

NORTH LAUREL WASTEWATER PUMPING STATION

SITE DEVELOPMENT PLAN

CONTRACT NO. 20-4680

HOWARD COUNTY, MARYLAND

CAPITAL PROJECT NO. S-6189

DPZ #SDP-12-041

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY SPECIFICATIONS AND DETAILS FOR CONSTRUCTION PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS (410) 313-6125 AND BUREAU OF ENVIRONMENTAL SERVICES AT (410) 313-6444 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE SUBJECT PROPERTY IS ZONED CAC-CL1 PER THE FEBRUARY 2, 2004 COMPREHENSIVE ZONING PLAN AND PER THE "COMP LITE" ZONING REGULATION AMENDMENTS EFFECTIVE JULY 28, 2006.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OF TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAMS, THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100 YEAR FLOODPLAIN UNLESS OTHERWISE APPROVED BY THE DEPARTMENT OF PLANNING AND ZONING.
- WAIVER PETITION, WP-11-081, TO WAIVER OF SECTION 16.1205(c)(7) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, WHICH REQUIRES THE RETENTION OF SPECIMEN TREES (30 INCH DIAMETER AT BREAST HEIGHT OR GREATER) THAT ARE NOT CONTAINED WITHIN OTHER PRIORITY FOREST RETENTION AREAS, WAS APPROVED BY THE DEPARTMENT OF PLANNING AND ZONING ON NOVEMBER 10, 2011 SUBJECT TO THE FOLLOWING CONDITIONS (1) THE PERIMETER LANDSCAPING OBLIGATION MUST BE FULFILLED UNDER THE SITE DEVELOPMENT PLAN PROCESS, AND (2) APPROVAL OF THIS WAIVER IS FOR THE REMOVAL OF TWO SPECIMEN TREES AS SHOWN ON THE WAIVER PETITION EXHIBIT/FOREST STAND DELINEATION PLAN. NO OTHER SPECIMEN TREES MAY BE REMOVED.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM: HORIZONTAL NAD'83/91 VERTICAL NAVD'88.
- TOPOGRAPHICAL FIELD SURVEYS OF THE SITE WERE PERFORMED BY WHITMAN, REQUARDT AND ASSOCIATES LLP (WRA) IN DECEMBER 2006. ADDITIONAL UTILITY INFORMATION WAS PROVIDED BY HOWARD COUNTY RECORDS AND MAY NOT REFLECT CURRENT CONDITIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY CURRENT TOPOGRAPHIC AND UTILITY INFORMATION.
- APPROXIMATE LOCATION AND INVERTS OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN AN UNINTERRUPTED SERVICE. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES BY TEST PIT OR OTHER MEANS OF INVESTIGATION APPROVED BY THE OWNER WELL IN ADVANCE OF CONSTRUCTION. ANY DAMAGE BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- STORMWATER MANAGEMENT FOR THE PROPOSED SITE DEVELOPMENT WILL BE ADDRESSED BY NON-STRUCTURAL STORMWATER MANAGEMENT CREDITS AND VIA A MICRO-BIORETENTION FACILITY TO BE MAINTAINED BY HOWARD COUNTY RECREATION AND PARKS.
- THE CONTRACTOR SHALL PERMANENTLY STABILIZE AND SEED ALL DISTURBED AREAS THAT ARE NOT TO BE PAVED.
- ALL DRIVEWAYS ARE MAINTAINED BY THE COUNTY.
- NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT AS GOVERNMENT FACILITIES ARE EXEMPT TO APFO IN GENERAL PER DESIGN MANUAL VOLUME III; SECTION 4.7.
- THE CONTRACTOR SHALL TAKE PROPER PRECAUTIONS SO AS NOT TO DAMAGE EXISTING ADJACENT FACILITIES AND STRUCTURES. THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITION OR BETTER, UNLESS NOTED OTHERWISE.
- ACCESS TO ALL EXISTING FACILITIES SHALL BE MAINTAINED AT ALL TIMES.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNER OF ANY DEVIATION FROM THESE PLANS PRIOR TO ANY CHANGES. ANY DEVIATION FROM THESE PLANS WITHOUT WRITTEN AUTHORIZATION BY THE OWNER WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- DAMAGE TO EXISTING SIGNS, GUARDRAILS AND OTHER MINOR SITE FEATURES IN THE LIMIT OF PROPOSED CONSTRUCTION, WHETHER OR NOT SHOWN ON THESE PLANS, SHALL BE REMOVED AND REPLACED AT NO ADDITIONAL COST TO THE OWNER.
- OTHER DPZ FILE REFERENCES RELATED TO THIS PROJECT: ECP-11-031, WP-11-081, S-10-004, P-11-004.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- WATER IS PUBLIC, THE DRAINAGE AREA IS LITTLE PATUXENT.
- SEWER IS PUBLIC, CONTRACTS 29-S, 49-S IN LITTLE PATUXENT DRAINAGE AREA.
- THE FLOODPLAIN STUDY FOR THIS PROJECT WAS PREPARED BY GREENMAN-PEDERSEN, INC., DATED JULY 2004, AND WAS APPROVED ON JUNE 20, 2011.

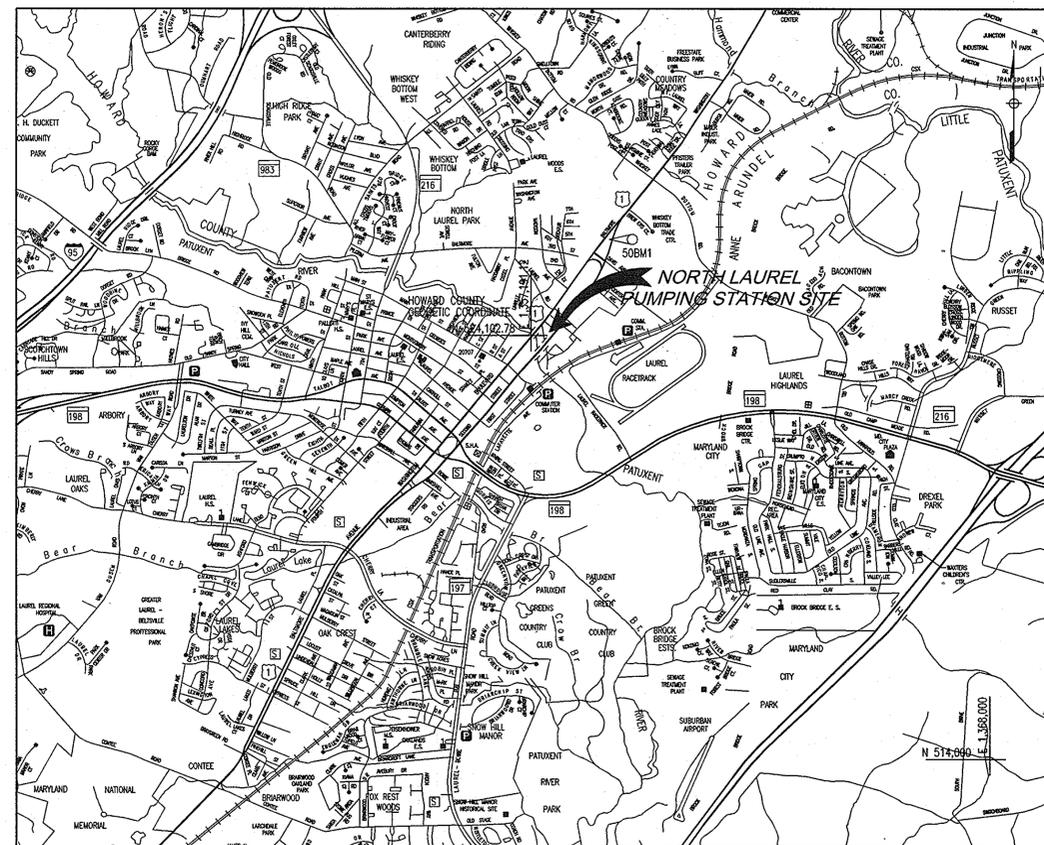
DIRECTIONS: TAKE ROUTE 32 EAST FROM I-95, AND TRAVEL SOUTH ON ROUTE 1 TO RACE TRACK ROAD

NOTE: HORIZONTAL AND VERTICAL INFORMATION SHOWN HEREON BASED ON HOWARD COUNTY GEODETIC CONTROLS AS ESTABLISHED BY A GPS SURVEY PERFORMED BY WHITMAN, REQUARDT AND ASSOCIATES FROM THE FOLLOWING HOWARD COUNTY GEODETIC CONTROL POINTS (MARYLAND STATE REFERENCE SYSTEM NAD '83 & NAVD '88)

	NORTH	EAST	ELEVATION
HOWARD COUNTY #50EM2	524,102.78	1,357,191.12	141.36
HOWARD COUNTY #0002	544,836.52	1,340,825.33	444.385
BENCH MARK #50BM1	(TRIANGULATED)	(TRIANGULATED)	181.923

SITE ANALYSIS DATA CHART

TOTAL PROJECT AREA.....	0.7 AC.
LIMIT OF DISTURBANCE (LOD).....	0.9 AC.
AREA OF PLAN SUBMISSION.....	0.7 AC.
WETLANDS.....	0 AC.
WETLAND BUFFER.....	0 AC.
FOREST.....	0 AC.
SLOPES 15% TO <25%.....	0.03 AC.
SLOPES 25%.....	0.08 AC.
PROPOSED SITE USE.....	PUMPING STATION
PROPOSED IMPERVIOUS AREA.....	0.2 AC.
FLOOD PLAIN AND BUFFER.....	0.9 AC.
GREEN AREA.....	0 AC.
ERODIBLE SOILS.....	0 AC.
PRESENT ZONING.....	CAC-CL1
APPLICABLE DPZ REFERENCES.....	ECP-11-031, WP-11-081
STREAMS AND BUFFERS.....	0.11 AC.



