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GENERAL NOTES

- ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST CHARLES COUNTY DEPARTMENT OF PLANNING & GROWTH MANAGEMENT SPECIFICATIONS MANUAL, THE LATEST CHARLES COUNTY DETAIL MANUAL AND IN ACCORDANCE WITH CURRENT COUNTY ORDINANCES.
- CONTRACTOR IS RESPONSIBLE FOR NOTIFYING "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION OR CONSTRUCTION FOR THEM TO MARK THE LOCATION OF EXISTING UTILITIES.
- THE DEVELOPER IS RESPONSIBLE TO HOLD A "PRECONSTRUCTION" MEETING TO INCLUDE THE CONTRACTOR, CHARLES COUNTY INSPECTION PERSONNEL, PUBLIC UTILITIES, AND ANY LOCAL, STATE OR FEDERAL AGENCIES AS REQUIRED PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE CHARLES COUNTY DEPARTMENT OF PLANNING AND GROWTH MANAGEMENT/ CODES, PERMITS & INSPECTION SERVICES DIVISION 48 HOURS PRIOR TO THE START OF ALL CONSTRUCTION IN ACCORDANCE TO ALL PERMITS ISSUED AT (301) 645-0700.
- MAXIMUM SLOPES SHALL BE NOT GREATER THAN THREE (3) FEET HORIZONTAL TO ONE (1) FOOT VERTICAL. OUTSIDE THE ROAD RIGHT-OF-WAY, SLOPES WITHIN THE ROAD RIGHT-OF-WAY SHALL BE NOT GREATER THAN TWO (2) FEET HORIZONTAL TO ONE (1) FOOT VERTICAL, OR AS SPECIFIED IN THE COUNTY ROAD ORDINANCE AND IN THE CHARLES COUNTY DETAIL MANUAL.
- CERTIFIED COMPACTION TESTS PREPARED BY A LICENSED MARYLAND GEOTECHNICAL ENGINEER ARE REQUIRED FOR ALL TRENCH/FILL WORK ON SITE IN ACCORDANCE WITH THE LATEST EDITION OF THE SPECIFICATIONS MANUAL AND GRADING ORDINANCE. FINAL REPORTS AND CERTIFICATIONS SHALL BE PROVIDED PRIOR TO PREFINAL INSPECTIONS. CERTIFIED COMPACTION TESTS AND GEOTECHNICAL REPORTS SHALL BE SUBMITTED ON A BI-WEEKLY BASIS THROUGHOUT THE COURSE OF CONSTRUCTION AS REQUIRED BY THE SPECIFICATIONS MANUAL. EARTHWORK SHALL BE PLACED AND COMPACTED TO A POINT AT LEAST (3) THREE FEET ABOVE THE TOP OF THE WATER, SEWER, AND STORM DRAIN LINES BEFORE CONSTRUCTION OF, OR EXCAVATION FOR THE WATER, SEWER, OR STORM DRAIN LINES AND/OR IN ACCORDANCE WITH THE LATEST EDITION OF THE CHARLES COUNTY STANDARDS AND SPECIFICATIONS FOR CONSTRUCTION. FOR GENERAL TECHNICAL REQUIREMENTS ASSOCIATED WITH FILL, REFER TO SECTION 204-11 OF THE CHARLES COUNTY CODE ON THE SEDIMENT AND EROSION CONTROL DETAIL SHEET.
- PRIOR TO THE BOND RELEASE, ALL OUTFALLS SHALL BE INSPECTED AND APPROVED BY THE COUNTY.
- WITH APPROVAL FROM CHARLES COUNTY DEPARTMENT OF PLANNING AND GROWTH MANAGEMENT, ALL EROSION AND SEDIMENT CONTROL STRUCTURES MUST BE REMOVED PRIOR TO THE RELEASE OF BONDS.
- A PROGRESS SET OF AS-BUILT-PLANS SHALL BE SUBMITTED PRIOR TO "SUBSTANTIAL INSPECTIONS" FOR WATER AND SEWER CONSTRUCTION FOR THE PURPOSE OF OBTAINING AN APPROVAL FOR SUBSTANTIAL INSPECTION. AS-BUILT PLANS SHALL BE SUBMITTED PRIOR TO PREFINAL INSPECTIONS FOR ALL DISCIPLINES.
- AS-BUILT PLANS SHALL BE SUBMITTED PRIOR TO PRE FINAL INSPECTIONS FOR ALL DISCIPLINES.
- AN AGENCY APPROVED COPY OF THESE PLANS SHALL BE ON SITE AT ALL TIMES.
- ALL GEOTECHNICAL REPORTS FOR INSPECTION PURPOSES SHALL BE PREPARED BY AN ACCREDITED GEOTECHNICAL ENGINEERING FIRM AND/OR AN ACCREDITED SOIL TESTING AND INSPECTION AGENCY. ACCEPTABLE ACCREDITATION AGENCIES INCLUDE WASHINGTON AREA COUNCIL OF ENGINEERING LABORATORIES (WACEL), AMERICAN ASSOCIATION FOR LABORATORY ACCREDITATION (AALA), AND THE AASHTO ACCREDITATION PROGRAM (AAP). CERTIFICATION OF INDIVIDUALS DURING TESTING AND INSPECTIONS MAY ALSO BE REQUIRED.
- TOPOGRAPHY PREPARED BY BDAL: VERTICAL DATUM IS NAVD 88 (TWO FOOT CONTOURS); HORIZONTAL DATUM IS NAD 83/07.
- DURING WATER, SEWER, STORMWATER MANAGEMENT, AND/OR STORM DRAIN CONSTRUCTION, INSPECTIONS ARE REQUIRED IN ACCORDANCE WITH THE APPROVED PLANS AND ORDINANCES.
- ALL GRADES, ELEVATIONS, EARTH QUANTITIES, ETC. ARE TO BE VERIFIED BY THE CONTRACTOR. NO ALLOWANCE HAS BEEN MADE FOR UNSUITABLE MATERIAL, ENCOUNTERED DURING CONSTRUCTION. SUITABILITY OF SOIL USE IN FILL AREAS OR STABILITY OF CUT AREAS, COMPACTIONS, ETC. SHOULD BE DETERMINED BY A PROFESSIONAL ENGINEER.
- ANY GEOTECHNICAL RESULTS PREPARED THEREAFTER, SHALL BE USED TO PROVIDE DETAILS FOR PAVEMENT SECTIONS, LIFT THICKNESS, COMPACTION, DRAINAGE, AND ANY OTHER SITE SPECIFIC RECOMMENDATIONS AND REQUIREMENTS. THOSE RECOMMENDATIONS AND REQUIREMENTS SHALL TAKE PRECEDENCE OVER ANY CONFLICTING INFORMATION BETWEEN THE PLANS AND THE REPORT.
- THE CONTRACTOR HAS SOLE RESPONSIBILITY FOR THE CONSTRUCTION MEANS, METHODS, AND TECHNIQUES OF EXECUTING ITS WORK, INCLUDING SAFETY.
- THIS PLAN HAS BEEN PREPARED BASED ON AVAILABLE RECORDS, BUT WITHOUT THE BENEFIT OF A TITLE REPORT. THERE MAY EXIST ADDITIONAL CONVEYANCES, EASEMENTS, COVENANTS, RIGHT-OF-WAY, OR BUILDING RESTRICTION LOTS NOT SHOWN HEREIN.
- ALL DISTURBED AREAS THAT WILL NOT BE PAVED, SODDED, OR LANDSCAPED WILL BE STABILIZED BY TOPSOILING, SEEDING, MULCHING IN ACCORDANCE WITH CHAPTERS B-4-2 & B-4-3 OF THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION & SEDIMENT CONTROL.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING STRUCTURES AND UNDERGROUND UTILITIES.
- INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS. THE CONTRACTOR MUST DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF THE MAINS BY DIGGING TEST PITS BY HAND AT UTILITY CROSSINGS WELL IN ADVANCE OF TRENCHING. IF CLEARANCES OF THE LINES ARE LESS THAN SHOWN ON THIS PLAN OR LESS THAN TWELVE INCHES, CONTACT THE ENGINEER AND OTHER INVOLVED UTILITY COMPANIES BEFORE PROCEEDING WITH CONSTRUCTION.
- OMISSIONS AND/OR ADDITIONS OF UTILITIES FOUND DURING CONSTRUCTION SHALL BE THE SOLE RESPONSIBILITY OF ANY CONTRACTOR ENGAGED IN EXCAVATION AT THIS SITE. BEN DYER ASSOCIATES, INC. (BDAI) SHALL BE NOTIFIED IMMEDIATELY OF ANY AND ALL UTILITY INFORMATION, OMISSIONS AND ADDITIONS FOUND BY ANY CONTRACTOR.
- DUE TO THE PROXIMITY OF LIVE UNDERGROUND AND OVERHEAD UTILITIES, BDAI IS NOT RESPONSIBLE FOR ANY DAMAGE OR INJURY SUSTAINED DURING CONSTRUCTION BY ANY PERSONS, TRUCKS, TRAILERS, OR EQUIPMENT USED ON OR ADJACENT TO THE SITE.
- ALL UTILITY POLES SHALL BE BRACED WHEN NECESSARY AT THE CONTRACTORS EXPENSE. THE UTILITY POLES SHALL BE RELOCATED AT THE OWNERS EXPENSE ONLY IN CASES WHEN THEY INTERFERE WITH CONSTRUCTION.
- IN ACCORDANCE WITH SECTION 6.5 OF THE ROAD ORDINANCE, STREET LIGHTING IS NOT PERMITTED WITHIN COUNTY ROAD RIGHTS-OF-WAY OUTSIDE OF THE URBAN ROAD STANDARDS DISTRICT. THE COUNTY SHALL NOT PROVIDE, MAINTAIN OR OPERATE STREET LIGHTS.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER OF ANY DEVIATION OR DISCREPANCY TO THIS PLAN PRIOR TO ANY CHANGE BEING MADE. ANY CHANGES MADE TO THE PLAN MADE WITHOUT WRITTEN AUTHORIZATION FOR SAID CHANGE FROM THE ENGINEER SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR OR THE SUBCONTRACTOR. SAID CHANGES MAY WARRANT COUNTY AND/OR SOIL CONSERVATION DISTRICT REVIEW AND APPROVAL.
- THE CONTRACTOR SHALL NOTE THAT IN THE CASE OF A DISCREPANCY BETWEEN THE SCALED AND FIGURED DIMENSIONS SHOWN ON THESE PLANS, THE FIGURED DIMENSION SHALL GOVERN.
- IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY WORK THAT WOULD NATURALLY BE REQUIRED TO COMPLETE THE PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PERFORM SUCH WORK.
- QUANTITIES OF MATERIALS INDICATED ON THESE PLANS SHOULD BE CHECKED BY THE CONTRACTOR PRIOR TO BIDDING, AND THEN AGAIN, PRIOR TO INSTALLATION.
- ALL STREET SIGNS AND REGULATORY SIGNS SHALL BE IN PLACE IMMEDIATELY AFTER PLACEMENT OF BASE COURSE ASPHALT. REFER TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR PROVIDING SIGNAGE AND PLACEMENT REQUIREMENTS.
- THE FOLLOWING UTILITY COMPANIES SHALL BE CONTACTED BY THE CONTRACTOR PRIOR TO CONSTRUCTION: COLUMBIA GAS, WASHINGTON GAS, COMCAST, VERIZON, S.M.E.C.O., AND AT&T.
- ESTIMATES OF EARTHWORK QUANTITIES ARE PROVIDED SOLELY FOR THE PURPOSE OF DETERMINING PERMITTING REQUIREMENTS. SINCE FINAL EARTHWORK QUANTITIES ARE BASED ON MANY VARIABLE CONDITIONS, OVER WHICH THE ENGINEER HAS NO CONTROL, INCLUDING VARIABILITY OF SOILS, ALLOWABLE SURVEY AND CONSTRUCTION TOLERANCES AND COMPACTION RATIOS, THE ENGINEER CANNOT GUARANTEE THE ACCURACY OF THE ESTIMATES FOR FINAL CONSTRUCTION. THE OWNER/DEVELOPER SHOULD REQUIRE THE CONTRACTORS TO PROVIDE THEIR OWN ESTIMATES OF THE QUANTITIES IN THEIR RESPECTIVE BIDS.
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS CERTIFIED BY A MARYLAND PROFESSIONAL ENGINEER TO THE COUNTY PRIOR TO THE PLACEMENT OF PRECAST STRUCTURES, PER ORDINANCE 8.5(h).
- THE CONTRACTOR SHALL SUBMIT A SHOP DRAWING CERTIFIED BY A MARYLAND PROFESSIONAL ENGINEER FOR ANY STRUCTURES THAT ARE MODIFIED FROM A STANDARD DETAIL THAT WILL BE WITHIN AN EASEMENT OR RIGHT-OF-WAY DEDICATED TO THE COUNTY.
- FOR ALL STRUCTURES CATEGORIZED AS BRIDGE" ACCORDING TO THE DEFINITION CONTAINED IN SECTION GP-1 OF THE CHARLES COUNTY STANDARDS & SPECIFICATIONS FOR CONSTRUCTION MANUAL, BRIDGE INSPECTION REPORT AND CERTIFICATION REQUIREMENTS SHALL BE MET PRIOR TO THE ROAD PRE FINAL INSPECTION.

