SITE DEVELOPMENT PLAN
WAVERLY CORPORATE CENTER
PARCEL 'A', PLAT No. 17415
ZONED: PEC ⚠2
TAX MAP No. 10 GRID No. 22
TAX MAP No. 16 GRID No. 4
PARCEL No. 324, 325 & 327

SHEET INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GEOMETRY PLAN & LIGHTING LOCATION PLAN
3	SITE, GRADING AND SEDIMENT CONTROL PLAN
4	BUILDING FOOTPRINTS & ROADWAY DETAILS
5	LANDSCAPE PLAN
6	5-D DRAINAGE AREA MAP
7	STORM DRAIN PROFILES, STRUCTURE SCHEDULE & DETAILS
8	PRIVATE WATER & SEWER PROFILES AND TEMPORARY TRAFFIC CONTROL PLAN
9	SEDIMENT CONTROL NOTES AND DETAILS
10	STORMWATER MANAGEMENT OVERALL DRAINAGE AREA MAPS
11	STORMWATER MANAGEMENT - DRY SWALE PLAN AND DETAILS
12	STORMWATER MANAGEMENT - BIO-RETENTION & GRASS CHANNEL PLAN AND DETAILS
13	STORMWATER MANAGEMENT - EXISTING SWM FACILITY NO. 1 MODIFICATION PLAN
14	STORMWATER MANAGEMENT INTERNAL LANDSCAPING
15	STORMWATER MANAGEMENT NOTES, DETAILS & SOIL BORINGS
16	HANDICAP DETAILS

STREET SIGN CHART

STREET NAME	STATION	OFFSET	POSTED SIGN	SIGN CODE
℄ 'A'	0+48	26' L	STOP	R1-1
℄ 'B'	0+59	32' L	STOP & NO LEFT TURN	R1-1 & R3-2L
℄ 'B'	0+62	3' L	KEEP RIGHT	R4-7
℄ 'B'	0+51	6' L	KEEP RIGHT	R4-7
℄ 'A'	0+34	15' L	DO NOT ENTER	R5-1

PRIVATE STREET LIGHT CHART

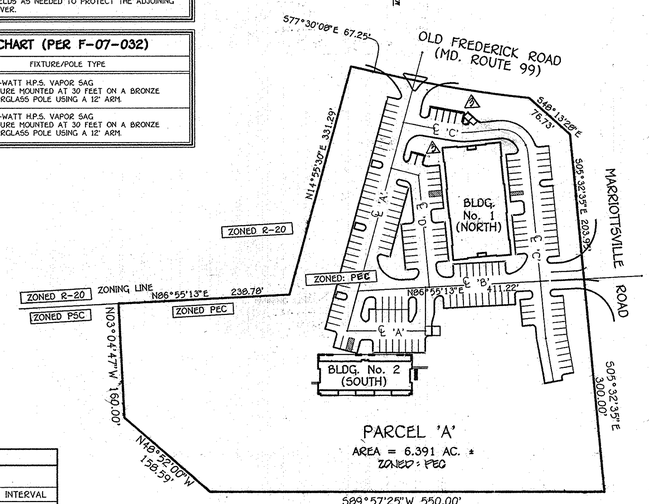
STREET NAME	STATION	OFFSET	FIXTURE/POLE TYPE
℄ 'A'	N 539,804 ✳ E 828,132		100-WATT "TRADITIONAIRE" H.P.S. VAPOR COLONIAL POST TOP FIXTURE MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE.
	N 539,799 E 828,263		
℄ 'C'	0+32 ✳	17' R	100-WATT "TRADITIONAIRE" H.P.S. VAPOR COLONIAL POST TOP FIXTURE MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE.
	1+63	15' R	
	3+36	28' R	
	4+25	16' R	
℄ 'D'	1+67 ✳	16' L	100-WATT "TRADITIONAIRE" H.P.S. VAPOR COLONIAL POST TOP FIXTURE MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE.

NOTE: SEE SHEET 2 FOR ADDITIONAL LIGHTING ASSOCIATED WITH THE PROPOSED BUILDINGS. ALL OUTDOOR LIGHTING SHALL COMPLY WITH THE REQUIREMENTS OF ZONING SECTION 134.

✳ DENOTES LIGHTS THAT ARE TO CONTAIN SHIELDS AS NEEDED TO PROTECT THE ADJOINING RESIDENTIAL PROPERTY FROM LIGHT SPILL OVER.

PUBLIC STREET LIGHT CHART (PER F-07-032)

STREET NAME	STATION	OFFSET	FIXTURE/POLE TYPE
MARRIOTTSVILLE ROAD	2+00	63' R	250-WATT H.P.S. VAPOR SAG FIXTURE MOUNTED AT 30 FEET ON A BRONZE FIBERGLASS POLE USING A 12' ARM.
MARRIOTTSVILLE ROAD	3+35	54' R	250-WATT H.P.S. VAPOR SAG FIXTURE MOUNTED AT 30 FEET ON A BRONZE FIBERGLASS POLE USING A 12' ARM.



PLAN
SCALE: 1" = 100'

VICINITY MAP
SCALE: 1"= 2000'

THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

LEGEND

SYMBOL	DESCRIPTION
----506----	EXISTING CONTOUR 2' INTERVAL
——510——	EXISTING CONTOUR 10' INTERVAL
——508——	PROPOSED CONTOUR 2' INTERVAL
• 507.33	SPOT ELEVATION
	EXISTING STORM DRAIN LINE
	PROPOSED CONCRETE WALK
	EASEMENTS
	EXISTING TREE
	PROPOSED STORM DRAINS
	EXISTING WATER MAIN
	EXISTING SEWER MAIN
	PROPOSED SEWER MAIN
	PROPOSED TREES
	EXISTING TREE LINE
	PROPOSED TREE LINE

PARKING SPACE TABULATION ⚠1

COMMERCIAL	PARKING REQUIRED	PARKING PROVIDED
OFFICE: 21,135 NET SQ. FT. @ 3.3 SP. PER 1000	70 SPACES	75 SPACES
SHOPPING CENTER 12,830 NET SQ. FT. @ 6 SP. PER 1000	77 SPACES	92 SPACES
	147 SPACES	167 SPACES TOTAL

NOTE: ALL LOADING/DELIVERIES SHALL BE CONDUCTED IN EARLY MORNING HOURS.

STREET ADDRESS CHART

UNIT No.	STREET ADDRESS
BLDG. No. 1	2020 MARRIOTTSVILLE ROAD
BLDG. No. 2	2050 MARRIOTTSVILLE ROAD

GENERAL NOTES:

1. THIS PLAN IS SUBJECT TO THE AMENDED 5TH EDITION OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, COUNCIL BILL 45-2003.
2. THE SUBJECT PROPERTY IS ZONED PEC PER 10/00/13 COMPREHENSIVE ZONING PLAN. PREVIOUS DPZ FILE NUMBERS S-94-07, F-05-51, WP-05-32, SDP-04-126 (MASS GRADING PLAN), WP-07-126 AND AA-07-017, F-07-032, F-08-002, WP-12-110
3. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST (5) FIVE WORKING DAYS PRIOR TO THE START OF WORK.
4. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
5. BOUNDARY SURVEY PERFORMED BY FISHER, COLLINS AND CARTER, INC. ON OR ABOUT JULY, 2001.
6. IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS, PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK.
7. HORIZONTAL AND VERTICAL CONTROL DATUM IS BASED ON THE FOLLOWING HOWARD COUNTY GEODETIC CONTROL STATIONS:
   HOWARD COUNTY MONUMENT 16E1 - N 593,250.9322 E 1,340,192.7110 ELEV.)
   HOWARD COUNTY MONUMENT 1012 - N 601,060.1777 E 1,345,336.7580 ELEV.)
8. ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
9. CONTRACTOR WILL CHECK SEWER HOUSE CONNECTION ELEVATION AT EASEMENT LINE PRIOR TO CONSTRUCTION.
10. STORMWATER MANAGEMENT WILL BE PROVIDED IN ACCORDANCE WITH HOWARD COUNTY AND MARYLAND 378 SPECIFICATIONS. RECHARGE VOLUME WILL BE PROVIDED THROUGH WATER QUALITY AND CHANNEL PROTECTION VOLUME WILL BE PROVIDED BY M.P. NO. 1: TYPE - EXTENDED DETENTION DRY POND FACILITY PRIVATELY OWNED AND MAINTAINED BY H.O.A. AND CONSTRUCTED UNDER SDP-04-126.
11. THIS SITE WILL UTILIZE PUBLIC WATER AND PRIVATE SEWER. THE ON-SITE WATER MAIN IS PUBLIC, AND WAS CONSTRUCTED UNDER CONTRACT Nos. 20-4068-D & 44-3480. THE EXISTING UTILITIES SHOWN HEREON WERE DERIVED FROM AVAILABLE PUBLIC RECORDS. THE CONTRACTOR MUST DIG TEST PITS BY HAND AT ALL UTILITY CROSSINGS AND CONNECTION POINTS TO VERIFY THE EXACT LOCATION.
12. SITE ANALYSIS DATA:
    A. TOTAL AREA OF PARCEL 'A': 6.391 AC.±
    B. LIMIT OF DISTURBED AREA: 3.80 AC.±
    C. PRESENT ZONING: PEC
    D. BUILDING COVERAGE OF SITE: 0.37 AC.±
    E. OPEN SPACE REQUIRED (25% OF PEC) = 6.391 x .25 = 1.60 AC.
    D. OPEN SPACE PROVIDED = 2.17 AC.± OF FLOODPLAIN AND FCE EASEMENTS.
13. PROPOSED USE FOR SITE AND STRUCTURES: OFFICE AND SHOPPING CENTER.
14. PARKING REQUIREMENTS: ⚠1 ⚠2
    NO. OF SPACES REQUIRED: 77 SHOPPING CENTER SPACES + 70 OFFICE SPACES = 147 TOTAL SPACES
    NO. OF SPACES PROVIDED: 167 SPACES (SEE PARKING SPACE TABULATION, THIS SHEET)
15. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
16. THE TRAFFIC STUDY REQUIRED FOR THIS PROJECT WAS PREPARED BY THE TRAFFIC GROUP DATED SEPTEMBER, 2006 AND APPROVED AS PART OF THE APFO MITIGATION PLAN (F-07-032). THE REDUCTION IN OFFICE SPACE AND CHANGE IN USE TO SHOPPING CENTER WAS EVALUATED UNDER REDLINE #3 AND #1 FOR APFO AND WAS FOUND TO BE ACCEPTABLE.
17. THERE ARE NO HISTORIC STRUCTURES LOCATED ON THIS SITE.
18. THERE ARE NO CEMETERIES ON-SITE OR ON ANY ADJOINING PROPERTIES.
19. REFER TO THE MD. S.H.A. MANUAL ON UNIFORM TRAFFIC CONTROL (M.U.T.C.D.) FOR ROAD WIDENING WORK.
20. THERE ARE NO WETLANDS WITHIN THE LIMITS OF DISTURBANCE "PER A SIGNED AND SEALED WETLANDS CERTIFICATION PREPARED BY ECO-SCIENCE PROFESSIONALS, INC., DATED MARCH 31, 2004." HOWEVER, THERE IS A WETLAND AND 25' WETLAND BUFFER, 75' STREAM BUFFER, FLOODPLAIN AND RETENTION FOREST CONSERVATION EASEMENT LOCATED ELSEWHERE ON THIS SITE.
21. ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED. ALL UNITS ARE ALIGNED SO THAT THE FRONT OF THE UNIT FACES OUTWARD TOWARDS THE EXISTING ROADWAYS.
22. THE FOREST CONSERVATION REQUIREMENTS FOR THIS PLAN HAVE BEEN MET UNDER SDP-04-126 & F-05-051 BY THE CREATION OF AN ON-SITE 1.17 ACRE RETENTION FOREST CONSERVATION EASEMENT AND A FEE-IN-LIEU PAYMENT OF $16,988.40 TO THE HOWARD COUNTY FOREST CONSERVATION FUND FOR 0.78 ACRE OF REFORESTATION. SURETY IN THE AMOUNT OF $10,193.04 FOR THE 1.17 ACRE ON-SITE RETENTION FOREST CONSERVATION EASEMENT HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT FOR SDP-04-126.
23. A. REFUSE COLLECTION TO BE PROVIDED BY PRIVATE CONTRACTOR. THERE WILL BE INTERNAL TRASH COLLECTION WITHIN THE CONDOMINIUM BUILDINGS TO BE REMOVED BY A PRIVATE JANITORIAL SERVICE FOR CURBSIDE PICK-UP.
    B. SNOW REMOVAL AND ROAD MAINTENANCE TO BE PRIVATE.
24. "SIGN POSTS" - ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE 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.
25. "THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL". FINANCIAL SURETY FOR THE 87 REQUIRED LANDSCAPE TREES & 239 SHRUBS HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF $26,070.00.
26. ⚠1 BUILDING SPECIFICATIONS:

	GROSS AREA	USE
A. NORTH BUILDING No. 1 - 1 STORY		
FIRST FLOOR =	12,830 SQ.FT.	SHOPPING CENTER 12,830 SQ. FT. ⚠2
⚠2 SECOND FLOOR =	250 SQ. FT.	STORAGE - TENANT
TOTAL AREA =	13,080 SQ.FT.	
B. SOUTH BUILDING No. 2 - 4 STORY		
BASEMENT =	STORAGE AND MECHANICAL ONLY	
FIRST FLOOR =	7,045 SQ.FT.	OFFICE
SECOND FLOOR =	7,045 SQ.FT.	OFFICE
THIRD FLOOR =	7,045 SQ.FT.	OFFICE
TOTAL AREA =	21,135 SQ.FT.	

27. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
28. STREET LIGHT PLACEMENT AND TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)". A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE. ALL OUTDOOR LIGHTING SHALL COMPLY WITH THE REQUIREMENTS OF ZONING SECTION 134. ALL PROPOSED LIGHTING SHALL BE LOCATED AND ORIENTED TO HAVE NO ADVERSE IMPACT/EFFECT ON THE ADJACENT RESIDENTIALLY ZONED PROPERTIES AND PUBLIC ROADS.
29. EXISTING TOPOGRAPHY AND FEATURES WERE DERIVED FROM SURVEY BY FISHER, COLLINS AND CARTER INC. AND HARFORD AERIAL SURVEYS INC. WITH MAX. 2' CONTOUR INTERVALS DATED JULY 6, 2001.
30. THE PREVIOUS WETLANDS REPORT PREPARED BY EXPLORATION RESEARCH, INC. DATED 9-5-91 HAS BEEN RE-CERTIFIED UNDER 5-06-013 BY ECO-SCIENCE PROFESSIONALS, INC. DATED APRIL, 2006.
31. THE EXISTING FLOODPLAIN AREA DELINEATED ON THESE PLANS WAS APPROVED ON THE S 95-07 SET OF PLANS.
32. PLAN IS SUBJECT TO WAIVER PETITION WP-07-126. ON JULY 20, 2007, HOWARD COUNTY APPROVED A WAIVER FROM SECTION 16.119.f.1 TO PERMIT VEHICULAR ACCESS TO TWO VEHICULAR ACCESS RESTRICTED ROADS (ROUTE 99 - MINOR ARTERIAL AND MARRIOTTSVILLE ROAD - INTERMEDIATE ARTERIAL), INCLUDING THE HIGHER CLASSIFICATION VEHICULAR ACCESS RESTRICTED MARRIOTTSVILLE ROAD.
33. PLAN IS SUBJECT TO ADMINISTRATIVE ADJUSTMENT No. AA 07-017. THE HEARING WAS CONDUCTED ON JULY 10, 2007 AND THE AA WAS GRANTED ON JULY 27, 2007 TO REDUCE THE 75 FOOT STRUCTURE AND USE SETBACK TO 60 FEET FOR PARKING USES AS DEPICTED ON THE AA PLAN AND THAT A TYPE D LANDSCAPE BUFFER BE PLACED ALONG THE WEST SIDE OF THE PARKING AREA.
34. THE "LOADING AREAS" REQUIRED PER ZONING SECTIONS 115.D, 116.D AND 133.F FOR THIS SMALL SITE WILL BE PROVIDED BY MEANS OF EARLY MORNING HOUR DELIVERIES ONLY, THEREFORE, NO DESIGNATED LOADING ZONES ARE SHOWN ON THIS PLAN.
35. PLAN IS SUBJECT TO WAIVER PETITION WP-12-110. ON JANUARY 13, 2012, HOWARD COUNTY APPROVED A WAIVER FROM SECTION 16.156 (a)(2) TO REACTIVATE THIS PLAN, SECTION 16.156(a)(1)(i) AND SECTION 16.156 (a)(1)(ii) TO GRANT AN EXTENSION OF TIME TO APPLY FOR ALL BUILDING PERMITS.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE
⚠3	ADDED DISPLAY SIGN1, PARKING SPACES & DUMPSTER PAD REMOVED TREE FOR ZONING	9/30/14
⚠2	ADDED 2ND STORY MEZZANINE TO BUILDING NO.2	11/9/13
⚠1	Revised Bldg. No.1, Parking And Dumpster Location	3/15/12

ENGINEER'S CERTIFICATE
"I certify that the 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 Preparer — 4-18-08 Date

"Professional Certification. I hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 20748, Expiration Date 2-22-09."

DEVELOPER'S CERTIFICATE
"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 of the Environment 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 — 4-21-08 Date

Reviewed for HOWARD SCD and meets Technical Requirements
U.S.D.A.-Natural Resources Conservation Service — Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — 5/2/08 Date

OWNER/DEVELOPER
WAVERLY WOODS DEVELOPMENT CORPORATION
c/o LAND DESIGN AND DEVELOPMENT, INC.
5300 DORSEY HALL DRIVE, SUITE 102
ELLICOTT CITY, MARYLAND 21042
(443) 367-0422

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 4/24/08 Date
Chief, Division of Land Development — 5/2/08 Date
Chief, Development Engineering Division — 5/14/08 Date

SUBDIVISION NAME			SECTION/AREA		LOT/PARCEL Nos.
WAVERLY CORPORATE CENTER			---		'A'
PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
19761-19763	22+B	PEC	10 & 16	3rd	6030.00
WATER CODE			SEWER CODE		
K02			5992000		

TITLE SHEET

WAVERLY CORPORATE CENTER
PARCEL 'A', PLAT No. 17415
ZONED: PEC ⚠2
TAX MAP No. 10 GRID No. 22 PARCEL No. 324, 325 & 327
TAX MAP No. 16 GRID No. 4 PARCEL No. 249
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL, 2008

SHEET 1 OF 16

SDP 07-082

I:\2004\04017\dwg\CORPORATE CENTER SDP\04017-4001 SHEET 1 TITLE SHEET.dwg, 4/18/2008 11:39:43 AM

OUTDOOR LIGHTING FIXTURE SCHEDULE

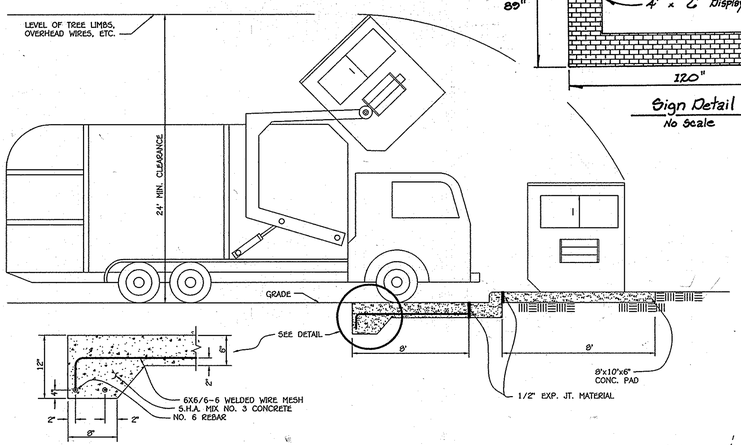
TYPE	DESCRIPTION	LAMPS VOLTS	LAMPS NO.	LAMPS TYPE	MAX. W	MOUNTING	MANU./MODEL NO. OR APPROVED EQUAL
B	NOMINAL 6" APERTURE RECESSED FLUORESCENT DOWNLIGHT WITH ACRYLIC DIFFUSING LENS, 50deg CUT-OFF, TWO-REFLECTOR OPTICS WITH MATTE FINISH, 18 GAUGE STEEL HOUSING, INTEGRAL ELECTRONIC BALLAST, AND U.L. LISTED FOR WET LOCATIONS.	120	1	32 WATT TRIPLE	40	CEILING RECESSED	PATHWAY 6HFL SERIES
BE	SAME AS TYPE 'B' ACCEPT WITH ADDITIONAL REMOTE EMERGENCY LIGHT BALLAST.	120	1	32 WATT TRIPLE	40	CEILING RECESSED	PATHWAY 6HFL SERIES
D	4' LONG FLUORESCENT WALL BRACKET WITH EXTRUDED ANODIZED ALUM. LENS HOUSING, HIGH IMPACT INJECTION MOLDED END PLATES, BRUSHED ALUM. FINISH, INTERNAL COLD ROLLED STEEL CHANNEL, INTERNAL LIGHT BAFFLE. 100% VIRGIN PRISMATIC ACRYLIC (#12) DOWNLIGHT DIFFUSER, SMOOTH MATTE OPAL ACRYLIC UPLIGHT DIFFUSER, ELECTRONIC BALLAST AND INTEGRAL EMERGENCY BALLAST.	120	2	F032T8	70	WALL SURFACE AT 7'-6" A.F.F.	METALUX BAU SERIES
ER	LOW VOLTAGE EMERGENCY REMOTE HEAD SEALED AND GASKETED, NEMA 3R LISTED	6	1	8W	8	WALL	LITHONIA 'NX' SERIES

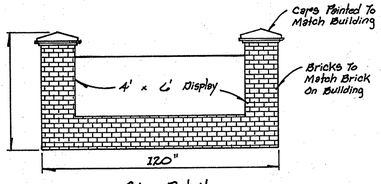
LEGEND

- WB — EXISTING 25' WETLAND BUFFER
- EXISTING TREELINE
- EXISTING FOREST CONSERVATION EASEMENT
- EXISTING STREET TREE PER F-07-032
- 465.56 — EXISTING FLOODPLAIN ELEVATION
- SB — EXISTING 75' STREAM BUFFER
- F.H. — FIRE HYDRANT
- STREET LIGHT

SOLID WASTE SERVICE PAD

NOT TO SCALE



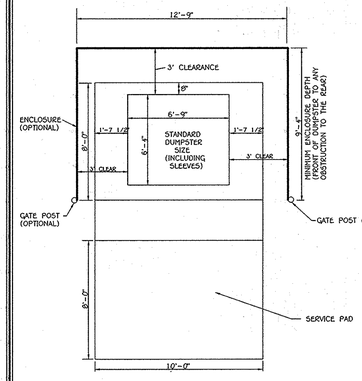


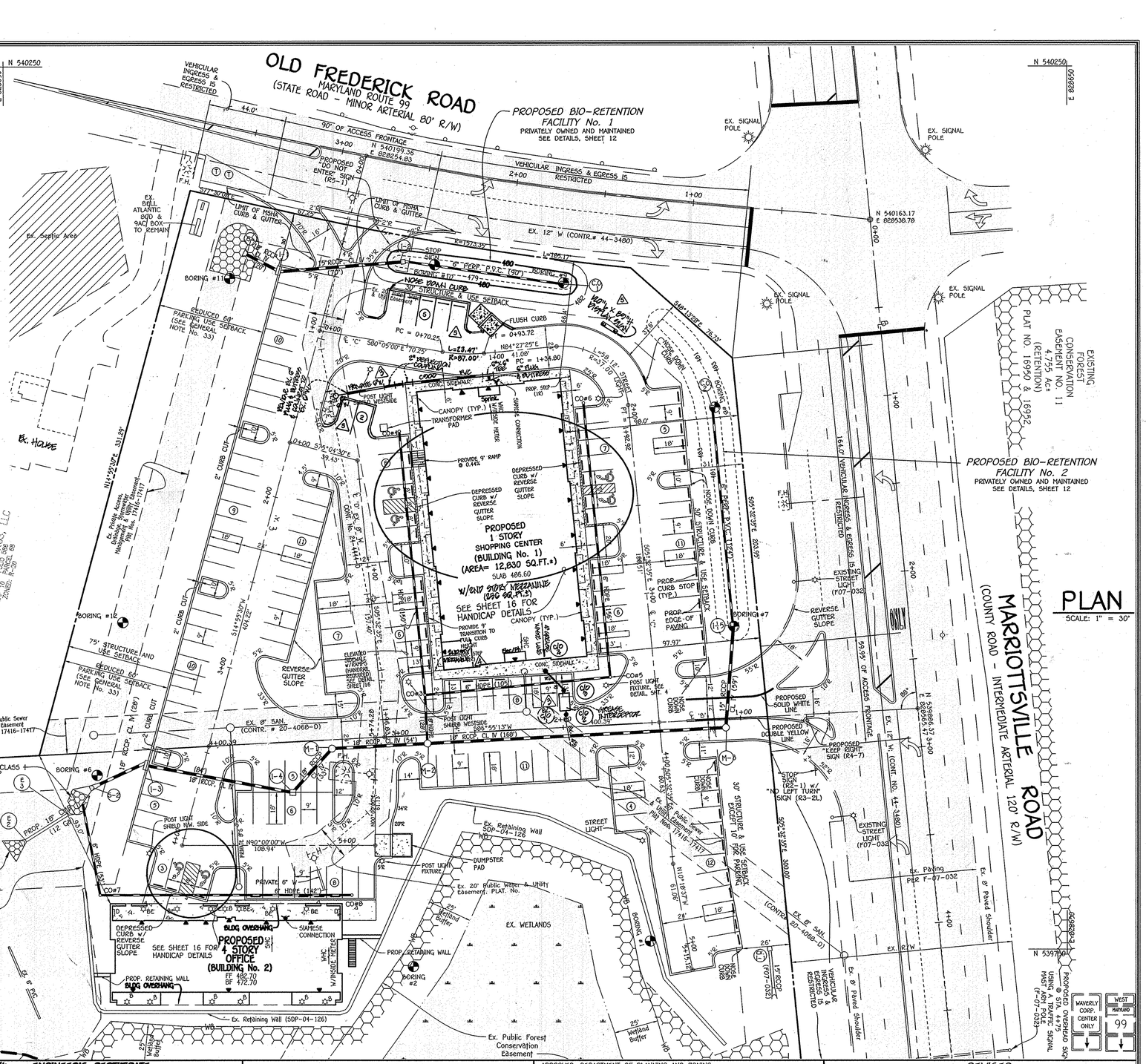
Sign Detail

No Scale

SOLID WASTE OPTIONAL CONTAINER ENCLOSURE

NOT TO SCALE





NO.	REVISION	DATE
6	Added Display Sign, Parking Spaces & Dumpster	2/8/14
5	ADDED 2ND STORY MEZZANINE TO BUILDING NO.1	11/07/13
4	BUILDING NO.2, REVISED 6"W ALIGNMENT & INSTALL GREASE TRAP	9/30/13
3	REVISED BLDG. No. 1, PARKING, AND DUMPSTER LOCATION	3/15/12
2	REVISED BLDG. No. 1 & 2	9/5/08
1	REVISED 8" W TO 6" W FOR BUILDINGS NO. 1 & 2	9/5/08

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

ENGINEER'S CERTIFICATE

"I certify that this sediment and erosion control represents a practical and workable plan based on my knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer — 4/18/12 Date

"Professional Certification. I hereby certify that these documents were prepared by me, and that I am a duly licensed professional Engineer under the laws of the State of Maryland, License No. 20748, Expiration Date: July 09, 2012."