VICINITY MAP

SCALE: 1" = 2000'

ADC MAP 5169
GRID F3 & F4

SEWER CODE: 7103000
FOR COUNTY USE ONLY

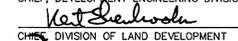
DRAWING/SHEET INDEX

DWG.	SHEET	DESCRIPTION
SDP-1	63	COVER SHEET
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GENERAL NOTES CONT.

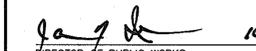
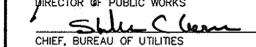
- THE WETLAND STUDY FOR THIS PROJECT WAS PREPARED BY WR&A IN AUGUST 2010. THERE ARE NO WETLANDS ON THIS SITE.
- NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT.
- THE ENTIRE SITE IS WITHIN THE LIMITS OF THE FLOODPLAIN. IN ACCORDANCE WITH SECTION 16.115(c)(2) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, THE DEPARTMENT OF PLANNING AND ZONING, UPON THE ADVICE OF THE DEPARTMENT OF PUBLIC WORKS, AUTHORIZES THE CLEARING, EXCAVATING, FILLING, ALTERING DRAINAGE, OR IMPERVIOUS PAVING ON LAND LOCATED WITHIN THE FLOODPLAIN. ANY PROPOSED CONSTRUCTION OF A STRUCTURE LOCATED WITHIN A FLOODPLAIN SHALL BE SUBJECT TO THE REQUIREMENTS OF THE HOWARD COUNTY BUILDING CODE. A MADE APPROVAL FOR TRACKING NO. 200565058 WAS GRANTED IN AUGUST 2010.
- DISTURBANCE WITHIN THE STREAM BUFFER HAS BEEN ACCEPTED AS A NECESSARY DISTURBANCE IN ACCORDANCE WITH SECTION 16.116(c)(1) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS SINCE IT IS NECESSARY FOR REMOVAL OF THE PUBLIC PUMPING STATION.
- A SIMPLIFIED FOREST STAND DELINEATION PLAN WAS PREPARED BY WHITMAN, REQUARDT AND ASSOCIATES, LLP DATED OCTOBER 26, 2010.
- IN ACCORDANCE WITH SECTION 16.1200 OF THE HOWARD COUNTY CODE, FOREST CONSERVATION IS REQUIRED FOR THIS SITE, HOWEVER SINCE THE ENTIRE SITE IS LOCATED WITHIN THE FLOODPLAIN AREA THE AFFORESTATION OBLIGATION IS 0.0 ACRES.
- THE PROJECT IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. DEVELOPMENT OR CONSTRUCTION ON THIS PROPERTY MUST COMPLY WITH THE SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF THE SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION APPLICATION, OR BUILDING/GRADING PERMIT APPLICATIONS.
- PARKING REQUIREMENT IS 2 SPACES.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL. LANDSCAPING IS ONLY REQUIRED ALONG SOUTHERN PERIMETER OF THE PROPERTY BY PROVIDING THREE SHADE AND FOUR EVERGREEN TREES. THE LANDSCAPING FOR THE WESTERN AND NORTHERN PROPERTY BOUNDARY WILL BE COMPLETED BY TSG DEVELOPMENTS WITH THE LAUREL PARK STATION SUBDIVISION PLAN AND DPZ HAS DETERMINED LANDSCAPING IS NOT PRACTICAL ON THE EASTERN BOUNDARY DUE TO THE EXISTING EASEMENT AND LOCATION OF THE PROPOSED STATION. FINANCIAL SURETY IS NOT REQUIRED FOR THIS PROJECT BECAUSE IT IS A COUNTY CAPITAL PROJECT.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

 DATE: 10/25/12
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 10/11/12
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 11/2/12
 DIRECTOR

OWNER:	PERMIT INFORMATION CHART						
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 9250 BENDIX ROAD COLUMBIA, MD 21046 ATTN: MR. BOB DIAZ VOICE 410-313-6153	WATER CODE:	SEWER CODE:	BUILDING	PARCEL NO.			
	PUBLIC	PUBLIC	N/A	384 456			
	PROJECT NAME:						
	NORTH LAUREL WASTEWATER PUMPING STATION						
	L/P/	GRID	ZONING	TAX ZONE MAP	ELEC. DIST.	CENSUS TRACT	
	14104/126 420/17	10	CAC-CL1	50	2	606903	

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. LICENSE NO. 24478, EXPIRATION DATE: 10/28/2013.

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND.
 DATE: 10/25/12
 DIRECTOR OF PUBLIC WORKS
 DATE: 10/25/12
 CHIEF, BUREAU OF UTILITIES

ADDRESS CHART
LOT/PARCEL STREET ADDRESS
P. 384 10159 WASHINGTON BLVD.


 WHITMAN, REQUARDT AND ASSOCIATES, LLP
 801 SOUTH CAROLINE STREET
 BALTIMORE, MARYLAND 21231
 410 - 235 - 3460



DES: -				
DRN: -				
CHK: -				
BY	NO.	REVISION	DATE	

600' SCALE MAP NO. 30 BLOCK NO. 10

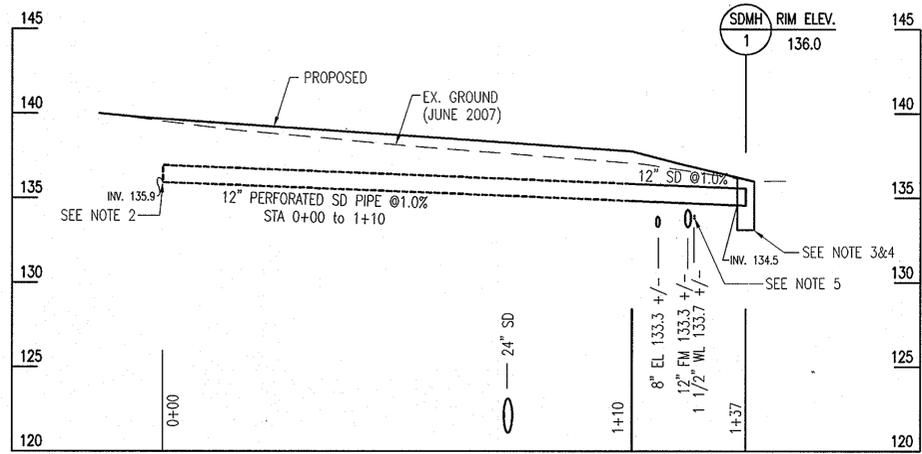
COVER SHEET

NORTH LAUREL WASTEWATER PUMPING STATION
 CAPITAL PROJECT NO. S-6189
 CONTRACT NO. 20-4680
 2ND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SDP-1

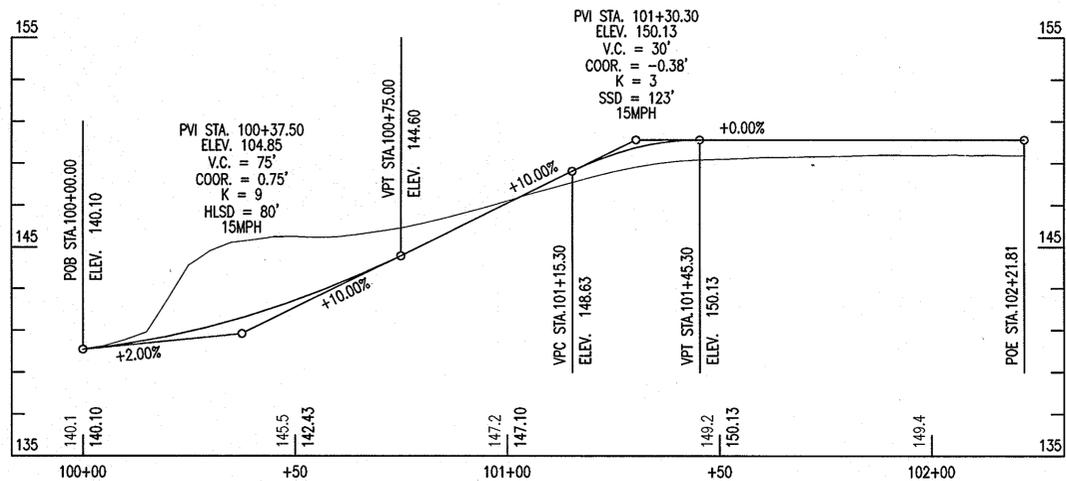
SCALE AS SHOWN

SHEET 63 OF 70



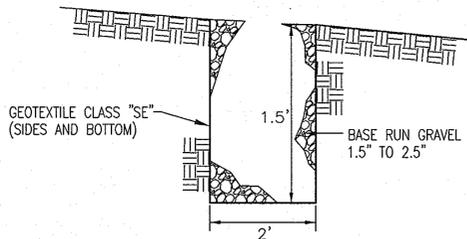
PROFILE - STORM DRAIN

SCALE: 1" = 20' HORIZ.
1" = 5' VERT.



