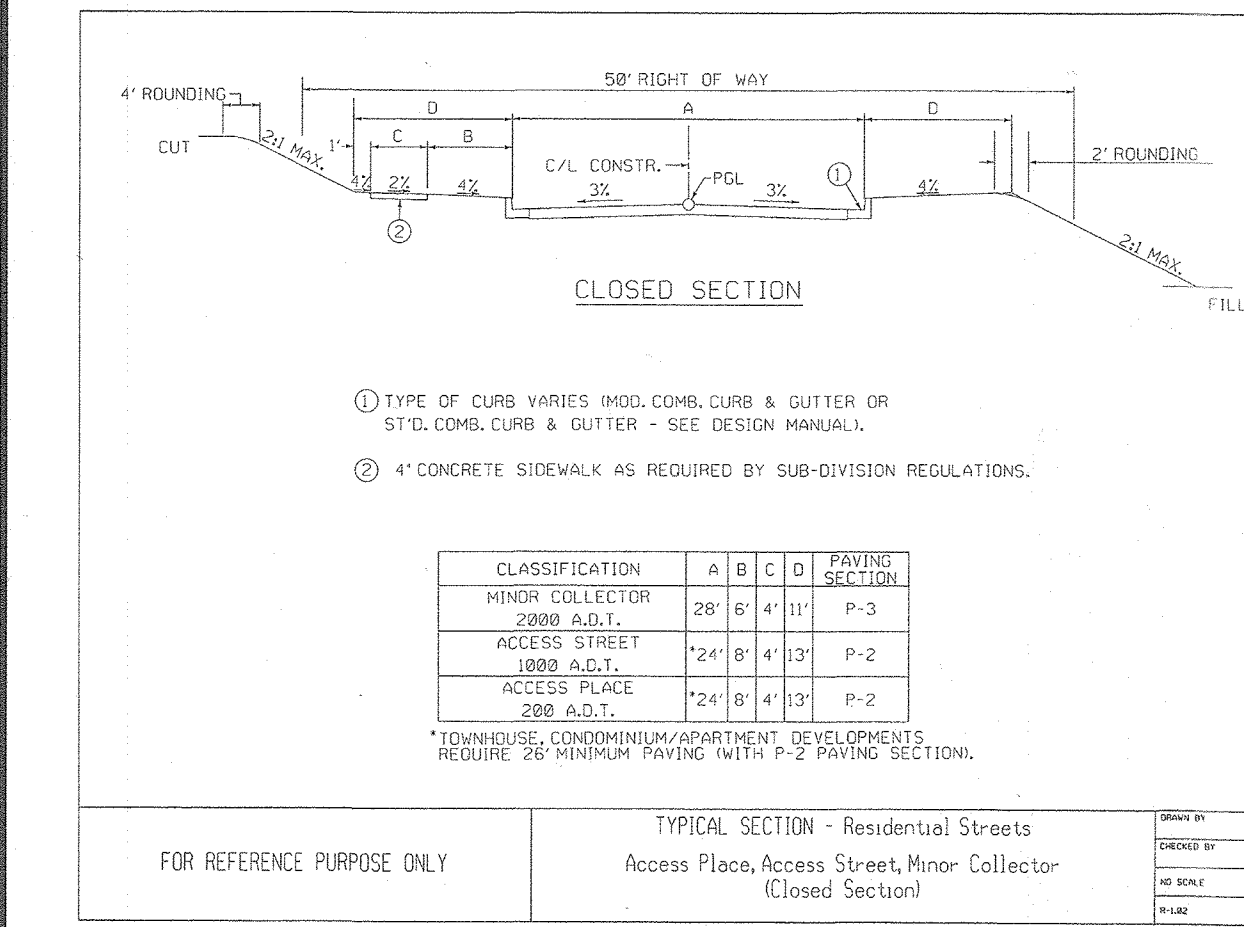
Howard County, Maryland
Department of Public Works
Existing Roadway
Widening Strip
R-1.08

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	PROPOSED PAVING SECTION	1 TO 14+50.00	14+50.00 TO 15+00.00	15+00.00 TO 15+50.00	15+50.00 TO 16+00.00
P-1	RESIDENTIAL	15.0' FULL DEPTH PAVEMENT SECTION	1.0	1.0	1.0	1.0
P-2	RESIDENTIAL	15.0' FULL DEPTH PAVEMENT SECTION	1.0	1.0	1.0	1.0
P-3	RESIDENTIAL	15.0' FULL DEPTH PAVEMENT SECTION	1.0	1.0	1.0	1.0
P-4	RESIDENTIAL	15.0' FULL DEPTH PAVEMENT SECTION	1.0	1.0	1.0	1.0

NOTES:
1. TRAFFIC CONTROL DEVICES:
A. THE R1-10STP SIGN AND STREET NAME SIGN (SNS) ASSEMBLIES FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASIC PAVING IS COMPLETED.
B. THE TRAFFIC CONTROL DEVICES LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD ADJUSTED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES.
C. 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).
D. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, 'QUICK PUNCH' SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE - 3" LONG). THE ANCHOR SHALL NOT EXTEND MORE THAN TWO 'QUICK PUNCH' HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON THE TOP OF EACH POST.
2. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME III (2009), SECTION 5.5.A. A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.



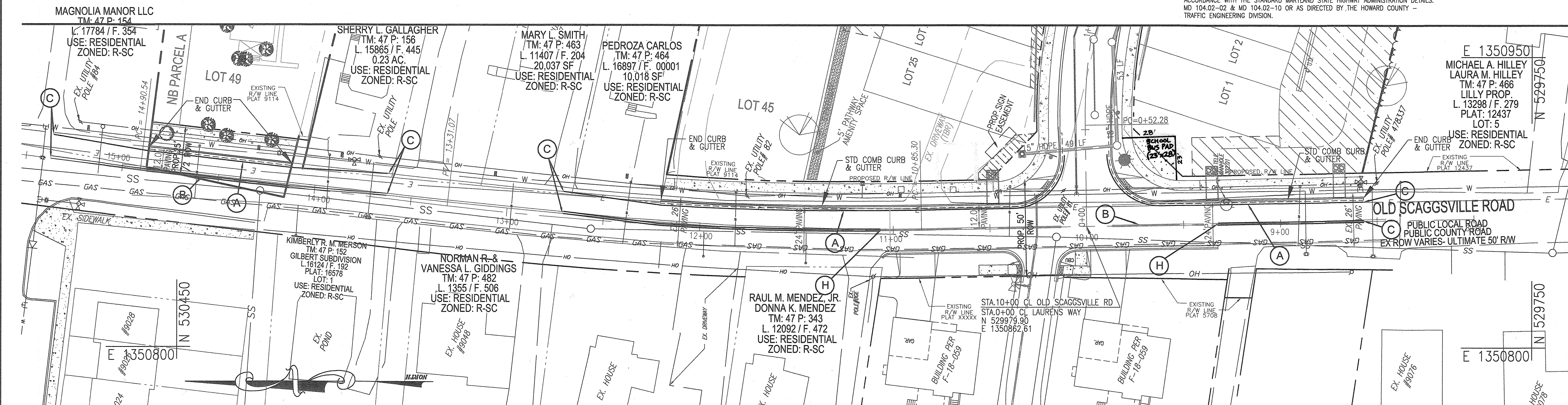
OLD SCAGGSVILLE ROAD TYPICAL WORK ZONE TRAFFIC CONTROL DETAILS
ALL WORK WITHIN THE OLD SCAGGSVILLE ROAD PUBLIC RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE STANDARD MARYLAND STATE HIGHWAY ADMINISTRATION DETAILS: MD 104.02-02 & MD 104.02-10 OR AS DIRECTED BY THE HOWARD COUNTY - TRAFFIC ENGINEERING DIVISION.



CLASSIFICATION

CLASSIFICATION	A	B	C	D	PAVING SECTION
MINOR COLLECTOR	28	6	4	11	P-3
ACCESS STREET	24	6	4	13	P-2
ACCESS PLACE	24	6	4	13	P-2

TYPICAL SECTION - Residential Streets
Access Place, Access Street, Minor Collector
(Closed Section)

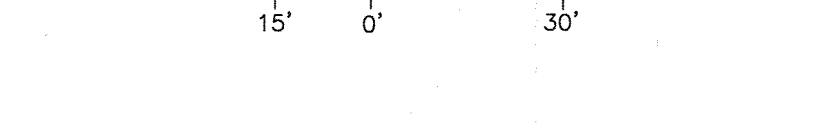


OLD SCAGGSVILLE ROAD PAVEMENT MARKING PLAN

PUBLIC LOCAL ROAD
50' ROW - 24' PAVING
SCALE: 1"=30'

PAVEMENT MARKING LEGEND

A.	INSTALL 5 IN. WIDE WHITE SOLID PAVEMENT MARKING FOR LANE LINE.
B.	INSTALL 5 IN. WIDE DOUBLE YELLOW PAVEMENT MARKING - FOR CENTER LINE.
C.	TIE TO EXISTING MARKINGS.
H.	TIE TO EXISTING F-18-059 PAVEMENT MARKINGS



Howard County, Maryland
Department of Public Works
Existing Roadway
Widening Strip
R-1.08

OLD SCAGGSVILLE ROAD CURVE TABLE (COMPUTED CL)

STATION	ARC LENGTH	RADIUS	DELTA	TANGENT	CHORD	CHORD LENGTH
10+85.30 - 13+31.07	245.77'	1800'	07°49'23"	123.08'	S 02°47'54" W	254.58'

APPROVED: DEPARTMENT OF PUBLIC WORKS
9/18/2019
CHIEF, BUREAU OF HIGHWAYS MKK
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
9-26-19
CHIEF, DEVELOPMENT ENGINEERING DIVISION
9-30-19
CHIEF, DIVISION OF LAND DEVELOPMENT

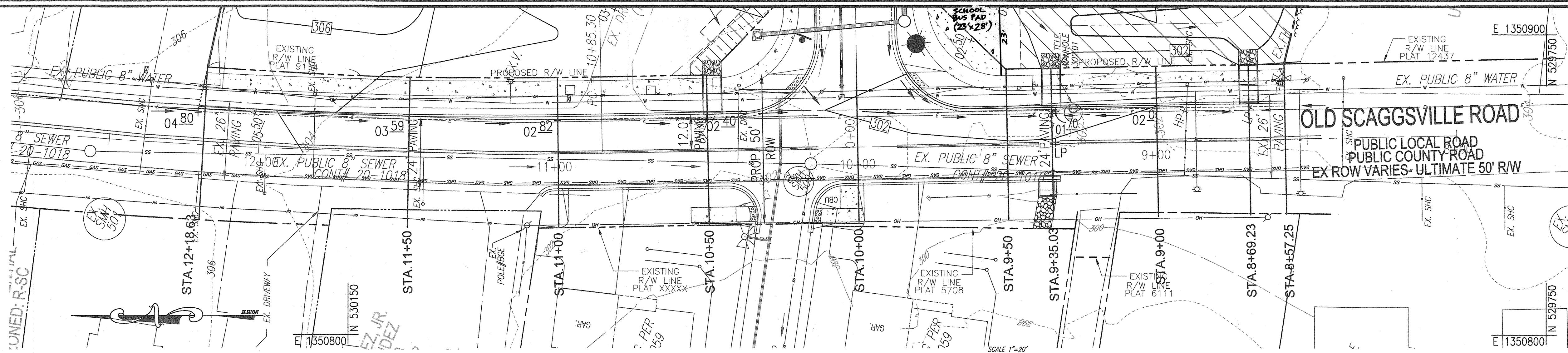
R-3.01 STANDARD 7" COMB. CURB AND GUTTER
OWNER: MARANATHA MAGNOLIA MANOR, LLC
DEVELOPER: TRINITY HOMES MARY LAND, LLC

2. REVISE BUS PAD, SIDEWALK RAMPS, SIGN EASEMENT AND INLET 1B
REVISION
DATE: 4-13-22

FINAL ROAD CONSTRUCTION PLANS
OLD SCAGGSVILLE ROAD ROAD IMPROVEMENT AND PAVEMENT MARKING PLAN
MAGNOLIA MANOR
LOTS 1 - 61, OPEN SPACE LOTS 62 - 69, AND NON BUILDABLE PARCEL 'A'
A SUBDIVISION OF TAX MAP 47 - PARCEL 465 AND A RESUBDIVISION OF TAX MAP 47 - PARCEL 163 - GIDDINGS PROPERTY - SECTION 1 AREA 1 - LOTS 1-4 (PLAT 9114)

TAX MAP: 47 PARCELS: 163 & 465
BLOCK: 19 ZONING: R-SC
5TH ELECTION DISTRICT
ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
3300 N. RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
TEL: 410.461.7666 FAX: 410.461.8961

DESIGN BY: RHV
DRAWN BY: KG
CHECKED BY: RHV
DATE: AUGUST 2019
SCALE: AS SHOWN
W.O. NO.: 16-15
PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16183 EXPIRATION DATE 09-27-2020
2 SHEET OF 21



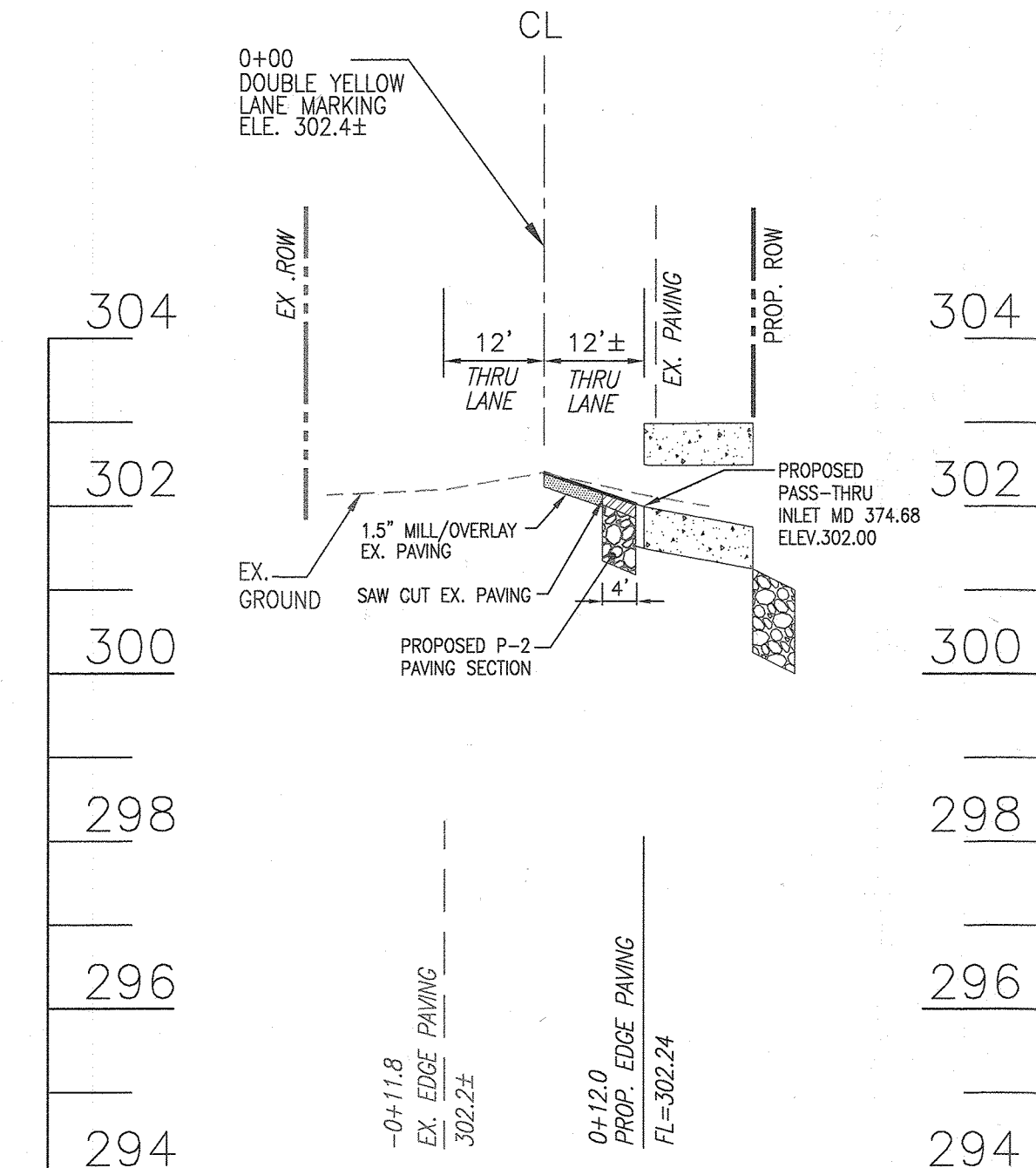
CLOSED SECTION

NOTES:
 1. TYPE OF CURB Varies (ASBESTOS CONCRETE CURB & GUTTER OR CONCRETE CURB & GUTTER - SEE DESIGN MANUAL VOLUME 9 FOR DETAILS)
 2. 4" CONCRETE SIDEWALK AS REQUIRED BY SUB-DIVISION REGULATIONS
 3. 4" SIDEWALK REQUIRES A PAVING AREA (SEE DETAIL R-4.15)

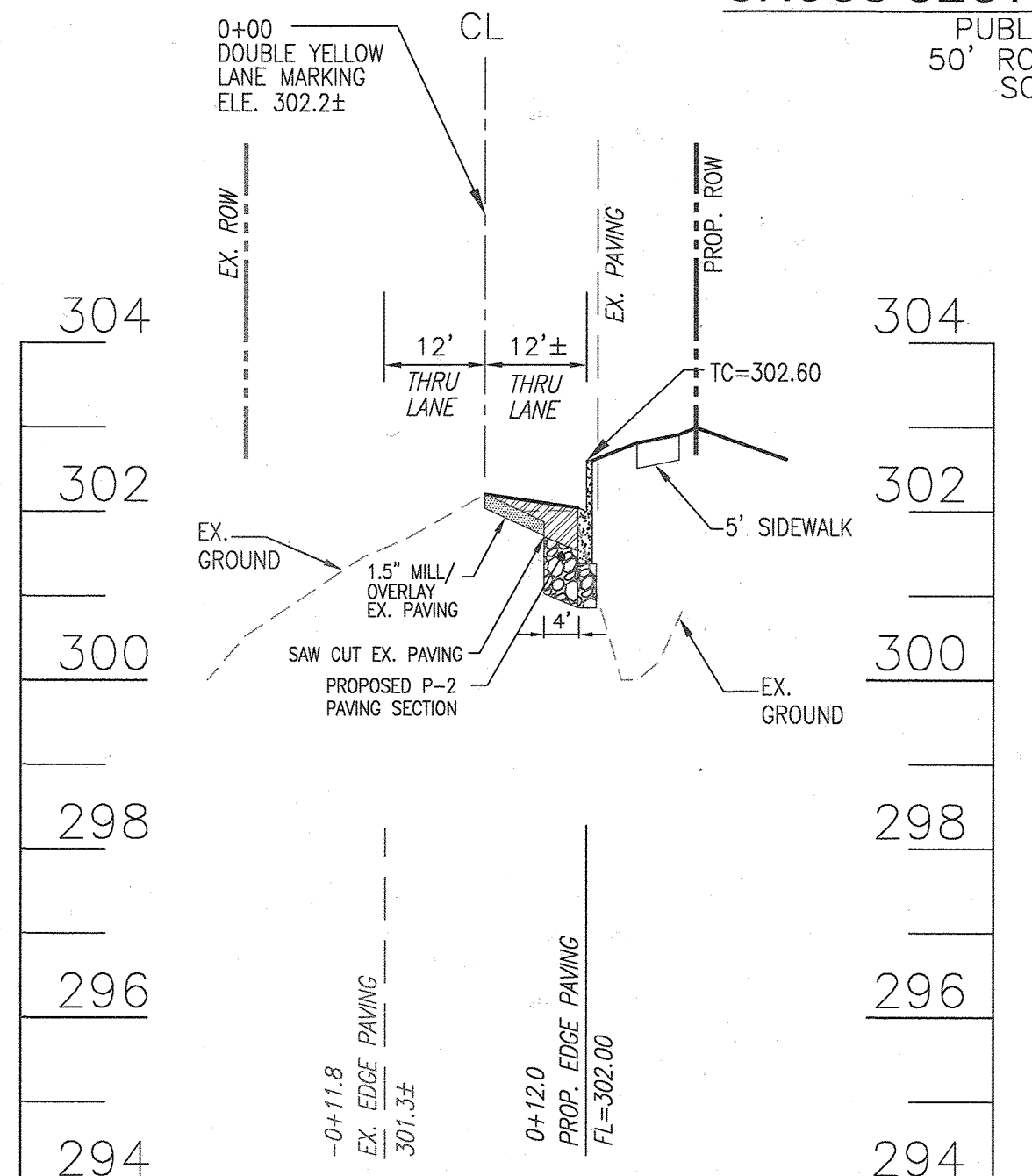
CLASSIFICATION	A	B	C	D	FINISH SECTION
MINOR COLLECTOR	24"	18"	12"	12"	P-3
ACCESS STREET	24"	18"	12"	12"	P-2
ACCESS DRIVE	24"	18"	12"	12"	P-2

HOWARD COUNTY, MARYLAND
 Department of Public Works
 TYPICAL SECTIONS - Residential Streets
 Access Street, Access Street, Minor Collector
 (Closed Section)
 Detail R-1.02

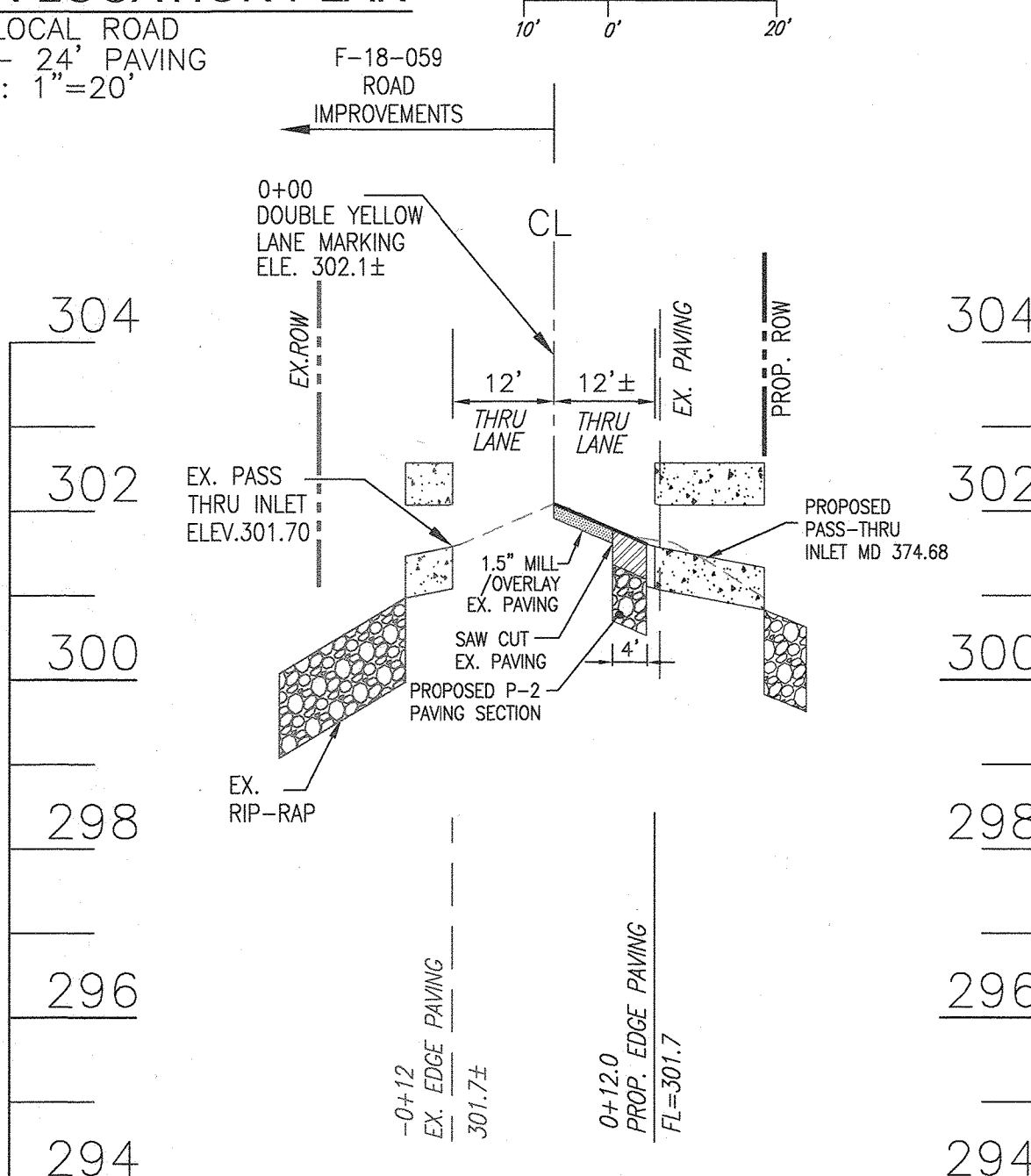
NOTE:
 1. EXISTING DOUBLE YELLOW / CL ELEVATIONS TAKEN FROM FIELD SURVEY ON OR ABOUT JUNE 2015. CONTRACTOR SHALL VERIFY PRIOR TO SETTING CURB GRADES



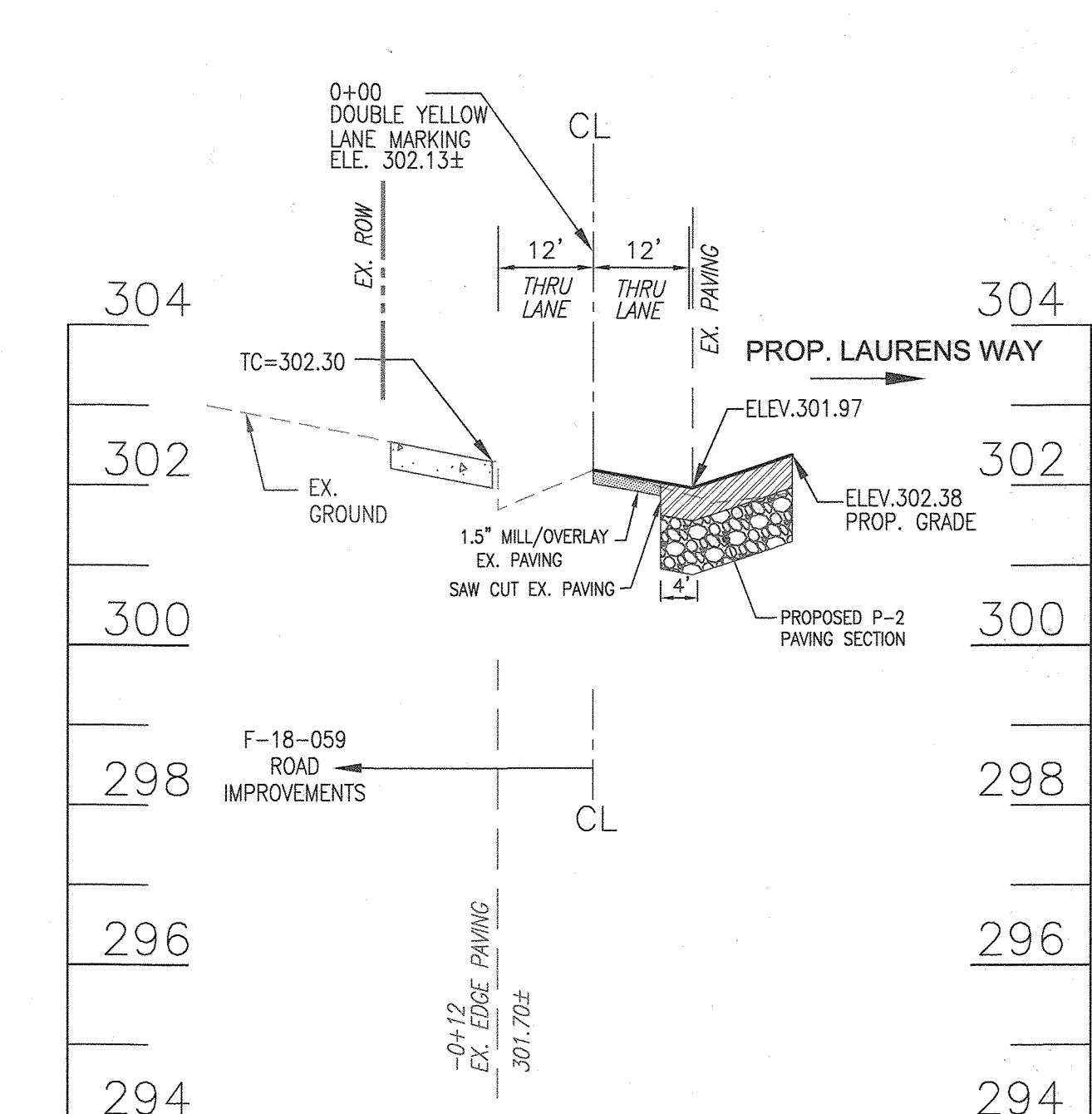
OLD SCAGGSVILLE ROAD
STA. 8+69.23
 SCALE: HORIZONTAL - 1"=20'
 VERTICAL - 1"=2'



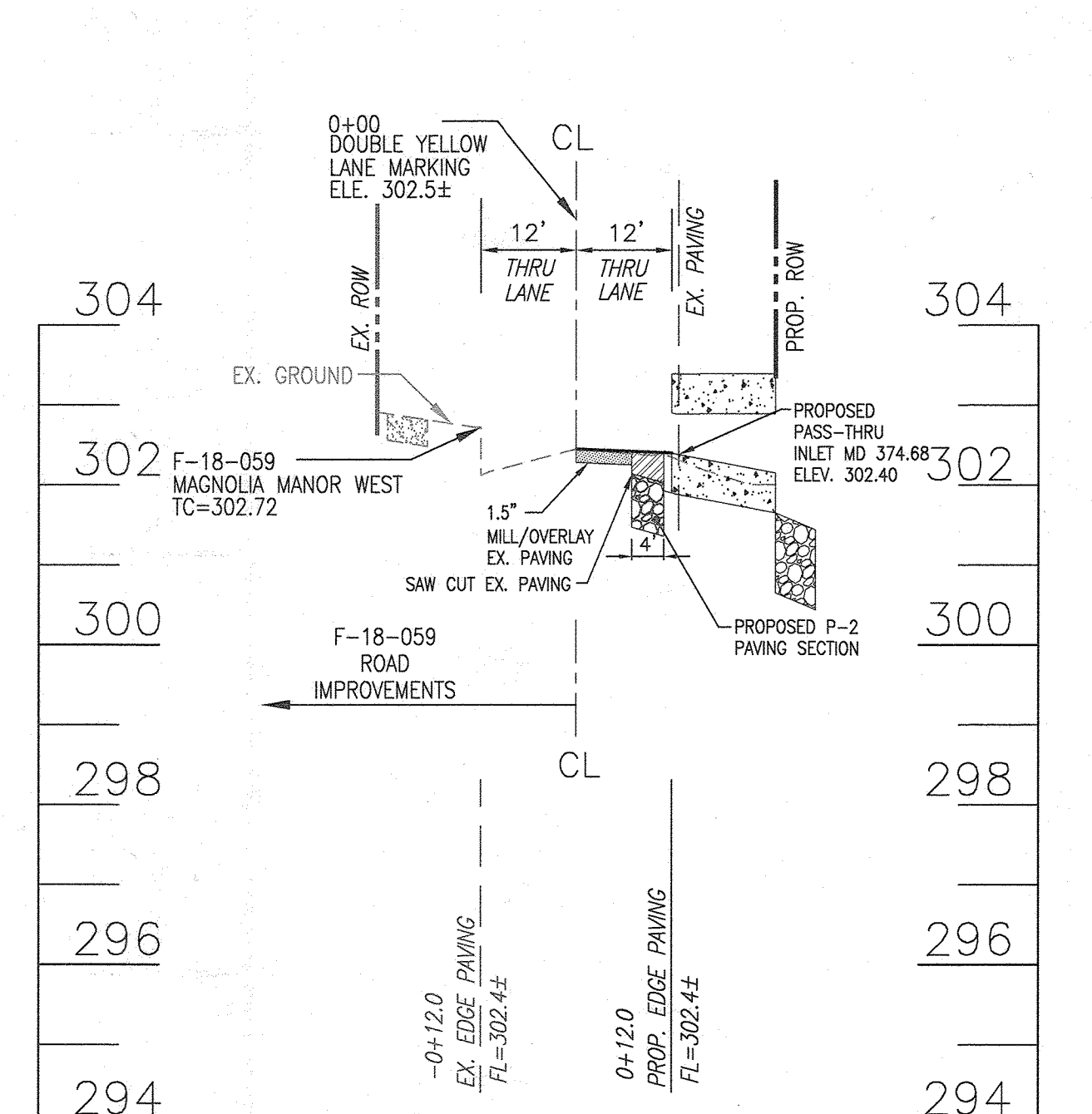
OLD SCAGGSVILLE ROAD
STA. 9+00
 SCALE: HORIZONTAL - 1"=20'
 VERTICAL - 1"=2'



OLD SCAGGSVILLE ROAD
STA. 9+35.03 (SUMP)
 SCALE: HORIZONTAL - 1"=20'
 VERTICAL - 1"=2'



OLD SCAGGSVILLE ROAD
STA. 10+00
 SCALE: HORIZONTAL - 1"=20'
 VERTICAL - 1"=2'



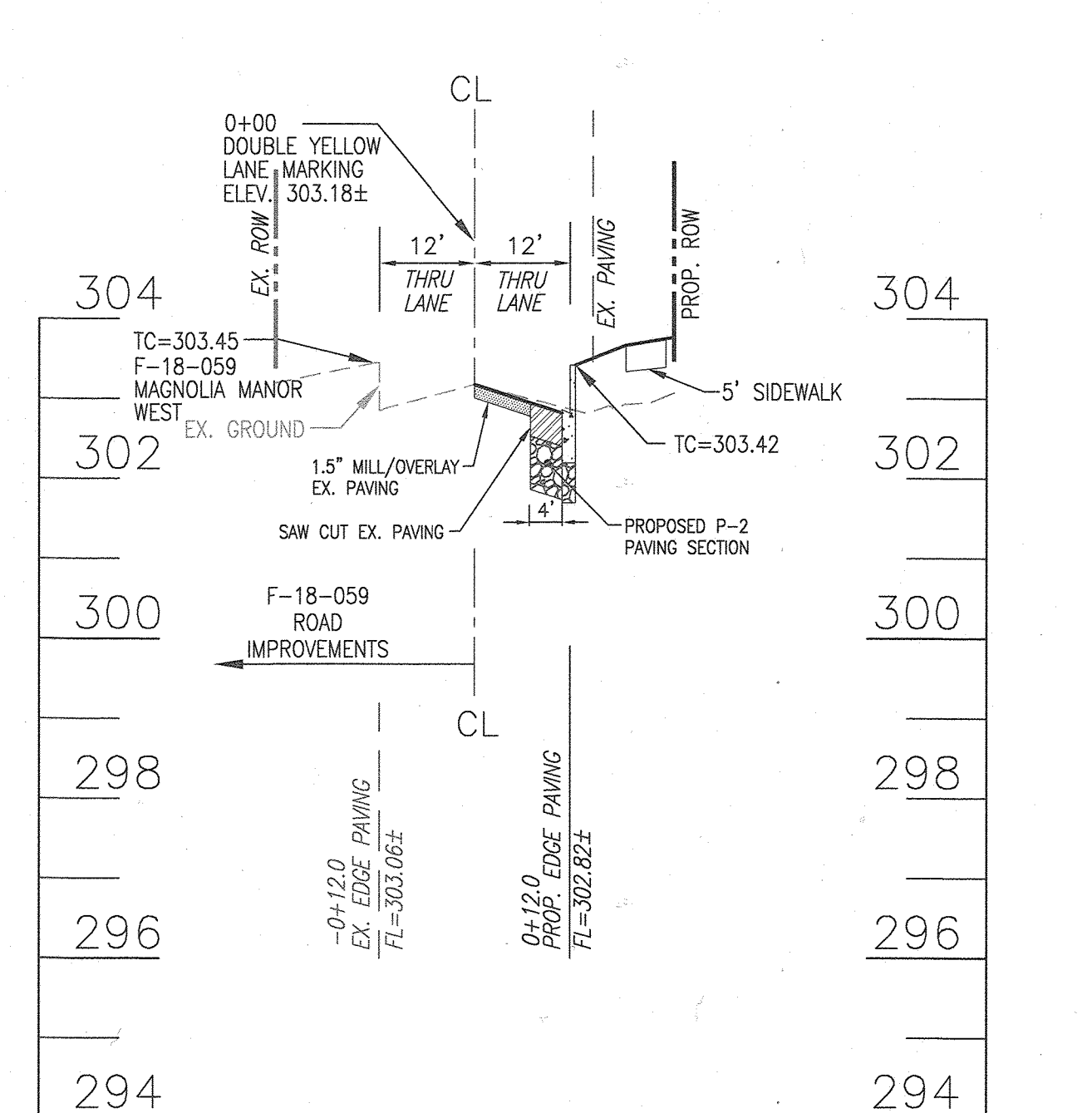
OLD SCAGGSVILLE ROAD
STA. 10+50
 SCALE: HORIZONTAL - 1"=20'
 VERTICAL - 1"=2'

LEGEND

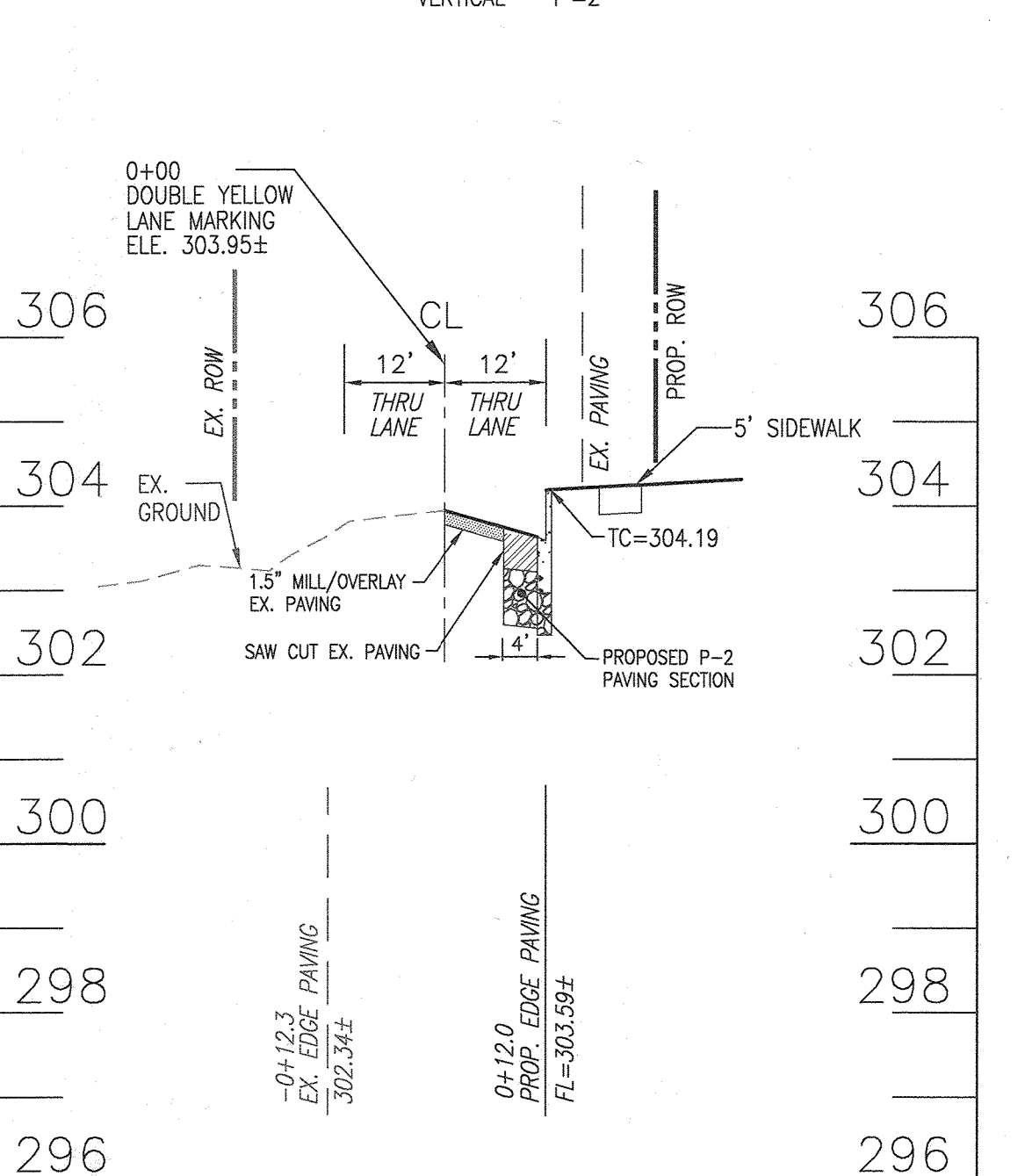
- EXISTING CURB AND GUTTER
- PROPOSED CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- PROPOSED SIDEWALK
- EXISTING TREELINE
- PROPOSED TREELINE
- PROPOSED STORM DRAIN
- PROPOSED STORM DRAIN INLET
- EXISTING SPECIMEN TREE
- EXISTING TREES
- SIGHT DISTANCE EASEMENT