DEVELOPER'S CERTIFICATE

"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 of the Environment 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 — 4/13/12 Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — 6/8/12 Date

OWNER/DEVELOPER

WAVERLY WOODS DEVELOPMENT CORPORATION
c/o LAND DESIGN AND DEVELOPMENT, INC.
5300 DORSEY HALL DRIVE, SUITE 102
ELLICOTT CITY, MARYLAND 21042
(443) 367-0422

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 7/23/12 Date

Chief, Division of Land Development — 7/20/12 Date

Chief, Development Engineering Division — 7/13/12 Date

SUBDIVISION NAME			SECTION/AREA	LOT/PARCEL Nos.
WAVERLY CORPORATE CENTER			---	'A'
PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
19761-19763	22+8	PEC	10 & 16	3rd	6030.00
WATER CODE			SEWER CODE	
K02			5992000	

REVISED
GEOMETRY PLAN & LIGHTING LOCATION PLAN

WAVERLY CORPORATE CENTER
PARCEL 'A', PLAT No. 17415

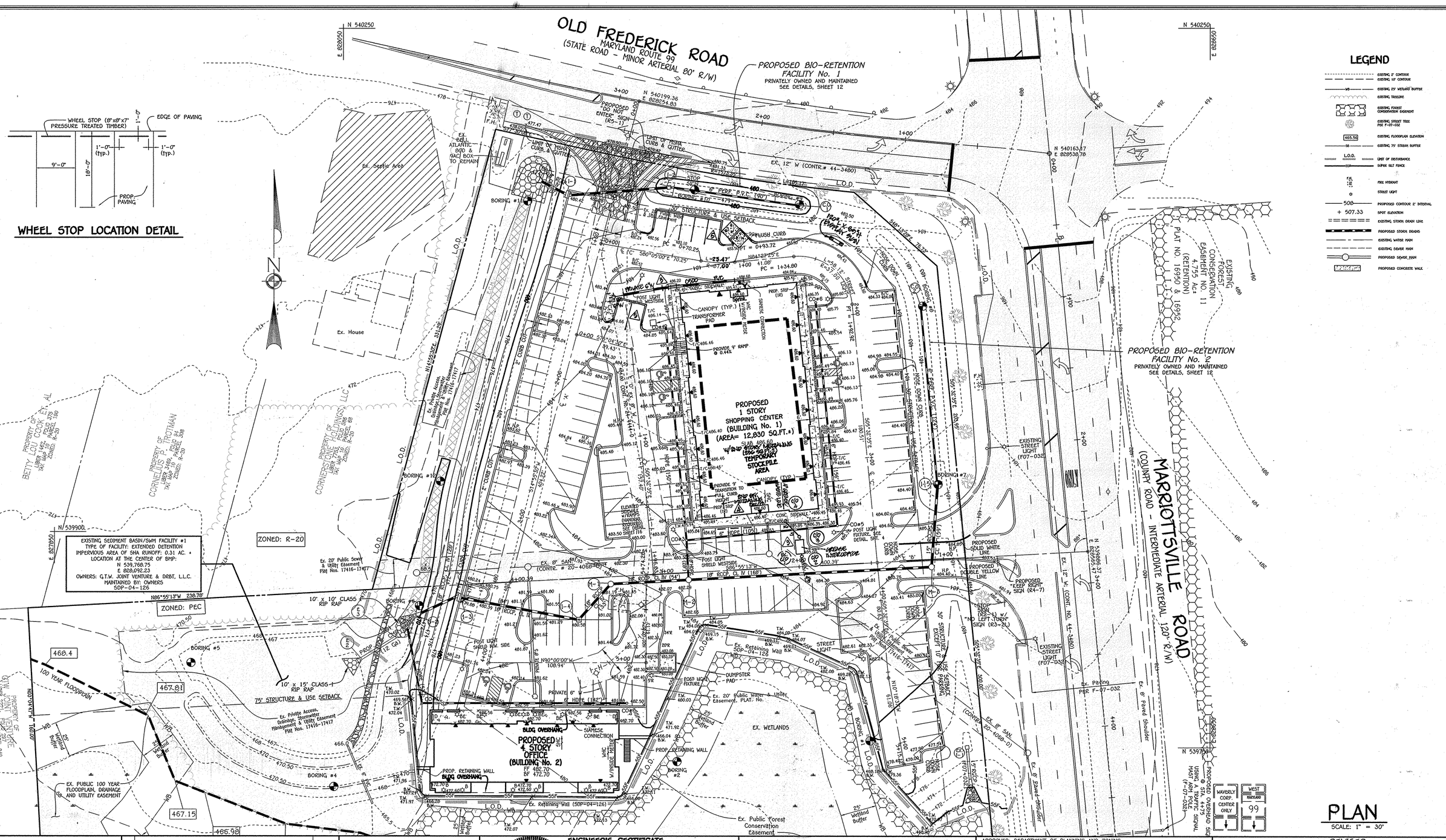
ZONED: PEC (2)

TAX MAP No. 10 GRID No. 22 PARCEL No. 324, 325 & 327
TAX MAP No. 16 GRID No. 4 PARCEL No. 249
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL, 2008
REVISED DATE: MARCH, 2012

SCALE: 1" = 30' SHEET 2 OF 16

SDP 07-082

I:\2004\04017\dwg\CORPORATE CENTER SDP REDLINE 2011\04017-4001 SHEET 2 GEOMETRY PLAN-1.dwg, SHT 2 NEW MYLAR, 3/2/2012 1:53:31 PM, jamesj, 111



LEGEND

- EXISTING 2' CONTOUR
- EXISTING 10' CONTOUR
- EXISTING 25' WETLAND BUFFER
- EXISTING TREELINE
- EXISTING FOREST CONSERVATION EASEMENT
- EXISTING STREET TREE PER F-07-032
- 465.36 EXISTING FLOODPLAIN ELEVATION
- EXISTING 75' STREAM BUFFER
- L.O.D. LIMIT OF DISTURBANCE
- SUPER SILT FENCE
- F.H. FIRE HYDRANT
- STREET LIGHT
- 508 PROPOSED CONTOUR 2' INTERVAL
- + 507.33 SPOT ELEVATION
- EXISTING STORM DRAIN LINE
- PROPOSED STORM DRAINS
- EXISTING WATER MAIN
- EXISTING SEWER MAIN
- PROPOSED SEWER MAIN
- PROPOSED CONCRETE WALK

NO.	REVISION	DATE
13	ADDED DISPLAY SIGN, PARKING SPACES & DUMPSTER PAD	9/20/14
12	ADDED END STORE MEZZANINE TO BUILDING NO.1	4/10/13
11	BUILDING NO.1, REVISE G.W ALIGNMENT & INSTALL ORIFICE TRAP	2/20/13
10	REVISED BLDG. No. 1, PARKING, AND DUMPSTER LOCATION	8/15/12
9	REVISED 8" W TO 6" W FOR BUILDINGS NO. 1 & 2	9/5/08

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

ENGINEER'S CERTIFICATE

"I certify that the sediment and erosion control represents a practical and workable plan based on my knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer — 4/18/12 Date

"Professional Engineer" I hereby certify that these documents were prepared by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. 20748, Expiration Date

DEVELOPER'S CERTIFICATE

"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 of the Environment 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 — 4-13-12 Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — 5/7/12 Date

OWNER/DEVELOPER

WAVERLY WOODS DEVELOPMENT CORPORATION
c/o LAND DESIGN AND DEVELOPMENT, INC.
5300 DORSEY HALL DRIVE, SUITE 102
ELLICOTT CITY, MARYLAND 21042
(443) 367-0422

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 7/20/12 Date

Chief, Division of Land Development — 7/20/12 Date

Chief, Development Engineering Division — 7/13/12 Dated

SUBDIVISION NAME			SECTION/AREA		LOT/PARCEL Nos.
WAVERLY CORPORATE CENTER			---		'A'
PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
19761-19763	22+8	PEC	10 & 16	3rd	6030.00
WATER CODE			SEWER CODE		
K02			5992000		

REVISED
SITE PLAN; GRADING & SEDIMENT CONTROL PLAN

WAVERLY CORPORATE CENTER
PARCEL 'A', PLAT No. 17415

ZONED: PEC

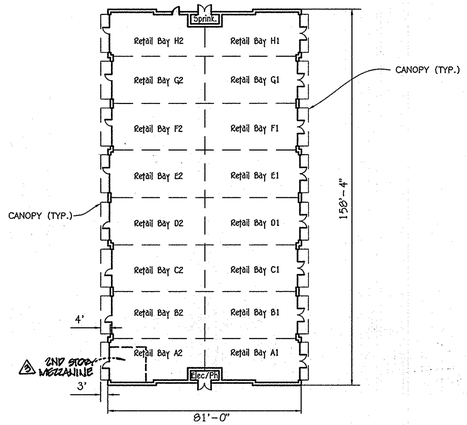
TAX MAP No. 10 GRID No. 22 PARCEL No. 324, 325 & 327
TAX MAP No. 16 GRID No. 4 PARCEL No. 249
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL, 2008
REVISED DATE: MARCH, 2012

SCALE: 1" = 30' SHEET 3 OF 16

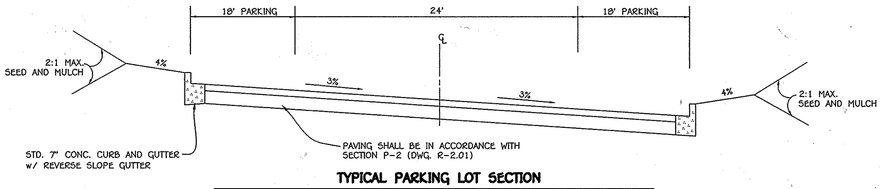
SDP 07-082

I:\2004\04017\dwg\CORPORATE CENTER SDP REDLINE 2011\04017-4001 SHEET 3 SEDIMENT CONTROL PLAN-1.dwg, SHT 3 NEW MYLAR, 4/2/2012 1:59:40 PM, jamesj, 1:1

BUILDING No. 1

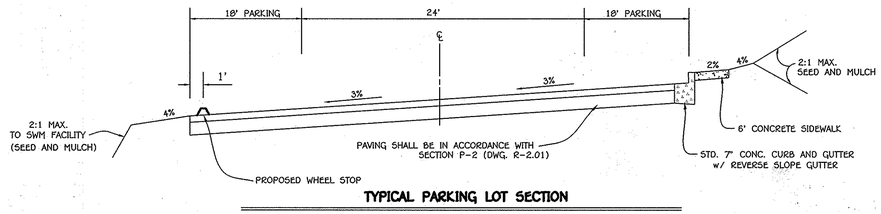


(NORTH BUILDING - PLAN)



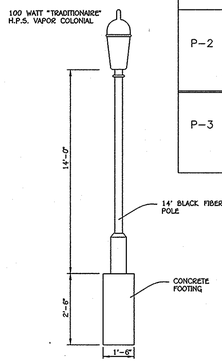
TYPICAL PARKING LOT SECTION

NO SCALE



TYPICAL PARKING LOT SECTION

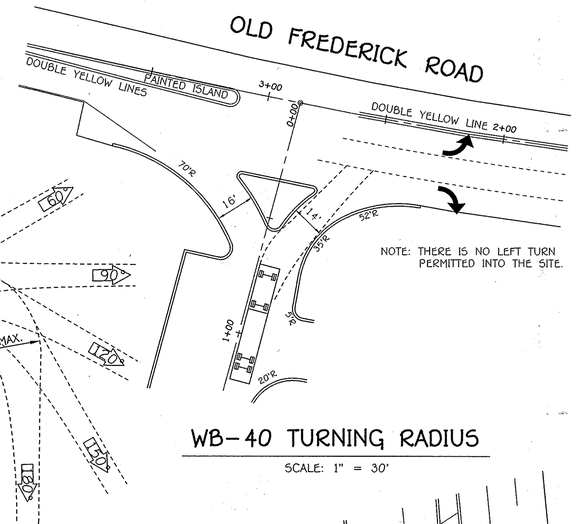
NO SCALE



TYPICAL 100-WATT POST LIGHTING FIXTURE

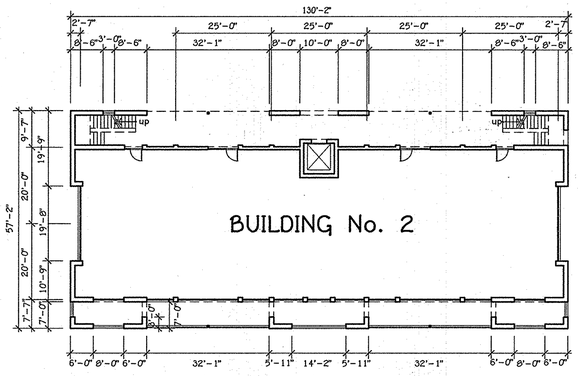
NO SCALE

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)	3 TO <5	5 TO <7	≥7	3 TO <5	5 TO <7	≥7
		PAVEMENT MATERIAL (INCHES)	MIN HMA WITH GAB			HMA WITH CONSTANT GAB		
P-2	PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY	HMA SUPERPAVE FINAL SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.5	1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.0	1.0	1.0	1.0	1.0	1.0
	LOCAL ROADS: ACCESS PLACE, ACCESS STREET	HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 1 (ESAL)	2.0	2.0	2.0	3.5	2.0	2.0
	CUL-DE-SACS: RESIDENTIAL	GRADED AGGREGATE BASE (GAB)	8.0	4.0	3.0	4.0	4.0	4.0
P-3	PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY	HMA SUPERPAVE FINAL SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.5	1.5	1.5	1.5	1.5	1.5
	LOCAL ROADS: ACCESS PLACE, ACCESS STREET	HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.0	1.0	1.0	1.0	1.0	1.0
	CUL-DE-SACS: RESIDENTIAL	HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 1 (ESAL)	3.0	3.0	3.0	4.5	3.0	2.0
	MINOR COLLECTORS: RESIDENTIAL	GRADED AGGREGATE BASE (GAB)	10.0	6.0	3.0	6.0	6.0	6.0



WB-40 TURNING RADIUS

SCALE: 1" = 30'

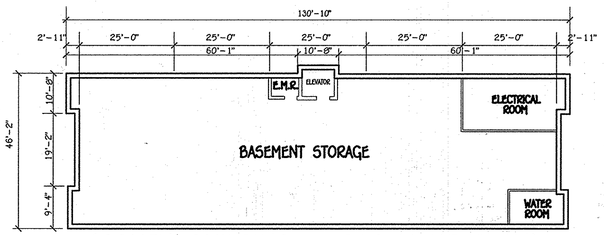


BUILDING No. 2

(SOUTH BUILDING - FIRST FLOOR PLAN)

BUILDING FOOTPRINTS

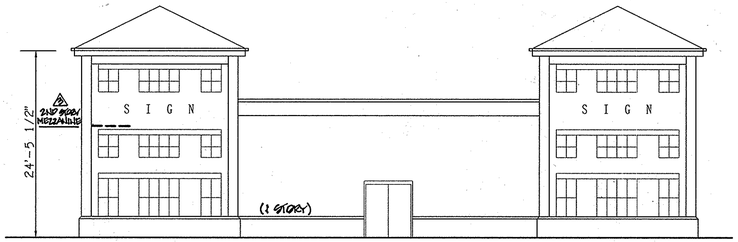
NO SCALE



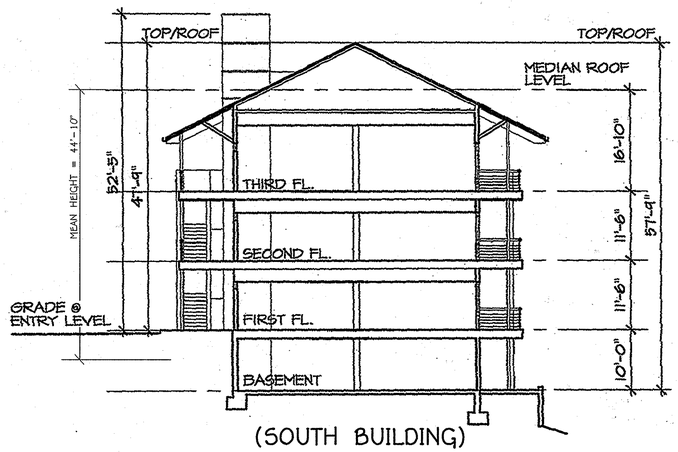
(SOUTH BUILDING - BASEMENT PLAN)

BUILDING FOOTPRINT

NO SCALE



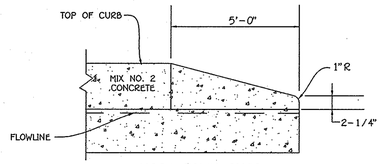
(NORTH BUILDING NO. 1 PROFILE)



(SOUTH BUILDING)

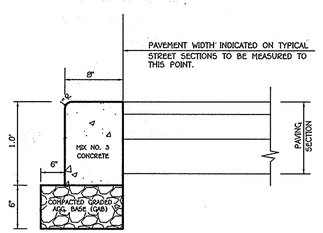
BUILDING PROFILES

NO SCALE



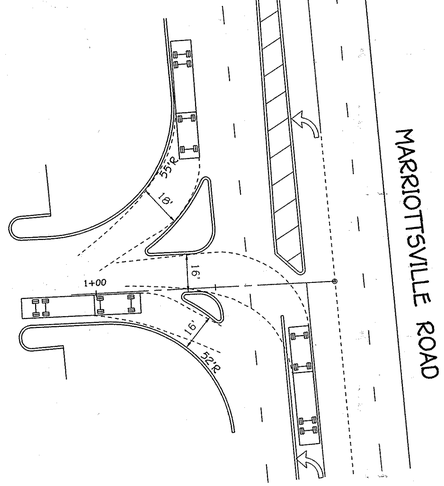
NOSE DOWN CURB

NO SCALE (R-3.02)



CURB FLUSH (R-3.07)

NO SCALE



WB-40 TURNING RADIUS

SCALE: 1" = 30'

NO.	REVISION	DATE
5	REMOVE FOR ZONING	9/30/14
4	ADDED 2ND STORY MEZZANINE TO BUILDING NO.1	11/19/13
3	REVISED BLDG. No. 1, PARKING, AND DUMPSTER LOCATION	3/15/12
2	REVISED 8" W TO 6" W FOR BUILDINGS NO. 1 & 2	9/5/08
1		

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ENGINEER'S CERTIFICATE

"I certify that all development and erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer — 4/13/12 Date

* Professional Engineer or Professional Engineer shall certify that these documents were prepared by me, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland, License No. 20748, Expiration Date 9/30/14

DEVELOPER'S CERTIFICATE

"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 of the Environment 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 — 4/13/12 Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — Date

OWNER/DEVELOPER

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c/o LAND DESIGN AND DEVELOPMENT, INC.
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ELLICOTT CITY, MARYLAND 21042
(443) 367-0422

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 7/20/12 Date

Chief, Division of Land Development — 7/20/12 Date

Chief, Development Engineering Division — 7/18/12 Date

SUBDIVISION NAME			SECTION/AREA		LOT/PARCEL Nos.
WAVERLY CORPORATE CENTER			---		'A'
PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
19761-19763	22+8	PBC	10 & 16	3rd	6030.00
WATER CODE			SEWER CODE		
K02			5992000		

REVISED

BUILDING FOOTPRINTS AND ROADWAY DETAILS

WAVERLY CORPORATE CENTER

PARCEL 'A', PLAT No. 17415

ZONED: PBC

TAX MAP No. 10 GRID No. 22 PARCEL No. 324, 325 & 327
TAX MAP No. 16 GRID No. 4 PARCEL No. 249
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL, 2008
REVISED DATE: MARCH, 2012
SHEET 4 OF 16

SDP 07-082

I:\2004\04017\dwg\CORPORATE CENTER SDP REDLINE 2011\04017-4001 SHEET 4 FOOTPRINTS AND DETAILS.dwg, SHT 4 NEW MYLAR, 4/3/2012 11:18:38 AM, jamesj, 1:1

SCHEDULE A – PERIMETER LANDSCAPING

PERIMETER	CATEGORY (PROPERTIES/ ROADWAYS)	LANDSCAPE TYPE	LINEAR FEET OF ROADWAY FRONTAGE PERIMETER	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	REMAINING AREA	NO. OF PLANTS REQUIRED			NO. OF PLANTS PROVIDED		
							SHADE TREES	EVERGREEN TREES	SHRUBS	SHADE TREES	EVERGREEN TREES	SHRUBS
P-1	PARKING TO ROAD	E	286'	YES (125') F.C.E.	NO	161'	4	--	40	4	--	40
P-2	NON-RES. TO RES.	C	869'	YES (221') F.C.E. YES (648') EX. FOREST	NO	0	0	0	--	0	0	--
P-3	NON-RES. TO RES.	C	239'	YES (239') EX. FOREST	NO	0	0	0	--	0	0	--
P-4	NON-RES. TO RES.	D	331'	NO	NO	331'	6	24	100	6	24	100
P-5	PARKING TO ROAD	E	38'	NO	NO	38'	2	--	10	2	--	10
P-6 P-8	DUMPSTER	D	27' 27'	NO	NO	27' 27'	1 1	3 3	--	1 1	3 3	--
P-7	PARKING TO ROAD	E	354'	NO	NO	354'	-	-	89	-	-	89
					TOTAL		14	30	239	14	30	239

NOTES: 1. THE D-1 PERIMETER OVERRIDES THE TREE REQUIREMENT FOR P-7. SEE SCHEDULE 'D', THIS SHEET
2. 100 SHRUBS ARE SUBSTITUTED FOR 10 EVERGREEN TREES ALONG P-4.

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING

NUMBER OF PARKING SPACES	178
NUMBER OF TREES REQUIRED (1:20 SPACES)	9
NUMBER OF ISLANDS REQUIRED (1:20 SPACES)	9
NUMBER OF TREES PROVIDED	
SHADE TREES OTHER TREES (2:1 SUBSTITUTION)	9 --
NUMBER OF LANDSCAPED ISLANDS PROVIDED	9

LANDSCAPING PLANT LIST

QTY.	KEY	NAME	SIZE
18		ACER SACCHARUM 'GREEN MOUNTAIN' (SUGAR MAPLE)	2 - 2 1/2" CALIPER FULL CROWN, B&B
22		ACER RUBRUM 'OCTOBER GLORY' RED MAPLE	2 - 2 1/2" CALIPER FULL CROWN, B&B
51		PINUS STROBUS EASTERN WHITE PINE	6' - 8' HT.
119		CORNUS STOLONIFERA RED-OSIER DOGWOOD	24" - 30" HT.
120		TAXUS MEDIA 'HICKSII' HICKS YEW	24" - 30" HT.

"THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL" FINANCIAL SURETY FOR THE 17 REQUIRED LANDSCAPE TREES & 239 SHRUBS HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF $ 22,820.00.

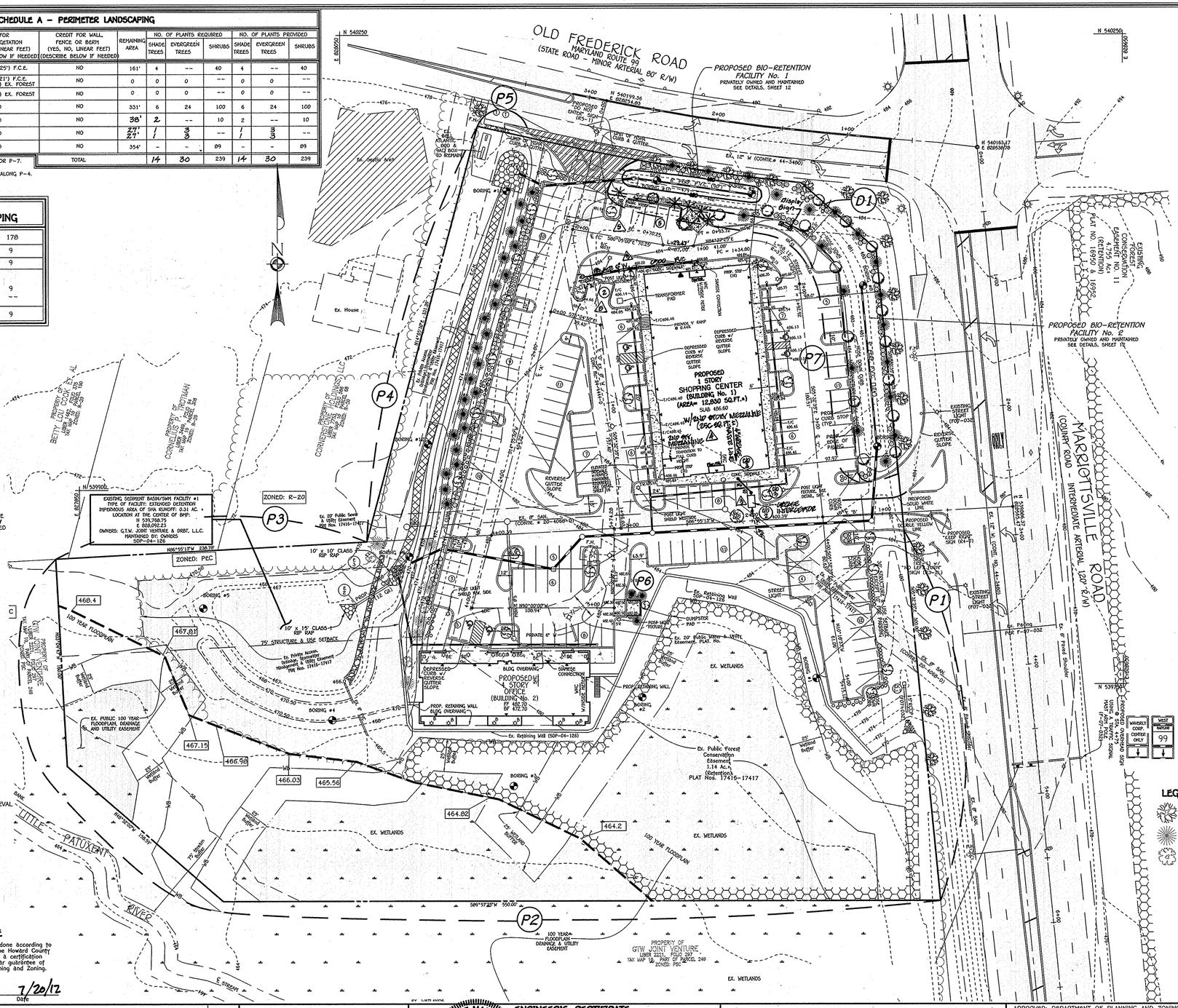
LEGEND

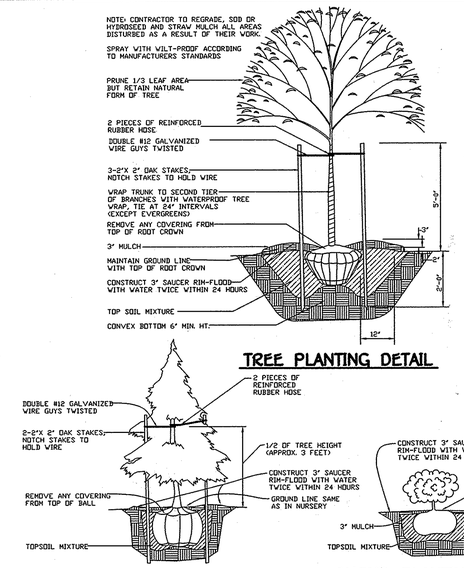
- EXISTING 2' CONTOUR
- EXISTING 10' CONTOUR
- WB — EXISTING 25' WETLAND BUFFER
- EXISTING TREELINE
- EXISTING FOREST CONSERVATION EASEMENT
- EXISTING STREET TREE PER F-07-032
- 465.56 — EXISTING FLOODPLAIN ELEVATION
- SB — EXISTING 75' STREAM BUFFER
- STREET LIGHT
- 508 — PROPOSED CONTOUR 2' INTERVAL
- + 507.33 — SPOT ELEVATION
- EXISTING STORM DRAIN LINE
- PROPOSED STORM DRAINS
- EXISTING WATER MAIN
- EXISTING SEWER MAIN
- PROPOSED SEWER MAIN

LANDSCAPE DEVELOPER'S CERTIFICATE

I/We certify that the landscaping shown on this plan will be done according to the plan, Section 16.124 of the Howard County Code and the Howard County Landscape Manual. I/We further certify that upon completion a certification of landscape installation accompanied by an executed one year guarantee of plant materials will be submitted to the Department of Planning and Zoning.