ROAD PROFILE

SCALE: HORIZ. 1" = 20'
VERT. 1" = 4'



DETAIL - SWM GRAVEL DITCH

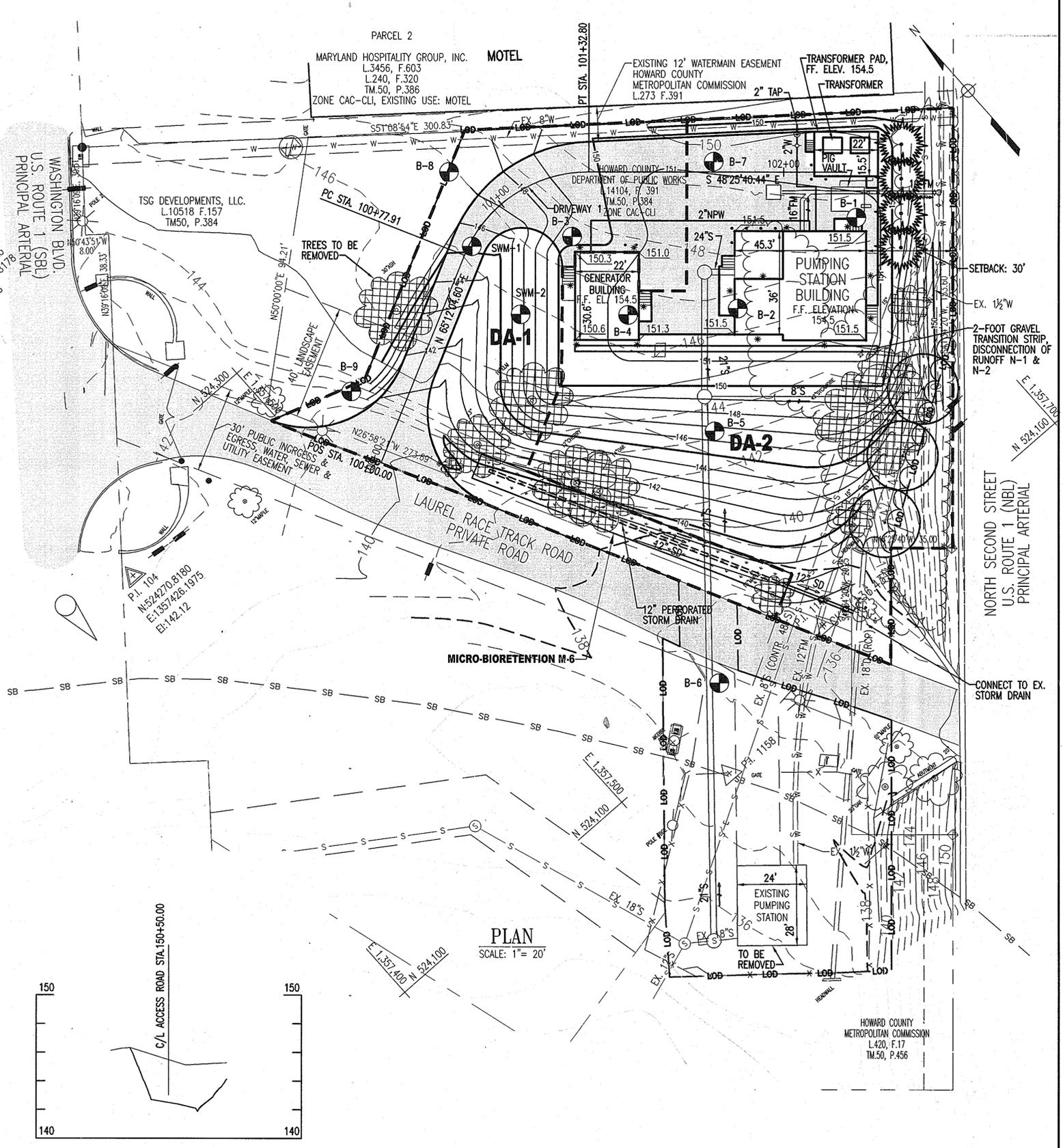
NOT TO SCALE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 10/25/12
 CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 11/01/12
 DIRECTOR: *[Signature]* DATE: 11/01/12

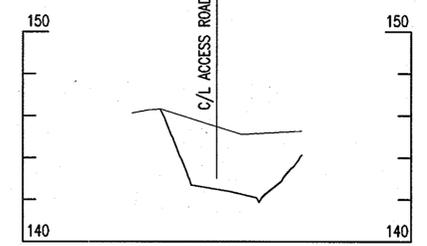
DRAINAGE AREA	AREA (AC.)	ESD PRACTICE	ESDv (FT ³)	Rev (AC=FT)	RCN	VOLUME CAPTURED (FT ³)
DA-1	0.23	MICRO-BIORETENTION M-6	629	0.00083	77	1,070
DA-2	0.47	ROOFTOP DISCONNECTION (PUMPING STATION & GENERATOR) N-1 NON-ROOFTOP DISCONNECTION N-2	677	0.00091	77	506
TOTAL	0.7		1,306	0.00174		1,576

IN ACCORDANCE WITH CHAPTER 4 OF THE MARYLAND DEPARTMENT OF THE ENVIRONMENT STORMWATER MANAGEMENT DESIGN MANUAL, TERRAIN FACTORS WERE EVALUATED FOR PLACEMENT OF THE MICRO-BIORETENTION. PHYSICAL LOCATION WAS BASED ON FEASIBILITY FACTORS.



PLAN

SCALE: 1" = 20'



ROAD SECTION AT STA. 100+50

SCALE: HORIZ. 1" = 20'
VERT. 1" = 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. LICENSE NO. 24478, EXPIRATION DATE: 10/28/2013.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.
 Director: *[Signature]* DATE: 10/25/12
 Chief, Bureau of Engineering: *[Signature]* DATE: 11/01/12
 Chief, Bureau of Utilities: *[Signature]* DATE: 11/01/12

WR&A
WHITMAN, REQUARDT AND ASSOCIATES, LLP
801 SOUTH CAROLINE STREET
BALTIMORE, MARYLAND 21231
410 - 235 - 3450

DES: -				
DRN: -				
CHK: -				
BY	NO.	REVISION	DATE	

DRAINAGE AREA PLAN.
600' SCALE MAP NO. 30 BLOCK NO. 10

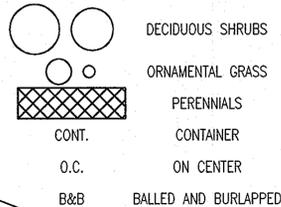
NORTH LAUREL WASTEWATER PUMPING STATION
CAPITAL PROJECT NO. S-6189
CONTRACT NO. 20-4680
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE: 1" = 20'

SDP-3

SCALE AS SHOWN
SHEET 65 OF 70

PLANT LIST



- NOTES:**
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
 - THE ENTIRE AREA IS WITHIN THE 100-YEAR FLOODPLAIN ELEVATION 152.50.
 - SEE SDP-3 FOR 12-INCH STORM DRAIN PROFILE.

BIO-RETENTION NOTES:

- THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR CONTACTING MISS UTILITY PRIOR TO BEGINNING CONSTRUCTION FOR LOCATION OF ALL UTILITY LINES. THE LANDSCAPE CONTRACTOR SHALL BE COGNIZANT OF PROPOSED UTILITY LOCATIONS AS SHOWN ON THE PLANS.
- ALL PLANTS SHALL BE EQUAL TO OR BETTER THAN THE REQUIREMENTS OF THE "AMERICAN STANDARD FOR NURSERY STOCK," LATEST EDITION, AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN. ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY, AND SHALL BE FIRST QUALITY, SOUND, VIGOROUS, WELL BRANCHED, AND WITH HEALTHY, WELL-FURNISHED ROOT SYSTEMS. THEY SHALL BE FREE OF DISEASE, INSECTS, PESTS AND MECHANICAL INJURIES.
- ALL PLANTS SHALL HAVE BEEN NURSERY GROWN AND SHALL HAVE BEEN GROWN UNDER THE SAME CLIMATIC CONDITIONS AS THE LOCATION OF THIS PROJECT FOR AT LEAST TWO YEARS BEFORE PLANTING. NEITHER HEELED IN PLANTS NOR PLANTS FROM COLD STORAGE WILL BE ACCEPTED.
- LANDSCAPE MAINTENANCE OBLIGATIONS SHALL IN ACCORDANCE WITH THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS MANUAL AND THE HOWARD COUNTY LANDSCAPE MANUAL, ADOPTED JANUARY 4, 1993 AMENDED MARCH 2, 1998. AT THE TIME OF PLANT INSTALLATION, ALL SHRUBS AND TREES LISTED SHALL COMPLY WITH THE PROPER HEIGHT REQUIREMENT IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATIONS OF THE REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING.
- THE LANDSCAPE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL WATERING DURING CONSTRUCTION AND DURING THE ONE YEAR MAINTENANCE PERIOD.
- FOR SEEDING REQUIREMENTS, SEE THE EROSION AND SEDIMENT CONTROL DETAIL SHEET.
- ALL PLANT MATERIALS, TOPSOIL, MULCH FERTILIZERS, SOIL AMENITIES, PLANTING SUPPLIES AND METHODS SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL. REJECTED MATERIAL SHALL BE REMOVED FROM THE SITE WITHOUT DELAY.
- ALL PLANT MATERIALS SHALL BE GUARANTEED FOR ONE FULL YEAR TO BE IN A HEALTHY GROWING CONDITION. PLANT MATERIALS WHICH DO NOT FULFILL THIS GUARANTEE SHALL BE REPLACED AT NO COST TO THE OWNER. REPLACEMENT SHALL BE GUARANTEED THROUGHOUT THE ORIGINAL GUARANTEE PERIOD. PLANTS THAT DIE WITHIN 30-60 DAYS SHALL BE REPLACED IMMEDIATELY.
- THE ONE YEAR GUARANTEE PERIOD SHALL BEGIN UPON THE OWNER'S APPROVAL OF THE PLANTING INSTALLATION. THE LANDSCAPE CONTRACTOR SHALL ALSO PROVIDE LANDSCAPE MAINTENANCE DURING THIS PERIOD.
- ALL SUBSTITUTIONS OF PLANT MATERIAL SHALL BE REQUESTED IN WRITING TO THE LANDSCAPE ARCHITECT AND APPROVED IN WRITING BY THE OWNER. FAILURE TO OBTAIN SUBSTITUTIONS IN WRITING MAY RESULT IN LIABILITY TO THE CONTRACTOR.
- AT THE TIME OF PLANT INSTALLATION, ALL SHRUBS AND TREES LISTED AND APPROVED ON THE LANDSCAPE PLAN, SHALL COMPLY WITH THE PROPER HEIGHT REQUIREMENT IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATIONS OF THE REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING.
- THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING BOTH, PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS.