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

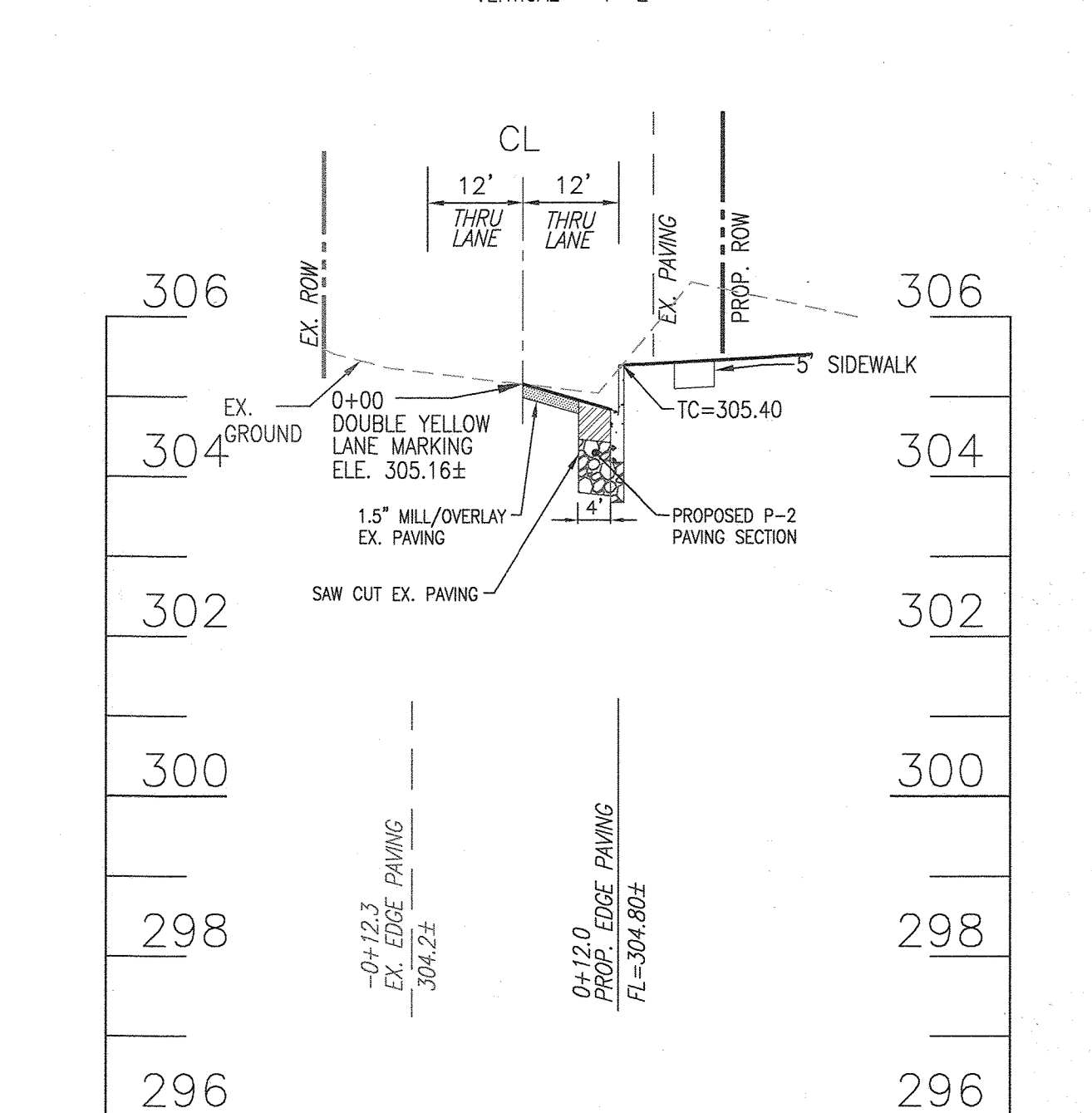
DATE: 9/18/2019
 DATE: 9-26-19
 DATE: 9-30-19



OLD SCAGGSVILLE ROAD
STA. 11+00
 SCALE: HORIZONTAL - 1"=20'
 VERTICAL - 1"=2'



OLD SCAGGSVILLE ROAD
STA. 11+50
 SCALE: HORIZONTAL - 1"=20'
 VERTICAL - 1"=2'



OLD SCAGGSVILLE ROAD
STA. 12+18.63
 SCALE: HORIZONTAL - 1"=20'
 VERTICAL - 1"=2'

OWNER
 MARANATHA MAGNOLIA MANOR, LLC
 MICHAEL PFAU MANAGING MEMBER
 LIVE FEARLESS IN CHRIST, LLC
 MICHAEL PFAU MANAGING MEMBER
 3875 PARK AVE., SUITE 301
 ELLICOTT CITY, MD 21043
 (410) 480-0023

DEVELOPER
 TRINITY HOMES MARYLAND, LLC
 3675 PARK AVE., SUITE 301
 ELLICOTT CITY, MD 21043
 (410) 480-0023

2	REVISE P-2 PAVING, SIDEWALK RAMP, SIGN EASEMENT AND INLET 1B	4-13-22
	REVISION	DATE

FINAL ROAD CONSTRUCTION PLANS
OLD SCAGGSVILLE ROAD
CROSS SECTION LOCATION PLAN
MAGNOLIA MANOR
 LOTS 1 - 61, OPEN SPACE LOTS 62 - 69, AND NON BUILDABLE PARCEL 'A'
 A SUBDIVISION OF TAX MAP 47 - PARCEL 465 AND A RESUBDIVISION OF
 TAX MAP 47 - PARCEL 163 - GIDDINGS PROPERTY - SECTION 1 AREA 1 - LOTS 1-4 (PLAT 8114)

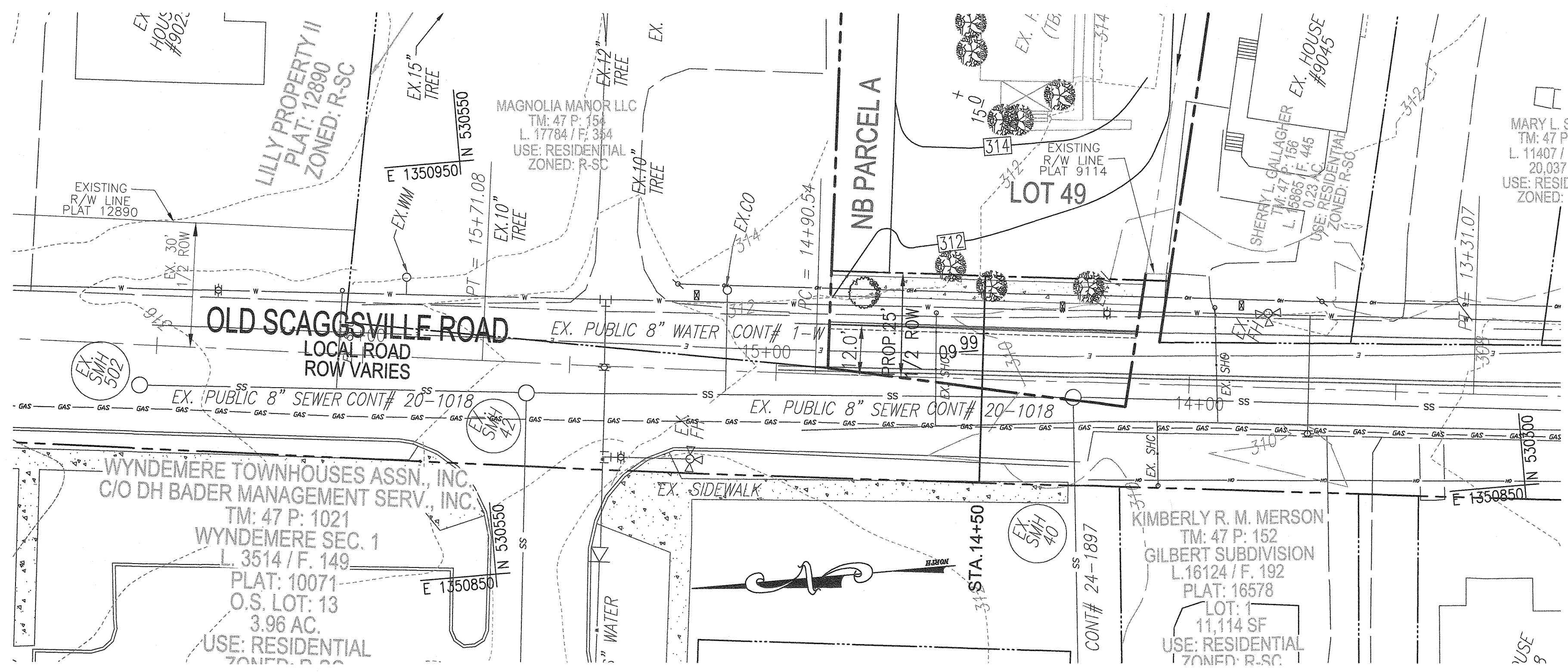
TAX MAP: 47 PARCELS: 163 & 465
 BLOCK: 19 ZONING: R-SC
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 3300 N. RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
 TEL: 410.461.7666 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE
 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. 18193, EXPIRATION DATE: 09-27-2025

DESIGN BY: RHV
 DRAWN BY: KG
 CHECKED BY: RHV
 DATE: AUGUST 2019
 SCALE: AS SHOWN
 W.O. NO.: 16-15

3 SHEET OF 21



CROSS SECTION LOCATION PLAN
 PUBLIC LOCAL ROAD
 50' ROW - 31'± PAVING
 SCALE: 1"=20'

CLOSED SECTION

NOTES:
 1. TYPE OF CURB (EXISTING OR PROPOSED) CURB & GUTTER OR CONCRETION CURB & GUTTER - SEE DESIGN MANUAL, VOLUME 10 FOR DETAILS.
 2. 4" CONCRETE SIDEWALK AS REQUIRED BY SUB-DIVISION REGULATIONS.
 3. 4"-6" SIDEWALK REQUIRES A PAVING AREA (SEE DETAIL R-401).

CLASSIFICATION	A	B	C	D	ROW	SECTION
MINOR COLLECTOR 2000' AD	25'	4'	4'	1'	P-3	
ACCESS STREET 1000' AD	24'	4'	4'	1'	P-3	
ACCESS DRIVE 300' AD	24'	4'	4'	1'	P-3	

TOWNHOUSE, CONDOMINIUM / APARTMENT DEVELOPMENTS REQUIRE 24" MINIMUM PAVING WIDTH (P-2 PAVING SECTION)

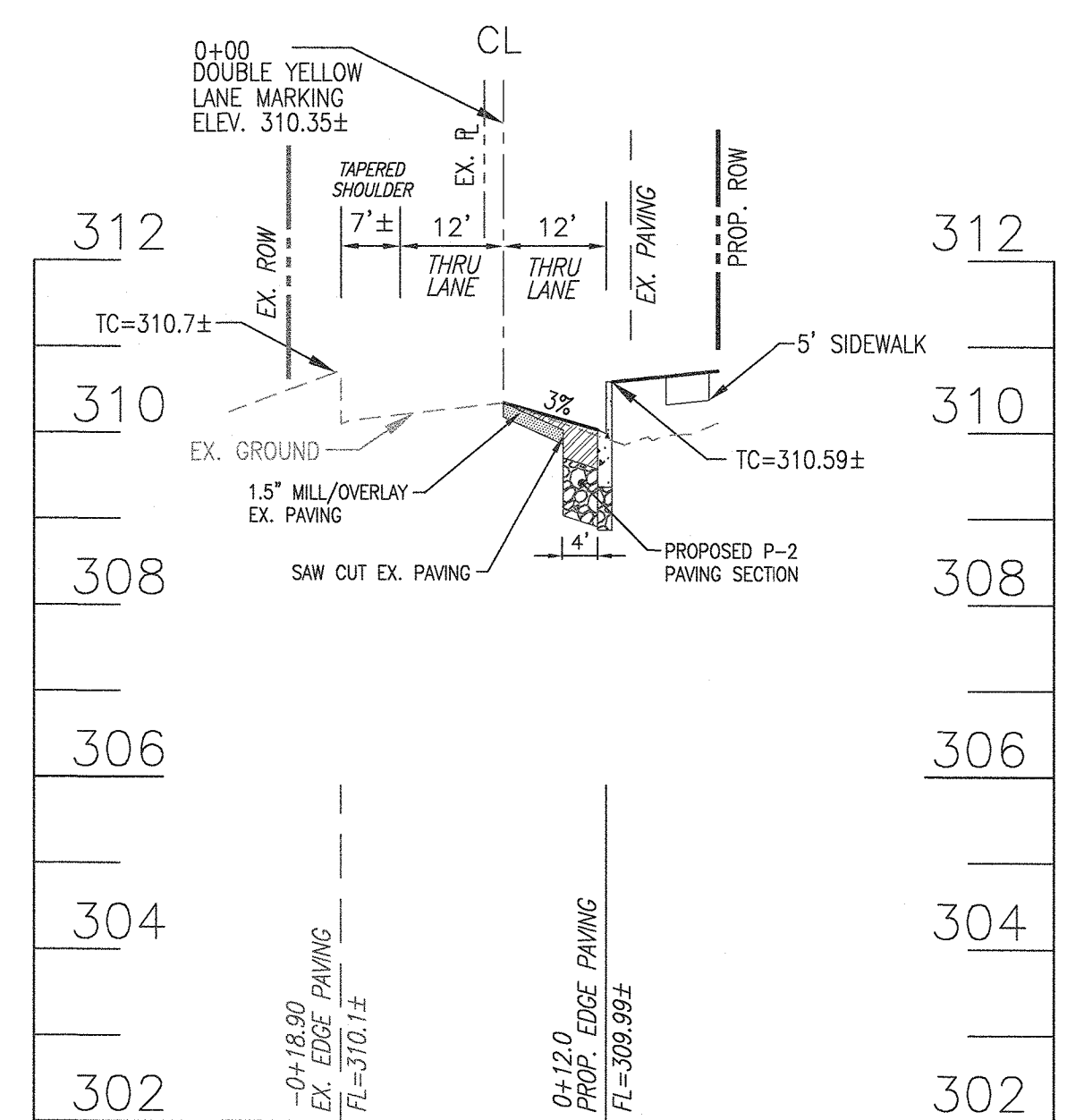
Howard County, Maryland
 Department of Public Works

TYPICAL SECTIONS - Residential Streets
 Access Place, Access Street, Minor Collector
 (Closed Section)

Detail
 R-1.02

NOTE:
 1. EXISTING DOUBLE YELLOW / CL ELEVATIONS TAKEN FROM FIELD SURVEY ON OR ABOUT JUNE 2015. CONTRACTOR SHALL VERIFY PRIOR TO SETTING CURB GRADES.

- LEGEND**
- EXISTING CURB AND GUTTER
 - PROPOSED CURB AND GUTTER
 - EXISTING UTILITY POLE
 - EXISTING LIGHT POLE
 - EXISTING MAILBOX
 - EXISTING SIGN
 - EXISTING SANITARY MANHOLE
 - EXISTING SANITARY LINE
 - EXISTING CLEANOUT
 - EXISTING FIRE HYDRANT
 - EXISTING WATER LINE
 - EXISTING FENCE
 - PROPERTY LINE
 - RIGHT-OF-WAY LINE
 - PROPOSED SIDEWALK
 - EXISTING TREELINE
 - PROPOSED TREELINE
 - PROPOSED STORM DRAIN
 - PROPOSED STORM DRAIN DRAIN INLET
 - EXISTING SPECIMEN TREE
 - EXISTING TREES
 - SIGHT DISTANCE EASEMENT



OLD SCAGGSVILLE ROAD
 STA. 14+50
 SCALE: HORIZONTAL - 1"=20'
 VERTICAL - 1"=2'

OWNER
 MARANATHA MAGNOLIA MANOR, LLC
 MICHAEL PFAU MANAGING MEMBER
 LIVE FEARLESS IN CHRIST, LLC
 MICHAEL PFAU MANAGING MEMBER
 3675 PARK AVE., SUITE 301
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 (410) 480-0023

DEVELOPER
 TRINITY HOMES MARY LAND, LLC
 3675 PARK AVE., SUITE 301
 ELLICOTT CITY, MD 21043
 (410) 480-0023

REVISION	DATE

FINAL ROAD CONSTRUCTION PLANS
 OLD SCAGGSVILLE ROAD
 CROSS SECTION LOCATION PLAN
MAGNOLIA MANOR
 LOTS 1 - 61, OPEN SPACE LOTS 62 - 69, AND NON BUILDABLE PARCEL 'A'
 A SUBDIVISION OF TAX MAP 47 - PARCEL 465 AND A RESUBDIVISION OF
 TAX MAP 47 - PARCEL 163 - GIDONNS PROPERTY - SECTION 1 AREA 1 - LOTS 1-4 (PLAT 9114)

TAX MAP: 47 PARCELS: 163 & 465
 6TH ELECTION DISTRICT

BLOCK: 19 ZONING: R-SC
 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL
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DESIGN BY: RHY
 DRAWN BY: KG
 CHECKED BY: RHY
 DATE: AUGUST 2019
 SCALE: AS SHOWN
 W.O. NO.: 16-15

4 SHEET OF 21

ROBERT H. VOGEL, PE No.16193

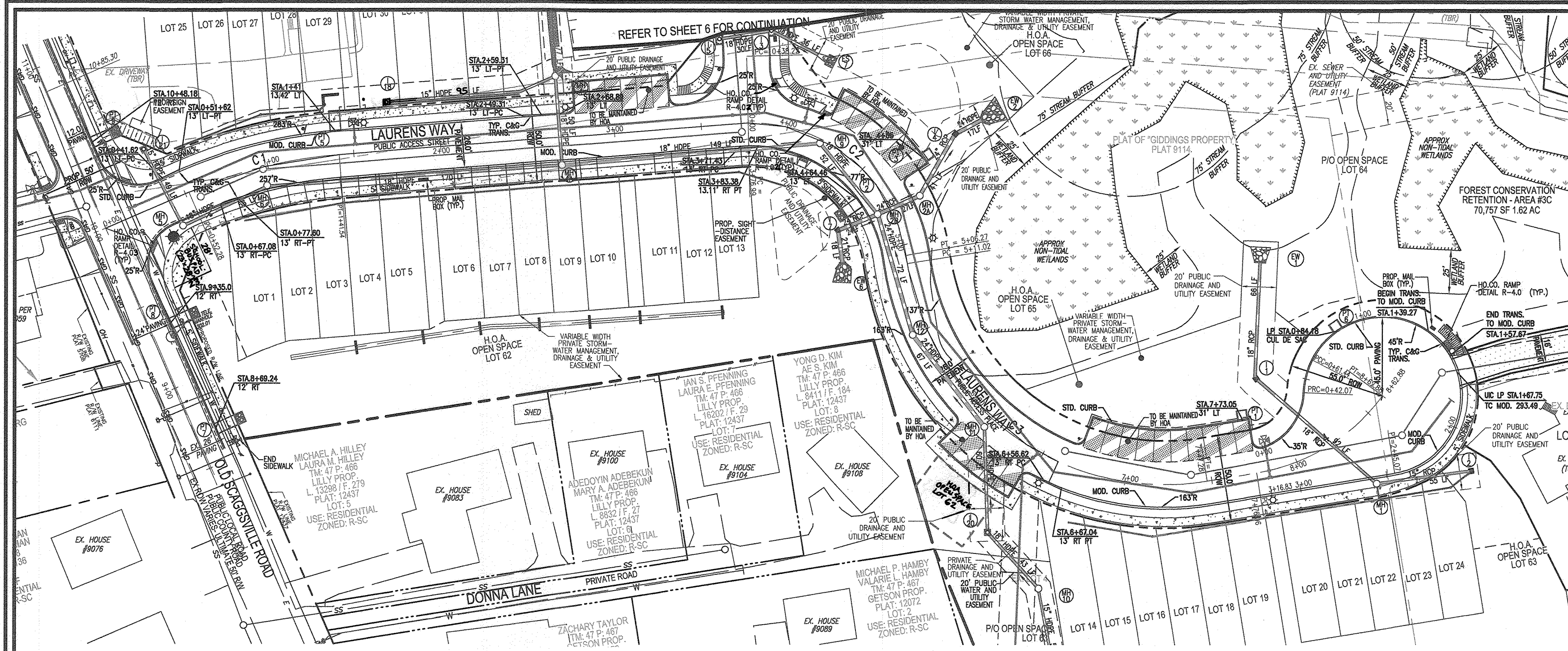
APPROVED: DEPARTMENT OF PUBLIC WORKS

 CHIEF, BUREAU OF HIGHWAYS MK DATE 9/18/2019

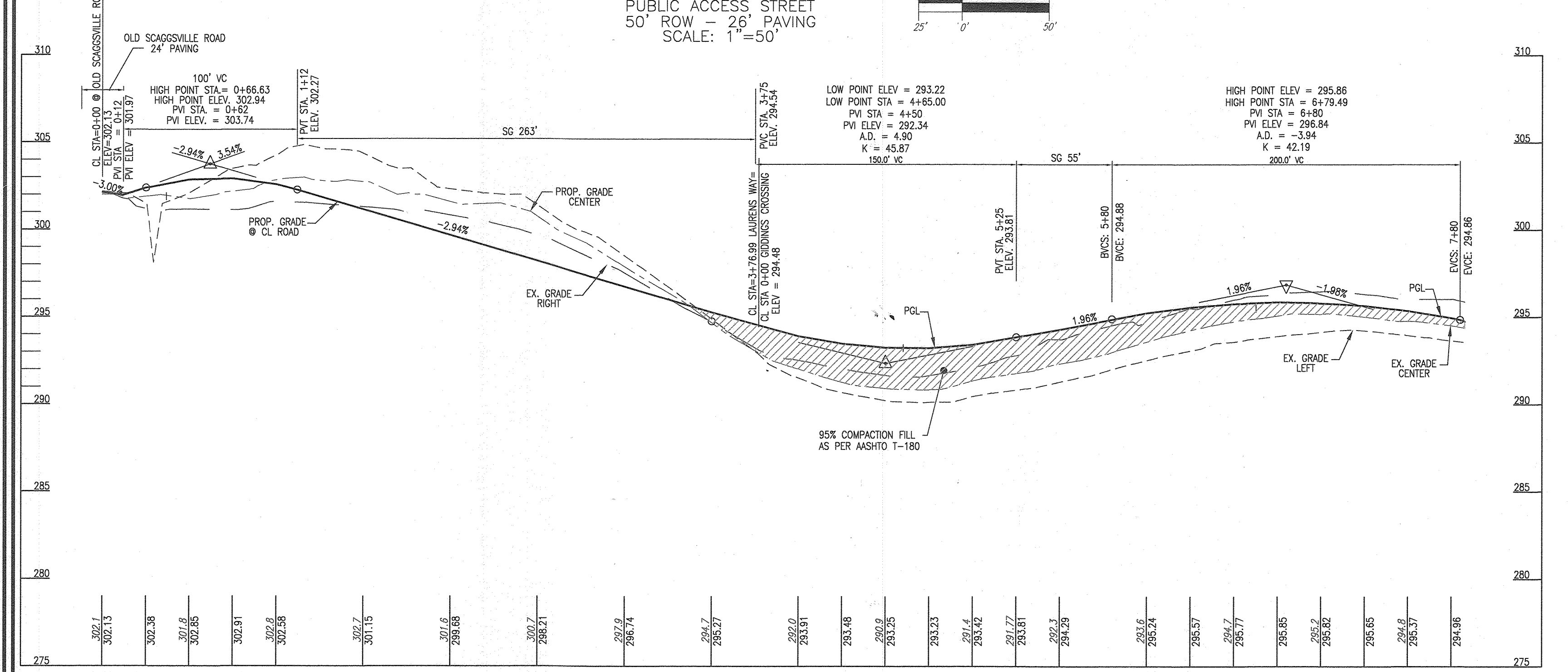
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

 CHIEF, DEVELOPMENT ENGINEERING DIVISION R DATE 9-26-19

_____ DATE 9-30-19
 CHIEF, DIVISION OF LAND DEVELOPMENT

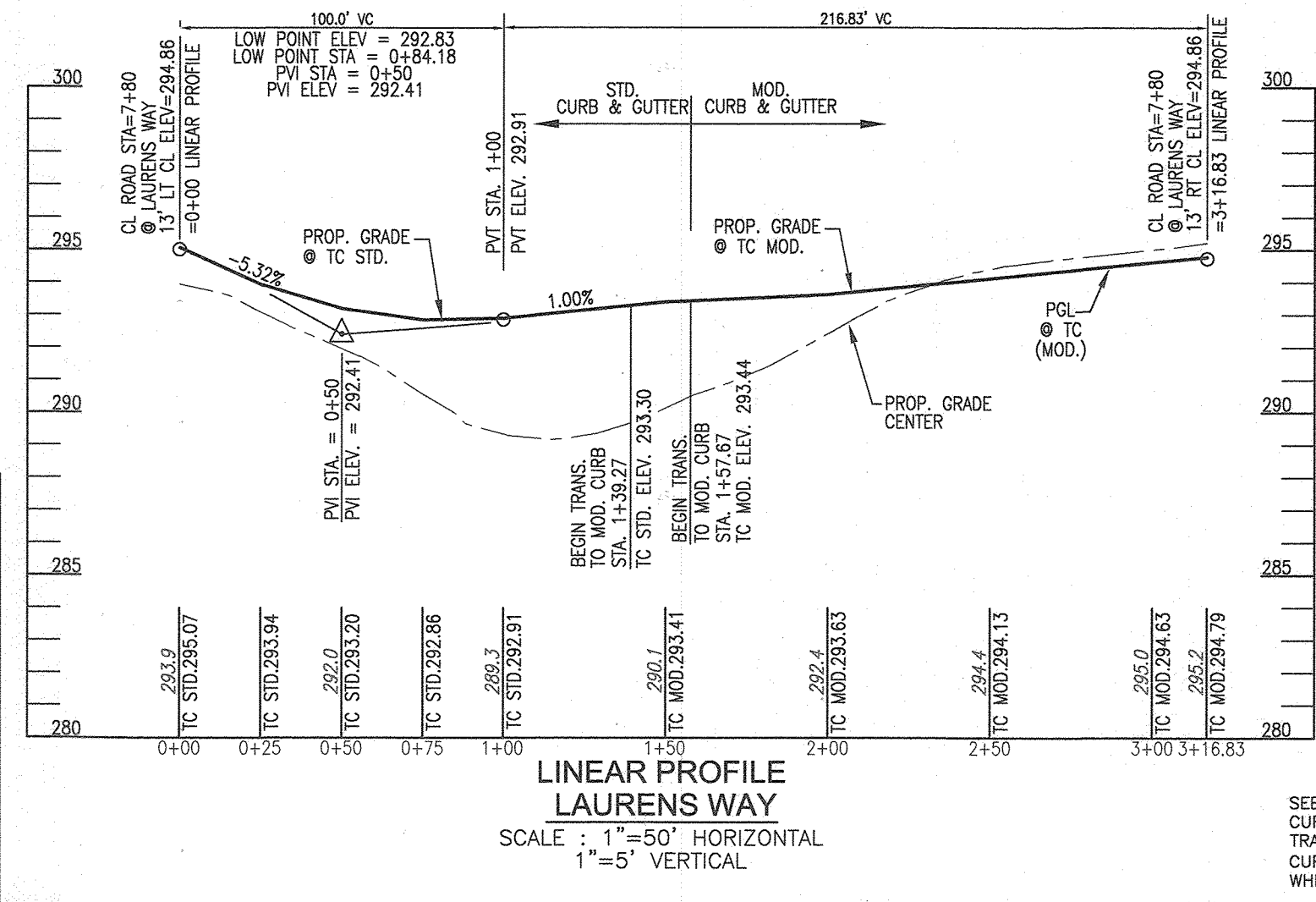


LAURENS WAY PLAN VIEW
PUBLIC ACCESS STREET
50' ROW - 26' PAVING
SCALE: 1"=50'

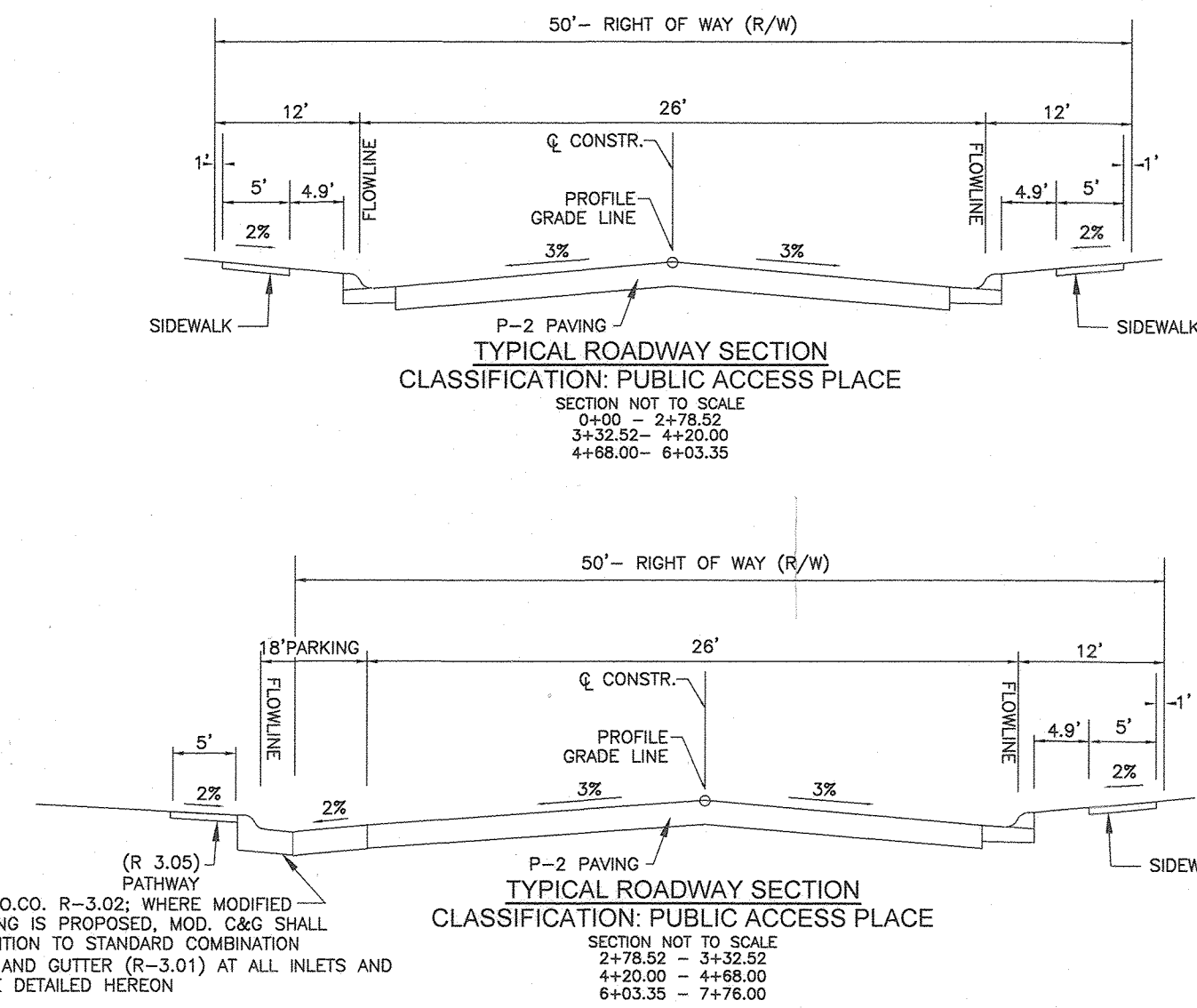


ROAD PROFILE LAURENS WAY
PUBLIC ACCESS STREET
DESIGN SPEED: 25 MPH
SCALE: 1"=5' VERTICAL

- NOTES:**
- REFER TO SHEET 13 FOR STORMDRAIN PROFILES.
 - REFER TO SHEET 20 FOR STORMDRAIN STRUCTURE SCHEDULE.
 - FOR STREET TREE LOCATIONS, REFER TO SHEET 14.
 - ALL STREET TREES AND/OR SIGN SHALL BE LOCATED 5' MIN. FROM PROPOSED DRAINAGE, UTILITY STRUCTURE.
 - THERE SHALL BE A MINIMUM OF 20' BETWEEN STREET LIGHTS AND STREET TREES.
 - IN THE DIRECTION FACING A TRAFFIC CONTROL SIGN:
 - THERE SHALL BE A MINIMUM OF 40' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL STOP SIGNS.
 - THERE SHALL BE A MINIMUM OF 50' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL SIGNS OTHER THAN A STOP SIGN.
 - HANDICAP RAMPS PER STANDARD DETAIL R-4.01.



LINEAR PROFILE LAURENS WAY
SCALE: 1"=5' VERTICAL

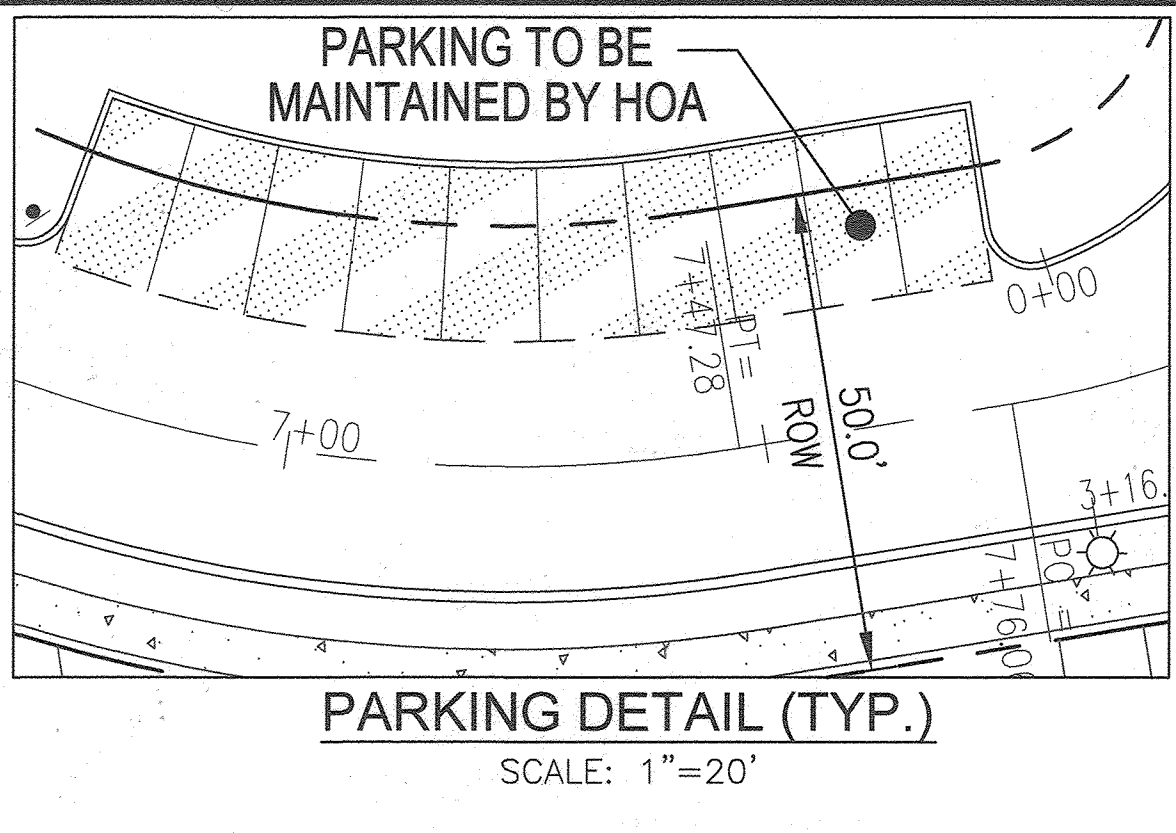


TYPICAL ROADWAY SECTION
CLASSIFICATION: PUBLIC ACCESS PLACE

SECTION NUMBER	ROAD AND SIDE CLASSIFICATION	STATIONING	OFFSET	FIXTURE TYPE
P-1	LAURENS WAY	0+36.38	18.00'	"STOP" AND "STREET" SIGN
P-2	LAURENS WAY	0+58.83	17.00'	"SPEED LIMIT" SIGN
P-3	LAURENS WAY	1+23.19	17.00'	"SPEED LIMIT" SIGN
P-4	LAURENS WAY	3+76.00	17.00'	"NO PARKING" SIGN 'D'
	LAURENS WAY	4+58.00	17.00'	"NO PARKING" SIGN 'C'
	LAURENS WAY	4+72.43	17.00'	"NO PARKING" SIGN 'B'
	LAURENS WAY	5+29.00	17.00'	"NO PARKING" SIGN 'C'
	LAURENS WAY	5+76.00	17.00'	"NO PARKING" SIGN 'C'
	LAURENS WAY	5+99.00	17.00'	"NO PARKING" SIGN 'B'
	LAURENS WAY	6+66.00	17.00'	"NO PARKING" SIGN 'D'
	GIDDINGS CROSSING	0+31.00	16.00'	"STOP" AND "STREET" SIGN

SIGNAGE LOCATION CHART

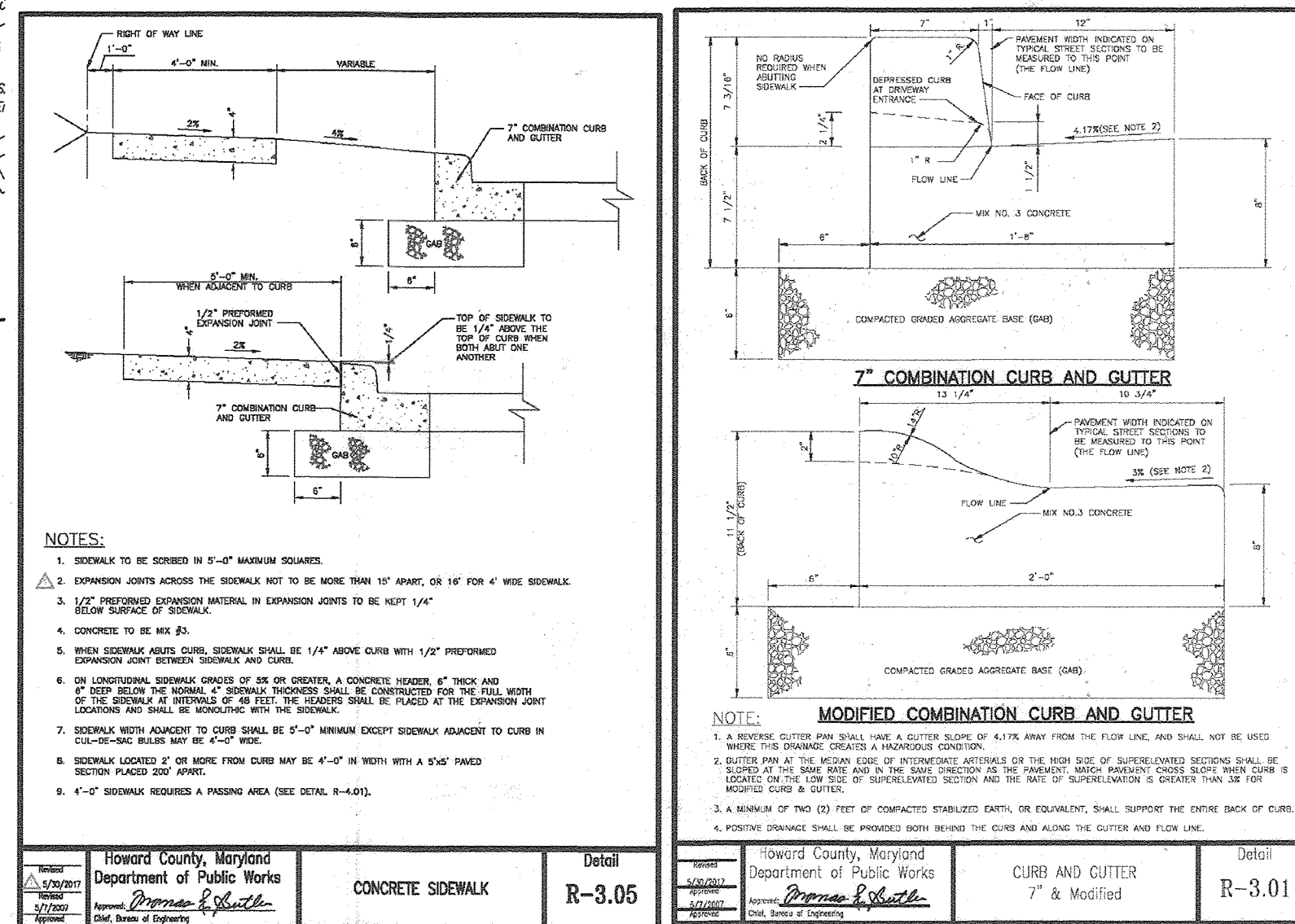
ROAD NAME	STATION	OFFSET	TYPE
LAURENS WAY	0+36.38	18.00'	"STOP" AND "STREET" SIGN
LAURENS WAY	0+58.83	17.00'	"SPEED LIMIT" SIGN
LAURENS WAY	1+23.19	17.00'	"SPEED LIMIT" SIGN
LAURENS WAY	3+76.00	17.00'	"NO PARKING" SIGN 'D'
LAURENS WAY	4+58.00	17.00'	"NO PARKING" SIGN 'C'
LAURENS WAY	4+72.43	17.00'	"NO PARKING" SIGN 'B'
LAURENS WAY	5+29.00	17.00'	"NO PARKING" SIGN 'C'
LAURENS WAY	5+76.00	17.00'	"NO PARKING" SIGN 'C'
LAURENS WAY	5+99.00	17.00'	"NO PARKING" SIGN 'B'
LAURENS WAY	6+66.00	17.00'	"NO PARKING" SIGN 'D'
GIDDINGS CROSSING	0+31.00	16.00'	"STOP" AND "STREET" SIGN



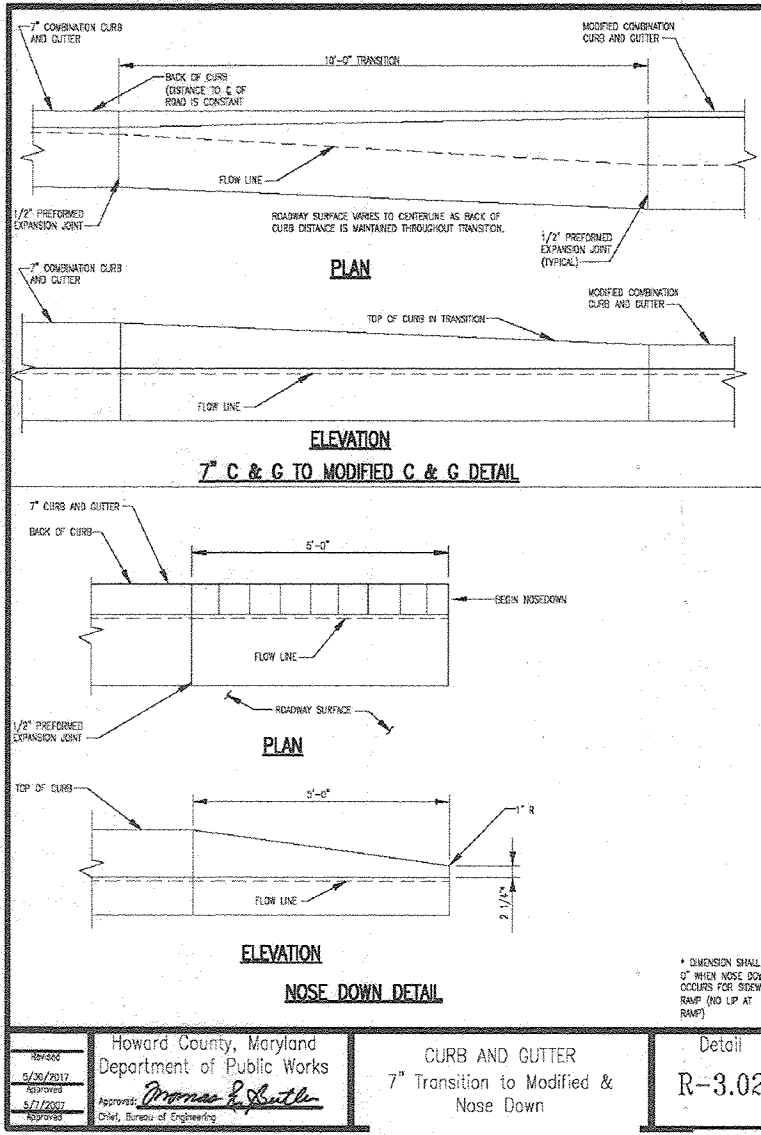
PARKING DETAIL (TYP.)
SCALE: 1"=20'

LEGEND

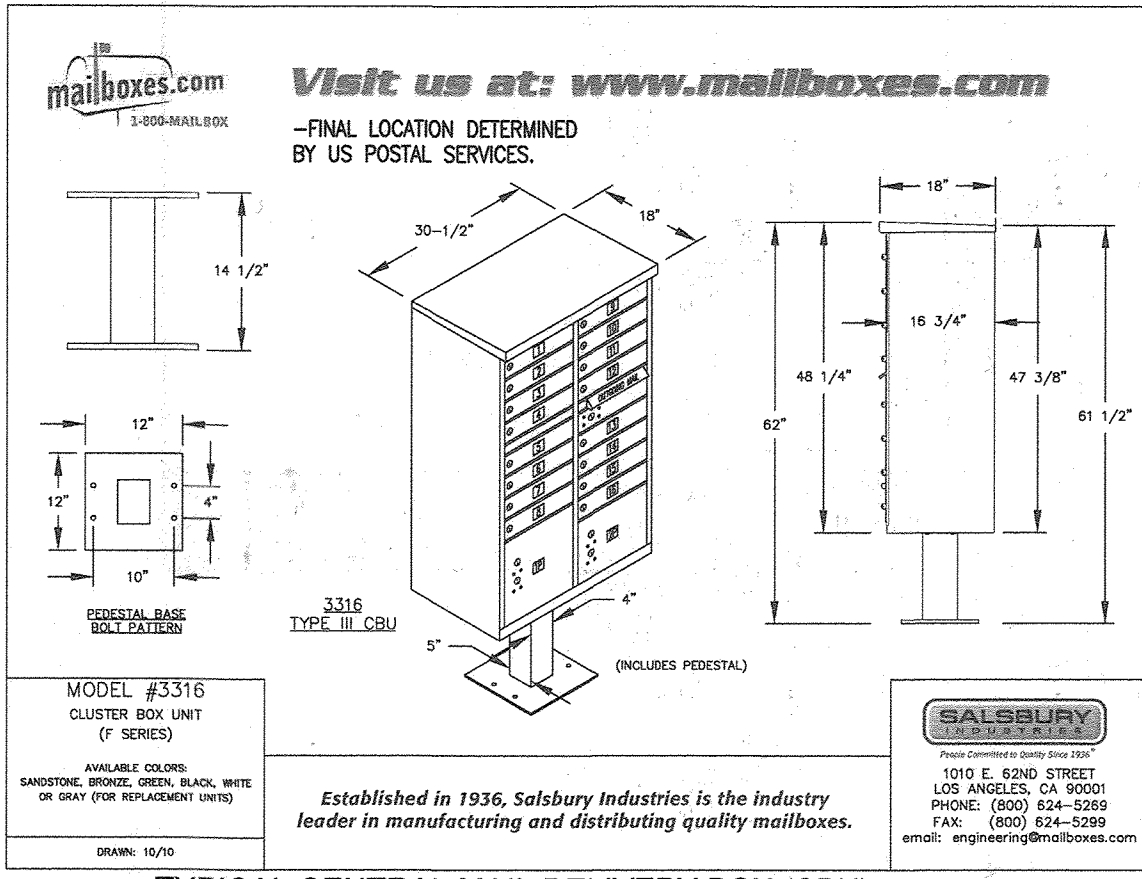
- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SIDEWALK
- EXISTING TREELINE
- TREELINE
- STORM DRAIN
- STORM DRAIN INLET
- EXISTING SPECIMEN TREE
- EXISTING TREES
- SIGHT DISTANCE EASEMENT
- EXISTING WETLAND
- PROP. PARKING EASEMENT TO BE MAINTAINED BY HOA



CONCRETE SIDEWALK and **CURB AND GUTTER** details



7' COMBINATION CURB AND GUTTER detail



SALSBUURY INDUSTRIES MANUFACTURES CBU'S THAT ARE OFFICIALLY LICENSED BY THE U.S.P.S. SALSBUURY 3300 SERIES CLUSTER BOX UNITS ARE MANUFACTURED TO U.S.P.S. "F" SPECIFICATIONS. THEY ARE AN OFFICIALLY LICENSED PRODUCT OF THE U.S. POSTAL SERVICE FOR CENTRALIZED MAIL DELIVERY.