SEDIMENT CONTROL NOTES

- TOTAL DISTURBED AREA = ±0.29 ACRES CUT = ±0.00 CY FILL = ±0.00 CY
- ALL SEDIMENT CONTROL MEASURES WILL BE CONSTRUCTED AND PLACED IN OPERATION BEFORE EXCAVATION IS STARTED. THE CONTRACTOR SHALL ADJUST THE SEDIMENT CONTROL DEVICES AS NECESSARY TO MEET FIELD CONDITIONS, KEEP THEM CLEAN AND IN WORKING ORDER DURING CONSTRUCTION, AND REMOVE THEM AT THE END OF THE CONSTRUCTION WITH THE DISTURBED AREA BEING STABILIZED IN ACCORDANCE WITH NOTE A BELOW. NO SEDIMENT CONTROL DEVICE SHALL BE REMOVED UNTIL THE ENTIRE AREA DRAINING TO IT HAS BEEN PERMANENTLY STABILIZED, AND UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR.
 - THE CONTRACTOR SHALL TAKE WHATEVER MEASURES ARE NECESSARY TO KEEP MUD AND DEBRIS FROM BEING TRACKED ON PUBLIC ROADS. ALSO, ANY SPOIL/BORROW MATERIAL SHALL BE TOPFOM A SITE WITH AN APPROVED & ACTIVE SEDIMENT CONTROL PLAN.
 - ALL DISTURBED AREAS THAT WILL NOT BE PAVED, SODDED, OR LANDSCAPED WILL BE STABILIZED BY TOPSOILING, SEEDING, AND MULCHING IN ACCORDANCE WITH CHARLES COUNTY SCD VEGETATIVE ESTABLISHMENT NOTES OR SPECIFICATIONS AND CHAPTERS B-4-2 & B-4-3 OF 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. THE FOLLOWING REQUIREMENTS WILL BE MET:
 - REFER TO DETAILS AND SPECIFICATIONS FOR VEGETATIVE ESTABLISHMENT ON SEDIMENT AND EROSION CONTROL DETAIL SHEET #
 - TEMPORARY STABILIZATION WILL BE IN ACCORDANCE WITH CHARLES COUNTY SCD VEGETATIVE ESTABLISHMENT NOTES AND SPECIFICATIONS OR CHAPTER B-4 OF THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL."
 - UNLESS EXTENDED IN WRITING, CHARLES SOIL CONSERVATION DISTRICT APPROVAL OF THIS SEDIMENT CONTROL PLAN EXPIRES ON: REQUEST FOR EXTENSION MUST BE SUBMITTED IN WRITING TO THE DISTRICT.
 - AN APPROVED COPY OF THE SEDIMENT CONTROL PLAN SHALL BE ON THE SITE AT ALL TIMES.
 - OFFSITE CUT OR FILL MUST BE FROM TO A SITE WITH AN APPROVED AND ACTIVE SEDIMENT CONTROL PLAN.
 - SITE MUST BE GRADED IN SUCH A MANNER THAT THE APPROVED DRAINAGE DIVIDES ARE MAINTAINED THROUGHOUT SITE CONSTRUCTION.
 - INSTALLATION OF ADDITIONAL INLET PROTECTION MAY BE PERMITTED BY THE SEDIMENT AND EROSION CONTROL INSPECTOR IF THE DRAINAGE AREA TO SAID INLET DRAINS TO AN APPROVED SEDIMENT AND EROSION CONTROL PRACTICE.
 - NOTE TO THE CONTRACTOR: THE CHARLES SOIL CONSERVATION DISTRICT HAS PROVIDED NOTES AND SPECIFICATIONS WITH REGARD TO EROSION AND SEDIMENT CONTROLS WITH PARTICULAR ATTENTION TO USE IN CHARLES SCD VEGETATIVE ESTABLISHMENT NOTES, SPECIFICATIONS, PRACTICES, ETC.). THE CONTRACTOR SHALL REVIEW AND BECOME FAMILIAR WITH THESE CRITERIA. FOR ANY ADDITIONAL INFORMATION OR DETAIL NOT COVERED BY THE LOCAL SCD PRODUCED NOTES, THE CONTRACTOR SHALL RELY UPON THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

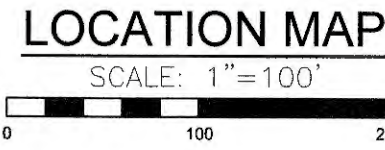
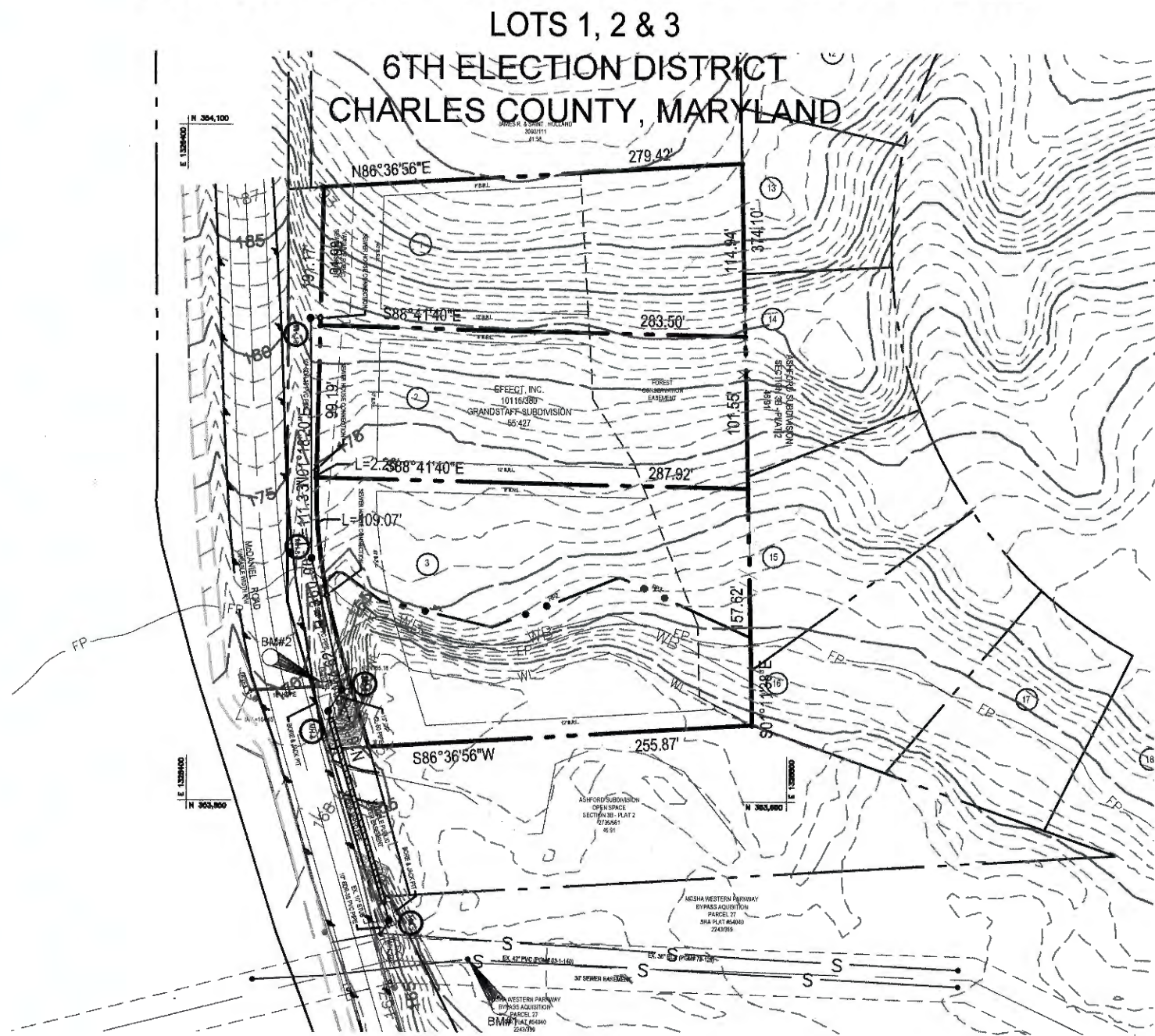
SEDIMENT & EROSION CONTROL SEQUENCE OF CONSTRUCTION

GENERAL:

- ALL INSPECTIONS PERTAINING TO SEDIMENT & EROSION CONTROL WILL BE PERFORMED BY THE DEPARTMENT OF PLANNING AND GROWTH MANAGEMENT, DEVELOPMENT SERVICES, SEDIMENT & EROSION CONTROL INSPECTORS.
- CONTRACTOR MUST NOTIFY THE COMPLIANCE PROGRAM, CHARLES COUNTY SEDIMENT CONTROL INSPECTIONS, (301) 645-0700, 5 DAYS PRIOR TO COMMENCING WORK.
 - FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERMETER CONTROLS, DIKES, SWALES, DITCHES, PERMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL, (3:1) AND SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE, NOT UNDER ACTIVE GRADING. ONCE VEGETATION IS ESTABLISHED, THE SITE SHALL HAVE 90% GROUND COVER TO BE CONSIDERED ADEQUATELY STABILIZED.
 - ANY OTHER APPROVED SEDIMENT AND EROSION CONTROL PLAN WITH A SEQUENCE AND/OR PRACTICES WHICH CONFLICT WITH THIS PLAN SHALL REQUIRE PLAN REVISIONS FOR ALL AFFECTED PLANS APPROVED BY THE CHARLES SOIL CONSERVATION DISTRICT.
 - EROSION AND SEDIMENT CONTROL PRACTICES AND SITE, IN GENERAL, MUST BE INSPECTED WEEKLY AND AFTER EACH RAINFALL EVENT BY THE CONTRACTOR OR OTHER RESPONSIBLE PERSON, AND ANY MAINTENANCE NEEDED TO BE PERFORMED IMMEDIATELY.
 - FOR MATERIAL THAT IS TO BE REMOVED AND TAKEN OFFSITE, IT SHALL GO TO A SITE WITH AN ACTIVE AND APPROVED EROSION AND SEDIMENT CONTROL PLAN. IF REQUESTED BY THE INSPECTOR, PROVIDE THEM WITH THE CHARLES SCD APPROVAL NUMBER.
- ALL SEDIMENT CONTROL DEVICES SHALL BE CONSTRUCTED, MAINTAINED, AND REMOVED IN ACCORDANCE WITH THE SPECIFICATIONS AND STANDARD DETAILS GIVEN IN THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL."
- THE FOLLOWING SHALL APPLY DURING CONSTRUCTION, AT ALL TIMES:
 - ALL UTILITY CONSTRUCTION SHALL BEGIN AT THE DOWNSTREAM END AND THE EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.
 - ANY EXISTING UTILITIES SUCH AS ELECTRIC, PHONE, ETC. ALONG THE PERIPHERY OF THE PROPERTY THAT NEED TO BE RELOCATED, ABANDONED OR OTHERWISE DEALT WITH SHALL BE DONE PRIOR TO THE INITIATION OF EARTH DISTURBANCE. OR, SHALL BE COORDINATED IN SUCH A MANNER SO AS NOT TO CAUSE A DELAY IN CONSTRUCTION.
 - ANY AREAS OUTSIDE OF THE LIMITS OF WORK THAT ARE DISTURBED OR DAMAGED BY THE CONTRACTOR SHALL BE CORRECTED TO THE SATISFACTION OF THOSE HAVING REVIEW AUTHORITY.
 - TO THE EXTENT FEASIBLE AND ALLOWED BY THE INSPECTOR, SOME CONSTRUCTION ACTIVITIES MAY BE PERFORMED CONCURRENTLY, ASSUMING THE CONTRACTOR HAS ENOUGH MANPOWER TO ACHIEVE THE OBJECTIVES OF THIS SEQUENCE OF CONSTRUCTION.
- INSTALL PERMETER CONTROLS, TO INCLUDE SILT FENCE & SUPER SILT FENCE, NO ADDITIONAL DISTURBANCE SHALL OCCUR UNTIL THE SEDIMENT CONTROL INSPECTOR HAS GIVEN APPROVAL TO DO SO, (3 DAYS).
- AS TOPSOIL IS REMOVED, IT SHALL BE STOCKPILED ADJACENT TO THE EXCAVATION FOR REUSE WHEN/AFTER THE APPLICABLE PORTION OF THE SANITARY SEWER PIPE IS INSTALLED, (ON-GOING)
- UPON APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB SITE AS NEEDED TO INSTALL THE SCE, AND ACCESS THE BORE AND JACK PITS AS NEEDED DEWATER LOW AREAS USING A PUMP & SUMP PIT OR A PUMP AND FILTER BAG. REMOVE POOR SOIL AND FILL IN ACCORDANCE WITH CHARLES COUNTY STANDARDS AND SPECIFICATIONS, (I WEN)
- STARTING AT THE DOWNSTREAM END INSTALL THE SANITARY SEWER MAIN AND MANHOLES, INCLUDING HOUSE CONNECTIONS. REMINDER: ONLY EXCAVATE THE AMOUNT OF TRENCH THAT CAN BE INSTALLED, AND THEN REPLACED, IN THE DAYS WORK.
- ONCE ALL AREAS HAVE BEEN ADEQUATELY STABILIZED, AND WITH THE SEDIMENT CONTROL INSPECTORS APPROVAL, REMOVE PERMETER CONTROLS.
- ADDITIONAL REQUIRED SEDIMENT CONTROL INSPECTIONS:
 - AFTER COMPLETION OF INSTALLATION OF ALL VEGETATIVE MEASURES AND ALL OTHER WORK IN ACCORDANCE WITH THE PERMIT.
 - UPON FINAL STABILIZATION, BEFORE REMOVAL OF SEDIMENT CONTROLS; AND
 - AFTER ADEQUATE STABILIZATION AND AFTER THE REMOVAL OF SEDIMENT CONTROLS.
 - THE DEPARTMENT MAY MAKE ADDITIONAL INSPECTIONS AS IT DEEMS APPROPRIATE.
- SEDIMENT AND EROSION CONTROLS CANNOT BE REMOVED UNTIL THE SITE HAS ADEQUATE STABILIZATION, ONCE VEGETATION IS ESTABLISHED, THE SITE SHALL HAVE 90% GROUND COVER TO BE CONSIDERED ADEQUATELY STABILIZED AND THE SEDIMENT CONTROL INSPECTOR HAS APPROVED SUCH REMOVAL.
- UPON THE SEDIMENT CONTROL INSPECTORS APPROVAL, REMOVE ANY REMAINING SEDIMENT CONTROL DEVICES.
- WHEN REMOVING SEDIMENT CONTROL DEVICES, THE AREAS THAT ARE DISTURBED DURING THE REMOVAL PROCESS MUST BE STABILIZED IN THE SAME DAY.

APPROXIMATE TOTAL START/FINISH TIME: 1 MONTH

DEVELOPMENT SERVICES PERMIT PLAN GRADSTAFF PROPERTIES SANITARY SEWER EXTENTION



WATER & SEWER DETAIL CHART:	
Note: These Details may be found in the Charles County Water & Sewer Detail Manual, July 1995.	
Detail No.	Description
Sewer	
S 1.00	Precast Concrete Manhole 48" Dia
S 1.05	Inside Drop Manhole Connection
S 1.07	Kor-N-Seal
S 1.10	Precast Concrete Manhole Built Over Existing PVC Pipe
S 3.00	Standard Traffic Frame & Cover
S 4.03	Standard Cleanout Non-Traffic Area
S 4.04	Cleanout Cover Assembly Traffic Area
S 6.00	Manhole Vacuum Testing
Blocking	
B 2.04	Mechanical Joint Restraint Guard
B 2.05	Megalog Mechanical Joint Restraint Detail
Miscellaneous	
M 2.01	Minimum Clearance Of Water Parallel To Sewer
M 2.02	Bedding & French Widths For SS Pipe
M 2.04	Bedding, Embedment And Max. Cover Pvc Pipe
M 2.05	Concrete Encasement
M 2.06	Tunnel Bore & Jack Details For Mains
M 4.00	French Adapter
CHARLES COUNTY ROAD ORDINANCE DETAIL CHART	
These details may be found in the Charles County Department of Planning and Growth Management, Codes, Permits and Inspection Services (CPSI) Detail Manual, July 1995, Revised December 1999.	
Detail No.	Description
R 2.48	Repairing Pavement Openings for Utility Trenches in Flexible Paving

STANDARD ABBREVIATIONS	
ALT2	ALUMINIZED TYPE 2
CSP	CORRUGATED STEEL PIPE
BIT.	BITUMINOUS
BLDG.	BUILDING
B.M.	BENCH MARK
CL	CENTERLINE
C.M.P.	CORRUGATED METAL PIPE
CONC.	CONCRETE
C.Y.	CUBIC YARD
DIA.	DIAMETER
DIM.	DIMENSION
ELEV.	ELEVATION
ESMT	EASEMENT
EX.	EXISTING
HCOZ	HIGHWAY CORRIDOR OVERLAY ZONE
HORIZ.	HORIZONTAL
HDPE	HIGH-DENSITY POLYETHYLENE PIPE
INV.	INVERT OF PIPE
L.F.	LINEAR FEET
MAX.	MAXIMUM
M.D.E.	MARYLAND DEPARTMENT OF THE ENVIRONMENT
MIN.	MINIMUM
M.H.	MANHOLE
MSHA	MARYLAND STATE HIGHWAY ADMINISTRATION
NO.	NUMBER
P.C.	POINT OF HORIZONTAL CURVATURE
P.T.	POINT OF HORIZONTAL TANGENCY
P.V.C.	POINT OF VERTICAL CURVATURE
P.V.I.	POINT OF VERTICAL INTERSECTION
P.V.T.	POINT OF VERTICAL TANGENCY
P/WT	PAVEMENT
R.C.P.	REINFORCED CONCRETE PIPE
R/W	RIGHT OF WAY
STA.	STATION
S.F.	SQUARE FEET
SHT.	SHEET
S.W.M.	STORM WATER MANAGEMENT
S.Y.	SQUARE YARD
T.B.R.	TO BE REMOVED
TYP.	TYPICAL
VERT.	VERTICAL
W/	WITH
W/LWB	WETLAND LIMITS/ WETLAND BUFFER LIMITS

SITE TABULATIONS:

PROJECT SCOPE:
INSTALLATION OF A SANITARY SEWER EXTENSION TO SERVE THREE EXISTING LOTS OF RECORD.

USE: N/A - CONSTRUCTION OF INFRASTRUCTURE

LOCATION: LOT 1-XXXX MCDANIEL ROAD
TAX MAP 7 GRID 17 PARCEL 214
TAX ID 06-035345
AREA = 0.86 ACRES

LOT 2-2690 MCDANIEL ROAD
TAX MAP 7 GRID 17 PARCEL 214
TAX ID 06-310842
AREA = 0.86 ACRES

LOT 3-2710 MCDANIEL ROAD
TAX MAP 7 GRID 17 PARCEL 214
TAX ID 06-310850
AREA = 1.07 ACRES

ZONE: RM- MEDIUM DENSITY RESIDENTIAL

ENVIRONMENTAL:

- A) NON-TIDAL WETLANDS -XXXXXXXXXX
- B) 100-YEAR FLOODPLAIN - PORTIONS OF LOT 3 ARE WITHIN AN AREA OF REGULATORY FLOODWAY AS DEPICTED HEREON PER FEMA FIRM PANEL 240017 C0065C, SEPTEMBER 4, 2013.
- C) STEEP SLOPES - THERE ARE NO STEEP SLOPES WITH THE SUBJECT SITE PLAN AREA, AS DEFINED BY CHARLES COUNTY ORDINANCES.
- D) FOREST CONSERVATION- THE RESIDENTIAL LOTS ARE SUBJECT TO AND EXISTING FOREST CONSERVATION EASEMENT DEPICTED ON THE RECORD PLAT 55-427.

WATER & SEWER:

COMPREHENSIVE WATER CATEGORY: W-1 LOTS ARE TO BE SERVED BY WELLS DRILLED TO AN APPROVED CONFINED AQUIFER.