LANDSCAPE PLANT SCHEDULE

QUANTITY	KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	MATURE SIZE	MIN. SPACING
TREES							
3	AR	ACER RUBRUM 'FRANKSRED'	RED SUNSET RED MAPLE	2-1/2" CAL.	B&B	HEIGHT: 50'-60' SPREAD: 35'-45'	25' O.C.
4	PS	PINUS STROBUS 'FASTIGIATA'	COLUMNAR WHITE PINE	7'-8" HT.	B&B	HEIGHT: 35'-50' SPREAD: 12'-15'	12' O.C.
SHRUBS							
8	RA	RHUS AROMATICA 'GRO-LOW'	GRO-LOW FRAGRANT SUMAC	15"-18"	B&B/CONT.	HEIGHT: 2'-3' SPREAD: 5'-6'	6' O.C.
12	VA	VACCINIUM ANGUSTIFOLIUM	LOWBUSH BLUEBERRY	#2	CONT.	HEIGHT: 0.5'-2' SPREAD: 2'-4'	4' O.C.
6	MV	VIBURNUM ACERIFOLIUM	MAPLELEAF VIBURNUM	24"-30"	B&B/CONT.	HEIGHT: 4'-6' SPREAD: 4'-6'	6' O.C.
ORNAMENTAL GRASS							
12	PA	PENNISETUM ALOPECUROIDES 'HAMELI'	DWARF FOUNTAIN GRASS	#1	CONT.	HEIGHT: 1.5'-2' SPREAD: 1.5'-2'	3' O.C.
PERENNIALS							
20	RL	RUDBECKIA LACINIATA 'GOLDQUELLE'	TALL CONEFLOWER	#1	CONT.	HEIGHT: 3'-4'	24" O.C.
36	LC	LOBELIA CARDINALIS	CARDINAL FLOWER	#1	CONT.	HEIGHT: 3'	18" O.C.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 10/25/12
 CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 11/01/12
 DIRECTOR: *[Signature]* DATE: 11/21/12

LANDSCAPE CERTIFICATION

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION AND LAND REGULATIONS AND THE LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF NOTICE, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.
 DEVELOPER: *[Signature]* DATE: 9/25/12

OWNER:	PERMIT INFORMATION CHART		
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 9250 BENDY ROAD COLUMBIA, MD 21045 ATTN: MR. BOB DIAZ VOICE 410-313-6153	WATER CODE: PUBLIC	SEWER CODE: PUBLIC	BUILDING N/A
	PROJECT NAME: NORTH LAUREL WASTEWATER PUMPING STATION		PARCEL NO. 384 456
L/F: 14104/126 420/17	GRID 10	ZONING CAC-CL1	TAX ZONE MAP 50
		ELEC. DIST. 2	CENSUS TRACT 606903

SPECIMEN TREE TABLE

Label	Common Name	Scientific Name	DBH	Condition	Stand
T1	White Ash	Fraxinus americana	39.0"	Fair-Poor	N/A
T2	Sycamore	Platanus occidentalis	42.0"	Poor	N/A

**DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.**
 DIRECTOR OF PUBLIC WORKS: *[Signature]* DATE: 9/25/12
 CHIEF, BUREAU OF UTILITIES: *[Signature]* DATE: 9/25/12
 CHIEF, UTILITY DESIGN DIVISION: *[Signature]* DATE: 9/25/12

WR&A
 WHITMAN, REQUARDT AND ASSOCIATES, LLP
 801 SOUTH CAROLINE STREET
 BALTIMORE, MARYLAND 21231
 410 - 235 - 3450



DES:-			
DRN:-			
CHK:-			
BY NO.	REVISION	DATE	

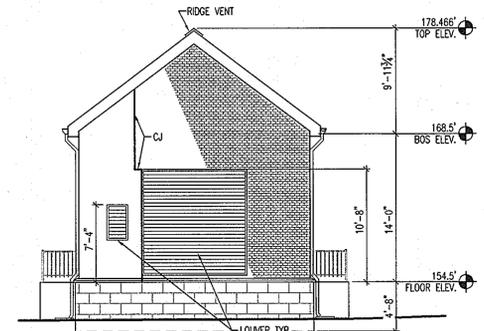
SITE DEVELOPMENT PLAN
 600' SCALE MAP NO. 30 BLOCK NO. 10

NORTH LAUREL WASTEWATER PUMPING STATION
 CAPITAL PROJECT NO. S-6189
 CONTRACT NO. 20-4680
 2ND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

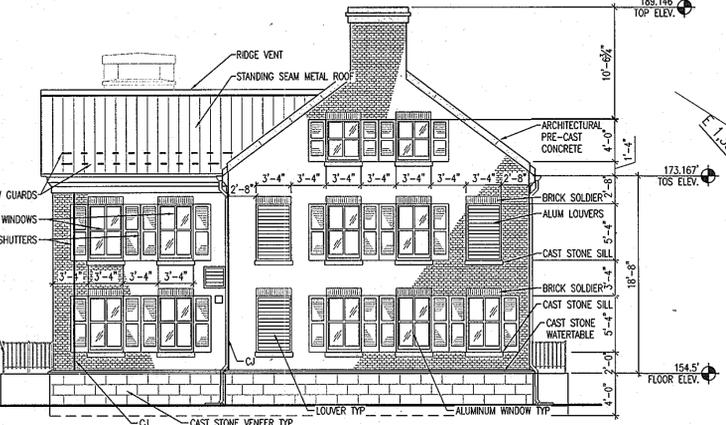
SCALE AS SHOWN
 SHEET 66 OF 70

TYPE B BUFFER REQUIREMENTS

LENGTH	TREES REQUIRED	TREES PROVIDED
152 L.F.	1 SHADE TREE/50 L.F. = 3 1 EVERGREEN TREE/40 L.F. = 4	SHADE TREES = 3 EVERGREEN TREES = 4

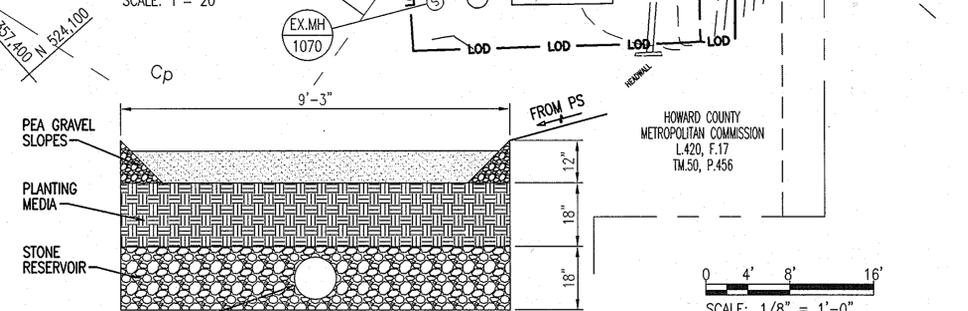


GENERATOR BUILDING SOUTH ELEVATION
 SCALE: 1/8" = 1'-0"



PUMPING STATION SOUTH ELEVATION
 SCALE: 1/8" = 1'-0"

PLAN
 SCALE: 1" = 20'



CROSS-SECTION FOR M-6
 SCALE: 1" = 20'

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 Sep 14, 2012 7:55am

STANDARD SEDIMENT CONTROL NOTES

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (410-313-1855).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOD, TEMPORARY SEEDING, AND MULCHING (SEC. G.). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:

TOTAL AREA OF SITE	0.9 ACRES
AREA DISTURBED	0.9 ACRES
AREA TO BE ROOFED OR PAVED	0.2 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.7 ACRES
TOTAL CUT	600 CU. YARDS
TOTAL FILL	1,700 CU. YARDS