1- PROVIDE TWO 12 UNITS CLUSTER BOX UNIT @ 1485.87; 17.50' RT LAURENS WAY FOR LOTS 1-13 AND 25-34.
2- PROVIDE ONE 16 UNITS CLUSTER BOX UNIT @ LP 1440 LAURENS WAY FOR LOTS 14-24 AND 60-61.
3- LOTS 45 AND 49 SHALL CONTINUE TO UTILIZE INDIVIDUAL MAILBOX SERVICE ALONG OLD SCAGGSVILLE ROAD.

CENTERLINE CURVE TABLE

ROAD	STATION	CURVE LENGTH	RADIUS	DELTA ANGLE	Tangent	Chord Direction	Chord
LAURENS WAY	0+52.28-1+41.54	C1	89.26	270.00	18°56'26"	45.04	N81°30'03"W 88.85
LAURENS WAY	3+76.99-5+06.27	C2	129.28	90.00	82°18'12"	78.65	N27°40'55"W 118.45
LAURENS WAY	5+11.02-7+47.28	C3	236.26	150.00	90°14'40"	150.64	S31°39'09"E 212.58
LAURENS WAY	7+76.06-8+62.88	C4	86.82	112.00	44°24'49"	45.72	N81°01'00"E 84.66



OWNER
MARANATHA MAGNOLIA MANOR, LLC
MICHAEL PFAU MANAGING MEMBER
LIVE FEARLESS IN CHRIST, LLC
MICHAEL PFAU MANAGING MEMBER
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023

DEVELOPER
TRINITY HOMES MARY LAND, LLC
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023

NO.	REVISION	DATE
3	REMOVE AMENITIES FROM OPEN SPACE LOTS 62, 67 AND 68	10-18-23
2	REVISE BUS PAD, SIDEWALK RAMPS, SIGN EASEMENT AND INLET 18	4-13-22

FINAL ROAD CONSTRUCTION PLANS
LAURENS WAY
PLAN AND PROFILE
MAGNOLIA MANOR
LOTS 1 - 61, OPEN SPACE LOTS 62 - 69, AND NON BUILDBLE PARCEL 'A'
A SUBDIVISION OF TAX MAP 47 - PARCEL 465 AND A RESUBDIVISION OF TAX MAP 47 - PARCEL 163 - GIDDINGS PROPERTY - SECTION 1 AREA 1 - LOTS 1-4 (PLAT 9114)

TAX MAP: 47 PARCELS: 163 & 465
BLOCK: 19 ZONING: R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

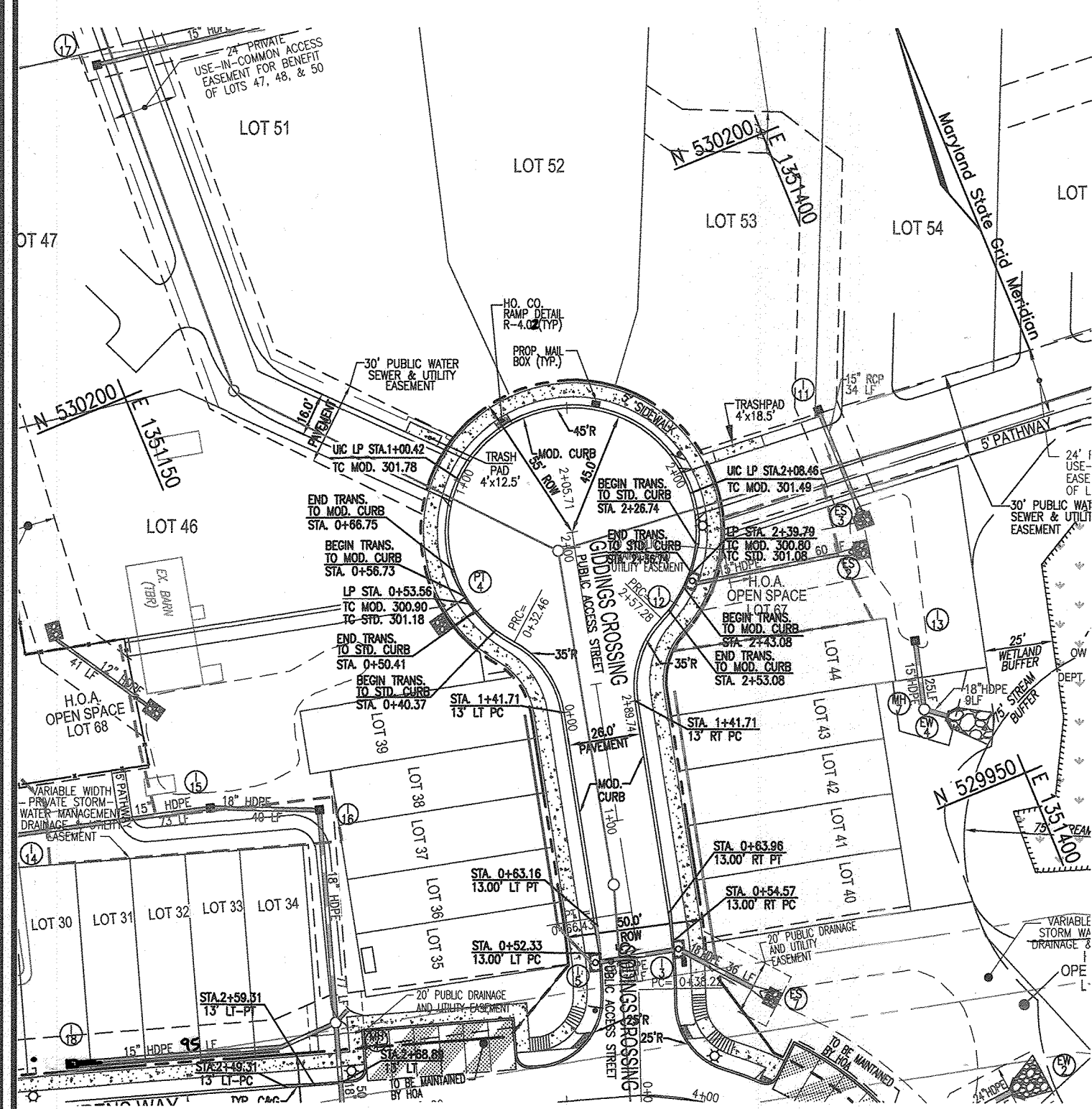
ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
3300 N. RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
TEL: 410.461.7666 FAX: 410.461.8961

DESIGN BY: RHV
DRAWN BY: KG
CHECKED BY: RHV
DATE: AUGUST 2019
SCALE: AS SHOWN
W.D. NO.: 16-15

PROFESSIONAL CERTIFICATE
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. 16193, EXPIRATION DATE 09-27-2020

5 SHEET OF 21

APPROVED: DEPARTMENT OF PUBLIC WORKS
DATE: 9/18/2019
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
DATE: 9-26-19
DATE: 9-30-19

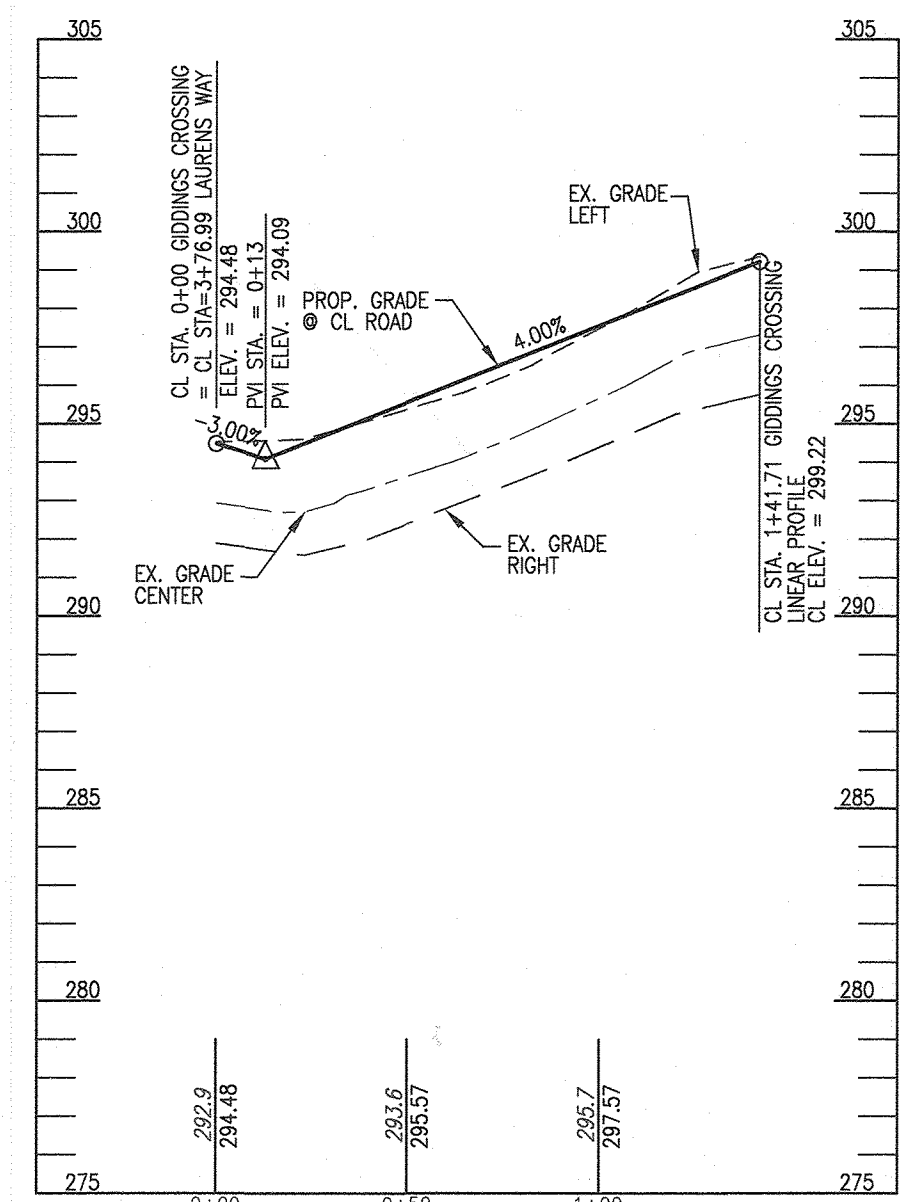


GIDDINGS CROSSING PLAN VIEW
PUBLIC ACCESS STREET
50' ROW - 26' PAVING

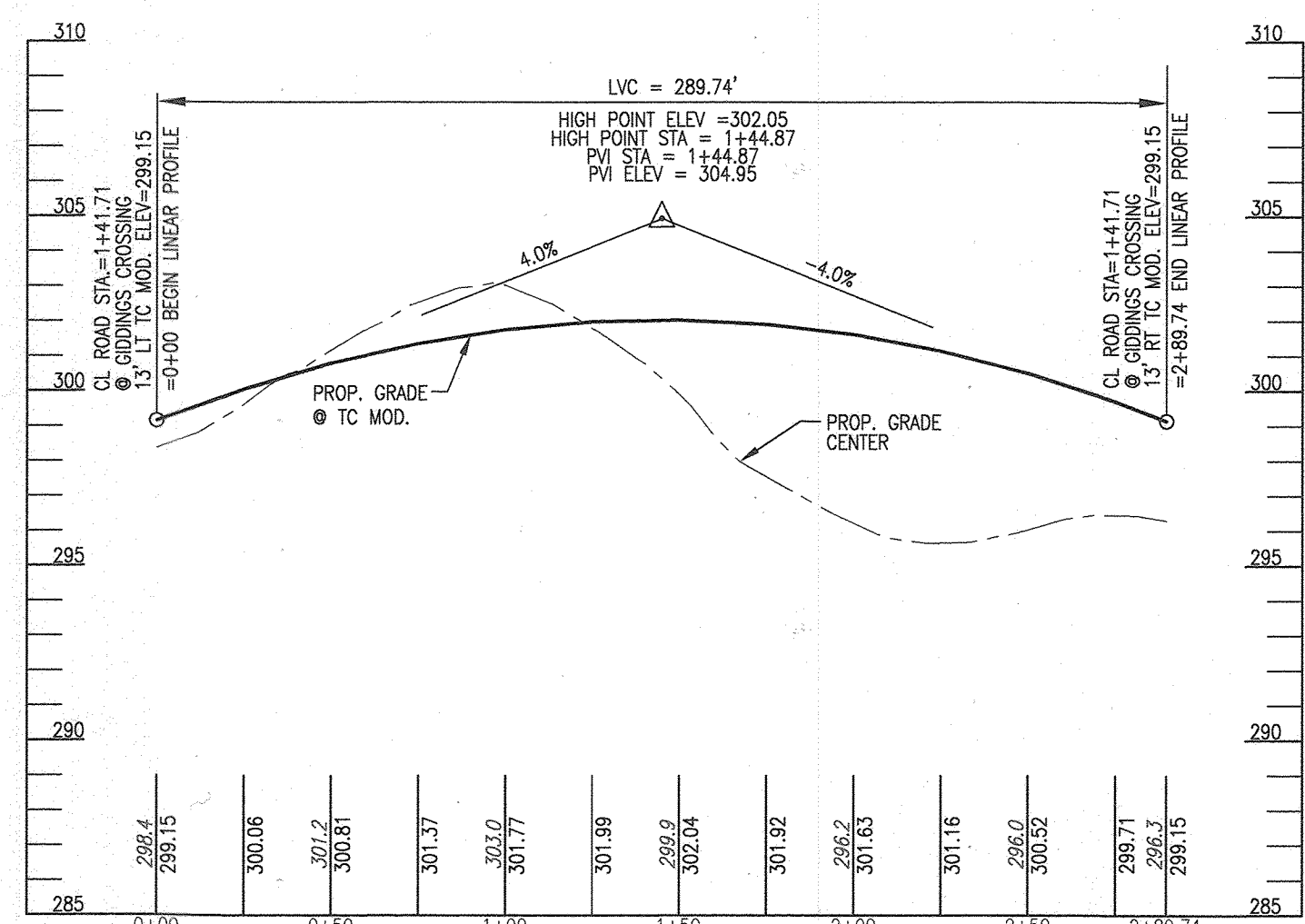
SCALE 1"=50'

NOTES:

- REFER TO SHEET 13 FOR STORMDRAIN PROFILES.
- REFER TO SHEET 20 FOR STORMDRAIN STRUCTURE SCHEDULE.
- FOR STREET TREE LOCATIONS, REFER TO SHEET 14.
- ALL STREET TREES AND/OR SIGN SHALL BE LOCATED 5' MIN. FROM PROPOSED DRAINAGE, UTILITY STRUCTURE.
- THERE SHALL BE A MINIMUM OF 20' BETWEEN STREET LIGHTS AND STREET TREES.
- IN THE DIRECTION FACING A TRAFFIC CONTROL SIGN:
 - THERE SHALL BE A MINIMUM OF 40' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL STOP SIGNS.
 - THERE SHALL BE A MINIMUM OF 35' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL SIGNS OTHER THAN A STOP SIGN.
- SEE SHEET 2 FOR PAVING SECTION DETAILS.
- HANDICAP RAMPS PER STANDARD DETAIL R-4.01.



ROAD PROFILE GIDDINGS CROSSING
PUBLIC ACCESS STREET
DESIGN SPEED: 25 MPH
SCALE: 1"=50' HORIZONTAL
1"=5' VERTICAL



LINEAR PROFILE GIDDINGS CROSSING
PUBLIC ACCESS STREET
DESIGN SPEED: 25 MPH
SCALE: 1"=50' HORIZONTAL
1"=5' VERTICAL

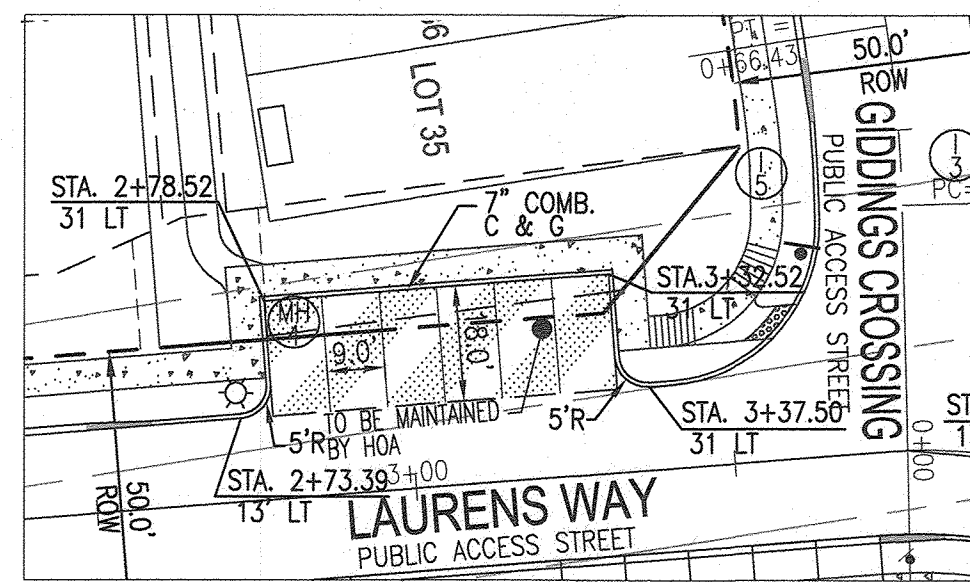
LEGEND

- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SIDEWALK
- EXISTING TREELINE
- PROPOSED TREELINE
- STORM DRAIN
- STORM DRAIN INLET

CENTERLINE CURVE TABLE								
ROAD	CURVE	STA. - STA.	LENGTH	RADIUS	DELTA ANGLE	TANGENT	CHORD DIRECTION	CHORD LENGTH
GIDDINGS CROSSING	C5	0+71.80-3+51.28	28.21'	210.00'	7°41'48"	14.13	N17°19'05"E	28.19'

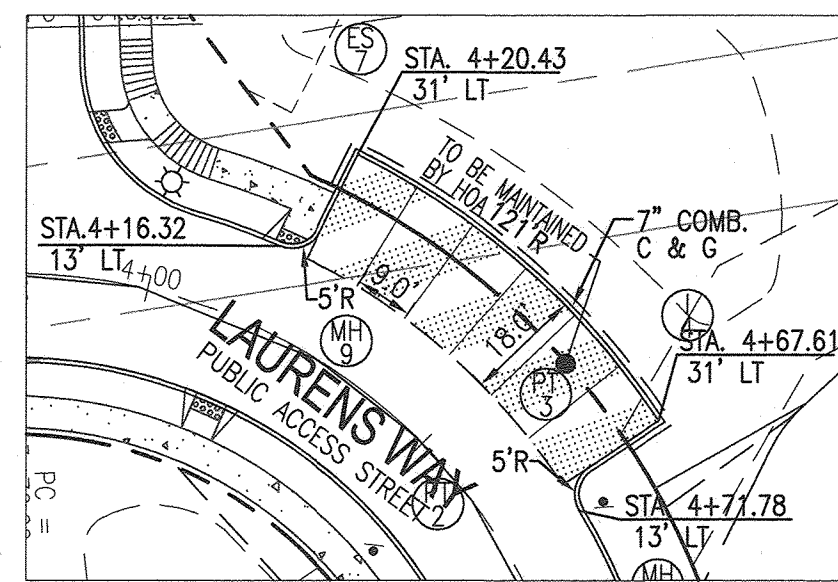
SIGNAGE LOCATION CHART				
ROAD NAME	STATION	OFFSET	TYPE	
GIDDINGS CROSSING	0+31.00	16.00' L	"STOP" AND "STREET" SIGN	
GIDDINGS CROSSING	1+94.27		"ADDRESS" SIGN	

STREET LIGHT TABLE			
STREET NAME	STA.	OFFSET	FIXTURE TYPE
GIDDINGS CROSSING	2+21.06		LED-100 PREMIER COLONIAL POST-TOP FIXTURE MOUNTED ON A 14" BLACK FIBERGLASS POLE



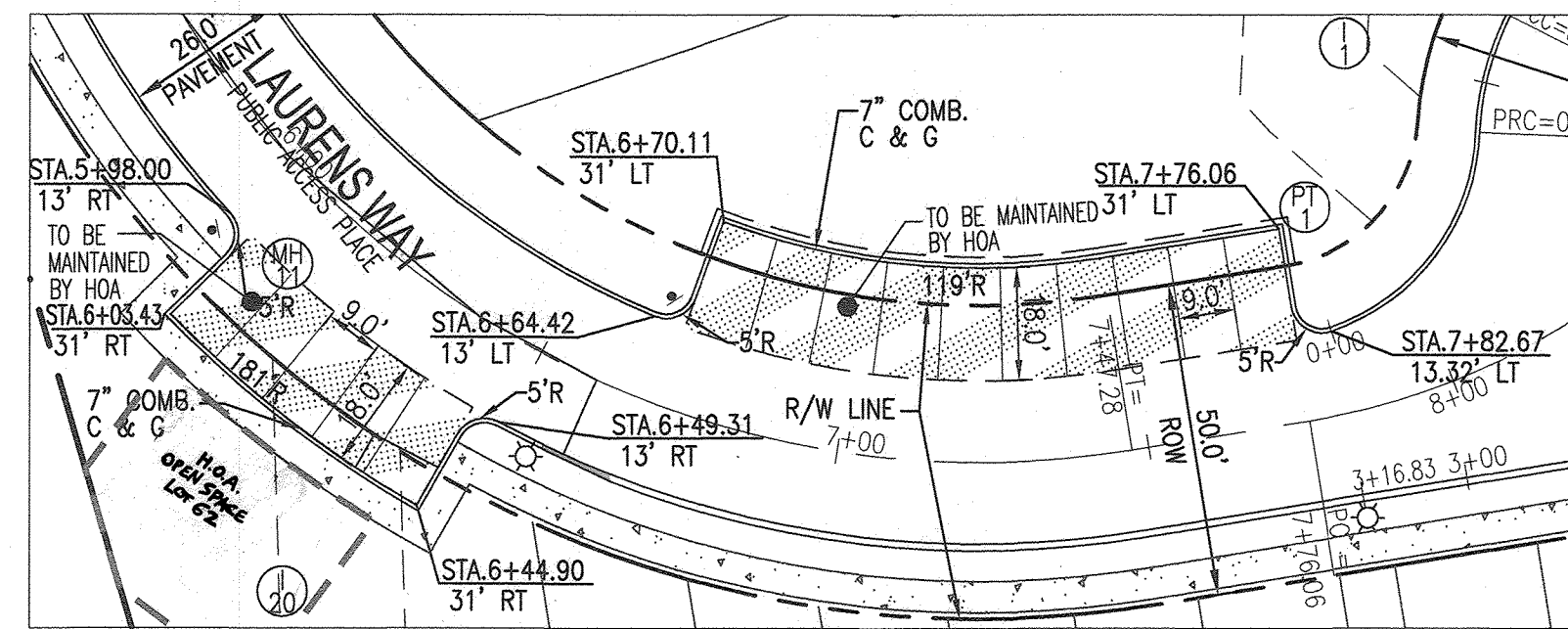
PARKING DETAIL#1

SCALE 1"=30'



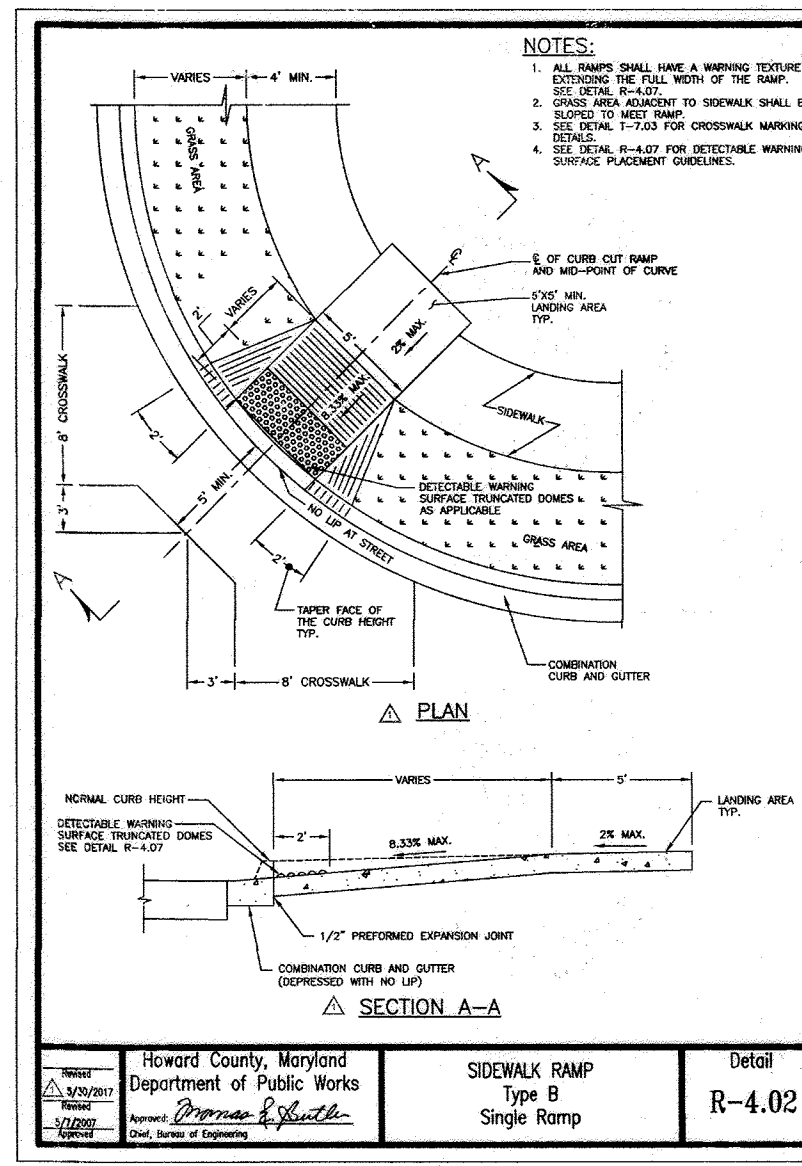
PARKING DETAIL#2

SCALE 1"=30'

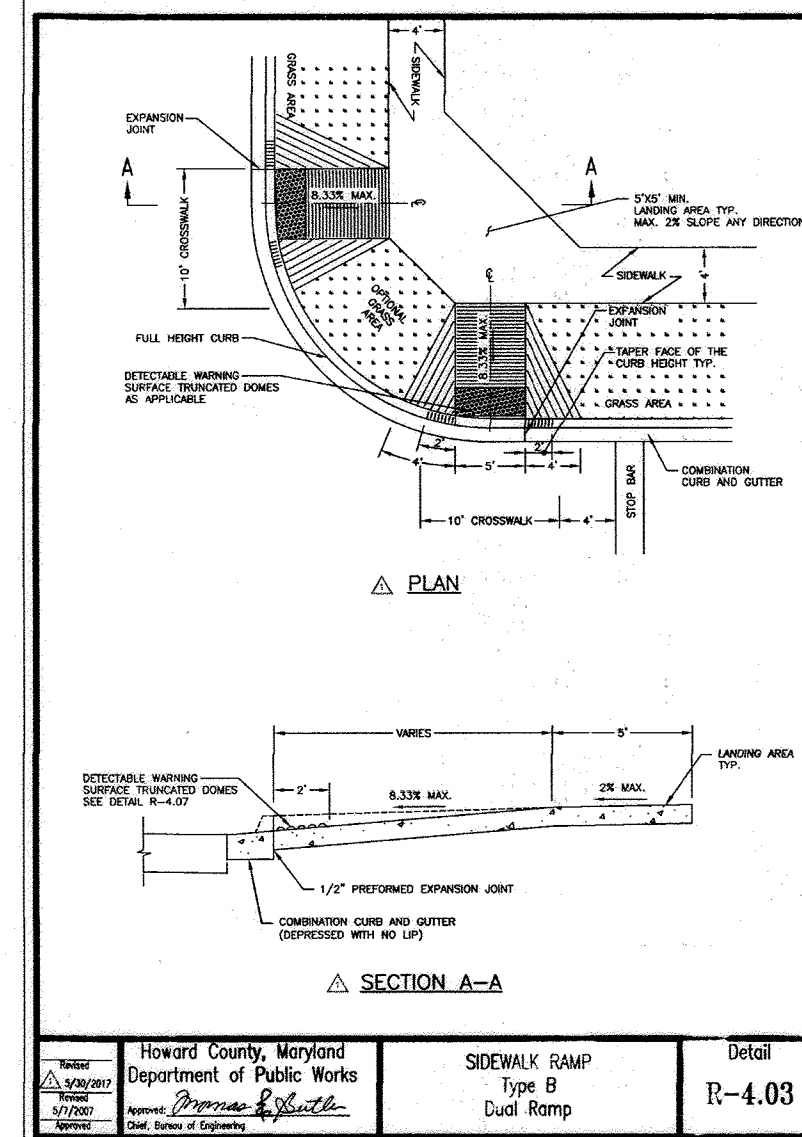


PARKING DETAIL#3

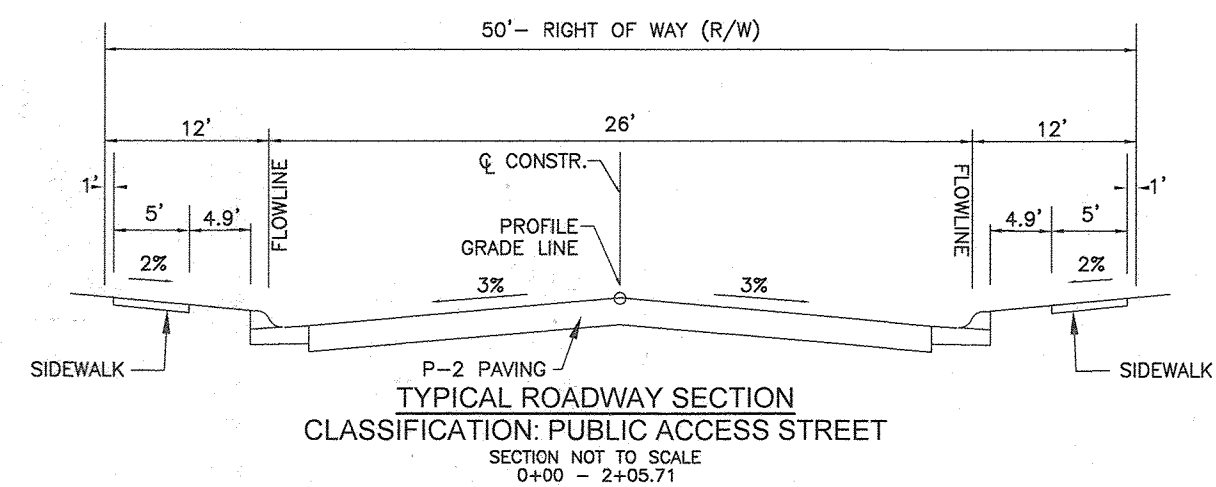
SCALE 1"=30'



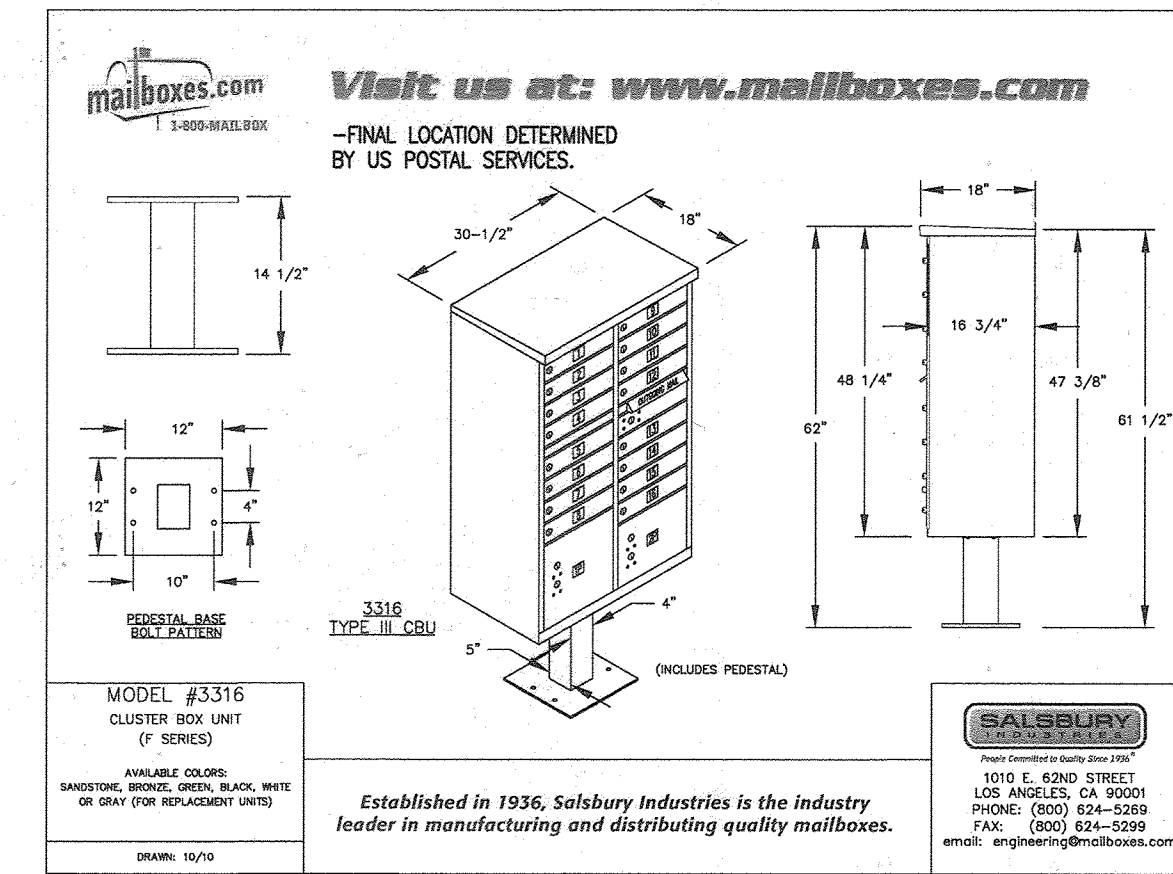
SECTION A-A
SIDEWALK RAMP
Type B
Single Ramp
R-4.02



SECTION A-A
SIDEWALK RAMP
Type B
Dual Ramp
R-4.03



TYPICAL ROADWAY SECTION
CLASSIFICATION: PUBLIC ACCESS STREET
SECTION NOT TO SCALE
0+00 - 2+05.71



TYPICAL CENTRAL MAIL DELIVERY BOX (CBU)
OR APPROVED EQUAL

SALSBUURY INDUSTRIES MANUFACTURES CBU'S THAT ARE OFFICIALLY LICENSED BY THE U.S.P.S. SALSBURY 3300 SERIES CLUSTER BOX UNITS ARE MANUFACTURED TO U.S.P.S. "F" SPECIFICATIONS. THEY ARE AN OFFICIALLY LICENSED PRODUCT OF THE U.S. POSTAL SERVICE FOR CENTRALIZED MAIL DELIVERY. LICENSE NUMBER 10DSEQ-08-B-0026.

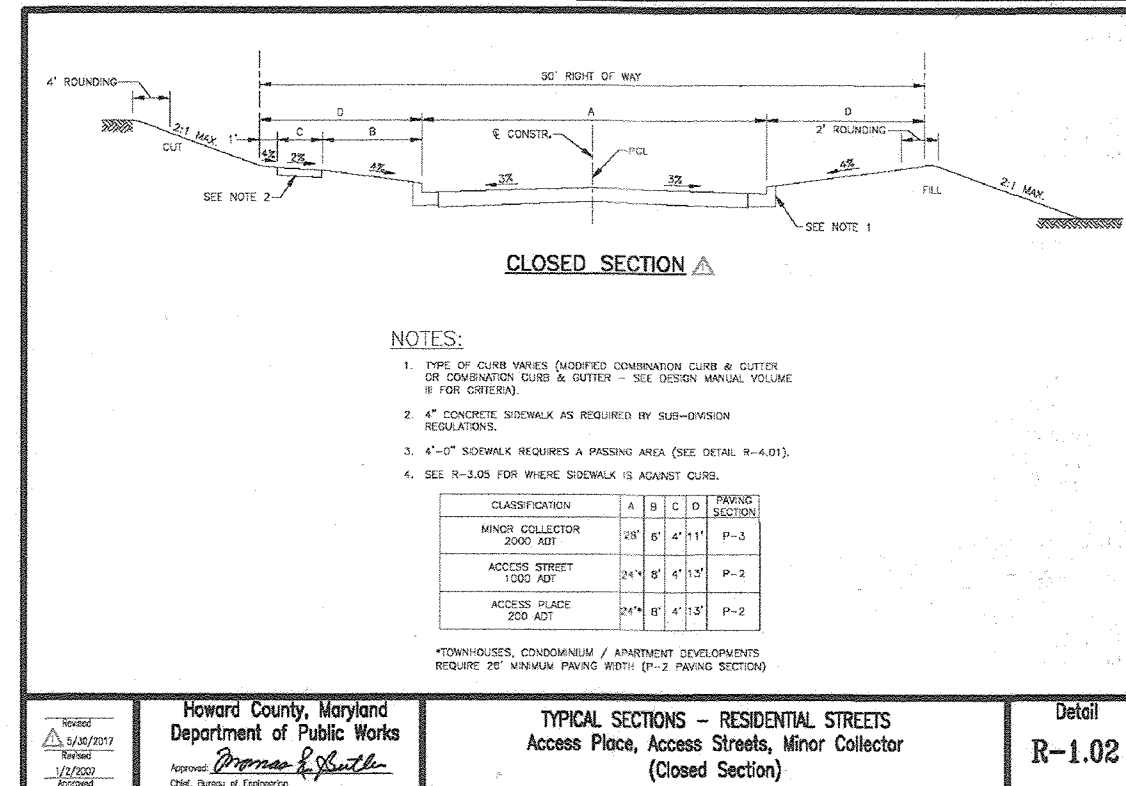
- PROVIDE ONE 12 UNITS CLUSTER BOX UNIT @ 0+50. 16.0' RT GIDDINGS CROSSING FOR LOTS 35-44.
- PROVIDE ONE 12 UNITS CLUSTER BOX UNIT @ 1+60.00 GIDDINGS CROSSING FOR LOTS 41, 48 AND 50-59.