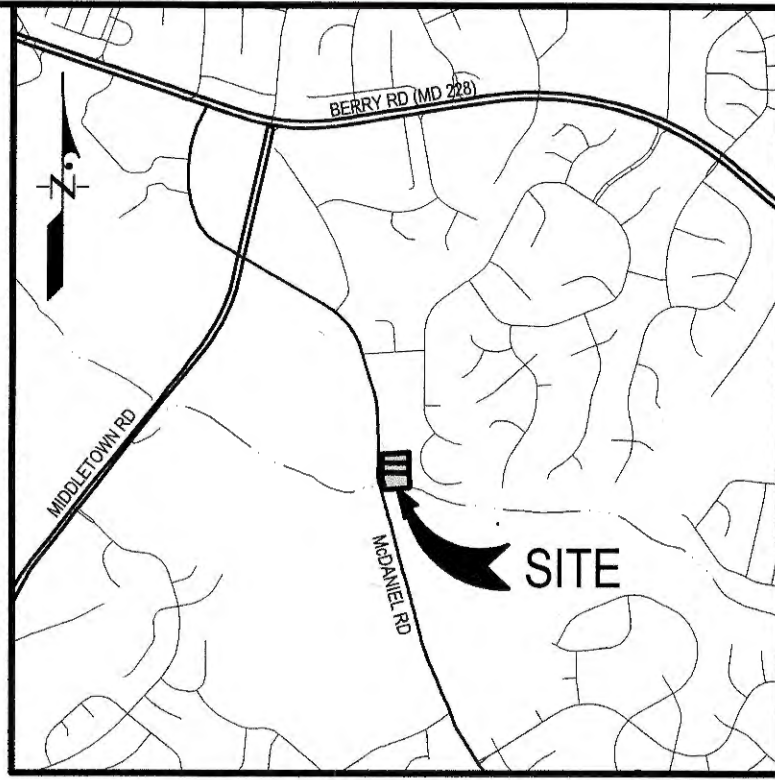
COMPREHENSIVE SEWER CATEGORY: S-3E LOTS ARE TO BE SERVED BY PUBLIC SEWER

NOTES:

- EXCAVATED MATERIAL SHALL BE REMOVED FROM THE SITE. NO STORAGE OF EXCAVATED MATERIAL IS ALLOWED ON-SITE.
- THE CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCE ON EACH SIDE OF THE STABILIZED CONSTRUCTION ENTRANCES, AND, AROUND ANY OPEN TRENCHES INCLUDING THE BORE AND JACK, WHEN THE CONTRACTOR'S PERSONNEL ARE NOT ON-SITE TO MONITOR UNAUTHORIZED ACCESS.
- MATTS SHALL BE USED IN AREAS OF ANY SOFT SOILS.

REQUIRED PERMITS/ APPROVALS:

- DEVELOPMENT SERVICES PERMIT (WATER & SEWER)
- CHARLES COIL CONSERVATION DISTRICT



BENCHMARK DATA			
REFER TO LOCATION MAP SHOWN HEREON FOR APPROXIMATE LOCATION OF EACH BENCHMARK DESCRIBED			
NO.	LOCATION	ELEV.	SURVEY CONTROL
1	SEWER MH COVER	N: 30364.785 E: 132658.175	160.74 HORIZ: NAD 83/07, VERT.: NAVD. 88
2	SD INLET NW CORNER	N: 353728.507 E: 1328460.193	168.12 HORIZ: NAD 83/07, VERT.: NAVD. 88

DRAWING INDEX	
Sheet No.	Sheet Title
1	TITLE SHEET
2	SANITARY PLAN & PROFILE
3	SEDIMENT & EROSION CONTROL PLAN
4	SEDIMENT & EROSION CONTROL DETAILS

REV. NO	CONSTRUCTION REVISION	REV. DATE
CHARLES COUNTY GOVERNMENT Department of Planning and Growth Management Development Services Department		
Approved For:		Remarks or Conditions:
Grading	☐ Construction ☐ As-Built	
Roads	☐ Construction ☐ As-Built	
Storm Drainage	☐ Construction ☐ As-Built	
Stormwater Management	☐ Construction ☐ As-Built	
Water	☐ Construction ☐ As-Built	
Sewer	☐ Construction ☐ As-Built	
Other	☐ Construction ☐ As-Built	This Permit Expires On:
Signed:	Date:	Date:

SITE INFORMATION	AREA (ACRES)
TOTAL SITE AREA	2.41
DISTURBED AREA	0.29
EXISTING IMPERVIOUS AREA	0.00
NEW IMPERVIOUS AREA	0.00
TOTAL IMPERVIOUS AREA	0.00

COUNTY APPROVAL TABLE:			
Type/Number:	Approval Date	Expiration Date	
Preliminary Plan:	N/A		
Charles Soil Conservation District:	N/A		
Zoning Site Development Plan:	N/A		
SWM Administrative Waiver:	N/A		
Concept SWM Plan:	CSWM N/A		
Site SWM Plan:	SSWM N/A		
Final Plan:	DSP# N/A		
NOI:	N/A		

OWNER / APPLICANT:

EFFECT INC
1350 BEVERLY ROAD
SUITE 115-316
MCLEAN, VIRGINIA 22101

CONSULTANT CERTIFICATION

I hereby certify that this plan has been designed in accordance with the 2011 Standards and Specifications for Soil Erosion and Sediment Control or current revisions thereof, and Department of Environment Stormwater Management Regulations.

Designer's Signature
M/I Registration No. 34788
Morgan M. Walubita, PE
Ben Dyer Associates, Inc
PO Box 2727, LaPlata MD 20646

ENGINEER'S CERTIFICATION

I hereby certify that this plan meets or exceeds the requirements of the Stormwater Management & Storm Drainage Ordinance, Floodplain Management Ordinance, Grading Ordinance, Road Ordinance, Water & Sewer Ordinance, The 2000 & 2007 Maryland Stormwater Design Manual, Volumes I & II and all subsequent updates, all State and Federal codes, the Charles County Standards & Specifications for Construction Manual, the Charles County Details Manual, the approved Site Plan or Preliminary Plan, other PDM ordinances and regulations and any conditions imposed by Charles County.

Designer's Signature
M/I Registration No. 34788
Morgan M. Walubita, PE
Ben Dyer Associates, Inc
PO Box 2727, LaPlata MD 20646

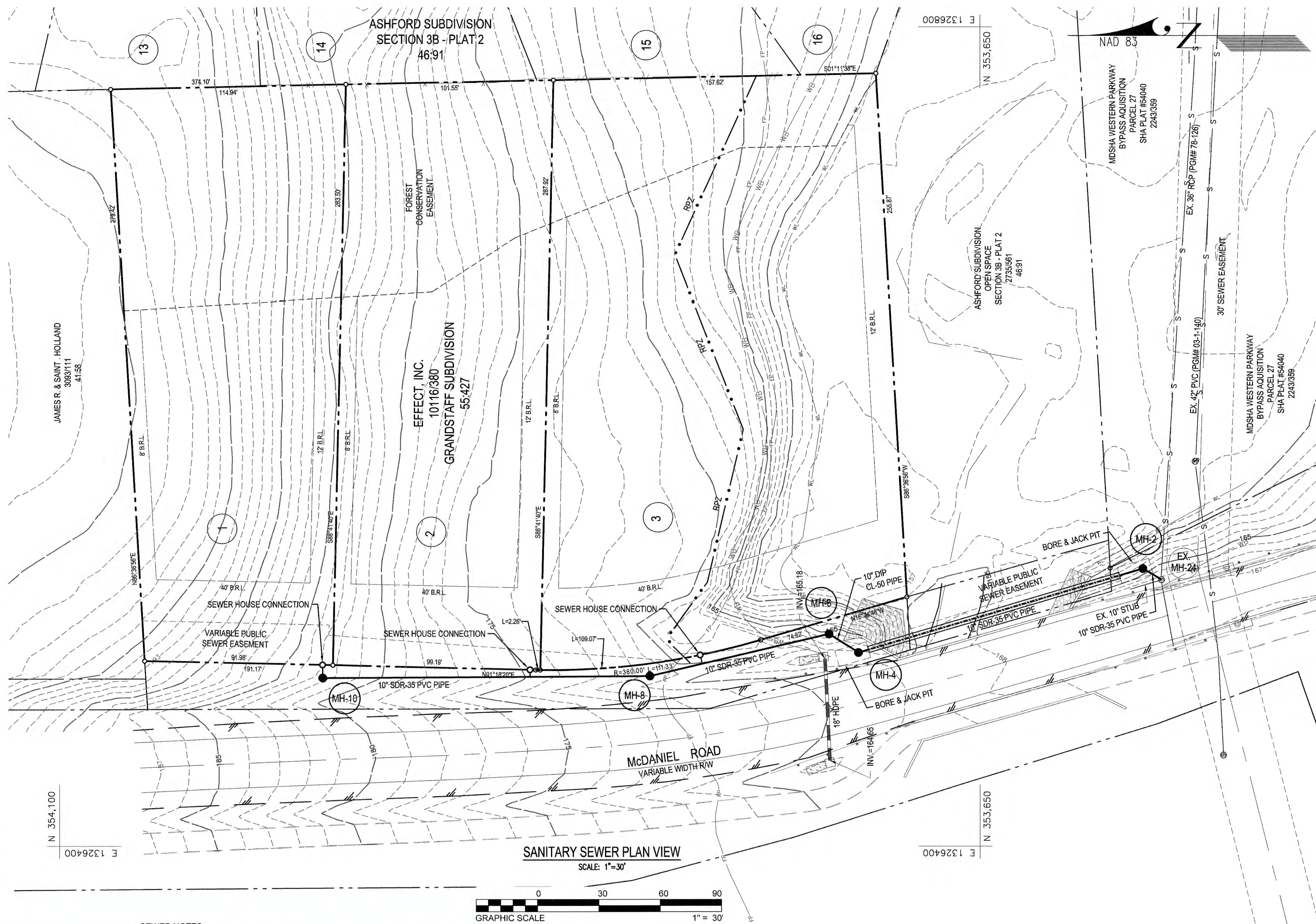
PROFESSIONAL CERTIFICATION

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.

MORGAN M. WALUBITA, PE
LICENSE NO. 34788
EXPIRATION DATE: 10/31/21

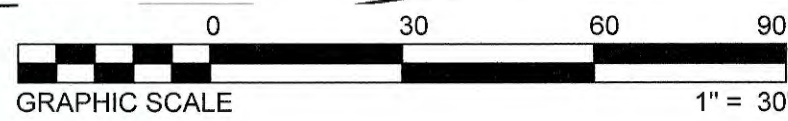
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SANITARY SEWER PLAN VIEW

SCALE: 1"=30'



SEWER NOTES:

SCOPE OF WORK CONSISTS OF THE FOLLOWING:

- a. CONSTRUCT SANITARY SEWER MAINS & HOUSE CONNECTIONS WHERE INDICATED.

GENERAL:

- ALL WATER AND SEWER CONSTRUCTION TO BE IN ACCORDANCE WITH CHARLES COUNTY STANDARDS AND SPECIFICATIONS FOR CONSTRUCTION MANUAL, SEPTEMBER 2011, AND THE WATER AND SEWER DETAIL MANUAL.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO STRONGLY ADHERE TO THE INVERTS SHOWN ON THE PLANS. ANY PIPES CONSTRUCTED LESS THAN MINIMUM SLOPE OR MINIMUM HORIZONTAL/VERTICAL SEPARATION WILL REQUIRE CORRECTION BY THE CONTRACTOR. IF PROBLEMS OCCUR WHILE CONSTRUCTING THE PIPES, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER FOR A SOLUTION.
- THERE ARE NO KNOWN GASOLINE OR CHEMICAL STORAGE FACILITIES WITHIN 200 FEET OF THE PROPOSED WATER/SEWER LINES EXCEPT AS PROPOSED AND SHOWN HEREON.
- MINIMUM COVER OVER ALL SEWER SHALL BE 42 INCHES EXCEPT AS NOTED.
- THE CONTRACTOR SHALL SUBMIT HIS CONFINED SPACE ENTRY PLAN TO THE COUNTY WATER AND SEWER ENGINEER, PRIOR TO ENTERING ANY MANHOLE.
- A HORIZONTAL DISTANCE OF AT LEAST 10 FEET SHALL SEPARATE WATER MAINS AND SEWER MAINS (WAS ORDINANCE, SECTION 8.1.D.(7)(B)). WHEN CROSSING, WATER MAINS SHALL HAVE A VERTICAL SEPARATION OF 18 INCHES BETWEEN THE BOTTOM OF THE WATER MAIN AND THE TOP OF THE SANITARY SEWER, ETC. (WAS ORDINANCE, SECTION 8.1.D.(7)(C)).
- ALL WORK AND MATERIAL USED SHALL BE TESTED IN ACCORDANCE WITH THE CHARLES COUNTY STANDARD SPECIFICATIONS FOR CONSTRUCTION MANUAL, INCLUDING BUT NOT LIMITED TO COMPACTION, CONCRETE COMPRESSIVE STRENGTH (IF APPLICABLE), SURFACE TOLERANCES, ETC. ALL WORK MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MARYLAND, WHOSE SPECIALTY IS GEOTECHNICAL.
- FOR ANY PAVEMENT REPAIR REQUIRED DUE TO UTILITY INSTALLATION, REFER TO COUNTY DETAIL R2.48.
- IF FLOWABLE FILL IS USED AS BACKFILL AROUND DIP PIPE, THE FOLLOWING WILL BE REQUIRED:
 - POLYWRAP MUST BE USED AROUND DIP PIPE IN ACCORDANCE WITH ANSI/AWWA C105/A21.5.
 - DETAIL M2.02 (BEDDING & TRENCH WIDTHS FOR DUCTILE IRON SANITARY SEWER PIPE) WILL BE USED; HOWEVER, 12-INCHES OF ASTM C33 NO. 67 CRUSHED OR WASHED STONE MUST BE PLACED ABOVE THE DIP PIPE...
- THE CONTRACTOR SHALL PLACE 2"x4" PRESSURE TREATED BOARDS AT ALL SHCS WHERE THEY TERMINATE AT THE PROPERTY LINE. THE MARKER BOARDS SHALL EXTEND 4 FEET ABOVE THE GROUND WITH SHCS PAINTED GREEN.
- ANY USE OF COUNTY WATER MUST BE METERED BY A CHARLES COUNTY METER (I.E. CONSTRUCTION, FLUSHING, TESTING, ETC.).
- UTILITY CONTRACTOR SHALL CAREFULLY REVIEW THE LOCATIONS FOR ALL PROPOSED SEWER HOUSE CONNECTIONS (SHC), AND THEIR RELATED VERTICAL ALIGNMENTS WITH RESPECT TO OTHER UTILITY CONFLICTS. UTILITY CONTRACTOR SHALL DETERMINE WHICH TYPE OF SHC TO PROVIDE TO EACH LOT PER STANDARD DETAILS S4.00, S4.01, OR S4.02. UTILITY CONTRACTOR TO MAINTAIN MINIMUM 12 INCHES VERTICAL CLEARANCE FROM SHC TO STORM DRAIN AND 18 INCHES MINIMUM VERTICAL CLEARANCE FOR WATERLINES. IF THESE CLEARANCES CAN NOT BE ACHIEVED IN THE FIELD, THE CONTRACTOR SHALL INSTALL CONCRETE ENCASUREMENT AROUND THE SHC PER CHARLES COUNTY STANDARDS. FURTHER, IF THE SHC MUST CROSS OVER A WATERLINE, THE WATERLINE MUST BE ENCASED IN CONCRETE PER CHARLES COUNTY STANDARDS.

PIPE MATERIALS:

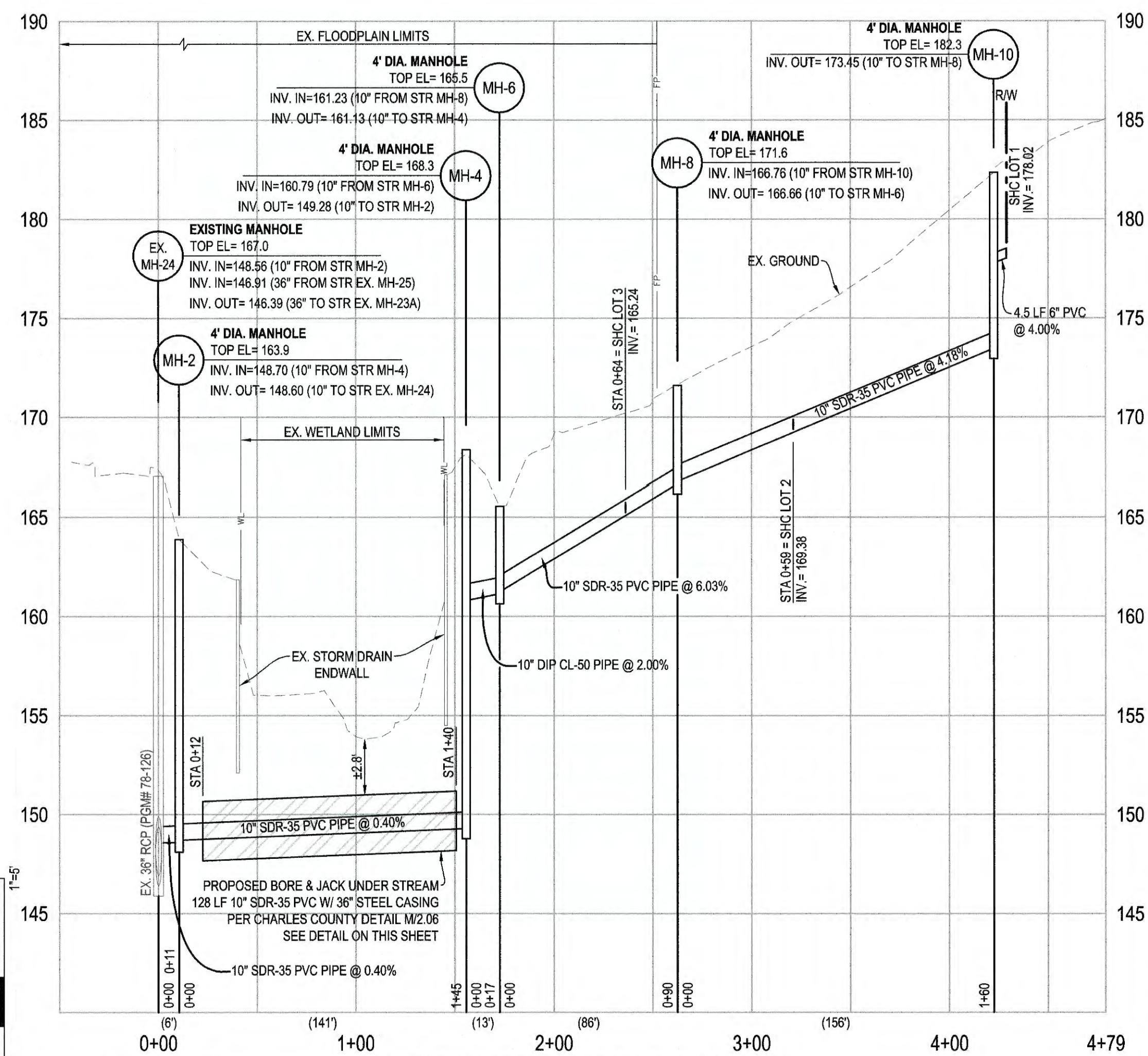
- ALL PROPOSED SEWER MAINS, AND SEWER HOUSE CONNECTIONS SHALL BE A MINIMUM CL 50 DIP (4-INCHES TO 16-INCHES), OR PVC C-900 (4-INCHES TO 12-INCHES), OR PVC SDR-35 (4-INCHES TO 15-INCHES), AND/OR AS ALLOWED BY THE CHARLES COUNTY STANDARDS AND SPECIFICATIONS FOR CONSTRUCTION MANUAL.
- MINIMUM SLOPE FOR SEWER HOUSE CONNECTIONS IS 2 PERCENT. MAXIMUM SLOPE SHALL BE 6 PERCENT.

SEWER

- THE CONTRACTOR SHALL PROVIDE ENGINEER CERTIFIED SHOP DRAWINGS FOR MANHOLES GREATER THAN 16 FEET IN DEPTH.
- SEWER MANHOLES SHALL UTILIZE STANDARD TRAFFIC FRAME AND COVER PER COUNTY STANDARD S3.00.
- CLEANOUTS SHALL NOT BE LOCATED IN PAVED AREAS. IF THE DESIGN HAS NO OTHER ALTERNATIVE, THEN CLEANOUTS SHALL HAVE A TRAFFIC AREA COVER (S4.04).
- AT THE TIME OF SUBSTANTIAL COMPLETION, THE CONTRACTOR SHALL INSTALL MANHOLE COVER INSERTS/LINERS IN ALL MANHOLE FRAMES AND COVERS THAT ARE NOT BOLT-DOWNS TO MINIMIZE THE AMOUNT OF INFLOW AND SEDIMENT THAT ENTERS THE SEWER SYSTEM. (WAS ORDINANCE, SECTION 8.3E.(1)(D)(1)(C)).
- THE CONTRACTOR SHALL SPIN THE TOP CONE AND SET NEW MANHOLE STEPS IF THE KOR-N-SEAL INTERFERES WITH THE EXISTING STEPS.
- ALL MANHOLE FRAMES AND COVERS THAT ARE NOT BOLT-DOWNS SHALL BE FITTED WITH MANHOLE COVER INSERTS/LINERS TO MINIMIZE THE AMOUNT OF INFLOW AND SEDIMENT THAT ENTERS THE SEWER SYSTEM. THE INSERTS SHALL BE INSTALLED UPON "SUBSTANTIAL COMPLETION".

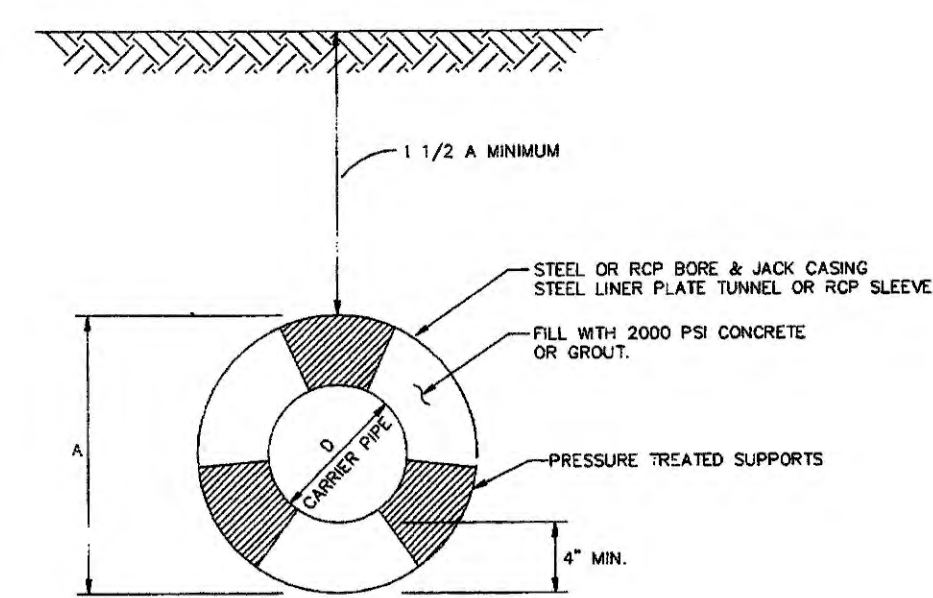
LEGEND

- | | |
|-----|---------------------------------------|
| --- | PROPERTY LINE |
| --- | ADJACENT PROPERTY LINE |
| --- | EXISTING MINOR CONTOUR (1') |
| --- | EXISTING MAJOR CONTOUR (5') |
| --- | EXISTING EDGE OF PAVEMENT |
| --- | EXISTING CURB & GUTTER |
| --- | EXISTING GUARDRAIL |
| --- | EXISTING STORM DRAIN |
| --- | EXISTING SEWER |
| --- | PROPOSED SEWER |
| --- | PROPOSED SEWER HOUSE CONNECTION (SHC) |
| --- | CENTERLINE OF STREAM |
| --- | LIMITS OF FLOODPLAIN |
| --- | LIMITS OF WETLAND |
| --- | WETLAND BUFFER |
| --- | RESEARCH PROTECTION ZONE (RPZ) |



SANITARY SEWER PROFILE: EX MH-24 TO MH-10

SCALE: HOR. - 1"=50'
VERT. - 1"=5'



CARRIER PIPE (DIA.)	CASING DIAMETER	STEEL	RCP	JUNKER PLATE (DIA.)	RCP SLEEVE (DIA.)
15" OR LESS	24"	24"	24"	24"	24"
18"	28"	28"	28"	28"	28"
21"	32"	32"	32"	32"	32"
24"	36"	36"	36"	36"	36"
27"	40"	40"	40"	40"	40"
30"	44"	44"	44"	44"	44"
33"	48"	48"	48"	48"	48"
36"	52"	52"	52"	52"	52"

GENERAL NOTES

- STEEL CASING PIPE MINIMUM WALL THICKNESS 5/8" CLASS OF R.C.P. AND STEEL LINER PLATE REQUIREMENTS AS SHOWN ON THE DRAWING.
- PROVIDE SUPPORTS TO PREVENT CARRIER PIPE FLUTATION DURING PLACEMENT OF CONCRETE OR GROUT. SUPPORTS FOR PVC PIPE SHALL NOT BE SPACED MORE THAN 6'-0". SUPPORTS TO BE A MINIMUM OF 4x4 PRESSURE TREATED LUMBER.