Name — Date 7/20/12





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 (AAN) Standards. Plant material shall be healthy, vigorous, 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 be rejected. Trees with forked leaders will not be accepted. All plants shall be freshly dug; no heeled-in plants from cold storage will be accepted.

Unless otherwise specified, all general conditions, planting operations, details and planting specification 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 Architect, latest edition, including all agenda.

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 accomplished by the temporary installation of 4 foot high snow fence or blaze orange safety fence at the drip line.

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 base 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 seeded.

This plan is intended for landscape use only. see other plan sheets for more information on grading, sediment control, layout, etc.

LEGEND

DENOTES STREET TREES UNDER F-07-032

DENOTES EVERGREEN TREES UNDER SDP-04-126

DENOTES SHADE TREES UNDER SDP-04-126

	WEST NURSERY	EAST NURSERY
WAVERLY CORP. CENTER ONLY	99	
		1

NOTE:
SEE SHEET 15 FOR BIO-RETENTION INTERNAL LANDSCAPING.

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING

LINEAR FEET OF PERIMETER	D-1 : 834'
NUMBER OF TREES REQUIRED & PROVIDED: SHADE TREES EVERGREEN TREES	 17 21
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	NO
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO

NOTE:
LANDSCAPING FOR THE EXISTING SEDIMENT BASIN/ SWM POND No. 1 WAS PROVIDED UNDER THE MASS GRADING PLAN FOR THIS SITE (SDP-04-126).

NO.	REVISION	DATE
6	Added Display Sign, Parking & Dumpster Pad	9/8/14
5	ADDED END STORY MEZZANINE TO BUILDING NO.2	11/19/13
4	BUILDING NO.1, RELOCATE G"W ALIGNMENT & INSTALL GREASE TRAP	5/30/13
3	REVISED BLDG. No. 1, PARKING, AND DUMPSTER LOCATION	3/15/12
2	REVISED 8" W TO 6" W FOR BUILDINGS NO. 1 & 2	9/5/08
1		

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Signature of Engineer — Date 4/18/12

"Professional Certification. I hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 20748, Expiration Date 2/1/2013."

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Signature of Developer — Date 4/13/12

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Howard SCD — Date

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c/o LAND DESIGN AND DEVELOPMENT, INC.
5300 DORSEY HALL DRIVE, SUITE 102
ELLICOTT CITY, MARYLAND 21042
(443) 367-0422

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 7/23/12

Chief, Division of Land Development — Date 7/24/12

Chief, Development Engineering Division — Date 7/18/12

SUBDIVISION NAME			SECTION/AREA	LOT/PARCEL Nos.
WAVERLY CORPORATE CENTER			---	'A'
PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
19761-19763	22+8	PEC	10 & 16	3rd	6030.00
WATER CODE	K02	SEWER CODE	5992000		

REVISED
LANDSCAPE PLAN

WAVERLY CORPORATE CENTER
PARCEL 'A', PLAT No. 17415

ZONED PEC

TAX MAP No. 10 GRID No. 22 PARCEL No. 324, 325 & 327
TAX MAP No. 16 GRID No. 4 PARCEL No. 249
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL, 2008
REVISED DATE: MARCH, 2012

SCALE: 1" = 40' SHEET 5 OF 16

SDP 07-082

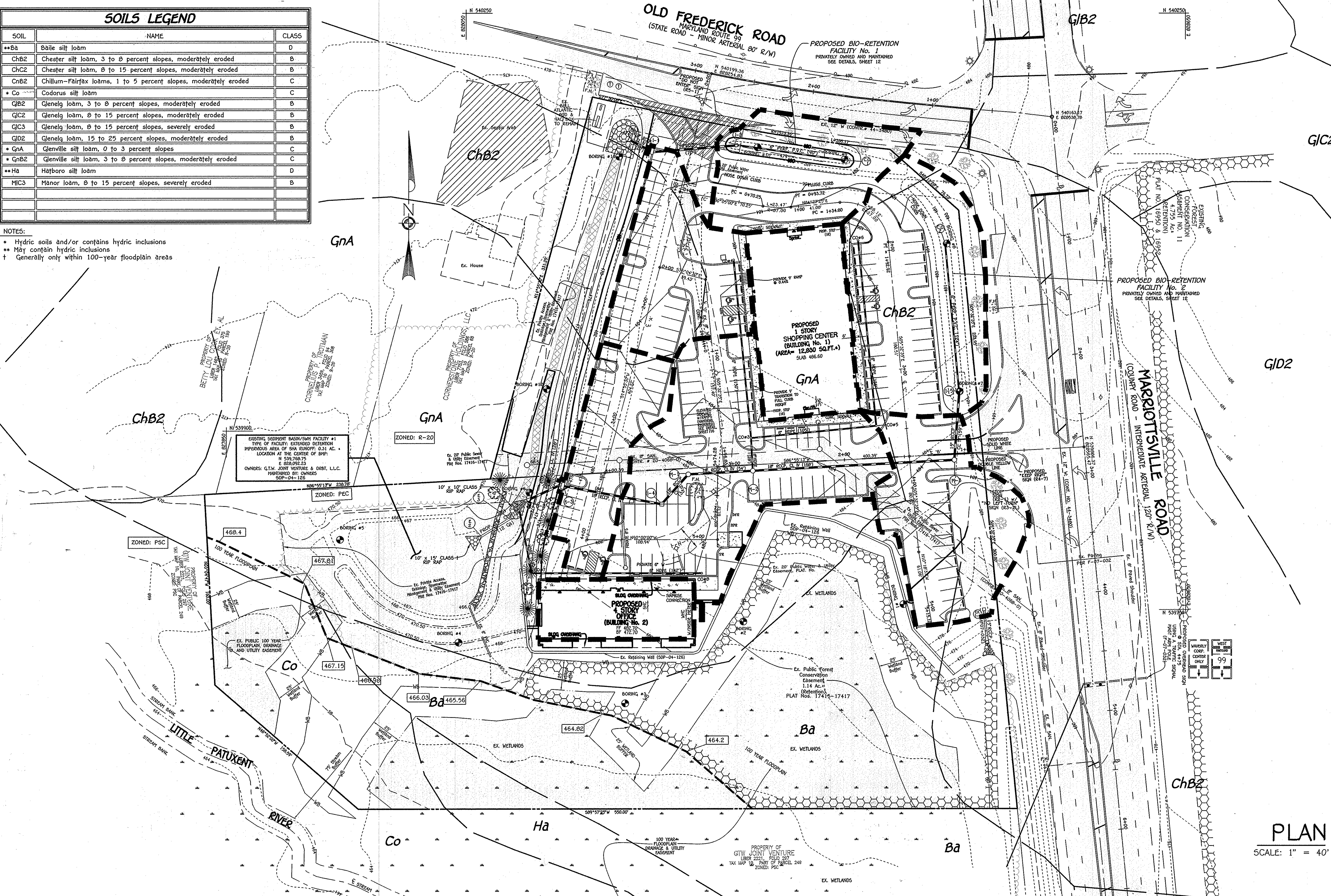
I:\2004\04017\dwg\CORPORATE CENTER SDP REDLINE 2011\04017-4001 SHEET 5 LANDSCAPE PLAN-1.dwg, sht 5 NEW MYLAR, 4/3/2012 11:21:33 AM, jamesj, 1:1

SOILS LEGEND

SOIL	NAME	CLASS
**Ba	Baile silt loam	D
ChB2	Chester silt loam, 3 to 8 percent slopes, moderately eroded	B
ChC2	Chester silt loam, 8 to 15 percent slopes, moderately eroded	B
CnB2	Chillum-Fairfax loams, 1 to 5 percent slopes, moderately eroded	C
* Co	Codorus silt loam	C
GlB2	Glenelg loam, 3 to 8 percent slopes, moderately eroded	B
GlC2	Glenelg loam, 8 to 15 percent slopes, moderately eroded	B
GlC3	Glenelg loam, 8 to 15 percent slopes, severely eroded	B
GlD2	Glenelg loam, 15 to 25 percent slopes, moderately eroded	B
* GnA	Glenville silt loam, 0 to 3 percent slopes	C
* GnB2	Glenville silt loam, 3 to 8 percent slopes, moderately eroded	C
**Ha	Hatboro silt loam	D
MlC3	Manor loam, 8 to 15 percent slopes, severely eroded	B

NOTES:

* Hydric soils and/or contains hydric inclusions
** May contain hydric inclusions
† Generally only within 100-year floodplain areas



PLAN

SCALE: 1" = 40'

LEGEND

- - - - -	EXISTING 2' CONTOUR
— — — —	EXISTING 10' CONTOUR
——WB——	EXISTING 25' WETLAND BUFFER
	EXISTING TREELINE
	EXISTING FOREST CONSERVATION EASEMENT
	EXISTING STREET TREE PER F-07-032
465.56	EXISTING FLOODPLAIN ELEVATION
——SB——	EXISTING 75' STREAM BUFFER

DRAINAGE AREA DATA

STRUCTURE NO.	AREA (AC.)	'C'	% IMP.
I-1	0.30	0.79	87
I-2	0.37	0.55	49
I-3	0.24	0.79	88
I-4	0.63	0.74	79
I-5	0.48	0.54	50
I-6	0.36	0.56	53

Note: *This Sheet Is For Drainage Areas & Soils Only.*

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK ~ 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE
3	Removed FOR Zoning	9/8/14
2	REVISED BLDG. No. 1, PARKING, AND DUMPSTER LOCATION	3/15/12
1	REVISED 8" W TO 6" W FOR BUILDINGS NO. 1 & 2	9/5/08

ENGINEER'S CERTIFICATE

"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 — 4/13/12 Date

"Professional Certification. I hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 20748, Expiration Date 2-22-09."

DEVELOPER'S CERTIFICATE

"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 of the Environment 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 — 4/13/12 Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — 6/9/12 Date

OWNER/DEVELOPER
WAVERLY WOODS DEVELOPMENT CORPORATION
c/o LAND DESIGN AND DEVELOPMENT, INC.
5300 DORSEY HALL DRIVE, SUITE 102
ELLICOTT CITY, MARYLAND 21042
(443) 367-0422

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 7/22/12 Date
Chief, Division of Land Development — 7/20/12 Date
Chief, Development Engineering Division — 7/13/12 Date

SUBDIVISION NAME			SECTION/AREA		LOT/PARCEL Nos.
WAVERLY CORPORATE CENTER			---		'A'
PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
19761-19763	22+8	PEC	10 & 16	3rd	6030.00
WATER CODE	K02		SEWER CODE	5992000	

REVISED
STORM DRAIN DRAINAGE AREA MAP
& SOILS MAP

WAVERLY CORPORATE CENTER
PARCEL 'A', PLAT No. 17415

ZONED PEC
TAX MAP No. 10 GRID No. 22 PARCEL No. 324, 325 & 327
TAX MAP No. 16 GRID No. 4 PARCEL No. 249
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL, 2008
REVISED DATE: MARCH, 2012
SCALE: 1" = 40' SHEET 6 OF 16

SDP 07-082

I:\2004\04017\dwg\CORPORATE CENTER SDP REDLINE 2011\04017-4001 SHEET 6 SD DRAINAGE AREA MAP.dwg, SHT 6 NEW MYLAR, 4/2/2012 2:47:50 PM, jamesl, 1:1

STRUCTURE SCHEDULE

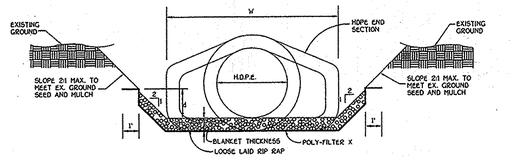
STRUCTURE NO.	TOP ELEVATION	INV.IN	INV.OUT	COORDINATES	WIDTH	TYPE	REMARKS
I-1	481.00	474.63 (15")	474.38 (18")	540134.22	828206.41	2.5'	A-5	S.D. - 4.40
I-2	480.00 *	475.01 (15")	475.01 (15")	540139.48	828275.51	-	D INLET	S.D. - 4.11
I-3	480.48	474.46 (18")	469.00 (18")	539953.78	828131.66	2.5'	A-5	S.D. - 4.40
I-4	480.58	474.98 (18")	474.88 (18")	539830.79	828213.21	-	S INLET	S.D. - 4.22
I-5	482.00 *	477.01 (15")	477.01 (15")	539933.79	828461.32	-	D INLET	S.D. - 4.11
M-1	481.59	475.25 (18")	475.15 (18")	539863.59	828235.24	-	4' STD. MANHOLE	G - 5.12
M-2	482.71	480.00 (8") 475.62 (18")	475.52 (18")	539866.49	828289.13	-	4' STD. MANHOLE	G - 5.12
M-3	484.24	476.71 (15")	476.46 (18")	539875.54	828457.30	-	4' STD. MANHOLE	G - 5.12
S-1	-	-	474.05 (18")	540163.60	828187.36	-	18" CONC. END SECT	S.D. 5.51
S-2	-	-	468.07 (18")	539843.57	828104.38	-	18" CONC. END SECT	S.D. 5.51
CO-1	SEE SHEET 15 FOR SCHEDULE AND DETAIL							
CO-2								
CO-3	484.61	481.11 (6") 481.60 (6")	480.94 (6")	539893.99	828287.65	-	CLEANOUT	-
CO-4	485.80	-	483.10 (6")	540043.33	828273.16	-	CLEANOUT	-
CO-5	486.40	482.16 (6")	482.16 (6")	539904.13	828392.17	-	CLEANOUT	-
CO-6	486.30	-	483.60 (6")	540047.11	828378.26	-	CLEANOUT	-
CO-7	476.00	473.50 (6")	471.14 (6")	539780.62	828104.43	-	CLEANOUT	-
CO-8	482.20	-	477.45 (6")	539780.62	828246.40	-	CLEANOUT	-

* - DENOTES THROAT OPENING ELEVATION
(2) - DENOTES NUMBER OF PIPES WITH THAT ELEVATION

SEE SHEET 15 FOR TYPICAL CLEAN-OUT DETAIL

PIPE SCHEDULE

SIZE	CLASS	LENGTH
6"	PVC, SCH. 40	594 L.F.
6"	PERF. PVC	214 L.F.
8"	PVC, SCH. 40	28 L.F.
15"	RCCP, CLASS IV	129 L.F.
18"	RCCP, CLASS IV	387 L.F.



RIP RAP CHANNEL DETAIL

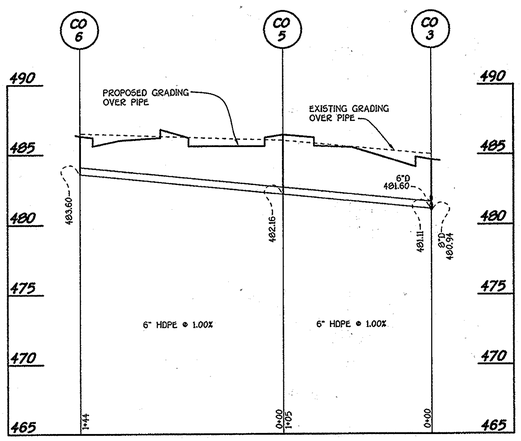
NO SCALE

RIP-RAP CHANNEL DESIGN DATA

STRUCTURE	AREA	WETTED PERIMETER	R	$R^{2/3}$	S	$S^{1/2}$	W	d	N	V ($f_{p.s.}$)	Q ($c.f.s.$)	RIP-RAP SIZE D_{50}	D_{MAX}	BLANKET THICKNESS
S-1	70	38	0.5428	0.6640	0.005	0.0707	12'	3.25	0.04	1.05	3.61	9.5"	15"	19"
S-2	70	38	0.5428	0.6640	0.005	0.0707	12'	5.11	0.04	1.41	7.73	9.5"	15"	19"
S-3	70	38	0.5428	0.6640	0.005	0.0707	12'	2.08	0.04	0.80	1.71	9.5"	15"	19"

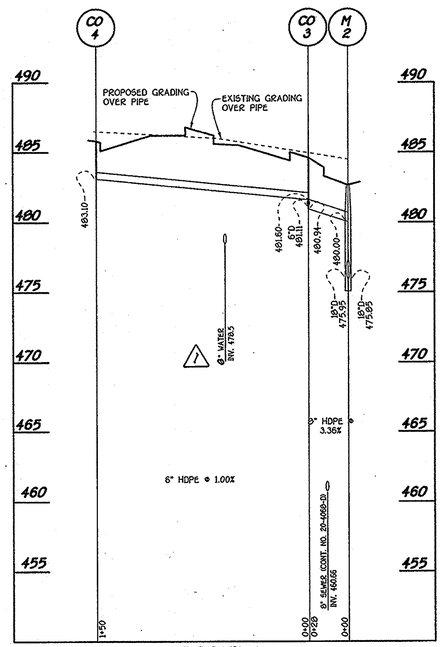
CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTFALLS

1. The subgrade for the filter, riprap or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
2. The rock or gravel shall conform to the specified grading limits when installed respectively in the riprap or filter.
3. Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional shall hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.
4. Stone for the riprap or gabion outlets may be placed by equipment. Both shall each be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for riprap or gabion outlets shall be delivered and placed in a manner that will insure that it is reasonably homogenous with the smaller stones and spalls filling the voids between the larger stones. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.



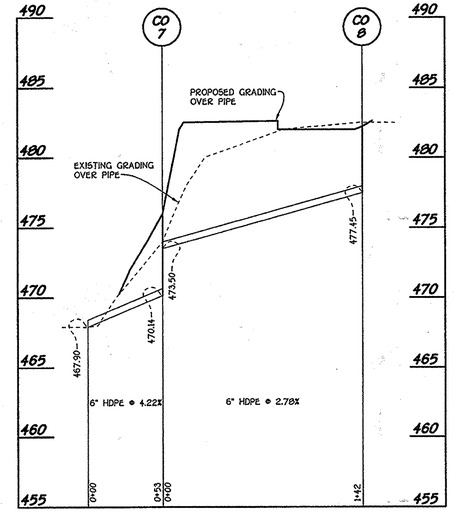
PROFILE

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



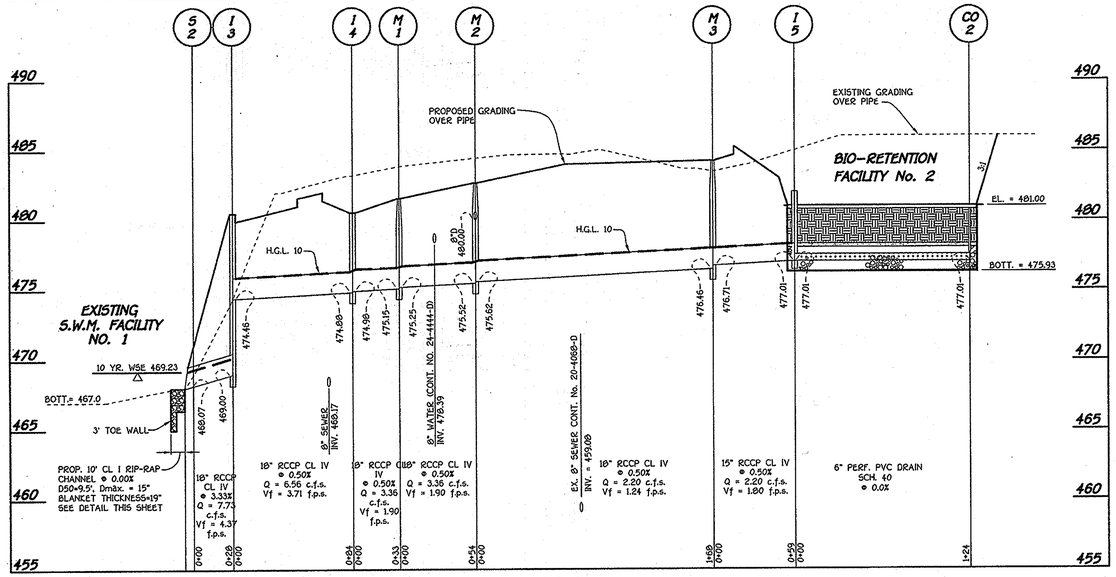
PROFILE

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



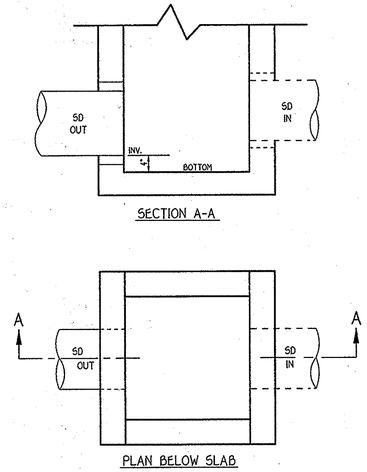
PROFILE

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



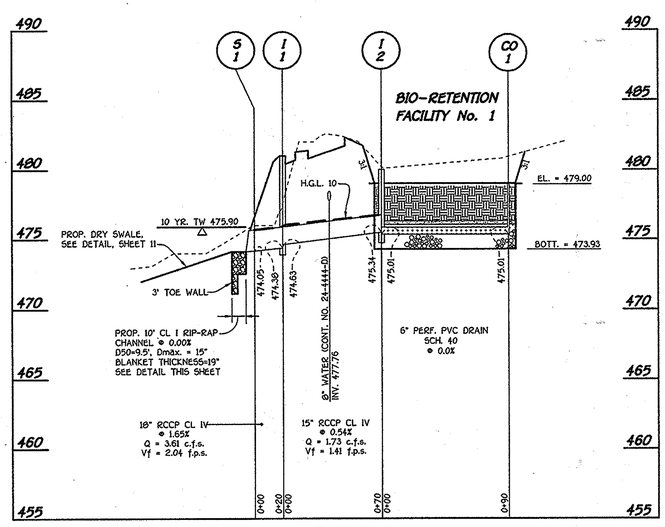
PROFILE

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



TYPICAL PASS THRU INLET FOR ALL NON-TERMINAL INLETS

NOT TO SCALE



PROFILE

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

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE
2	Removed FOR Zoning	9/8/14
1	Revised 8"W to 6"W within Storm Drain Profile	9.5.08

10/2/14

ENGINEER'S CERTIFICATE

"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 — 4.10.08 Date

"Professional Engineer" I hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 20748, Expiration Date 9-22-09."

DEVELOPER'S CERTIFICATE

"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 of the Environment 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 — 4.21.08 Date

Reviewed for HOWARD SCD and meets Technical Requirements.

U.S.D.A.-Natural Resources Conservation Service — Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — 5/12/08 Date

OWNER/DEVELOPER

WAVERLY WOODS DEVELOPMENT CORPORATION
c/o LAND DESIGN AND DEVELOPMENT, INC.
5300 DORSEY HALL DRIVE, SUITE 102
ELLICOTT CITY, MARYLAND 21042
(443) 367-0422

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 6/22/08 Date

Chief, Division of Land Development — 5/21/08 Date

Chief, Development Engineering Division — 5/14/08 Date

SUBDIVISION NAME		SECTION/AREA	LOT/PARCEL Nos.
WAVERLY CORPORATE CENTER		---	'A'
PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
19761-19763	22-8	PEC	10 & 16	3rd	6030.00
WATER CODE		SEWER CODE	
K02		5992000	

STORM DRAIN PROFILES, SCHEDULES & DETAILS

WAVERLY CORPORATE CENTER
PARCEL 'A', PLAT No. 17415

ZONED PEC

TAX MAP No. 10 GRID No. 22 PARCEL No. 324, 325 & 327
TAX MAP No. 16 GRID No. 4 PARCEL No. 249
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL, 2008
SCALE: AS SHOWN
SHEET 7 OF 16

