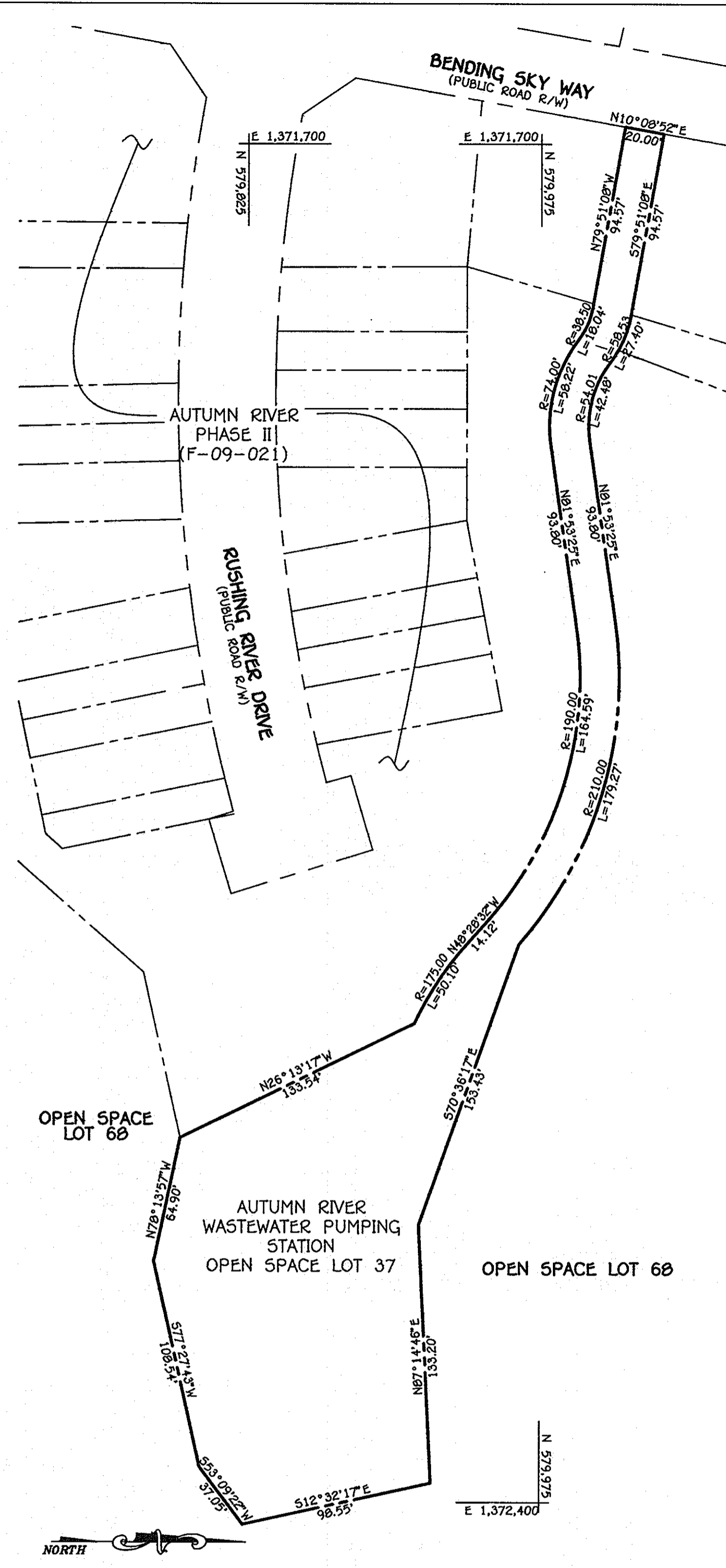


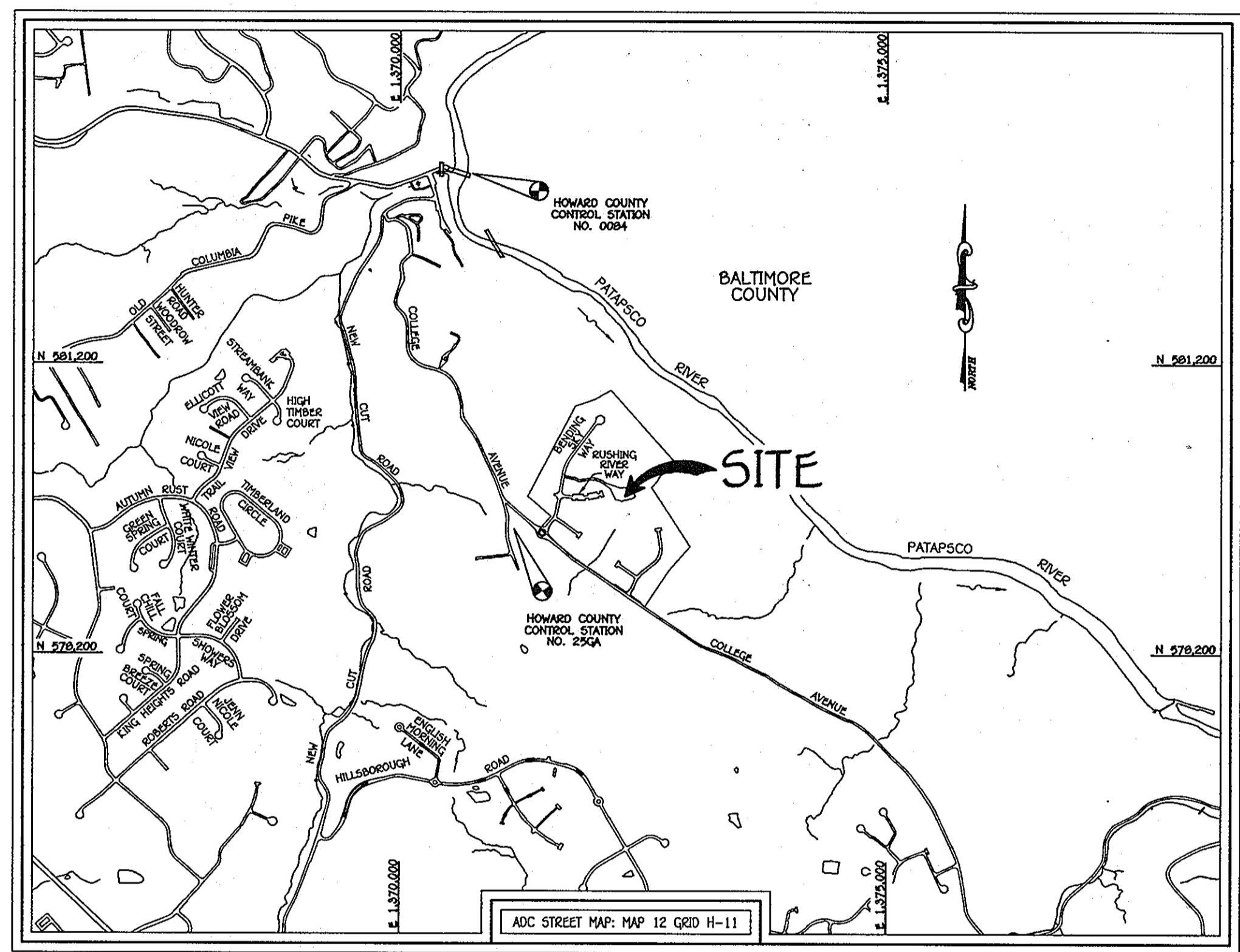
SITE DEVELOPMENT PLAN AUTUMN RIVER WASTEWATER PUMPING STATION OPEN SPACE LOT 37

TAX MAP No. 25 GRID No. 14 PARCEL NO. 279
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND



OPEN SPACE LOT 37: METES AND BOUNDS
SCALE = 1" = 50'

LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	PROPOSED CONTOUR 2' INTERVAL
•	SPOT ELEVATION
---	SILT FENCE
---	SUPER SILT FENCE
---	EROSION CONTROL MATTING
---	LIMIT OF DISTURBANCE
☆	STREET LIGHT
---	UNMITIGATED 65DBA NOISE LINE
---	PROPOSED STORM DRAIN PIPE
---	PROPOSED SEWER
---	DRAINAGE AREA
---	15% to 24.5% Slope
---	PROPOSED LANDSCAPING
---	EXISTING TREES
---	REVERSE GUTTER PAN SLOPE
---	FOREST CONSERVATION
---	FOREST CONSERVATION PLANTING



VICINITY MAP
SCALE: 1" = 1200'

BENCHMARK INFORMATION	
B.M.#1	HOWARD COUNTY CONTROL STATION #0084 (NAD '83) (AT THE NORTH WEST CORNER OF THE INTERSECTION OF FREDERICK ROAD AND OELLA AVENUE, APPROX. 0.5' OFF THE EDGE OF PAVING.) E 583,158.7615 N 1,370,739.9782 ELEVATION = 124.912
B.M.#2	HOWARD COUNTY CONTROL STATION #25GA (NAD '83) (LOCATED ON THE GROUNDS OF TAYLOR MANOR HOSPITAL, APPROX. 40' OFF THE EDGE OF PAVING, SOUTH OF COLLEGE AVENUE.) E 579,483.673 N 1,371,171.800 ELEVATION = 381.942

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	SITE DEVELOPMENT PLAN
3	BUILDING PROFILES & MISCELLANEOUS DETAILS
4	BIO-RETENTION & TURN PATH DETAILS
5	LANDSCAPE PLAN & SOILS MAP
6	ACCESS DRIVEWAY PROFILE, LANDSCAPE NOTES & MISCELLANEOUS DETAILS
7	SEDIMENT AND EROSION CONTROL PLAN & DRAINAGE AREA MAP
8	SEDIMENT/EROSION CONTROL NOTES & DETAILS

ADDRESS CHART	
LOT NUMBER	STREET ADDRESS
OPEN SPACE LOT 37	4144 BENDING SKY WAY 4119 College Avenue - temporary Address

SITE ANALYSIS INFORMATION	
A.	SUBMISSION NAME: AUTUMN RIVER; PHASE II
B.	TAX MAP No.: 25
C.	PARCEL No.: 279
D.	ZONING: R-ED
E.	ELECTION DISTRICT: 1ST
F.	TOTAL AREA OF LOT: 39,636 sq. ft.
G.	PROPOSED USE OF STRUCTURE: WASTEWATER PUMPING STATION (GOVERNMENT USE)
H.	FLOOR SPACE OF PUMPING STATION BUILDING 200 SQ.FT.; CONTROL BUILDING ONLY
I.	MAXIMUM NUMBER OF EMPLOYEES: NORMALLY ONE (1) VISIT PER DAY BY BUREAU OF UTILITIES MAINTENANCE PERSONNEL
J.	NUMBER OF PARKING SPACES REQUIRED: 2
K.	NUMBER OF PARKING SPACES PROVIDED: 2
L.	OPEN SPACE ON SITE: 0.910 ACRES; 100% OF GROSS AREA
M.	BUILDING COVERAGE OF SITE: 0.021 ACRES; 2.3% OF GROSS AREA

NOTE: SEE SHEET 7 FOR EROSION & SEDIMENT CONTROL PLAN

NOTE: SEE SHEET 3 FOR SCHEMATIC BUILDING PROFILES

NOTE: OPEN SPACE LOT 37 SHALL BE DEDICATED IN FEE SIMPLE TO HOWARD COUNTY FOR THE PURPOSE OF A WASTEWATER PUMPING STATION

NOTE: PUMPING STATION AND ON-SITE PUBLIC FORCE MAIN, SEWER MAIN & WATER HOUSE CONNECTION WILL BE CONSTRUCTED UNDER CONTRACT NO. 14-4596-D

NOTE: THE EXISTING GRADES SHOWN, INDICATED & DENOTED WITHIN THESE SITE DEVELOPMENT PLANS WILL BE ESTABLISHED AS PART OF THE ROAD, STORM DRAIN & STORMWATER MANAGEMENT CONSTRUCTION PLANS FOR AUTUMN RIVER, PHASE II, F-09-021.

GENERAL NOTES:

- SUBJECT PROPERTY IS LOCATED ON TAX MAP NO. 25, PART OF PARCEL 279
- SUBJECT PROPERTY ZONED R-ED PER HOWARD COUNTY ZONING MAP.
- TOTAL AREA OF PROPERTY: 39,636 sq.ft. OR 0.910 ACRES(+/-).
- PROPERTY REFERENCE: PLAT NO. F-09-021/AUTUMN RIVER, PHASE II OPEN SPACE LOT 37.
- PARKING DATA:
 - A. INTENDED USE OF STRUCTURE: WASTEWATER PUMPING STATION (GOVERNMENT USE)
 - B. NUMBER OF SPACES REQUIRED: 2
 - C. NUMBER OF SPACES PROVIDED: 2
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/ CONSTRUCTION INSPECTION DIVISION AT 410-313-1000 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MESS UTILITY" AT 1-800-257-7777 AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO ANY EXCAVATION WORK.
- TWO (2) FOOT CONTOUR TOPOGRAPHY AND EXISTING CONDITIONS BASED ON FIELD RUN SURVEY PREPARED BY AEGIAL MAPPING COMPANY INC. ON OR ABOUT MARCH 1999.
- COORDINATES BASED ON NAD '83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC STATIONS NO. 0084 & NO. 25GA.
 - 0084 N 583,158.761 25GA N 579,483.673
 - E 1,370,739.978 E 1,371,171.800
- STREET TREES FOR THE ACCESS ROAD HAVE BEEN PROVIDED UNDER F-09-021.
- WATER QUALITY VOLUME (WQV) AND GROUNDWATER RECHARGE VOLUME (GWV) STORMWATER MANAGEMENT (SWM) REQUIREMENTS FOR THE ACCESS ROAD HAVE BEEN PROVIDED UNDER F-09-021; HOWEVER, WQV AND REV SWM REQUIREMENTS FOR THE PUMPING STATION WILL BE MET UNDER THIS SITE DEVELOPMENT PLAN BY PROVIDING A BIORETENTION FILTER SYSTEM DESIGNED IN ACCORDANCE WITH THE CRITERIA SET FORTH IN CHAPTER 3, SECTION 3.4 "STORMWATER FILTERING SYSTEMS" OF THE 2000 MARYLAND STORMWATER DESIGN MANUAL. SWM MUST BE ADDRESSED FOR ANY FUTURE DEVELOPMENT OF THIS SITE.
- THE FOREST CONSERVATION REQUIREMENTS HAVE BEEN ADDRESSED & ESTABLISHED UNDER F-09-021 TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY FOREST CONSERVATION ACT.
- THE FOREST DELINEATION & WETLAND ANALYSIS WERE CONDUCTED BY CHESAPEAKE ENVIRONMENTAL, DATED NOVEMBER 10, 1999 UNDER P-99-16 DATED JUNE 2004 FOR LOTS 1,2,3 & BULK PARCEL A, WETLANDS DELINEATIONS WERE CONFIRMED BY ECO SCIENCE PROFESSIONALS ON NOVEMBER 24, 2006.
- THE EXISTING PUBLIC UTILITIES IN RUSHING RIVER DRIVE WERE CONSTRUCTED UNDER HOWARD COUNTY PUBLIC WATER & SEWER CONTRACT NO. 14-4463-D; AUTUMN RIVER, THE ON-SITE PUBLIC SEWER MAINS, FORCE MAIN & WATER HOUSE CONNECTION WILL BE CONSTRUCTED UNDER HOWARD COUNTY PUBLIC CONT. NO. 14-4596-D, AUTUMN RIVER WASTEWATER PUMPING STATION.
- ALL EXTERIOR LIGHTING OF THE PUMP STATION STRUCTURE SHALL BE DIRECTED DOWNWARD IN COMPLIANCE WITH SECTION 13.4 OF THE ZONING REGULATIONS.
- ALL CONSTRUCTIONS SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY.
- ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- NO FLOODPLAIN EXISTS ON SITE.
- NO WETLANDS EXIST ON SITE.
- REFERENCE PREVIOUS DEPARTMENT OF PLANNING & ZONING FILE NO. WP-07-095; APPROVED AUGUST 22, 2007 & REAPPROVED BY LETTER DATED OCTOBER 15, 2009, TO ALLOW NECESSARY DISTURBANCES TO THE 50' STREAM BUFFERS.
- THE IMPROVEMENTS CONSTRUCTED UNDER THIS SITE DEVELOPMENT PLAN ARE FOR HOWARD COUNTY GOVERNMENT USE AND ARE THEREFORE EXEMPT FROM AN AFO ANALYSIS.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- STREET TREES FOR THE ACCESS ROAD HAVE BEEN PROVIDED UNDER F-09-021.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPV DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$6,600.00 FOR 11 SHADE TREES AND 22 EVERGREEN TREES.

GP-11-01

NO.	REVISION	DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE
ELLCOTT CITY, MARYLAND 21042
(410) 461-2055

#12043

Paul W. Kriebel
Signature of Engineer

ENGINEER'S CERTIFICATE

I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12043. Expiration Date is 07/16/12.

Paul W. Kriebel 9/1/11
Signature of Engineer Date

OWNER

AUTUMN DEVELOPMENT CORPORATION
4100 COLLEGE AVENUE
ELLCOTT CITY, MARYLAND 21042-7819
(410)-465-3500

DEVELOPER

LAND DESIGN & DEVELOPMENT, INC.
5300 DORSEY HALL DRIVE, SUITE 103
ELLCOTT CITY, MARYLAND 21042-7819
ATTN: MR. DONALD REUBER
(443)-367-0422

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING					
Chief, Division of Land Development		Date		9/20/11	
Chief, Development Engineering Division		Date		9/19/11	
Director - Department of Planning and Zoning		Date		9/20/11	
PROJECT	SECTION	PARCEL NO.			
AUTUMN RIVER WASTEWATER PUMPING STATION	II	279			
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
14513	14	R-ED	25	FIRST	602700
WATER CODE	SEWER CODE				
F-04	1450000				

TITLE SHEET

AUTUMN RIVER WASTEWATER PUMPING STATION AUTUMN RIVER; PHASE II OPEN SPACE LOT 37

TAX MAP NO.: 25 GRID NO.: 14 PARCEL NO.: 279
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: 9/20/11
SHEET 1 OF 8

INFILTRATION AND FILTER SYSTEM CONSTRUCTION SPECIFICATIONS

INFILTRATION AND FILTER SYSTEMS EITHER TAKE ADVANTAGE OF EXISTING PERMEABLE SOILS OR CREATE A PERMEABLE MEDIUM SUCH AS SAND FOR WC AND RE V. IN SOME INSTANCES WHERE PERMEABILITY IS GREAT, THESE FACILITIES MAY BE USED FOR QP AS WELL AS THE MOST COMMON SYSTEMS INCLUDE INFILTRATION TRENCHES, INFILTRATION BASINS, SAND FILTERS, AND ORGANIC FILTERS. WHEN PROPERLY PLANTED, VEGETATION WILL THRIVE AND ENHANCE THE FUNCTIONING OF THESE SYSTEMS. FOR EXAMPLE, PRE-TREATMENT BUFFERS WILL TRAP SEDIMENTS THAT OFTEN ARE BOUND WITH PHOSPHOROUS AND METALS. VEGETATION PLANTED IN THE FACILITY WILL TRAP AND ENHANCE NUTRIENT UPTAKE AND WATER STORAGE. ADDITIONALLY, PLANT ROOTS WILL PROVIDE ARTERIES FOR STORMWATER TO PERMEATE SOIL FOR GROUNDWATER RECHARGE. FINALLY, SUCCESSFUL PLANTINGS PROVIDE AESTHETIC VALUE AND WILDLIFE HABITAT MAKING THESE FACILITIES MORE DESIRABLE TO THE PUBLIC.

DESIGN CONSTRAINTS:

- > PLANTING BUFFER STRIPS OF AT LEAST 20 FEET WILL CAUSE SEDIMENTS TO SETTLE OUT BEFORE REACHING THE FACILITY, THEREBY REDUCING THE POSSIBILITY OF CLOGGING.
- > DETERMINE AREAS THAT WILL BE SATURATED WITH WATER AND WATER TABLE DEPTH SO THAT APPROPRIATE PLANTS MAY BE SELECTED (HYDROLOGY WILL BE SIMILAR TO BIORETENTION FACILITIES. SEE FIGURE A.5 AND TABLE A.4 FOR PLANTING MATERIAL GUIDANCE).
- > PLANTS KNOWN TO SEND DOWN DEEP TAPROOTS SHOULD BE AVOIDED IN SYSTEMS WHERE FILTER FABRIC IS USED AS PART OF FACILITY DESIGN.
- > TEST SOIL CONDITIONS TO DETERMINE IF SOIL AMENDMENTS ARE NECESSARY.
- > PLANTS SHALL BE LOCATED SO THAT ACCESS IS POSSIBLE FOR STRUCTURE MAINTENANCE.
- > STABILIZE HEAVY FLOW AREAS WITH EROSION CONTROL MATS OR SOIL.
- > TEMPORARILY DIVERT FLOWS FROM SEEDING AREAS UNTIL VEGETATION IS ESTABLISHED.
- > SEE TABLE A.5 FOR ADDITIONAL DESIGN CONSIDERATIONS.

BIO-RETENTION SOIL BED CHARACTERISTICS

THE CHARACTERISTICS OF THE SOIL FOR THE BIORETENTION FACILITY ARE PERHAPS AS IMPORTANT AS THE FACILITY LOCATION, SIZE, AND TREATMENT VOLUME. THE SOIL MUST BE PERMEABLE ENOUGH TO ALLOW RUNOFF TO FILTER THROUGH THE MEDIA WHILE HAVING CHARACTERISTICS SUITABLE TO PROMOTE AND SUSTAIN A ROBUST VEGETATIVE COVER. IN ADDITION, MUCH OF THE NUTRIENT POLLUTANT UPTAKE (NITROGEN AND PHOSPHORUS) IS ACCOMPLISHED THROUGH ABSORPTION AND MICROBIAL ACTIVITY WITHIN THE SOIL PROFILE. THEREFORE, SOILS MUST BALANCE THEIR CHEMICAL AND PHYSICAL PROPERTIES TO SUPPORT BOTH COMMUNITIES ABOVE AND BELOW GROUND. THE PLANTING SOIL SHOULD BE A SANDY LOAM, LOAMY SAND, LOAM (USDA), OR A LOAM/SAND MIX (SHOULD CONTAIN A MINIMUM 35 TO 60% SAND, BY VOLUME). THE CLAY CONTENT FOR THESE SOILS SHOULD BE LESS THAN 25% BY VOLUME (ENVIRONMENTAL QUALITY RESOURCES (EQ20), 1993; ENGINEERING TECHNOLOGY INC. AND BIOHABITATS, INC. (ETAB), 1993). SOILS SHOULD FALL WITHIN THE SM, ML, SC CLASSIFICATIONS OR THE UNIFIED SOIL CLASSIFICATION SYSTEM (USCS). A PERMEABILITY OF AT LEAST 1.0 FEET PER DAY (0.5 IN/HR) IS REQUIRED (A CONSERVATIVE VALUE OF 0.5 FEET PER DAY IS USED FOR DESIGN). THE SOIL SHOULD BE FREE OF STONES, STUMPS, ROOTS, OR OTHER WOODY MATERIAL OVER 1" IN DIAMETER. BRUSH OR SEEDS FROM NOXIOUS WEEDS (E.G., JOHNSON GRASS, MUGWORT, NUTCRACK, AND CANADA THISTLE) OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER 12.01(G)(1) SHOULD NOT BE PRESENT IN THE SOILS. PLACEMENT OF THE PLANTING SOIL SHOULD BE IN 12 TO 18 LIFTS THAT ARE LOOSELY COMPACTED (TAMPED LIGHTLY WITH A BACKHOE BUCKET OR TRAVERSED BY DOZER TRACKS). THE SPECIFIC CHARACTERISTICS ARE PRESENTED IN TABLE A.3 PLANTING SOIL CHARACTERISTICS

PARAMETER	VALUE
PH RANGE	5.2 TO 7.00
ORGANIC MATTER	1.5 TO 4.0% (BY WEIGHT)
MAGNESIUM	35 LBS. PER ACRE, MINIMUM
PHOSPHORUS (PHOSPHATE - P2O5)	75 LBS. PER ACRE, MINIMUM
POTASSIUM (POTASH - K2O)	85 LBS. PER ACRE, MINIMUM
SOLUBLE SALTS	500 PPM
CLAY	10 TO 25 %
SILT	30 TO 55 %
SAND	35 TO 60%

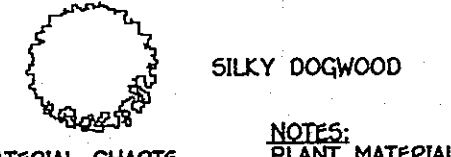
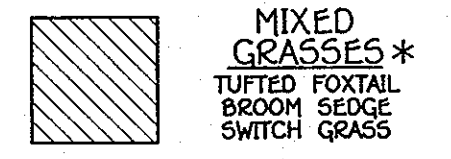
MULCH LAYER

THE MULCH LAYER PLAYS AN IMPORTANT ROLE IN THE PERFORMANCE OF THE BIORETENTION SYSTEM. THE MULCH LAYER HELPS MAINTAIN SOIL MOISTURE AND SURFACE SEALING, WHICH REDUCES PERMEABILITY. MULCH HELPS PREVENT EROSION, AND PROVIDES A MICROENVIRONMENT SUITABLE FOR SOIL BIOTA AT THE MULCH/SOIL INTERFACE. IT ALSO SERVES AS A PRETREATMENT LAYER, TRAPPING THE FINER SEDIMENTS, WHICH REMAIN SUSPENDED AFTER THE PRIMARY PRETREATMENT.

THE MULCH LAYER SHOULD BE STANDARD LANDSCAPE STYLE, SINGLE OR DOUBLE SHREDDED HARDWOOD MULCH OR CHIPS. THE MULCH LAYER SHOULD BE WELL AGED (STOCKPILED OR STORED FOR AT LEAST 12 MONTHS), UNIFORM IN COLOR, AND FREE OF OTHER MATERIALS, SUCH AS WEED SEEDS, SOIL, ROOTS, ETC. THE MULCH SHOULD BE APPLIED TO A MAXIMUM DEPTH OF THREE INCHES. GRASS CLIPPINGS SHOULD NOT BE USED AS A MULCH MATERIAL.

PLANTING GUIDANCE

PLANT MATERIAL SELECTION SHOULD BE BASED ON THE GOAL OF SIMULATING A TERRESTRIAL FORESTED COMMUNITY OF NATIVE SPECIES. BIORETENTION FACILITIES ARE USUALLY DESIGNED TO SIMULATE A COMMUNITY OF NATIVE SPECIES, BUT HAVE A DISTINCT COMMUNITY OF UNDERSTORY TREES, SHRUBS AND HERBACEOUS MATERIALS. BY CREATING A DENSE PLANT COVER, A BIORETENTION FACILITY WILL BE ABLE TO TREAT STORMWATER RUNOFF AND WITHSTAND URBAN STRESSES FROM INSECTS, DISEASE, DROUGHT, TEMPERATURE, WIND, AND EXPOSURE. THE PROPER SELECTION AND INSTALLATION OF PLANT MATERIALS IS KEY TO A SUCCESSFUL SYSTEM. THERE ARE ESSENTIALLY THREE ZONES WITHIN A BIORETENTION FACILITY (FIGURE A.5). THE LOWEST ELEVATION SUPPORTS PLANT SPECIES ADAPTED TO STANDING AND FLUCTUATING WATER LEVELS. THE MIDDLE ELEVATION SUPPORTS PLANTS THAT LIKE DRIER SOIL CONDITIONS, BUT CAN STILL TOLERATE OCCASIONAL INUNDATION BY WATER. THE OUTER EDGE IS THE HIGHEST ELEVATION AND GENERALLY SUPPORTS PLANTS ADAPTED TO DRIER CONDITIONS. A SAMPLE OF APPROPRIATE PLANT MATERIALS FOR BIORETENTION FACILITIES ARE INCLUDED IN TABLE A.4. THE LAYOUT OF PLANT MATERIAL SHOULD BE FLEXIBLE, BUT SHOULD FOLLOW THE GENERAL PRINCIPLES DESCRIBED IN TABLE A.5. THE OBJECTIVE IS TO HAVE A SYSTEM, WHICH RESEMBLES A RANDOM, AND NATURAL PLANT LAYOUT, WHILE MAINTAINING OPTIMAL CONDITIONS FOR PLANT ESTABLISHMENT AND GROWTH. FOR A MORE EXTENSIVE BIORETENTION PLAN, CONSULT ETAB, 1993 OR CLAYTON AND SCHUELER, 1997.