CHARLES COUNTY GOVERNMENT DEPARTMENT OF PLANNING & GROWTH MANAGEMENT APPROVED: <i>[Signature]</i> DATE: 6/27/20	STANDARD DETAIL TUNNEL/BORE & JACK DETAILS FOR MAINS	REVISIONS: M 2.06
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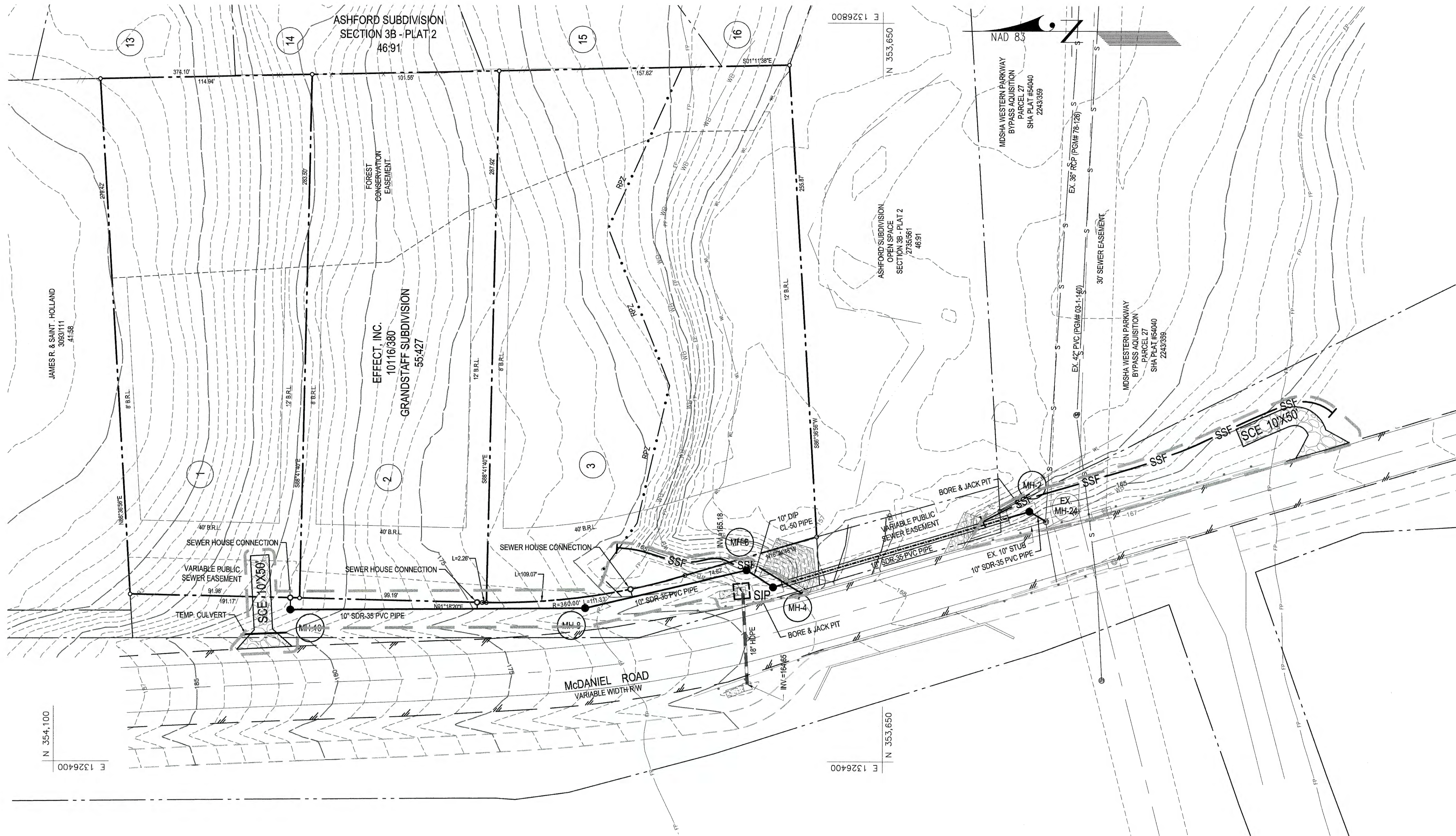
CHARLES COUNTY GOVERNMENT Department of Planning and Growth Management Development Services Department	
Approved For:	Remarks or Conditions:
Grading ☐ Construction ☐ As-Built	
Roads ☐ Construction ☐ As-Built	
Storm Drainage ☐ Construction ☐ As-Built	
Stormwater Management ☐ Construction ☐ As-Built	
Water ☐ Construction ☐ As-Built	
Sewer ☐ Construction ☐ As-Built	
Other ☐ Construction ☐ As-Built	
Signed: _____ Date: _____ This Permit Expires On: _____	

SANITARY PLAN & PROFILE
LOTS 1, 2 & 3
GRANDSTAFF PROPERTIES
6TH ELECTION DISTRICT
CHARLES COUNTY, MARYLAND

SHEET 2 OF 4

PROFESSIONAL CERTIFICATION 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. MORGAN M. WALSH, P.E. LICENSE NO. 10781 EXPIRATION DATE: 10/31/21	9375 CHESAPEAKE STREET, SUITE 227 P.O. BOX 2727, LA PLATA, MARYLAND 20646 BEN DYER ASSOCIATES, INC. Engineers / Surveyors / Planners TELEPHONE (301) 392-3651 COPYRIGHT © 2016 BEN DYER ASSOCIATES, INC. DRAWN BY: CEG CHECKED BY: CEG DATE: APRIL 2020 REVISIONS: J-B17547 6.002.Y
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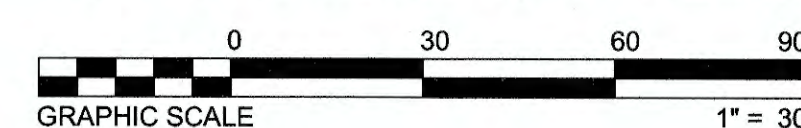
GRANDSTAFF PROPERTIES CCPGM# DSP 20-



- LEGEND**
- PROPERTY LINE
 - ADJACENT PROPERTY LINE
 - EXISTING MINOR CONTOUR (1')
 - EXISTING MAJOR CONTOUR (5')
 - EXISTING EDGE OF PAVEMENT
 - EXISTING CURB & GUTTER
 - EXISTING GUARDRAIL
 - EXISTING STORM DRAIN
 - EXISTING SEWER
 - PROPOSED SEWER
 - PROPOSED SEWER HOUSE CONNECTION (SHC)
 - CENTERLINE OF STREAM
 - LIMITS OF FLOODPLAIN
 - LIMITS OF WETLAND
 - WETLAND BUFFER
 - RESEARCH PROTECTION ZONE (RPZ)
 - LIMITS OF DISTURBANCE (LOD)
 - SUPER SILT FENCE (SSF)
 - STABILIZED CONSTRUCTION ENTRANCE (SCE)
 - STANDARD INLET PROTECTION (SIP)

CHARLES COUNTY GOVERNMENT Department of Planning and Growth Management Development Services Department			Remarks or Conditions:
Approved For:			
Grading	☐ Construction	☐ As-Built	
Roads	☐ Construction	☐ As-Built	
Storm Drainage	☐ Construction	☐ As-Built	
Stormwater Management	☐ Construction	☐ As-Built	
Water	☐ Construction	☐ As-Built	
Sewer	☐ Construction	☐ As-Built	
Other	☐ Construction	☐ As-Built	This Permit Expires On:
Signed:	Date:	Date:	

SEDIMENT & EROSION CONTROL PLAN
LOTS 1, 2 & 3
GRANDSTAFF PROPERTIES
6TH ELECTION DISTRICT
CHARLES COUNTY, MARYLAND



SHEET 3 OF 4

PROFESSIONAL CERTIFICATION 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. MORGAN M. WALUBITA, PE LICENSE NO. 8478 EXPIRATION DATE: 10/31/21		9375 CHESAPEAKE STREET, SUITE 227 P.O. BOX 3727, LA PLATA, MARYLAND 20646 BEN DYER ASSOCIATES, INC. Engineers / Surveyors / Planners TELEPHONE (301) 392-3651 COPYRIGHT © 2016 BEN DYER ASSOCIATES, INC. DRAWN BY: CEG DESIGNED BY: CEG CHECKED BY: JLE RECORDED BY: JLE DATE: APRIL 2020 SCALE: 1"=30' DRAWING NO: J-B17547	
DATE	DESCRIPTION	BY	REVISIONS

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CHARLES SOIL CONSERVATION DISTRICT DETAILS AND SPECIFICATIONS FOR VEGETATIVE ESTABLISHMENT

STANDARD STABILIZATION NOTE: Following initial soil disturbance or re-disturbance, seeding for permanent or temporary stabilization shall be completed within three (3) calendar days of the surface of all perimeter control, dikes, swales, ditches, perimeter slopes, and all slopes greater than 2 horizontal to 1 vertical (2:1) and areas (7) calendar days to all other disturbed or graded areas on the project site not under active grading. Once vegetation is established, the site shall have 55% groundcover to be considered adequately stabilized.

1. Permanent Seeding

PERMANENT SEEDING SUMMARY					Lime Rates		
Hardiness Zone (from Figure B.3): Zone 7a					Fertilizer Rate (10-20-20)		
Seed Mixture (from Table B.3):							
No.	Species	Application Rate (lb/a/c)	Seeding Dates	Seeding Depth	N	P ₂ O ₅	K ₂ O
				1/4 inch-1/2 inch	45 lb/a/c	90 lb/a/c	90 lb/a/c
				1/4 inch-1/2 inch	(10 lb/1000 sf)	(2 lb/1000 sf)	(2 lb/1000 sf)
				1/4 inch-1/2 inch			
				1/4 inch-1/2 inch			

Complete the chart as per the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control if using alternatives to the standard notes below.