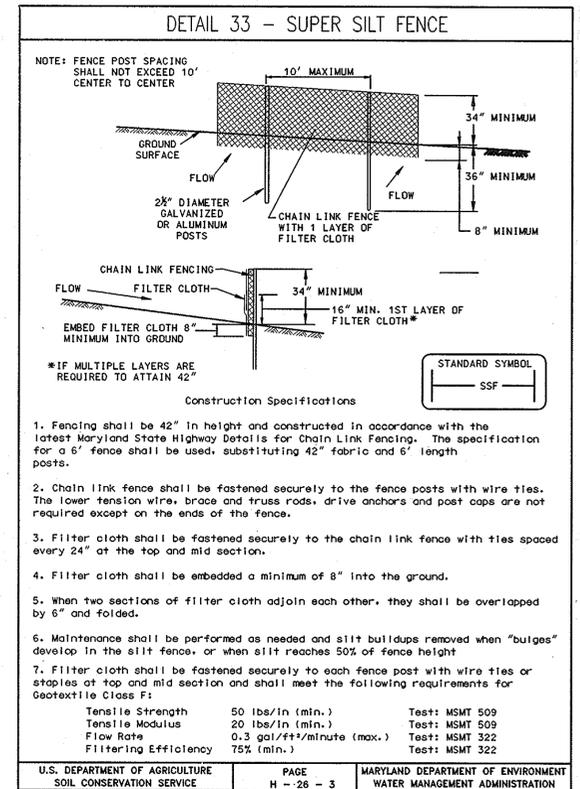
OFFSITE WASTE AREA LOCATION TO HAVE ACTIVE GRADING PERMIT
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY.
- SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.
- SEDIMENT WILL BE REMOVED FROM TRAPS WHEN ITS DEPTH REACHES CLEAN OUT ELEVATION SHOWN ON THE PLANS.
- CUT AND FILL QUANTITIES PROVIDED UNDER SITE ANALYSIS DO NOT REPRESENT BID QUANTITIES. THESE QUANTITIES DO NOT DISTINGUISH BETWEEN TOPSOIL, STRUCTURAL FILL OR EMBANKMENT MATERIAL, NOR DO THEY REFLECT CONSIDERATION OF UNDERCUTTING OR REMOVAL OF UNSUITABLE MATERIAL. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH SITE CONDITIONS WHICH MAY AFFECT THE WORK.

PROJECT SEQUENCE OF CONSTRUCTION

- NOTIFY MISS UTILITY (1-800-257-7777) AT LEAST 48 HOURS PRIOR TO BEGINNING WORK.
- NOTIFY HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS (410-313-1855) AT LEAST 48 HOURS PRIOR TO BEGINNING WORK ON-SITE AND OBTAIN GRADING PERMIT. (1 DAY)
- CLEAR AND GRUB FOR SEDIMENT AND EROSION CONTROL MEASURES OR DEVICES ONLY. (7 DAYS)
- INSTALL ALL SEDIMENT AND EROSION CONTROL MEASURES AND DEVICES INCLUDING STABILIZED CONSTRUCTION ENTRANCE(S). (10 DAYS)
- NOTIFY HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS UPON COMPLETION OF THE INSTALLATION WORK NOTED ABOVE. (1 DAY)
- WITH THE APPROVAL OF THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, CLEAR AND GRUB THE REMAINDER OF THE SITE AND STABILIZE IMMEDIATELY. (21 DAYS)
- BEGIN EXCAVATION AND INSTALLATION OF UTILITIES. WORK SHALL BE LIMITED TO THAT WHICH CAN BE BACKFILLED AND STABILIZED IN ONE DAY PER STANDARD SEDIMENT CONTROL NOTE NO. 11. STABILIZE WORK AREA AT THE END OF EACH WORK DAY. (430 DAYS)
- CONNECT TO EXISTING UTILITIES WHERE APPLICABLE. (7 DAYS)
- WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR, REMOVE STABILIZED CONSTRUCTION ENTRANCE(S). (2 DAYS)
- STABILIZE ALL DISTURBED AREAS. (14 DAYS)
- FOLLOWING APPROVAL FROM THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL MEASURES AND STABILIZE ANY REMAINING AREAS. (7 DAYS)
- NO WORK SHALL BE PERMITTED IN ANY STREAMS BETWEEN MARCH 1, AND JUNE 15, INCLUSIVE.

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

- NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND 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 NONTIDAL WETLANDS, NONTIDAL WETLAND 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 NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
- REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR PERMANENT MODIFICATION OF THE 100-YEAR FLOOD PLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.
- RECTIFY ANY NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOOD PLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
- ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNIOLA SP.), AND/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
- AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST-CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
- TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY CLASSIFICATION OF THE STREAM:
 USE 1 WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD OF MARCH 1 THROUGH JUNE 15, 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 THE AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.



SUPER SILT FENCE

Design Criteria

Slope	Slope Steepness	Slope Length (maximum)	Silt Fence Length (maximum)
0 - 10%	0 - 10:1	Unlimited	Unlimited
10 - 20%	10:1 - 5:1	200 feet	1,500 feet
20 - 33%	5:1 - 3:1	100 feet	1,000 feet
33 - 50%	3:1 - 2:1	100 feet	500 feet
50% +	2:1 +	50 feet	250 feet

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE H - 26 - 3A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 10/23/12
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 11/01/12
 CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 11/15/12
 DIRECTOR

DEVELOPER'S CERTIFICATION

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

[Signature] 9/25/12
 SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE)
 ROBERT DINE

ENGINEER'S CERTIFICATION

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

[Signature] 9/10/12
 SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE)

HOWARD SOIL CONSERVATION DISTRICT CERTIFICATION

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

HOWARD SOIL CONSERVATION DISTRICT DATE

OWNER:	PERMIT INFORMATION CHART					
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 9250 BENDIX ROAD COLUMBIA, MD 21045 ATTN: MR. BOB DIAZ VOICE 410-313-6153	WATER CODE:	SEWER CODE:	BUILDING			
	PUBLIC	PUBLIC	N/A			
	PROJECT NAME:	PARCEL NO.				
	NORTH LAUREL WASTEWATER PUMPING STATION	384 456				
	1/14104/126	GRID	ZONING	TAX ZONE MAP	ELEC. DIST.	CENSUS TRACT
	420/17	10	CAC-CL1	50	2	606903

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. LICENSE NO. 24478, EXPIRATION DATE: 10/28/2013.

**DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.**

[Signature] 10/11/12
 DIRECTOR OF PUBLIC WORKS

[Signature] 9/25/12
 CHIEF, BUREAU OF ENGINEERING

[Signature] 9/25/12
 CHIEF, UTILITY DESIGN DIVISION

WR&A
 WHITMAN, REQUARDT AND ASSOCIATES, LLP
 801 SOUTH CAROLINE STREET
 BALTIMORE, MARYLAND 21231
 410 - 235 - 3450



DES: -			
DRN: -			
CHK: -			
BY	NO.	REVISION	DATE

SEDIMENT AND EROSION CONTROL
NOTES AND DETAIL

600' SCALE MAP NO. 30 BLOCK NO. 10

NORTH LAUREL WASTEWATER PUMPING STATION

CAPITAL PROJECT NO. S-6189
CONTRACT NO. 20-4680

2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SDP-6

SCALE
AS SHOWN

SHEET
68 OF 70

SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS

- A. SITE PREPARATION**
- INSTALL EROSION AND SEDIMENT CONTROL STRUCTURES (EITHER TEMPORARY OR PERMANENT) SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, BERMS, WATERWAYS, OR SEDIMENT CONTROL BASINS.
 - PERFORM ALL GRADING OPERATIONS AT RIGHT ANGLES TO THE SLOPE. FINAL GRADING AND SHAPING IS NOT USUALLY NECESSARY FOR TEMPORARY SEEDING.
 - SCHEDULE REQUIRED SOIL TESTS TO DETERMINE SOIL AMENDMENT COMPOSITION AND APPLICATION RATES FOR SITES HAVING DISTURBED AREA OVER 5 ACRES.
- B. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)**
- SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OVER 5 ACRES. SOIL ANALYSIS MAY BE PERFORMED BY THE UNIVERSITY OF MARYLAND OR A RECOGNIZED COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.
 - FERTILIZERS SHALL BE UNIFORM IN COMPOSITION, FREE FLOWING, AND SUITABLE FOR ACCURATE APPLICATION BY APPROVED EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS SHALL ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE STATE FERTILIZER LAWS AND SHALL BEAR THE NAME, TRADE NAME, OR TRADEMARK, AND WARRANT OF THE PRODUCER.
 - LIME MATERIALS SHALL BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED) WHICH CONTAINS AT LEAST 50% TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE SHALL BE GROUND TO SUCH FINENESS THAT AT LEAST 50% WILL PASS THROUGH A #100 MESH SIEVE AND 98-100% WILL PASS THROUGH A #20 MESH SIEVE.
 - INCORPORATE LIME AND FERTILIZER INTO THE TOP 3"-5" OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