OWNER

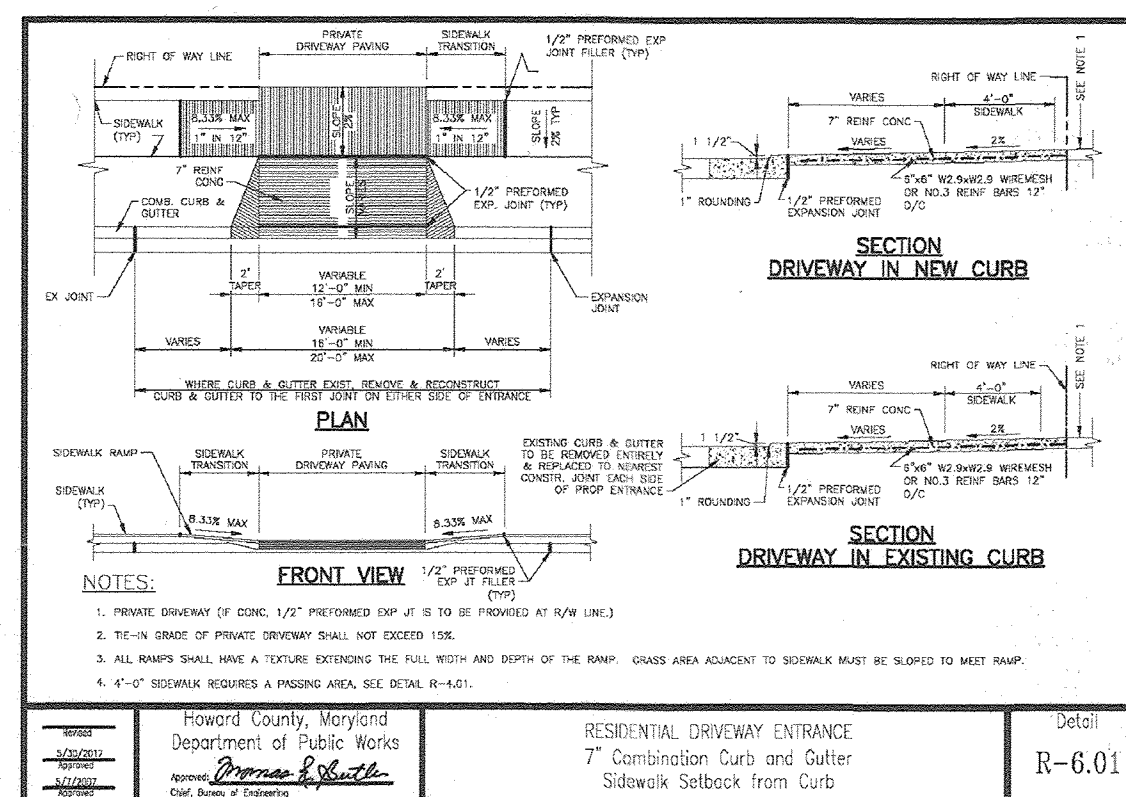
MARANATHA MAGNOLIA MANOR, LLC
MICHAEL PFAU MANAGING MEMBER
LIVE FEARLESS IN CHRIST, LLC
MICHAEL PFAU MANAGING MEMBER
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023

DEVELOPER

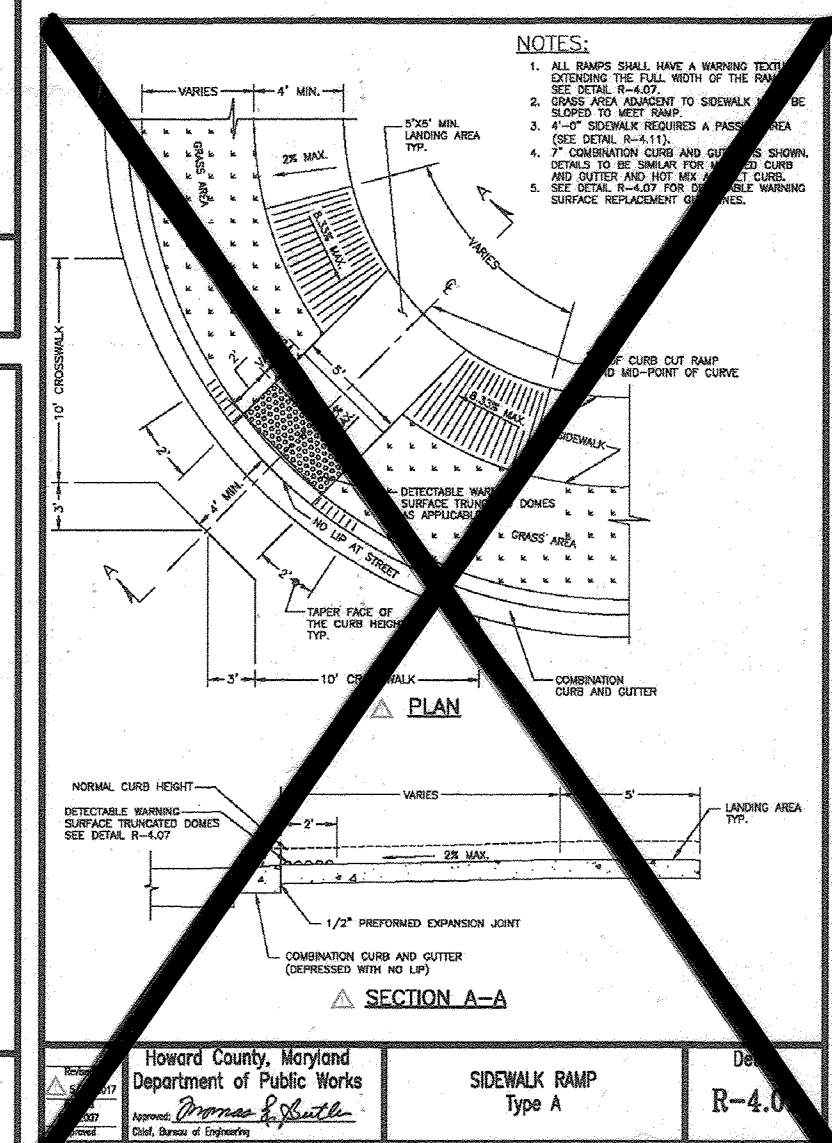
TRINITY HOMES MARY LAND, LLC
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023



CLOSED SECTION
TYPICAL SECTIONS - RESIDENTIAL STREETS
Access Place, Access Streets, Minor Collector
(Closed Section)
R-1.02



SECTION DRIVEWAY IN NEW CURB
SECTION DRIVEWAY IN EXISTING CURB
RESIDENTIAL DRIVEWAY ENTRANCE
7" Combination Curb and Gutter
Sidewalk Setback from Curb
R-6.01



SECTION A-A
SIDEWALK RAMP
Type A
R-4.01

APPROVED: DEPARTMENT OF PUBLIC WORKS
 [Signature] 9/18/2019
 CHIEF, BUREAU OF HIGHWAYS
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 9-26-19
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] 9-30-19
 CHIEF, DIVISION OF LAND DEVELOPMENT

3 REMOVE AMENITIES FROM OPEN SPACE LOTS 62, 67 AND 68 10-18-23
 2 REUSE BUS PAD, SIDEWALK RAMPS, SIGN EASEMENT AND INLET 18 4-13-22
 REVISION DATE

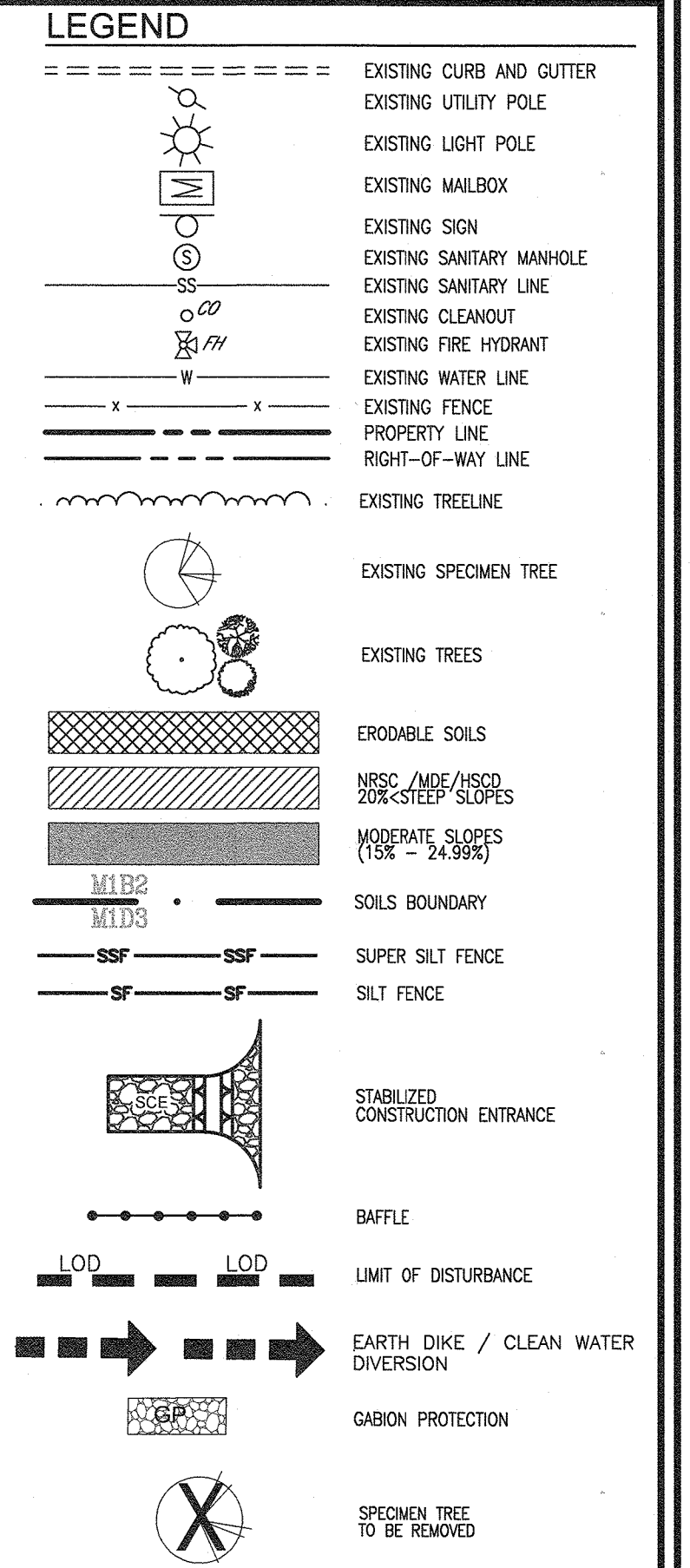
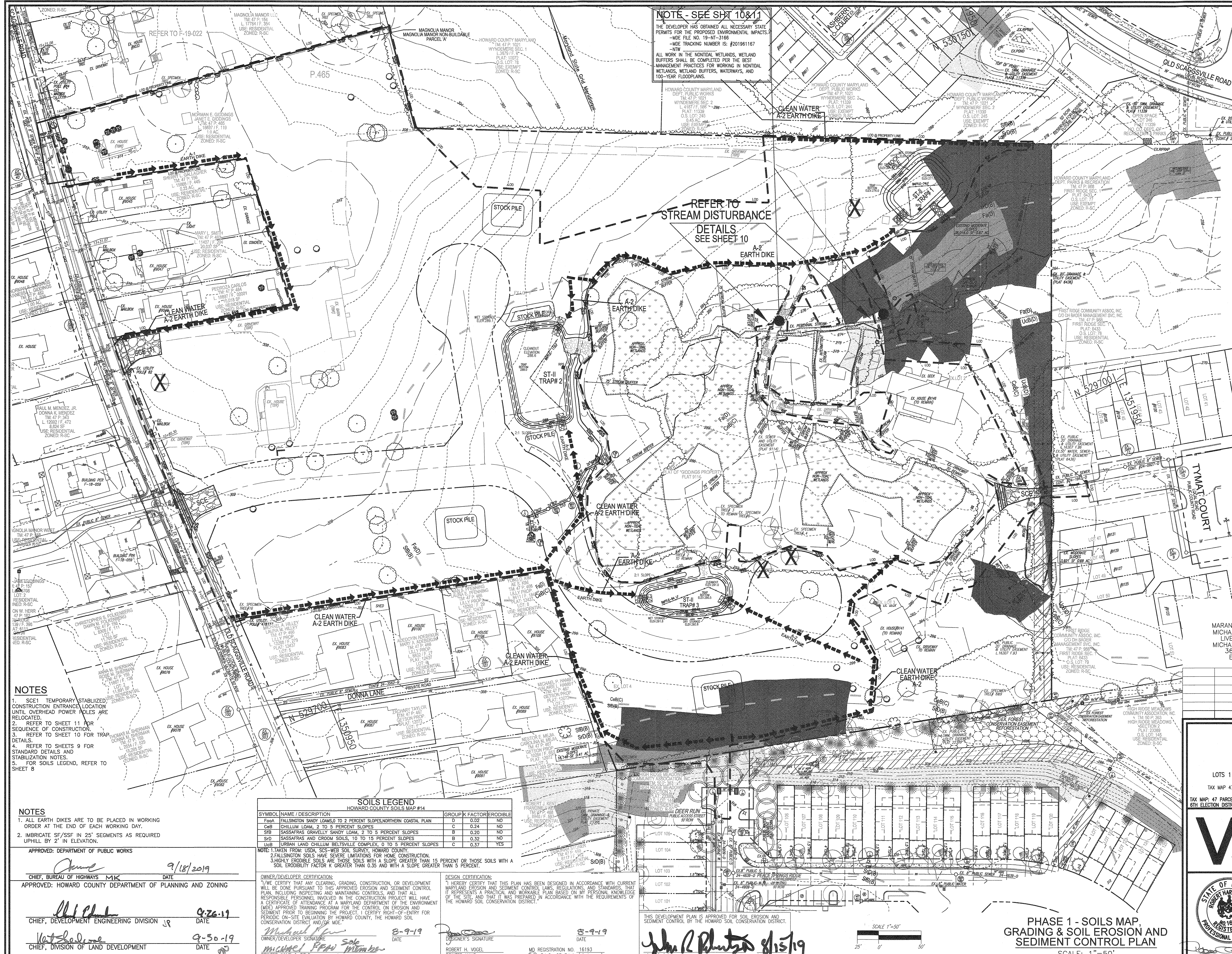
FINAL ROAD CONSTRUCTION PLANS
 GIDDINGS CROSSING
 PLAN AND PROFILE
MAGNOLIA MANOR
 LOTS 1 - 61, OPEN SPACE LOTS 62 - 69, AND NON-BUILDABLE PARCEL 'A'
 A SUBDIVISION OF TAX MAP 47 - PARCEL 485 AND A RESUBDIVISION OF
 TAX MAP 47 - PARCEL 163 - GIDDINGS PROPERTY - SECTION 1 AREA 1 - LOTS 1-4 (PLAT 9114)
 TAX MAP: 47 PARCELS: 163 & 485 BLOCK: 19 ZONING: R-SC
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 3300 N. RIDGE ROAD, SUITE 110, ELLCOTT CITY, MD 21043
 TEL: 410.461.7666 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE
 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. 16193
 EXPIRATION DATE: 08-27-2020

DESIGN BY: RHV
 DRAWN BY: KG
 CHECKED BY: RHV
 DATE: AUGUST 2019
 SCALE: AS SHOWN
 W.O. NO.: 16-15

6 SHEET OF 21



NOTE:
 - SILT FENCE IS TO BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
 - SILT FENCE SHALL BE CURLED UPHILL NO MORE THAN 25 FEET APART
 - DOUBLE ROWS OF SUPER SILT FENCE SHALL BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

NOTE:
 STABILIZATION IS TO BE DONE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR OR AT THE INTERVALS REQUIRED BY THE 2011 STDS. & SPECS. WHICHEVER IS MORE RESTRICTIVE.

OWNER
 MARANATHA MAGNOLIA MANOR, LLC
 MICHAEL PFAU MANAGING MEMBER
 LIVE FEARLESS IN CHRIST, LLC
 MICHAEL PFAU MANAGING MEMBER
 3675 PARK AVE., SUITE 301
 ELLICOTT CITY, MD 21043
 (410) 480-0023

DEVELOPER
 TRINITY HOMES MARY LAND, LLC
 MICHAEL PFAU MANAGING MEMBER
 3675 PARK AVE., SUITE 301
 ELLICOTT CITY, MD 21043
 (410) 480-0023

NOTES
 1. SCE1 TEMPORARY STABILIZED CONSTRUCTION ENTRANCE LOCATION UNTIL OVERHEAD POWER POLES ARE RELOCATED.
 2. REFER TO SHEET 11 FOR SEQUENCE OF CONSTRUCTION.
 3. REFER TO SHEET 10 FOR TRAP DETAILS.
 4. REFER TO SHEETS 9 FOR STANDARD DETAILS AND STABILIZATION NOTES.
 5. FOR SOILS LEGEND, REFER TO SHEET 8

NOTES
 1. ALL EARTH DIKES ARE TO BE PLACED IN WORKING ORDER AT THE END OF EACH WORKING DAY.
 2. IMBRICATE SF/SSF IN 25' SEGMENTS AS REQUIRED UPHILL BY 2" IN ELEVATION.

APPROVED: DEPARTMENT OF PUBLIC WORKS
 _____ DATE: 9/18/2019
 CHIEF, BUREAU OF HIGHWAYS MJK

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 _____ DATE: 9-26-19
 CHIEF, DEVELOPMENT ENGINEERING DIVISION JR

_____ DATE: 9-30-19
 CHIEF, DIVISION OF LAND DEVELOPMENT

SOILS LEGEND
 HOWARD COUNTY SOILS MAP #14

SYMBOL	NAME / DESCRIPTION	GROUP	K FACTOR	ERODIBLE
FcaB	FALLSINGTON SANDY LOAMS 0 TO 2 PERCENT SLOPES, NORTHERN COASTAL PLAIN	D	0.02	NO
CaB	CHILLUM LOAM, 2 TO 5 PERCENT SLOPES	C	0.24	NO
SIB	SASSAFRAS GRAVELLY SANDY LOAM, 2 TO 5 PERCENT SLOPES	B	0.20	NO
SfD	SASSAFRAS AND CHROM SOILS, TO 15 PERCENT SLOPES	B	0.32	NO
UaB	URBAN LAND CHILLUM BELTSVILLE COMPLEX, 0 TO 5 PERCENT SLOPES	C	0.37	YES

NOTES:
 1. TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY.
 2. FALLSINGTON SOILS HAVE SEVERE LIMITATIONS FOR HOME CONSTRUCTION.
 3. HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

OWNER/DEVELOPER CERTIFICATION:
 I/WE CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL, ON EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE.

DESIGN CERTIFICATION:
 I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

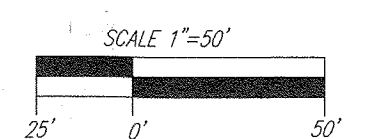
OWNER/DEVELOPER SIGNATURE: _____ DATE: 8-9-19
 MICHAEL PFAU
 PRINTED NAME & TITLE

DESIGNER'S SIGNATURE: _____ DATE: 8-9-19
 ROBERT H. VOGEL
 PRINTED NAME

MD REGISTRATION NO. 16193
 (E), R.L.S., OR R.L.A. (circle one)

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

_____ DATE: 8/15/19
 JOHN R. PLUTZ
 HOWARD S.C.D.



PHASE 1 - SOILS MAP, GRADING & SOIL EROSION AND SEDIMENT CONTROL PLAN
 SCALE: 1"=50'

REVISION _____ DATE _____

FINAL ROAD CONSTRUCTION PLANS
 PHASE 1 - SOILS MAP, GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN

MAGNOLIA MANOR
 LOTS 1 - 61, OPEN SPACE LOTS 62 - 69, AND NON-BUILDABLE PARCEL 'A'
 A SUBDIVISION OF TAX MAP 47 - PARCELS 45 AND A RESUBDIVISION OF TAX MAP 47 - PARCEL 163 - GOODINGS PROPERTY - SECTION 1 AREA 1 - LOTS 1-4 (PLAT 9114)

TAX MAP: 47 PARCELS: 163 & 465 BLOCK: 19 ZONING: R-SC
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
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 TEL: 410.461.7666 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE
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DESIGN BY: _____ RHV
 DRAWN BY: _____ KG
 CHECKED BY: _____ RHV
 DATE: _____ AUGUST 2019
 SCALE: _____ AS SHOWN
 W.O. NO.: _____ 16-15

7 SHEET OF 21



LEGEND

--- 300 ---	EXISTING CONTOUR	---	EX. WETLAND BUFFER
--- 402.88 ---	PROPOSED CONTOUR	---	EX. STREAM
--- 402.88 ---	PROPOSED SPOT ELEVATION	---	EX. STREAM BUFFER
---	EXISTING SPOT ELEVATION	---	SILT FENCE
---	EXISTING CURB AND GUTTER	---	SUPER SILT FENCE
---	PROPOSED CURB AND GUTTER	---	LIMIT OF DISTURBANCE
---	EXISTING UTILITY POLE	---	EXISTING SPECIMEN TREE
---	EXISTING LIGHT POLE	---	EXISTING TREES
---	EXISTING MAILBOX	---	ERODABLE SOILS
---	EXISTING SANITARY MANHOLE	---	NSC / MFC / SCS 20%+ STEEP SLOPES
---	EXISTING CLEANOUT	---	MODERATE SLOPES (15% - 24.99%)
---	EXISTING FIRE HYDRANT	---	SOILS BOUNDARY
---	EXISTING WATER LINE	---	PUBLIC FOREST CONSERVATION EASEMENT (RESTORATION)
---	EXISTING FENCE	---	PUBLIC FOREST CONSERVATION EASEMENT (RETENTION)
---	PROPERTY LINE	---	EX. FOREST CONSERVATION EASEMENT (RESTORATION) PLATS # 23048-23055
---	RIGHT-OF-WAY LINE	---	EX. PUBLIC STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT
---	PROPOSED SIDEWALK	---	EX. WETLANDS
---	EXISTING TREELINE	---	
---	PROPOSED TREELINE	---	
---	PROPOSED STORM DRAIN	---	
---	PROPOSED STORM DRAIN INLET	---	
---	SUPER SILT FENCE	---	
---	SILT FENCE	---	
---	STABILIZED CONSTRUCTION ENTRANCE	---	
---	BAFFLE	---	
---	LIMIT OF DISTURBANCE	---	
---	EARTH DIKE / CLEAN WATER DIVERSION	---	
---	GABION PROTECTION	---	

SOILS LEGEND

HOWARD COUNTY SOILS MAP #14

SYMBOL NAME / DESCRIPTION	GROUP	FACTOR	ERODIBLE
FoSa FALLSLOAN SANDY LOAMS, 0 TO 2 PERCENT SLOPES, NORTHERN COASTAL PLAIN	D	0.02	NO
CaB CHILLUM LOAM, 2 TO 5 PERCENT SLOPES	C	0.24	NO
SbB SASSAFRAS GRAVELLY SANDY LOAM, 2 TO 5 PERCENT SLOPES	B	0.20	NO
SbC SASSAFRAS AND CROOK SOILS, 10 TO 15 PERCENT SLOPES	B	0.32	NO
UaB URBAN LAND CHILLUM BELTSVILLE COMPLEX, 0 TO 5 PERCENT SLOPES	C	0.37	YES

NOTE: TAKEN FROM: USDA, SCS-NRCS SOIL SURVEY, HOWARD COUNTY, 2014. SOILS HAVE SEVERE LIMITATIONS FOR HOME CONSTRUCTION. SHADY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

NOTE:
 - SILT FENCE IS TO BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
 - SILT FENCE SHALL BE CURLED UPHILL NO MORE THAN 25 FEET APART
 - DOUBLE ROWS OF SUPER SILT FENCE SHALL BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

NOTE:
 STABILIZATION IS TO BE DONE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR OR AT THE INTERVALS REQUIRED BY THE 2011 STDS. & SPECS. WHICHEVER IS MORE RESTRICTIVE.

OWNER
 MARANATHA MAGNOLIA MANOR, LLC
 MICHAEL PFAU MANAGING MEMBER
 LIVE FEARLESS IN CHRIST, LLC
 MICHAEL PFAU MANAGING MEMBER
 3675 PARK AVE., SUITE 301
 ELLICOTT CITY, MD 21043
 (410) 480-0023

DEVELOPER
 TRINITY HOMES MARY LAND, LLC
 3675 PARK AVE., SUITE 301
 ELLICOTT CITY, MD 21043
 (410) 480-0023

NO.	REVISION	DATE
2	REVISE BUS PAD, SIDEWALK RAMPS, SIGN EASEMENT AND INLET 18	4-13-22

FINAL ROAD CONSTRUCTION PLANS
 PHASE 2 - SOILS MAP, GRADING SOIL EROSION AND SEDIMENT CONTROL PLAN
MAGNOLIA MANOR
 LOTS 1 - 61, OPEN SPACE LOTS 62 - 69, AND NON-BUILDABLE PARCEL 'A'
 A SUBDIVISION OF TAX MAP 47 - PARCELS 163 AND 164 AND A RESUBDIVISION OF TAX MAP 47 - PARCELS 163 - GIDDINGS PROPERTY - SECTION 1 AREA 1 - LOTS 1-4 (PLAT 9114)

TAX MAP: 47 PARCELS: 163 & 164
 BLOCK: 19 ZONING: R-SC
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 3300 N. RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
 TEL: 410.461.7666 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE

DESIGN BY: RHV
 DRAWN BY: KC
 CHECKED BY: RHV
 DATE: AUGUST 2019
 SCALE: AS SHOWN
 W.O. NO.: 16-15

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. 16193, EXPIRATION DATE 08-27-2020.

8 SHEET OF 21

NOTES

- REFER TO SHEET 11 FOR SEQUENCE OF CONSTRUCTION.
- REFER TO SHEET 10 FOR TRAP DETAILS.
- REFER TO SHEETS 9 FOR STANDARD DETAILS AND STABILIZATION NOTES.

APPROVED: DEPARTMENT OF PUBLIC WORKS
James 9/18/2019
 CHIEF, BUREAU OF HIGHWAYS
 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Michael Pfaus 9-26-19
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE

Kate DeLoach 9-30-19
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE

NOTES

- ALL EARTH DIKES ARE TO BE PLACED IN WORKING ORDER AT THE END OF EACH WORKING DAY.
- IMBRICATE SSF IN 2' SEGMENTS AS REQUIRED UP HILL BY 2' IN ELEVATION.

OWNER/DEVELOPER CERTIFICATION:
 I/WE CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD COUNTY CONSERVATION DISTRICT AND/OR MDE.

Michael Pfaus 8-9-19
 OWNER/DEVELOPER SIGNATURE
 PRINTED NAME & TITLE

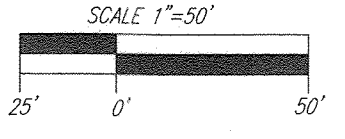
Robert H. Vogel 8-9-19
 DESIGNER'S SIGNATURE
 PRINTED NAME
 MD REGISTRATION NO. 16193
 (E) R.L.S. OR R.L.A. (circle one)

DESIGN CERTIFICATION:
 I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY CONSERVATION DISTRICT.

Robert H. Vogel 8-9-19
 DESIGNER'S SIGNATURE
 PRINTED NAME
 MD REGISTRATION NO. 16193
 (E) R.L.S. OR R.L.A. (circle one)

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

John P. Peltzer 8/15/19
 DATE



PHASE 2 - SOILS MAP, GRADING & SOIL EROSION AND SEDIMENT CONTROL PLAN
 SCALE: 1"=50'

**HOWARD SOIL CONSERVATION DISTRICT
STANDARD SEDIMENT CONTROL NOTES**

- A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER 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:
 - PRIOR TO THE START OF ANY DISTURBANCE.
 - UPON COMPLETION OF THE INSTALLATION OF PERMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING.
 - PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT.
 - PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.

- OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS OR REFERENCES TO, ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THEREOF.
 - FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION IS REQUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERMETER CONTROLS, DIKES, SWALES, DITCHES, PERMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1), AND SOON (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.
 - ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN. INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15' CUT AND/OR FILL STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT. MUST BE BONDED WITH STABLE OUTLET, ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6) AND ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE, AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE CID.

6. SITE ANALYSIS:

TOTAL AREA OF SITE:	15,334 ACRES
AREA TO BE ROOFED OR PAVED:	12,641 ACRES
AREA TO BE VEGETATIVELY STABILIZED:	11,047 ACRES
TOTAL AREA:	15,334 ACRES
TOTAL FILL:	15/10 CU. YDS. TOTAL
OFFSITE WASTE/BORROW AREA LOCATION:	N/A

(1) REFER TO ITEM 11 BELOW

- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY OR DAMAGE TO UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID. THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY. THE NEXT DAY AFTER EACH RAIN EVENT, A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE:
 - INSPECTION DATE
 - INSPECTION TIME (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)
 - NAME AND TITLE OF INSPECTOR
 - WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION)
 - BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PARTIALLY COMPLETE) AND/OR CURRENT ACTIVITIES
 - EVIDENCE OF SEDIMENT DISCHARGES
 - IDENTIFICATION OF PLAN DEFICIENCIES
 - IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE
 - IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS
 - COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
 - PHOTOGRAPHS
 - MONITORING/SAMPLING
 - MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
 - OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE).
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.
- ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE CID PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE CID PER THE LIST OF CID-APPROVED FIELD CHANGES.
- REVISIONS SHALL NOT OCCUR OUTSIDE THE L.O.D. A NOTICE IS TO BE SUBMITTED SO THAT GRADING ACTIVITIES BEGINS ON A GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME WHEN YOU PROCEED TO A SUBSEQUENT GRADING UNIT WITH AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE CID. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE CID, NO MORE THAN 20 ACRES CUMULATIVE MAY BE DISTURBED AT A GIVEN TIME.
- TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE.
- ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-COUNTOUR, AND BE INTERSPACED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 12" IN ELEVATION.
- STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUDES):
 - USE I AND II: MARCH 1 - JUNE 15
 - USE III AND IIIA: OCTOBER 1 - APRIL 30
 - USE IV: MARCH 30 - MAY 31
- A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.

REV:02/15

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION
TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

PURPOSE
TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES
EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

CRITERIA
A. SOIL MIXTURES
1. GENERAL USE
a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDNESS ZONE (FROM FIGURE B.3) AND BASED ON SITE CONDITION OR PURPOSE (FROM TABLE B.2, ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY).
b. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DAMS OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE ENHANCEMENT, AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.
c. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.
d. FOR AREAS REQUIRING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3-1/2 POUNDS PER 1000 SQUARE FEET (150 LBS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.
2. TURFGRASS MIXTURES
a. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
b. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THIS IS TO BE PLACED ON THE PLAN.

1. KENTUCKY BLUEGRASS: FULL SUN MIXTURE FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2 POUNDS PER 1000 SQUARE FEET. CHOICE IS A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
2. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NEEDED AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2 POUNDS PER 1000 SQUARE FEET. CHOICE IS A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
3. TALL FESCUE/ACTINOLYBEN BLUEGRASS: FULL SUN MIXTURE FOR USE IN PRODUCE PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURES: CERTIFIED TALL FESCUE CULTIVARS 50 TO 100 PERCENT AND CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE USED.
4. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES
- WESTERN MD: MARCH 1 TO MAY 1, AUGUST 15 TO OCTOBER 1 (HARDNESS ZONE: SB, 6A)
- CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDNESS ZONE: 6B)
- SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDNESS ZONE: 7A, 7B)

5. TURFGRASS SPECIFICATIONS SOIL TO BE USED AS TOPSOIL MUST BE THE FOLLOWING CRITERIA:
A. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED.
6. TOPSOIL APPLICATION
A. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.
B. UNIFORMLY DISTRIBUTE TOPSOIL IN A 4 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SOODING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
C. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION. WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETERMINED TO PROPER GRASSING AND SEEDING PREPARATION.

7. SOIL AMENDMENTS FERTILIZER AND LIME SPECIFICATIONS
A. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY BRIDGE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOO.
B. LAY THE FIRST ROW OF SOO IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND THIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOO IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOID WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.
C. WHEREVER POSSIBLE, LAY SOO WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERED JOINTS. ROLL AND TAMP, PEW OR OTHERWISE SECURE THE SOO TO PREVENT SLIPPING ON SURFACES. ENSURE SOO CONTACT EXISTS BETWEEN SOO ROOTS AND THE UNDERLYING SOIL SURFACE.
D. WATER THE SOO IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOO PAD AND SOIL SURFACE BELOW THE SOO ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY FEET OF SOO WITHIN EACH HOUR.
8. SOO MAINTENANCE
A. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOISTURE TO A DEPTH OF 4 INCHES. WATER SOO IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOO PAD AND SOIL SURFACE BELOW THE SOO ARE THOROUGHLY WET.
B. AFTER THE FIRST WEEK, SOO WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
C. DO NOT MOW UNTIL THE SOO IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF MUST BE REMOVED BY THE FINAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

PERMANENT SEEDING SUMMARY

NO	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE (10-20-20)			LIME RATE
					N	P ₂ O ₅	K ₂ O	
1	SOO, SEASON 1 (L FESCUE & BENTONIC OR EQUAL)	1.5 LB / AC	MAR 1 TO MAY 15	1/4" - 1/2" IN.	45 LB/AC (1 LB PER 1000 SF)	90 LB/AC (2 LB PER 1000 SF)	90 LB/AC (2 LB PER 1000 SF)	2 TONS/AC (1000 SF)

OWNER/DEVELOPER CERTIFICATION:
I/WE CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONSTRUCTION PRACTICES AND RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL AND PREVENTION OF SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY THAT ENTRY FOR PERMITS INTO THE HOWARD COUNTY CONSERVATION DISTRICT AND/OR MDE.

DESIGNER'S SIGNATURE: [Signature] DATE: 3-9-19

OWNER/DEVELOPER SIGNATURE: [Signature] DATE: 3-9-19

PRINTED NAME & TITLE: Michael Peary, Site Manager

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.

CONDITIONS WHERE PRACTICE APPLIES
WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

CRITERIA
A. SOIL PREPARATION
1. TEMPORARY STABILIZATION
a. SEEDING PREPARATION CONSISTS OF LOOSING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC OR MOBILE TRAILER, OR OTHER EQUIPMENT ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLAN.
c. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

2. PERMANENT STABILIZATION
A. A 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 CATIONS 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 NUTRIENT. AN EXCESSIVE AMOUNT OF COARSE SAND WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.
IV. SOIL CATIONS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
V. SOIL CATIONS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
B. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITION.
C. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN. THEN SCARIFIED, DISKED AND/OR SEEDING. A MINIMUM OF TWO PASSES TO REMOVE MUD TRACKS OVER ENTIRE AREA IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
E. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
4. TOPSOIL SPECIFICATIONS SOIL TO BE USED AS TOPSOIL MUST BE THE FOLLOWING CRITERIA:
A. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED.
5. TOPSOIL APPLICATION
A. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.
B. UNIFORMLY DISTRIBUTE TOPSOIL IN A 4 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SOODING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
C. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION. WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETERMINED TO PROPER GRASSING AND SEEDING PREPARATION.

6. MULCHING
A. MULCH MATERIALS (IN ORDER OF PREFERENCE)
1. STRAW CONSIDERED IF THOROUGHLY THRESHED, WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEEB SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAVED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.
2. WOOD CELLULOSE FIBER MULCH (WCM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE FIBER TO BE DIVER GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMITY SPREAD SLURRY.
3. SUCH FINENESS THAT AT LEAST 50 PERCENT OF THE MULCH WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.
4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD DRY LIME/STONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

TEMPORARY SEEDING SUMMARY

NO	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE (10-20-20)			LIME RATE
					N	P ₂ O ₅	K ₂ O	
1	SOO, SEASON 1 (L FESCUE & BENTONIC OR EQUAL)	1.5 LB / AC	MAR 1 TO MAY 15	1/4" - 1/2" IN.	45 LB/AC (1 LB PER 1000 SF)	90 LB/AC (2 LB PER 1000 SF)	90 LB/AC (2 LB PER 1000 SF)	2 TONS/AC (1000 SF)

OWNER/DEVELOPER CERTIFICATION:
I/WE CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONSTRUCTION PRACTICES AND RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL AND PREVENTION OF SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY THAT ENTRY FOR PERMITS INTO THE HOWARD COUNTY CONSERVATION DISTRICT AND/OR MDE.

DESIGNER'S SIGNATURE: [Signature] DATE: 3-9-19

OWNER/DEVELOPER SIGNATURE: [Signature] DATE: 3-9-19

PRINTED NAME & TITLE: Michael Peary, Site Manager

B-4-1 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.

CONDITIONS WHERE PRACTICE APPLIES
TO THE SURFACE OF ALL PERMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.