- A. Soil Tests: Lime and fertilizer will be applied per soil test results for sites greater than 5 acres. Soil tests will be done at completion of initial rough grading or as recommended by the sediment control inspector. Rates and analyses will be provided to the grading inspector as well as the contractor. The minimum soil conditions required for permanent vegetative establishment are:
- Soil pH shall be between 6.0 and 7.0.
 - Soluble salts shall be less than 500 parts per million (ppm).
 - The soil shall contain less than 40% clay but enough fine grained material (> 30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if longways or source landscapes to be planted, then a sandy soil (< 30% silt plus clay) would be acceptable.
 - Soil shall contain 1.5% minimum organic matter by weight.
 - Soil must contain sufficient pore space to permit adequate root penetration.
 - If these conditions cannot be met by site soils, adding topsoil is required in accordance with Section B-4-2 titled "Standard and Specifications for Topsoil, Soil Amendments, Fertilizer, and Lime Application." See also the 2011 Maryland Standards and Specifications for Erosion and Sediment Control.

- B. Seeding Preparation: Areas to be seeded must be loose and friable to a depth of 3 to 5 inches. The top layer shall be scarified by ripping, disking or other acceptable means before seeding occurs. For sites less than 5 acres, apply 100 pounds disking limestone, hydrated or burnt lime may be substituted except when hydro seeding, and 10 pounds of 10-20-20 fertilizer per 1,000 square feet. Harrow or disk lime and fertilizer into the soil to a depth of at least 3 to 5 inches on slopes flatter than 2:1.

- C. Seeding: Apply 5-6 pounds per 1,000 square feet of fall terrace between February 15 and April 30 or between August 15 and October 31. Apply seed uniformly on a moist firm seedbed with a cyclone seeder, catclap seeder or hydroseeder (slurry includes seeds and fertilizer, see section 5.0). Maximum seed depth should be 1/4 inch in clayey soils and 1/2 inch in sandy soils when using other than the hydroseeder method. Topsoil where necessary to support adequate growth until vegetation is firmly established. If other seed species may be used, soil sections must meet the 2011 Standards and Specifications for Soil Erosion and Sediment Control.

- D. Mulching: Mulch shall be applied to all seeded areas immediately after seeding, as per Section B-4-3 entitled Standards and Specifications for Seeding and Mulching as found in the 2011 Standards and Specifications for Soil Erosion and Sediment Control. During the time periods when seeding is not permitted, mulch shall be applied immediately after grading and maintained until seeding can be performed.

- Mulch shall be unrattled, unchopped, small grain straw applied at a rate of 2 tons per acre or 90 pounds per 1,000 square feet (2 bales). If a mulch-anchoring tool is used, apply 2.5 tons per acre. Mulch materials shall be relatively free of kinds of weeds and shall be completely free of prohibited noxious weeds. Spread uniformly, mechanically or by hand, to a depth of 1-2 inches.
- E. Seeding: Straw: Straw mulch shall be secured immediately following mulch application to minimize movement by wind or water. The following methods are permitted:
- Use a mulch-anchoring tool which is designed to punch and anchor mulch to the soil surface to a minimum depth of 2 inches. This is the most effective method for securing mulch, however, it is limited to relatively flat areas where equipment can operate safely. If a mulch-anchoring tool is used, apply 2.5 tons per acre.
 - Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. If mixed with water, use 50 pounds of wood cellulose fiber per 100 gallons of water.
 - Light binders may be used. Apply at higher rates at the edges where wind catches mulch, such as in valleys and on crests of slopes. The remainder of the area should appear uniform after binder application. Binders used in the 2011 Standards and Specifications for Soil Erosion and Sediment Control or approved equal shall be applied at rates recommended by the manufacturers.
 - Lightweight plastic netting may be used to secure mulch. The netting will be applied to the ground according to manufacturer's recommendations.

- F. Irrigation: In the absence of adequate rainfall, irrigation should be performed to ensure adequate vegetative establishment.

2. Temporary Seeding

TEMPORARY SEEDING SUMMARY					Lime Rates		
Hardiness Zone (from Figure B.3): Zone 7a					Fertilizer Rate (10-20-20)		
Seed Mixture (from Table B.3):							
No.	Species	Application Rate (lb/a/c)	Seeding Dates	Seeding Depth	N	P ₂ O ₅	K ₂ O
				1/4 inch-1/2 inch	45 lb/a/c	90 lb/a/c	90 lb/a/c
				1/4 inch-1/2 inch	(10 lb/1000 sf)	(2 lb/1000 sf)	(2 lb/1000 sf)
				1/4 inch-1/2 inch			
				1/4 inch-1/2 inch			

Complete the chart as per the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control if using alternatives to the standard notes below.

- Lime: 100 pounds of dolomitic limestone per 1,000 square feet.
- Fertilizer: 10 pounds of 10-20-20 per 1,000 square feet.
- Seed: Annual Ryegrass - 1 pound per 1,000 square feet. (February 15 through April 30 or August 15 through November 30).
- Millet: 1 pound per 1,000 square feet. (May 1 through August 15).
- Mulch: Same as 1 D and E above.

2. No file may be placed on frozen ground. All fill to be placed in approximately horizontal layers, each layer having a loose thickness of not more than 8 inches. All fill in roadways and parking areas to be classified as per Charles County requirements. Any fill within the building area is to be compacted to a minimum of 95% density. Fill for post embankments shall be compacted as per slope.

3. Permanent Seed:
- Installation of seed should follow permanent seeding dates. Seedbed preparation for seed shall be as noted in section (B) above. Permanent seed is to be fall terrace, site prepared soil, lime and fertilizer per permanent seeding specifications and lightly irrigate soil prior to laying seed. Seed is to be laid on the contour with all ends lightly disking. Seams are to be staggered between rows. Water and roll or lamp soil to insure positive root contact with the soil. All slopes steeper than 3:1, as shown, are to be permanently seeded or protected with an approved erosion control netting. Additional watering for establishment may be required. Seed is not to be installed on frozen ground. Soil shall not be translocated when moisture content (dry or wet) and/or extreme temperature may adversely affect its survival. In the absence of adequate rainfall, irrigation should be performed to ensure establishment of seed.

4. Mowing Operations:
- Sediment control plans for mowing operations must include the following seeding dates and seed mixtures:
- For seeding dates of February 1 through April 30 and August 15 through October 31, use minimum of fall terrace at the rate of 2 pounds per 1,000 square feet and source landscapes at the minimum rate of 0.5 pounds per 1,000 square feet.

5. Topsoil shall be applied as per the Standard and Specifications for Topsoil from the current 2011 Maryland Standards and Specifications for Erosion and Sediment Control.

NOTE: Use of this information does not preclude meeting all of the requirements of the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control.

B-3 STANDARDS AND SPECIFICATIONS FOR LAND GRADING

Definition: Reshaping the existing land surface to provide suitable topography for building facilities and other site improvements.

Purpose: To provide erosion control and vegetative establishment for extreme changes in grade.

Conditions Where Practice Applies: Each disturbance or extreme grade modification on steep or long slopes.

Design Criteria: The grading plan should be based on the incorporation of building designs and street layouts that fit and utilize existing topography and desirable natural surroundings to avoid extreme grade modifications. Information submitted must provide sufficient topographic surveys and soil investigations to determine the irregularities that must be imposed on the grading operation related to slope stability, adjacent properties, drainage patterns, measures for water removal, and vegetative treatment, etc.

Many jurisdictions have regulations and design procedures already established for land grading that must be followed. The plan must show existing and proposed contours for the area(s) to be graded including practices for erosion control, slope stabilization, and safe conveyance of runoff (e.g., waterways, lined channels, reverse benches, grade stabilization structures). The grading/construction plans are to include the phasing of these practices and consideration of the following:

- Provisions to safely convey surface runoff to storm drains, protected outlets or stable water courses to ensure that surface runoff will not damage slopes or other graded areas.
- Cut and fill slopes, stabilized with grasses, no steeper than 2:1 (Where the slope is to be mowed, the slope should be no steeper than 3:1, but 4:1 is preferred because of safety factors related to mowing steep slopes.) Slopes steeper than 2:1 require special design and stabilization considerations to be shown on the plans.
- Benching per Detail B-3-1 whenever the vertical interval (height) of any 2:1 slope exceeds 20 feet; for 3:1 slopes, when it exceeds 30 feet; and for 4:1 slopes, when it exceeds 40 feet. Locate benches to divide the slope face as equally as possible and to convey the water to a stable outlet. Gullies, seeps, rock outcrops, etc. are to be taken into consideration when designing benches.
 - Provide benches with a minimum width of six feet for ease of maintenance.
 - Design benches with a reverse slope of 6:1 or flatter to the toe of upper slope and with a minimum of one foot in depth. Grade the longitudinal slope of the bench between 2 percent and 3 percent, unless accompanied by appropriate design and computations.
 - The maximum allowable flow length within a bench is 800 feet unless accompanied by appropriate design and computations.
- Diversion of surface water from the face of all cut and fill slopes using earth dikes or swales. Convey surface water down slope using a designed structure, and:
 - Protect the face of all grade slopes from surface runoff until they are stabilized.
 - Do not subject the slope's face to any concentrated flow of surface water such as from natural drainage ways, graded swales, downslopes, etc.
 - Protect the face of the slope by erosion control materials to include, but not be limited to, approved vegetative stabilization practices, riprap or other approved erosion control methods.
- Serrated slopes as shown in Detail B-3-2. The steepest allowable slope for riprap rock is 1.5:1. For non rock surfaces, the slopes are to be 2:1 or flatter. These slopes will weather and set to hold moisture, lime, fertilizer and seed thus producing a much quicker and longer lived vegetative cover and better slope stabilization.
- Subsurface drainage provisions. Provide subsurface drainage where necessary to intercept seepage that would otherwise adversely affect slope stability or create excessively wet site conditions.
- Proximity to adjacent property. Slopes must not be created close to property lines without adequate protection against sedimentation, erosion, slippage, settlement, subsidence, or other related damages.
- Quality of fill material. Fill material must be free of brush, rubbish, logs, stumps, building debris, and other objectionable material. Do not place frozen materials in the fill nor place the fill material on a frozen foundation.
- Stabilization. Slopes at disturbed areas structurally or vegetatively in compliance with Section B-4 Standards and Specifications for Stabilization Practices.

Maintenance: The line, grade, and cross section of benching and serrated slopes must be maintained. Benches and serrated slopes must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization.

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

- Temporary Stabilization
 - Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted 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.
 - Apply fertilizer and lime as prescribed on the plans.
 - Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
- Permanent Stabilization
 - A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
 - Soil pH between 6.0 and 7.0.
 - Soluble salts less than 500 parts per million (ppm).
 - Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: If longways will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
 - Soil contains 1.5 percent minimum organic matter by weight.
 - Soil contains sufficient pore space to permit adequate root penetration.
 - Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
 - Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.
 - Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
 - Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large clumps of the stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seeded preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil loose and friable. Seeded loosening may be unnecessary on newly disturbed areas.

B. Topsoiling

- Topsoil to be placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.
- Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
- Topsoiling is limited to areas having 2:1 or flatter slopes where:
 - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish containing supplies of moisture and plant nutrients.
 - The original soil to be vegetated contains material toxic to plant growth.
 - The soil is so acidic that treatment with limestone is not feasible.

- Areas having slopes steeper than 2:1 require special consideration and design.
- Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:
 - Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or temporary matting. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, rocks, trash, or other materials larger than 1 1/2 inches in diameter.
 - Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.
 - Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

C. Soil Amendments (Fertilizer and Limb Specifications)

- Soil tests must be performed to determine the exact rates and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
- Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
- Lime materials must be round limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #200 mesh sieve.
- 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.
- Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

B-4-6 STANDARDS AND SPECIFICATIONS FOR SOIL STABILIZATION MATING

Definition: Material used to temporarily or permanently stabilize channels or steep slopes until groundcover is established.

Purpose: To protect the soils until vegetation is established.

Conditions Where Practice Applies:

On newly seeded surfaces to prevent the applied seed from washing out; in channels and on steep slopes where the flow has erosive velocities or conveys clear water; on temporary swales, earth dikes, and perimeter dike swales as required by the respective design standard; and, on stream banks where moving water is likely to wash out new vegetative plantings.