- C. SEEDBED PREPARATION**
- TEMPORARY SEEDING**
 - SEEDBED PREPARATION SHALL CONSIST OF LOOSENING SOIL TO A DEPTH OF 3"-5" 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 SHOULD NOT BE ROLLED OR DRAGGED SMOOTH, BUT LEFT IN THE ROUGHENED CONDITION. SLOPED AREAS (GREATER THAN 3:1) SHOULD BE TRACKED LEAVING THE SURFACE IN AN IRREGULAR CONDITION 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"-5" OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
 - PERMANENT SEEDING**
 - MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT.
 - 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 LOVEGRASS OR SERECIA LESPEDEZA IS 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 SOILS ON SITE, ADDING TOPSOIL IS REQUIRED IN ACCORDANCE WITH SECTION 21 STANDARD AND SPECIFICATION FOR TOPSOIL.
 - AREAS PREVIOUSLY GRADED IN CONFORMANCE WITH THE DRAWINGS SHALL BE MAINTAINED IN A TRUE AND EVEN GRADE, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3"-5" TO PERMIT BONDING OF THE TOPSOIL TO THE SURFACE AREA AND TO CREATE HORIZONTAL EROSION CHECK SLOTS TO PREVENT TOPSOIL FROM SLIDING DOWN A SLOPE.
 - APPLY SOIL AMENDMENTS AS PER SOIL TEST OR AS INCLUDED ON THE PLANS.
 - MIX SOIL AMENDMENTS INTO THE TOP 3"-5" OF TOPSOIL BY DISKING OR OTHER SUITABLE MEANS. LAWN AREAS SHOULD BE RAKED TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION, LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE. STEEP SLOPES (STEEPER THAN 3:1) SHOULD BE TRACKED BY A DOZER LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. THE TOP 1"-3" OF SOIL SHOULD BE LOOSE AND FRAGILE. SEEDBED LOOSENING MAY NOT BE NECESSARY ON NEWLY DISTURBED AREAS.
 - SEE TECHNICAL SPECIFICATIONS, SECTION 02260, FOR SPECIAL REQUIREMENTS.

- SEED SPECIFICATIONS**
 - ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED SHALL BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED SHALL HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON THIS JOB.

NOTE: SEED TAGS SHALL BE MADE AVAILABLE TO THE INSPECTOR TO VERIFY TYPE AND RATE OF SEED USED.
 - INOCULANT - THE INOCULANT FOR TREATING LEGUME SEED MIXTURES SHALL BE A PURE CULTURE OF NITROGEN-FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS SHALL NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANT AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING.

NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75-80°F CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.

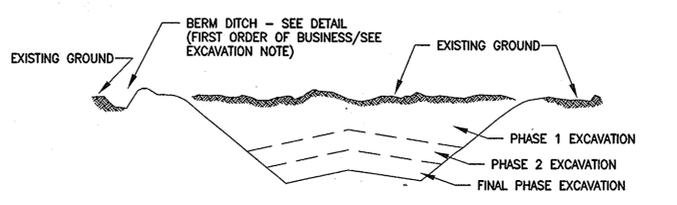
- E. METHODS OF SEEDING**
- HYDROSEEDING:** APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER), BROADCAST OR DROP SEEDER, OR A CULTIPACKER SEEDER.
 - IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATE AMOUNTS WILL NOT EXCEED THE FOLLOWING: NITROGEN: MAXIMUM OF 100 LBS. PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS): 200 LBS. PER ACRE; K20 (POTASSIUM): 200 LBS. PER ACRE.
 - LIME - USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.
 - SEED AND FERTILIZER SHALL BE MIXED ON-SITE AND SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.
 - DRY SEEDING:** THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.
 - SEED SPREAD DRY SHALL BE INCORPORATED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON THE TEMPORARY OR PERMANENT SEEDING SUMMARIES OR TABLES 25 OR 26. THE SEEDED AREA SHALL THEN BE ROLLED WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.
 - WHERE PRACTICAL, SEED SHOULD BE APPLIED IN TWO DIRECTIONS PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.
 - DRILL OR CULTIPACKER SEEDING:** MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.
 - CULTIPACKER SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4" OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.
 - WHERE PRACTICAL, SEED SHOULD BE APPLIED IN TWO DIRECTIONS PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.
- F. MULCH SPECIFICATIONS (IN ORDER OF PREFERENCE)**
- STRAW** SHALL CONSIST OF THOROUGHLY THRESHED WHEAT, RYE, OR OAT STRAW, REASONABLY BRIGHT IN COLOR, AND SHALL NOT BE MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY AND SHALL BE FREE OF NOXIOUS WEEDS SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW.
 - WOOD CELLULOSE FIBER MULCH (WCFM)**
 - WCFM SHALL CONSIST OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
 - WCFM SHALL BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.
 - WCFM, INCLUDING DYE, SHALL CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
 - WCFM MATERIALS SHALL BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL SHALL FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND SHALL COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.
 - WCFM MATERIAL SHALL CONTAIN NO ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
 - WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH TO APPROXIMATELY 10mm, DIAMETER APPROXIMATELY 1mm, pH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6% MAXIMUM AND WATER HOLDING CAPACITY OF 90% MINIMUM.

NOTE: ONLY STERILE STRAW MULCH SHOULD BE USED IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.

- MULCHING SEEDED AREAS - MULCH SHALL BE APPLIED TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.**
 - IF GRADING IS COMPLETED OUTSIDE OF THE SEEDING SEASON, MULCH ALONE SHALL BE APPLIED AS PRESCRIBED IN THIS SECTION AND MAINTAINED UNTIL THE SEEDING SEASON RETURNS AND SEEDING CAN BE PERFORMED IN ACCORDANCE WITH THESE SPECIFICATIONS.
 - WHEN STRAW MULCH IS USED, IT SHALL BE SPREAD OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE. MULCH SHALL BE APPLIED TO A UNIFORM LOOSE DEPTH OF BETWEEN 1" AND 2". MULCH APPLIED SHALL ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. IF A MULCH ANCHORING TOOL IS TO BE USED, THE RATE SHOULD BE INCREASED TO 2.5 TONS PER ACRE.
 - WOOD CELLULOSE FIBER USED AS A MULCH SHALL BE APPLIED AT A NET DRY WEIGHT OF 1,500 LBS. PER ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER, AND THE MIXTURE OF 50 LBS. OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
- SECURING STRAW MULCH (MULCH ANCHORING):** MULCH ANCHORING SHALL BE PERFORMED IMMEDIATELY FOLLOWING MULCH APPLICATION TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:
 - A MULCH ANCHORING TOOL IS A TRACTOR-DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF TWO (2) INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD BE USED ON THE CONTOUR IF POSSIBLE.
 - WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. THE FIBER BINDER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 LBS. PER ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LBS. OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
 - APPLICATION OF LIQUID BINDERS SHOULD BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. THE REMAINDER OF AREA SHOULD APPEAR UNIFORM AFTER BINDER APPLICATION. SYNTHETIC BINDERS - SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TACK II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH.
 - LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4'-15' WIDE AND 300'-3,000' LONG.

- I. INCREMENTAL STABILIZATION - CUT SLOPES**
- ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 15'.
 - CONSTRUCTION SEQUENCE (REFER TO FIGURE 4 BELOW):
 - EXCAVATE AND STABILIZE ALL TEMPORARY SWALES, SIDE DITCHES, OR BERMS THAT WILL BE USED TO CONVEY RUNOFF FROM THE EXCAVATION.
 - PERFORM PHASE 1 EXCAVATION, DRESS, AND STABILIZE.
 - PERFORM PHASE 2 EXCAVATION, DRESS, AND STABILIZE. OVERSEED PHASE 1 AREAS AS NECESSARY.
 - PERFORM FINAL PHASE EXCAVATION, DRESS, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECESSARY.

NOTE: ONCE EXCAVATION HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.



- J. INCREMENTAL STABILIZATION OF EMBANKMENTS - FILL SLOPES**
- EMBANKMENTS SHALL BE CONSTRUCTED IN LIFTS AS PRESCRIBED ON THE PLANS.
 - SLOPES SHALL BE STABILIZED IMMEDIATELY WHEN THE VERTICAL HEIGHT OF THE MULTIPLE LIFTS REACHES 15', OR WHEN GRADING OPERATION CEASES AS PRESCRIBED IN THE PLANS.
 - AT THE END OF EACH DAY, TEMPORARY BERMS AND PIPE SOLE DRAINS SHOULD BE CONSTRUCTED ALONG THE TOP EDGE OF THE EMBANKMENT TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER TO A SEDIMENT TRAPPING DEVICE.
 - CONSTRUCTION SEQUENCE: REFER TO FIGURE 5 (BELOW).
 - EXCAVATE AND STABILIZE ALL TEMPORARY SWALES, SIDE DITCHES, OR BERMS THAT WILL BE USED TO DIVERT RUNOFF AROUND THE FILL. CONSTRUCT SLOPE SILT FENCE ON LOW SIDE OF FILL AS SHOWN IN FIGURE 5, UNLESS OTHER METHODS SHOWN ON THE PLANS ADDRESS THIS AREA.
 - PLACE PHASE 1 EMBANKMENT, DRESS, AND STABILIZE.
 - PLACE PHASE 2 EMBANKMENT, DRESS, AND STABILIZE.
 - PLACE FINAL PHASE EMBANKMENT, DRESS, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECESSARY.