CRITERIA
A. SEEDING
1. SPECIFICATIONS
a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY THE TYPE OF SEED AND SEEDING RATE.
b. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAW.
c. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER AND FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDRATED. NOTE: IT IS VERY IMPORTANT TO INOCULATE AS COOL AS POSSIBLE UNTIL USE. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.
d. SOO OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.
2. APPLICATION
a. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DRIP OR BROADCAST SPREADERS.
i. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1.
ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDING AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.
b. DRILL OR OUTDRIPPER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL. SEEDING RATES ARE REQUIRED TO BE RUBY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDING MUST BE FIRM AFTER PLANTING.
iii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.
c. HYDRATED: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).
i. FERTILIZER IS BEING APPLIED: THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P2O5 (PHOSPHORUS), 200 POUNDS PER ACRE; K2O (POTASSIUM), 200 POUNDS PER ACRE.
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iii. MULCH AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.
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2. WOOD CELLULOSE FIBER MULCH (WCM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE FIBER TO BE DIVER GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMITY SPREAD SLURRY.
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5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD DRY LIME/STONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

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DESIGNER'S SIGNATURE: [Signature] DATE: 3-9-19

OWNER/DEVELOPER SIGNATURE: [Signature] DATE: 3-9-19

PRINTED NAME & TITLE: Michael Peary, Site Manager

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

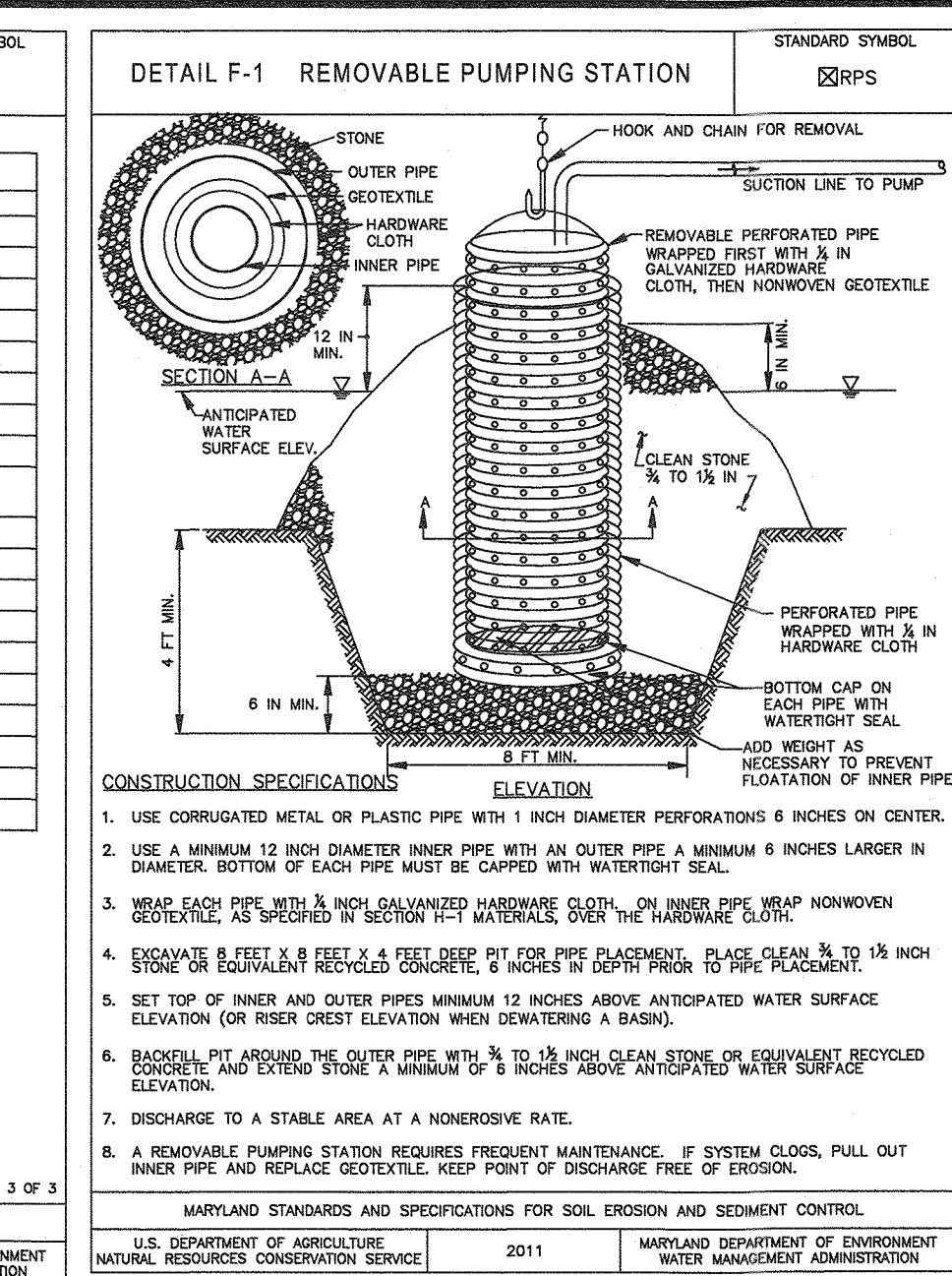
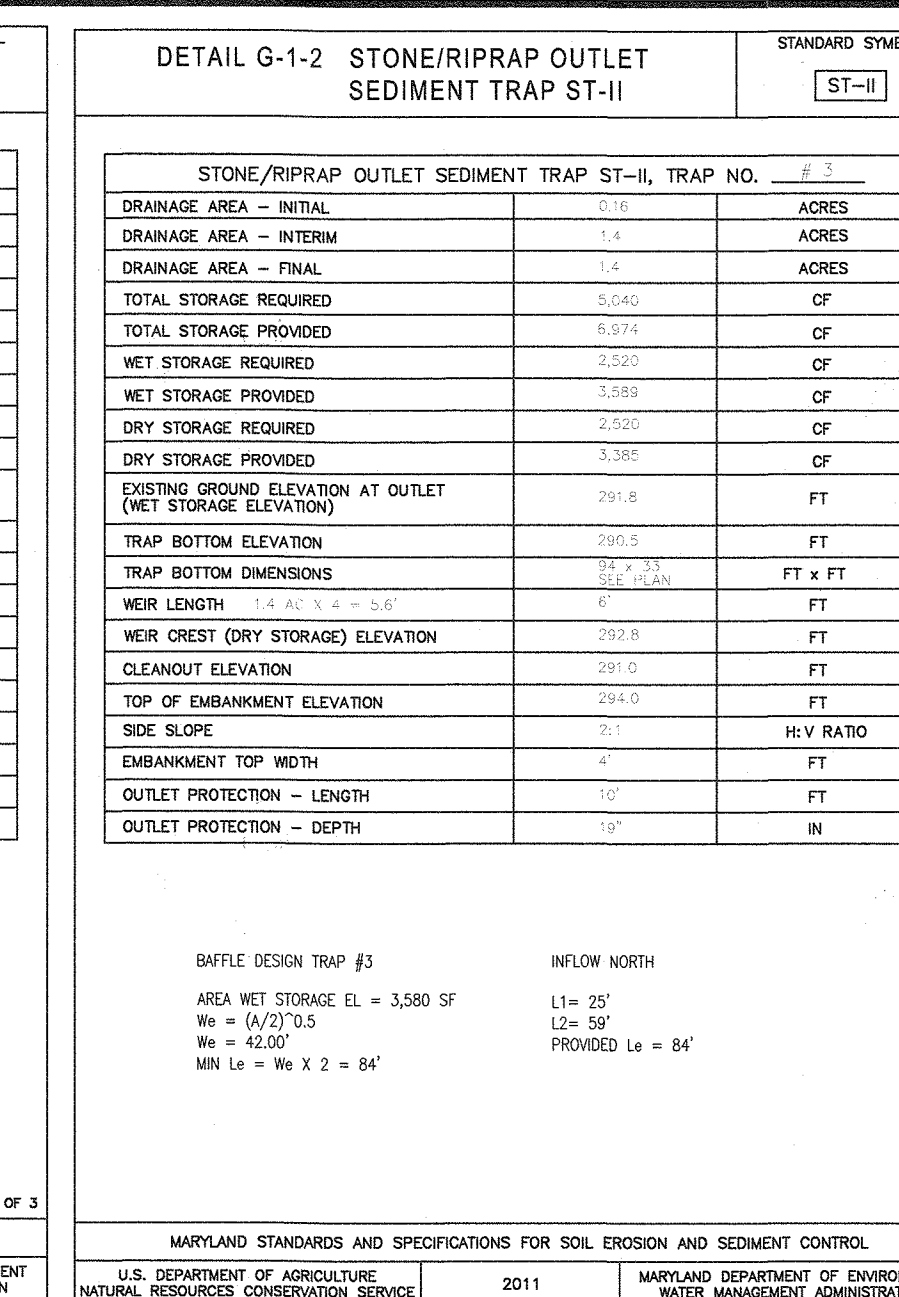
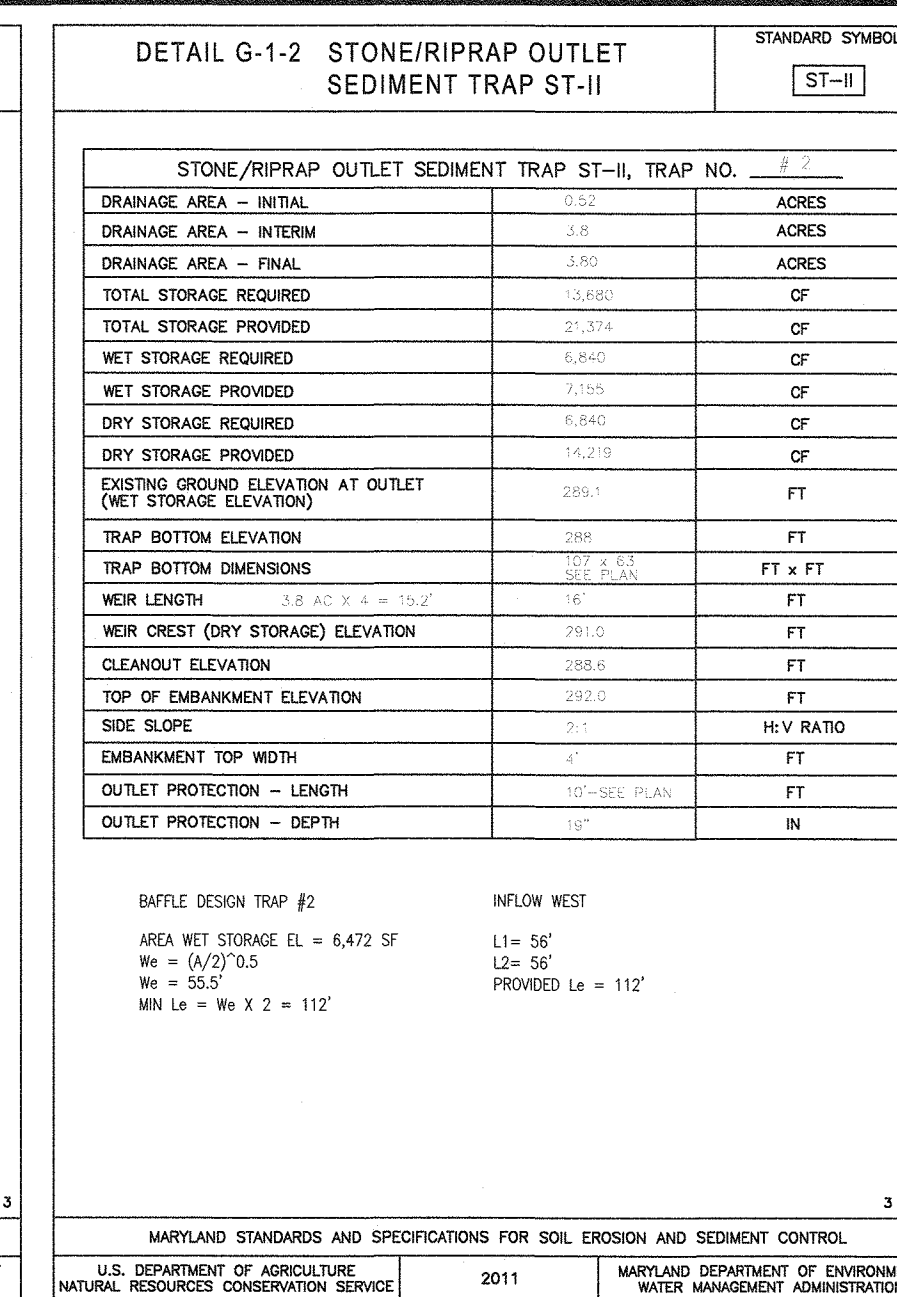
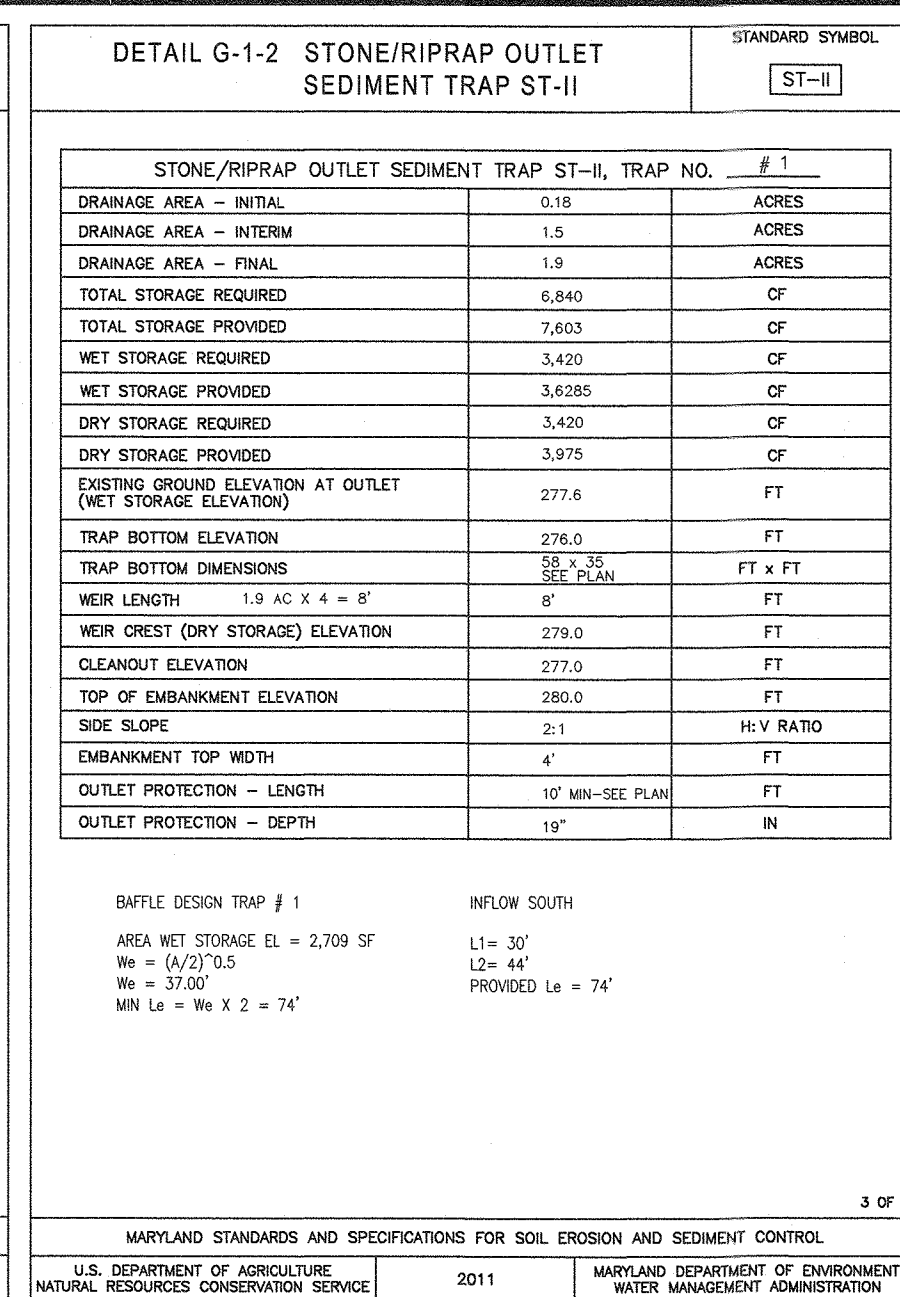
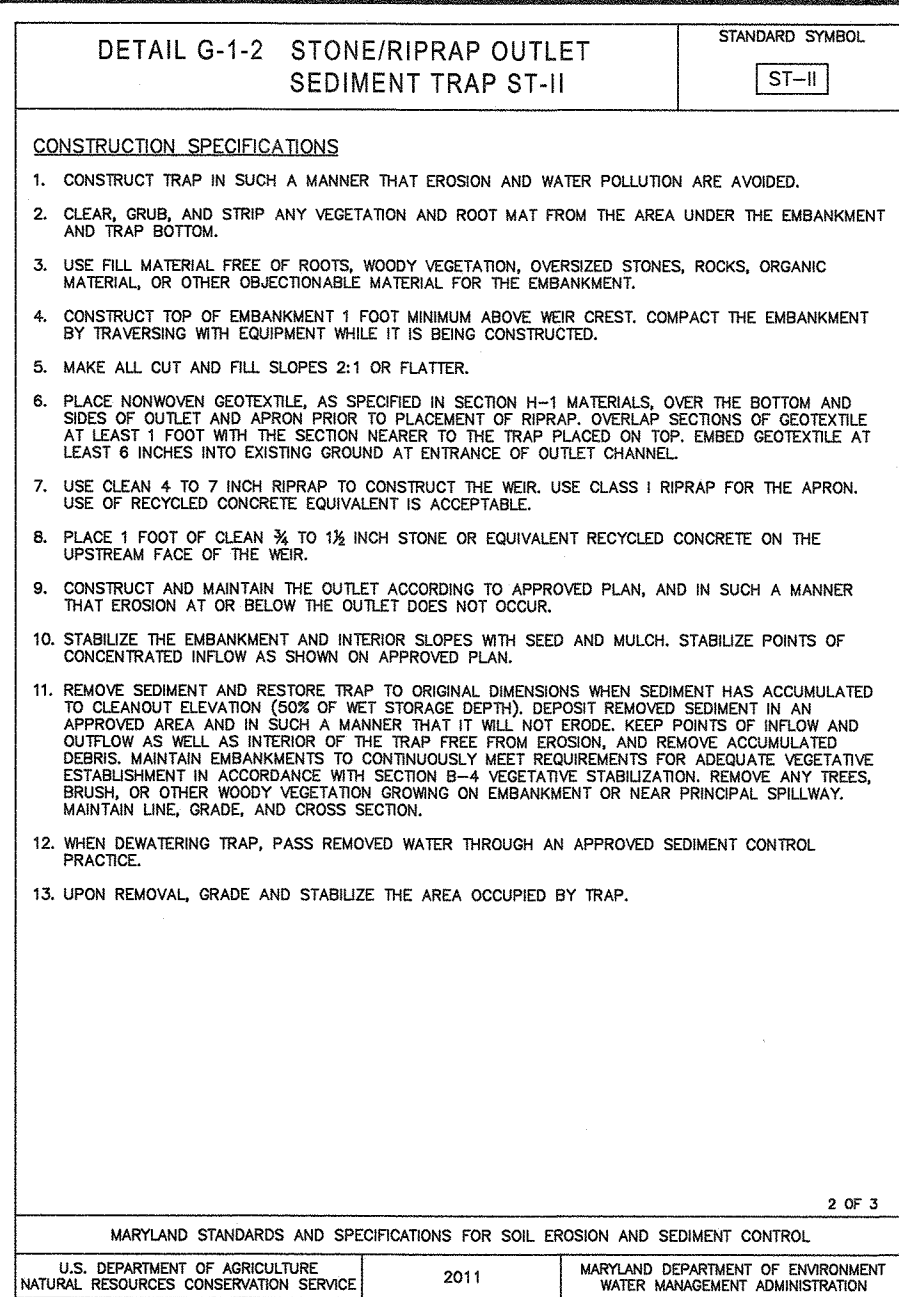
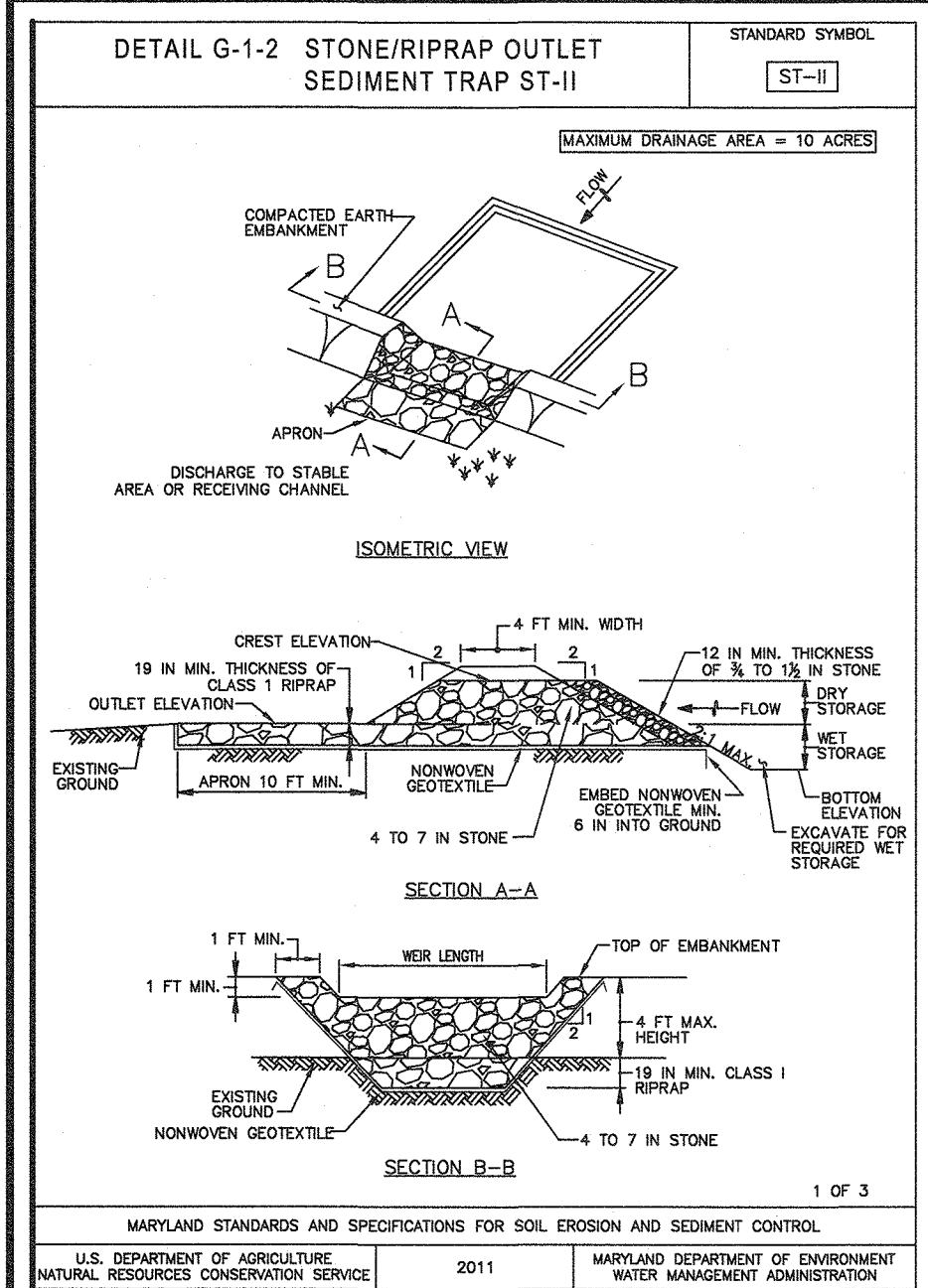
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3. SUCH FINENESS THAT AT LEAST 50 PERCENT OF THE MULCH WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.
4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD DRY LIME/STONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.



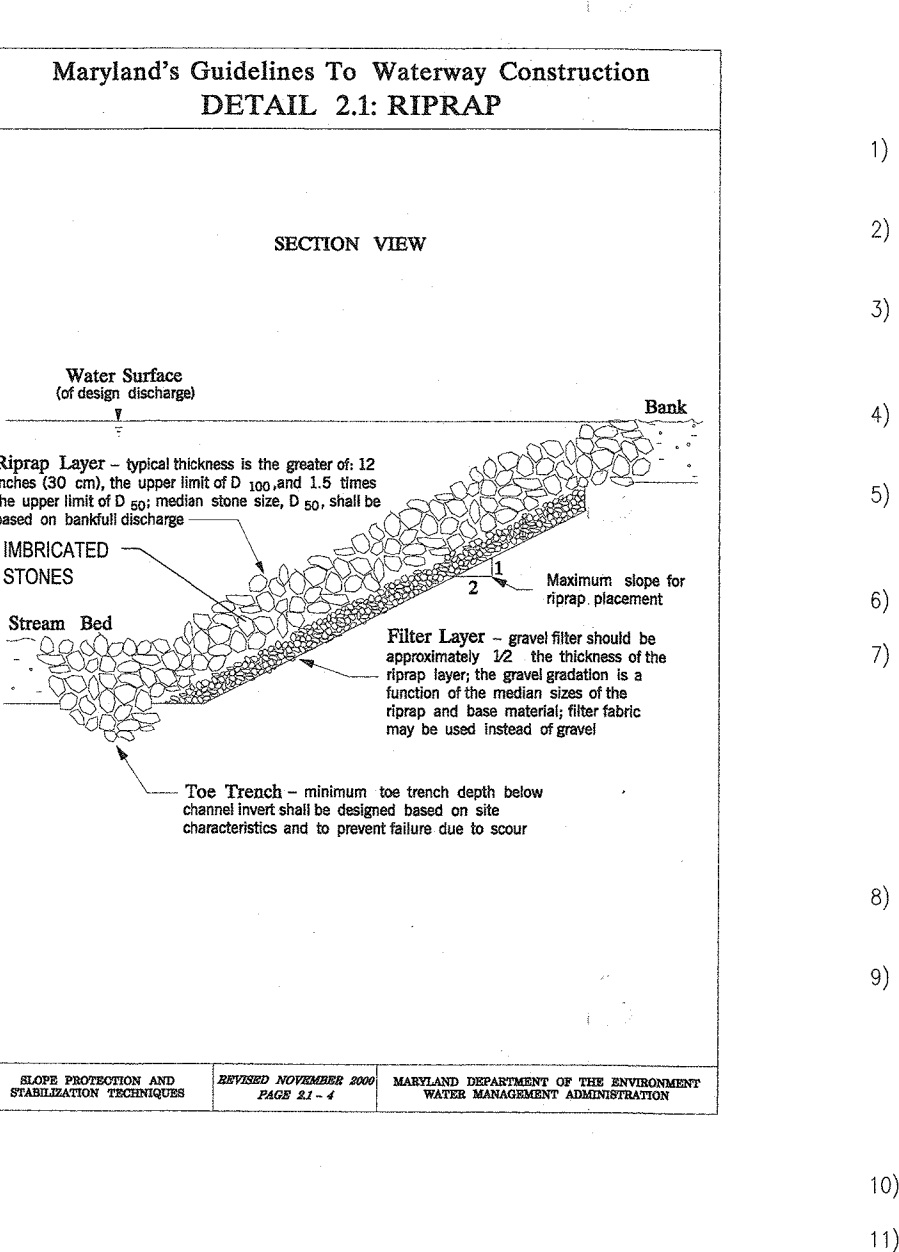
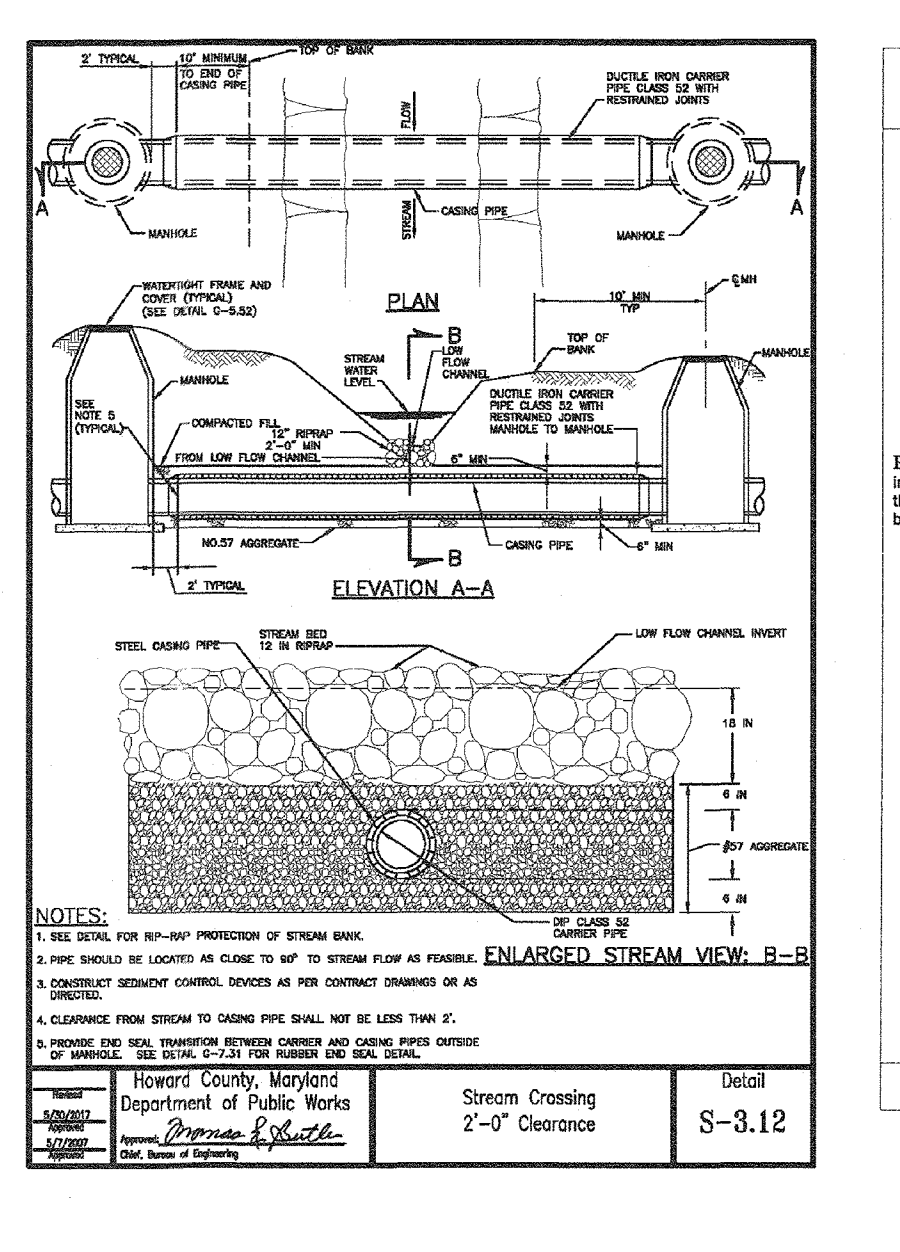
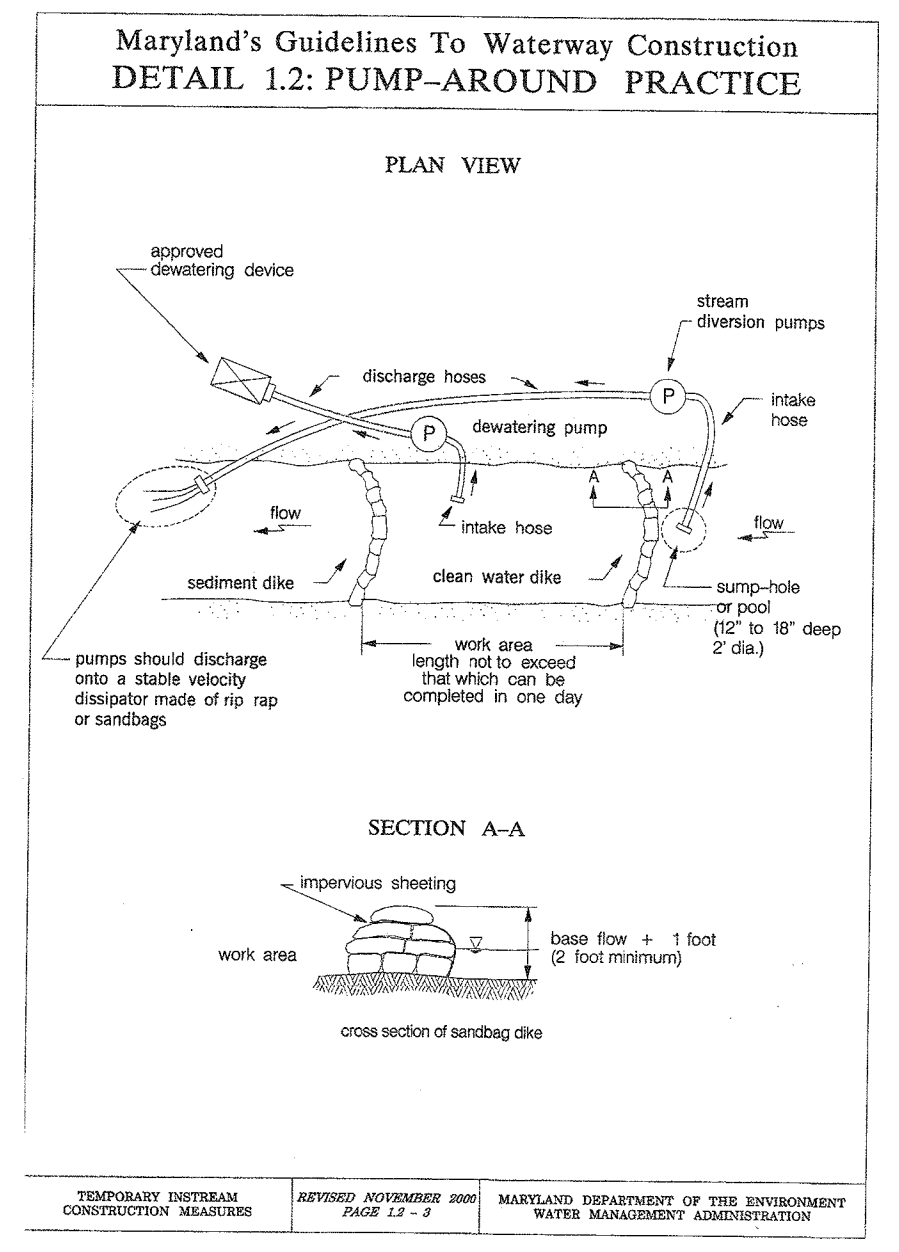
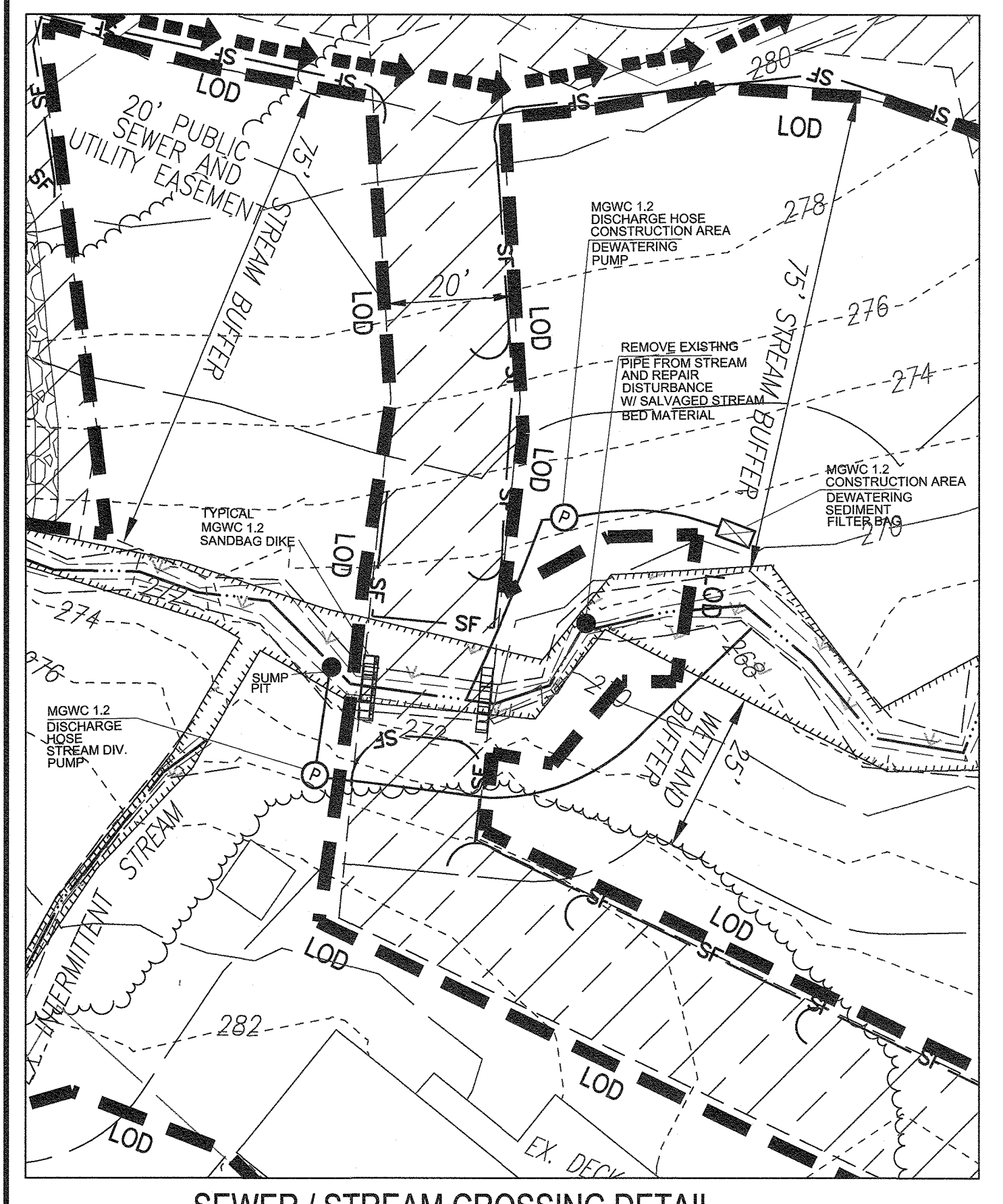
H-1 STANDARDS AND SPECIFICATIONS FOR MATERIALS

Table H.1: Geotextile Fabrics

PROPERTY	TEST METHOD	MINIMUM AVERAGE ROLL VALUE (1)		NOMINAL VALUE	
		MD	CD	MD	CD
Grab Tensile Strength	ASTM D-4632	200lb	200lb	370lb	250lb
Grab Tensile Elongation	ASTM D-4632	15%	10%	15%	20%
Triaxial Tear Strength	ASTM D-5533	75lb	75lb	100lb	80lb
Puncture Strength	ASTM D-5621	450 lb	300lb	450lb	450lb
Apparent Opening Size (2)	ASTM-4751	U.S. Sieve 30 (0.60 mm)	U.S. Sieve 70 (0.21 mm)	U.S. Sieve 70 (0.21 mm)	U.S. Sieve 70 (0.21 mm)
Permeability	ASTM-4491	0.05 sec ⁻¹	0.28 sec ⁻¹	0.1 sec ⁻¹	0.1 sec ⁻¹
Ultraviolet Resistance (Retained at 500 hours)	ASTM D-4355	70% strength	70% strength	70% strength	70% strength

Table H.2: Stone Size

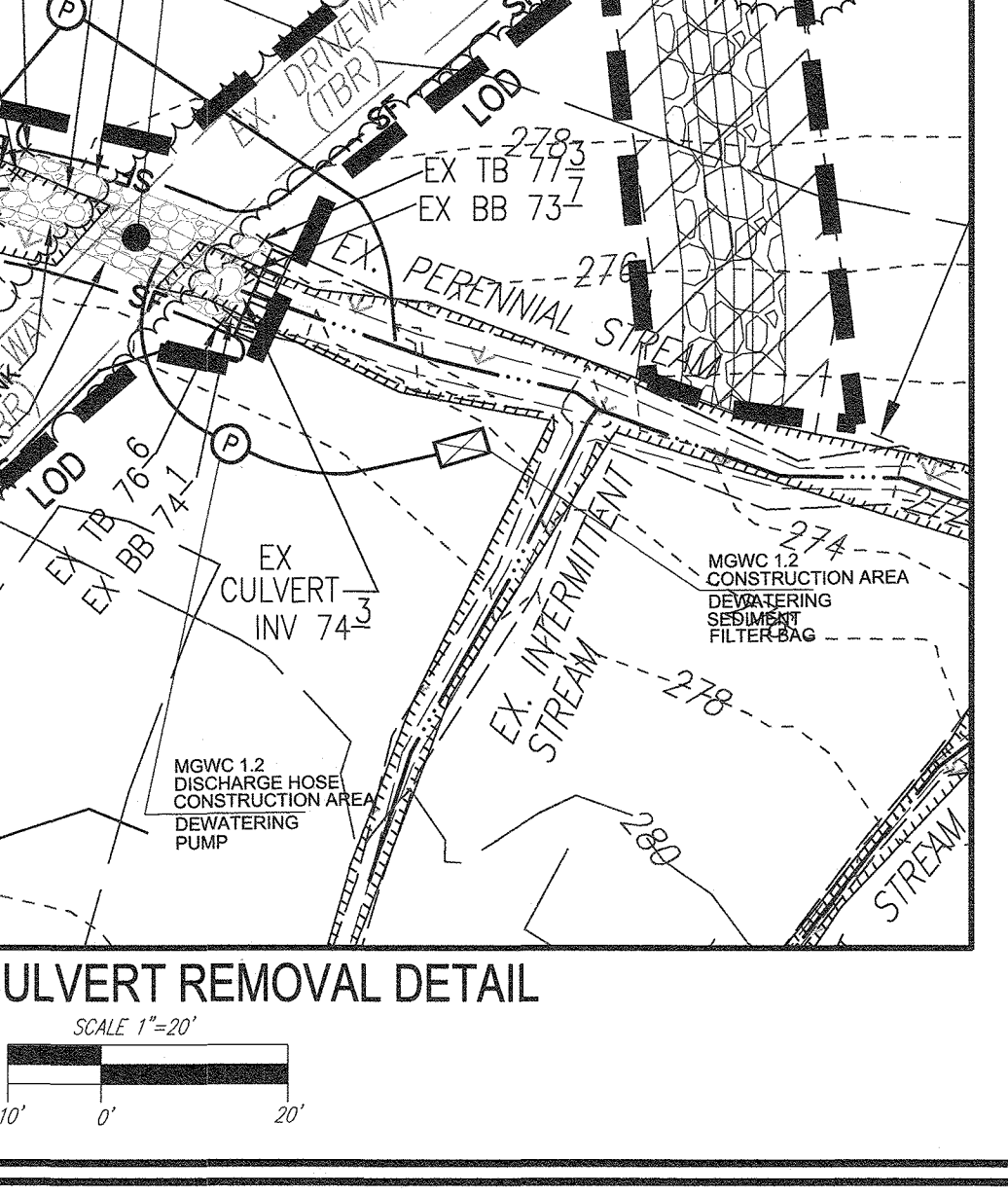
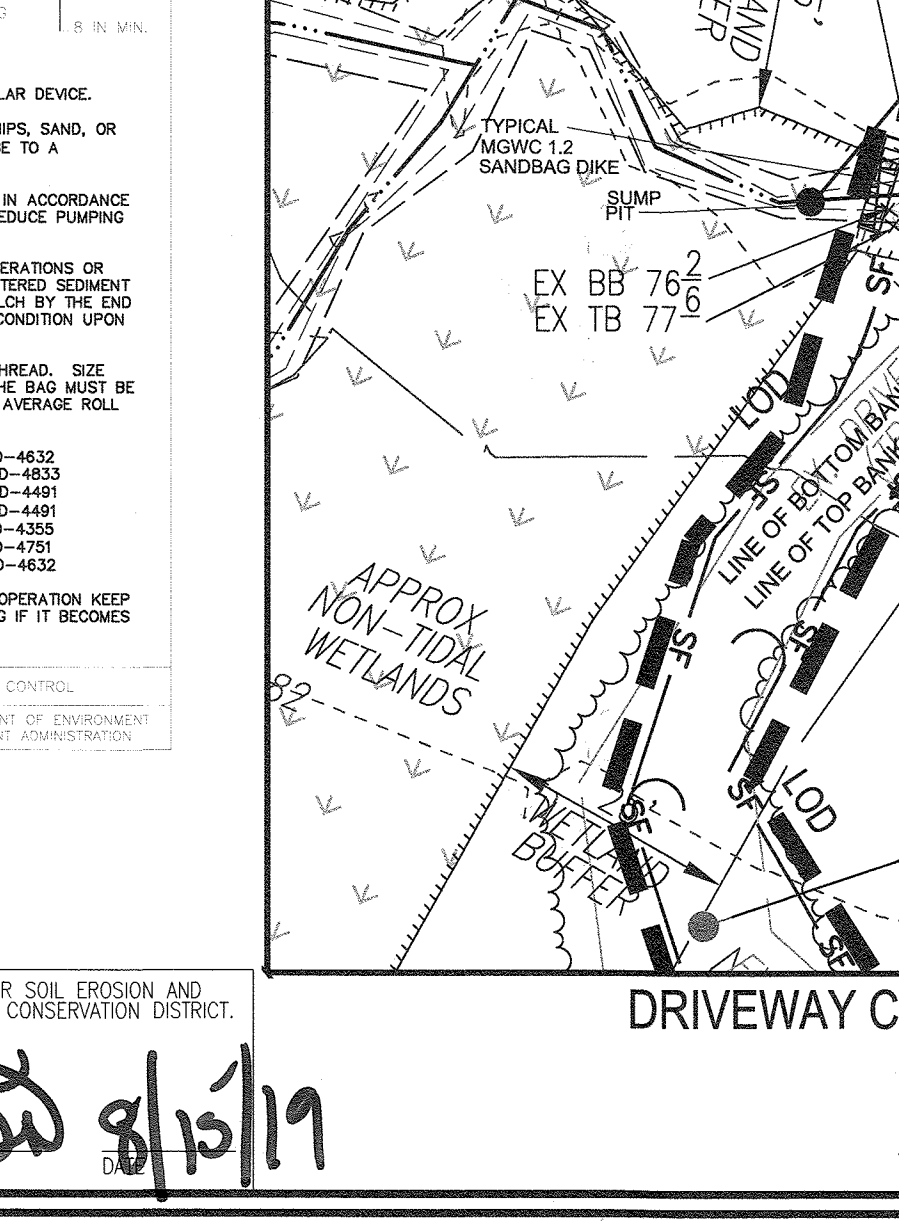
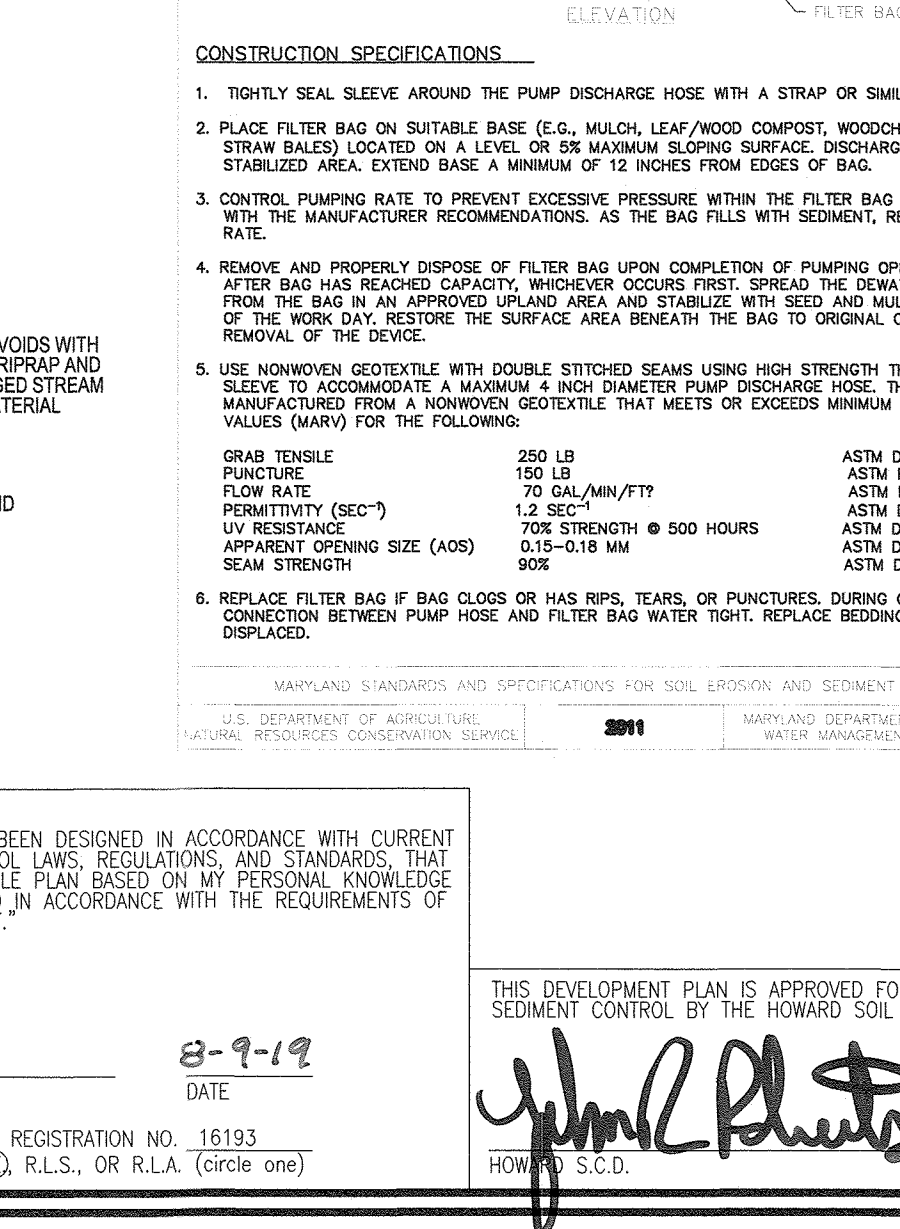
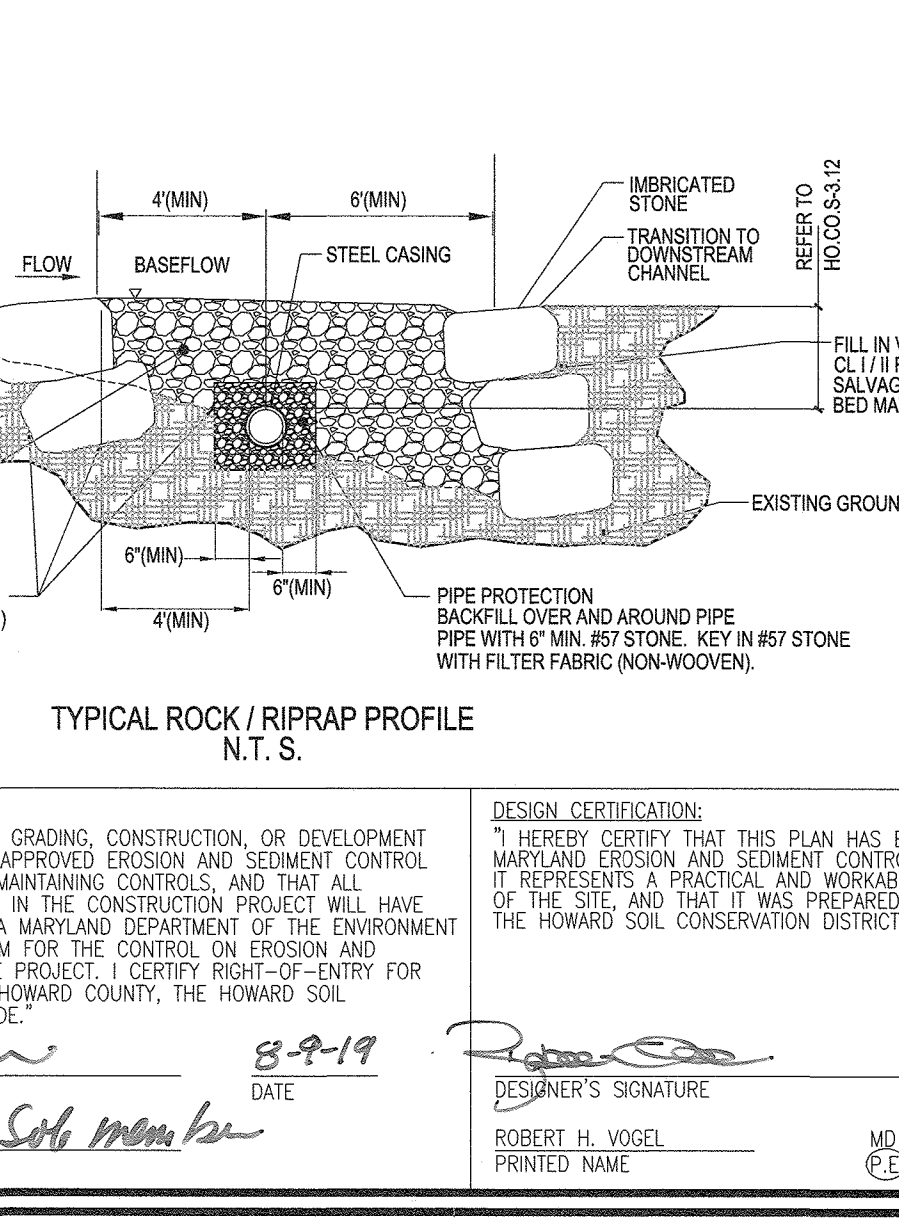
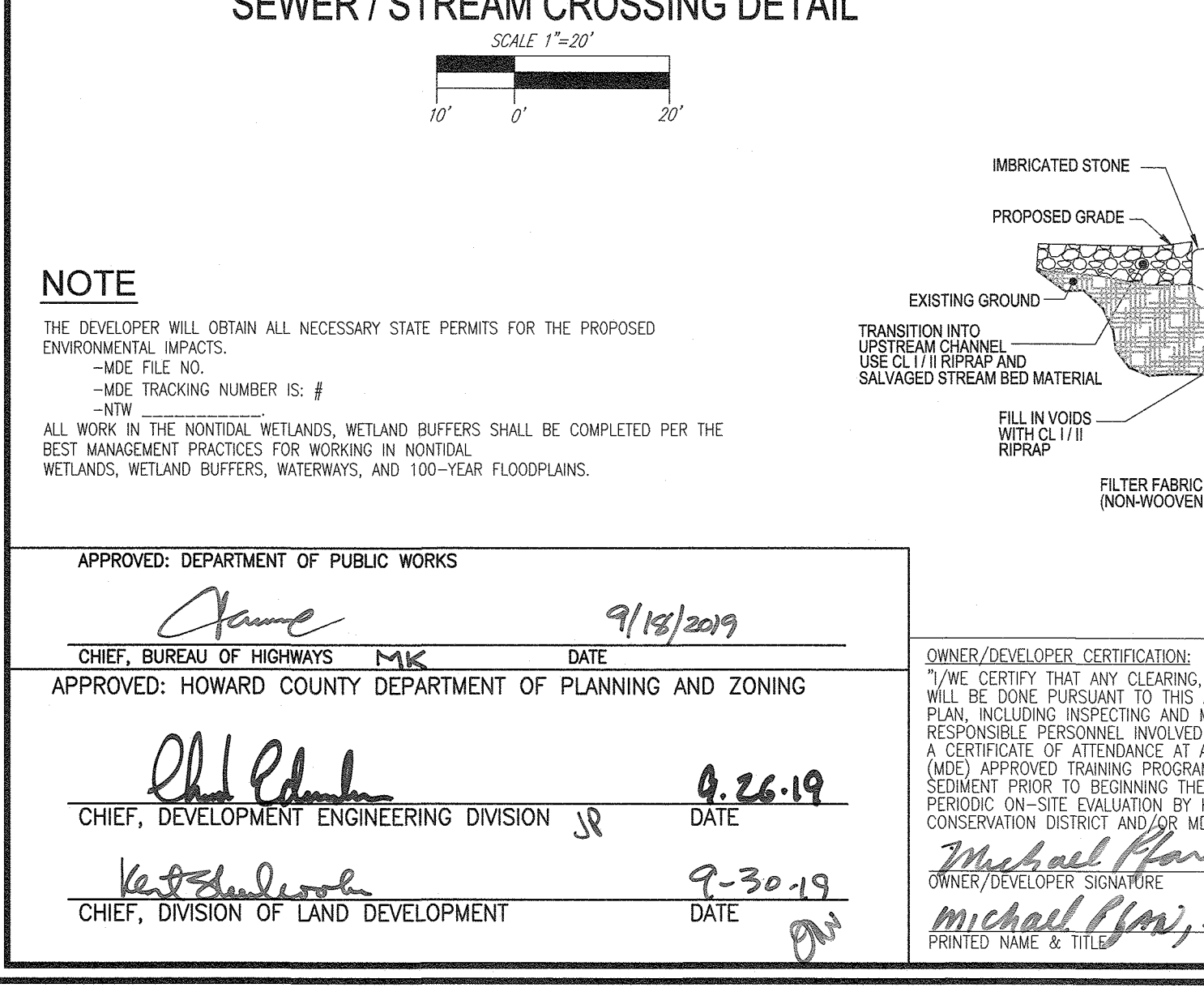
TYPE NUMBER 57(1)	SIZE RANGE	650	d100	ASHTO	MIDSIZE WEIGHT(3)
1	3/8 to 1 1/2 in	1/2 in	1 in	M-43	N/A
2	1/2 to 2 in	3/4 in	1 1/2 in	M-43	N/A
3	3/4 to 3 in	1 in	2 in	N/A	N/A
4	1 to 4 in	1 1/2 in	3 in	N/A	N/A
5	1 1/2 to 6 in	2 in	4 in	N/A	40b
6	2 to 8 in	2 1/2 in	5 in	N/A	200b
7	2 1/2 to 10 in	3 in	6 in	N/A	500b