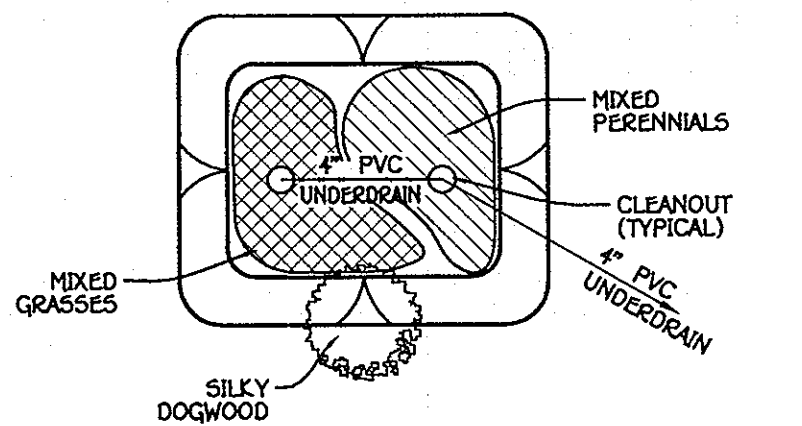
BIO-RETENTION FILTER PLANT MATERIAL			
QUANTITY	NAME	MAXIMUM SPACING (FT.)	
45	MIXED PERENNIALS	1 FT.	
45	MIXED GRASSES	1 FT.	
1	DOGWOOD	PLANT AWAY FROM INFLOW LOCATION	

BIO-RETENTION FILTER DATA										
BIORETENTION FILTER	A	B	C	D	E	F	G	H	I	J
1	280.00	280.00	279.25	276.75	276.00	275.09	272.00	35'	5'	0.99'

PRIVATE BIO-RETENTION FILTER OPERATION & MAINTENANCE SCHEDULE

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

BIO-RETENTION FILTER PLANTING DETAIL



FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461-2295



Paul W. Kriebel
Signature of Engineer

"AS-BUILT" CERTIFICATION
I HEREBY CERTIFY THAT "AS-BUILT" BIO-RETENTION FACILITY, AS SHOWN ON SHEET G, WAS CONSTRUCTED AS SHOWN AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.
Paul W. Kriebel 12043 05/30/13
SIGNATURE OF ENGINEER P.E. NO. DATE
ENGINEER'S CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NO. 12043. EXPIRATION DATE IS 07/16/12.
Paul W. Kriebel 9/1/11
SIGNATURE OF ENGINEER DATE

OWNER
AUTUMN DEVELOPMENT CORPORATION
4100 COLLEGE AVENUE
ELLICOTT CITY, MARYLAND 21042-7819
(410)-465-3500

DEVELOPER
LAND DESIGN & DEVELOPMENT, INC.
5300 DORSEY HALL DRIVE, SUITE 103
ELLICOTT CITY, MARYLAND 21042-7819
ATTN: MR. DONALD REUWER
(443)-367-0422

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Kurt St. David 9/20/11
Chief, Division of Land Development Date

Monica J. Buttle 9/20/11
Chief, Development Engineering Division Date

Director - Department of Planning and Zoning

PROJECT	SECTION	PARCEL NO.
AUTUMN RIVER WASTEWATER PUMPING STATION	II	279

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
14919	14	R-ED	25	FIRST	602700

WATER CODE F-04 SEWER CODE 1450000

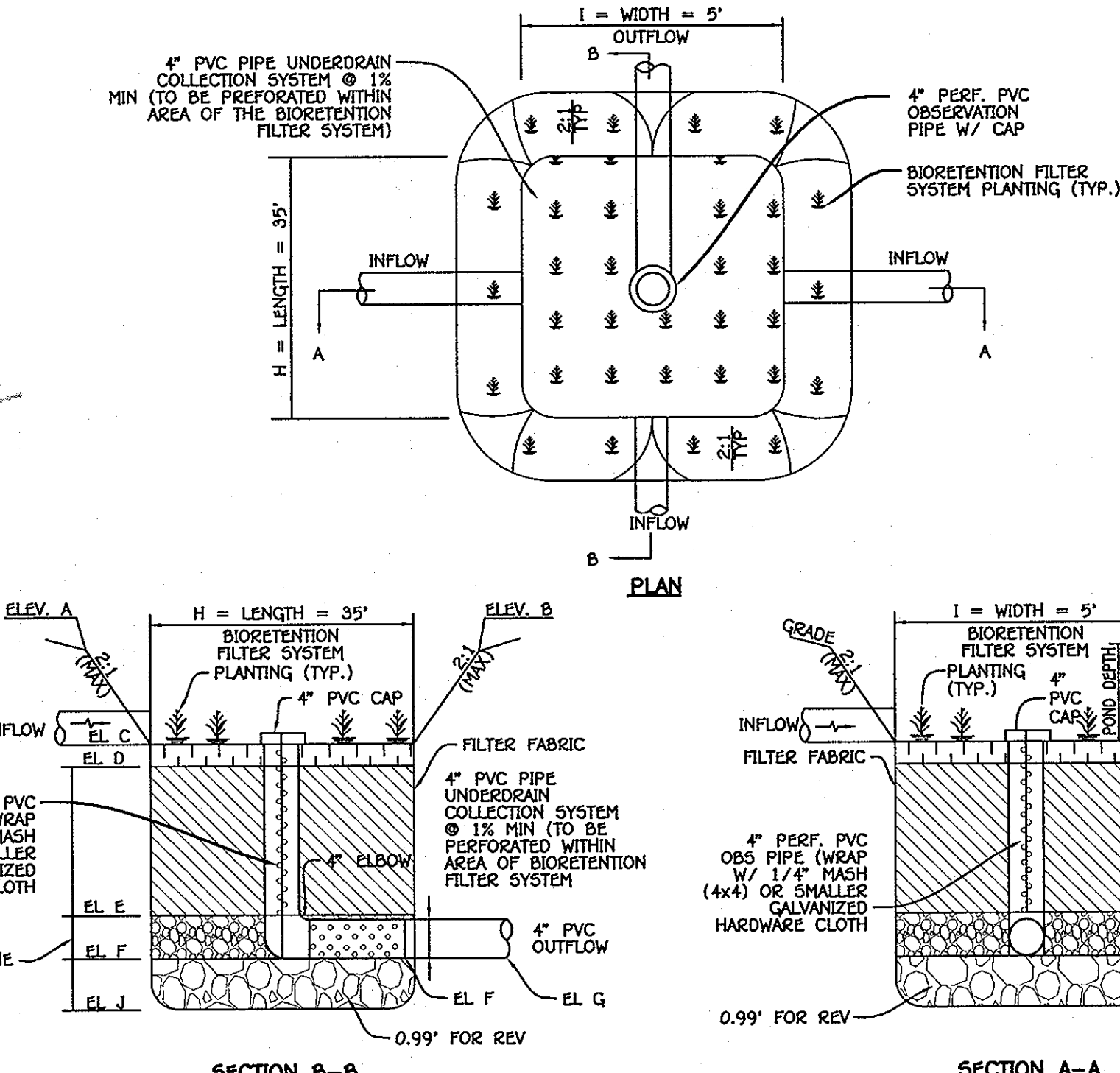
BIO-RETENTION, TURN PATH DETAILS & BORING LOGS & LOCATIONS

AUTUMN RIVER WASTEWATER PUMPING STATION

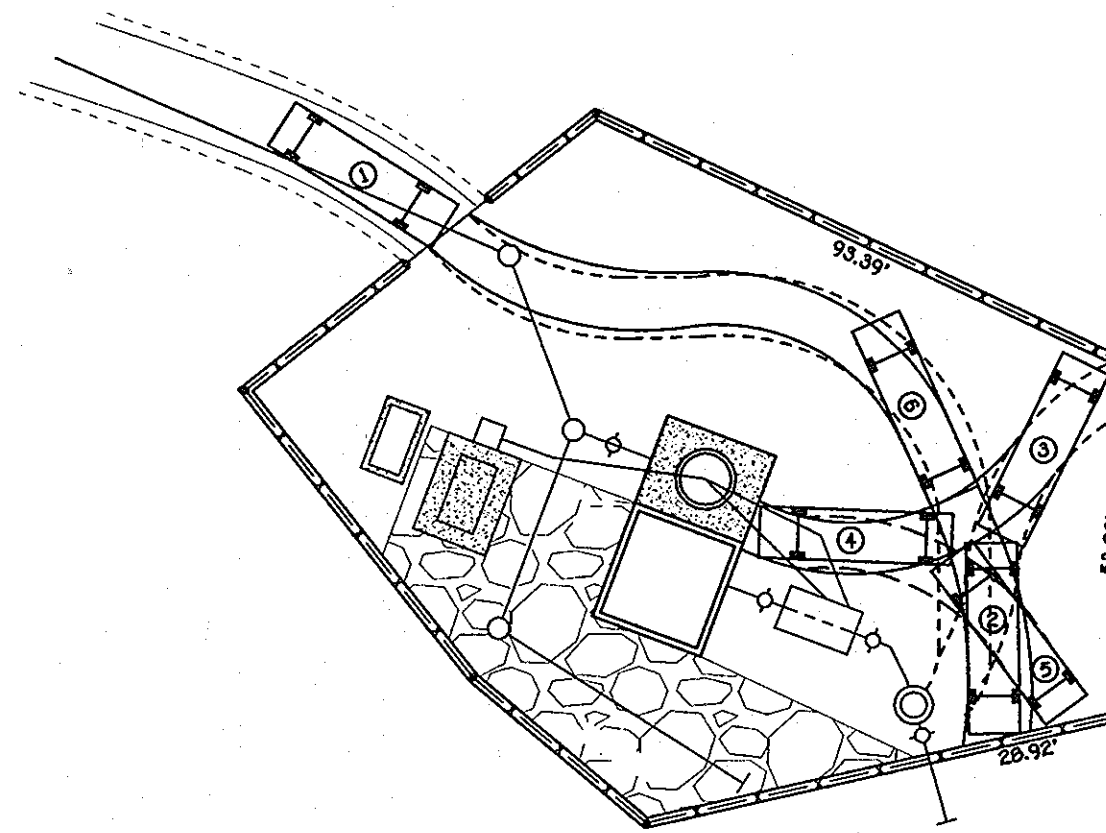
AUTUMN RIVER; PHASE II

OPEN SPACE LOT 37

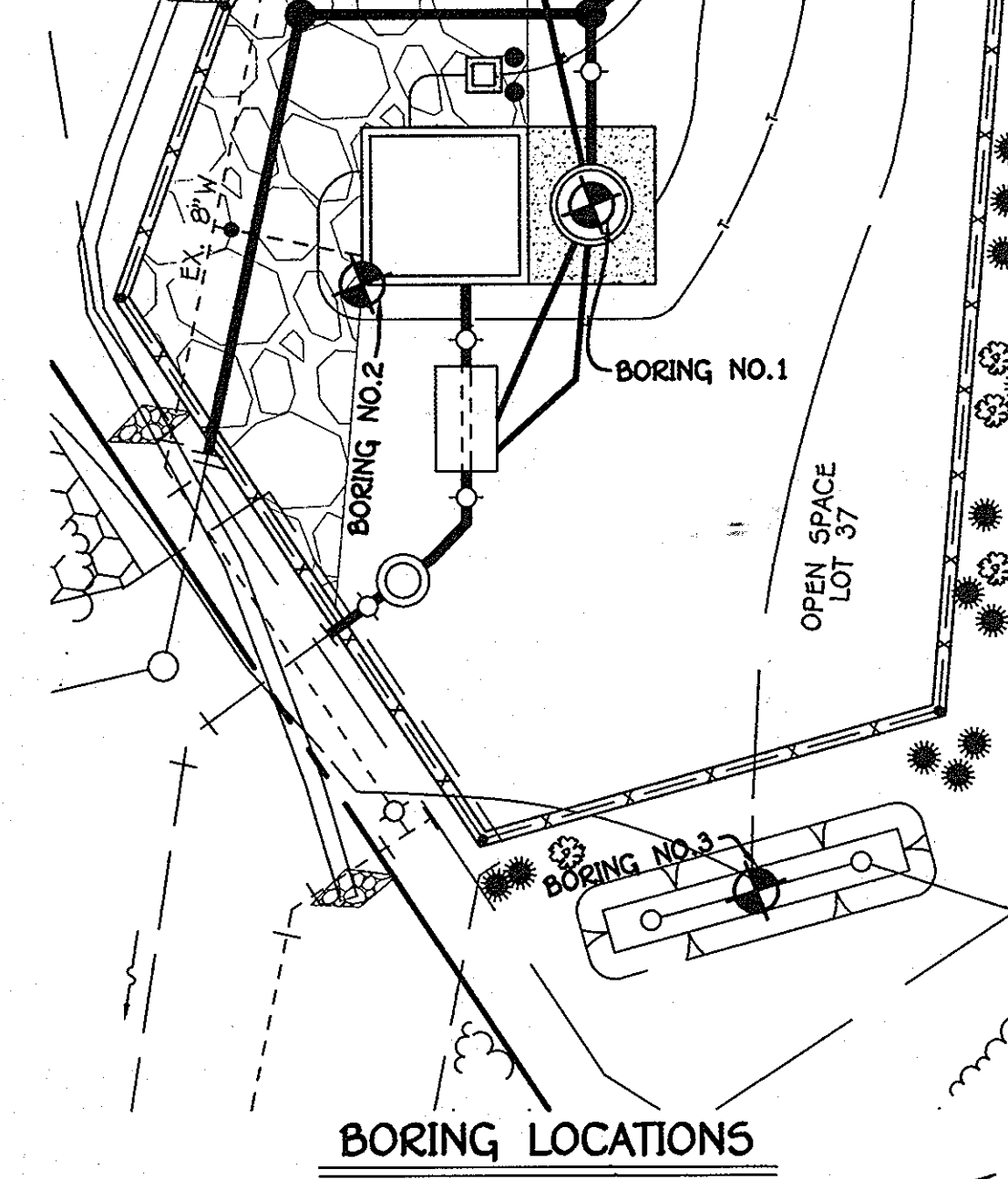
TAX MAP NO.: 25 GRID NO.: 14 PARCEL NO.: 279
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: 02/15/2011
SHEET 4 OF 8



BIO-RETENTION FILTER SYSTEM DETAIL
NO SCALE



VACUUM TRUCK TURNING MOVEMENT
MINIMUM TURNING PATH FOR P/T DESIGN VEHICLE
DETAIL: VACUUM TRUCK TURNING DETAILS
SCALE: 1" = 30'



BORING LOCATIONS
SCALE: 1" = 20'
NOTE: SEE BORING LOGS THIS SHEET (BELOW)

HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Project Name: Autumn River WWPS Boring No. B-3
Location: Howard County, Maryland Job # 10460A

Date: 9/22/10 Hammer Wt. 140 lbs. Hole Diameter 30 in. Rock Core Diameter 2 in. Boring Method HSA Date Completed 9/22/10

Elevation/Depth	SOIL SAMPLE DESCRIPTION	Description	Boring and Sampling Notes	Rec. NM	SPT Blows	SPT Blows/Foot
0'	D	Brown, dry, medium dense fine sandy silt (ML)	Topsoil 5"	10'	3-4-20	24
10'	D	Brown, dry, very dense fine sandy silt with rock fragments (ML)	No groundwater encountered while drilling	11'	25-505*	75*
20'	D	Brown, dry, very dense fine sandy silt with mica (ML)	Decomposed Rock	6"	500*	100*
30'	D	Brown, dry, very dense fine sandy silt with mica (ML)	Decomposed Rock	2"	605*	100*
Bottom of Boring at 8.9 ft.						