SDP 07-082

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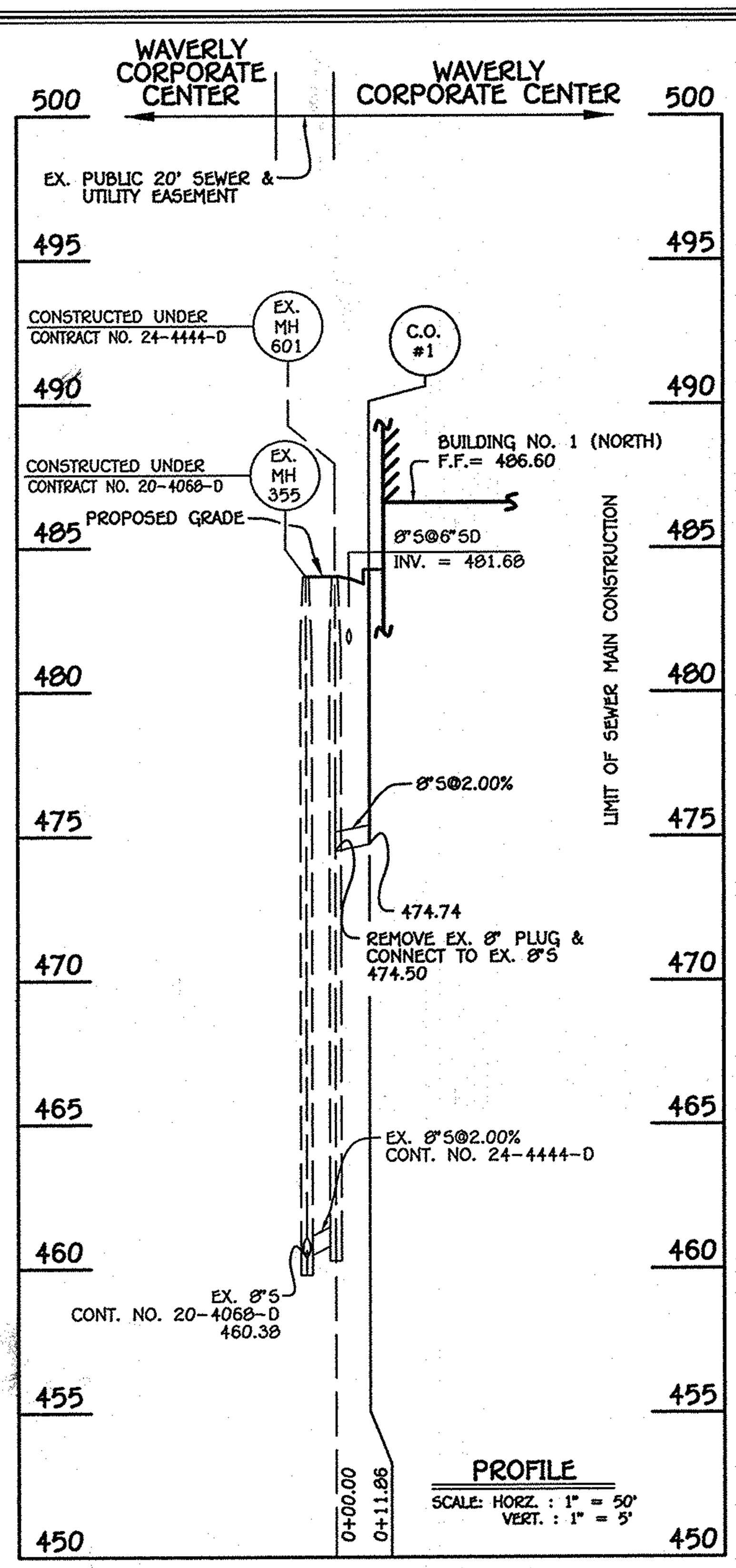
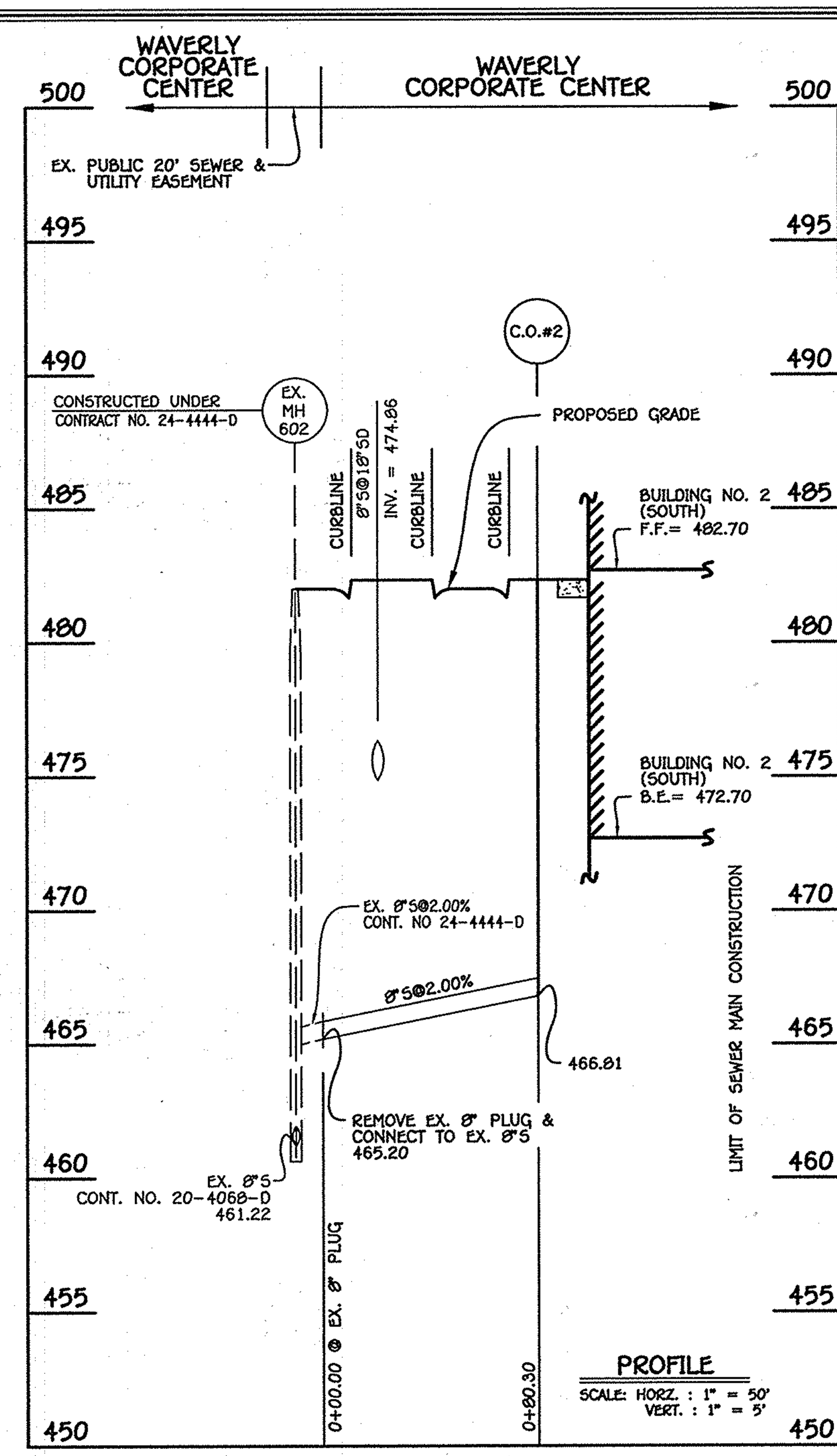


8" SEWER MAIN; BUILDING NO. 1 (NORTH)



8" SEWER MAIN; BUILDING NO. 2 (SOUTH)

MANHOLE TABULATION CHART

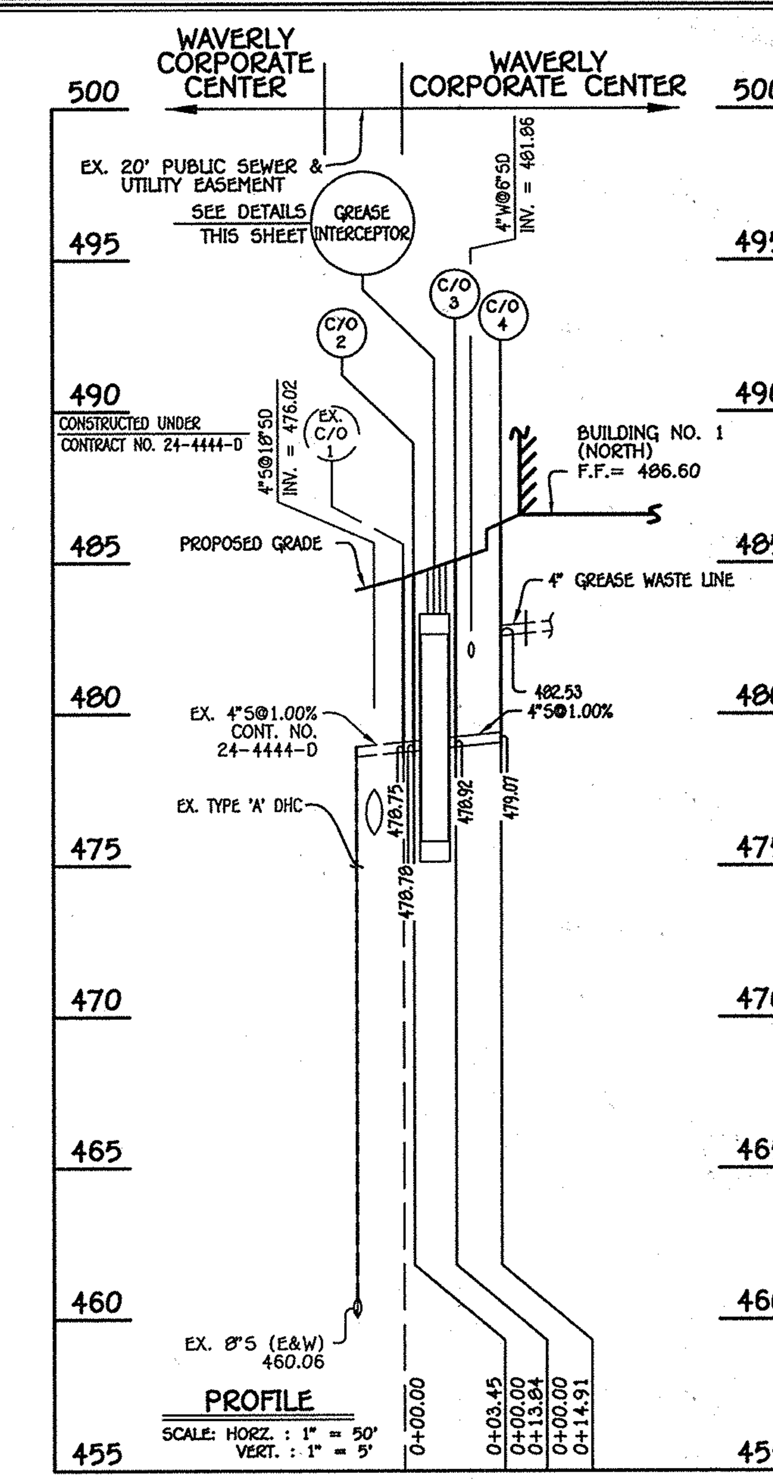
NO.	NORTHING	EASTING	RIM ELEVATION
C.O. #1	600626.72	1340769.78	484.25

MANHOLE TABULATION CHART

NO.	NORTHING	EASTING	RIM ELEVATION
C.O. #2	600505.62	1340608.69	482.67

M.C.E. CHART

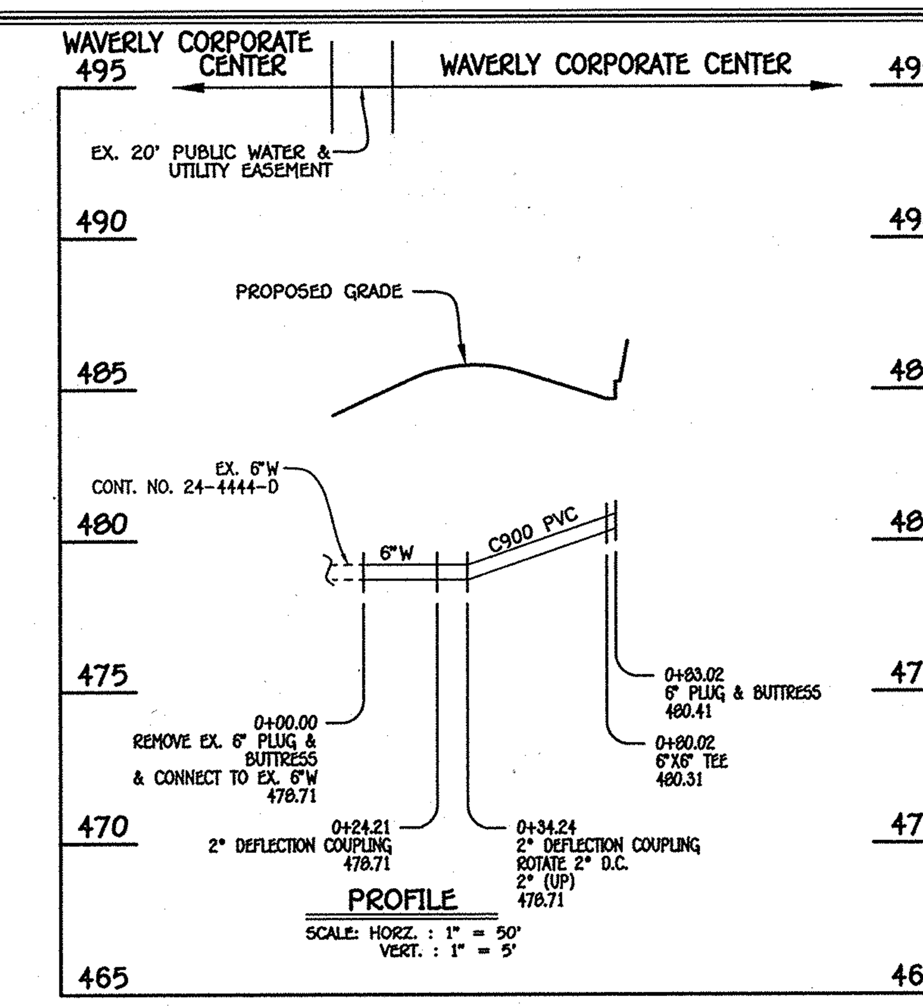
BUILDING	M.C.E.
BUILDING NO. 1; NORTH	480.84
BUILDING NO. 2; SOUTH	472.31



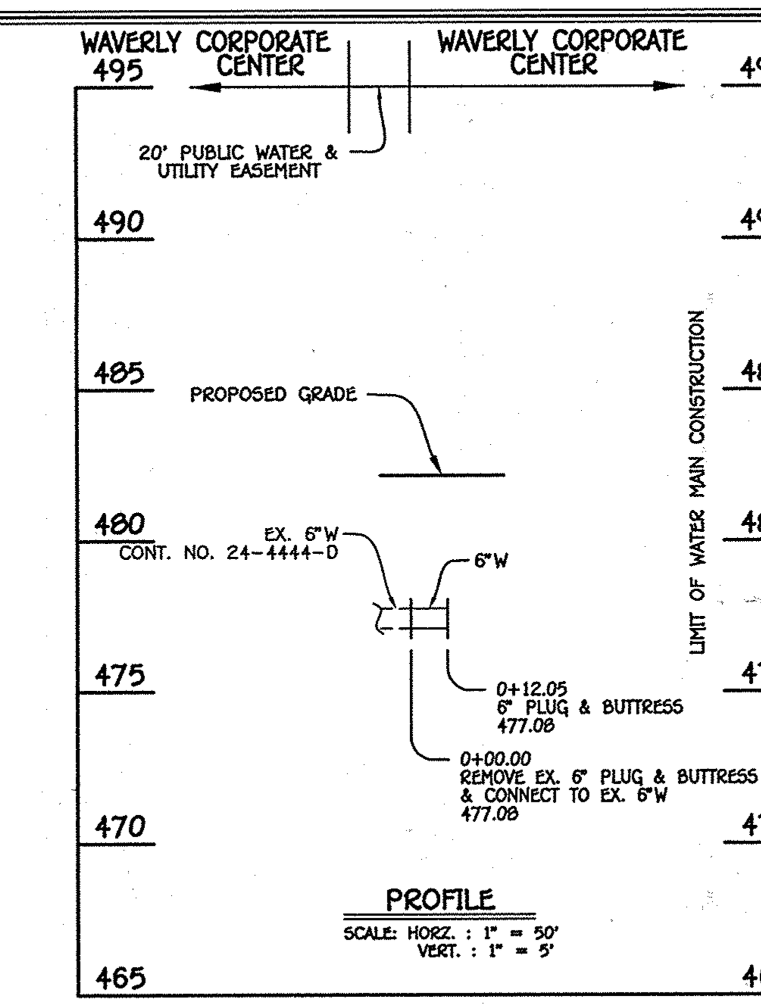
3 4" SEWER MAIN & GREASE INTERCEPTOR; BUILDING NO. 1 (NORTH)

MANHOLE TABULATION CHART

NO.	NORTHING	EASTING	RIM ELEVATION
C.O. #1	600600.51	1340792.95	484.50
C.O. #2	600603.95	1340792.77	484.62
C.O. #3	600617.77	1340792.02	485.07
C.O. #4	600628.67	1340781.84	486.30



3 6" WATER MAIN; BUILDING NO. 1 (NORTH)



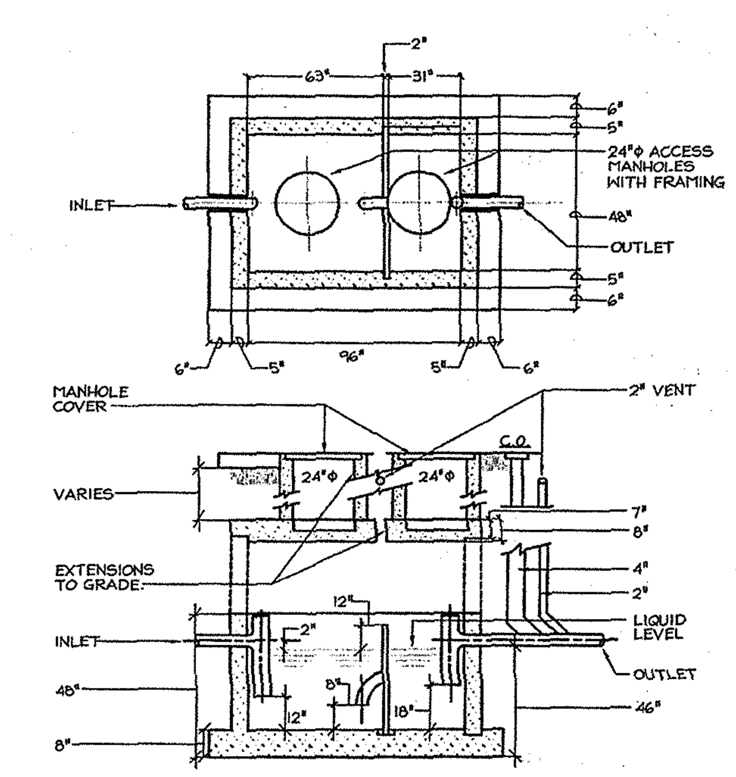
6" WATER MAIN; BUILDING NO. 2 (SOUTH)

WATER MAIN TABULATION CHART

W.M. STA.	APPURTENANCE	NORTHING	EASTING
6" WATER MAIN; WAVERLY CORPORATE CENTER; BUILDING NO. 1 (NORTH)			
0+00.00	EX. 6" PLUG & BUTTRESS	600785.69	1340670.01
0+24.21	2° DEFLECTION COUPLING	600790.10	1340693.81
0+34.24	2° DEFLECTION COUPLING	600791.50	1340703.74
0+80.02	6"X6" TEE	600795.93	1340749.30
0+83.02	6" PLUG & BUTTRESS	600792.95	1340749.59

WATER MAIN TABULATION CHART

W.M. STA.	APPURTENANCE	NORTHING	EASTING
6" WATER MAIN; WAVERLY CORPORATE CENTER; BUILDING NO. 2 (SOUTH)			
0+00.00	EX. 6" PLUG & BUTTRESS	600515.18	1340653.24
0+12.05	6" PLUG & BUTTRESS	600503.70	1340656.90



3 1500 GALLON GREASE INTERCEPTOR DETAIL

NO SCALE

NOTE:
1) GREASE TRAP TO BE IN ACCORDANCE WITH ALL LOCAL CODE REQUIREMENTS.

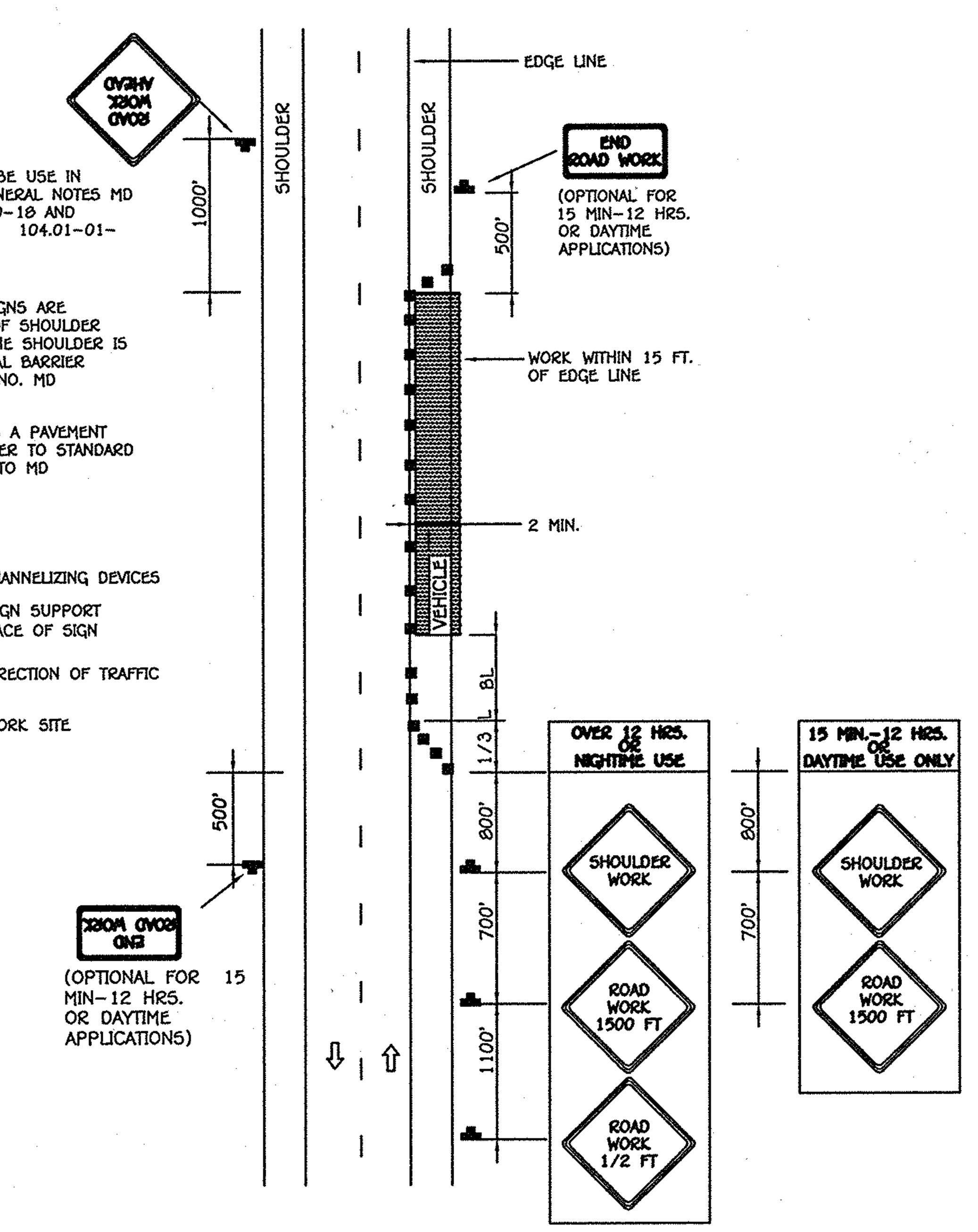
REVISION 3 PURPOSE STATEMENT: REVISE THE 6" WATER MAIN PROFILE & WATER MAIN TABULATION CHART FOR BUILDING NO.1 (NORTH) & ADD A PROFILE FOR THE INSTALLATION OF A GREASE INTERCEPTOR & ASSOCIATED 4" SEWER MAIN w/MANHOLE TABULATION CHART, FOR BUILDING NO.1 (NORTH). ADD GREASE INTERCEPTOR DETAIL.

IMPORTANT:
THIS DRAWING SHALL BE USE IN COMBINATION WITH GENERAL NOTES MD 104.00-01-MD 104.00-18 AND STANDARD DETAILS MD 104.01-01-MD 104.01-62

NOTES:
SHOULDER CLOSED SIGNS ARE REQUIRED IN PLACE OF SHOULDER WORK SIGNS WHEN THE SHOULDER IS CLOSED BY A PHYSICAL BARRIER REFER TO STANDARD NO. MD 104.06-14

WHEN WORK INVOLVES A PAVEMENT EDGE DROP-OFF. REFER TO STANDARD NOS. MD 104.06-11 TO MD 104.06-15.

KEY:
- CHANNELIZING DEVICES
- SIGN SUPPORT / FACE OF SIGN
- DIRECTION OF TRAFFIC
- WORK SITE



SHOULDER WORK/2-LANE, 2-WAY GREATER THAN 40 MPH (OLD FREDERICK ROAD)

MAINTENANCE OF TRAFFIC SPECIAL PROVISIONS

GENERAL

1. THE PURPOSE OF THIS PORTION OF THE SPECIAL PROVISION IS TO SET FOR THE TRAFFIC CONTROL REQUIREMENTS NECESSARY FOR THE SAFE AND EFFICIENT MAINTENANCE TO TRAFFIC WITHIN WORK AREAS, AND TO MINIMIZE ANY INCONVENIENCES TO THE TRAVELING PUBLIC AND THE CONTRACTOR AND/OR PERMITTEE.
2. PROPERTY TRAFFIC CONTROL THROUGH WORK AREAS IS ESSENTIAL FOR INSURING THE SAFETY AND THAT OF HIGHWAY WORKERS HAS THE HIGHEST PRIORITY OF ALL TASKS WITHIN THIS PROJECT. THE PROPERTY APPLICATION OF THE APPROVED TRAFFIC CONTROL PLAN (TCP) WILL PROVIDE THE DESIRED LEVEL OF SAFETY.
3. THROUGHOUT THESE SPECIAL PROVISIONS, ANY MENTION OF THE TCP SHALL BE IMPLIED TO INCLUDE ANY COMBINATION OF TYPICAL TRAFFIC CONTROL STANDARDS WHICH FORM THE OVERALL TCP FOR THIS PROJECT WHICH HAS BEEN APPROVED BY THE APPROPRIATE SHA TRAFFIC ENGINEER.
4. THE CONTRACTOR AND/OR PERMITTEE SHALL BE REQUIRED TO ADHERE TO THE PROVISIONS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 1988 EDITION, ESPECIALLY PART VI, AND TO SECTION 814 OF THE MARYLAND DOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS (JANUARY, 1982; INCLUDING ALL REVISIONS AND SUPPLEMENTS TO EACH.
5. THE CONTRACTOR AND/OR PERMITTEE SHALL BE REQUIRED TO ADHERE TO THE REQUIREMENTS SET FOR IN THE TCP AND THESE SPECIAL PROVISIONS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. ANY REQUESTS TO MAKE MINOR CHANGES TO THE TCP OR THE SPECIAL PROVISIONS WITH REGARD TO THE TRAFFIC CONTROL ITEMS SHALL BE MADE IN WRITING TO THE ENGINEER A MINIMUM OF THREE(3) WORKING DAYS PRIOR TO THE PROPOSED SCHEDULING CHANGE. THE CONTRACTOR AND/OR PERMITTEE SHALL HAVE WRITTEN APPROVAL OF THE ENGINEER PRIOR TO THE IMPLEMENTATION OF ANY CHANGE.
6. NO WORK SHALL BEGIN ON ANY WORK ACTIVITY OR WORK PHASE UNTIL ALL REQUIRED TRAFFIC CONTROL PATTERNS AND DEVICES INDICATED ON THE TCP FOR THAT ACTIVITY OR PHASE ARE COMPLETELY AND CORRECTLY IN PLACE TO HAVE BEEN CHECKED FOR APPROVED USAGE.
7. GENERAL AND SPECIFIC WARNING SIGNS SHALL ONLY BE IN PLACE WHEN SPECIFIC WORK TASKS AND ACTIVITIES ARE ACTUALLY UNDERWAY OR CONDITIONS EXIST THAT POSE A POTENTIAL HAZARD TO THE PUBLIC, AND ANY ADDITIONAL SIGNING HAS BEEN APPROVED BY THE APPROPRIATE SHA TRAFFIC ENGINEER. NOTE: THE PRACTICE OF PLACING SIGNING AND OTHER TRAFFIC CONTROL DEVICES IN ADDITION TO THOSE INDICATED ON THE APPROVED TCP IS NOT PERMITTED.
8. THE CONTRACTOR AND/OR PERMITTEE SHALL PROVIDE, MAINTAIN IN NEW CONDITION, AND MOVE WHEN NECESSARY, OR AS DIRECTED BY THE ENGINEER, ALL TRAFFIC CONTROL DEVICES USED FOR THE GUIDANCE AND PROTECTION OF MOTORISTS, PEDESTRIANS, AND WORKERS.
9. ALL TRAFFIC CONTROL DEVICES REQUIRED BY THE TCP SHALL BE KEPT IN GOOD CONDITION, FULLY PERFORMING AS SET FORTH IN THE TCP, THE MUTCD, AND/OR SECTION 814 OF THE SPECIFICATIONS. FOR REFLECTIVE DEVICES, A PARTICULAR DEVICE IS ASSUMED TO HAVE FAILED TO MEET MINIMUM OPERATIONAL STANDARDS WHEN THE DEVICE NO LONGER HAS RETRO-REFLECTANCE CAPABILITY OF AT LEAST 60%%% OF THE SPECIFIED MINIMUM VALUE OVER AT LEAST 90%%% OF THE VISIBLE REFLECTIVE SURFACE.
10. ALL TRAFFIC CONTROL DEVICES NOT REQUIRED FOR THE SAFE CONDUCT OF TRAFFIC SHALL BE PROMPTLY REMOVED, COMPLETELY COVERED, TURNED AWAY FROM TRAFFIC, OR OTHERWISE TAKEN OUT OF SERVICE. IT IS INTENDED THAT NO TRAFFIC CONTROL DEVICE IS TO BE IN SERVICE WHEN THERE IS NO CLEAR CUT REASON FOR THE DEVICE.
11. THROUGHOUT THE PERIOD(S) OF WORK ACTIVITIES, TRAFFIC SHALL BE MAINTAINED BY IMPLEMENTING THE APPROVED TCP. IN LIEU OF THE TCP PREPARED FOR THIS PROJECT, AND/OR INDIVIDUAL TYPICAL TRAFFIC CONTROL STANDARDS, THE CONTRACTOR AND/OR PERMITTEE HAS THE OPTION OR PREPARING AND SUBMITTING A TCP, WHOLLY OR IN PART, OF HIS OWN DESIGN, FOLLOWING GUIDELINES SET FORTH IN THE MUTCD AND PRESCRIBED BY THE ADMINISTRATION. A TCP DEVELOPED BY THE CONTRACTOR AND/OR PERMITTEE SHALL NOT BE IMPLEMENTED UNTIL ADVANCE WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER. TCP'S MAY BE IMPLEMENTED WITHIN A SINGLE PROJECT OR JOINTLY BETWEEN TWO OR MORE PROJECTS. IN SITUATIONS WHERE TCP'S JOINTLY IMPLEMENTED, CARE SHALL BE EXERCISED TO PRESENT CORRECT AND NON-CONFLICTING GUIDANCE TO THE TRAVELING PUBLIC.
12. THROUGHOUT THESE SPECIAL PROVISIONS, WHERE SPEED OF TRAFFIC IS NOTED, THIS MEANS THE POSTED SPEED OR PREVAILING TRAVEL SPEED, WHICHEVER IS HIGHER, UNLESS OTHERWISE NOTED.
13. TRAFFIC SHALL BE MAINTAINED AT ALL TIMES THROUGHOUT THE ENTIRE LENGTH OF THE PROJECT, UNLESS OTHERWISE NOTED. NO TRAVEL LANE(S) OTHER THAN THOSE DESIGNATED FOR POSSIBLE CLOSURE IN THE TCP SHALL BE CLOSED WITHOUT OBTAINING PRIOR APPROVAL FROM THE ENGINEER. ALL INGRESS AND EGRESS TO THE WORK AREA BY THE CONTRACTOR AND/OR PERMITTEE SHALL BE PERFORMED WITH THE FLOW OF TRAFFIC.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE
4	REMOVE FOR ZONING	9/30/14
3	BLDG. #1: REVISE 6" ALIGNMENT & PROVIDE GREASE TRAP	10/01/13
2	REVISED BLDG. No. 1, PARKING, AND DUMPSTER LOCATION	3/15/12
1	REVISED 8" W TO 6" W FOR BUILDINGS NO. 1 & 2	9/5/08

#12043
STATE OF MARYLAND PAUL WALTER KRIEBEL No. 12043 PROFESSIONAL ENGINEER
Paul W. Kriebel
PAUL W. KRIEBEL

ENGINEER'S CERTIFICATE

"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."