- BEST MANAGEMENT PRACTICES FOR WORKING IN NONWETLAND BUFFERS, WETLAND BUFFERS, AND 100-YEAR FLOODPLAINS
- NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONWETLAND BUFFERS, NONWETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
 - PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONWETLAND BUFFERS, NONWETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
 - DO NOT USE THE EXCAVATED MATERIAL 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 MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONWETLAND BUFFERS, NONWETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
 - REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONWETLAND BUFFERS, NONWETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.
 - RECTIFY ANY NONWETLAND BUFFERS, WETLAND BUFFERS, WATERWAYS, OR 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
 - ALL STABILIZATION IN THE NONWETLAND AND NONWETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL HYDRASS (LOLUM MULTIFLORUM), WILLET (SARITA ITALICA), BARLEY (HORDEUM SP.), OATS (UNOLA SP.), AND/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 NONWETLAND BUFFERS 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, MAINTAIN POST-CONSTRUCTION GRASSES AND ELEVATIONS THE SAME AS THE ORIGINAL GRASSES 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 III WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH MAY 31, INCLUSIVE, DURING ANY YEAR.
 - STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.
 - CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.

Table B.1: Temporary Seeding for Site Stabilization

Plant Species	Seeding Rate ¹	Seeding Depth (inches)	Recommended Seeding Dates by Plant Hardiness Zone ²			
			5b and 6a	6b	7a and 7b	8a and 8b
Chickpea (Cicer arietinum)	40	1.0	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Sep 30	Feb 15 to Apr 30; Aug 1 to Sep 30	Jan 15 to Mar 31; Aug 1 to Sep 30
Barley (Hordeum vulgare)	96	2.2	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Sep 30	Feb 15 to Apr 30; Aug 1 to Sep 30	Jan 15 to Mar 31; Aug 1 to Sep 30
Oats (Avena sativa)	72	1.7	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Sep 30	Feb 15 to Apr 30; Aug 1 to Sep 30	Jan 15 to Mar 31; Aug 1 to Sep 30
Wheat (Triticum aestivum)	120	2.8	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Sep 30	Feb 15 to Apr 30; Aug 1 to Sep 30	Jan 15 to Mar 31; Aug 1 to Sep 30
Cool Ryegrass (Lolium perenne)	112	2.8	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Sep 30	Feb 15 to Apr 30; Aug 1 to Sep 30	Jan 15 to Mar 31; Aug 1 to Sep 30
Fescue (Festuca ovina)	30	0.7	Jan 1 to Feb 31	Mar 1 to May 15; Aug 1 to Sep 30	Feb 15 to Apr 30; Aug 1 to Sep 30	Jan 15 to Mar 31; Aug 1 to Sep 30
Plant Millet (Echinochloa polystachya)	20	0.5	Jan 1 to Feb 31	Mar 1 to May 15; Aug 1 to Sep 30	Feb 15 to Apr 30; Aug 1 to Sep 30	Jan 15 to Mar 31; Aug 1 to Sep 30



OWNER: MARANATHA MAGNOLIA MANOR, LLC
 DEVELOPER: TRINITY HOMES MARY, LAND, LLC

FINAL ROAD CONSTRUCTION PLANS
 SOIL EROSION AND SEDIMENT CONTROL PLAN
 NOTES AND DETAILS

MAGNOLIA MANOR
 LOTS 1 - 61, OPEN SPACE LOTS 62 - 69, AND NON-BUILDABLE PARCEL 'A'

TAX MAP 47 - PARCEL 163 - 465
 BLOCK 19 ZONING: R-3C
 6TH ELECTION DISTRICT

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 3300 N. RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
 TEL: 410.461.7666 FAX: 410.461.8961

DESIGN BY: RHV
 DRAWN BY: KG
 CHECKED BY: RHV
 DATE: AUGUST 2019
 SCALE: AS SHOWN
 W.O. NO.: 16-15

10 SHEET OF 21



DRAINAGE IMPACTS @ PROPERTY LINE
STUDY POINT SUMMARY

EXISTING CONDITIONS	2 YEAR	10 YEAR	100 YEAR
PROPOSED CONDITIONS	14 CFS	54 CFS	84 CFS
ECP-17-002 / S-17-002	18 CFS	62 CFS	104 CFS

LEGEND

- EXISTING CONTOUR
- - - PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- EXISTING SPOT ELEVATION
- EXISTING CURB AND GUTTER
- PROPOSED CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING FENCE
- SOILS BOUNDARY
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SIGHT DISTANCE EASEMENT
- PROPOSED SIDEWALK
- EXISTING TREELINE
- PROPOSED TREELINE
- PROPOSED STORM DRAIN
- PROPOSED STORM DRAIN DRAIN INLET
- EX. FOREST CONSERVATION EASEMENT (REFORESTATION) PLATS# 23048-23055
- EX. WETLANDS
- EX. WETLAND BUFFER
- EX. STREAM
- EX. STREAM BUFFER
- DRAINAGE AREA DIVIDE
- AREA RCN INLET ZONE % IMP
- FOREST CONSERVATION EASEMENT (REFORESTATION)
- FOREST CONSERVATION EASEMENT (RETENTION)

STORM DRAIN DRAINAGE AREA MAP
SCALE: 1"=60'

STORM DRAIN DRAINAGE AREA MAP
SCALE: 1"=60'

SOILS LEGEND
HOWARD COUNTY SOILS MAP #14

SYMBOL	NAME / DESCRIPTION	GROUP	K FACTOR	ERODIBLE
FoaA	FALLSINGTON SANDY LOAMS, 0 TO 2 PERCENT SLOPES, NORTHERN COASTAL PLAIN	D	0.02	NO
CaB	CHILLUM LOAM, 2 TO 5 PERCENT SLOPES	C	0.24	NO
SIB	SASSAFRAS GRAVELLY SANDY LOAM, 2 TO 5 PERCENT SLOPES	B	0.20	NO
SID	SASSAFRAS AND CROOM SOILS, 10 TO 15 PERCENT SLOPES	B	0.32	NO
UcB	URBAN LAND CHILLUM BELTSVILLE COMPLEX, 0 TO 5 PERCENT SLOPES	C	0.37	YES

NOTE: 1. TAKEN FROM USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY.
2. FALLSINGTON SOILS HAVE SEVERE LIMITATIONS FOR HOME CONSTRUCTION.
3. HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

OWNER
MARANATHA MAGNOLIA MANOR, LLC
MICHAEL PFAU MANAGING MEMBER
LIVE FEARLESS IN CHRIST, LLC
MICHAEL PFAU MANAGING MEMBER
3675 PARK AVE., SUITE 301
ELlicott CITY, MD 21043
(410) 480-0023

DEVELOPER
TRINITY HOMES MARY LAND, LLC
3675 PARK AVE., SUITE 301
ELlicott CITY, MD 21043
(410) 480-0023

NO.	REVISION	DATE
3	REMOVE AMENITIES FROM OPEN SPACE LOTS 62, 67 AND 68	10-18-23
2	REVISE BUS PAD, SIDEWALK RAMP, SIGNAL BASEMENT AND INLET 1B	4-13-22
1	TO REVISE BIO-SWALE GRADES AND PRIVATE STORM DRAIN	2-11-20

FINAL ROAD CONSTRUCTION PLANS
STORM DRAIN - DRAINAGE AREA MAP
MAGNOLIA MANOR
LOTS 1 - 61, OPEN SPACE LOTS 62 - 68, AND NON BUILDABLE PARCEL 'A'
A SUBDIVISION OF TAX MAP 47 - PARCELS 163 AND A REVISION OF TAX MAP 47 - PARCEL 163 - ODDINGS PROPERTY - SECTION 1 AREA 1 - LOTS 1-4 (PLAT 9114)

TAX MAP: 47 PARCELS: 163 & 465
BLOCK: 19 ZONING: R-SC
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
3300 N. RIDGE ROAD, SUITE 110, ELlicott CITY, MD 21043
TEL: 410.461.7666 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE
DESIGN BY: RHV
DRAWN BY: KG
CHECKED BY: RHV
DATE: AUGUST 2019
SCALE: AS SHOWN
W.O. NO.: 16-15

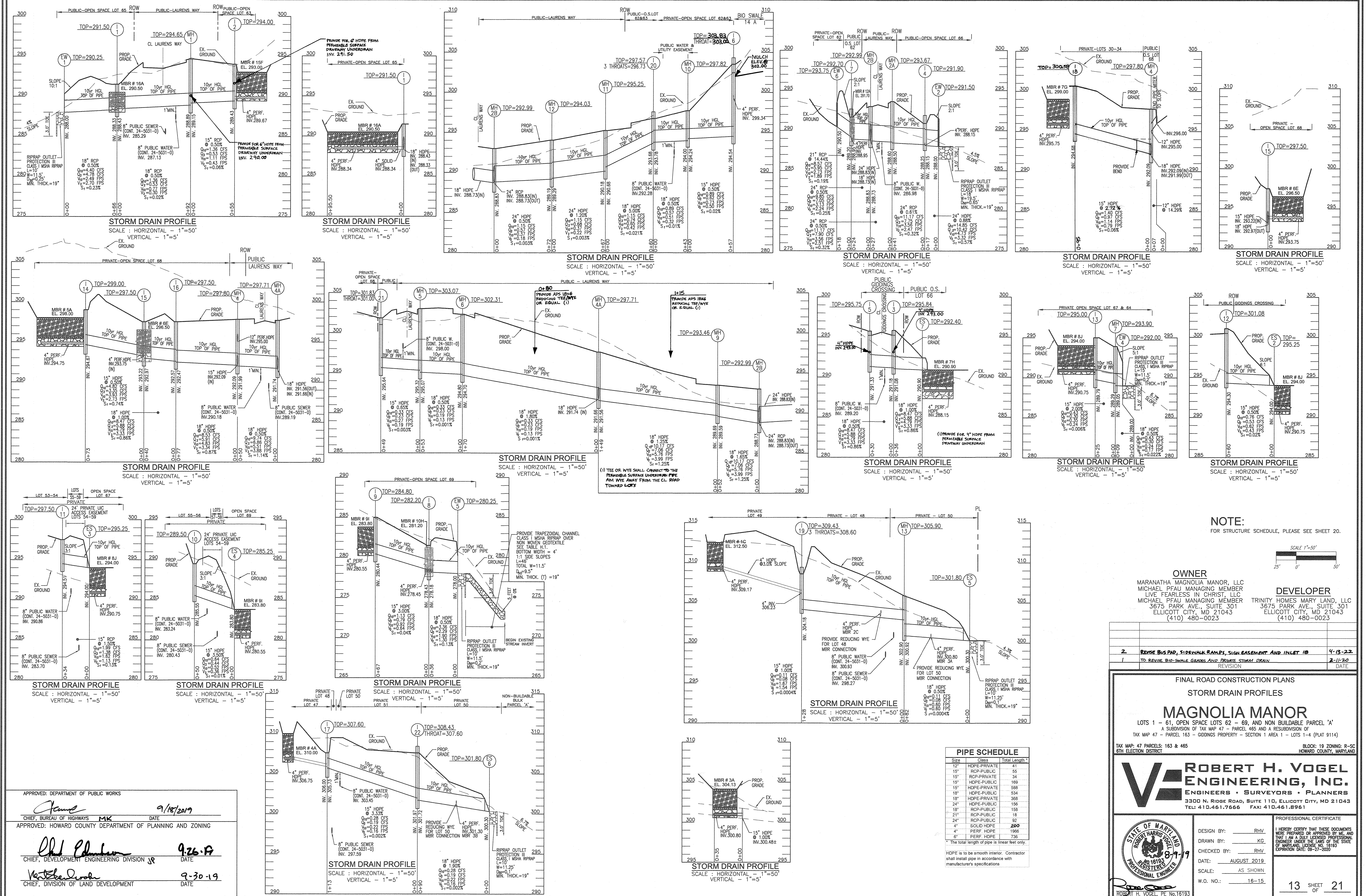
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16183 EXPIRATION DATE: 08-27-2020

12 SHEET OF 21

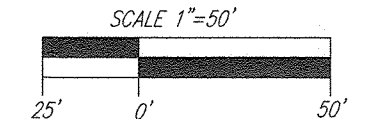
APPROVED: DEPARTMENT OF PUBLIC WORKS
James 9/18/2019
CHIEF, BUREAU OF HIGHWAYS MK DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chad Chamber 9-26-19
CHIEF, DEVELOPMENT ENGINEERING DIVISION JR DATE

Kevin LeDuc 9-30-19
CHIEF, DIVISION OF LAND DEVELOPMENT DATE



NOTE:
FOR STRUCTURE SCHEDULE, PLEASE SEE SHEET 20.



OWNER
MARANATHA MAGNOLIA MANOR, LLC
MICHAEL PFAU MANAGING MEMBER
LIVE FEARLESS IN CHRIST, LLC
MICHAEL PFAU MANAGING MEMBER
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023

DEVELOPER
TRINITY HOMES MARYLAND, LLC
3675 PARK AVE., SUITE 301
ELLCOTT CITY, MD 21043
(410) 480-0023

FINAL ROAD CONSTRUCTION PLANS
STORM DRAIN PROFILES

MAGNOLIA MANOR

LOTS 1 - 61, OPEN SPACE LOTS 62 - 69, AND NON-BUILDABLE PARCEL 'A'
A SUBDIVISION OF TAX MAP 47 - PARCEL 485 AND A RESUBDIVISION OF
TAX MAP 47 - PARCEL 163 - GIDDINGS PROPERTY - SECTION 1 AREA 1 - LOTS 1-4 (PLAT 9114)

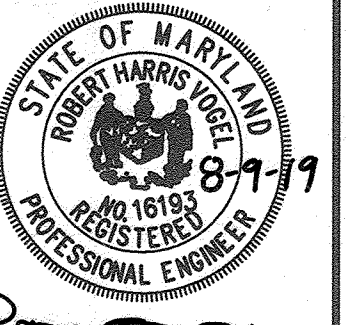
TAX MAP: 47 PARCELS: 163 & 485 BLOCK: 19 ZONING: R-SC
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYS • PLANNERS
3300 N. RIDGE ROAD, SUITE 110, ELLCOTT CITY, MD 21043
TEL: 410.461.7666 FAX: 410.461.8961

Size	Class	Total Length**
12"	HDPE-PUBLIC	41
15"	RCP-PUBLIC	55
15"	RCP-PRIVATE	34
15"	HDPE-PUBLIC	169
15"	HDPE-PRIVATE	589
18"	HDPE-PUBLIC	534
18"	HDPE-PRIVATE	538
24"	HDPE-PUBLIC	166
24"	RCP-PUBLIC	158
24"	RCP-PRIVATE	158
4"	SOLID HDPE	200
4"	RCP-PUBLIC	92
4"	RCP-PRIVATE	196
6"	PERF. HDPE	736

** The total length of pipe is linear feet only.

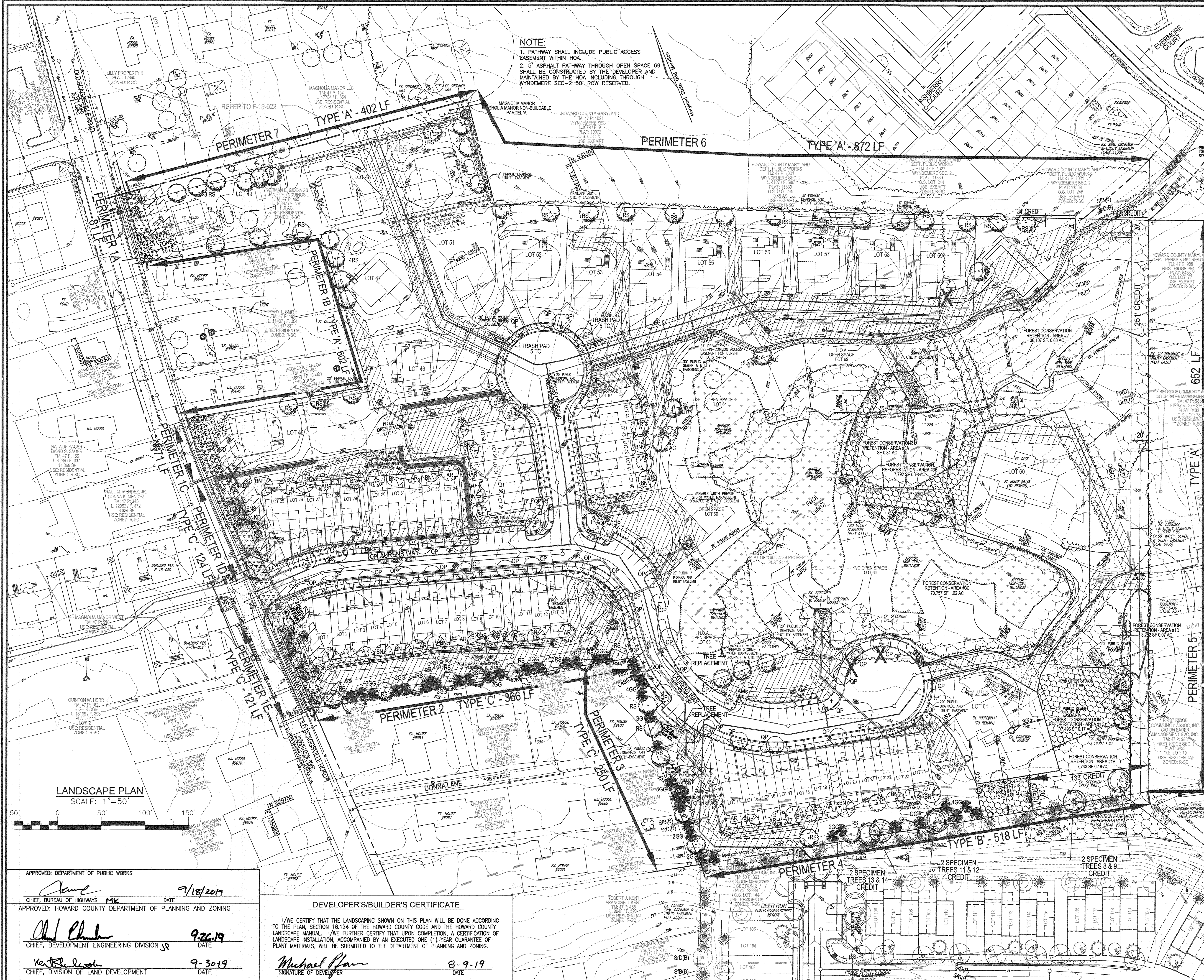
HDPE is to be smooth interior. Contractor shall install pipe in accordance with manufacturer's specifications.



DESIGN BY: RHV
DRAWN BY: KC
CHECKED BY: RHV
DATE: AUGUST 2019
SCALE: AS SHOWN
W.D. NO.: 16-15

PROFESSIONAL CERTIFICATE
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. 16193, EXPIRATION DATE: 09-27-2020.

APPROVED: DEPARTMENT OF PUBLIC WORKS
9/18/2019
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
9-26-19
9-30-19



LEGEND

	EXISTING CONTOUR
	PROPOSED CONTOUR
	EXISTING CURB AND GUTTER
	PROPOSED CURB AND GUTTER
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	EXISTING MAILBOX
	EXISTING SIGN
	EXISTING SANITARY MANHOLE
	EXISTING SANITARY LINE
	EXISTING CLEANOUT
	EXISTING FIRE HYDRANT
	EXISTING WATER LINE
	EXISTING FENCE
	PROPERTY LINE
	RIGHT-OF-WAY LINE
	PROPOSED SIDEWALK
	EXISTING TREELINE
	PROPOSED TREELINE
	PROPOSED STORM DRAIN
	PROPOSED STORM DRAIN INLET
	FOREST CONSERVATION EASEMENT (REFORESTATION) PLATS 23048-23055
	24' PRIVATE USE IN COMMON ACCESS EASEMENT
	PRIVATE WATER, SEWER, AND UTILITY EASEMENT
	EX. PUBLIC STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT
	PRIVATE STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT
	EX. WETLANDS
	EX. WETLAND BUFFER
	EX. STREAM
	EX. STREAM BUFFER
	PROPOSED SHADE TREE
	STREET TREES
	PROPOSED EVERGREEN TREE
	SPECIMEN REPLACEMENT TREES
	LANDSCAPE PERIMETER
	TREE PROTECTION FENCE
	PUBLIC FOREST CONSERVATION EASEMENT (REFORESTATION)
	PUBLIC FOREST CONSERVATION EASEMENT (RETENTION)
	SPECIMEN TREE TO BE REMOVED
	SIGHT DISTANCE EASEMENT
	BOE 'GREEN ZONE' TREE HEIGHT LIMITED (TREE HEIGHT 60' MAX.)
	BOE 'YELLOW ZONE' TREE HEIGHT LIMITED (TREE HEIGHT 60'-40' MAX.)
	BOE 'ORANGE ZONE' TREE HEIGHT LIMITED (TREE HEIGHT 40' MAX.)
	20' PUBLIC DRAINAGE & UTILITY EASEMENT

NOTE:
 1. PATHWAY SHALL INCLUDE PUBLIC ACCESS EASEMENT WITHIN HOA.
 2. 5' ASPHALT PATHWAY THROUGH OPEN SPACE 69 SHALL BE CONSTRUCTED BY THE DEVELOPER AND MAINTAINED BY THE HOA INCLUDING THROUGH WYNDEMERE SEC-2 50' ROW RESERVED.

OWNER
 MARANATHA MAGNOLIA MANOR, LLC
 MICHAEL PFALU MANAGING MEMBER
 LIVE FEARLESS IN CHRIST, LLC
 MICHAEL PFALU MANAGING MEMBER
 3675 PARK AVE., SUITE 301
 ELLICOTT CITY, MD 21043
 (410) 480-0023

DEVELOPER
 TRINITY HOMES MARYLAND, LLC
 3675 PARK AVE., SUITE 301
 ELLICOTT CITY, MD 21043
 (410) 480-0023

3	REMOVE AMENITIES FROM OPEN SPACE LOTS 62, 67 AND 68	10-18-23
2	REVISE BUS PAD, SIDEWALK RAMPS, SIGN BASEMENT AND INLET 18	4-13-22
	REVISION	DATE

FINAL ROAD CONSTRUCTION PLANS
 LANDSCAPE PLAN
MAGNOLIA MANOR
 LOTS 1 - 61, OPEN SPACE LOTS 62 - 69, AND NON BUILDABLE PARCEL 'A'
 A SUBDIVISION OF TAX MAP 47 - PARCELS 163 AND A RESUBDIVISION OF TAX MAP 47 - PARCEL 163 - GIDDINGS PROPERTY - SECTION 1 AREA 1 - LOTS 1-4 (PLAT 9114)
 TAX MAP 47 PARCELS: 163 & 465
 BLOCK: 19 ZONING: R-SC
 6TH ELECTION DISTRICT

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 3300 N. RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
 TEL: 410.461.7666 FAX: 410.461.8961

DESIGN BY: RHY
 DRAWN BY: KC
 CHECKED BY: RHY
 DATE: AUGUST 2019
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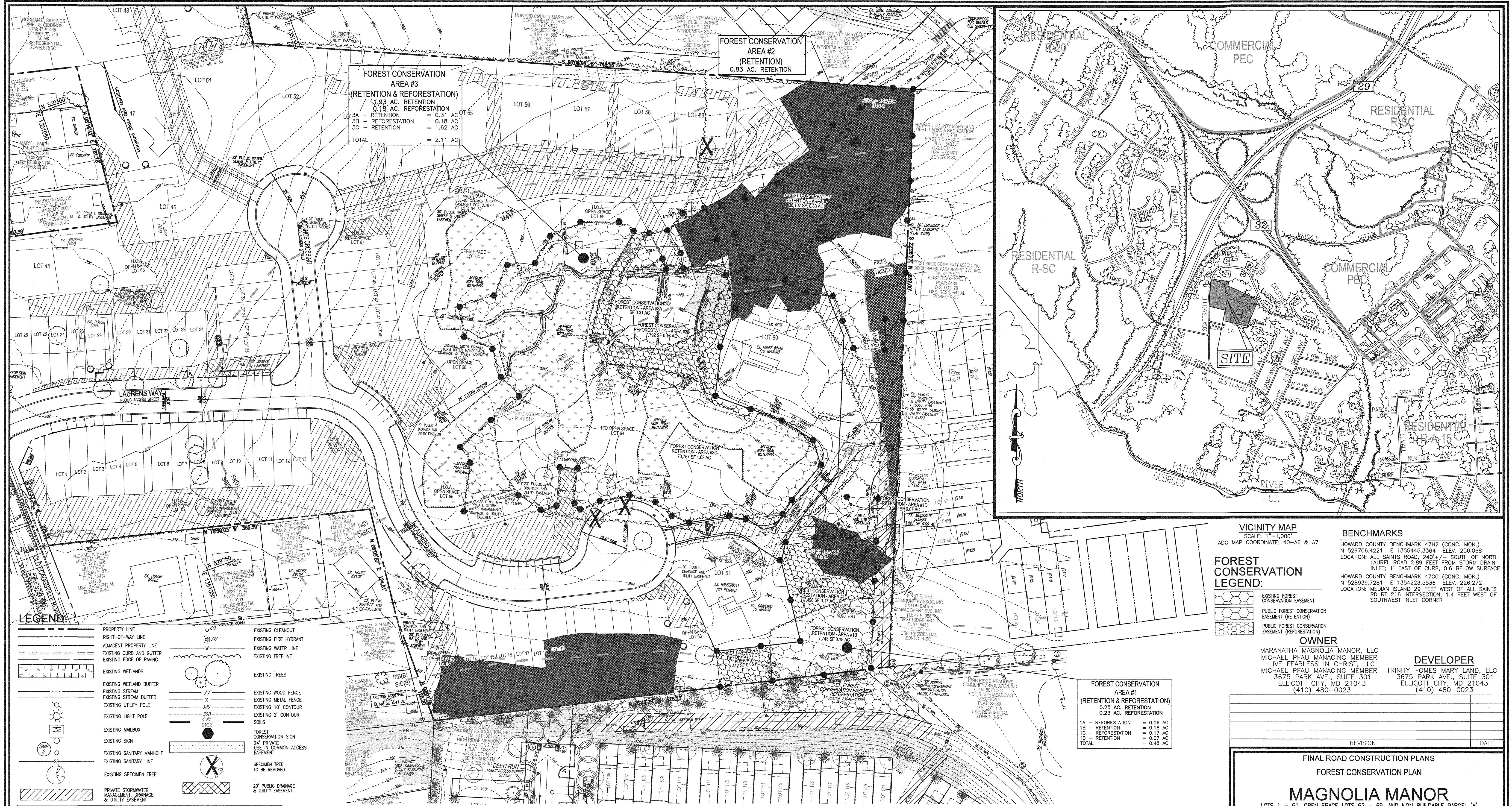
PROFESSIONAL CERTIFICATE
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE 08-27-2026

14 SHEET OF 21

APPROVED: DEPARTMENT OF PUBLIC WORKS
 9/18/2019
 CHIEF, BUREAU OF HIGHWAYS MK
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 9-26-19
 CHIEF, DEVELOPMENT ENGINEERING DIVISION JR
 9-30-19
 CHIEF, DIVISION OF LAND DEVELOPMENT

DEVELOPER'S/BUILDER'S CERTIFICATE
 I/WE CERTIFY THAT THE LANDSCAPING WORK 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 (1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

Michael Plan 8-9-19
 SIGNATURE OF DEVELOPER DATE



SOILS LEGEND

HOWARD COUNTY SOILS MAP #14

SYMBOL	NAME / DESCRIPTION	GROUP	FACTOR	ERODIBLE
FoaA	FALLSINGTON SANDY LOAM TO 2 PERCENT SLOPES/NORTHERN COASTAL PLAIN	D	0.22	NO
CeB	CHILLUM LOAM, 2 TO 5 PERCENT SLOPES	C	0.24	NO
SfB	SASSAFRAS GRAVELLY SANDY LOAM, 2 TO 5 PERCENT SLOPES	B	0.20	NO
SfD	SASSAFRAS AND CROOK SOILS, TO 15 PERCENT SLOPES	B	0.32	NO
UeB	URBAN LAND CHILLUM BELTSVILLE COMPLEX, 0 TO 5 PERCENT SLOPES	C	0.37	YES

NOTE: 1. TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY.
 2. FALLSINGTON SOILS HAVE SEVERE LIMITATIONS FOR HOME CONSTRUCTION.
 3. HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

APPROVED: DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS MK DATE 9/18/2019
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION JR DATE 9-26-19
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE 9-30-19

Wetland Data

WETLAND SYSTEM	COMBINATION CLASSIFICATION	DOMINANT VEGETATION
A	PF01A-E	Quercus phellos, Quercus palustris, Acer rubrum, Platanus occidentalis, Nyssa sylvatica, Vitiumum dentatum, Ilex verticillata, Lindera benzoin

Forest Stand Data

Key	Community Type	Acres	Dominant Vegetation	General Condition	Priority
#1	Oak/Poplar	3.54	Quercus phellos, Quercus palustris, Quercus alba, Acer rubrum, Liquidambar styraciflua, Nyssa sylvatica	Fair-Good	3+ wetlands buffer

* Approximately 1.2 acres of forest area is present within 100 feet of the property.

Eco-Science Professionals, Inc. Consulting Ecologists
 P.O. Box 9066 Che Am, Maryland 21087 Telephone (410) 832-2443 Fax (410) 832-2448

MD DNR Qualified Professional
 USA COE Wetland Delimitation
 Certification # WD0293000610044182
 JOHN CANOLES DNR QUALIFIED PROFESSIONAL

Specimen Tree Chart

Key (X#)	Species	Size (over radius)	CRZ (over radius)	Comments	TO BE REMOVED
1	White oak	33	49.5	good condition	TO BE REMOVED
2	Tulip poplar	41.5	62.25	fair condition	TO REMAIN
3	Tulip poplar	34.5	51.75	fair condition	TO REMAIN
4	Red maple	34	51	fair condition, trunk rot	TO REMAIN
5	Willow oak	34	51	good condition	TO REMAIN
6	Willow oak	33	49.5	good condition	TO REMAIN
7	Sweet Gum	33	49.5	poor condition, substantial crown dieback	TO BE REMOVED
8	Southern red oak	35	52.5	dead	TO REMAIN
9	Black oak	37	55.5	good condition	TO REMAIN
10	Chestnut oak	33	49.5	fair condition, leaning	TO REMAIN
11	Chestnut oak	34.5	51.75	good condition, multi-stem	TO REMAIN
12	Tulip poplar	56	84	good condition	TO REMAIN
13	Chestnut oak	33.5	50.25	fair condition, leaning	TO REMAIN
14	White oak	32.5	48.75	good condition	TO REMAIN
15	Black oak	44	66	fair condition, trunk rot notched	TO REMAIN
16	Slippery elm	31	46.5	fair condition	TO REMAIN
17	Willow oak	36	54	good condition, some trimming noted	TO BE REMOVED

FOREST CONSERVATION PLAN

SCALE: 1"=50'

GENERAL NOTES

WATERSHED NAME: PATUXENT RIVER UPPER
 WATERSHED NUMBER: 2131104

A. GROSS SITE AREA: 15.33 AC.
 NET SITE AREA: 15.33 AC.
 B. AREA OF 100-YEAR FLOODPLAIN: 0.00 AC.
 C. AREA OF WETLANDS AND BUFFERS(ONSITE): 2.9 AC. +/-
 D. AREA OF STREAM AND BUFFERS(ONSITE): 1.9 AC. +/-
 E. AREA OF > 25% STEEP SLOPES: 0.00 AC.
 F. EXISTING FOREST (FSD): 3.54 AC.
 G. ZONED: R-SC
 H. EXISTING USE: RESIDENTIAL
 I. PROPOSED USE: RESIDENTIAL

* AREAS OVERLAP

PROFESSIONAL CERTIFICATE
 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. 16193 EXPIRATION DATE: 08-27-2020

DESIGN BY: RHV
 DRAWN BY: KG
 CHECKED BY: RHV
 DATE: AUGUST 2019
 SCALE: AS SHOWN
 W.O. NO.: 16-15

15 SHEET OF 21

FOREST CONSERVATION PLAN

SCALE: 1"=50'

SCALE: 1"=50'

25' 0' 50'

GENERAL NOTES

WATERSHED NAME: PATUXENT RIVER UPPER
 WATERSHED NUMBER: 2131104

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 H. EXISTING USE: RESIDENTIAL
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15 SHEET OF 21

FINAL ROAD CONSTRUCTION PLANS

FOREST CONSERVATION PLAN

MAGNOLIA MANOR

LOTS 1 - 61, OPEN SPACE LOTS 62 - 69, AND NON BUILDABLE PARCEL 'A'
 A SUBDIVISION OF TAX MAP 47 - PARCEL 465 AND A RESUBDIVISION OF TAX MAP 47 - PARCEL 163 - GOODINGS PROPERTY - SECTION 1 AREA 1 - LOTS 1-4 (PLAT 9114)

TAX MAP: 47 PARCELS: 163 & 465 BLOCK: 19 ZONING: R-SC
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

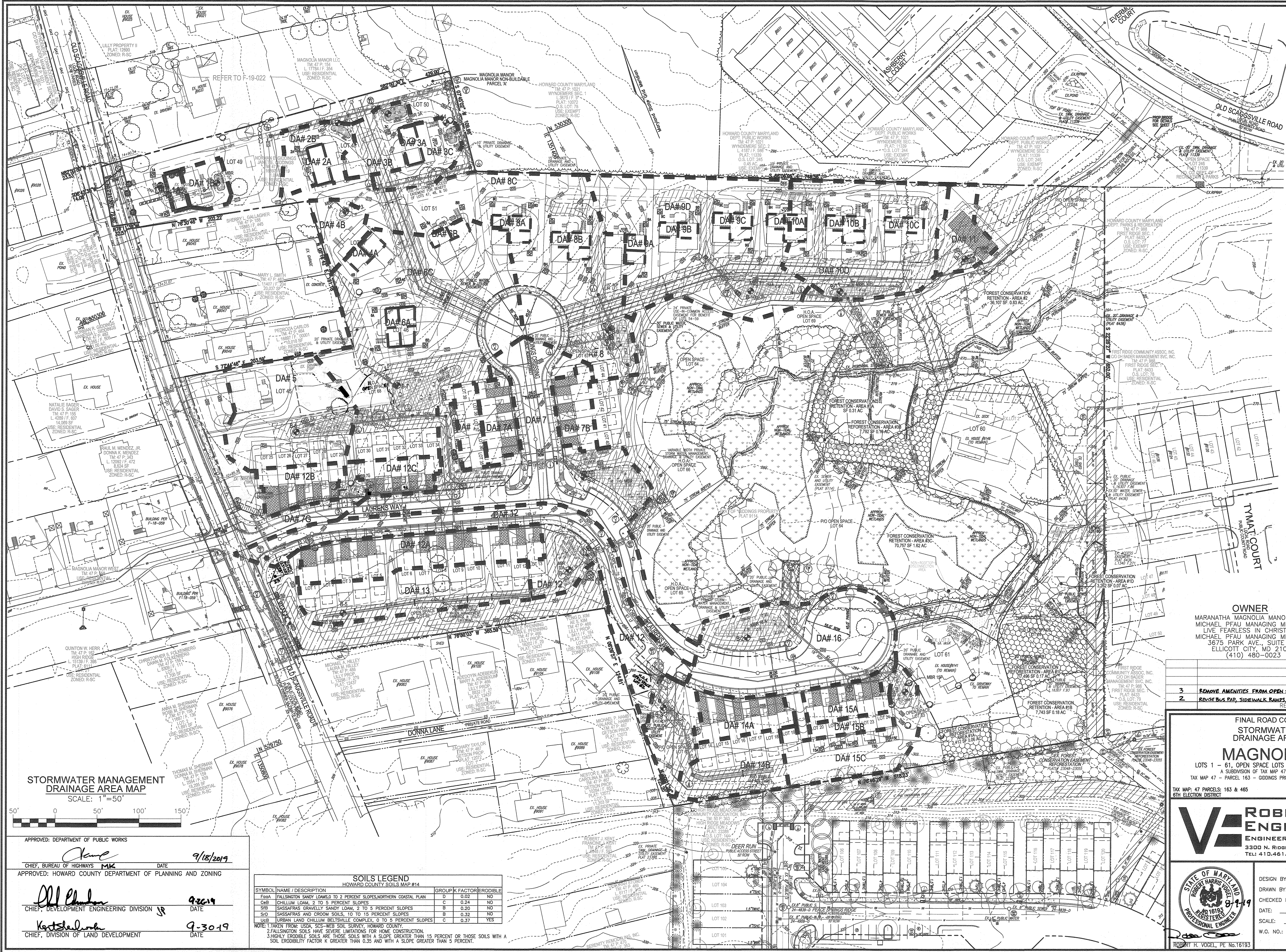
ROBERT H. VOGEL ENGINEERING, INC.