BORING LOG #1

HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Project Name: Autumn River WWPS Boring No. B-2
Location: Howard County, Maryland Job # 10460A

Date: 9/22/10 Hammer Wt. 140 lbs. Hole Diameter 30 in. Rock Core Diameter 2 in. Boring Method HSA Date Completed 9/22/10

Elevation/Depth	SOIL SAMPLE DESCRIPTION	Description	Boring and Sampling Notes	Rec. NM	SPT Blows	SPT Blows/Foot
0'	D	Brown, moist, medium dense fine sandy silt (ML)	Topsoil 5"	10'	4-5-6	11
10'	D	Brown, dry, dense fine sandy silt with mica (ML)	No groundwater encountered while drilling	12'	8-12-17	20
20'	D	Brown, dry, very dense fine sandy silt with mica (ML)	Decomposed Rock	10'	4-8-10	16
30'	D	Brown and greenish brown, moist, medium dense to dense sandy silt with mica (ML)	Decomposed Rock	18"	8-9-10	15
40'	D	Brown, dry, very dense fine sandy silt with mica (ML)	Decomposed Rock	16"	5-6-12	18
50'	D	Brown, dry, very dense fine sandy silt with mica (ML)	Decomposed Rock	18"	18-21-25	46
Bottom of Boring at 20 ft.						

BORING LOG #2

HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

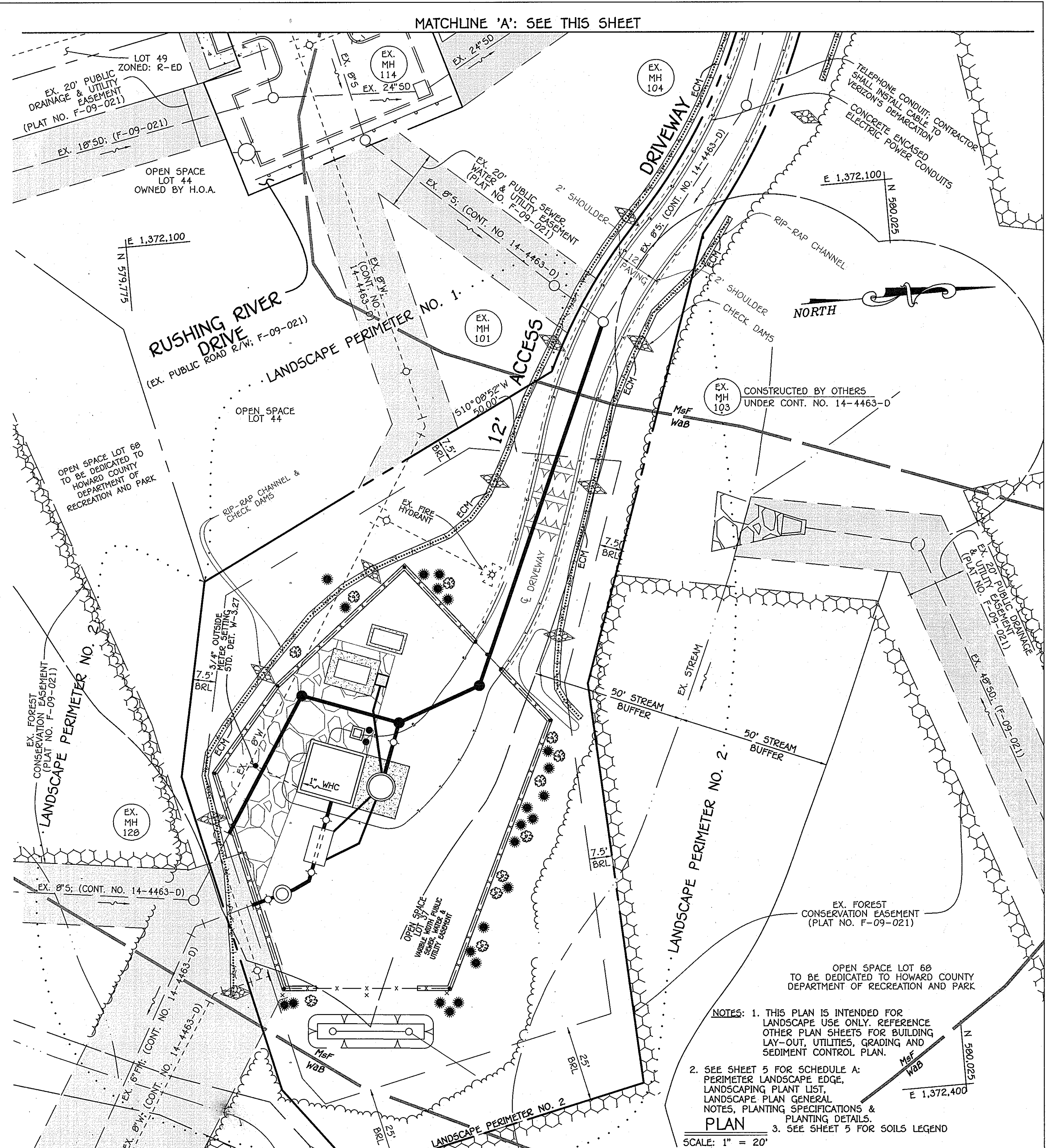
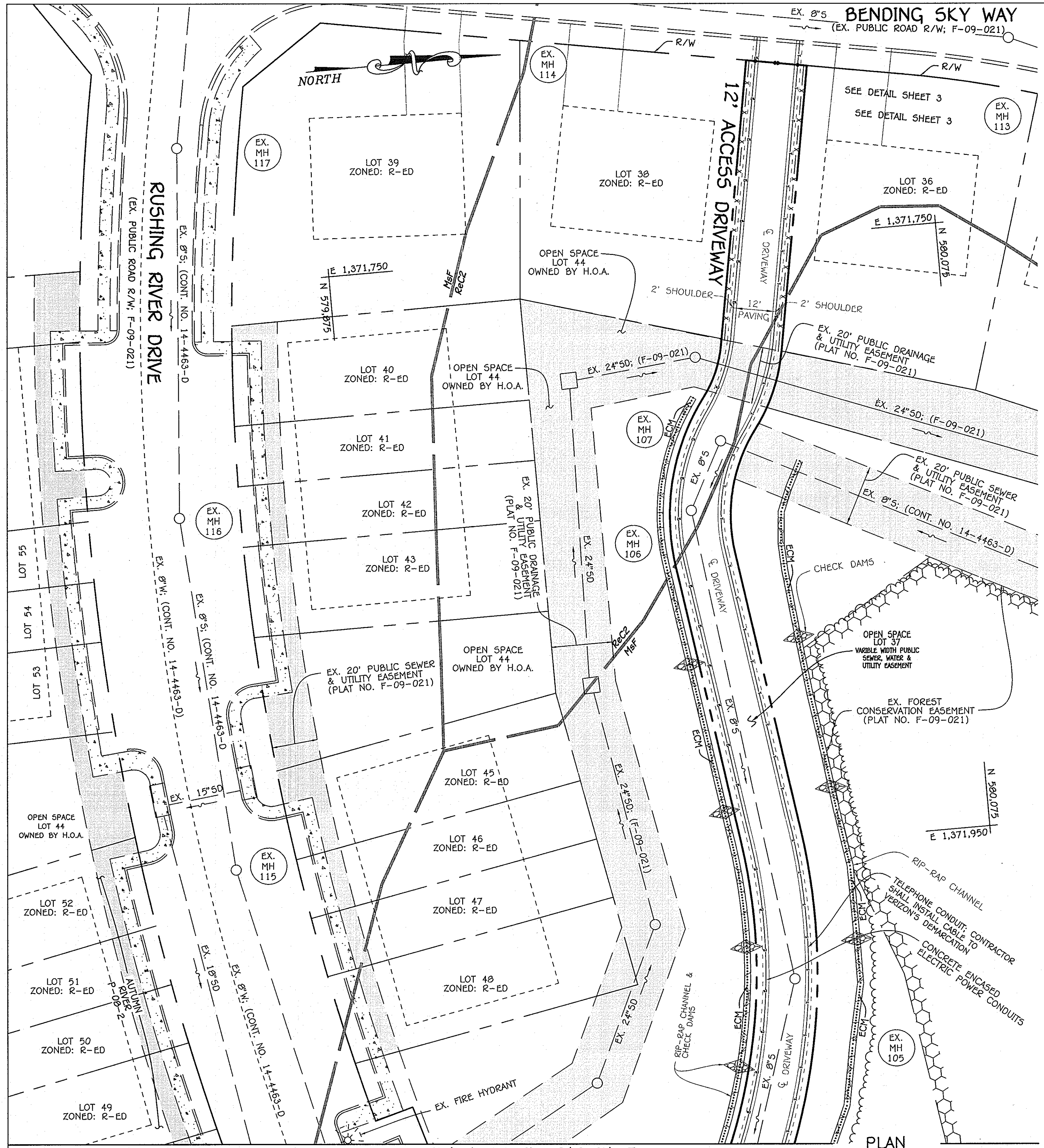
Project Name: Autumn River WWPS Boring No. B-3
Location: Howard County, Maryland Job # 10460A

Date: 9/22/10 Hammer Wt. 140 lbs. Hole Diameter 30 in. Rock Core Diameter 2 in. Boring Method HSA Date Completed 9/22/10

Elevation/Depth	SOIL SAMPLE DESCRIPTION	Description	Boring and Sampling Notes	Rec. NM	SPT Blows	SPT Blows/Foot
0'	D	Light brown, dry, loose fine sandy silt, linear rocks (ML)	Topsoil 4"	7'	4-5-5	10
10'	D	Brown, dry, dense fine sandy silt with mica (ML)	No groundwater encountered while drilling	2'	17-15-15	30
20'	D	Brown, dry, very dense fine sandy silt with mica (ML)	Decomposed Rock	16"	31-23-18	41
30'	D	Brown, dry, very dense fine sandy silt with mica (ML)	Decomposed Rock	3"	505*	100*
Bottom of Boring at 8.9 ft.						

BORING LOG #3

"AS-BUILT"



PLANTING SPECIFICATIONS

PLANTS, RELATED MATERIAL, AND OPERATIONS SHALL MEET THE DETAILED DESCRIPTION AS GIVEN ON THE PLANS AND AS DESCRIBED HEREIN. ALL PLANT MATERIAL, UNLESS OTHERWISE SPECIFIED, SHALL BE NURSERY GROWN, UNIFORMLY BRANCHED, HAVE A VIGOROUS ROOT SYSTEM, AND SHALL CONFORM TO THE SPECIES, SIZE, ROOT AND SHAPE SHOWN ON THE PLANT LIST AND THE AMERICAN ASSOCIATION OF NURSERYMEN (A.A.N.) STANDARDS. PLANT MATERIAL SHALL BE HEALTHY, DROUG, FREE FROM DEFECTS, DECAY, DISFIGURING ROOTS, SUN SCALD INJURIES, ABRASIONS OF THE BARK, PLANT DISEASE, INSECT PEST EGGS, BORERS AND ALL FORMS OF INSECT INFESTATIONS OR OBJECTIONABLE DISFIGUREMENTS. PLANT MATERIAL THAT IS WEAK OR WHICH HAS BEEN CUT BACK FROM LARGER GRADES TO MEET SPECIFIED REQUIREMENTS WILL NOT BE ACCEPTED. TREES WITH FORKED LEADERS WILL NOT BE ACCEPTED. ALL PLANTS SHALL BE FRESHLY DUG; NO HEALED-IN PLANTS FROM COLD STORAGE WILL BE ACCEPTED.

UNLESS OTHERWISE SPECIFIED, ALL GENERAL CONDITIONS, PLANTING OPERATIONS, DETAILS AND PLANTING SPECIFICATIONS SHALL CONFORM TO "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS" (HEREINAFTER "LANDSCAPE GUIDELINES") APPROVED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF METROPOLITAN WASHINGTON AND THE POTOMAC CHAPTER OF THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS, LATEST EDITION, INCLUDING ALL AMENDMENTS.

CONTRACTOR SHALL BE REQUIRED TO GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE YEAR AFTER DATE OF ACCEPTANCE IN ACCORDANCE WITH THE APPROPRIATE SECTION OF THE LANDSCAPE GUIDELINES. CONTRACTOR'S ATTENTION IS DIRECTED TO THE MAINTENANCE REQUIREMENTS FOUND WITHIN THE ONE YEAR SPECIFICATIONS INCLUDING WATERING AND REPLACEMENT OF SPECIFIED PLANT MATERIAL.

CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING UTILITY COMPANIES, UTILITY CONTRACTORS AND "MISS UTILITY" A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY WORK. CONTRACTOR MAY MAKE MINOR ADJUSTMENTS IN SPACING AND LOCATION OF PLANT MATERIAL TO AVOID CONFLICTS WITH UTILITIES. DAMAGE TO EXISTING STRUCTURE AND UTILITIES SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.