NOTE: ONCE THE PLACEMENT OF FILL HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

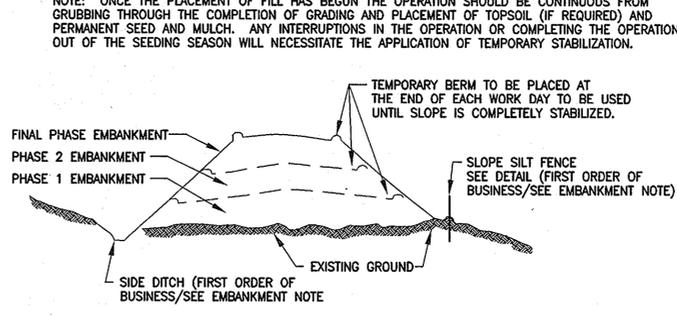


FIGURE 5: INCREMENTAL STABILIZATION - FILL

SECTION II - TEMPORARY SEEDING

- VEGETATION - ANNUAL GRASS OR GRAIN USED TO PROVIDE COVER ON DISTURBED AREAS FOR UP TO 12 MONTHS. FOR LONGER DURATION OF VEGETATIVE COVER, PERMANENT SEEDING IS REQUIRED.
- A. SEED MIXTURES - TEMPORARY SEEDING**
- SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 26 FOR APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE 5) AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW, ALONG WITH APPLICATION RATES, SEEDING DATES, AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLANS AND COMPLETED, THEN TABLE 26 MUST BE PUT ON THE PLANS.
 - FOR SITES HAVING SOIL TESTS PERFORMED, THE RATES SHOWN ON THIS TABLE SHALL BE DELETED AND THE RATES RECOMMENDED BY THE TESTING AGENCY SHALL BE WRITTEN IN. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.

SEED MIXTURE (HARDINESS ZONE 6B) FROM TABLE 26					FERTILIZER RATE (10-10-10)		LIME RATE
NO.	SPECIES	APPLICATION RATE (lb/ac)	SEEDING DATES	SEEDING DEPTHS	N	P205	K20
	RYE PLUS FOXTAIL MILLET	150	3/1-4/30 5/1-8/14 8/15-11/15	1"	600 lb/ac (15 lb/1000sf)		2 tons/ac 100 lb/1000sf

SECTION III - PERMANENT SEEDING

SEEDING GRASS AND LEGUMES TO ESTABLISH GROUND COVER FOR A MINIMUM PERIOD OF ONE YEAR ON DISTURBED AREAS GENERALLY RECEIVING LOW MAINTENANCE.

- A. SEED MIXTURES - PERMANENT SEEDING**
- SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 25 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE 5) AND ENTER THEM IN THE PERMANENT SEEDING SUMMARY BELOW, ALONG WITH APPLICATION RATES AND SEEDING DATES. SEEDING DEPTHS CAN BE ESTIMATED USING TABLE 26. IF THIS SUMMARY IS NOT PUT ON THE CONSTRUCTION PLANS AND COMPLETED, THEN TABLE 25 MUST BE PUT ON THE PLANS. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAMBANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-SCS FIELD OFFICE TECHNICAL GUIDE, SECTION 342 - CRITICAL AREA PLANTING. FOR SPECIAL LAWN MAINTENANCE AREAS, SEE SECTIONS IV SOD AND V TURFGRASS.
 - THIS SITE HAS A DISTURBED AREA OVER 5 ACRES, THEREFORE, THE RATES SHOWN ON THIS TABLE SHALL BE DELETED AND THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY SHALL BE WRITTEN IN.
 - FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREAFORM FERTILIZER (46-0-0) AT 3-1/2 LBS. PER 1000 sq. ft. (150 lbs/ac), IN ADDITION TO THE ABOVE, SOIL AMENDMENTS SHOWN IN THE TABLE BELOW, TO BE PERFORMED AT THE TIME OF SEEDING.

SEED MIXTURE (HARDINESS ZONE 6B) FROM TABLE 25					FERTILIZER RATE (10-20-20)			LIME RATE
NO.	SPECIES	APPLICATION RATE (lb/ac)	SEEDING DATES	SEEDING DEPTHS	N	P205	K20	LIME RATE
1	CREeping RED FESCUE (30%) CHEWINGS FESCUE (30%) ROUGH BLUE GRASS (20%) CATALINA PERENNIAL RYEGRASS (20%)	200	3/1-5/15 AND 8/15-10/15	1"	90 lb/ac (2.0 lb/1000 sf)	175 lb/ac (4 lb/1000 sf)	175 lb/ac (4 lb/1000 sf)	2 tons/ac (100 lb/1000 sf)

SECTION IV - SOD

TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).

- A. GENERAL SPECIFICATIONS**
- CLASS OF TURFGRASS SOD SHALL BE MARYLAND OR VIRGINIA STATE CERTIFIED OR APPROVED. SOD LABELS SHALL BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
 - SOD SHALL BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4", PLUS OR MINUS 1/4", AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS SHALL EXCLUDE TOP GROWTH AND THATCH. INDIVIDUAL PIECES OF SOD SHALL BE CUT TO THE SUPPLIERS WIDTH AND LENGTH. MAXIMUM ALLOWABLE DEVIATION FROM STANDARD WIDTHS AND LENGTHS SHALL BE 5%. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.
 - STANDARD SIZE SECTIONS OF SOD SHALL BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10% OF THE SECTION.
 - SOD SHALL NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
 - SOD SHALL BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD SHALL BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.
- B. SOD INSTALLATION**
- DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, THE SUBSOIL SHALL BE LIGHTLY IRRIGATED IMMEDIATELY PRIOR TO LAYING THE SOD.
 - THE FIRST ROW OF SOD SHALL BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND TIGHTLY WEDGED AGAINST EACH OTHER. LATERAL JOINTS SHALL BE STAGGERED TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.
 - WHEREVER POSSIBLE, SOD SHALL BE LAID WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. SOD SHALL BE ROLLED AND TAMPED, PEGGED OR OTHERWISE SECURED TO PREVENT SLIPPAGE ON SLOPES AND TO ENSURE SOLID CONTACT BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
 - SOD SHALL BE WATERED IMMEDIATELY FOLLOWING ROLLING OR TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD SHALL BE COMPLETED WITHIN EIGHT HOURS.
- C. SOD MAINTENANCE**
- IN THE ABSENCE OF ADEQUATE RAINFALL, WATERING SHALL BE PERFORMED DAILY OR AS OFTEN AS NECESSARY DURING THE FIRST WEEK AND IN SUFFICIENT QUANTITIES TO MAINTAIN MOIST SOIL TO A DEPTH OF 4". WATERING SHOULD BE DONE DURING THE HEAT OF THE DAY TO PREVENT WILTING.
 - AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN MOISTURE CONTENT.
 - THE FIRST MOWING OF SOD SHOULD NOT BE ATTEMPTED UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF SHALL BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2" AND 3" UNLESS OTHERWISE SPECIFIED.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 10/25/12
 CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 11/01/12
 DIRECTOR: *[Signature]* DATE: 11/16/12

DEVELOPER'S CERTIFICATION

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

[Signature] DATE: 9/25/12
 SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) ROBERT DIAZ

ENGINEER'S CERTIFICATION

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

[Signature] DATE: 9/17/12
 SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE)

HOWARD SOIL CONSERVATION DISTRICT CERTIFICATION

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

HOWARD SOIL CONSERVATION DISTRICT DATE: _____

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND.

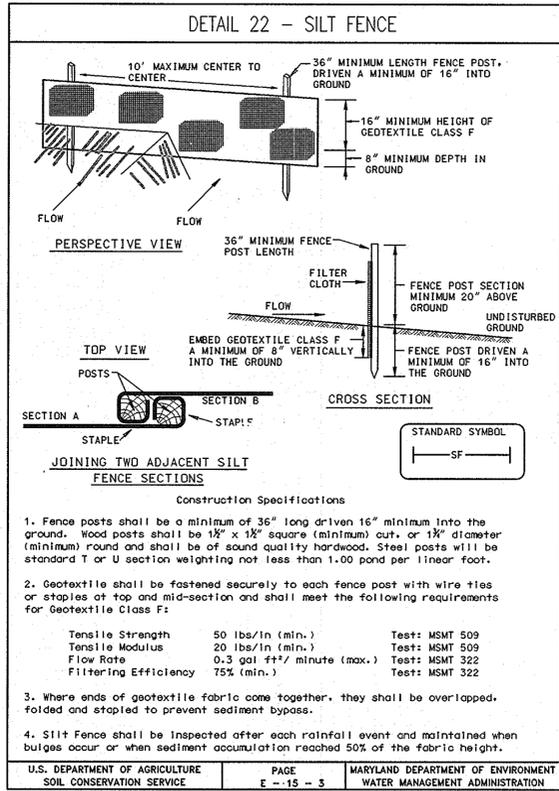
CHIEF, BUREAU OF UTILITIES: *[Signature]* DATE: 10/11/12
 CHIEF, BUREAU OF ENGINEERING: *[Signature]* DATE: 9/25/12
 CHIEF, UTILITY DESIGN DIVISION: *[Signature]* DATE: 9/25/12

WR&A
 WHITMAN, REQUART AND ASSOCIATES, LLP
 801 SOUTH CAROLINE STREET
 BALTIMORE, MARYLAND 21231
 410 - 235 - 3450

DES: -					
DRN: -					
CHK: -					
BY NO.		REVISION		DATE	

NORTH LAUREL WASTEWATER PUMPING STATION
 CAPITAL PROJECT NO. S-6189
 CONTRACT NO. 20-4680
 2ND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 69 OF 70