ENGINEERS • SURVEYORS • PLANNERS
 3300 N. RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
 TEL: 410.461.7666 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE
 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. 16193 EXPIRATION DATE: 08-27-2020

DESIGN BY: RHV
 DRAWN BY: KG
 CHECKED BY: RHV
 DATE: AUGUST 2019
 SCALE: AS SHOWN
 W.O. NO.: 16-15

15 SHEET OF 21



LEGEND

- EXISTING CONTOUR
- - - - PROPOSED CONTOUR
- SPOT ELEVATION
- EXISTING SPOT ELEVATION
- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING FENCE
- SOILS BOUNDARY
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SIDEWALK
- EXISTING TREELINE
- TREELINE
- STORM DRAIN
- STORM DRAIN INLET
- EX. FOREST CONSERVATION EASEMENT (REFORESTATION) PLATS 23048-23055
- 24' PRIVATE USE IN COMMON ACCESS EASEMENT
- PUBLIC WATER, SEWER, AND UTILITY EASEMENT
- EX. WETLANDS
- EX. WETLAND BUFFER
- EX. STREAM
- EX. STREAM BUFFER
- EX. PUBLIC STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT (PLAT 6433)
- PUBLIC FOREST CONSERVATION EASEMENT (REFORESTATION)
- PUBLIC FOREST CONSERVATION EASEMENT (RETENTION)

DA #3

- DRAINAGE AREA DESIGNATION
- MICRO-SCALE PRACTICE BIO-SWALE (M-B)
- MICRO-SCALE PRACTICE MICRO BIORETENTION / BIORETENTION (M-B)
- DRAINAGE AREA DIVIDE
- STORMWATER MANAGEMENT TEST PIT
- PROPOSED DRYWELL & DESIGNATION
- 20' PUBLIC DRAINAGE & UTILITY EASEMENT

NOTE:

1. PATHWAY SHALL INCLUDE PUBLIC ACCESS EASEMENT WITHIN HOA.
2. 5' ASPHALT PATHWAY THROUGH OPEN SPACE 69 SHALL BE CONSTRUCTED BY THE DEVELOPER AND MAINTAINED BY THE HOA INCLUDING THROUGH WYDEMERE SEC-2 50' ROW RESERVED.

OWNER
 MARANATHA MAGNOLIA MANOR, LLC
 MICHAEL PFAU MANAGING MEMBER
 LIVE FEARLESS IN CHRIST, LLC
 MICHAEL PFAU MANAGING MEMBER
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DEVELOPER
 TRINITY HOMES MARY LAND, LLC
 3675 PARK AVE., SUITE 301
 ELLICOTT CITY, MD 21043
 (410) 480-0023

3	REMOVE AMENITIES FROM OPEN SPACE LOTS 62, 67 AND 68	10-18-23
2	RAISE BUS STOP, SIDEWALK RAMPS, SIGNAL EASEMENT AND INLET 18	4-13-22
	REVISION	DATE

**FINAL ROAD CONSTRUCTION PLANS
 STORMWATER MANAGEMENT
 DRAINAGE AREA MAP FOR ESDV**

MAGNOLIA MANOR

LOTS 1 - 61, OPEN SPACE LOTS 62 - 69, AND NON BUILDBLE PARCEL 'A'
 A SUBDIVISION OF TAX MAP 47 - PARCEL 465 AND A RESUBDIVISION OF
 TAX MAP 47 - PARCEL 163 - GIDDINGS PROPERTY - SECTION 1 AREA 1 - LOTS 1-4 (PLAT 9114)

TAX MAP: 47 PARCELS: 163 & 465 BLOCK: 19 ZONING: R-SC
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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STATE OF MARYLAND
 ROBERT H. VOGEL
 PROFESSIONAL ENGINEER
 NO. 16193
 EXPIRES 09-27-2020

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18 SHEET OF 21

**STORMWATER MANAGEMENT
 DRAINAGE AREA MAP**
 SCALE: 1"=50'

APPROVED: DEPARTMENT OF PUBLIC WORKS
[Signature] 9/18/2019
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 9-30-19
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

APPROVED: *[Signature]* 9-30-19
 CHIEF, DIVISION OF LAND DEVELOPMENT

SOILS LEGEND
 HOWARD COUNTY SOILS MAP #14

SYMBOL	NAME / DESCRIPTION	GROUP	FACTOR	ERODIBLE
Foa	FALLSINGTON SANDY LOAMS, 0 TO 2 PERCENT SLOPES, NORTHERN COASTAL PLAIN	D	0.02	NO
CeB	CHILLUM LOAM, 2 TO 5 PERCENT SLOPES	C	0.24	NO
SfB	SASSAFRAS GRAVELLY SANDY LOAM, 2 TO 5 PERCENT SLOPES	B	0.20	NO
Sd	SASSAFRAS AND CROOK SOILS, 10 TO 15 PERCENT SLOPES	B	0.32	NO
UcB	URBAN LAND CHILLUM BELTSVILLE COMPLEX, 0 TO 5 PERCENT SLOPES	C	0.37	YES

NOTE: 1. TAKEN FROM USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY.
 2. FALLSINGTON SOILS HAVE SEVERE LIMITATIONS FOR HOME CONSTRUCTION.
 3. HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

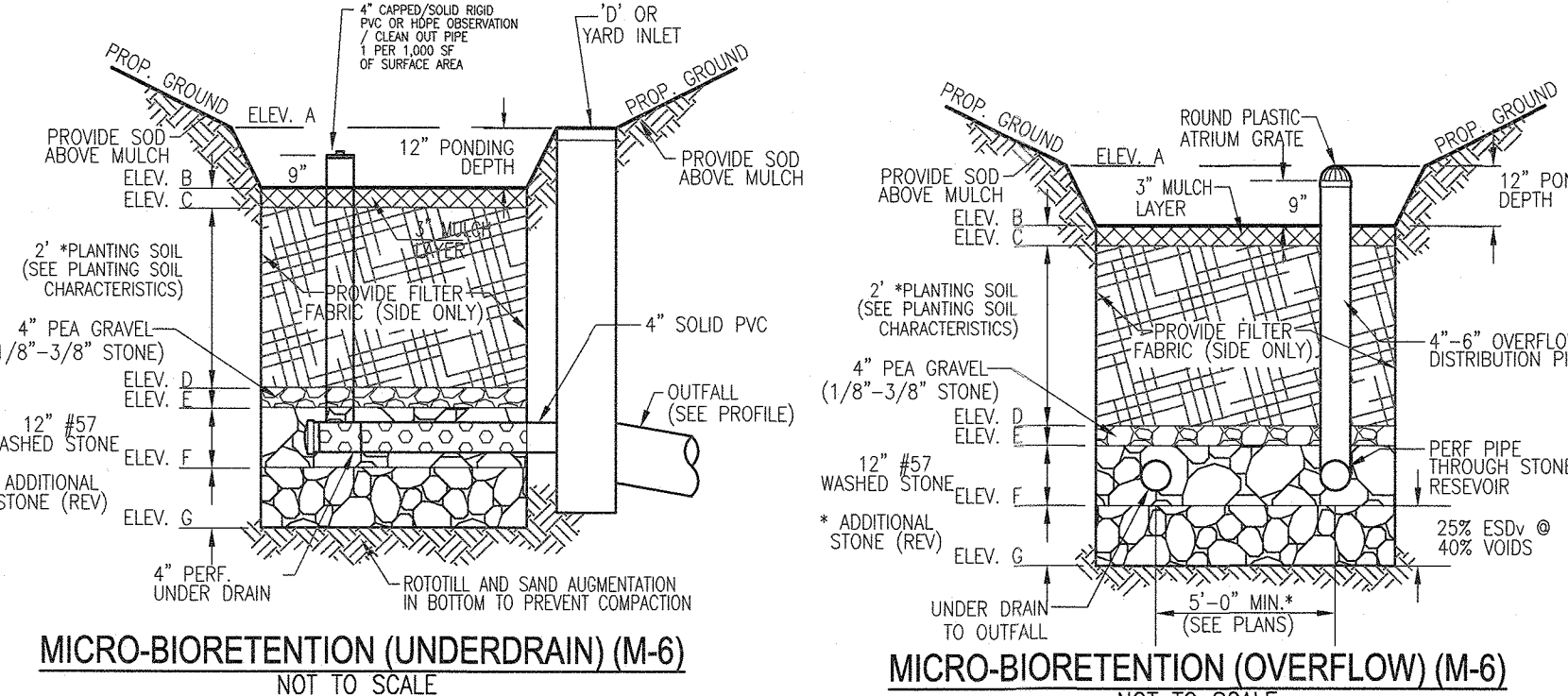
APPENDIX B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDEN, LANDSCAPE INFILTRATION & INFILTRATION BERMS

- 1. MATERIAL SPECIFICATIONS**
THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.
- 2. FILTERING MEDIA OR PLANTING SOIL**
THE SOIL SHALL BE A UNIFORM MIX FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE DISPERSED WITHIN THE MICRO-BIORETENTION PRACTICE THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVIDE A HINDRANCE TO THE PLANTING OR MAINTENANCE OF THE PRACTICE. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOCIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05.
THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:
• SOIL COMPONENT - LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTURE CLASSIFICATION)
• ORGANIC CONTENT - MINIMUM 1.0% BY DRY WEIGHT (ASTM D 2974). IN GENERAL, THIS CAN BE MET WITH A MIXTURE OF LOAMY SAND (60%-65%) AND COMPOST (30% TO 40%) OR SANDY LOAM (30%), COARSE SAND (30%), AND COMPOST (40%).
• CLAY CONTENT - MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 5%.
• PH RANGE - SHOULD BE BETWEEN 5.5 - 7.0. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED IN TO THE SOIL TO INCREASE OR DECREASE PH.
THESE SHALL BE AT LEAST ONE SOIL TEST PER PROJECT. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.

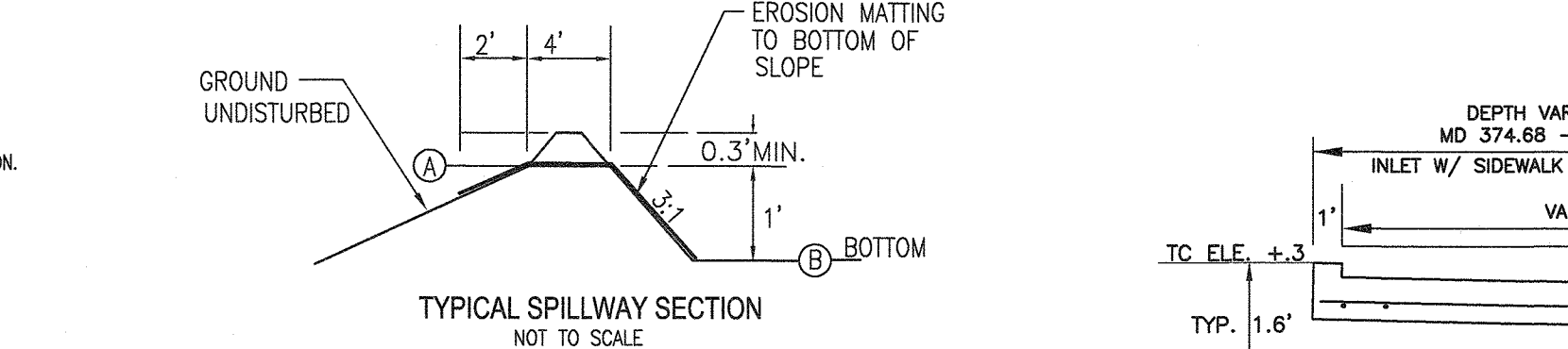
- 3. COMPACTION**
IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED UNDER THE CONTRACTOR SHOULD USE WIDE TRACK OR MARCH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TIRE TREADS. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH-PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.
COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS CHISEL FLOW, RIPPER OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACURE THE SOIL PROFILE THROUGHOUT THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.
ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE.
WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE.
WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12 TO 16". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOIL AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARCH TRACKS.
- 4. PLANT MATERIAL**
RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.
- 5. PLANT INSTALLATION**
COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INVERT AND OTHER LOW AREAS. MULCH SHOULD BE PLACED IN SURROUNDING TO A UNIFORM THICKNESS OF 2" TO 2". SHREDDED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.
ROOTSTOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED TO 1/8TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION. TREES SHALL BE BRACED USING 2" BY 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL.
GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLOUS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.
THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY, ADDING FERTILIZERS, DEFLETS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.

- 6. UNDERDRAINS**
UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:
• PIPE - SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM F 758, TYPE PS 28, OR AASHTO-M-278) IN A GRAVEL LAYER.
• PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (NO. 4 OR 4#) GALVANIZED HARDWARE CLOTH.
• GRAVEL - THE GRAVEL LAYER (NO. 57 STONE) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.
• THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.
• A RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.
• A 1/4" LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES IN TO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 2".
THIS MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS AND/OR CLEAN-OUT PIPES MUST BE PROVIDED (ONE MINIMUM PER EVERY 1000 SQUARE FEET OF SURFACE AREA).
- 7. MISCELLANEOUS**
THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

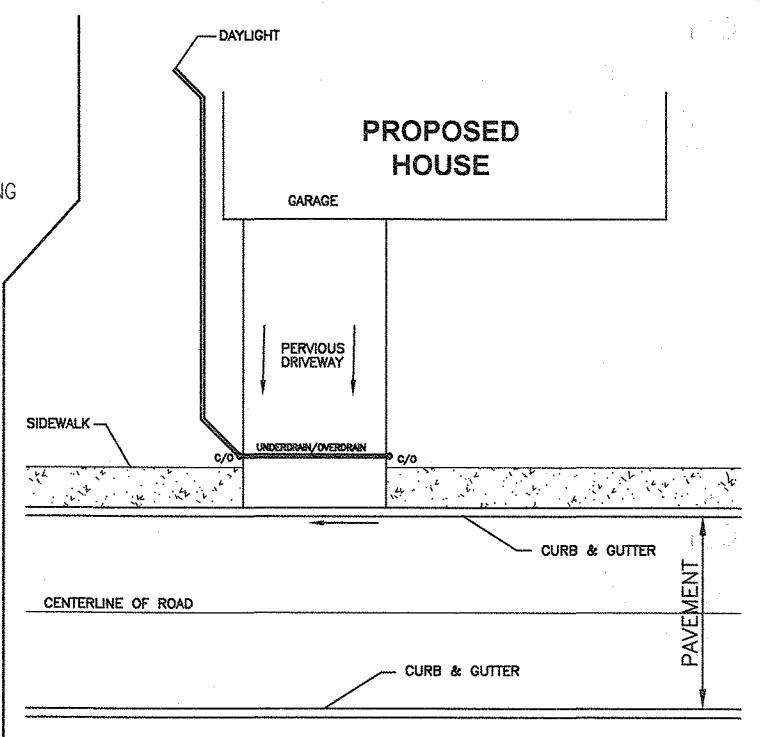
- 8. OPERATION AND MAINTENANCE SCHEDULE FOR MICROBIORETENTION / BIO-SWALE AREAS**
1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT 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.
2. SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRCS.
3. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.



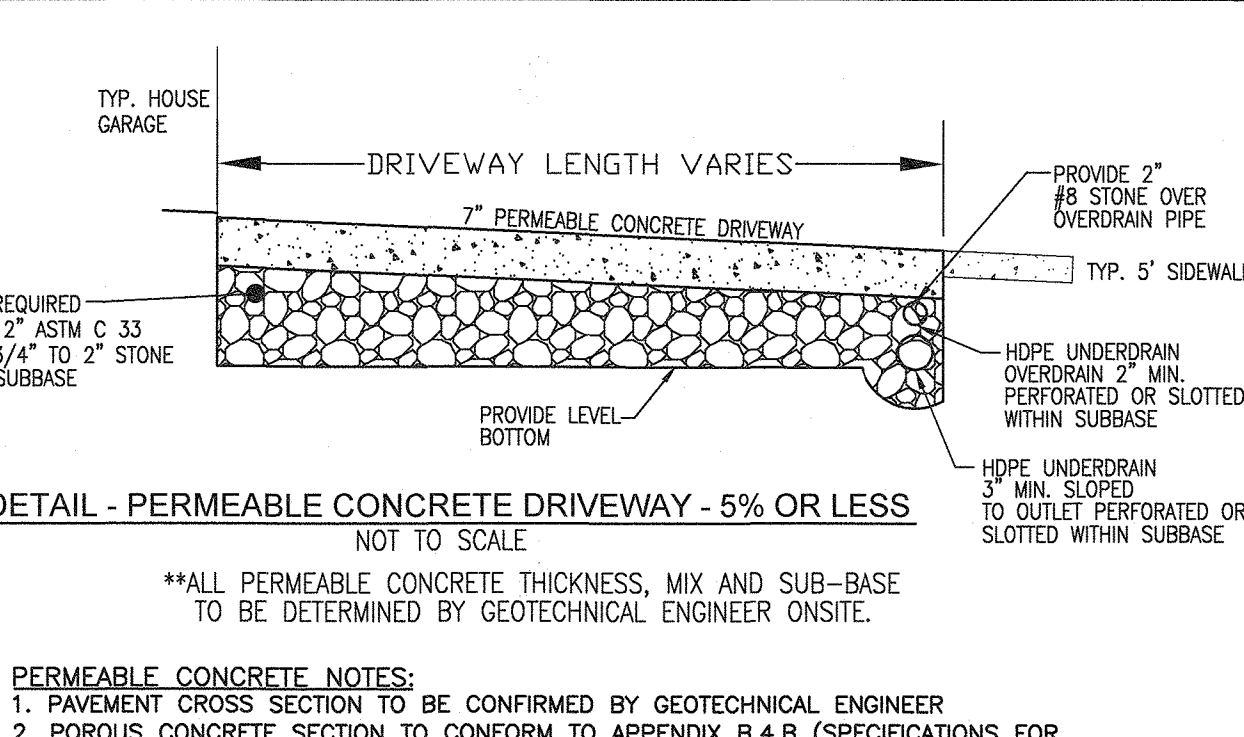
MICROBIORETENTION NOTES:
1. ONLY THE SIDES OF MICRO BIORETENTION ARE TO BE WRAPPED IN FILTER FABRIC. FILTER FABRIC BETWEEN LAYER OR AT THE BOTTOM OF THE MICRO BIORETENTION WILL CAUSE THE MBR TO FAIL, AND THEREFORE SHALL NOT BE INSTALLED.
2. WRAP THE PERFORATED MBR UNDERDRAIN PIPE WITH 1/4" MESH (#4) OR SMALLER GALVANIZED HARDWARE CLOTH. SEE APPENDIX B.4.C.6.
3. PROVIDE 5" MINIMUM SPACING BETWEEN UNDER DRAIN AND PERFORATED PIPE THROUGH STONE RESERVOIR OR SPACE PIPE EQUALLY ACROSS BOTTOM FOR SMALL BIOS. (SEE PLANS)
4. MAINTAIN 18" AT 2% MAXIMUM FROM EDGES OF WALK TO SLOPE INTO BIO.



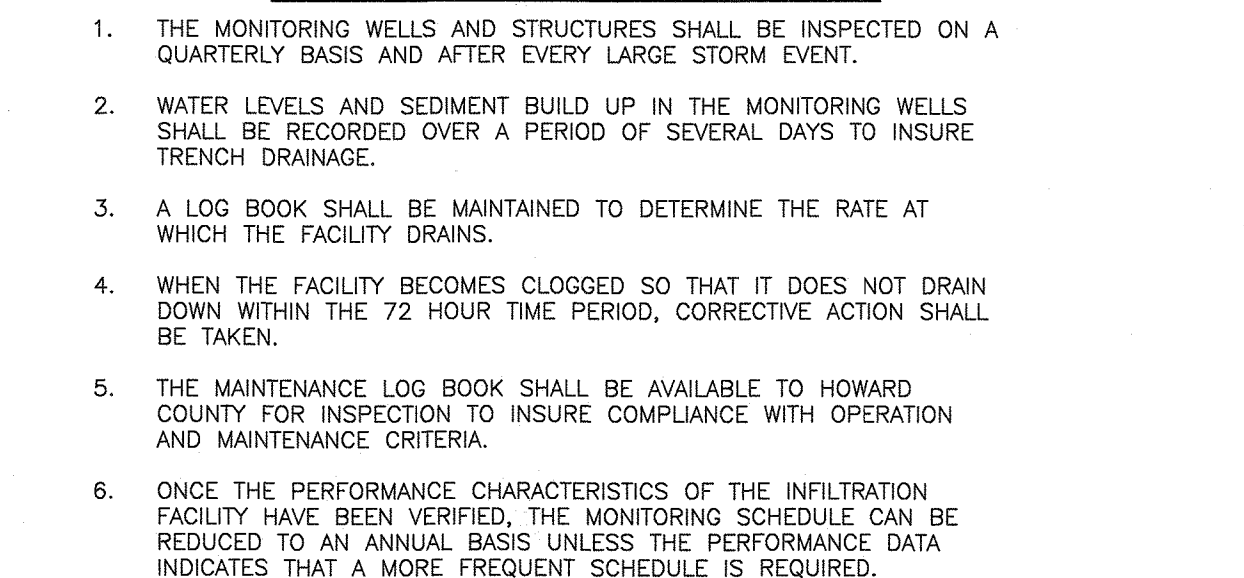
DETAILS OF WEIR OUTLET MICRO-BIORETENTION/BIO-SWALE
TYPICAL CROSS SECTION (NOT TO SCALE)
TYPICAL CROSS SECTION (NOT TO SCALE)



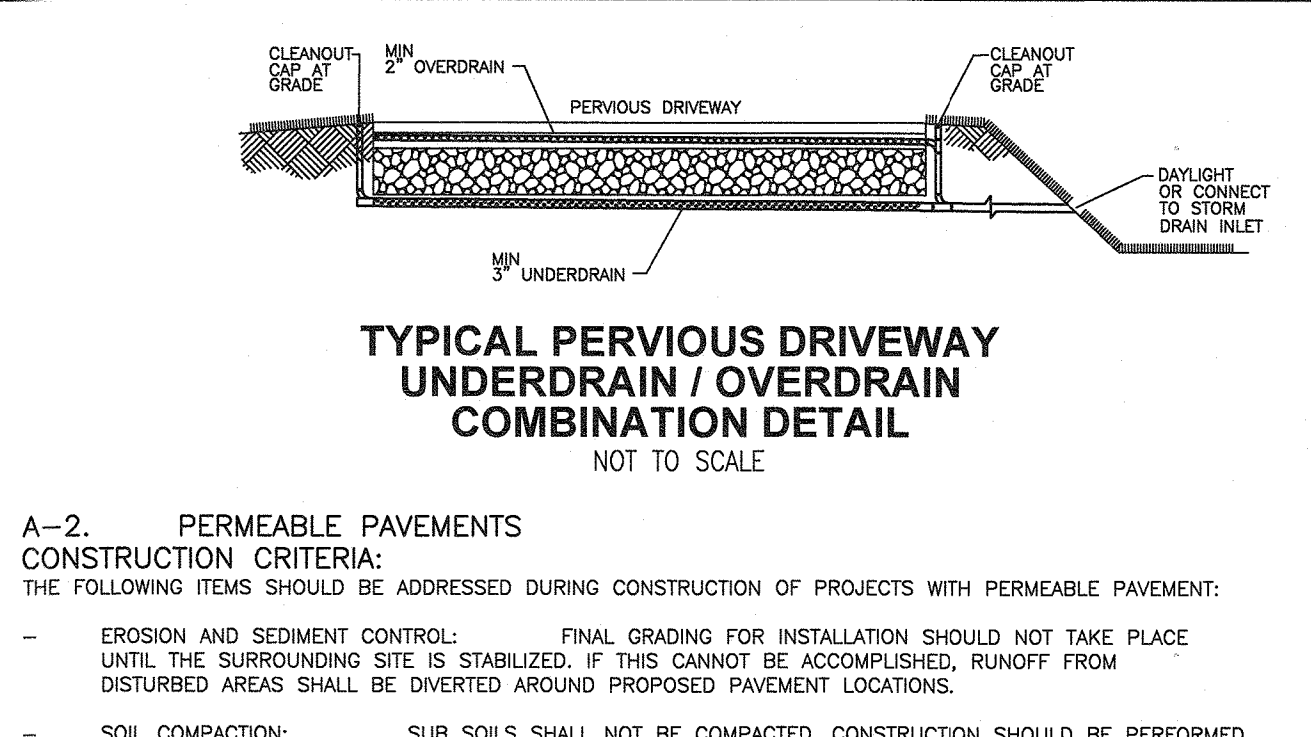
TYPICAL PERVIOUS DRIVEWAY UNDERDRAIN / OVERDRAIN DAYLIGHT OUTLET DETAIL
NOT TO SCALE



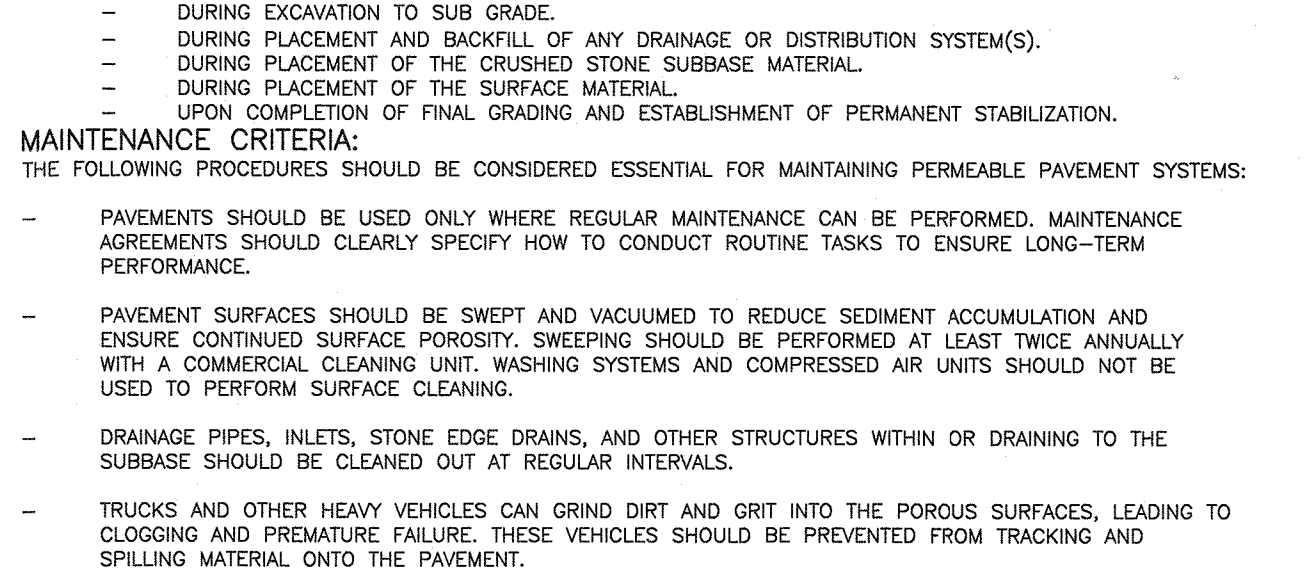
PERMEABLE CONCRETE NOTES:
1. PAVEMENT CROSS SECTION TO BE CONFIRMED BY GEOTECHNICAL ENGINEER
2. POROUS CONCRETE SECTION TO CONFORM TO APPENDIX B.4.B (SPECIFICATIONS FOR PERMEABLE PAVEMENTS) AND DESIGNED BY THE PROJECT GEOTECHNICAL ENGINEER.
3. UNDERDRAINS/OVERDRAINS SHALL DAYLIGHT OR CONNECT TO AN INLET AS SHOWN ON THE PLANS.
PLAN UNDER/OVER DRAIN DESIGN SHALL BE FINALIZED UNDER FUTURE SITE DEVELOPMENT PLAN



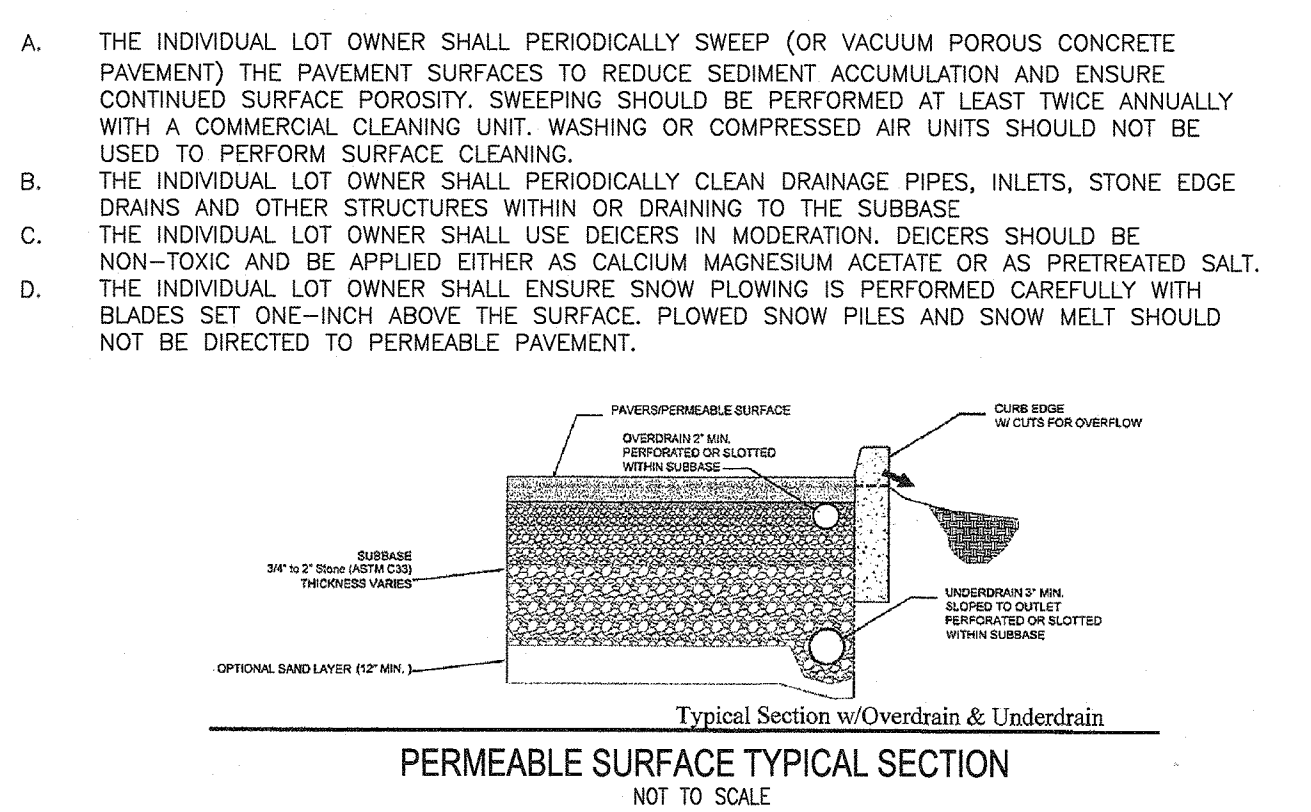
OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER DRY WELLS (M-5)
1. THE MONITORING WELLS AND STRUCTURES SHALL BE INSPECTED ON A QUARTERLY BASIS AND AFTER EVERY LARGE STORM EVENT.
2. WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS SHALL BE RECORDED OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH DRAINAGE.
3. A LOG BOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
4. WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN THE 72 HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
5. THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
6. 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.



TYPICAL PERVIOUS DRIVEWAY UNDERDRAIN / OVERDRAIN COMBINATION DETAIL
NOT TO SCALE



OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED PERMEABLE PAVEMENT (A-2)
A. THE INDIVIDUAL LOT OWNER SHALL PERIODICALLY SWEEP (OR VACUUM POROUS CONCRETE PAVEMENT) SURFACES TO REDUCE SEDIMENT ACCUMULATION AND ENSURE CONTINUED SURFACE POROSITY. SWEEPING SHOULD BE PERFORMED AT LEAST TWICE ANNUALLY WITH A COMMERCIAL CLEANING UNIT. WASHING OR COMPRESSED AIR UNITS SHOULD NOT BE USED TO PERFORM SURFACE CLEANING.
B. THE INDIVIDUAL LOT OWNER SHALL PERIODICALLY CLEAN DRAINAGE PIPES, INLETS, STONE EDGE DRAINS AND OTHER STRUCTURES WITHIN OR DRAINING TO THE SUBBASE.
C. THE INDIVIDUAL LOT OWNER SHALL USE DECISERS IN MODERATION. DECISERS SHOULD BE NON-TOXIC AND BE APPLIED EITHER AS CALCIUM MAGNESIUM ACETATE OR AS PRETREATED SALT.
D. THE INDIVIDUAL LOT OWNER SHALL ENSURE SNOW PLOWING IS PERFORMED CAREFULLY WITH BLADES SET ONE-INCH ABOVE THE SURFACE. PLOWED SNOW PILES AND SNOW MELT SHOULD NOT BE DIRECTED TO PERMEABLE PAVEMENT.

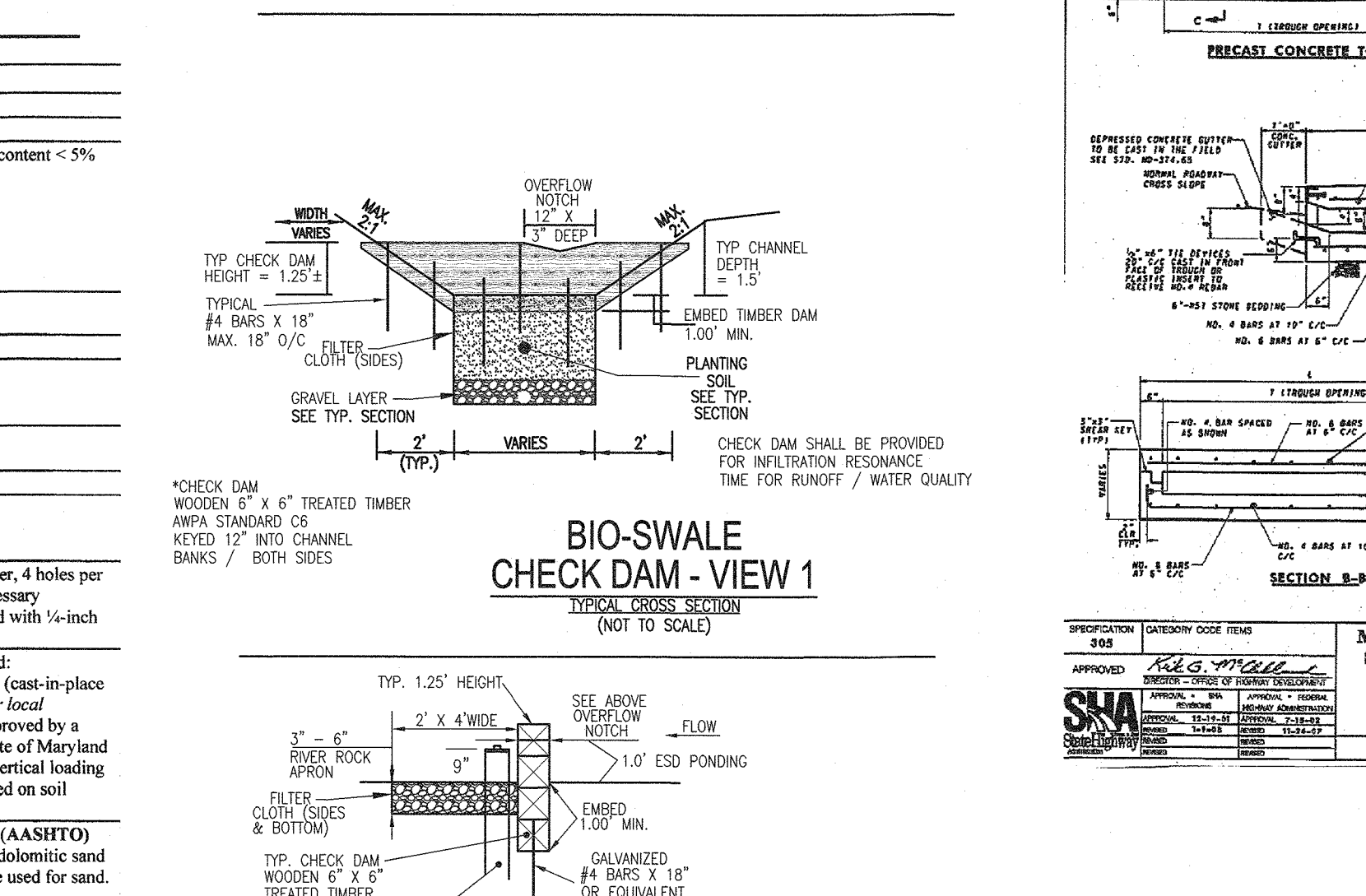


OWNER
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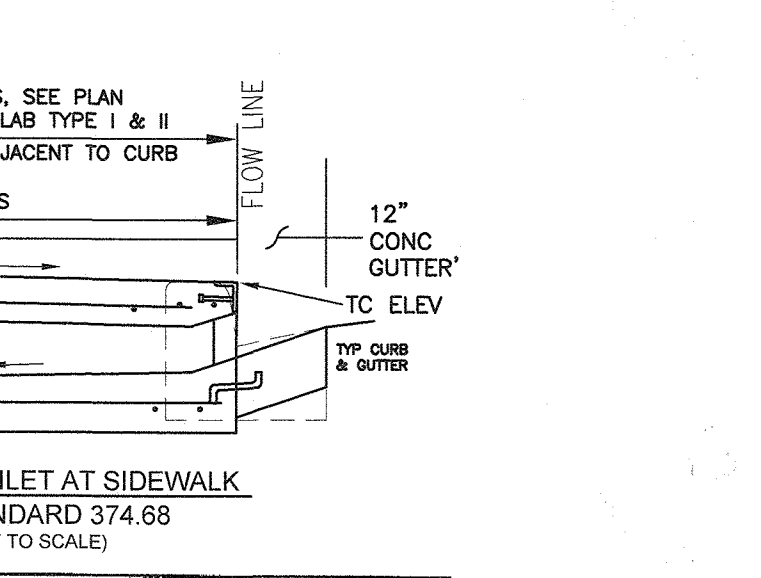
Appendix B.4. Construction Specifications for Environmental Site Design Practices

Material	Specification	Size	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site-specific
Planting soil (2" to 4" deep)	loamy sand (60-65%) & compost (35-40%) or sandy loam (30%), coarse sand (30%) & compost (40%)	n/a	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D 2974)	n/a	
Mulch	shredded hardwood	n/a	aged 6 months, minimum; no pine or wood chips
Pea gravel diaphragm	pea gravel: ASTM-D-448	NO. 8 OR NO. 9 (1/8" to 3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Geotextile	n/a	n/a	PE Type I nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	NO. 57 OR NO. 6	AGGREGATE (3/8" to 3/4")
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underdrain pipes. Perforated pipe shall be wrapped with 1/4-inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; F _c = 3500 psi @ 28 days, normal weight, air-entrained reinforcing to meet ASTM-615-60	n/a	on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved State or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 350.8.9.9, vertical loading (H-10 or H-20), allowable horizontal loading (based on soil pressure), and analysis of potential cracking
Sand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone (AASHTO) #10 are not acceptable. No calcium carbonate or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.