PROTECTION OF EXISTING VEGETATION TO REMAIN SHALL BE PROVIDED IN ACCORDANCE WITH THE APPROVED FOREST CONSERVATION PLAN.

CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL MATERIAL IN THE PROPER PLANTING SEASON FOR EACH PLANT TYPE. ALL PLANTING IS TO BE COMPLETED WITHIN THE GROWING SEASON OF COMPLETION OF SITE CONSTRUCTION.

BID SHALL BE BASED ON ACTUAL SITE CONDITIONS. NO EXTRA PAYMENT SHALL BE MADE FOR WORK ARISING FROM SITE CONDITIONS DIFFERING FROM THOSE INDICATED ON DRAWINGS AND SPECIFICATIONS. PLANT QUANTITIES ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. IF DISCREPANCIES EXIST BETWEEN QUANTITIES SHOWN ON PLAN AND THOSE SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE PLAN TAKE PRECEDENCE.

ALL SHRUBS SHALL BE PLANTED IN CONTINUOUS TRENCHES OR PREPARED PLANTING BEDS AND MULCHED WITH COMPOSTED HARDWOOD MULCH AS DETAILS AND SPECIFIED EXCEPT WHERE NOTED ON PLANS. POSITIVE DRAINAGE SHALL BE MAINTAINED IN PLANTING BEDS (2 PERCENT SLOPE).

PLANTING MIX SHALL BE AS FOLLOWS: DECIDUOUS PLANTS - TWO PARTS TOPSOIL, ONE PART WELL-ROTTED COW OR HORSE MANURE, ADD 3 LBS. OF STANDARD FERTILIZER PER CUBIC YARD OF PLANTING MIX. EVERGREEN PLANTS - TWO PARTS TOPSOIL, ONE PART HUMUS OR OTHER APPROVED ORGANIC MATERIAL, ADD 3 LBS. OF EVERGREEN (ACIDIC) FERTILIZER PER CUBIC YARD OF PLANTING MIX. TOPSOIL SHALL CONFORM TO THE LANDSCAPE GUIDELINES.

WEED CONTROL: INCORPORATE A PRE-EMERGENT HERBICIDE INTO THE PLANTING BED FOLLOWING RECOMMENDED RATES ON THE LABEL. CAUTION: BE SURE TO CAREFULLY CHECK THE CHEMICAL USED TO ASSURE ITS ADAPTABILITY TO THE SPECIFIC GROUND COVER TO BE TREATED.

ALL AREAS WITHIN CONTRACT LIMITS DISTURBED DURING OR PRIOR TO CONSTRUCTION NOT DESIGNATED TO RECEIVE PLANTS AND MULCH SHALL BE FINE GRADED AND SEEDDED.

SCHEDULE A PERIMETER LANDSCAPE EDGE		
PERIMETER	No. 1	No. 2
CATEGORY	Adjacent to Residential Perimeter Properties	Adjacent to Residential Perimeter Properties
LANDSCAPE TYPE	C	C
LINEAR FEET OF PERIMETER	133.54 L.F.	595.67 L.F.
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	YES 268.71 L.F. (FCE)
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE IF NEEDED)	NO	NO
NUMBER OF PLANTS REQUIRED	9	24
SHADE TREES	133.54 @ 1:40' = 3	326.96 @ 1:40' = 8
EVERGREEN TREES	133.54 @ 1:20' = 6	326.96 @ 1:20' = 16
NUMBER OF PLANTS PROVIDED	9	24
SHADE TREES	3	8
EVERGREEN TREES	6	16
SHRUBS	0	0
OTHER TREES (2:1 SUBSTITUTION)	-	-

LANDSCAPING PLANT LIST			
QTY.	KEY	NAME	SIZE
11		ACER RUBRUM RED MAPLE	2-1/2" - 3" O.D.
22		PICEA ABIES NORWAY SPRUCE	6' - 8' HT

SOILS LEGEND		
SOIL	NAME	CLASS
ReC2	Relay silt loam, 3 to 15 percent slopes, moderately eroded	B
MeF	Montalto and Relay, very stony silt loams, 25 to 60 percent slopes	B
**wAb	Watchung silt loam, 3 to 8 percent slopes	D

NOTES:
 * HYDRIC SOILS AND/OR CONTAINS HYDRIC INCLUSIONS
 ** MAY CONTAIN HYDRIC INCLUSIONS
 † GENERALLY ONLY WITHIN 100-YEAR FLOODPLAIN AREAS

LEVEL SPREADER CRITERIA

FOR IMPERVIOUS SURFACE RUNOFF APPLICATIONS:
 THE CAPACITY FOR THE LEVEL SPREADER IS DETERMINED IN THE DESIGN OF THE FILTER STRIP TO WHICH IT DISCHARGES.

THE SPREADER SHALL RUN LINEARLY ALONG THE ENTIRE WIDTH OF THE FILTER STRIP TO WHICH IT DISCHARGES. IN MOST CASES, THE SPREADER WILL BE THE SAME WIDTH AS THE CONTRIBUTING IMPERVIOUS SURFACE. THE ENDS OF THE SPREADER SHALL BE TIED INTO HIGHER GROUND TO PREVENT FLOW AROUND THE SPREADER.

THE MINIMUM DEPTH SHALL BE 6 INCHES AND THE MINIMUM WIDTH SHALL BE 6 FEET FOR THE LOWER SIDE SLOPE. SIDE SLOPES SHALL BE 2:1 (HORIZONTAL TO VERTICAL) OR FLATTER.

THE GRADE OF THE SPREADER SHALL BE 0%.

THE OUTLET DISCHARGE AREA MUST BE GENERALLY SMOOTH AND WELL VEGETATED WITH A MAXIMUM SLOPE OF 10%.

FOR ALL APPLICATIONS:
 THE SPREADER LIP SHALL BE CONSTRUCTED TO A UNIFORM HEIGHT AND ZERO GRADE OVER THE LENGTH OF THE SPREADER. FOR DESIGN FLOWS OF 4 CFS OR GREATER, A RIGID LIP OF NON-EROSIBLE MATERIAL SUCH AS PRESSURE-TREATED TIMBERS OR CONCRETE CURBING, SHALL BE USED. FOR FLOWS LESS THAN 4 CFS, A VEGETATED LIP MAY BE USED. THE SPREADER LIP SHALL BE CONSTRUCTED ON UNDISTURBED SOIL.

WHEN USING A VEGETATED LIP IT SHALL BE PROTECTED WITH AN EROSION CONTROL BLANKET TO PREVENT EROSION AND ALLOW THE VEGETATION TO BECOME ESTABLISHED. THE BLANKET SHALL BE A MINIMUM OF 4 FEET WIDE EXTENDING A MINIMUM OF 1 FOOT DOWNSTREAM OVER THE LEVEL LIP. THE BLANKET SHALL BE SECURED WITH HEAVY-DUTY STAPLES AND THE DOWNSTREAM AND UPSTREAM EDGES SHALL BE BURIED AT LEAST 6 INCHES DEEP IN A VERTICAL TRENCH.

WHEN USING A RIGID LIP IT SHALL BE ENTRENCHED AT LEAST 4 INCHES BELOW EXISTING GROUND AND SECURELY ANCHORED TO PREVENT DISPLACEMENT. AN APRON OF CLASS 1 RIP-RAP SHALL BE PLACED TO THE TOP OF THE RIGID LIP AND EXTEND DOWNSLOPE AT LEAST 3 FEET. A FILTER FABRIC SHALL BE PLACED UNDER THE COARSE AGGREGATE.

IMMEDIATELY AFTER LEVEL SPREADER CONSTRUCTION, SEED AND MULCH THE ENTIRE DISTURBED AREA OF THE SPREADER IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION.

CONSIDERATIONS
 THE LEVEL SPREADER IS A RELATIVELY LOW-COST STRUCTURE TO:

1. DISPERSE IMPERVIOUS SURFACE RUNOFF UNIFORMLY TO A FILTER STRIP OR
2. RELEASE SMALL VOLUMES OF CONCENTRATED FLOW FROM DIVERSIONS WHEN CONDITIONS ARE SUITABLE.

TO ACCOMPLISH THESE PURPOSES, PARTICULAR CARE MUST BE TAKEN TO CONSTRUCT THE SPREADER LIP COMPLETELY LEVEL. ANY DEPRESSIONS IN THE LIP WILL CONCENTRATE THE FLOW, RESULTING IN A LOSS OF POLLUTANT FILTERING EFFECTIVENESS AND/OR EROSION. EVALUATE THE OUTLET SYSTEM TO BE SURE THAT FLOW DOES NOT CONCENTRATE BELOW THE OUTLET.

FOR FILTER STRIP APPLICATIONS, THE DETERMINATION OF WHETHER A LEVEL SPREADER IS NEEDED SHOULD BE BASED ON HOW THE RUNOFF IS ENTERING THE FILTER STRIP. IF THE RUNOFF IS CONCENTRATED BY CURB CUTS, AND PARTICULARLY IF A LARGE AREA OF IMPERVIOUS SURFACE DRAINS TO ONE POINT, A LEVEL SPREADER IS ESSENTIAL TO ACHIEVE EFFECTIVE POLLUTANT REMOVAL IN THE FILTER STRIP. A LEVEL SPREADER ALSO IS IMPORTANT IF THE FILTER STRIP IS RELATIVELY STEEP IN ORDER TO AVOID EROSION FROM CONCENTRATED RUNOFF DISCHARGE. IF THE RUNOFF IS EVENLY DISTRIBUTED OVER THE WIDTH OF THE IMPERVIOUS SURFACE (E.G., A CURBLESS, EVEN-SLOPED ROAD OR PARKING LOT), A LEVEL SPREADER MAY NOT BE NECESSARY.

WHEN THE LEVEL SPREADER IS USED AS AN OUTLET FOR TEMPORARY OR PERMANENT DIVERSIONS AND DIVERSION DICES, RUNOFF CONTAINING HIGH SEDIMENT LOADS MUST BE TREATED IN AN APPROVED SEDIMENT TRAPPING DEVICE.

OPERATION AND MAINTENANCE
 INSPECT LEVEL SPREADERS AFTER EVERY RAINFALL UNTIL VEGETATION IS ESTABLISHED, AND PROMPTLY MAKE NEEDED REPAIRS. AFTER THE AREA HAS BEEN STABILIZED, MAKE PERIODIC INSPECTIONS AND MAINTAIN VEGETATION IN A HEALTHY, VIGOROUS CONDITION.

VERIFY THAT THE LEVEL SPREADER IS DISTRIBUTING FLOW EVENLY. IF PROBLEMS ARE NOTED, MAKE APPROPRIATE MODIFICATIONS TO ENSURE EVEN FLOW DISTRIBUTION.

DEVELOPER'S LANDSCAPE CERTIFICATE

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

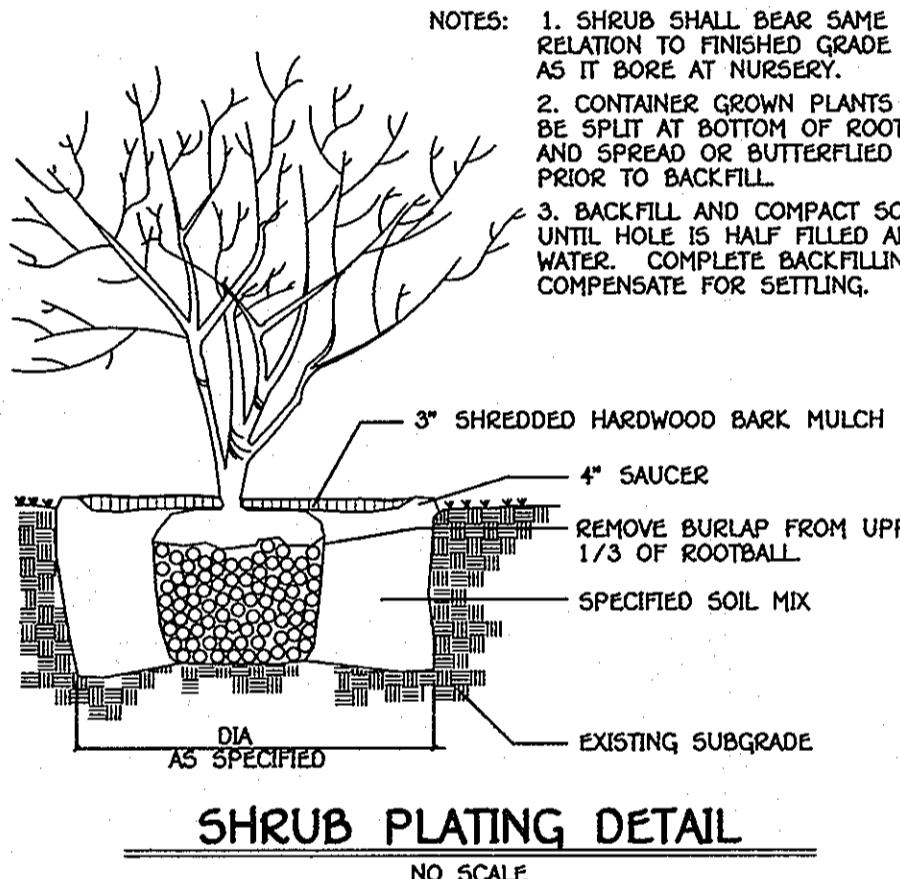
EXISTING UNDISTURBED SUBSOIL, IF SUBSOIL IS FILL, SET TREE 4" ABOVE FINISH GRADE TO ALLOW FOR SETTLEMENT.