Design Criteria:

- The soil stabilization matting that is used must withstand the flow velocities and shear stress determined for the area, based on the 2-year, 24-hour frequency storm for temporary applications and the 10-year, 24-hour frequency storm for permanent applications. Designate on the plan the type of soil stabilization matting using the standard symbol and include the calculated shear stress for the respective treatment area.
- Matting is required on permanent channels where the runoff velocity exceeds two and half feet per second (2.5 fps) or the shear stress exceeds two pounds per square foot (2 lbs/ft²). On temporary channels discharging to a sediment trapping practice, provide matting where the runoff velocity exceeds four feet per second (4 fps).
- Temporary soil stabilization matting is made with degradable (six to six months minimum), natural, or manmade fibers of uniform thickness and distribution of fibers throughout and is eroder resistant. The maximum permissible velocity for temporary matting is 6 to 6 feet per second.
- Permanent soil stabilization matting is an open weave, synthetic material consisting of nondegradable fibers or elements of uniform thickness and distribution of weave throughout. The maximum permissible velocity for permanent matting is 8.5 feet per second.

Calculate channel velocity and shear stress using the following procedures:

Shear Stress (τ) is a measure of the force of moving water against the substrate and is calculated as:

$$\tau = \gamma \cdot y \cdot R \cdot S_w \text{ where:}$$

τ = shear stress (lb/ft²)
 γ = weight density of water (62.4 lb/ft³)
 R = average water depth (hydraulic radius) (ft)
 S_w = water surface slope (ft/ft)

Velocity (v) measures the rate of flow through a defined area and is calculated as:

$$v = 1.48 R^{2/3} \frac{S_w}{n} \text{ where:}$$

v = velocity (ft/sec)
 n = Manning's roughness coefficient
 R = hydraulic radius (ft)
 S_w = channel slope (ft/ft)

- Use Table B.7 to assist in selecting the appropriate soil stabilization matting for slope applications based on the slope, the slope length, and the soil-erodibility K factor.

TABLE B.7: SOIL STABILIZATION ON SLOPES

Slope	20:1 or Flatter (<5%)	>20:1 to 4:1 (>5% - 25%)	>4:1 to 3:1 (>25% - 33%)	>3:1 to 2:1 (>33% - 40%)	>2:1 to 1:1 ** (>40% - 50%)
Slope Length (feet)*	0-30	30-60	60-120	0-30	30-60
Straw Mulch / Wood Cellulose Fiber					
Temporary Matting with Design Shear Stress $\geq 1.5 \text{ lb/sf}$					
Temporary Matting with Design Shear Stress $\geq 1.75 \text{ lb/sf}$					
Temporary Matting with Design Shear Stress $\geq 2.0 \text{ lb/sf}$					
Temporary Matting with Design Shear Stress $\geq 2.25 \text{ lb/sf}$					

* Slope length includes contributing flow length.

** Slopes steeper than 2:1 must be engineered.

*** Soil having a K value less than or equal to 0.35 can be stabilized effectively with straw mulch or wood cellulose fiber when located on slopes steeper than 5% Soil stabilization matting is required on all slopes steeper than 5% that have soil with a K factor greater than 0.35. K factor ratings are published in the NRCS Soil Survey. <http://websoilsurvey.sc.egov.usda.gov>. During construction or reclamation, the soil-erodibility K value should represent the upper 12 inches of the final fill material re-spread as the last lift. Only the effects of rock fragments within the soil profile are considered in the estimation of the K value. Do not adjust K values to account for rocks on the soil surface or increases in soil organic matter related to management activities.

Maintenance:

Vegetation must be established and maintained so that the requirements for Adequate Vegetative Establishment are continuously met in accordance with Section B-4 Vegetative Stabilization.

B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

Definition: A mound or pile of soil protected by appropriately designed erosion and sediment control measures.

Purpose: To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

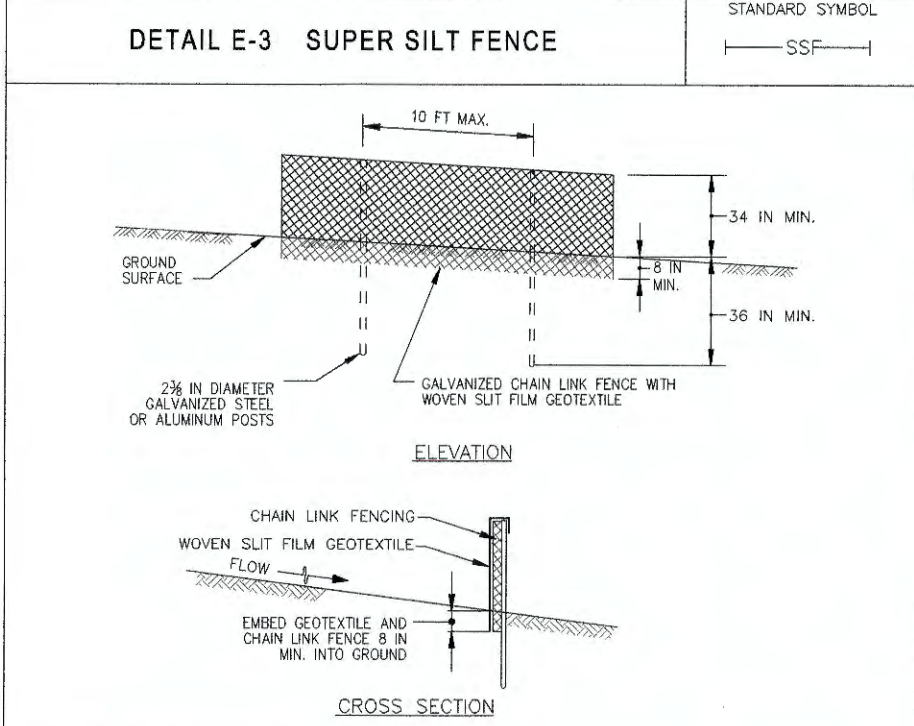
Conditions Where Practice Applies: Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

Criteria: The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.

- The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.
- Runoff from the stockpile area must drain to a suitable sediment control practice.
- Access the stockpile area from the upgrade side.
- Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.
- Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
- Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
- If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.

Maintenance

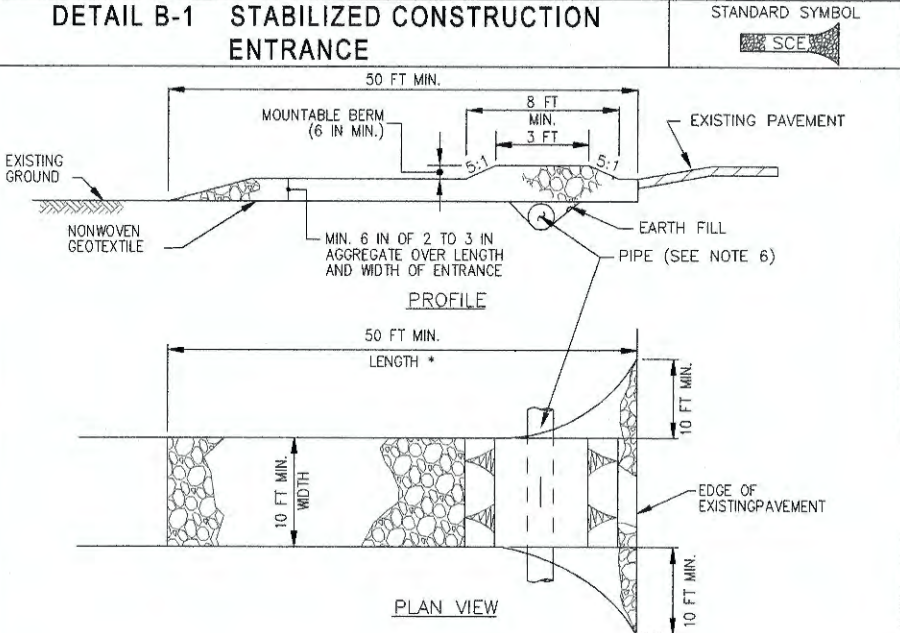
The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3 Land Grading.



CONSTRUCTION SPECIFICATIONS

- INSTALL 2 IN DIAMETER GALVANIZED STEEL POSTS OF 0.035 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 30 INCHES INTO THE GROUND.
- FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2 IN MINIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR PLUG RINGS.
- FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. UNID GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEEDING BY PASS.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT AS DEPENDS TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 20% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN, IF UNWINDING OCCURS, RENEWAL CHAIN LINK FENCING AND GEOTEXTILE.

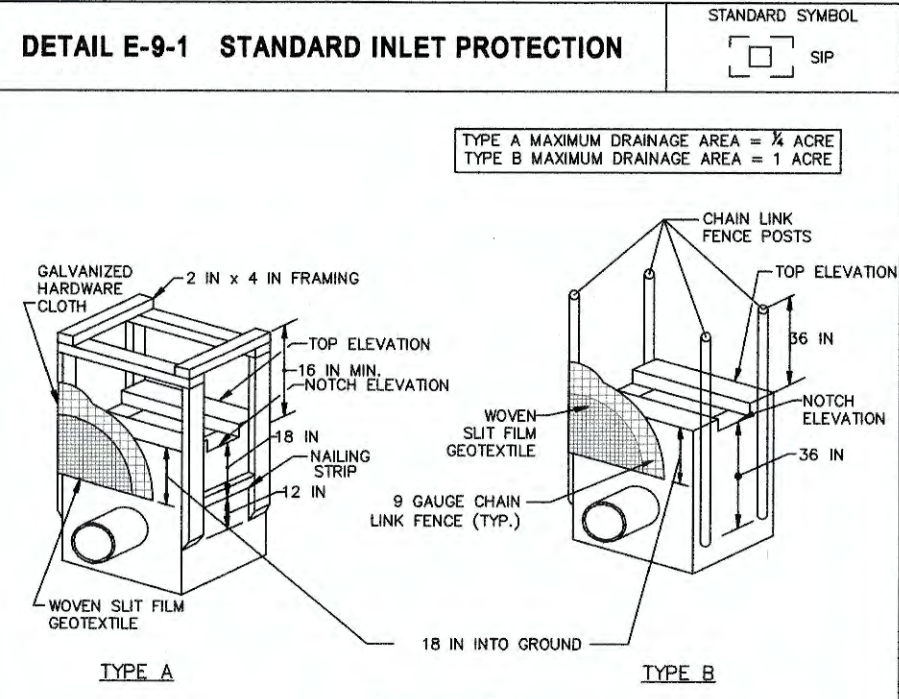
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL			
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	



CONSTRUCTION SPECIFICATIONS

- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SIZE. USE MINIMUM LENGTH OF 50 FEET FOR SMALL RECREABLE VEHICLES. USE MINIMUM WIDTH OF 10 FEET. FLARE SIZE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- PIPE ALL SURFACE WATER FLOWING TO OR OVERFLOWING TOWARD THE SIZE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLING THROUGH THE SIZE WITH A MOUNTABLE BEAM WITH 6 IN SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SIZE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BEAM IS REQUIRED WHEN SIZE IS NOT LOCATED AT A HIGH SPOT.
- PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
- PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SIZE.
- MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT AND STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BEAM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLS, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY INCLUDING SWEEPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE WASH TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

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1 OF 2

CHARLES COUNTY GOVERNMENT Department of Planning and Growth Management Development Services Department		
Approved For:		Remarks or Conditions:
Grading	☐ Construction ☐ As-Built	
Roads	☐ Construction ☐ As-Built	
Storm Drainage	☐ Construction ☐ As-Built	