BIO-SWALE CHECK DAM - VIEW 1
TYPICAL CROSS SECTION (NOT TO SCALE)

BIO-SWALE CHECK DAM - VIEW 2
TYPICAL CROSS SECTION (NOT TO SCALE)



TYPICAL PERVIOUS DRIVEWAY UNDERDRAIN / OVERDRAIN DAYLIGHT OUTLET DETAIL
NOT TO SCALE

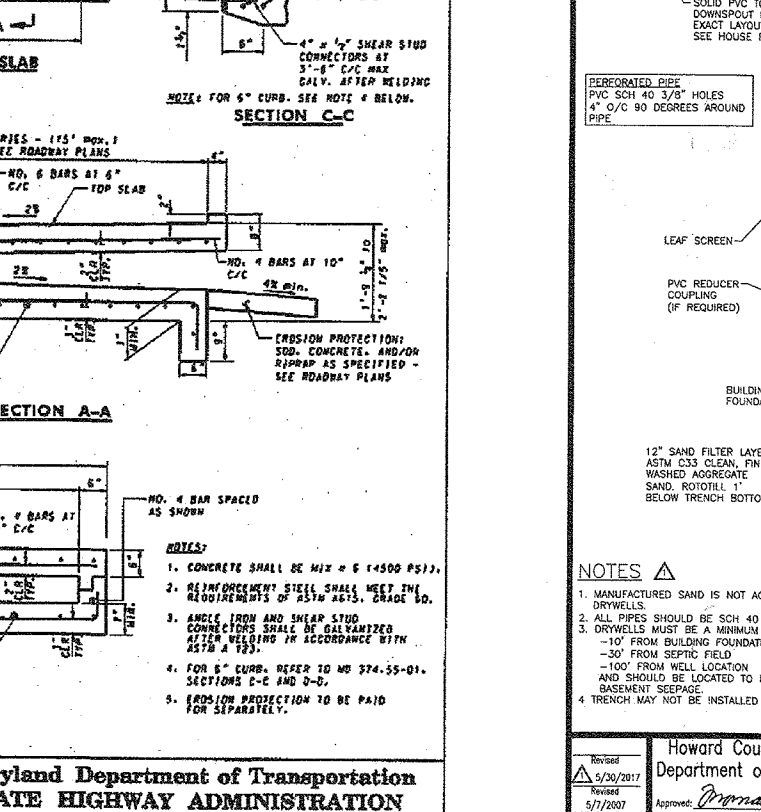
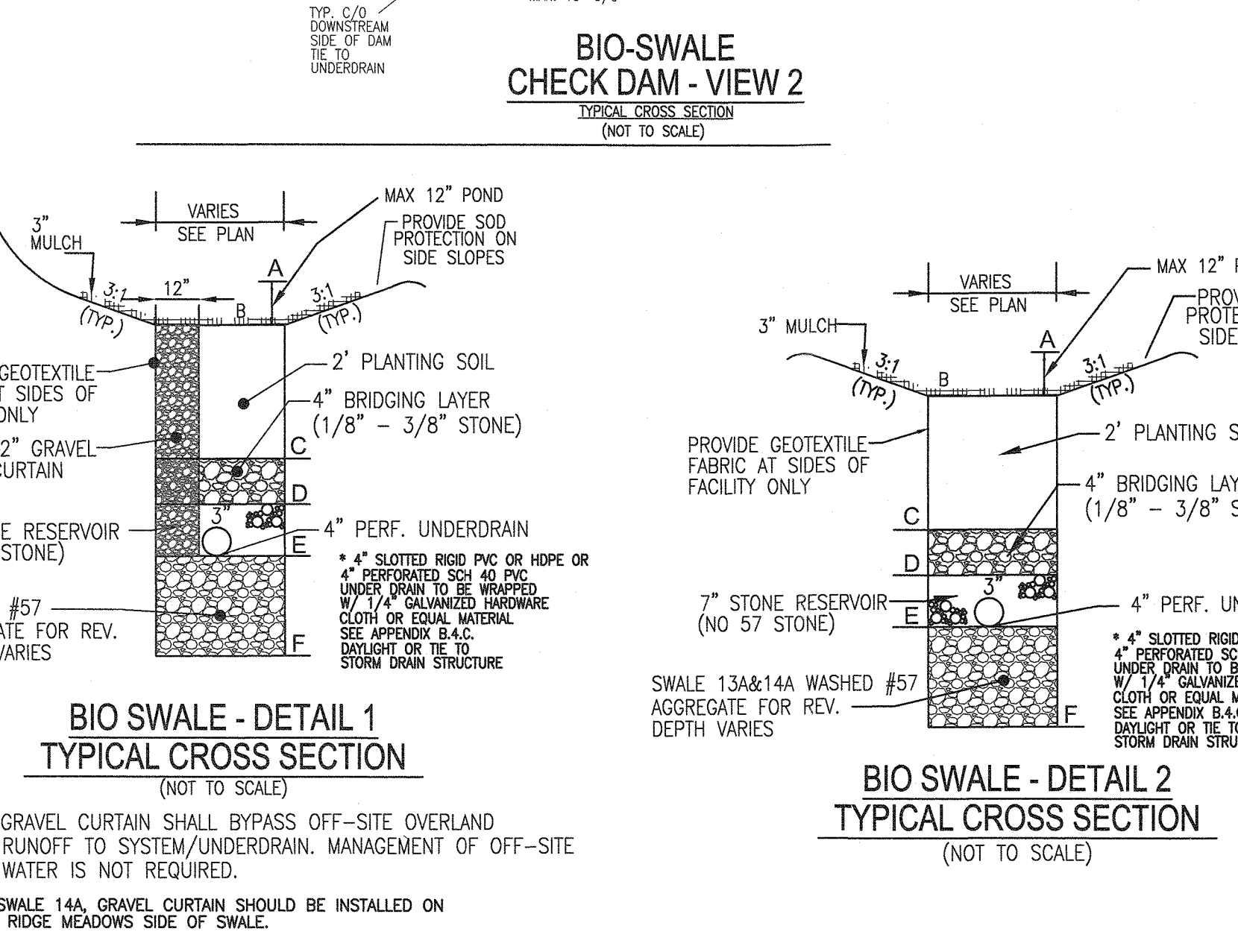


FIGURE 3 STANDARD DRYWELL DOWNSPOUT FITTINGS
2" x 8" 90° DOWNPOUT ADAPTER
2" x 8" 90° DOWNPOUT ADAPTER
4" PVC PIPE 45°
OVERFLOW WATER TO SPLASH BLOCK
4" PVC SNAP-IN DRAIN (SCREENED)
TO DRYWELL
4" SCHEDULE 40 PVC

OWNER
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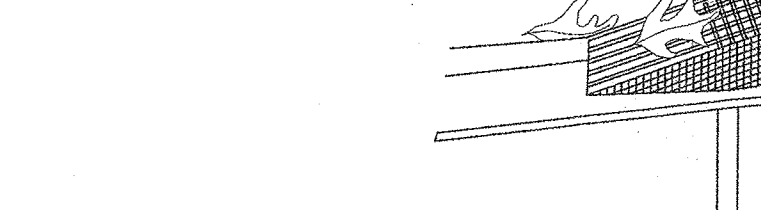
OPERATION AND MAINTENANCE SCHEDULE FOR MICROBIORETENTION / BIO-SWALE AREAS
1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL 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.
2. SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRCS.
3. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.



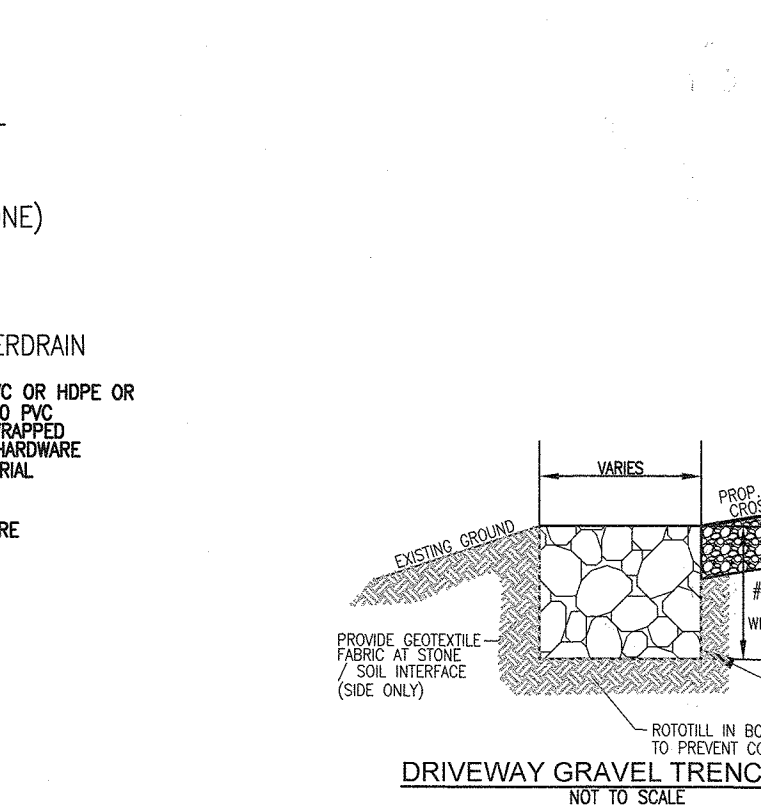
BIO SWALE - DETAIL 1
TYPICAL CROSS SECTION (NOT TO SCALE)

BIO SWALE - DETAIL 2
TYPICAL CROSS SECTION (NOT TO SCALE)

NOTE
REFER TO BIO SWALE 14A, GRAVEL CURTAIN SHOULD BE INSTALLED ON ADJOINING HIGH RIDGE MEADOWS SIDE OF SWALE.



GUTTER DRAIN FILTER DETAIL
NOT TO SCALE



DRIVEWAY GRAVEL TRENCH (M-5)
NOT TO SCALE

ON-LOT DRYWELL - SIZING CHART

ESD DA	LOT #	DW LOCATION	NUMBER OF DW'S	SURFACE SIZE	STONE DEPTH	SAND DEPTH
				FT X FT	FT	FT
DA-15	20	R	1	6.00 X 6.00	3	1
DA-15	21	R	1	4.00 X 9.00	3	1
DA-15	22	R	1	6.00 X 6.00	3	1
DA-15	23	R	1	4.00 X 9.00	3	1
DA-15	24	R	1	6.00 X 6.00	3	1
DA-7	35	R	1	4.00 X 9.00	3	1
DA-7	36	R	1	6.00 X 6.00	3	1
DA-7	37	R	1	4.00 X 9.00	3	1
DA-7	38	R	1	6.00 X 6.00	3	1
DA-7	39	R	1	4.00 X 9.00	3	1
DA-7	39	F	1	6.00 X 6.00	3	1
DA-6	46	R-F	4	6.00 X 6.00	3	1
DA-4	47	F	2	6.00 X 6.00	3	1
DA-2	48	R	2	6.00 X 6.00	3	1
DA-1	49	F	2	6.00 X 6.00	3	1
DA-3	50	F	1	6.00 X 6.00	3	1
DA-8	51	R	2	6.00 X 6.00	3	1
DA-8	52	R-F	3	6.00 X 6.00	3	1
DA-8	53	R-F	4	6.00 X 6.00	3	1
DA-9	54	R-F	2	6.00 X 6.00	3	1
DA-9	55	R	2	6.00 X 6.00	3	1
DA-9	56	R-F	3	6.00 X 6.00	3	1
DA-10	57	R-F	3	6.00 X 6.00	3	1
DA-10	58	R-F	3	6.00 X 6.00	3	1
DA-10	59	R	2	6.00 X 7.00	3	1

DRYWELL DESIGN SHALL BE FINALIZED UNDER FUTURE SITE DEVELOPMENT PLAN
R=REAR OF LOT
F=FRONT OF LOT

APPROVED: DEPARTMENT OF PUBLIC WORKS
DATE: 9/18/2019
CHIEF, BUREAU OF HIGHWAYS MK

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
DATE: 9-26-19
CHIEF, DEVELOPMENT ENGINEERING DIVISION JR

DATE: 9-30-19
CHIEF, DIVISION OF LAND DEVELOPMENT

FINAL ROAD CONSTRUCTION PLANS
STORMWATER MANAGEMENT NOTES AND DETAILS
MAGNOLIA MANOR
LOTS 1 - 61, OPEN SPACE LOTS 62 - 69, AND NON-BUILDABLE PARCEL 'A'
A SUBDIVISION OF TAX MAP 47 - PARCEL 163 - A RESUBDIVISION OF TAX MAP 47 - PARCEL 163 - GIDONS PROPERTY - SECTION 1 AREA 1 - LOTS 1-4 (PLAT 9114)

TAX MAP 47 - PARCEL 163 & 465
6TH ELECTION DISTRICT

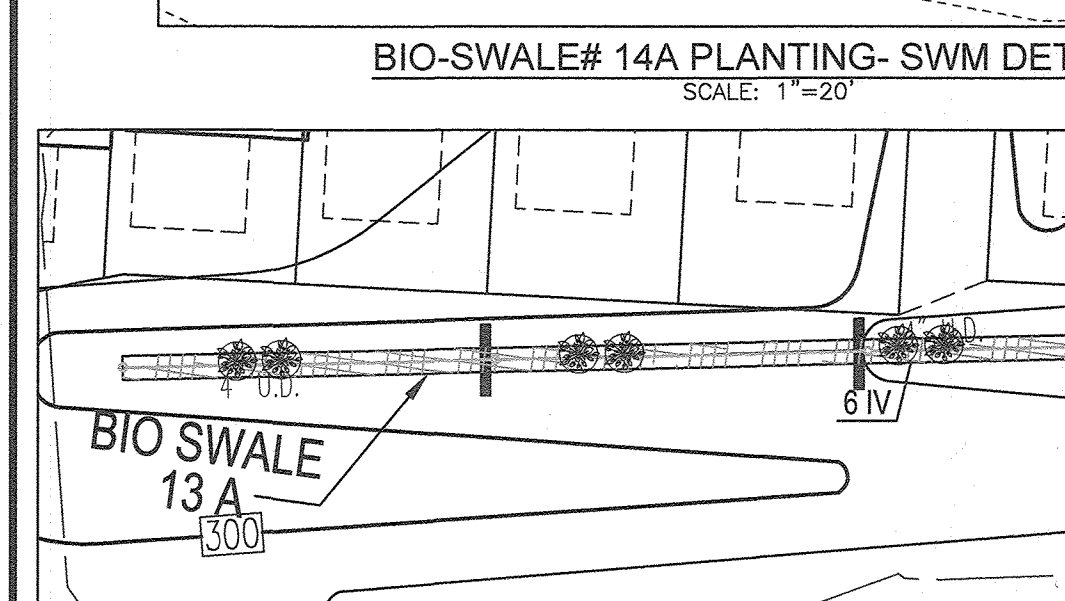
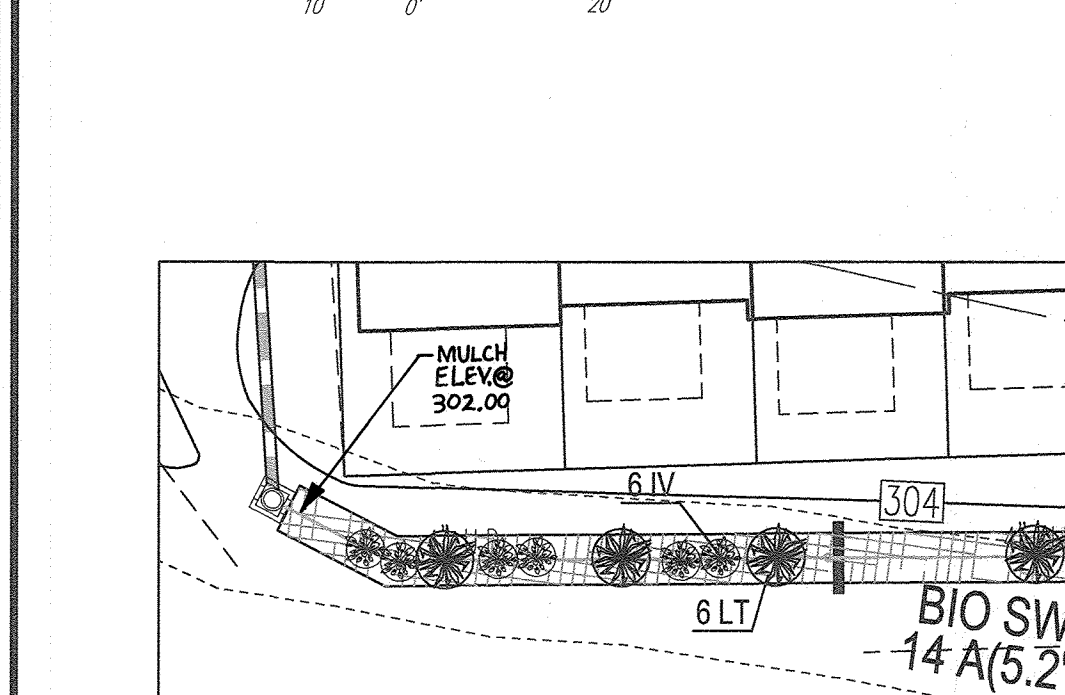
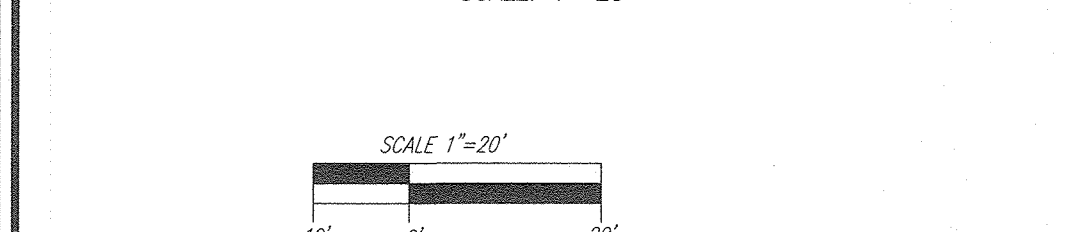
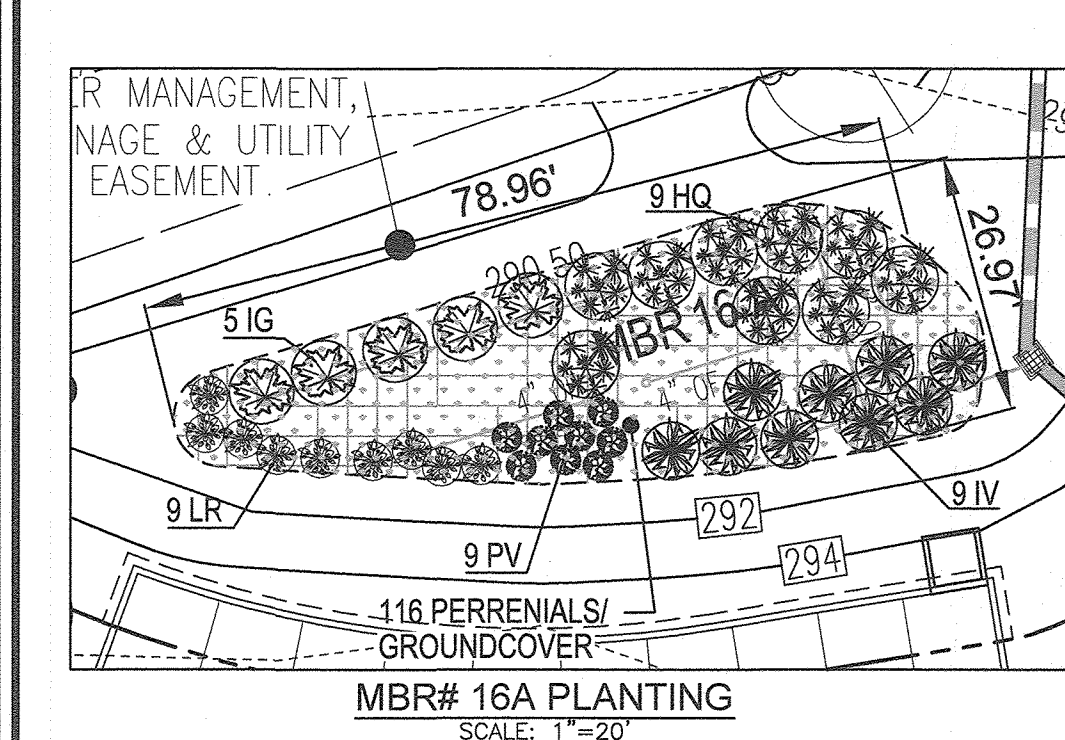
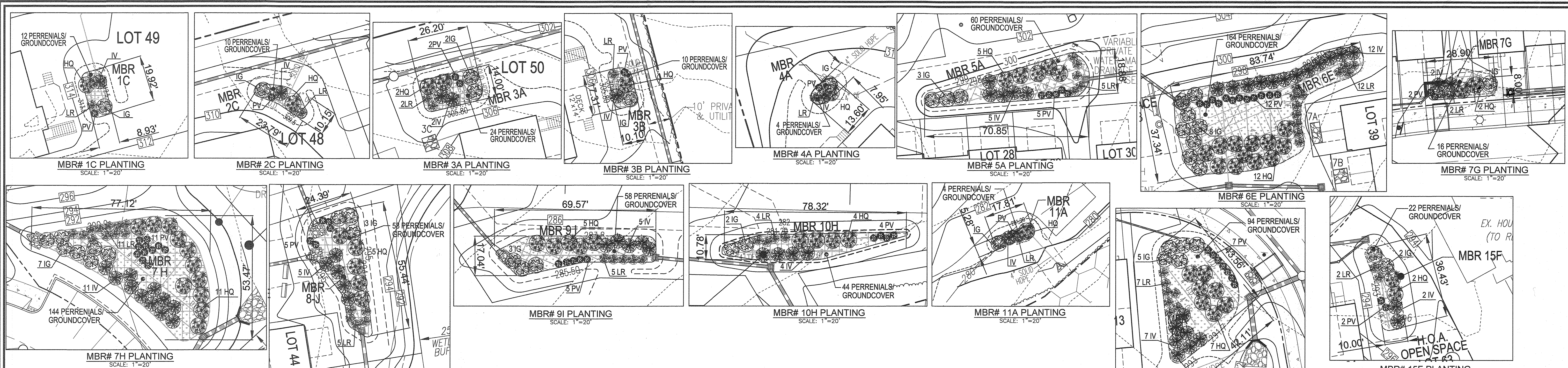
BLOCK 19 ZONING: R-SC
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
3300 N. RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
TEL: 410.461.7666 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE
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. 16193 EXPIRATION DATE: 08-27-2020

DESIGN BY: RHY
DRAWN BY: KG
CHECKED BY: RHY
DATE: AUGUST 2019
SCALE: AS SHOWN
W.O. NO.: 16-15

19 SHEET OF 21



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

9/15/2019
 DATE
 9-30-19
 DATE

MICRO-BIORETENTION PLANTING REQUIREMENTS				PLANTINGS PROVIDED						PERENNIALS/GROUND COVER PROVIDED			
MBR #	LF	AREA	STEMS REQUIRED (0.0229)	IG	IV	HQ	LR	PV	BA	AG	TOTAL		
MBR-1C	53	172	4	5	1	1	1	1	6	6	12		
MBR-2C	59	171	4	5	1	1	1	1	5	5	10		
MBR-3A	73	351	9	10	2	2	2	2	12	12	24		
MBR-3B	49	161	4	5	1	1	1	1	5	5	10		
MBR-4A	35	83	2	5	1	1	1	1	2	2	4		
MBR-5A	159	871	20	23	3	5	5	5	30	30	60		
MBR-6E	229	2351	54	56	8	12	12	12	82	82	164		
MBR-7G	71	229	6	9	1	2	2	2	8	8	16		
MBR-7H	207	2070	48	51	7	11	11	11	72	72	144		
MBR-8J	136	836	20	23	3	5	5	5	29	29	58		
MBR-9I	154	829	19	23	3	5	5	5	29	29	58		
MBR-10H	166	640	15	18	2	4	4	4	22	22	44		
MBR-11A	33	62	2	5	1	1	1	1	2	2	4		
MBR-12A	118	1356	32	33	5	7	7	7	47	47	94		
MBR-15F	87	338	8	10	2	2	2	2	11	11	22		
MBR-16A	191	1659	38	41	5	9	9	9	58	58	116		
TOTALS:	1820	12179	23	30	46	69	69	69	420	420	840		

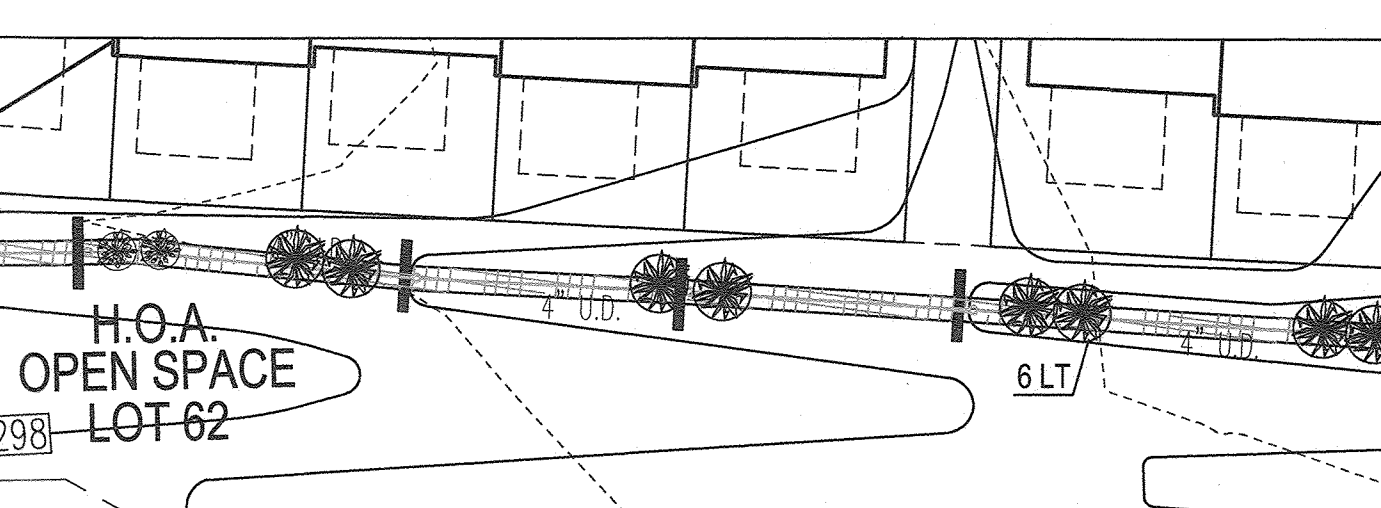
BIORETENTION AREAS ARE TO BE PLANTED BASED ON A MINIMUM DENSITY OF 1000 STEMS PER PLANTED ACRE (0.0229 STEMS PER SQUARE FOOT).

NOTE: WITH PERMISSION FROM HOWARD COUNTY, PLANTINGS SPECIFIED HEREON MAY BE SUBSTITUTED WITH APPROVED SPECIES LISTED IN TABLE A-4 AS SHOWN HEREON.

BIO-SWALE FACILITY PLANTING REQUIREMENTS						
FACILITY	FOOTPRINT	SWALE	MULCH	PLANTINGS	PLANTINGS OR EQUAL SUBSTITUTION	
#	SF	TOTAL	NUMBER	SWITCHGRASS	FLAG - IRIS VERSICOLOR	LULY TURF
13A	625	14	16	8	8	8
14A	493	11	12	6	6	6
TOTALS:	1118	26	28	14	14	14

NOTE: WITH PERMISSION FROM HOWARD COUNTY, PLANTINGS SPECIFIED HEREON MAY BE SUBSTITUTED WITH APPROVED SPECIES LISTED IN TABLE A-4 AS SHOWN HEREON.

1. BIO SWALE AREAS ARE TO BE PLANTED BASED ON A MINIMUM DENSITY OF 1000 STEMS PER PLANTED ACRE (0.0229 STEMS PER SQ. FT).
2. 50 SF MAJESTIC MLY TURF / BLUE FLAG = 1 PLANTING UNIT
3. PLANTINGS SHALL BE AS DETAILED ABOVE OR WITH EQUAL SUBSTITUTION.



BIO-SWALE - DESIGN ELEVATION CHART											
SWALE FACILITY	DETAIL	BIOSWALE ESD WSEL	LOW.PT. A	MULCH B	PLANT SOIL C	TOP D	BOTTOM PEA GRAVEL E	INV. PIPE (1) F	INV. STONE G	WIDTH FT	LENGTH FT
13A	2	294.00	293.00	290.75	290.42	289.84	289.01	2.5	250		
14A	1	303.00	302.00	300.25	299.92	299.34	298.51	5.2	96		

(1) UNDERDRAIN PIPE AND OVERFLOW DISTRIBUTION PIPE

MICRO-BIORETENTION DATA CHART												
MBR Facility	Ponding Depth (ft)	Ponding Elevation (ft)	Top of Mulch Elev. A	Bottom of Mulch Elev. B	Bottom of Plant Mix Elev. C	Bottom of Pea Gravel Elev. D	Depth of Stone (ft)	Invert of Underdrain (ft)	Invert of Underdrain Elev. F	Bottom of Stone Elev. G	REMARKS	
1-C	1	313.5	312.50	312.25	310.25	309.92	1	0.33	309.25	308.92		
2-C	1	309.00	308.00	307.75	305.75	305.42	1	0.33	304.75	304.42		
3-A	1	305.13	304.13	303.88	301.88	301.55	1	0.33	300.88	300.55		
3-B	1	305.13	304.13	303.88	301.88	302.05	1	0.33	301.38	301.05	18" PLANTING DEPTH	
4-A	1	311.00	310.00	309.75	307.75	307.42	1	0.33	306.75	306.42		
5-A	1	299	298.00	297.75	295.75	295.42	1	0.33	294.75	294.42		
6-E	1	297.5	296.50	296.25	294.25	294.42	1	0.33	293.75	293.42	18" PLANTING DEPTH	
7-G	1	300	299.00	298.75	296.75	296.42	1	0.33	295.75	295.42		
7-H	1	291.9	290.9	290.65	288.15	288.82	1	0.33	288.15	287.82	18" PLANTING DEPTH	
8-J	1	295.00	294.00	293.75	291.75	291.42	1	0.33	290.75	290.42		
9-I	1	284.80	283.80	283.55	281.55	281.22	1	0.33	280.55	280.22		
10-H	1	282.20	281.20	280.95	279.45	279.12	1	0.33	278.45	278.12	18" PLANTING DEPTH	
11-A	1	281.2	280.20	279.95	278.45	278.12	1	0.33	277.45	277.12	18" PLANTING DEPTH	
12-A	1	292.7	291.70	291.45	289.95	289.62	1	0.33	288.95	288.62	18" PLANTING DEPTH	
16-F	1	294.00	293.00	292.75	290.75	290.42	1	0.33	289.75	289.42		
16-A	1	291.5	290.5	290.25	288.25	288.92	1	0.33	288.25	287.92	12" PLANTING DEPTH	

STRUCTURE SCHEDULE									
STR #	TYPE	LOCATION	TOP	THROAT	INV. IN	INV. OUT	DETAIL	REMARKS	
1-1	YARD INLET	N 529647.91, E 1351440.61	291.50	-	288.43	288.33	D-4.12		
1-2	YARD INLET	N 529651.88, E 1351534.56	291.50	-	291.50	289.43	D-4.12		
1-3	TYPE A-5	N 529638.67, E 1351259.38	285.84	-	293.00/291.18	291.08	D-4.02	2.5' INSIDE WIDTH	
1-4	YARD INLET	N 529643.49, E 1351334.48	291.90	-	288.25	288.15	D-4.12		
1-5	TYPE A-5	N 529645.63, E 1351229.76	285.75	-	293.00	291.33	D-4.02	2.5' INSIDE WIDTH	
1-6	TYPE D	N 529628.75, E 1351267.67	303.83	303.00	-	294.54	D-4.10	1 THROAT	
1-7	YARD INLET	N 529618.20, E 1351251.18	292.70	-	289.20	288.95	D-4.12		
1-8	YARD INLET	N 529681.59, E 1351663.78	282.20	-	278.43	278.18	D-4.12		
1-9	YARD INLET	N 530013.23, E 1351594.57	284.80	-	280.44	280.44	D-4.12		
1-10	YARD INLET	N 530091.38, E 1351516.03	289.50	-	285.55	285.55	D-4.12		
1-11	YARD INLET	N 530099.49, E 1351380.70	297.50	-	294.51	294.51	D-4.12		
1-12	TYPE A-5	N 530059.93, E 1351314.84	301.08	-	294.30	294.30	D-4.02	2.5' INSIDE WIDTH	
1-13	YARD INLET	N 530038.38, E 1351381.38	295.00	-	289.79	289.79	D-4.12		
1-14	YARD INLET	N 530089.21, E 1351051.25	299.00	-	294.07	294.07	D-4.12		
1-15	YARD INLET	N 530050.92, E 1351121.90	297.50	-	293.22, 293.75	292.97	D-4.12		
1-16	YARD INLET	N 530035.24, E 1351158.41	297.50	-	292.47	292.47	D-4.12		
1-17	YARD INLET	N 53015.23, E 1351186.44	307.60	-	305.73	305.73	D-4.12		
1-18	TYPE D	N 529785.92, E 1351031.63	300.58	-	294.68	294.68	D-4.10	1 THROAT	
1-19	TYPE D	N 53021.87, E 1351092.29	308.43	-	294.34	294.34	D-4.10	3 THROAT	
1-20	TYPE D	N 529625.43, E 1351284.43	297.57	296.73	293.78	293.68	D-4.10	3 THROAT	
1-21	TYPE D	N 530013.32, E 1350900.01	301.83	301.00	-	295.64	D-4.10		
1-22	TYPE D	N 530297.45, E 1351297.65	308.43	307.60	301.82	301.72	D-4.10	1 THROAT	
M-1	STD. 4' PRECAST MANHOLE	N 529655.82, E 1351481.51	284.65	-	290.00/289.15	288.89	G-5.12	(1)	
M-2A	STD. 4' PRECAST MANHOLE	N 529918.61, E 1351302.09	293.67	-	288.60	288.50	G-5.12	(1)	
M-2B	STD. 4' PRECAST MANHOLE	N 529618.62, E 1351275.59	292.99	-	288.83, 288.73	288.73	G-5.12	(1)	
M-4	STD. 4' PRECAST MANHOLE	N 529681.72, E 1351134.50	297.80	-	295.00, 292.09, 292.09	291.99	G-5.12	(1)	
M-4A	STD. 4' PRECAST MANHOLE	N 529913.17, E 1351118.76	297.71	-	291.74, 291.66	291.56	G-5.12	(1)	
M-5	STD. 4' PRECAST MANHOLE	N 529684.33, E 1350904.41	303.07	-	295.32	295.07	G-5.12	(1)	
M-6	STD. 4' PRECAST MANHOLE	N 529667.07, E 1350957.79	302.31	-	294.80	294.70	G-5.12	(1)	
M-7	STD. 4' PRECAST MANHOLE	N 529685.11, E 1351374.98	293.30	-	289.29	289.05	G-5.12	(1)	
M-8	STD. 4' PRECAST MANHOLE	N 529685.25, E 1351290.50	293.46	-	289.69	289.59	G-5.12	(1)	
M-10	STD. 4' PRECAST MANHOLE	N 529684.62, E 1351279.29	297.82	-	294.00	294.24	G-5.12	(1)	
M-11	STD. 4' PRECAST MANHOLE	N 529681.99, E 1351285.89	295.25	-	290.68	290.18	G-5.12	(1)	
M-12	STD. 4' PRECAST MANHOLE	N 529748.40, E 1351267.89	284.03	-	289.29	289.19	G-5.12	(1)	
M-13	STD. 4' PRECAST MANHOLE	N 530406.28, E 1351219.34	305.90	-	302.90	300.92	G-5.12	(1)	
EW-1	TYPE 'A'	N 529708.17, E 1351468.02	290.25	-	289.00	288.00	D-5.21	(1)	
EW-2	TYPE 'A'	N 529645.02, E 1351551.75	291.50	-	289.00	288.00	D-5.11	(1)	
EW-4	TYPE 'A'	N 529685.11, E 1351374.98	292.00	-	289.00	288.00	D-5.11	(1)	
EW-5	TYPE 'A'	N 529645.07, E 1351658.16	280.25	-	278.00	278.00	D-5.21	(1)	
EW-6	TYPE 'A'	N 529798.78, E 1351245.78	293.75	-	290.50	290.50	D-5.11	(1)	
ES-2	END SECTION	N 530046.98, E 1351375.09	295.25	-	294.00	294.00	-	HDPE	
ES-3	END SECTION	N 530055.05, E 1351380.51	295.25	-	294.00	294.00	-	HDPE	
ES-4	END SECTION	N 530043.73, E 1351532.13	285.05	-	283.80	283.80	-	HDPE	
ES-5	END SECTION	N 530396.39, E 1351299.85	301.80	-	300.30	300.30	-	HDPE	
ES-6	END SECTION	N 530386.37, E 1351309.75	301.80	-	300.30	300.30	-	HDPE	
ES-7	END SECTION	N 529911.16, E 1351282.61	292.40	-	290.90	290.90	-	HDPE	
PT-1	PASS THRU	N 529628.62, E 1351224.39	292.40	-	-	-	D-4.35		
PT-2	PASS THRU	N 529628.66, E 1351599.16	292.40	-	-	-	D-4.35		
PT-3	PASS THRU	N 529637.34, E 1351313.33	292.40	-	-	-	D-4.35		
PT-4	PASS THRU	N 530083.03, E 1351237.47	292.40	-	-	-	D-4.35		
PT-5	PASS THRU	N 529699.03, E 1351007.65	292.40	-	-	-	D-4.35		
PT-6	PASS THRU	N 529655.23, E 1351484.77	292.40	-	-	-	D-4.35		
PT-7	PASS THRU	N 529646.11, E 1350893.82	292.40	-	-	-	D-4.35		
PT-8	PASS THRU	N 529615.29, E 1350882.34	292.40	-	-	-	D-4.35		
PT-9	PASS THRU	N 530028.43, E 1350880.14	292.40	-	-	-	D-4.35		

NOTE: 1. TOP ELEVATIONS ARE AT CENTER TOP OF HEADPIPE FOR TYPE 'A'-5', TOP OF GRATE FOR ALL TYPE 'S' INLETS, AND TOP OF MANHOLE COVER FOR 'D' INLETS AND PRECAST MANHOLES.
 2. FOR TOP SLAB SLOPES SEE GRADING PLAN.
 3. SEE ARCHITECTURAL PLANS FOR DOWNSPOUT AND ROOF DRAIN DETAILS.
 4. ALL CUSTOM AND NON-STANDARD STRUCTURES TO BE DESIGNED BY A QUALIFIED STRUCTURAL ENGINEER.

Appendix A. Landscaping Guidance for Stormwater BMPs - Specific Landscaping Criteria		
Tree	Shrub	Herbaceous Species
Acer rubrum	Asclepias parviflora	Andropogon virginicus
Red Maple	Botanobasis Buckeye	Broomrape
Baldwin Black	Cephalanthus occidentalis	Eupatorium perfoliatum
Black Birch	Burnsambucus	Joe Pye Weed
Juniperus virginiana	Hamamelis virginiana	Scirpus pungens
Eastern Red Cedar	Witch Hazel	Three Square Balm
Chionodoxa virginiana	Lindera benzoin	Andropogon virginicus
Prinos	Andropogon virginicus	Andropogon virginicus
Black Gum	Blackberry	Cardinal Flower
Disopyrus virginiana	Ilex verticillata	Panicum virgatum
Wintergreen	Waterberry	Switchgrass
Platanus occidentalis	Viburnum dentatum	Dichanthium spicatum
White Oak	Arrowwood	Broom Pines Grass
Quercus palustris	Lindera benzoin	Rudbeckia hirta
Pin Oak	Spiraea	Tall Coreopsis
Quercus phellos	Myrica pennsylvanica	Scirpus cespitosus



LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING CURB AND GUTTER
- PROPOSED CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING FENCE
- EXISTING PROPERTY LINE
- RIGHT-OF-WAY LINE
- EX. WETLANDS
- EX. WETLAND BUFFER
- EX. STREAM
- EX. STREAM BUFFER
- FOREST CONSERVATION EASEMENT (REFORESTATION)
- FOREST CONSERVATION EASEMENT (RETENTION)
- LED-150 PREMIER COLONIAL POST-TOP FIXTURE MOUNTED ON A 14" BLACK FIBERGLASS POLE
- LED-100 PREMIER COLONIAL POST-TOP FIXTURE MOUNTED ON A 14" BLACK FIBERGLASS POLE

STREET LIGHT TABLE

STREET NAME	STA.	OFFSET	FIXTURE TYPE
LAURENS WAY	0+34.00	20.00' R	LED-150 PREMIER COLONIAL POST-TOP FIXTURE MOUNTED ON A 14" BLACK FIBERGLASS POLE
LAURENS WAY	1+57.00	17.00' L	
LAURENS WAY	2+73.00	17.00' L	
LAURENS WAY	4+00.00	17.00' L	LED-100 PREMIER COLONIAL POST-TOP FIXTURE MOUNTED ON A 14" BLACK FIBERGLASS POLE
LAURENS WAY	5+00.00	17.00' L	
LAURENS WAY	6+60.00	16.00' R	
LAURENS WAY	7+82.00	17.00' R	
LAURENS WAY	1+56.23		

STREET LIGHT TABLE

STREET NAME	STA.	OFFSET	FIXTURE TYPE
GIDDINGS CROSSING CUL-DE-SAC	2+21.06		LED-100 PREMIER COLONIAL POST-TOP FIXTURE MOUNTED ON A 14" BLACK FIBERGLASS POLE

OWNER
 MARANATHA MAGNOLIA MANOR, LLC
 MICHAEL PFAU MANAGING MEMBER
 LIVE FEARLESS IN CHRIST, LLC
 MICHAEL PFAU MANAGING MEMBER
 3675 PARK AVE., SUITE 301
 ELLICOTT CITY, MD 21043
 (410) 480-0023

DEVELOPER
 TRINITY HOMES MARY LAND, LLC
 3675 PARK AVE., SUITE 301
 ELLICOTT CITY, MD 21043
 (410) 480-0023

3	REMOVE AMENITIES FROM OPEN SPACE LOTS G2, G7 AND G8	10-18-23
2	REVISE BUS PAD, SIDEWALK RAMPS, SIGN EASEMENT AND INLET 1B	4-13-22
	REVISION	DATE

FINAL ROAD CONSTRUCTION PLANS
STREET LIGHT LOCATION PLAN
MAGNOLIA MANOR
 LOTS 1 - 61, OPEN SPACE LOTS 62 - 69, AND NON BUILDABLE PARCEL 'A'
 A SUBDIVISION OF TAX MAP 47 - PARCEL 465 AND A RESUBDIVISION OF
 TAX MAP 47 - PARCEL 163 - GIDDINGS PROPERTY - SECTION 1 AREA 1 - LOTS 1-4 (PLAT 9114)

TAX MAP: 47 PARCELS: 163 & 465
 6TH ELECTION DISTRICT

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 3300 N. RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
 TEL: 410.461.7666 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE

DESIGN BY: RHV
 DRAWN BY: KG
 CHECKED BY: RHV
 DATE: AUGUST 2019
 SCALE: AS SHOWN
 W.O. NO.: 16-15

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. 11913, EXPIRATION DATE: 08-27-2020

21 SHEET OF 21

APPROVED: DEPARTMENT OF PUBLIC WORKS
 James 9/18/2019
 CHIEF, BUREAU OF HIGHWAYS MK DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chad Plunk 9-26-19
 CHIEF, DEVELOPMENT ENGINEERING DIVISION JR DATE

Kurt Shadish 9-30-19
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

STREET LIGHT LOCATION PLAN
 SCALE: 1"=50'
 SCALE 1"=50'
 25' 0' 50'