Signature of Developer _____ Date _____

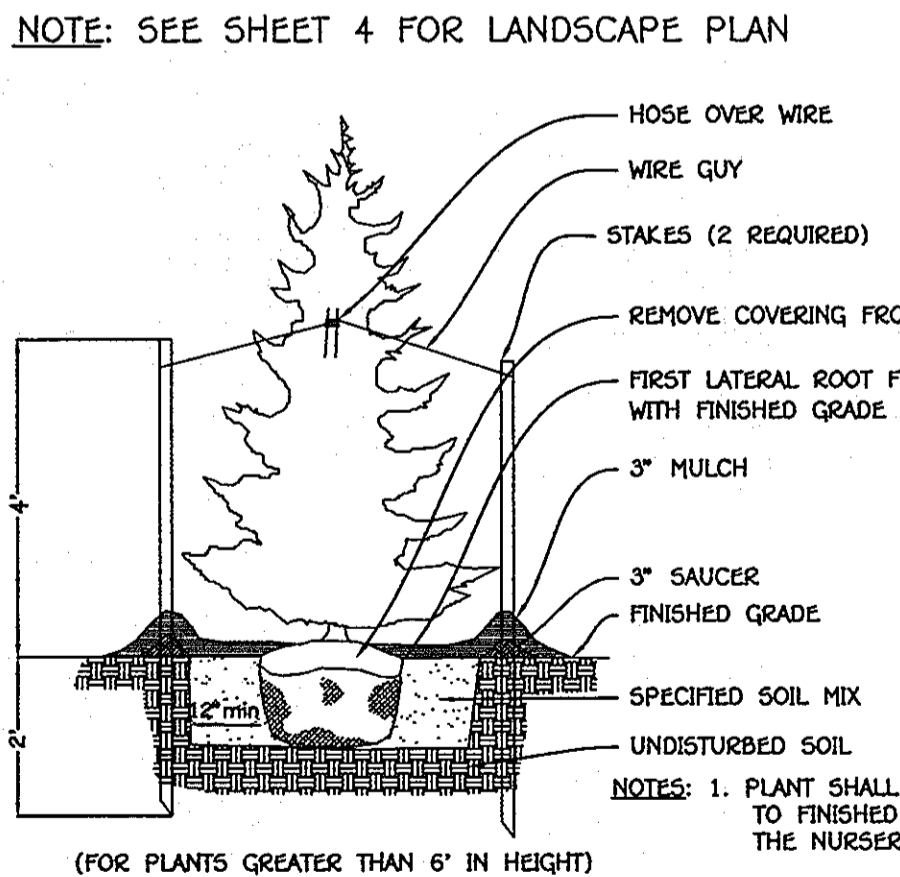
ENGINEER'S CERTIFICATE

I Herby 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 Maryland License No. 12043, Expiration Date is 07/16/12

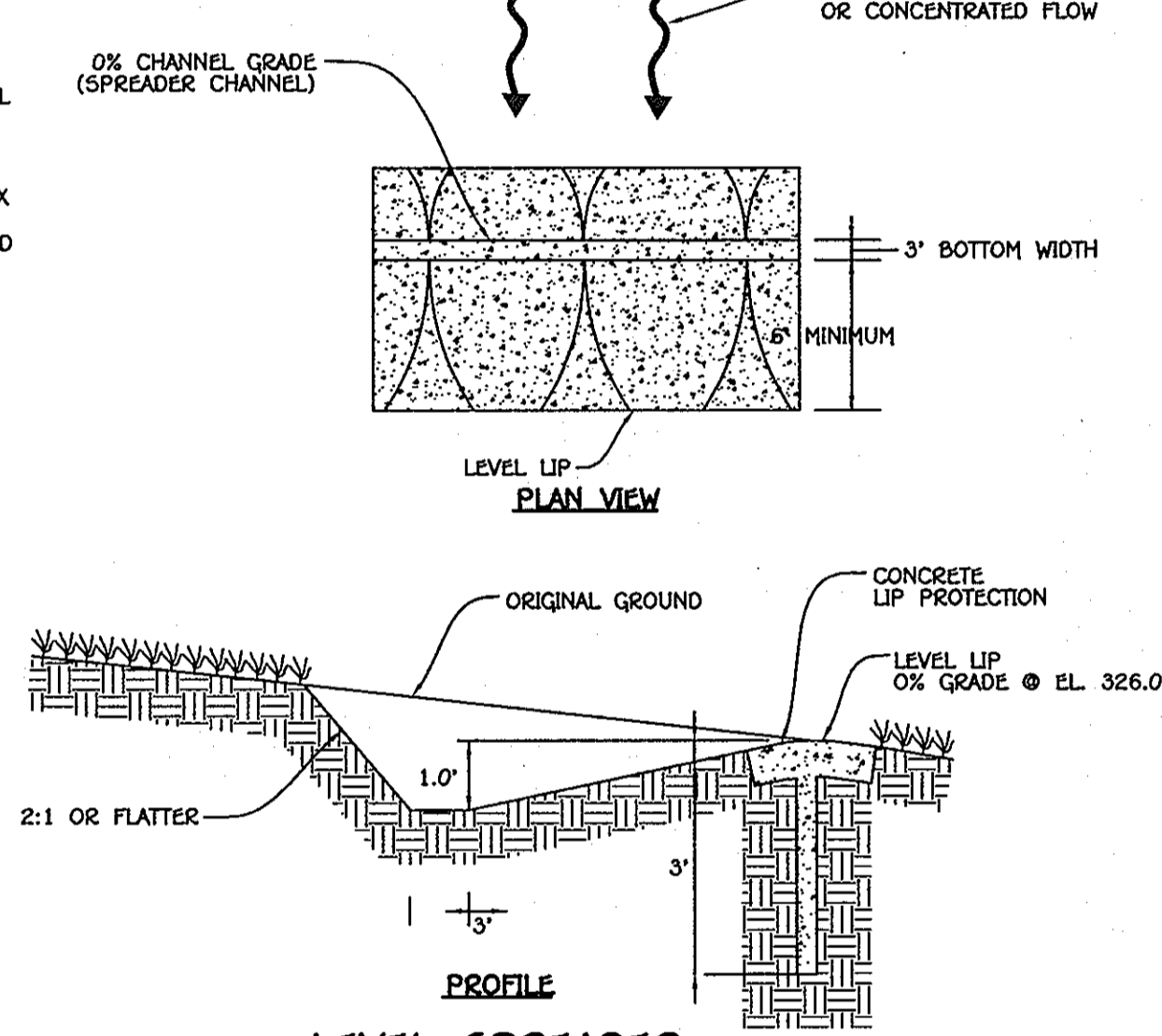
Signature of Engineer *Paul W. Kriebel* Date *9/1/11*



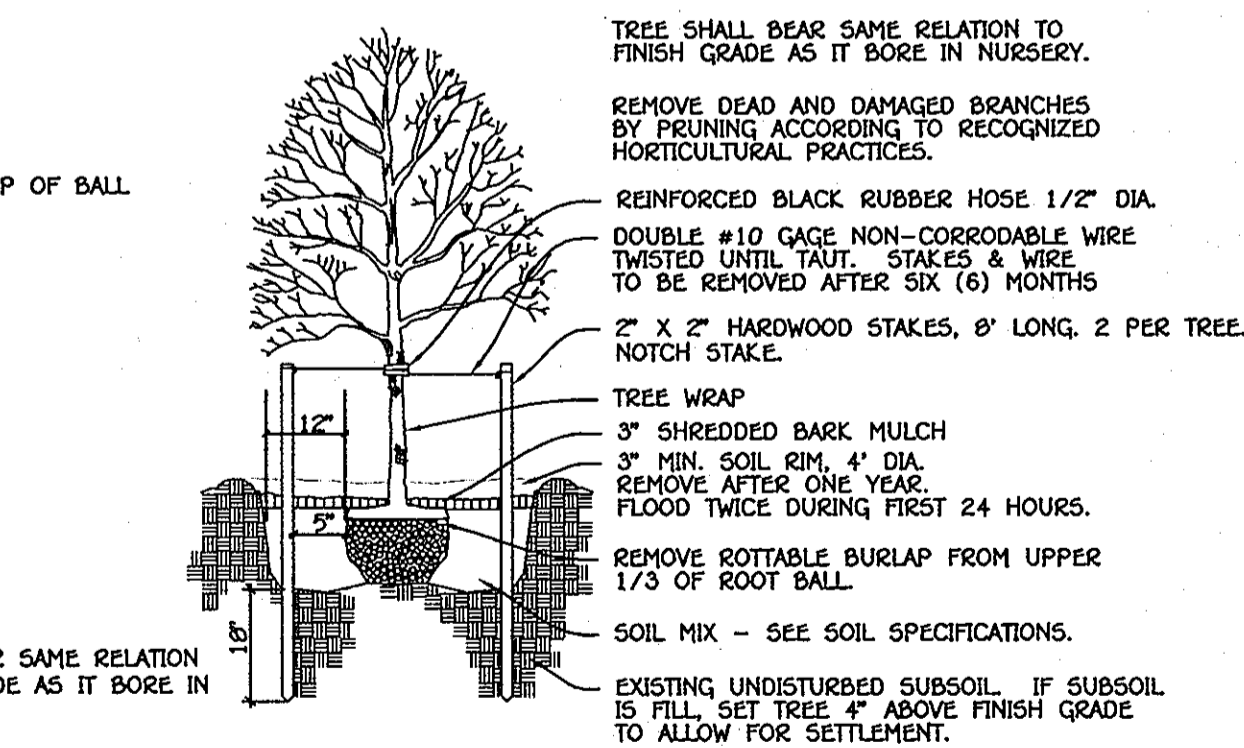
SHRUB PLANTING DETAIL NO SCALE



EVERGREEN PLANTING DETAIL NO SCALE



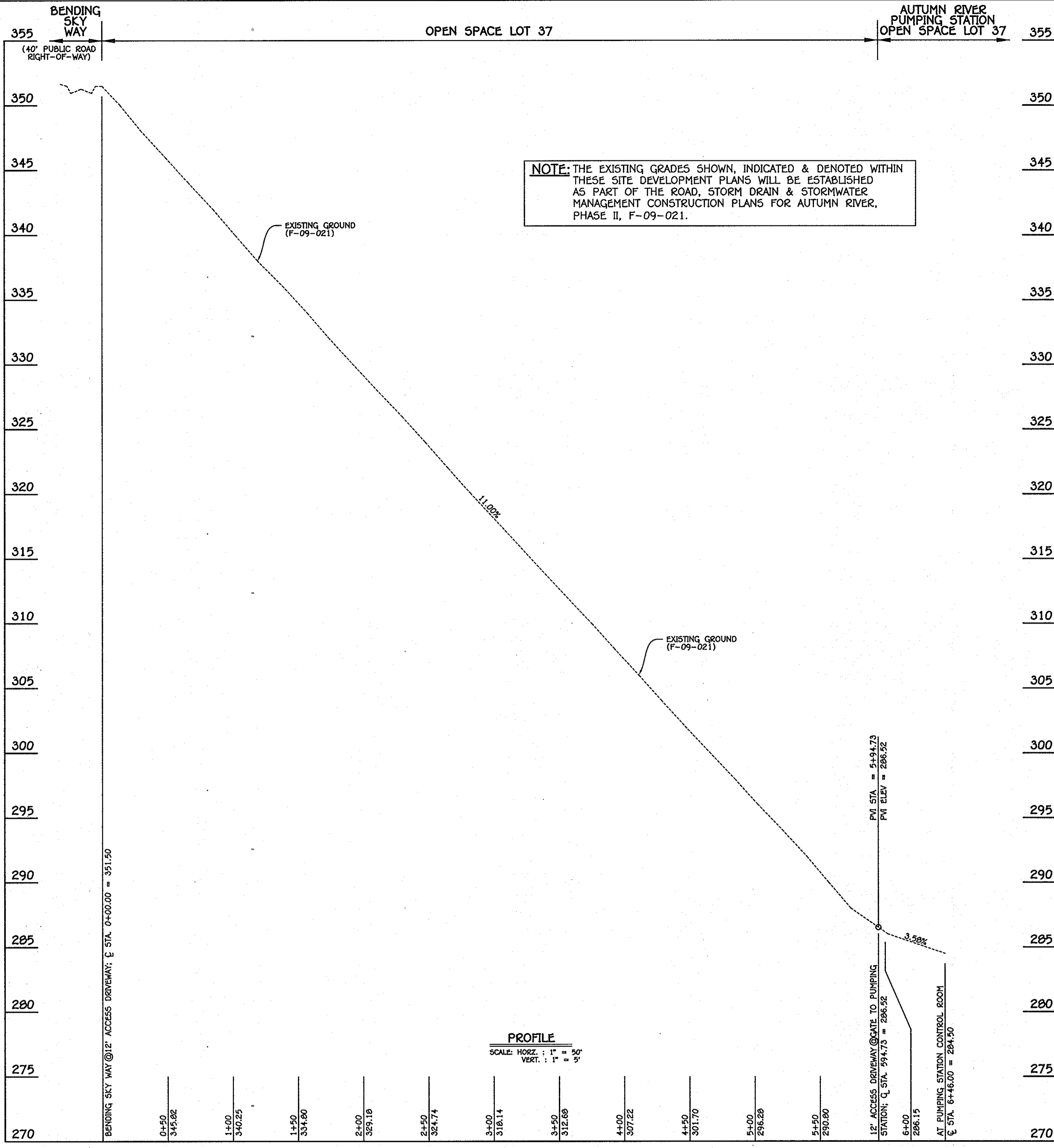
LEVEL SPREADER NO SCALE



TREE PLANTING DETAIL NO SCALE

LANDSCAPE PLAN GENERAL NOTES

1. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE & LANDSCAPE MANUAL.
2. ALTERNATIVE LANDSCAPING HAS BEEN PROVIDED ALONG PERIMETER NO. 3 TO ESTABLISH AN ADDITIONAL SCREEN FOR THE PROPOSED RESIDENTIAL UNITS.
3. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE GRADING PERMIT IN THE AMOUNT OF \$6,000.00 (11 SHADE TREES @ 300.00/TREE) AND (22 EVERGREEN TREES @ 150.00/TREE).
4. 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. ANY DEVIATION FROM THE APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO THE APPLICABLE PLANS.



NOTE: THE EXISTING GRADES SHOWN, INDICATED & DENOTED WITHIN THESE SITE DEVELOPMENT PLANS WILL BE ESTABLISHED AS PART OF THE ROAD, STORM DRAIN & STORMWATER MANAGEMENT CONSTRUCTION PLANS FOR AUTUMN RIVER, PHASE II, F-09-021.