Paul W. Kriebel — 10/01/13
Signature of Engineer — Date

"Professional certification. I hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 12043, Expiration Date 7-16-14."

DEVELOPER'S CERTIFICATE

"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 of the Environment 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."

Paul W. Kriebel; FOR: WAVERLY WOODS DEVELOPMENT CORPORATION — 10-01-13
Signature of Developer — Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — Date

OWNER/DEVELOPER
WAVERLY WOODS DEVELOPMENT CORPORATION
c/o LAND DESIGN AND DEVELOPMENT, INC.
5300 DORSEY HALL DRIVE, SUITE 102
ELLICOTT CITY, MARYLAND 21042
(443) 367-0422

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 10/17/13
Chief, Division of Land Development — Date 10/17/13
Chief, Development Engineering Division — Date 10.17.13

SUBDIVISION NAME			SECTION/AREA		LOT/PARCEL Nos.
WAVERLY CORPORATE CENTER			---		'A'
PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
19761-19763	22+8	FEC	10 & 16	3rd	6030.00
WATER CODE	K02		SEWER CODE	5992000	

"REVISED SITE DEVELOPMENT PLAN"
PROFILES
REVISED PRIVATE 8" WATER & SEWER MAINS

WAVERLY CORPORATE CENTER

PARCEL 'A', PLAT No. 17415

ZONED: FEC 4

TAX MAP No. 10 GRID No. 22 PARCEL No. 324, 325 & 327
TAX MAP No. 16 GRID No. 4 PARCEL No. 249
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL, 2008
REVISED DATE: OCTOBER, 2013

SDP-07-082

I:\2004\04017\dwg\Water & Sewer Plans\Redline Sheets Sdp-07-082 - Sept 2013\04017-4012 Sht 8 Redline Sept 2013.dwg, Layout1, 10/1/2013 9:48:18 AM

20.0 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 O(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, earth dikes, etc. and for Permanent Seeding are lawns, dams, 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 runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.

Sediment control devices must remain in place during grading, seedbed 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
- i. Install erosion and sediment control structures (either temporary of permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
- ii. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
- iii. 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)
- i. 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.
- ii. 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 warrantee of the producer.
- iii. 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.
- iv. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

C. Seedbed Preparation
- i. Temporary Seeding
  - a. Seedbed 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 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.
  - b. Apply fertilizer and lime as prescribed on the plans.
  - c. In corporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
- ii. Permanent Seeding
  - a. Minimum soil conditions required for permanent vegetative establishment:
    1. Soil pH shall be between 6.0 and 7.0.
    2. Soluble salts shall be less than 500 parts per million (ppm).
    3. 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 lespedezas is to be planted, then a sandy soil (<30% silt plus clay) would be acceptable.
    4. Soil shall contain 1.5% minimum organic matter by weight.
    5. Soil must contain sufficient pore space to permit adequate root penetration.
    6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.
  - b. 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 to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
  - c. Apply soil amendments as per soil test or as included on the plans.
  - d. 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 and 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 friable. Seedbed loosening may not be necessary on newly disturbed areas.

D. Seed Specifications
- i. 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.
- ii. Inoculant - The inoculant for treating legume seed in the 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 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
- i. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder.
  - a. 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; P205 (phosphorous); 200 lbs/ac; K20 (potassium): 200 lbs/ac.
  - b. 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.
  - c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
- ii. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
  - a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 265 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
  - b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
- iii. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
  - a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
  - b. 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)
- i. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
- ii. Wood Cellulose Fiber Mulch (WCFM)
  - a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
  - b. 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.
  - c. WCFM, including dye, shall contain no germination or growth inhibiting factors.
  - d. 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.
  - e. WCFM material shall contain no elements or compounds at concentration levels that will be phytol-toxic.
  - f. WCFM must conform to the following physical requirements: fiber 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 sterile straw mulch should be used in areas where one species of grass is desired.

G. Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.
- i. If grading is completed outside of the seeding season, mulch along 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.
- ii. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/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/acre.
- iii. 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 shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.

H. 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 size of area and erosion hazard:
- i. 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.
- ii. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
- iii. Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and crest of banks. The remainder of area should be appear uniform after binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), DCA-70 Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
- iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.

I. Incremental Stabilization - Cut Slopes
- i. All cuts 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'.
- ii. Construction sequence (Refer to Figure 3 below):
  - a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
  - b. Perform Phase 1 excavation, dress, and stabilize.
  - c. Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as necessary.
  - d. 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 int he operation of completing the operation out of the seeding season will necessitate the application of temporary stabilization.

J. Incremental Stabilization of Embankments - Fill Slopes
- i. Embankments shall be constructed in lifts as prescribed on the plans.
- ii. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15", or when the grading operation ceases as prescribed in the plans.
- iii. At the end of each day, temporary berms and pipe slope 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.
- iv. Construction sequence: Refer to Figure 4 (below).
  - a. 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.
  - b. Place Phase 1 embankment, dress and stabilize.
  - c. Place Phase 2 embankment, dress and stabilize.
  - d. 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.

SECTION 2 - 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
- i. Select one or more of the species or mixtures listed in Table 26 for the 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.
- ii. 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 __6a___) From Table 26					Fertilizer Rate (10-10-10)	Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
1	RYE	140	3/15 - 5/31, 8/1 - 10/31	1" - 2"	600 lb/ac (15 lb/1000sf)	2 tons/ac (100 lb/1000sf)
2	BARLEY OR RYE PLUS FOXTAIL MILLOT	150	6/1 - 7/31	1"		

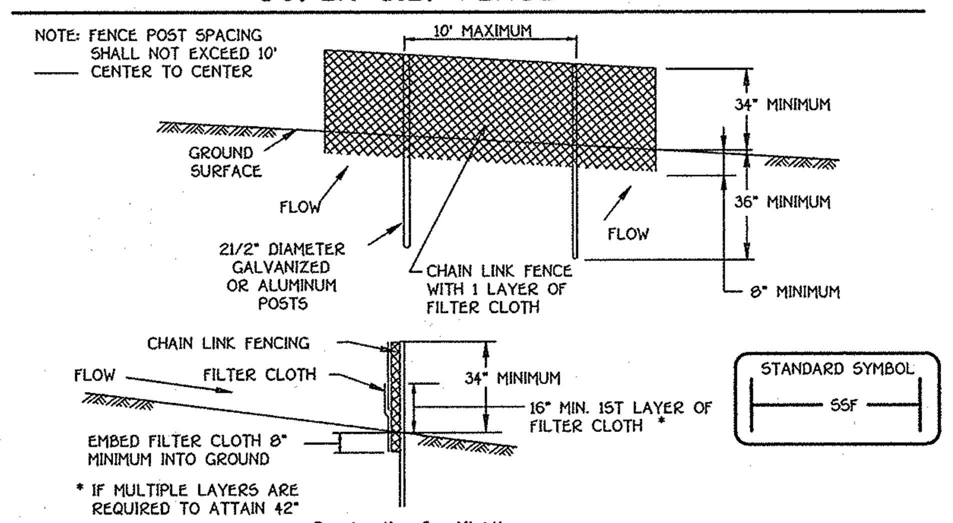
SECTION 3 - PERMANENT SEEDING

Seeding grass and legumes to establish groung cover for a minimum of one year on disturbed areas generally receiving low maintenance.

A. Seed mixtures - Permanent Seeding
- i. 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 aesthetic treatment may be found in USDA-SCS Techinical Field Office Guide, Section 342 - Critical Area Planting. For special lawn maintenance areas, see Sections IV Sod and V Turfgrass.
- ii. For sites having disturbed area over 5 areas, the rates shown on this table shall be deleted and the rates recommended by the soil testing agency shall be written in.
- iii. For areas receiving low maintenance, apply ureaform fertilizer (46-0-0) at 3 1/2 lbs/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 __6a___) From Table 25					Fertilizer Rate (10-20-20)			Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P205	K20	
1	TALL FESCUE (85%) KENTUCKY BLUEGRASS (5%) PERENNIAL RYEGRASS (10%)	125 15 10	3/15 - 6/1, 8/1 - 10/1	1" - 2"	90 lb/ac (2.0 lb/1000sf)	175 lb/ac (4 lb/1000sf)	175 lb/ac (4 lb/1000sf)	2 tons/ac (100 lb/1000sf)
2	TALL FESCUE (80%) HARD FESCUE (20%)	120 30	3/15 - 6/1, 8/1 - 10/1	1" - 2"				

SUPER SILT FENCE



Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.
2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.
3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
4. Filter cloth shall be embedded a minimum of 8" into the ground.
5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height
7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft /minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

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

TOPSOIL SPECIFICATIONS

Definition

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose

To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

I. This practice is limited to areas having 2:1 or flatter slopes where:

a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.

b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant growth.

c. The original soil to be vegetated contains material toxic to plant growth.

d. The soil is so acidic that treatment with limestone is not feasible.

II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.

II. Topsoil Specifications - Soil to be used as topsoil must meet the following:

i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless,topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2" in diameter.

ii. Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.

iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at a rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

II. For sites having disturbed areas under 5 acres:

i. Place topsoil (if required) and apply soil amendments as specified in 10.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

III. For sites having disturbed areas over 5 acres:

i. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:

a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.

b. Organic content of topsoil shall be not less than 1.5 percent by weight.

c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.

d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

ii. Place topsoil (if required) and apply soil amendments as specified in 10.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

V. Topsoil Application

i. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.

ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.

iii. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.

iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

VI. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

i. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements.

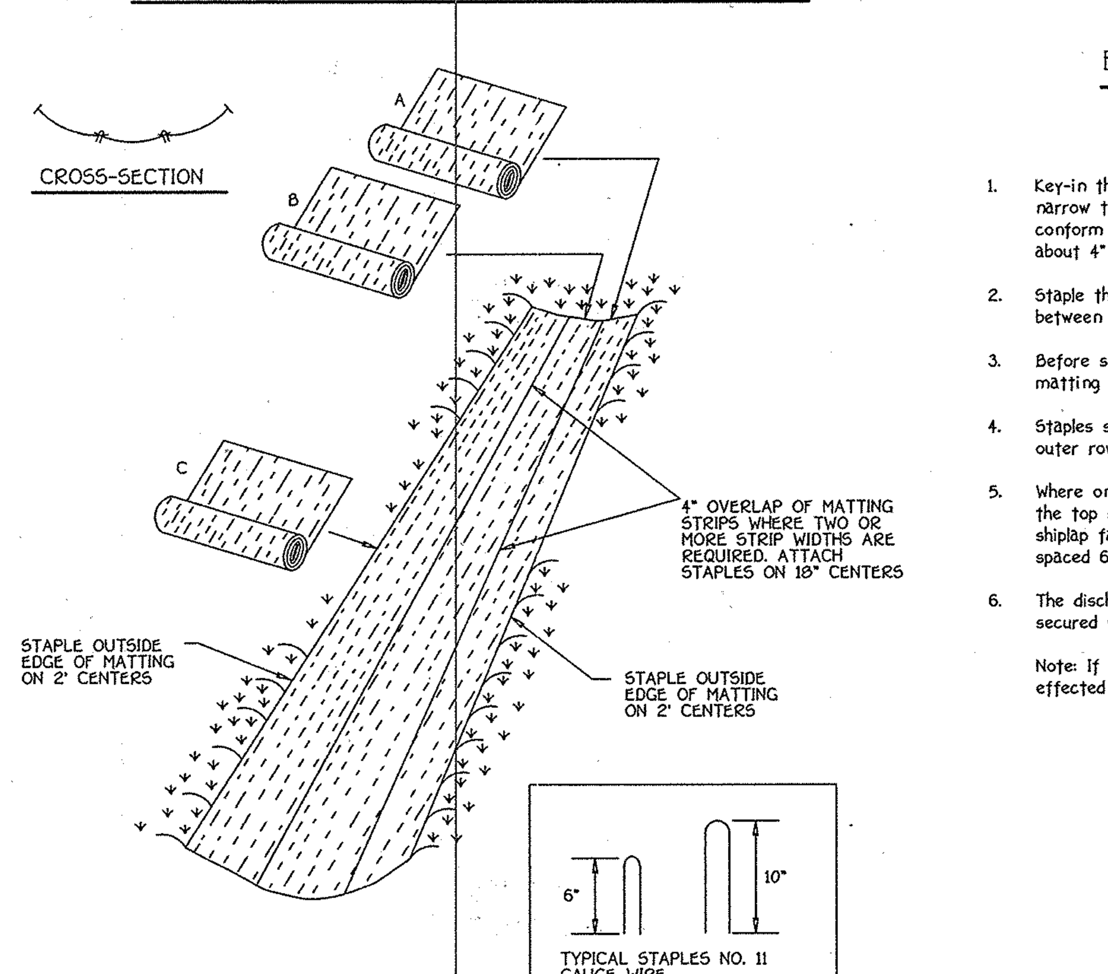
a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) bt the Maryland Department of the Environment under COMAR 26.04.06.

b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a Ph of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.

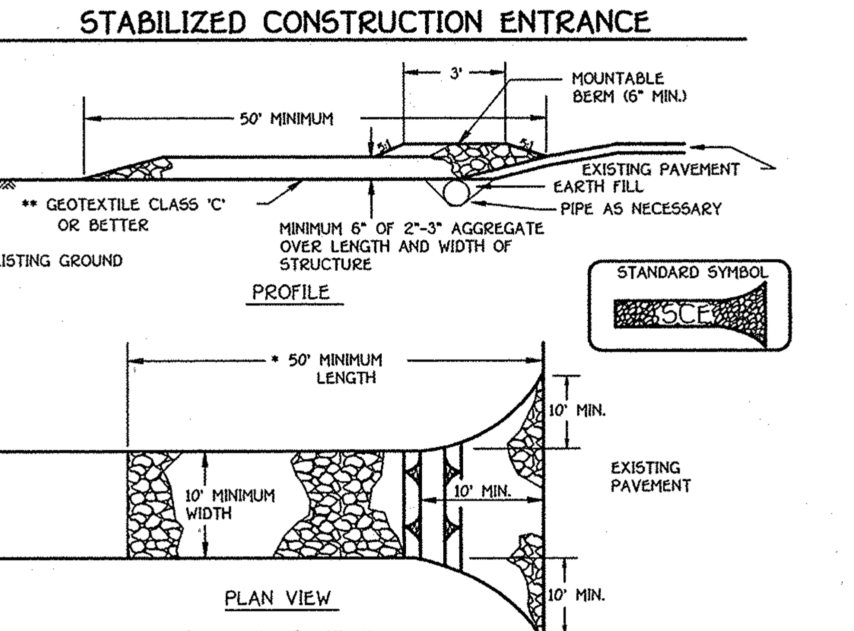
c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.

iv. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

EROSION CONTROL MATTING

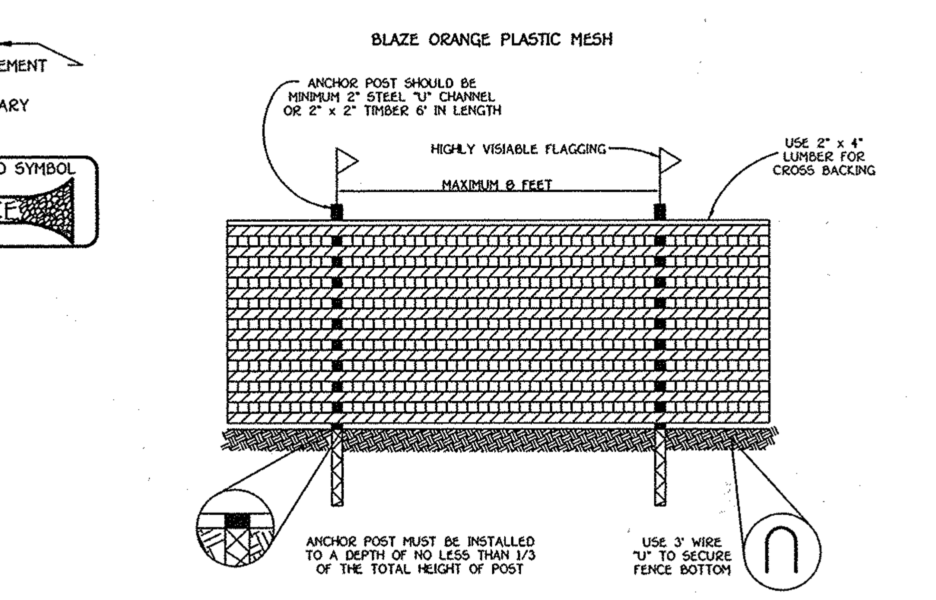


STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

1. Length - minimum of 50' (*30' for single residence lot).
2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.
4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.



NOTES:
1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
4. ROOT DAMAGE SHOULD BE AVOIDED.
5. PROTECTIVE SIGNAGE MAY ALSO BE USED.
6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION DETAIL

NOT TO SCALE

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT — 1 DAY
2. INSTALL SEDIMENT CONTROL FEATURES INCLUDING INSPECTION OF EXISTING BASIN AND SUPER SILT FENCE AS INDICATED ON PLAN. THEN PROCEED TO INSTALL THE S.W.M. DEVICES AS SHOWN ON THE PLANS. — 21 DAYS
3. GRADE THE REMAINING SITE TO SUB-GRADE AS INDICATED BY THE PROPOSED CONTOURS SHOWN ON THIS PLAN, SEE SPECIFICATIONS FOR COMPACTION REQUIREMENTS. — 4 WEEKS
4. INSTALL STORM DRAIN AND UTILITIES PER PLAN. INSTALL BASE COURSE PAVING. — 3 WEEKS
5. CONSTRUCT OFFICE BUILDINGS.
6. INSTALL SURFACE PAVING COARSE. — 2 DAYS
7. UPON COMPLETION OF GRADING ALL DISTURBED AREAS SHALL BE STABILIZED IMMEDIATELY WITH TEMPORARY SEEDING. THE HAUL ROADS WILL BE FINE GRADED AND STABILIZED WITH TEMPORARY SEEDING. — 2 DAYS
8. WHEN THE CONTRIBUTING AREAS TO THE SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THE DEVICES MAY BE REMOVED AND THESE DISTURBED AREAS STABILIZED. — 2 DAYS
9. NOTIFY HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS FOR FINAL INSPECTION. — 1 DAY

EROSION CONTROL MATTING

Construction Specifications

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 4" overlap in the channel center using an 18" 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", shiplap 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 liner 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.

SEDIMENT CONTROL NOTES

1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LISCENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).

2) ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.

3) 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.

4) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.

5) 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 (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.

6) 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.

7) SITE ANALYSIS:

TOTAL AREA OF SITE	6.391	ACRES
AREA DISTURBED	3.80	ACRES
AREA TO BE ROOFED OR PAVED	2.36	ACRES
AREA TO BE VEGETATIVELY STABILIZED	1.44	ACRES
TOTAL CUT	9196	CU.YDS.
TOTAL FILL	---	CU.YDS.
ONSITE BORROW AREA LOCATION	N/A	CU.YDS.

8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

9) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

10) 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.

11) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGHTS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE
1 (triangle)	REMOVE FOR ZONING	9/30/14

ENGINEER'S CERTIFICATE

"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 — Date: 4-18-08

"Professional Certification. I hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 20748, Expiration Date 2-22-09."

DEVELOPER'S CERTIFICATE

"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 of the Environment 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 — Date: 4-21-08

~~Reviewed for HOWARD SCD and meets Technical Requirements.~~

~~U.S.D.A.-Natural Resources Conservation [illegible] Service — Date~~

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — Date: 5/12/08

OWNER/DEVELOPER

WAVERLY WOODS DEVELOPMENT CORPORATION
c/o LAND DESIGN AND DEVELOPMENT, INC.
5300 DORSEY HALL DRIVE, SUITE 102
ELLICOTT CITY, MARYLAND 21042
(443) 367-0422

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date: 6/26/08

Chief, Division of Land Development — Date: 5/20/08

Chief, Development Engineering Division — Date: 5/14/08

SUBDIVISION NAME			SECTION/AREA		LOT/PARCEL Nos.
WAVERLY CORPORATE CENTER			---		'A'
PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
19761-19763	22+8	PEC	10 & 16	3rd	6030.00
WATER CODE			SEWER CODE		
K02			5992000		

SEDIMENT CONTROL NOTES AND DETAILS

WAVERLY CORPORATE CENTER

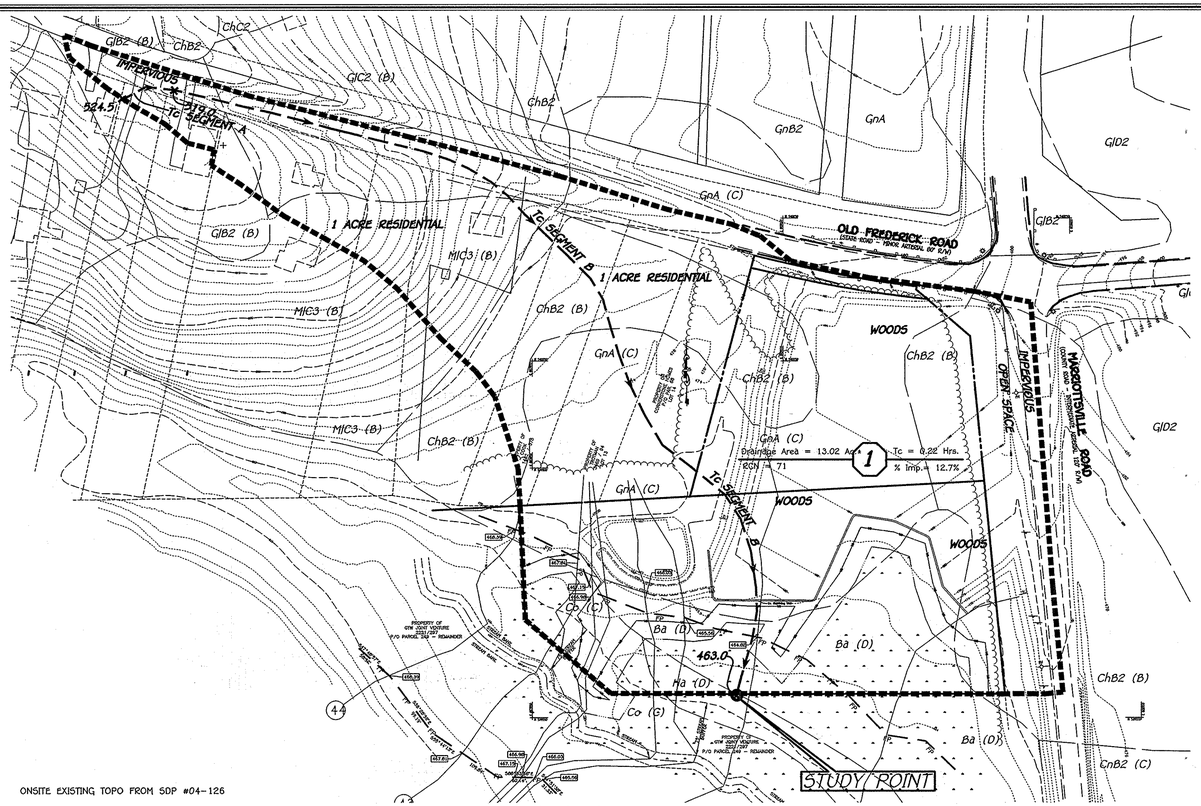
PARCEL 'A', PLAT No. 17415

ZONED: PEC (1)

TAX MAP No. 10 GRID No. 22 PARCEL No. 324, 325 & 327
TAX MAP No. 16 GRID No. 4 PARCEL No. 249
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL, 2008
SCALE: AS SHOWN
SHEET 9 OF 16

SDP 07-082

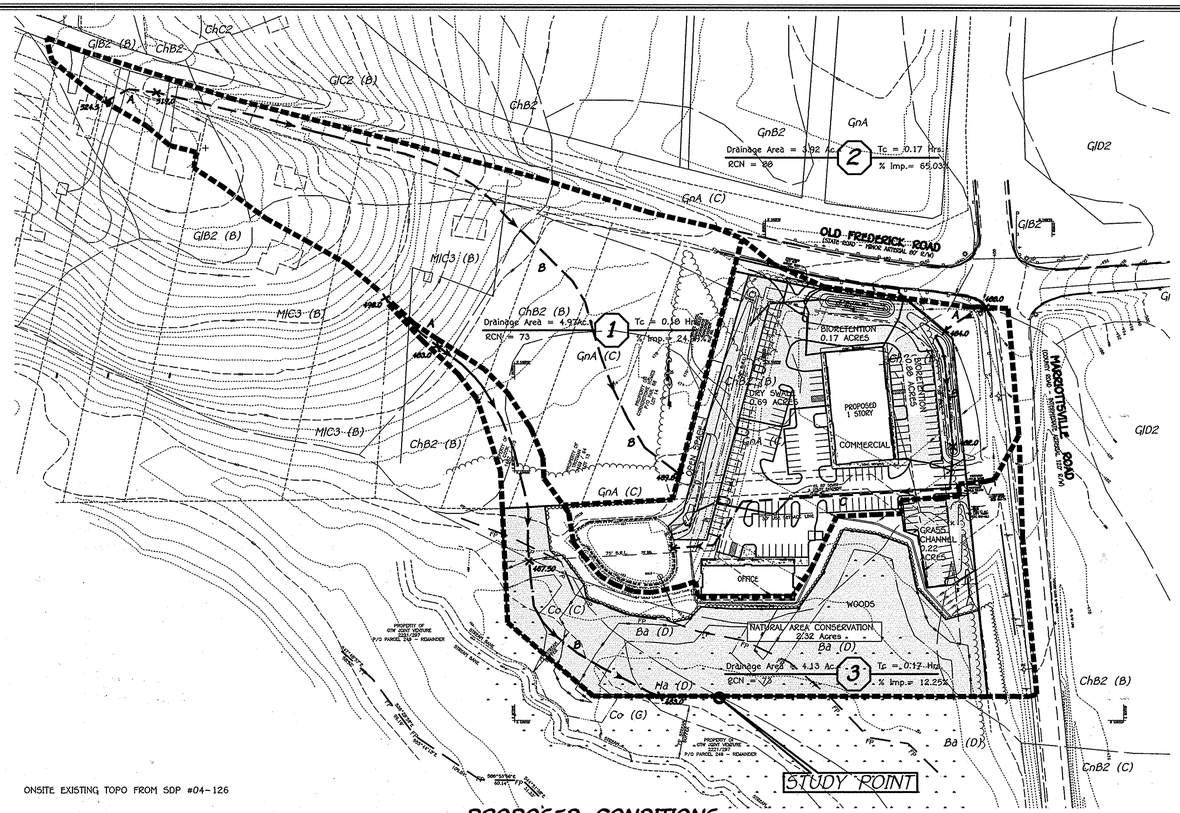
I:\2004\04017\dwg\CORPORATE CENTER SDP\04017-4001 SHEET 9 SED CON NOTES AND DETAILS.dwg, 4/18/2008 1:14:21 PM



ONSITE EXISTING TOPO FROM SDP #04-126

EXISTING CONDITIONS

SCALE: 1" = 100'



ONSITE EXISTING TOPO FROM SDP #04-126

PROPOSED CONDITIONS

SCALE: 1" = 100'

SOILS LEGEND

SOIL	NAME	CLASS
**Ba	Baile silt loam	D
ChB2	Chester silt loam, 3 to 8 percent slopes, moderately eroded	B
ChC2	Chester silt loam, 8 to 15 percent slopes, moderately eroded	B
CnB2	Chillum-Fairfax loams, 1 to 5 percent slopes, moderately eroded	C
* Co	Codorus silt loam	C
GlB2	Glenelg loam, 3 to 8 percent slopes, moderately eroded	B
GlC2	Glenelg loam, 8 to 15 percent slopes, moderately eroded	B
GlC3	Glenelg loam, 8 to 15 percent slopes, severely eroded	B
GlD2	Glenelg loam, 15 to 25 percent slopes, moderately eroded	B
* GnA	Glenville silt loam, 0 to 3 percent slopes	C
* GnB2	Glenville silt loam, 3 to 8 percent slopes, moderately eroded	C
**Ha	Hatboro silt loam	D
MIC3	Manor loam, 8 to 15 percent slopes, severely eroded	B

NOTES:

* Hydric soils and/or contains hydric inclusions

** May contain hydric inclusions

† Generally only within 100-year floodplain areas

LEGEND

SYMBOL	DESCRIPTION
.....	EXISTING CONTOUR 2' INTERVAL
----------	EXISTING CONTOUR 10' INTERVAL
	PROPOSED CONTOUR 2' INTERVAL
	PROPOSED CONTOUR 10' INTERVAL
+ 624	SPOT ELEVATION
	EXISTING TREE LINE
	LIMIT OF CLEARING
GnA (C)	SOILS TYPE (HGL)
	DRAINAGE AREA LIMITS
	TIME OF CONCENTRATION PATH

Note: This Sheet Is For SWM Drainage Areas Only.