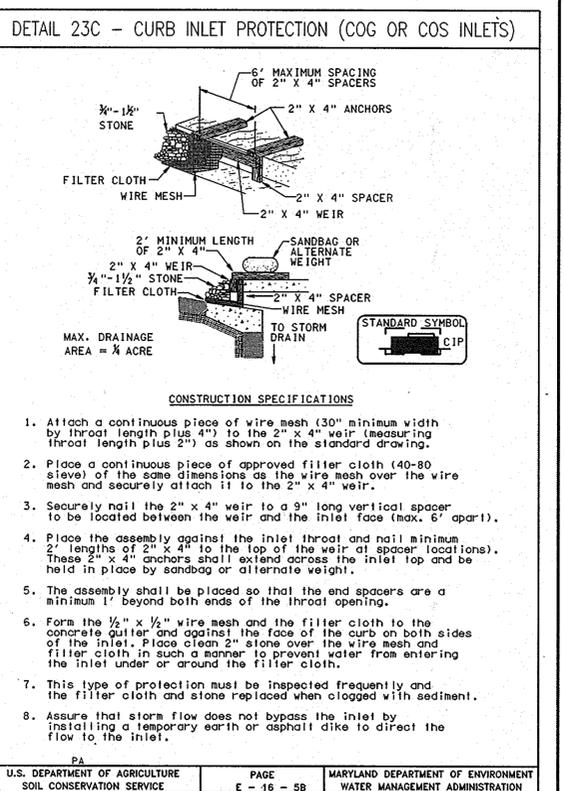
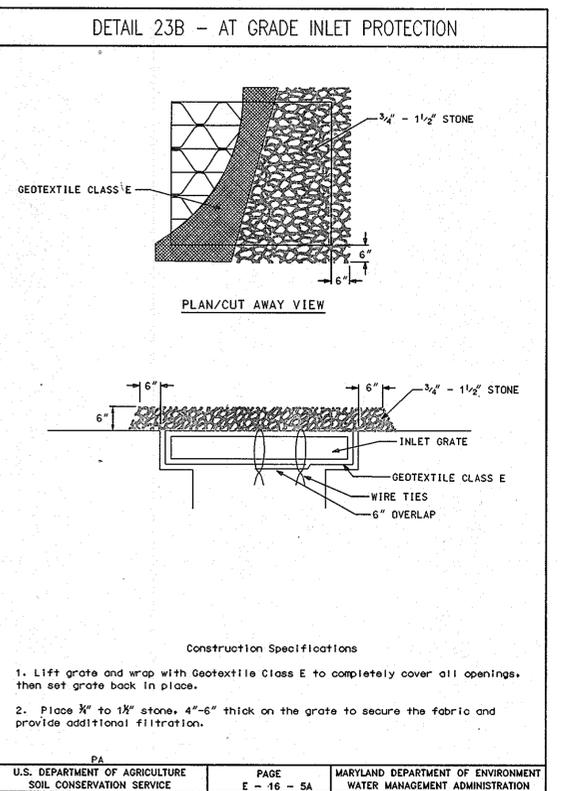
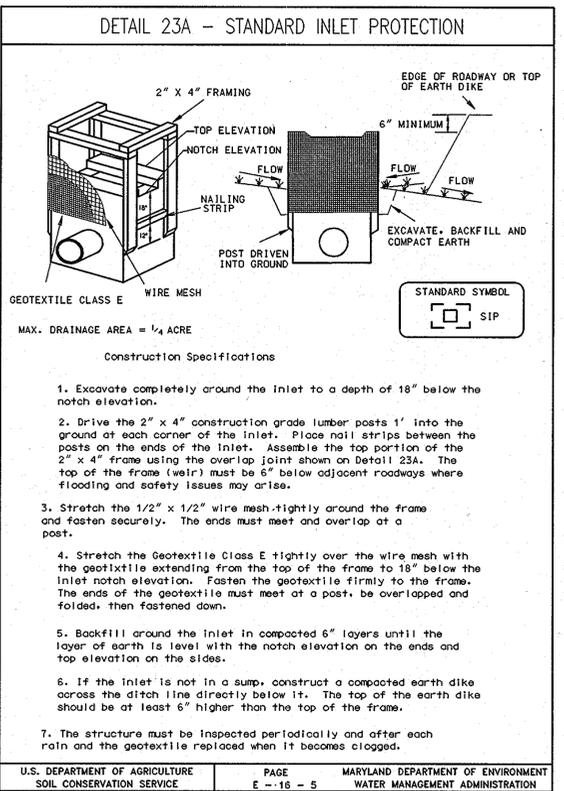
SILT FENCE

Silt Fence Design Criteria

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE E-15-3A | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION | DATE 10/25/12

CHIEF, DIVISION OF LAND DEVELOPMENT | DATE 10/20/12

DIRECTOR | DATE 11/2/12

OWNER: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS | PERMIT INFORMATION CHART

WATER CODE: PUBLIC | SEWER CODE: PUBLIC | BUILDING: N/A

PROJECT NAME: NORTH LAUREL WASTEWATER PUMPING STATION | PARCEL NO. 384 456

L/E 14104/126 | GRID 420/17 | ZONING CAC-CL1 | TAX ZONE MAP 50 | ELEC. DIST. 2 | CENSUS TRACT 606903

VOICE 410-313-6153

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. LICENSE NO. 24478, EXPIRATION DATE: 10/28/2013.

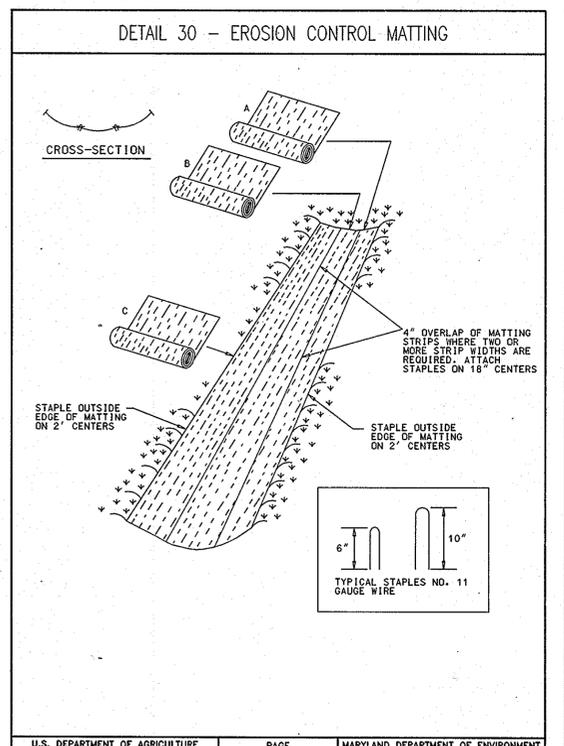
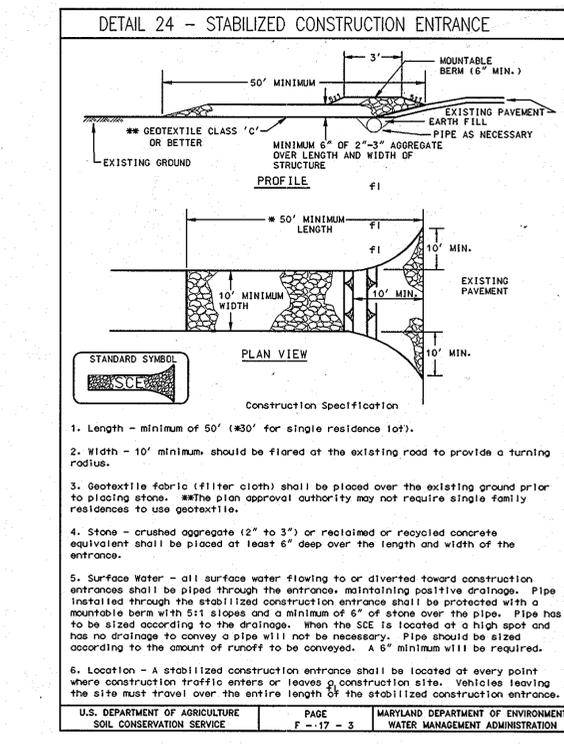
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND.

Director of Public Works | Date 10/25/12

Chief, Bureau of Utilities | Date 10/25/12

Chief, Bureau of Engineering | Date 10/25/12

Chief, Utility Design Division | Date 9/25/12



DEVELOPER'S CERTIFICATION

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

Signature of Developer: Robert Ditzel | Date 9/25/12

ENGINEER'S CERTIFICATION

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

Signature of Engineer: [Signature] | Date 9/13/12

HOWARD SOIL CONSERVATION DISTRICT CERTIFICATION

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

Signature: [Signature] | Date

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND.

Director of Public Works | Date 10/25/12

Chief, Bureau of Utilities | Date 10/25/12

Chief, Bureau of Engineering | Date 10/25/12

Chief, Utility Design Division | Date 9/25/12

WR&A

WHITMAN, REQUARDT AND ASSOCIATES, LLP

801 SOUTH CAROLINE STREET BALTIMORE, MARYLAND 21231

410 - 235 - 3450

Professional Engineer | Date 9/17/12

DES: -			
DRN: -			
CHK: -			
BY NO.		REVISION	DATE

SEDIMENT AND EROSION CONTROL DETAILS

600' SCALE MAP NO. 30 | BLOCK NO. 10

NORTH LAUREL WASTEWATER PUMPING STATION

CAPITAL PROJECT NO. S-6189

CONTRACT NO. 20-4680

2ND ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 70 OF 70