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

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10222 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2295



Paul W. Kriebel
 Paul W. Kriebel
 Paul W. Kriebel

OWNER
 AUTUMN DEVELOPMENT CORPORATION
 4100 COLLEGE AVENUE
 ELLICOTT CITY, MARYLAND 21042-7819
 (410) 465-3500

DEVELOPER
 LAND DESIGN & DEVELOPMENT, INC.
 5300 DORSETT HALL DRIVE, SUITE 103
 ELLICOTT CITY, MARYLAND 21042-7819
 ATTN: MR. DONALD REUWER
 (443) 367-0422

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING			
Chief, Division of Land Development	<i>[Signature]</i>	9/20/11	Date
Chief, Development Engineering Division	<i>[Signature]</i>	9/19/11	Date
Director - Department of Planning and Zoning	<i>[Signature]</i>	9/23/11	Date
PROJECT	AUTUMN RIVER WASTEWATER PUMPING STATION	SECTION	II
PARCEL NO.	279	TAX/ZONE	25
ELEC. DIST.	FIRST	CENSUS TR.	602700
PLAT	14517	ZONE	R-ED
WATER CODE	F-04	SEWER CODE	1450000

ACCESS DRIVEWAY PROFILE, LANDSCAPE NOTES & MISCELLANEOUS DETAILS

AUTUMN RIVER WASTEWATER PUMPING STATION
 AUTUMN RIVER; PHASE II
 OPEN SPACE LOT 37

TAX MAP NO.: 25 GRID NO.: 14 PARCEL NO.: 279
 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: 9/23/11
 SHEET 6 OF 8

SOP 10-014

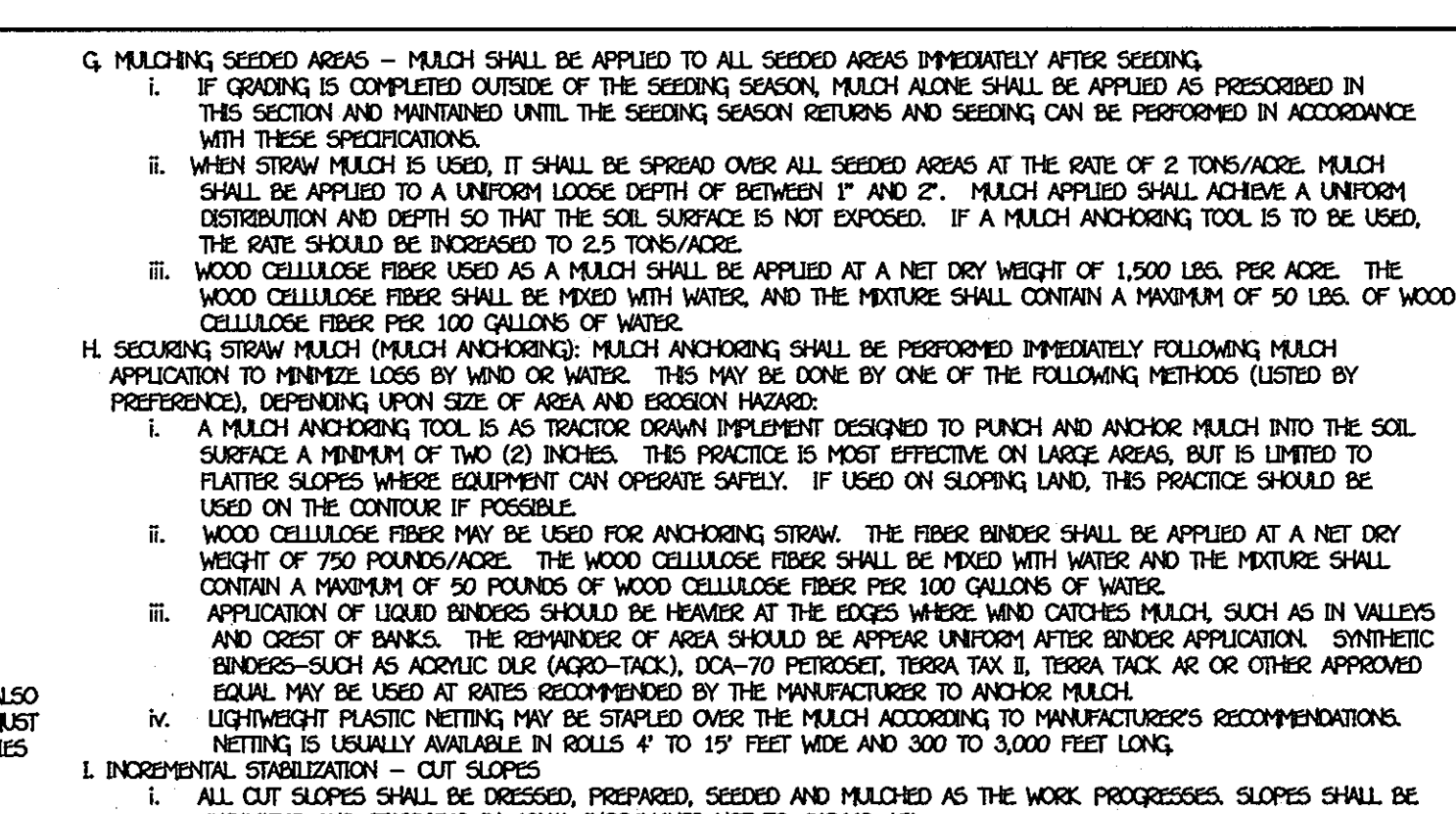
SECTION 20 : STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

DEFINITION
USING VEGETATION AS COVER FOR BARREN SOIL TO PROTECT IT FROM FORCES THAT CAUSE EROSION.

PURPOSE
VEGETATIVE STABILIZATION SPECIFICATIONS ARE USED TO PROMOTE THE ESTABLISHMENT OF VEGETATION ON EXPOSED SOIL. WHEN SOIL IS STABILIZED WITH VEGETATION, THE SOIL IS LESS LIKELY TO ERODE AND MORE LIKELY TO ALLOW INFILTRATION OF RAINFALL, THEREBY REDUCING SEDIMENT LOADS AND RUN-OFF TO DOWNSTREAM AREAS AND IMPROVING WILDLIFE HABITAT AND VISUAL RESOURCES.

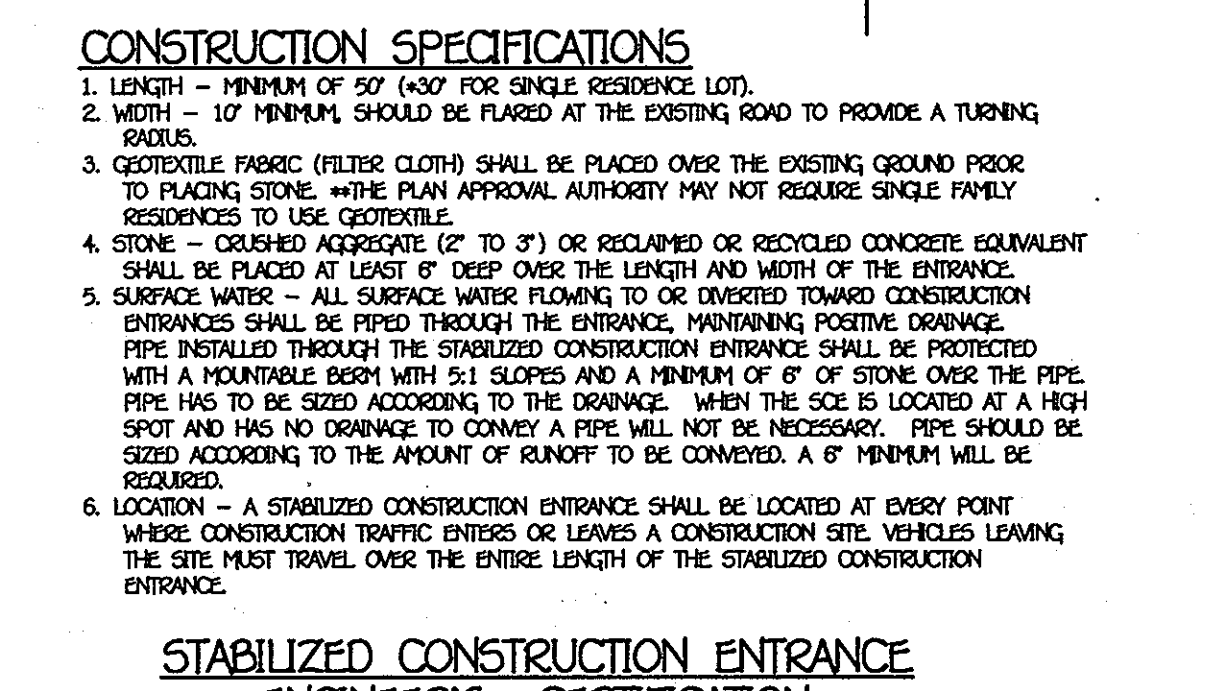
CONDITIONS WHERE PRACTICE APPLIES
THIS PRACTICE SHALL BE USED ON DENuded AREAS AS SPECIFIED ON THE PLANS AND MAY BE USED ON HIGHLY ERODIBLE OR CRITICALLY ERODING AREAS. THIS SPECIFICATION IS DIVIDED INTO TEMPORARY SEEDING TO QUICKLY ESTABLISH VEGETATIVE COVER FOR SHORT DURATION (UP TO ONE YEAR), AND PERMANENT SEEDING FOR LONG TERM VEGETATIVE COVER. EXAMPLES OF APPLICABLE AREAS FOR TEMPORARY SEEDING ARE TEMPORARY SOIL STOCKPILES, CLEARED AREAS BEING LEFT IDLE BETWEEN CONSTRUCTION PHASES, EXPOSED EROSION, AND FOR PERMANENT SEEDING ARE LAWN, DRIVE, CUT AND FILL SLOPES AND OTHER AREAS AT FINAL GRADE, FORMER STOCKPILE AND STAGING AREAS, ETC.

EFFECTS ON WATER QUALITY AND QUANTITY
PLANTING VEGETATION IN DISTURBED AREAS WILL HAVE AN EFFECT ON THE WATER BUDGET, ESPECIALLY ON VOLUMES AND RATES OF RUNOFF, INFILTRATION, EVAPORATION, TRANSPIRATION, PERCOLATION, AND GROUNDWATER RECHARGE. VEGETATION, OVER TIME, WILL INCREASE ORGANIC MATTER CONTENT AND IMPROVE THE WATER HOLDING CAPACITY OF THE SOIL AND SUBSEQUENT PLANT GROWTH. VEGETATION WILL HELP REDUCE THE MOVEMENT OF SEDIMENT, NUTRIENTS, AND OTHER CHEMICALS CARRIED BY SURFACE TO RECEIVING WATERS. PLANTS WILL ALSO HELP PROTECT GROUNDWATER SUPPLIES BY ASSIMILATING THOSE SUBSTANCES PRESENT WITH THE ROOT ZONE. SEEDING CONTROL DEVICES MUST REMAIN IN PLACE DURING SEEDING, PREPARATION, SEEDING, MULCHING, AND VEGETATIVE ESTABLISHMENT TO PREVENT LARGE QUANTITIES OF SEDIMENT AND ASSOCIATED CHEMICALS AND NUTRIENTS FROM WASHING INTO SURFACE WATERS.



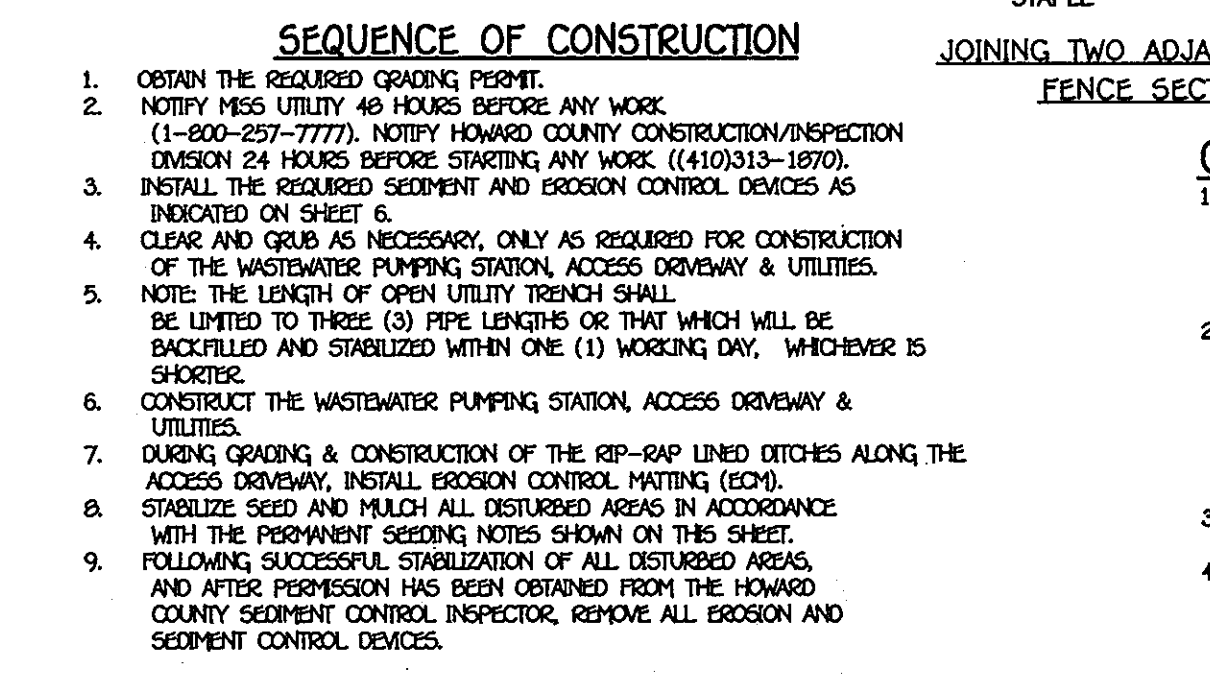
SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