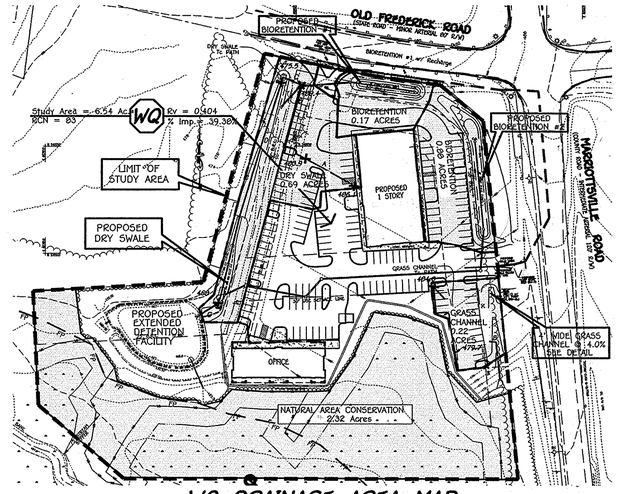
DISCHARGE SUMMARY AT STUDY POINT

	1-YEAR	10-YEAR	100-YEAR
EXISTING	7.7 cfs	35.9 cfs	62.6 cfs
PROPOSED	3.3 cfs	45.5 cfs	74.7 cfs

MANAGEMENT REQUIRED: Cpv / 1-YEAR

SWM REQUIREMENTS SUMMARY

	Rev VOLUME	Rev AREA	WQv	Cpv
REQUIREMENT	0.033 ac/ft	0.386 ac	0.220 ac/ft	0.440 ac/ft
LESS CREDITS	0.010 ac/ft	0.120 ac	0.113 ac/ft	N/A
NET REQUIREMENT	0.023 ac/ft	0.266 ac	0.107 ac/ft	0.440 ac/ft
PROV'D ED FACILITY	N/A	N/A	N/A	0.483 ac/ft
PROV'D BIO #1	0.006 ac/ft	N/A	0.020 ac/ft	N/A
PROV'D BIO #2	0.017 ac/ft	N/A	0.055 ac/ft	N/A
PROV'D DRY SWALE	N/A	N/A	0.033 ac/ft	N/A
TOTAL PROV'D	0.023 ac/ft	N/A	0.108 ac/ft	0.483 ac/ft



WQ DRAINAGE AREA MAP

SCALE: 1" = 100'

DESIGN BY: jes
DRAWN BY: TSA
CHECKED BY:

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTERVILLE SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

T. E. SCOTT & ASSOCIATES, INC.
128 COCKEYSVILLE ROAD, SUITE 300 Phone: 410.458.2651
HUNT VALLEY, MARYLAND 21030 Fax: 443.259.0216
tes2345md@aol.com

NO.	REVISION	DATE
5	Removed FOR Zoning	9/8/14
4	REVISED BLDG. No. 1, PARKING, AND DUMPSTER LOCATION	3/6/12
3	REVISED 8" W TO 6" W FOR BUILDINGS NO. 1 & 2	9/5/08

ENGINEER'S CERTIFICATE

"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 — 4/5/12 Date

"Professional Certification. I hereby certify that these documents were prepared by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 20748, Expiration Date: 07/01/2014."

DEVELOPER'S CERTIFICATE

"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 of the Environment 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 — 4/13/12 Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT

Howard SCD — 6/9/12 Date

OWNER/DEVELOPER

WAVERLY WOODS DEVELOPMENT CORPORATION
c/o LAND DESIGN AND DEVELOPMENT, INC.
5300 DORSEY HALL DRIVE, SUITE 102
ELLICOTT CITY, MARYLAND 21042
(443) 367-0422

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 7/20/12 Date

Chief, Division of Land Development — 7/20/12 Date

Chief, Development Engineering Division — 7/13/12 Date

SUBDIVISION NAME			SECTION/AREA	LOT/PARCEL Nos.
WAVERLY CORPORATE CENTER			---	'A'
PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
19761-19763	22+8	PEC	10 & 16	3rd	6030.00
WATER CODE		SEWER CODE		
K02		5992000		

REVISED
SWM OVERALL DRAINAGE AREA MAPS

WAVERLY CORPORATE CENTER
PARCEL 'A', PLAT No. 17415

ZONED PEC

TAX MAP No. 10 GRID No. 22 PARCEL No. 324, 325 & 327
TAX MAP No. 16 GRID No. 4 PARCEL No. 249
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL, 2008
REVISED DATE: MARCH, 2012

SCALE: AS SHOWN SHEET 10 OF 16

SDP 07-082

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AS-BUILT CERTIFICATION

I Hereby Certify That The Facility Shown On This Plan Was Constructed As Shown On The " As-Built" Plans And Meets The Approved Plans And Specifications.

Signature _____ P.E. No. _____

Date: _____

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED BIORETENTION FACILITIES

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. Maintenance will also address dead material and pruning.
2. Schedule of plant inspection will be twice a year in spring and fall. This inspection will include removal of dead and diseased vegetation considered beyond treatment.
3. Mulch shall be inspected each spring. Remove previous mulch layer before applying new layer.
4. Soil erosion to be addressed on an as-needed basis, minimum once a month and after heavy storm events.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED OPEN CHANNEL SYSTEMS

A. The open channel system shall be inspected annually and after major storms. Inspections shall be performed during wet weather to determine if the facility is functioning properly.

B. The open channel shall be mowed a minimum of as needed during the growing season to maintain a maximum grass height of less than 6 inches.

C. Debris and litter shall be removed during regular mowing operations and as needed.

D. Visible signs of erosion in tire open channel system shall he re aired as soon as it is noticed.

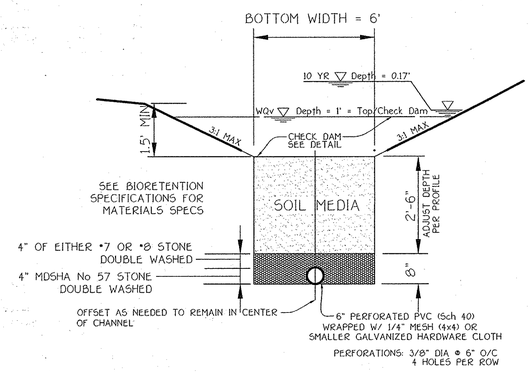
E. Remove silt in the open channel system when it exceeds 25% of the original wqv.

DRY SWALE #1 FACILITY SUMMARY

	Rev	WQv	10 YEAR
Depth	None	1 ft	---
Storage (ac. ft.)	None	0.033	N/A
Watershed			Little Patuxent
Structure Type			Dry Swale (O-1)
Structure Classification			LOW HAZARD A - NON-378 , NO EMBANKMENT
Structure Location			Urban
Storage Height Product			N/A
Watershed Area to Facility			0.98 Ac.
Minimum Top Width Provided			N/A
Freeboard Required Above 10 Year			0.25 foot
Freeboard Provided Above 10 Year			0.32 foot

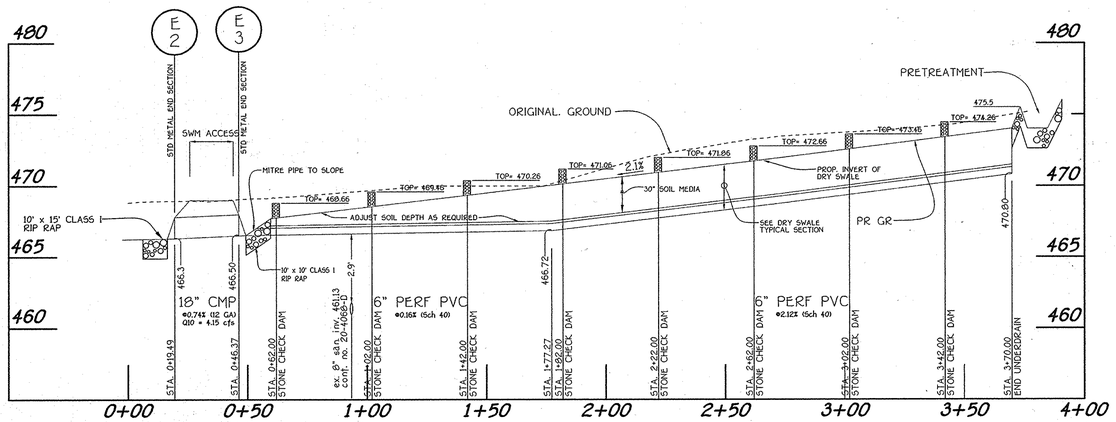
FACILITY WILL BE PRIVATELY OWNED AND MAINTAINED.

MANAGEMENT PROVIDED: WQv



TYPICAL DRY SWALE SECTION

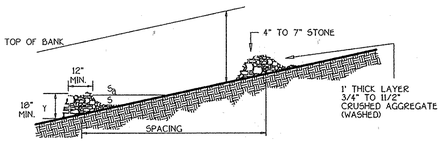
NOT TO SCALE



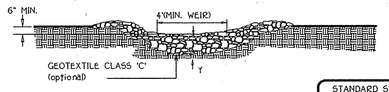
DRY SWALE PROFILE

SCALE: H: 1" = 30'

STONE CHECK DAM



DITCH PROFILE



CROSS SECTION

STANDARD SYMBOL

STANDARD STONE CHECK DAM DESIGN

SLOPE	SPACING
2% or less	80'
2.1% to 4%	40'
4.1% to 7%	25'
7.1% to 10%	15'
over 10%	use lined waterway design

Construction Specifications

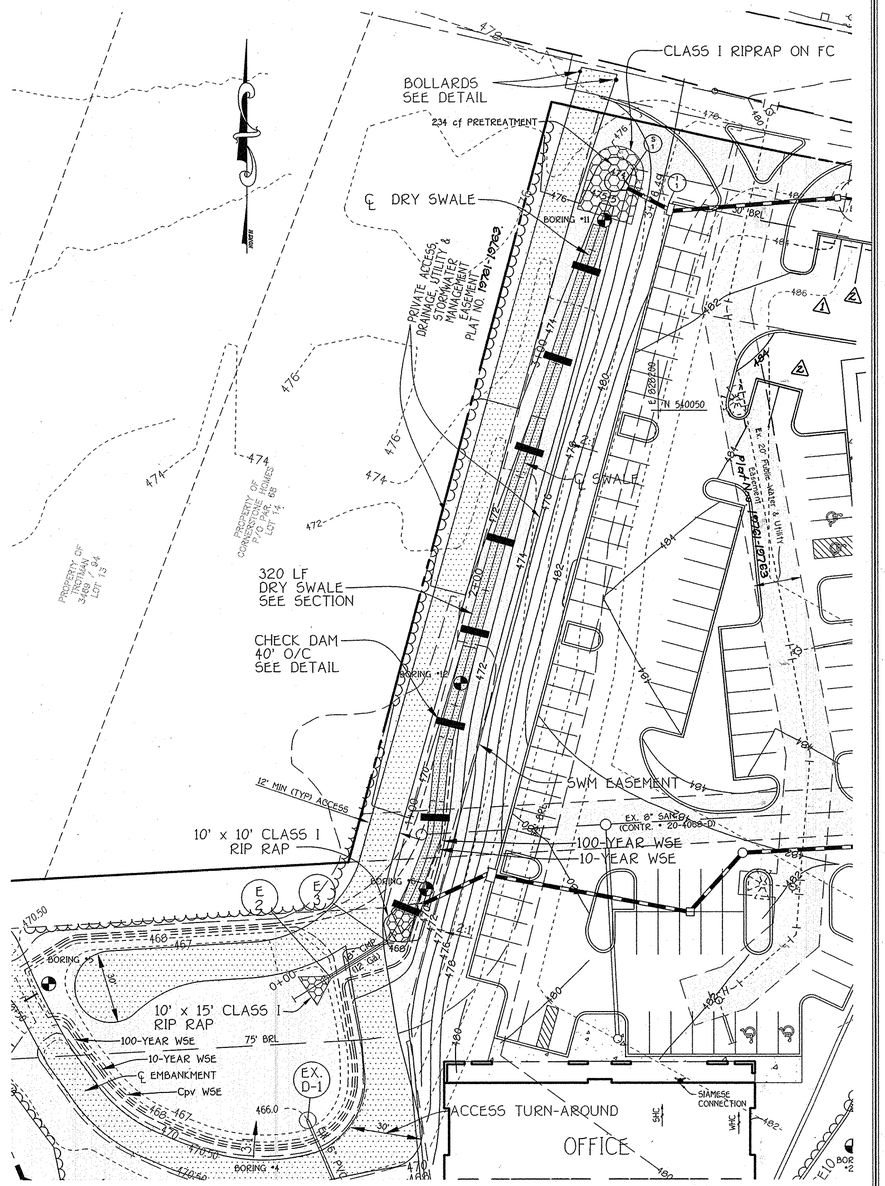
1. Swales and ditches shall be prepared in accordance with the construction specifications described in Section A-2, Standards and Specifications for Temporary Swale.

2. The check dam shall be constructed of 4"-7" stone. The stone shall be placed so that it completely covers the width of the channel and keyed into the channel banks.

3. The top of the check dam shall be constructed so the the center is approximately 6" lower than the outer edges, forming a weir that water can flow across.

4. The maximum height of the check dam at the center shall not exceed 2".

5. The upstream sideof the check dam shall be lined with approximately 1" of 3/4" to 11/2" crushed aggregate.



DRY SWALE PLAN

SCALE: 1" = 30'

DESIGN BY: tes
DRAWN BY: TSA
CHECKED BY: CJC

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

T. E. SCOTT & ASSOCIATES, INC.
128 COCKEYSVILLE ROAD, SUITE 300 Phone: 410.458.2651
HUNT VALLEY, MARYLAND 21030 Fax: 443.269.0216
tescott@aol.com

NO.	REVISION	DATE
2	Revised Parking & Removed POR Zoning	9/8/14
1	Revised Bldg. No.1, Parking And Dumpster Location	3/15/12

ENGINEER'S CERTIFICATE

"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer — 5-6-08 Date

"Professional Certification. I hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 20748, Expiration Date 9-22-09."

DEVELOPER'S CERTIFICATE

"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 of the Environment 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 — 4-21-06 Date

Reviewed for HOWARD SCD and meets Technical Requirements.

U.S.D.A.-Natural Resources Conservation Service — Date

This development plan is approved for all erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — Date

OWNER/DEVELOPER

WAVERLY WOODS DEVELOPMENT CORPORATION
c/o LAND DESIGN AND DEVELOPMENT, INC.
5300 DORSEY HALL DRIVE, SUITE 102
ELLICOTT CITY, MARYLAND 21042
(443) 367-0422

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 4/22/08

Chief, Division of Land Development — Date 5/1/08

Chief, Development Engineering Division — Date 5/14/08

SUBDIVISION NAME			SECTION/AREA		LOT/PARCEL Nos.
WAVERLY CORPORATE CENTER			---		'A'
PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
19781-19783	22+8	PEC	10 & 16	3rd	6030.00
WATER CODE			SEWER CODE		
K02			5992000		

SITE DEVELOPMENT PLAN
SWM DRY SWALE PLAN & DETAILS

WAVERLY CORPORATE CENTER
PARCEL 'A', PLAT No. 17415

ZONED PEC

TAX MAP No. 10 GRID No. 22 PARCEL No. 324, 325 & 327
TAX MAP No. 16 GRID No. 4 PARCEL No. 249
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL, 2008
SCALE: AS SHOWN
SHEET 11 OF 16

SDP 07-082

I:\2004\04017\dwg\CORPORATE CENTER-SDP\04017-4001 SHEET 11 SWM PLAN AND DETAILS.dwg, 4/18/2008 1:51:20 PM

BIORETENTION (F-6) SPECIFICATIONS

SOIL TEXTURE AND STRUCTURE
Soil shall have a sandy loam, loamy sand, or loam texture per USDA textural triangle. Maximum clay content shall be <5%. Soil mixture shall be 50-60% sand; 20-30% leaf compost; and 20-30% topsoil. The soil shall be a uniform mix, free of stones, stumps, roots, or other similar objects larger than two inches. No other materials or substances should be mixed or dumped within the bioretention soil that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil must be free of plant or seed material of non-native, invasive species, or noxious weeds.

SOIL TESTING
Planting soil for bioretention areas must be tested prior to installation for PH and organic matter. The soil should meet the following criteria (Landscape Contractors Association, 1986).
PH Range: 5.5 - 6.5
Organic Matter: 1.5 - 3.0%
Sieve analysis, PH, and organic matter tests shall be performed for each bioretention area.

SOIL PREPARATION
Soil preparation can be performed onsite or offsite and transported to the facility location when ready for installation. Prior to transport, the soil mix should be certified as meeting the criteria established for the soil medium and approved by the site inspector.

Soil preparation can be accomplished by thoroughly mixing soil components, amendments and additives, as needed utilizing a backhoe or front-end loader.

SOIL PLACEMENT
Placement of the planting soil in the bioretention area should be after scarifying the invert area of the proposed facility and installing the underdrain and/or recharge area (if applicable), in lifts of 12 to 18 inches and lightly compacted. Minimal compaction effort can be applied to the soil by tamping with a bucket from a dozer or backhoe. Lifts are not to be compacted but are performed in order to reduce the possibility of excessive settlement. Installation of soils must be done in a manner that will ensure adequate filtration.

SOIL COMPACTION
Avoid over compaction by allowing time for natural compaction and settlement. No additional manual compaction of soil is necessary. Rake soil material as needed to level out. Overfill above the proposed surface invert to accommodate natural settlement to proper grade. Depending upon the soil material, up to 20% natural compaction may occur. For facilities designed with a liner, no scarification of the invert area is required.

It is very important to minimize compaction of both the base of the bioretention area and the required backfill. When possible, use excavation hoes to remove original soil. If bioretention areas are excavated using a loader, the contractor should use wide track or marsh track equipment, or light equipment with turf-type tires.

SOIL COMPACTION (cont)
Use of equipment with narrow tracks or narrow tires, rubber tires with large lugs, or high pressure tires will cause excessive compaction resulting in reducing infiltration rates and storage volumes and is not acceptable. Compaction will significantly contribute to design failure. Compaction can be alleviated at the base of the bioretention facility by using a primary tilling operation such as a Chisel Plow, Ripper, or Subsoiler. These tilling operations are to refracture the soil profile through the 12 inch compaction zone. Substitute methods must be approved by the engineer. Rototillers typically do not till deep enough to reduce the effects of compaction from heavy equipment.

Rototill 2 to 3 inches of sand into the base of the bioretention facility before back filling the facility and placement of underdrain. Pump any ponded water before preparing (rototilling) base.

When back filling the bioretention facility, do not use heavy equipment within the bioretention basin. Heavy equipment can be used around the perimeter of the basin to supply soils and sand. Grade bioretention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.

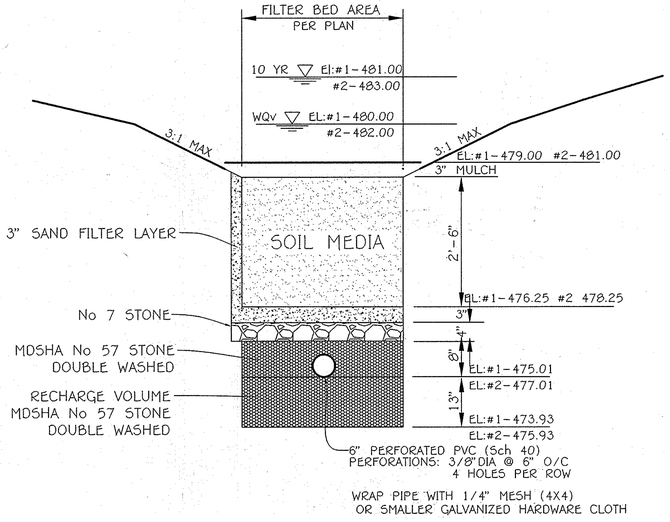
SOIL PRESOAK
In order to speed up the natural compaction process, presoaking the placed soil may be performed. Significant settlement can occur after the first presoak, and additional settlement may occur subsequent to the initial wetting. If time and construction scheduling permits, it is preferable to allow natural settlement to occur with the help of rain events to presoak the soil medium.

MULCH
Areas should be mulched once trees and shrubs have been planted. Any ground cover specified as plugs may be installed once mulch has been applied.

The mulch layer shall consist of either a standard landscape fine shredded hardwood mulch (preferred) or hardwood chips. The mulch may be either aged or fresh to maximize nitrogen and metal uptake by the facility. Mulch shall be free of weed seeds, soil, roots, or any other substance not consisting of either bole or branch wood and bark. The mulch should be uniformly applied approximately 2 to 3 inches in depth. Mulch applied any deeper than three inches reduces proper oxygen and carbon dioxide cycling between the soil and the atmosphere, and keeps plant roots from making good contact with the soil.

SAND
Sand shall be clean and free of deleterious materials, meeting AASHTO M-6 or ASTM C-33 with grain size of 0.02"- 0.04". MDSHA C-33 sand is acceptable.

GEOTEXTILE
Geotextile fabric should meet ASTM D-751 (puncture strength - 125 LB), ASTM D-1117 (Mullen burst strength - 400 PSI), and ASTM D-1682 (Tensile strength - 300 LB). Fabric should have 0.08" thick E.O.S. of #80 sieve, and maintain 125 GPM per SQ. FT. flow rate.



TYPICAL BIORETENTION (F-6) SECTION
NOT TO SCALE

AS-BUILT CERTIFICATION

I Hereby Certify That The Facility Shown On This Plan Was Constructed As Shown On The " As-Built" Plans And Meets The Approved Plans And Specifications.

Signature _____ P.E. No. _____

Date:

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

BIO-RETENTION (F-6) #1 FACILITY SUMMARY

	Rev	WQv	10 YEAR
Water Surface Elevation	475.50	480.00	481.00
Storage (ac. ft.)	0.006	0.020	N/A

Watershed	Little Patuxent
Structure Type	Bioretention (F-6)
Structure Classification	LOW HAZARD A - Non-378 Excavated
Structure Location	Urban
Storage Height Product	N/A
Watershed Area to Facility	0.31 Ac.
Minimum Top Width Provided	10.0 feet
Maximum Height of Fill	N/A - Excavated
Freeboard Required Above 10 Year	1 foot
Freeboard Provided Above 10 Year	--- foot

FACILITY WILL BE PRIVATELY OWNED AND MAINTAINED.