- A. SITE PREPARATION
 - INSTALL EROSION AND SEDIMENT CONTROL STRUCTURES (EITHER TEMPORARY OR PERMANENT) SUCH AS DIMENSIONED 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 CONDUCTED 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 FERTILIZER AND LIME ANALYSIS.
 - 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 LABELLED ACCORDING TO THE APPLICABLE STATE FERTILIZER LAWS AND SHALL SHOW THE NAME, TRADENAME, AND WEIGHTAGE OF THE PRODUCTS.
 - LIME MATERIALS SHALL BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED) WHICH CONTAINS AT LEAST 82% LIME (CALCIUM OXIDE AND CALCIUM HYDROXIDE). LIME SHALL BE APPLIED TO SUCH EXTENT THAT AT LEAST 50% WILL PASS THROUGH A #100 MESH SIEVE AND 90-100% WILL PASS THROUGH A #20 MESH SIEVE.
 - INCREASED LIME AND FERTILIZER INTO THE TOP 3-5" OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
- C. SEEDING PREPARATION
 - TEMPORARY SEEDING
 - SEEDING PREPARATION SHALL CONSIST OF LOOSENING SOIL TO A DEPTH OF 3" TO 5" BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOW OR RIPPERS FOLLOWED BY A CONSTRUCTION GRADING MACHINE OR OTHER EQUIPMENT. AN EXCEPTION IS IF LOOSENESS BUT LEFT IN THE REQUIREMENT CONDITION. SLOPED AREAS (GREATER THAN 3:1) SHOULD BE TRACED 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.
 - INCREASED 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 5.0 TO 7.0.
 - SOLUBLE SALTS SHALL BE LESS THAN 500 PPM (PPM).
 - THE SOIL SHALL CONTAIN LESS THAN 10% BUT ENOUGH FINE GRAINED MATERIAL (>30% SILT PLUS CLAY) TO PROTECT THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION IS IF LONGGRASS OR SEBRZIA LESPEDEZAS IS TO BE PLANTED, THEN A SANDY SOIL (<50% 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 BY THE OWNER SHALL BE MAINTAINED IN A TRUE AND EVEN GRADE. THEN SCRUBBED OR OTHERWISE LOOSENED TO A DEPTH OF 3-5" TO PREVENT BONDING OF THE TOPSOIL TO THE SURFACE AREA AND TO CREATE HORIZONTAL EROSION CHECK SLITS TO PREVENT TOPSOIL FROM SLIDING DOWN A SLOPE.
 - APPLY SOIL AMENDMENTS AS PER SOIL TESTS 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 RAKEN THE AREA FOR SEED AND APPLICATION. WARE SITE CONDITIONS WILL NOT PREVENT NORMAL SEEDING. PREPARATION, LOOSEN SURFACE SOIL BY DISKING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE. STEEP SLOPES (GREATER THAN 3:1) SHOULD BE TRACED LEAVING THE SOIL IN AN IRREGULAR CONDITION PARALLEL TO THE CONTOUR OF THE SLOPE. THE TOP 1-3" OF SOIL SHOULD BE LOOSE AND FRAGILE. SEEDING LOOSENESS MAY NOT BE NECESSARY ON NEARLY DISTURBED AREAS.
- D. SEED SPECIFICATIONS
 - ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND SEED LAW. ALL SEED SHALL BE SUBJECT TO RE-TESTING BY A RECOGNIZED 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.
 - INCULCANT - THE INCULCANT IN THE SEED MATERIALS SHALL BE A PURE CULTURE OF NITROGEN-FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INCULCANTS SHALL NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INCULCANT AS DIRECTED ON PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INCULCANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 70-75°F. ON CONTACT WITH SEEDS MAKE THE INCULCANT LESS EFFECTIVE.
- E. METHODS OF SEEDING
 - HYDROSEEDING - APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER). BROADCAST OR DRIP SEEDING, OR A CULTIVATOR SEEDER.
 - IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES AMOUNTS WILL NOT EXCEED THE FOLLOWING: NITROGEN - MAXIMUM OF 100 LBS. PER ACRE TOTAL OF SOLUBLE NITROGEN P2O5 (PHOSPHOROUS); 200 LBS./AC. 120 (PHOSPHATE); 200 LBS./AC.
 - 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 INTERMISSION.
 - DRY SEEDING - THIS INCLUDES USE OF CONVENTIONAL DRIP OR BROADCAST SPREADERS.
 - SEED SPREAD SHALL BE INCORPORATED INTO THE SUBSTRATE AT THE RATES PRESCRIBED ON THE TEMPORARY OR PERMANENT SEEDING SUMMARIES OR TABLES 265 OR 266. 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 MULTIPACKER SEEDING - MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.
 - OUTPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDING MUST BE FROM AT LEAST 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 ON GRADE OR PREPARED
 - STRAW MULCH SHALL BE THOROUGHLY THRESHED WHAT, RYE OR OAT STRAW, REASONABLE BRIGHT IN COLOR, AND SHALL NOT BE MUSTY, MOULDY, CALLED, OYERED, OR EXCESSIVELY DUSTY AND SHALL BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW.
 - WOOD CELLULOSE FIBER MULCH (WCM)
 - WCM SHALL CONSIST OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
 - WCM SHALL BE DIED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORM SPREAD SLURRY.
 - WCM INCLUDING DYE, SHALL CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
 - WCM MATERIALS SHALL BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN WATER RESURVEY IN WATER UNDER HEAVY TRAFFIC AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL SHALL FORM A SLURRY-LIKE GROUND COVER, ON APPLICATION, HAVING HIGH MOISTURE ABSORPTION AND PRELATION PROPERTIES AND SHALL COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLING.
 - WCM MATERIAL SHALL CONTAIN NO ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
 - WCM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBRE LENGTH TO APPROXIMATELY 10 MM. DIAMETER APPROXIMATELY 1 MM, pH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6% MAXIMUM AND WATER HOLDING CAPACITY OF 90% MINIMUM.
 - NOTE: ONLY STABLE STRAW MULCH SHOULD BE USED IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.



SECTION 21 : STANDARD AND SPECIFICATIONS FOR TOPSOIL

- 1. DEFINITION: PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.
- 2. PURPOSE: TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.
- 3. SPECIFICATIONS:
 - SOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND.
 - TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING SUBSOILS.
 - TOPSOIL SHALL CONTAIN LESS THAN 3% BY VOLUME OF CONCRETE, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 4" IN DIAMETER.
- 4. APPLICATION:
 - TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" - 6" LAYER AND LIGHT COMPACTED TO A MINIMUM THICKNESS OF 4" AVOID SURFACE IRREGULARITIES.
 - PLACE TOPSOIL AND APPLY SOIL AMENDMENTS AS SPECIFIED IN "STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION."
 - TOPSOIL SHALL NOT BE PLACED DURING FROZEN, MUDDY, OR EXCESSIVELY WET CONDITIONS.



SECTION 22 : SILT FENCE

1. OBTAIN THE REQUIRED GRADING PERMIT.

2. NOTIFY MES UTILITY 48 HOURS BEFORE ANY WORK: (1-800-277-7771). NOTIFY HOWARD COUNTY CONSTRUCTION/INSPECTION DIVISION 24 HOURS BEFORE STARTING ANY WORK (410)313-1870.

3. INSTALL THE REQUIRED SEDIMENT AND EROSION CONTROL DEVICES AS INDICATED ON SHEET 6.

4. CLEAR AND GRAD AS NECESSARY. ONLY AS REQUIRED FOR CONSTRUCTION OF THE WASTEWATER PUMPING STATION, ACCESS DRIVEWAY & UTILITIES.

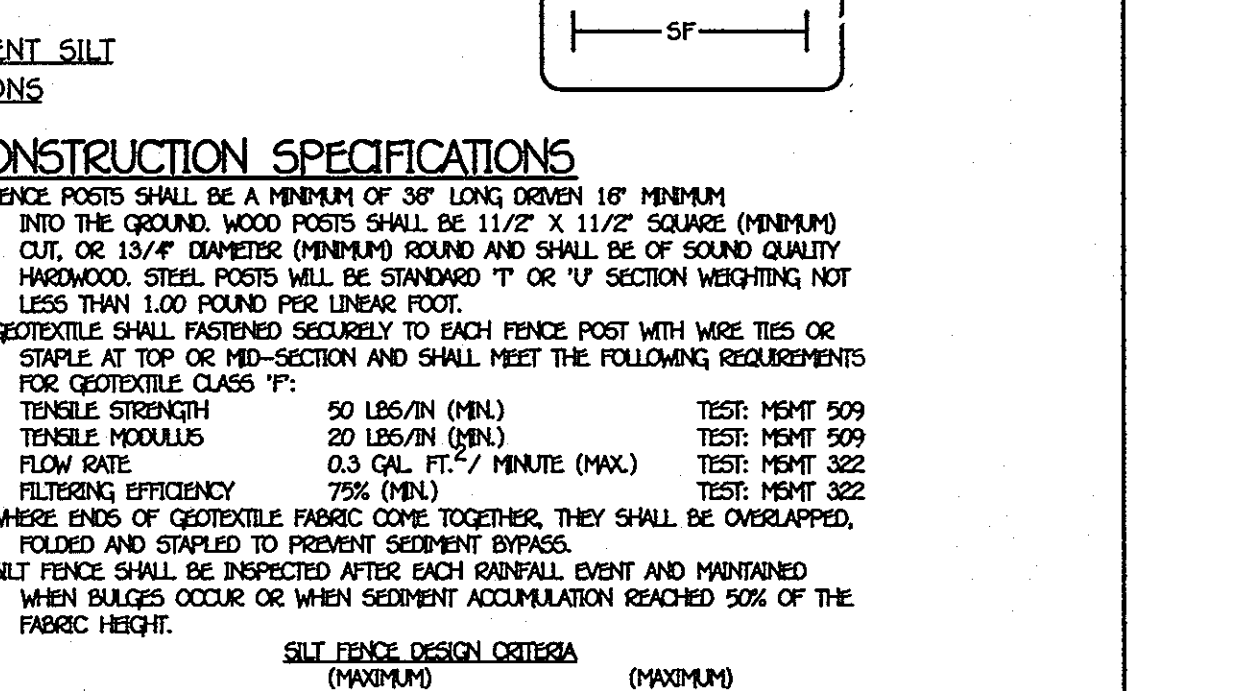
5. NOTE THE LENGTH OF OPEN UTILITY TRENCH SHALL BE LIMITED TO THREE (3) PIPE LENGTHS OR THAT WHICH WILL BE EXCELLED AND STABILIZED WITHIN ONE (1) WORKING DAY, WHICHEVER IS SHORTER.

6. CONSTRUCT THE WASTEWATER PUMPING STATION, ACCESS DRIVEWAY & UTILITIES.

7. DURING GRADING & CONSTRUCTION OF THE 60-84" LINED DITCHES ALONG ACCESS DRIVEWAY, INSTALL EROSION CONTROL MATTING (ECM).

8. STABILIZE SEED AND MULCH ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES SHOWN ON THIS SHEET.

9. FOLLOWING SUCCESSFUL STABILIZATION OF ALL DISTURBED AREAS, AND AFTER PROFESSION HAS BEEN OBSERVED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL EROSION AND SEDIMENT CONTROL DEVICES.



SECTION 23 : SUPER SILT FENCE

1. KEY-IN THE MATTING BY PLACING THE TOP ENDS OF THE MATTING IN A NARROW TRENCH 6" IN DEPTH. BACKFILL THE TRENCH AND TAMP FIRMLY TO CONFORM TO THE CHANNEL CROSS-SECTION. SECURE WITH A ROW OF STAPLES ABOUT 4' DOWN SLOPE FROM THE TRENCH SPACING BETWEEN STAPLES IS 6'.

2. STAPLE THE # OVERLAP IN THE CHANNEL CENTER USING AN 8" SPACING BETWEEN STAPLES.

3. BEFORE STAPLING THE OUTER EDGES OF THE MATTING MAKE SURE THE MATTING IS SMOOTH AND IN FIRM CONTACT WITH THE SOIL.

4. STAPLES SHALL BE PLACED 2' APART WITH 4 ROWS FOR EACH STRIP, 2 OUTER ROWS, AND 2 ALTERNATING ROWS DOWN THE CENTER.

5. WHERE ONE ROLL OF MATTING ENDS AND ANOTHER BEGINS, THE END OF THE TOP STRIP SHALL OVERLAP THE UPPER END OF THE LOWER STRIP BY 4'. SHEARPLAS FASHION, REINFORCE THE OVERLAP WITH A DOUBLE ROW OF STAPLES SPACED 6' APART IN A STAGGERED PATTERN ON EITHER SIDE.

6. THE DISCHARGE END OF THE MATTING LENGTH SHOULD BE SIMILARLY SECURED WITH 2 DOUBLE ROWS OF STAPLES.

NOTE: IF FLOW WILL ENTER FROM THE EDGE OF THE MATTING THEN THE AREA EFFECTED BY THE FLOW MUST BE KEYED-IN.

12043

GP-11-01

This Specification is Approved For Erosion And Sediment Control by Howard County Soil Conservation District.

Approved: *John P. Kriebel* 9/16/11
Howard Soil Conservation District

ENGINEER'S CERTIFICATE
I hereby Certify That These Documents Were Prepared Or Approved By Me, and That I Am A duly Licensed Professional Engineer Under The Laws of The State Maryland License No. 12043, Expiration Date is 07/16/12

Paul W. Kriebel 9/11/11
Paul W. Kriebel
Signature Of Engineer

Paul W. Kriebel
Paul W. Kriebel

FISHER, COLLINS & CARTER, INC.
CONSULTING ENGINEERS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 WILDFIRE NATIONAL PIKE
ELLSWORTH, MARYLAND 21042
(410) 461-2099

NO.	REVISION	DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Vest Shuman 9/20/11
Chief, Division of Land Development
Chad 9/19/11
Chief, Development Engineering Division
Dennis J. Suttler 9/20/11
Director - Department of Planning and Zoning

OWNER
AUTUMN DEVELOPMENT CORPORATION
100 COUNTESS AVENUE
ELLSWORTH CITY, MARYLAND 21042-7819
(410)-465-3500

DEVELOPER
LAND DESIGN & DEVELOPMENT, INC.
5300 DORSEY HALL DRIVE, SUITE 103
ELLSWORTH CITY, MARYLAND 21042-7819
ATTN: MR. DONALD REINER
(443)-367-0422

PROJECT	SECTION	PARCEL NO.			
AUTUMN RIVER WASTEWATER PUMPING STATION	II	279			
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
W843	14	R-ED	25	FIRST	602700
WATER CODE	SEWER CODE				
F-04	1450000				

SEDIMENT & EROSION CONTROL NOTES & DETAILS

AUTUMN RIVER WASTEWATER PUMPING STATION
AUTUMN RIVER; PHASE II

OPEN SPACE LOT 37

TAX MAP NO.: 25 GRID NO.: 14 PARCEL NO.: 279
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: SEPTEMBER, 2011
SHEET 8 OF 9

SDP 10-014