MANAGEMENT PROVIDED: Rev / WQv

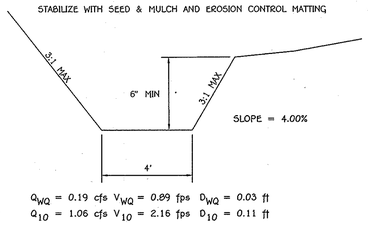
BIO-RETENTION (F-6) #2 FACILITY SUMMARY

	Rev	WQv	10 YEAR
Water Surface Elevation	477.50	482.00	483.00
Storage (ac. ft.)	0.017	0.055	N/A

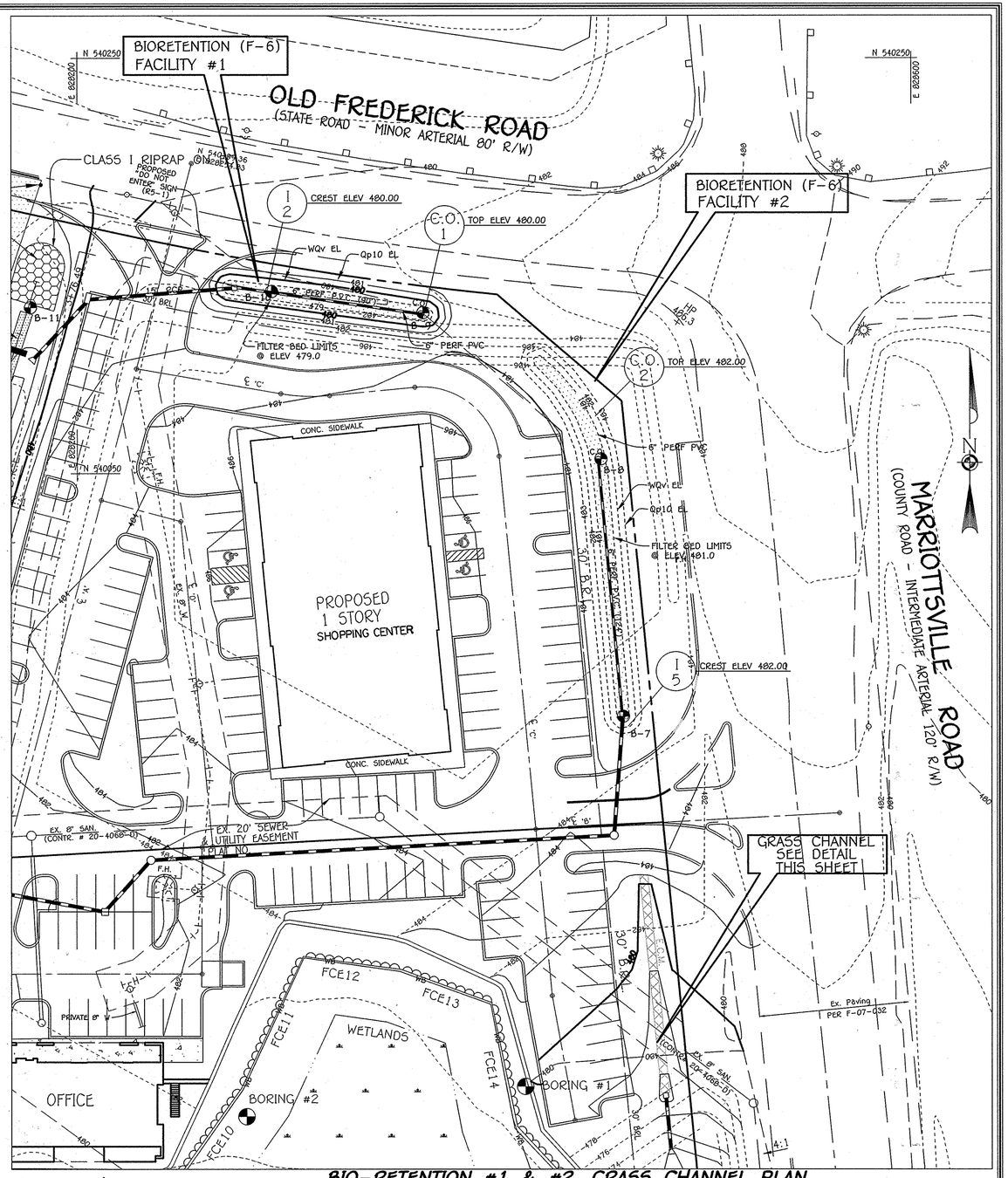
Watershed	Little Patuxent
Structure Type	Bioretention (F-6)
Structure Classification	LOW HAZARD A - Non-378 Excavated
Structure Location	Urban
Storage Height Product	N/A
Watershed Area to Facility	0.86 Ac.
Minimum Top Width Provided	N/A - Excavated
Maximum Height of Fill	N/A - Excavated
Freeboard Required Above 10 Year	1 foot
Freeboard Provided Above 10 Year	--- foot

FACILITY WILL BE PRIVATELY OWNED AND MAINTAINED.

MANAGEMENT PROVIDED: Rev / WQv



GRASS CHANNEL DETAIL
NOT TO SCALE



BIO-RETENTION #1 & #2, GRASS CHANNEL PLAN
SCALE: 1" = 30'

Note: This Sheet Is For SWM Only.

DESIGN BY: tes
DRAWN BY: TSA
CHECKED BY: CJC

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

T. E. SCOTT & ASSOCIATES, INC.
109 OCKLEYSVILLE ROAD, SUITE 200 Phone: 410.468.2601
HUNT VALLEY, MARYLAND 21030 Fax: 443.289.0016
tes@MdSWM.com

NO.	REVISION	DATE
3	Removed FOR Zoning	9/8/14
2	REVISED BLDG. No. 1, PARKING, AND DUMPSTER LOCATION	3/15/12
1	REVISED 8' W TO 6' W FOR BUILDINGS NO. 1 & 2.	9/5/08

ENGINEER'S CERTIFICATE
"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 _____ Date 4/13/12

"Professional Engineer" I hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 20748, Expiration Date 2-22-09."

DEVELOPER'S CERTIFICATE
"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 of the Environment Approved Training Programs 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 _____ Date 4/13/12

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD _____ Date

OWNER/DEVELOPER
WAVERLY WOODS DEVELOPMENT CORPORATION
c/o LAND DESIGN AND DEVELOPMENT, INC.
5300 DORSEY HALL DRIVE, SUITE 102
ELLICOTT CITY, MARYLAND 21042
(443) 367-0422

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning _____ Date 7/23/12

Chief, Division of Land Development _____ Date 7/20/12

Chief, Development Engineering Division _____ Date 7/13/12

SUBDIVISION NAME			SECTION/AREA		LOT/PARCEL Nos.
WAVERLY CORPORATE CENTER			---		'A'
PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
19761-19763	22+8	PEC	10 & 16	3rd	6030.00
WATER CODE		SEWER CODE			
K02		5992000			

REVISED
SWM BIO-RETENTION AND GRASS CHANNEL PLAN & DETAILS

WAVERLY CORPORATE CENTER
PARCEL 'A', PLAT No. 17415

ZONED PEC
TAX MAP No. 10 GRID No. 22 PARCEL No. 324, 325 & 327
TAX MAP No. 16 GRID No. 4 PARCEL No. 249
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL, 2008
REVISED DATE: MARCH, 2012

SCALE: 1" = 30' SHEET 12 OF 16

SDP 07-082

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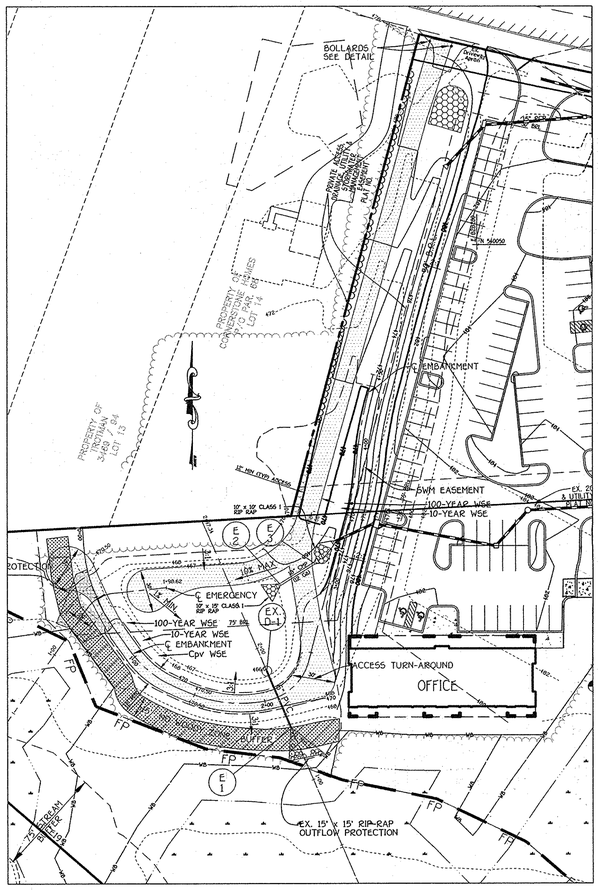
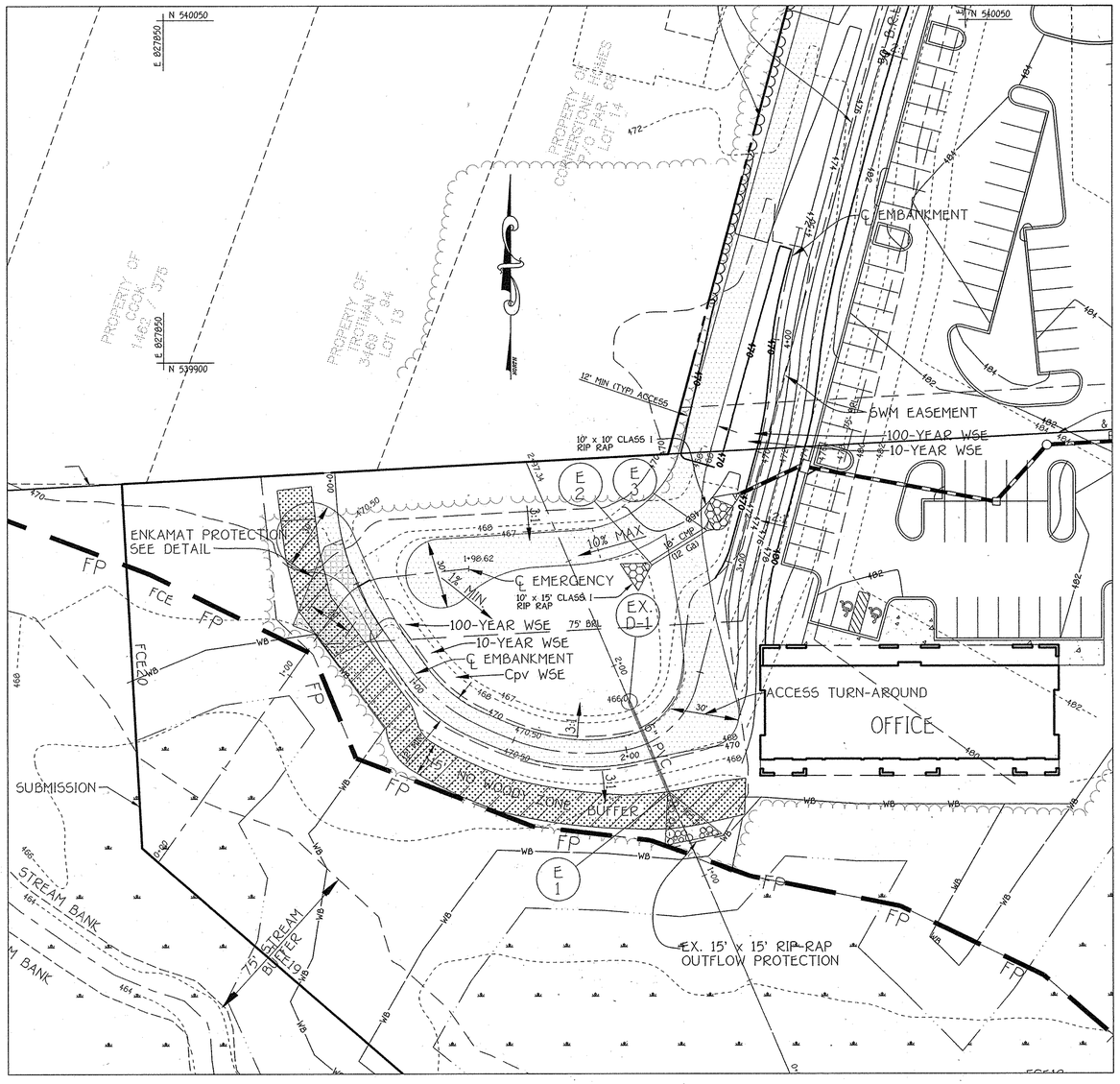


OVERALL PLAN

SCALE: 1" = 50'



PLAN VIEW

SCALE: 1" = 30'

FACILITY SUMMARY

	1-YEAR	10 YEAR	100 YEAR
Developed Outflow (cfs)	0.15	33.1	52.9
Water Surface Elevation	468.54	469.23	469.46
Storage (ac. ft.)	0.483	0.625	0.692

Watershed Structure Type	Little Patuxent Extended Detention Dry Pond
Structure Classification	LOW HAZARD A - Non-378
Structure Location	Urban
Storage Height Product	3.42 ac/ft
Watershed Area to Facility	8.89 Ac.
Minimum Top Width Provided	12.0 feet
Maximum Height of Fill	3.91 feet
Freeboard Required Above 10 Year	1 foot
Freeboard Provided Above 10 Year	1.27 foot

FACILITY WILL BE PRIVATELY OWNED AND MAINTAINED.

MANAGEMENT PROVIDED: Cpv / 1-Year

SEE BIORETENTION AND DRY SWALE FACILITIES FOR Rev & WQv MANAGEMENT

Note: This Sheet Is For SWM Only.

DESIGN BY: tes
DRAWN BY: TSA
CHECKED BY: CJC

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
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1128 COCKEYSVILLE ROAD, SUITE 300 Phone: 410.458.2651
HUNT VALLEY, MARYLAND 21030 Fax: 443.269.0216
tes@MdSWM.com

NO.	REVISION	DATE
2	Removed FOR Zoning	9/8/14
1	Revised Bldg. No 1, Parking And Dumpster Location	3/19/12

ENGINEER'S CERTIFICATE

"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 — Date 4/18/08

"Professional Certification. I hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 20748, Expiration Date 2-22-09."

DEVELOPER'S CERTIFICATE

"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 of the Environment 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 — Date 4-21-08

Reviewed for HOWARD SCD and meets Technical Requirements

U.S.D.A.-Natural Resources Conservation Service — Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — Date 5/12/08

OWNER/DEVELOPER

WAVERLY WOODS DEVELOPMENT CORPORATION
c/o LAND DESIGN AND DEVELOPMENT, INC.
5300 DORSEY HALL DRIVE, SUITE 102
ELLICOTT CITY, MARYLAND 21042
(443) 367-0422

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 6/26/08

Chief, Division of Land Development — Date 5/21/08

Chief, Development Engineering Division — Date 5/14/08

SUBDIVISION NAME			SECTION/AREA		LOT/PARCEL Nos.
WAVERLY CORPORATE CENTER			---		'A'
PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
19761-19763	22+8	PEC	10 & 16	3rd	6030.00
WATER CODE			SEWER CODE		
K02			5992000		

EXISTING SWM FACILITY No. 1
MODIFICATION PLAN

WAVERLY CORPORATE CENTER
PARCEL 'A', PLAT No. 17415

ZONED PEC

TAX MAP No. 10 GRID No. 22 PARCEL No. 324, 325 & 327
TAX MAP No. 16 GRID No. 4 PARCEL No. 249
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL, 2008
SCALE: AS SHOWN
SHEET 13 OF 16

SDP 07-082

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BORING B-7

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

Project Name: Waverly Woods Corporate Center SWM — Boring No.: B-7
Location: Howard County, Maryland — Job #: 021360

SAMPLER: Datum: — Hammer Wt.: 140 lbs. — Hole Diameter: 6" — Foreman: J. Russell
Surf. Elev.: 484.59 Ft. — Hammer Drop: 30 in. — Rock Core Diameter: — Inspector: —
Date Started: 7/16/07 — Pipe Size: 2 in. — Boring Method: HSA — Date Completed: 7/16/07

Elevation / Depth	SOIL SYMBOL & SAMPLE DESIGNATION	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	SPT Blows/Foot Curve N (10 30 50)
485 / 0		Light brown, moist, medium stiff to stiff, sandy silty clay, trace organics (modulling wood fragments) (CL-ML; FILL)	Topsoil-3"	10"		3-4-5	9
480 / 5		Brown, moist, medium stiff to stiff, sandy silt, some to no rock fragments, trace organics (ML; FILL)	No groundwater encountered while drilling	14"		4-3-5	10
475 / 10				12"		5-6-8	14
470 / 15		Tan, moist, medium dense, micaceous silty sand to sandy silt (SM-ML)		12"		4-8-8	16
465 / 20		Bottom of boring at 15.0'		12"		6-8-3	11
460 / 25							
455 / 30							
450 / 35							

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE — PT - PRESSED SHELBY TUBE — CA - CONTINUOUS FLIGHT AUGER — RC - ROCK CORE
SAMPLE CONDITIONS: D - DISTURBED/CUTTINGS — I - INTACT — U - UNDISTURBED — L - LOST
AT COMPLETION: GROUND WATER Dry ft. — CAVE IN DEPTH 3.0 ft.
AFTER 24 HRS.: GROUND WATER ____ ft. — CAVE IN DEPTH ____ ft.
AFTER ____ HRS.: GROUND WATER ____ ft. — CAVE IN DEPTH ____ ft.
BORING METHOD: HSA - HOLLOW STEM AUGERS — CFA - CONTINUOUS FLIGHT AUGERS — DC - DRIVING CASING — MD - MUD DRILLING

STANDARD PENETRATION TEST: DRIVING 2" O.D. SAMPLER F WITH HIGH HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.

BORING B-8

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

Project Name: Waverly Woods Corporate Center SWM — Boring No.: B-8
Location: Howard County, Maryland — Job #: 021360

SAMPLER: Datum: — Hammer Wt.: 140 lbs. — Hole Diameter: 6" — Foreman: J. Russell
Surf. Elev.: 484.78 Ft. — Hammer Drop: 30 in. — Rock Core Diameter: — Inspector: —
Date Started: 7/16/07 — Pipe Size: 2 in. — Boring Method: HSA — Date Completed: 7/16/07

Elevation / Depth	SOIL SYMBOL & SAMPLE DESIGNATION	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	SPT Blows/Foot Curve N (10 30 50)
485 / 0		Light brown, moist, medium stiff to stiff, sandy silty clay, trace organics (ML; FILL)	Topsoil-3"	10"		3-3-4	7
480 / 5		Reddish brown, moist, medium stiff to stiff, micaceous sandy silt (ML)	No groundwater encountered while drilling	12"		3-4-5	9
475 / 10				8"		3-4-15	19
470 / 15		Light brown, moist, stiff, micaceous sandy silt (ML)	Example 4 contains trace wood fragments	10"		4-5-6	11
465 / 20		Bottom of boring at 15.0'		14"		4-7-11	18
460 / 25							
455 / 30							
450 / 35							

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE — PT - PRESSED SHELBY TUBE — CA - CONTINUOUS FLIGHT AUGER — RC - ROCK CORE
SAMPLE CONDITIONS: D - DISTURBED/CUTTINGS — I - INTACT — U - UNDISTURBED — L - LOST
AT COMPLETION: GROUND WATER Dry ft. — CAVE IN DEPTH 2.0 ft.
AFTER 24 HRS.: GROUND WATER ____ ft. — CAVE IN DEPTH ____ ft.
AFTER ____ HRS.: GROUND WATER ____ ft. — CAVE IN DEPTH ____ ft.
BORING METHOD: HSA - HOLLOW STEM AUGERS — CFA - CONTINUOUS FLIGHT AUGERS — DC - DRIVING CASING — MD - MUD DRILLING

STANDARD PENETRATION TEST: DRIVING 2" O.D. SAMPLER F WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.

BORING B-9

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

Project Name: Waverly Woods Corporate Center SWM — Boring No.: B-9
Location: Howard County, Maryland — Job #: 021360

SAMPLER: Datum: — Hammer Wt.: 140 lbs. — Hole Diameter: 6" — Foreman: J. Russell
Surf. Elev.: 483.10 Ft. — Hammer Drop: 30 in. — Rock Core Diameter: — Inspector: —
Date Started: 7/16/07 — Pipe Size: 2 in. — Boring Method: HSA — Date Completed: 7/16/07

Elevation / Depth	SOIL SYMBOL & SAMPLE DESIGNATION	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	SPT Blows/Foot Curve N (10 30 50)
480 / 0		Tan to gray, moist, stiff, sandy silt, trace organics (ML; FILL)	Topsoil-2"	8"		5-5-6	11
475 / 5			No groundwater encountered while drilling	10"		5-6-8	12
470 / 10				8"		4-5-6	11
465 / 15		Brown, moist, stiff, very silty clay, trace organics and rock fragments (CL-ML)		12"		8-8-9	17
460 / 20		Gray, moist, stiff, micaceous sandy clay (CL; Possible FILL)		18"		6-7-13	20
455 / 25		Bottom of boring at 15.0'					
450 / 30							
445 / 35							

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE — PT - PRESSED SHELBY TUBE — CA - CONTINUOUS FLIGHT AUGER — RC - ROCK CORE
SAMPLE CONDITIONS: D - DISTURBED/CUTTINGS — I - INTACT — U - UNDISTURBED — L - LOST
AT COMPLETION: GROUND WATER Dry ft. — CAVE IN DEPTH 5.0 ft.
AFTER 24 HRS.: GROUND WATER 6.0 ft. — CAVE IN DEPTH ____ ft.
AFTER ____ HRS.: GROUND WATER ____ ft. — CAVE IN DEPTH ____ ft.
BORING METHOD: HSA - HOLLOW STEM AUGERS — CFA - CONTINUOUS FLIGHT AUGERS — DC - DRIVING CASING — MD - MUD DRILLING

STANDARD PENETRATION TEST: DRIVING 2" O.D. SAMPLER F WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.

BORING B-10

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

Project Name: Waverly Woods Corporate Center SWM — Boring No.: B-10
Location: Howard County, Maryland — Job #: 021360

SAMPLER: Datum: — Hammer Wt.: 140 lbs. — Hole Diameter: 6" — Foreman: J. Russell
Surf. Elev.: 481.90 Ft. — Hammer Drop: 30 in. — Rock Core Diameter: — Inspector: —
Date Started: 7/16/07 — Pipe Size: 2 in. — Boring Method: HSA — Date Completed: 7/16/07

Elevation / Depth	SOIL SYMBOL & SAMPLE DESIGNATION	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	SPT Blows/Foot Curve N (10 30 50)
480 / 0		Brown, moist, loose, silty sand, trace organics (SM; FILL)	Topsoil-3"	0"		4-4-5	9
475 / 5		Brown, moist, medium stiff to stiff, sandy silt, some to no rock fragments, trace organics (ML; FILL)	No groundwater encountered while drilling	6"		6-7-7	14
470 / 10				08"		6-5-8	13
465 / 15		Light brown, moist, stiff, micaceous sandy silt, trace clay (ML)		12"		2-4-5	9
460 / 20		Bottom of boring at 15.0'		10"		4-5-8	13
455 / 25							
450 / 30							
445 / 35							

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE — PT - PRESSED SHELBY TUBE — CA - CONTINUOUS FLIGHT AUGER — RC - ROCK CORE
SAMPLE CONDITIONS: D - DISTURBED/CUTTINGS — I - INTACT — U - UNDISTURBED — L - LOST
AT COMPLETION: GROUND WATER Dry ft. — CAVE IN DEPTH 3.0 ft.
AFTER 24 HRS.: GROUND WATER ____ ft. — CAVE IN DEPTH ____ ft.
AFTER ____ HRS.: GROUND WATER ____ ft. — CAVE IN DEPTH ____ ft.
BORING METHOD: HSA - HOLLOW STEM AUGERS — CFA - CONTINUOUS FLIGHT AUGERS — DC - DRIVING CASING — MD - MUD DRILLING

STANDARD PENETRATION TEST: DRIVING 2" O.D. SAMPLER F WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.

BORING B-11

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

Project Name: Waverly Woods Corporate Center SWM — Boring No.: B-11
Location: Howard County, Maryland — Job #: 021360

SAMPLER: Datum: — Hammer Wt.: 140 lbs. — Hole Diameter: 6" — Foreman: J. Russell
Surf. Elev.: 474.94 Ft. — Hammer Drop: 30 in. — Rock Core Diameter: — Inspector: —
Date Started: 7/17/07 — Pipe Size: 2 in. — Boring Method: HSA — Date Completed: 7/17/07

Elevation / Depth	SOIL SYMBOL & SAMPLE DESIGNATION	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	SPT Blows/Foot Curve N (10 30 50)
480 / 0		Brown, moist, medium stiff, sandy silt, trace organics (ML; FILL)	Topsoil-3"	14"		4-4-5	9
475 / 5		Reddish brown, moist, medium stiff to stiff, micaceous sandy silt (ML)	No groundwater encountered while drilling	14"		3-5-6	11
470 / 10				15"		4-6-5	11
465 / 15		Light brown, moist, stiff, micaceous sandy silt (CL)		14"		3-4-5	9
460 / 20		Bottom of boring at 15.0'		12"		3-5-6	11
455 / 25							
450 / 30							
445 / 35							

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE — PT - PRESSED SHELBY TUBE — CA - CONTINUOUS FLIGHT AUGER — RC - ROCK CORE
SAMPLE CONDITIONS: D - DISTURBED/CUTTINGS — I - INTACT — U - UNDISTURBED — L - LOST
AT COMPLETION: GROUND WATER Dry ft. — CAVE IN DEPTH 6.0 ft.
AFTER 24 HRS.: GROUND WATER ____ ft. — CAVE IN DEPTH ____ ft.
AFTER ____ HRS.: GROUND WATER ____ ft. — CAVE IN DEPTH ____ ft.
BORING METHOD: HSA - HOLLOW STEM AUGERS — CFA - CONTINUOUS FLIGHT AUGERS — DC - DRIVING CASING — MD - MUD DRILLING

STANDARD PENETRATION TEST: DRIVING 2" O.D. SAMPLER F WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.

BORING B-12

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

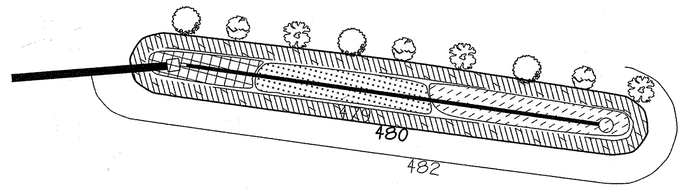
Project Name: Waverly Woods Corporate Center SWM — Boring No.: B-12
Location: Howard County, Maryland — Job #: 021360

SAMPLER: Datum: — Hammer Wt.: 140 lbs. — Hole Diameter: 6" — Foreman: J. Russell
Surf. Elev.: 470.78 Ft. — Hammer Drop: 30 in. — Rock Core Diameter: — Inspector: —
Date Started: 7/17/07 — Pipe Size: 2 in. — Boring Method: HSA — Date Completed: 7/17/07

Elevation / Depth	SOIL SYMBOL & SAMPLE DESIGNATION	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	SPT Blows/Foot Curve N (10 30 50)
475 / 0		Light brown, moist, stiff, sandy silt, trace organics (reducing wood fragments) (ML; FILL)	Topsoil-2"	12"		6-7-7	14
470 / 5		Gray, moist, stiff, sandy silt, trace rock fragments and clay (ML)	No groundwater encountered while drilling	14"		8-11-14	25
465 / 10		Light brown, moist, stiff, silty clay, trace sand (CL-ML)		12"		4-5-8	13
460 / 15		Tan, moist, medium dense, micaceous silty very fine sand (SM)		18"		7-13-15	28
455 / 20		Gray, moist, stiff, clay (CL)		18"		3-6-7	13
450 / 25		Bottom of boring at 15.0'					
445 / 30							
440 / 35							

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE — PT - PRESSED SHELBY TUBE — CA - CONTINUOUS FLIGHT AUGER — RC - ROCK CORE
SAMPLE CONDITIONS: D - DISTURBED/CUTTINGS — I - INTACT — U - UNDISTURBED — L - LOST
AT COMPLETION: GROUND WATER Dry ft. — CAVE IN DEPTH 5.0 ft.
AFTER 24 HRS.: GROUND WATER ____ ft. — CAVE IN DEPTH ____ ft.
AFTER ____ HRS.: GROUND WATER ____ ft. — CAVE IN DEPTH ____ ft.
BORING METHOD: HSA - HOLLOW STEM AUGERS — CFA - CONTINUOUS FLIGHT AUGERS — DC - DRIVING CASING — MD - MUD DRILLING

STANDARD PENETRATION TEST: DRIVING 2" O.D. SAMPLER F WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.



SYCAMORE
MAPLE
LONDON PLANE
RED OSLER DOGWOOD
WINTER BERRY
WITCH HAZEL
MIXED PERENNIALS (E.G. CARDINAL FLOWER, TALL CONE FLOWER)
MIXED GRASSES (E.G. BROOMSEDGE SWITCH GRASS)

BIO-RETENTION FACILITY No. 1
INTERNAL LANDSCAPING

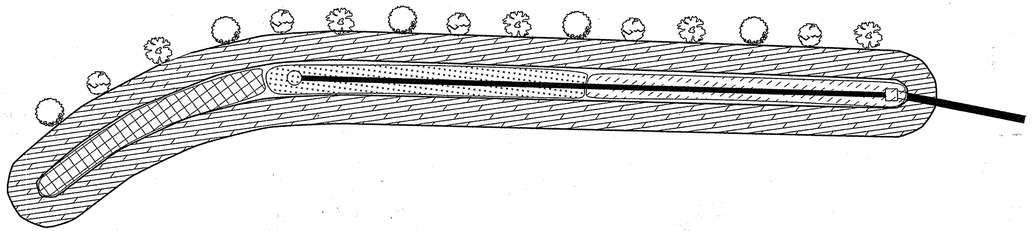
TYPE 'A' HAZARD CLASSIFICATION

NOT TO SCALE

BIO-RETENTION PLANT MATERIAL CELL No. 1

QUANTITY	NAME	MAXIMUM SPACING (FT.)
TREE SPECIES		
2	RED MAPLE	12
2	BLOODGOOD LONDON PLANE	12
2	SYCAMORE	12
SHRUB SPECIES		
16	WITCH HAZEL	12
16	RED OSLER DOGWOOD	12
20	WINTER BERRY	12
MIXED PERENNIALS AND GRASSES		
N/A	BLUEJOINT	N/A

NOTE:
THE PLANTING SCHEDULE AND SPECIES FOR CELL 1 IS FOR DESIGN PURPOSES. PLANT DISTRIBUTION AND TYPES MAY BE SUBSTITUTED WITH SPECIES LISTED IN THE "DESIGN MANUAL FOR BIO-RETENTION IN STORM WATER MANAGEMENT" PRINCE GEORGE'S COUNTY GOVERNMENT.



BIO-RETENTION PLANT MATERIAL CELL No. 2

QUANTITY	NAME	MAXIMUM SPACING (FT.)
TREE SPECIES		
5	RED MAPLE	12
5	BLOODGOOD LONDON PLANE	12
5	SYCAMORE	12
SHRUB SPECIES		
25	WITCH HAZEL	12
25	RED OSLER DOGWOOD	12
30	WINTER BERRY	12
MIXED PERENNIALS AND GRASSES		
N/A	BLUEJOINT	N/A

NOTE:
THE PLANTING SCHEDULE AND SPECIES FOR CELL 1 IS FOR DESIGN PURPOSES. PLANT DISTRIBUTION AND TYPES MAY BE SUBSTITUTED WITH SPECIES LISTED IN THE "DESIGN MANUAL FOR BIO-RETENTION IN STORM WATER MANAGEMENT" PRINCE GEORGE'S COUNTY GOVERNMENT.

SYCAMORE
MAPLE
LONDON PLANE
RED OSLER DOGWOOD
WINTER BERRY
WITCH HAZEL
MIXED PERENNIALS (E.G. CARDINAL FLOWER, TALL CONE FLOWER)
MIXED GRASSES (E.G. BROOMSEDGE SWITCH GRASS)

BIO-RETENTION FACILITY No. 2
INTERNAL LANDSCAPING

TYPE 'A' HAZARD CLASSIFICATION

NOT TO SCALE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE
1	Removed POR Zoning	9/8/14

ENGINEER'S CERTIFICATE

"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 — Date: 4-18-08

"Professional certification. I hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 20748, Expiration Date 2-22-09."

DEVELOPER'S CERTIFICATE

"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 of the Environment 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 — Date: 4-21-08

Reviewed for HOWARD SCD and meets Technical Requirements.

U.S.D.A.-Natural Resources Conservation Service — Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — Date

OWNER/DEVELOPER

WAVERLY WOODS DEVELOPMENT CORPORATION
c/o LAND DESIGN AND DEVELOPMENT, INC.
5300 DORSEY HALL DRIVE, SUITE 102
ELLICOTT CITY, MARYLAND 21042
(443) 367-0422

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date: 6/26/08
Chief, Division of Land Development — Date: 5/20/08
Chief, Development Engineering Division — Date: 5/14/08

SUBDIVISION NAME			SECTION/AREA	ELEC. DIST.	LOT/PARCEL Nos.
WAVERLY CORPORATE CENTER			---	3rd	'A'
PLAT NO.'S	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
17761-17763	22+8	PEC	10 & 16	3rd	6030.00
WATER CODE			SEWER CODE		
K02			5992000		

STORMWATER MANAGEMENT INTERNAL LANDSCAPING & SOIL BORINGS

WAVERLY CORPORATE CENTER
PARCEL 'A', PLAT No. 17415

ZONED PEC

TAX MAP No. 10 GRID No. 22 PARCEL No. 324, 325 & 327
TAX MAP No. 16 GRID No. 4 PARCEL No. 249
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL, 2008
SCALE: AS SHOWN
SHEET 14 OF 16

SDP 07-082

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BORING B-1

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION
Page 1 of 2

Project Name: DSRT Property Retaining Wall | Boring Number: B-1
Location: Howard County, Maryland | Job #: 021136C

SAMPLER
Datum: — | Hammer Wt. 140 Lbs. | Hole Diameter — | Foreman: Ola Arsenoaite
Surf. Elev.: — | Hammer Drop 30 Inches | Rock Core Dia. — | Inspector:
Date Started: 07-08-04 | Pipe Size 2.0 Inches OD | Boring Method HSA | Completed: 07-08-04

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA.	DEPTH	SCALE	CON	SAMPLE	BLOWS 6"	NO.	REC	BORING & SAMPLING NOTES
	SURFACE		0.0							4" Topsoil
	Dark brown, moist, loose, silty/clayey sand, trace gravel (SM/SC)				I		3-4-5	1	18"	Groundwater encountered at 13.0' while drilling
	Light brown, moist to wet, very soft to medium stiff, sandy micaceous silt, trace clay, trace quartz gravel fragments, trace mica (ML)		3.0		I		4-4-5	2	18"	
					I		2-1-2	3	18"	
					D		1-2-2	4	18"	Caved in at 10.0' at Completion
	Light brown to reddish brown, moist to wet, very soft to soft, micaceous silt/clay, trace sand (CL/ML)		12.0		I		1-2-3	5	18"	
					I		1-2-3	6	18"	

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE
SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST
GROUND WATER DEPTH: AT COMPLETION 7.0 FT.; AFTER — FT.; AFTER — FT.
BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"-COUNT MADE AT 6" INTERVALS

BORING B-2

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION
Page 1 of 2

Project Name: DSRT Property Retaining Wall | Boring Number: B-2
Location: Howard County, Maryland | Job #: 021136C

SAMPLER
Datum: — | Hammer Wt. 140 Lbs. | Hole Diameter — | Foreman: Ola Arsenoaite
Surf. Elev.: — | Hammer Drop 30 Inches | Rock Core Dia. — | Inspector:
Date Started: 07-08-04 | Pipe Size 2.0 Inches OD | Boring Method HSA | Completed: 07-08-04

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA.	DEPTH	SCALE	CON	SAMPLE	BLOWS 6"	NO.	REC	BORING & SAMPLING NOTES
	SURFACE		0.5							3" Topsoil
	Dark brown, moist, loose to medium dense, silty/clayey sand, trace gravel (SM/SC)				I		3-3-4	1	18"	Groundwater encountered at 18.0' while drilling
			5.5		I		10-13-13	2	18"	
	Very light grey, moist, soft, silt, trace sand, trace clay, trace mica (ML)				I		2-2-3	3	18"	
					I		3-3-2	4	18"	Caved in at 8.5' at Completion
	Dark brown, moist, very soft to soft, sandy silt/clay, trace mica (ML/CL)		12.0		I		1-1-2	5	18"	
					I		2-2-5	6	18"	

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE
SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST
GROUND WATER DEPTH: AT COMPLETION — Dry; AFTER — FT.; AFTER — FT.
BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"-COUNT MADE AT 6" INTERVALS

BORING B-3

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION
Page 1 of 2

Project Name: DSRT Property Retaining Wall | Boring Number: B-3
Location: Howard County, Maryland | Job #: 021136C

SAMPLER
Datum: — | Hammer Wt. 140 Lbs. | Hole Diameter — | Foreman: Ola Arsenoaite
Surf. Elev.: — | Hammer Drop 30 Inches | Rock Core Dia. — | Inspector:
Date Started: 01-06-04 | Pipe Size 2.0 Inches OD | Boring Method HSA | Completed: 01-06-04

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA.	DEPTH	SCALE	CON	SAMPLE	BLOWS 6"	NO.	REC	BORING & SAMPLING NOTES
	SURFACE		0.5							3" Topsoil
	Dark brown, moist, medium stiff, sandy silt/clay, trace organics, trace mica (CL/ML)				I		4-4-5	1	18"	Groundwater encountered at 6.0' while drilling
	Light grey, moist, medium dense, silty micaceous sand, trace gravel, trace clay (SM)		3.0		I		4-5-6	2	18"	
					D		4-6-15	3	12"	
					D		10-8-9	4	13"	Caved in at 10.0' at Completion
	Light brown, wet, medium dense, silty micaceous sand/silty micaceous gravel, trace clay, trace rock fragments (SM/GM)		12.0		D		5-11-13	5	18"	
	Light grey, wet, medium dense, silty micaceous sand, trace clay, trace gravel (SM)		17.0		D		2-8-13	6	18"	

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE
SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST
GROUND WATER DEPTH: AT COMPLETION 4.0 FT.; AFTER — FT.; AFTER — FT.
BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"-COUNT MADE AT 6" INTERVALS

BORING B-4

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION
Page 1 of 1

Project Name: DSRT Property Retaining Wall | Boring Number: B-4
Location: Howard County, Maryland | Job #: 021136C

SAMPLER
Datum: — | Hammer Wt. 140 Lbs. | Hole Diameter — | Foreman: Ola Arsenoaite
Surf. Elev.: — | Hammer Drop 30 Inches | Rock Core Dia. — | Inspector:
Date Started: 01-21-04 | Pipe Size 2.0 Inches OD | Boring Method HSA | Completed: 01-21-04

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA.	DEPTH	SCALE	CON	SAMPLE	BLOWS 6"	NO.	REC	BORING & SAMPLING NOTES
	SURFACE		0.0							4" Topsoil
	Dark brown, moist, sandy silt/clay, trace gravel (CL/ML)				I		3-6-7	1	10"	Groundwater encountered at 7.5' while drilling
			5.5		I		6-8-8	2	12"	
	Light brown, wet, medium dense, silty/clayey sand, trace gravel, trace mica (SM/SC)				D		6-8-10	3	12"	Caved in at 7.0' at Completion
					D		6-14-11	4	18"	
			15.0		D		5-10-11	5	18"	
	Bottom of Test Hole at 15.0'									

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE
SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST
GROUND WATER DEPTH: AT COMPLETION 4.0 FT.; AFTER — FT.; AFTER — FT.
BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"-COUNT MADE AT 6" INTERVALS

BORING B-6

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION
Page 1 of 1

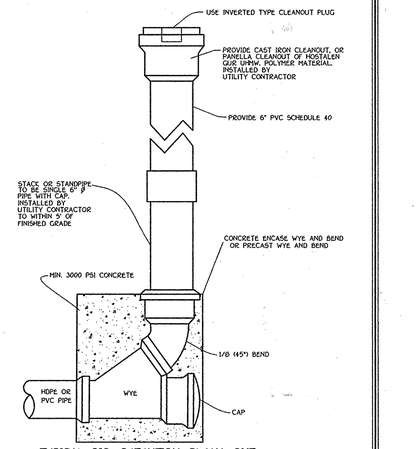
Project Name: DSRT Property Retaining Wall | Boring Number: B-6
Location: Howard County, Maryland | Job #: 021136C

SAMPLER
Datum: — | Hammer Wt. 140 Lbs. | Hole Diameter — | Foreman: Ola Arsenoaite
Surf. Elev.: — | Hammer Drop 30 Inches | Rock Core Dia. — | Inspector:
Date Started: 01-21-04 | Pipe Size 2.0 Inches OD | Boring Method HSA | Completed: 01-21-04

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA.	DEPTH	SCALE	CON	SAMPLE	BLOWS 6"	NO.	REC	BORING & SAMPLING NOTES
	SURFACE		0.0							4" Topsoil
	Dark brown, moist, sandy silt/clay, trace gravel, trace mica (CL/ML)				I		2-3-3	1	12"	Groundwater encountered at 10.0' while drilling
			6.5		I		7-9-12	2	18"	
	Light grey, moist, medium dense to dense, silty coarse sand, trace gravel (SM)				I		9-14-18	3	18"	Caved in at 8.0' at Completion
					I		12-14-14	4	18"	
	Dark brown, wet, loose to medium dense, silty/clayey sand, trace gravel and rock fragments (SM/SC)		12.0		D		1-2-3	5	14"	
	Bottom of Test Hole at 20.0'		20.0		D		4-7-9	6	18"	

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE
SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST
GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER — FT.; AFTER — FT.
BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"-COUNT MADE AT 6" INTERVALS



TYPICAL BIO-RETENTION CLEAN-OUT
NO SCALE

BIO-RETENTION CLEAN-OUT SCHEDULE

STRUCTURE NO.	TOP ELEVATION	INVERT	LOCATION NORTH	LOCATION EAST	REMARKS
C.O-1	479.00	475.01	N 540126.89	E 828364.83	SEE DETAIL THIS SHEET
C.O-2	481.00	477.01	N 540056.55	E 828449.75	SEE DETAIL THIS SHEET

BORING B-1 CONTINUED

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION
Page 2 of 2

Project Name: DSRT Property Retaining Wall | Boring Number: B-1
Location: Howard County, Maryland | Job #: 021136C

SAMPLER
Datum: — | Hammer Wt. 140 Lbs. | Hole Diameter — | Foreman: Ola Arsenoaite
Surf. Elev.: — | Hammer Drop 30 Inches | Rock Core Dia. — | Inspector:
Date Started: 07-08-04 | Pipe Size 2.0 Inches OD | Boring Method HSA | Completed: 07-08-04

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA.	DEPTH	SCALE	CON	SAMPLE	BLOWS 6"	NO.	REC	BORING & SAMPLING NOTES
			20.0							
	Light brown to reddish brown, moist to wet, very soft to soft, micaceous silt/clay, trace sand (CL/ML)				I		1-1-2	7	18"	
	Bottom of Test Hole at 25.0'		25.0							

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE
SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST
GROUND WATER DEPTH: AT COMPLETION 7.0 FT.; AFTER — FT.; AFTER — FT.
BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"-COUNT MADE AT 6" INTERVALS

BORING B-2 CONTINUED

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION
Page 2 of 2

Project Name: DSRT Property Retaining Wall | Boring Number: B-2
Location: Howard County, Maryland | Job #: 021136C

SAMPLER
Datum: — | Hammer Wt. 140 Lbs. | Hole Diameter — | Foreman: Ola Arsenoaite
Surf. Elev.: — | Hammer Drop 30 Inches | Rock Core Dia. — | Inspector:
Date Started: 07-08-04 | Pipe Size 2.0 Inches OD | Boring Method HSA | Completed: 07-08-04

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA.	DEPTH	SCALE	CON	SAMPLE	BLOWS 6"	NO.	REC	BORING & SAMPLING NOTES
			20.0							
	Dark brown, moist, very soft to soft, sandy silt/clay, trace mica (ML/CL)				I		1-1-3	7	18"	
			30.0		I		1-1-3	6	0"	
	Bottom of Test Hole at 30.0'									

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE
SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST
GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER — FT.; AFTER — FT.
BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"-COUNT MADE AT 6" INTERVALS

BORING B-3 CONTINUED

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION
Page 2 of 2

Project Name: DSRT Property Retaining Wall | Boring Number: B-3
Location: Howard County, Maryland | Job #: 021136C

SAMPLER
Datum: — | Hammer Wt. 140 Lbs. | Hole Diameter — | Foreman: Ola Arsenoaite
Surf. Elev.: — | Hammer Drop 30 Inches | Rock Core Dia. — | Inspector:
Date Started: 01-06-04 | Pipe Size 2.0 Inches OD | Boring Method HSA | Completed: 01-06-04

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA.	DEPTH	SCALE	CON	SAMPLE	BLOWS 6"	NO.	REC	BORING & SAMPLING NOTES
			20.0							
	Light grey, wet, medium dense, silty micaceous sand, trace clay, trace gravel (SM)									
	Dark grey, moist, dense, silty sand/silty clay, trace rock fragments (SM/CL)		22.0		D		19-21-18	7	6"	
	Bottom of Test Hole at 25.0'		25.0							

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE
SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST
GROUND WATER DEPTH: AT COMPLETION 4.0 FT.; AFTER — FT.; AFTER — FT.
BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"-COUNT MADE AT 6" INTERVALS

BORING B-5

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION
Page 1 of 1

Project Name: DSRT Property Retaining Wall | Boring Number: B-5
Location: Howard County, Maryland | Job #: 021136C

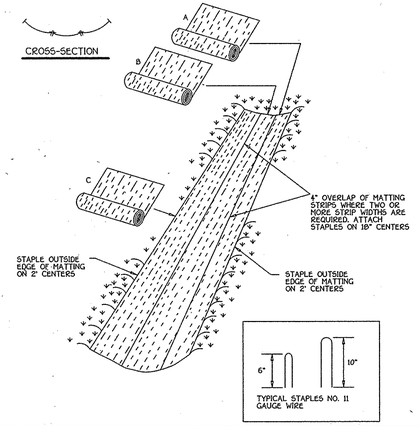
SAMPLER
Datum: — | Hammer Wt. 140 Lbs. | Hole Diameter — | Foreman: Ola Arsenoaite
Surf. Elev.: — | Hammer Drop 30 Inches | Rock Core Dia. — | Inspector:
Date Started: 01-21-04 | Pipe Size 2.0 Inches OD | Boring Method HSA | Completed: 01-21-04

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA.	DEPTH	SCALE	CON	SAMPLE	BLOWS 6"	NO.	REC	BORING & SAMPLING NOTES
	SURFACE		0.0							4" Topsoil
	Dark brown, moist, medium stiff, sandy silt and clay, trace gravel (CL/ML)				I		3-4-5	1	10"	Groundwater encountered at 10.0' while drilling
			5.5		I		4-3-4	2	18"	
	Dark brown, moist, medium dense silty coarse sand, trace clay, trace gravel (SM)		8.0		I		4-10-20	3	18"	
	Dark reddish brown, moist, medium stiff to stiff, silty clay/clayey silt, trace sand, trace gravel, trace mica (CL/ML)				I		2-5-5	4	18"	Caved in at 9.0' at Completion
	Bottom of Test Hole at 15.0'		15.0		I		5-8-8	5	14"	

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE
SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST
GROUND WATER DEPTH: AT COMPLETION 6.5 FT.; AFTER — FT.; AFTER — FT.
BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"-COUNT MADE AT 6" INTERVALS

EROSION CONTROL MATTING



EROSION CONTROL MATTING

Construction Specifications

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 4" overlap in the channel center using an 18" 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", shiplap 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 liner 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.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE
1	Removed FOR Zoning	9/8/14

ENGINEER'S CERTIFICATE

"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 Professional Engineer — Date 4-18-08

"Professional Certification. I hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 20748, Expiration Date 2-28-09."

DEVELOPER'S CERTIFICATE

"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 of the Environment 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 — Date 4-21-08

Reviewed for HOWARD SCD and meets Technical Requirements.

U.S.D.A.-Natural Resources Conservation Service — Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — Date 5/12/08

OWNER/DEVELOPER

WAVERLY WOODS DEVELOPMENT CORPORATION
c/o LAND DESIGN AND DEVELOPMENT, INC.
5300 DORSEY HALL DRIVE, SUITE 102
ELLICOTT CITY, MARYLAND 21042
(443) 367-0422

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 6/26/08

Chief, Division of Land Development — Date 5/20/08

Chief, Development Engineering Division — Date 5/14/08

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL Nos.
WAVERLY CORPORATE CENTER	---	'A'

PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
19761-19763	22+8	PEC	10 & 16	3rd	6030.00

WATER CODE	SEWER CODE
K02	5992000

STORMWATER MANAGEMENT NOTES, DETAILS & SOIL BORINGS

WAVERLY CORPORATE CENTER
PARCEL 'A', PLAT No. 17415

ZONED PEC

TAX MAP No. 10 GRID No. 22 PARCEL No. 324, 325 & 327
TAX MAP No. 16 GRID No. 4 PARCEL No. 249
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL, 2008
SCALE: AS SHOWN
SHEET 15 OF 16

SDP 07-082

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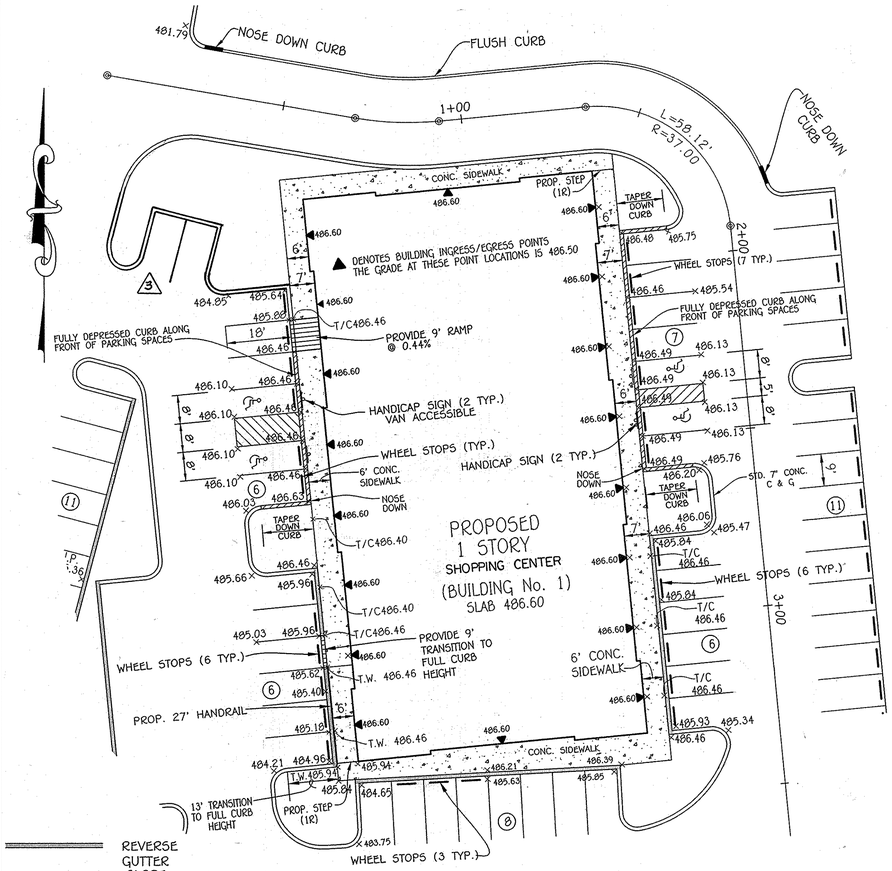


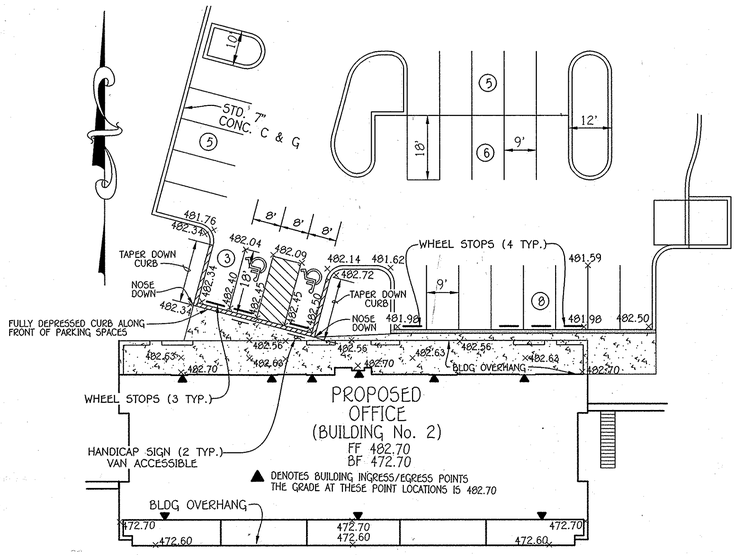
HANDICAP RAMP DETAIL

SCALE: 1" = 20'

REVERSE GUTTER SLOPE

DEPRESSED CURB w/ REVERSE GUTTER SLOPE

T.W. TOP OF WALL



HANDICAP RAMP DETAIL

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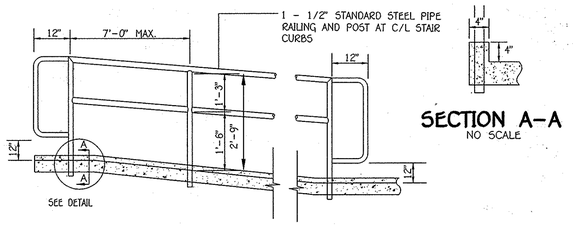

SECTION A-A

NO SCALE

HAND RAIL DETAIL

NO SCALE

HANDICAP PARKING SIGN DETAIL

8/3

NOT TO SCALE

GENERAL NOTES:

1. SIGNS SHALL MEET DESIGN STANDARDS OF THE FEDERAL HIGHWAY ADMINISTRATION AND CONFORM TO THE STATE OF MARYLAND STANDARD HIGHWAY SIGN BOOKLET DETAIL R7-8.
2. ONE SIGN IS REQUIRED PER SPACE PLACED AS SHOWN ON SITE IMPROVEMENT PLAN.
3. SIGNS SHALL BE POLE MOUNTED WITH HOT DIPPED GALVANIZED COUNTY APPROVED PERFORATED CHANNEL POSTS W/TOP OF SIGNS 9'-1" ABOVE FINISHED GRADE OR AS INDICATED ON SITE DRAWINGS.
4. SIGN SHALL BE ATTACHED TO FLANGED SIDE OF POST. POST SHALL EXTEND INTO GROUND 2'-6" MIN.
5. COLORS: LEGEND AND BORDER-GREEN
SYMBOL-WHITE ON BLUE BACKGROUND
BACKGROUND-WHITE
6. CONTRACTOR SHALL COORDINATE ARROW DIRECTION WITH LOCATION OF ADJACENT AISLE.

Note: This Sheet Is For Handicap Parking Only.

FISHER, COLLINS & CARTER, INC.
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CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
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(410) 461 - 2855

NO.	REVISION	DATE
3	Added Parking Spaces & Removed FDR Zoning	9/8/14
2	REVISED BLDG. No. 1, PARKING, AND DUMPSTER LOCATION	3/15/12
1	REVISED 8" W TO 6" W FOR BUILDINGS NO. 1 & 2	9/5/08

ENGINEER'S CERTIFICATE

"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Preparer — 4/13/12 Date

"Professional Certification. I hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 20748, Expiration Date: 7-10-2013."

DEVELOPER'S CERTIFICATE

"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 of the Environment 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 — 4/13/12 Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — Date

OWNER/DEVELOPER

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c/o LAND DESIGN AND DEVELOPMENT, INC.
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ELLICOTT CITY, MARYLAND 21042
(443) 367-0422

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 7/20/12 Date

Chief, Division of Land Development — 7/20/12 Date

Chief, Development Engineering Division — 7/13/12 Date

SUBDIVISION NAME			SECTION/AREA	LOT/PARCEL Nos.
WAVERLY CORPORATE CENTER			---	'A'
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WATER CODE			SEWER CODE	
K02			5992000	

REVISED
HANDICAP DETAILS

WAVERLY CORPORATE CENTER
PARCEL 'A', PLAT No. 17415

ZONED PEC

TAX MAP No. 10 GRID No. 22 PARCEL No. 324, 325 & 327
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THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: APRIL, 2008
REVISED DATE: MARCH, 2012
SHEET 16 OF 16

SDP 07-082

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