

NO	DESCRIPTION
1	TITLE SHEET
2	SITE DEVELOPMENT PLAN
3	GRADING AND SEDIMENT CONTROL
4	SEDIMENT CONTROL DETAILS
5	DETAIL SHEET
6	PROFILES
7	LANDSCAPE PLAN
8	LANDSCAPE SCHEDULES AND DETAILS
9	PROFILES, SCHEDULES AND DETAILS
10	REVISED SITE DEVELOPMENT PLAN
11	REVISED GRADING AND SEDIMENT CONTROL PLAN
12	REVISED LANDSCAPE PLAN
13	STORMWATER MANAGEMENT PLAN AND DETAILS
14	STORMWATER MANAGEMENT DETAILS
15	SITE DETAILS
16	SEDIMENT CONTROL DETAILS
17	SEDIMENT CONTROL DETAILS
GENERAL NOTES	

SITE DEVELOPMENT PLAN

SHOPPES AT DOBBIN CORNER

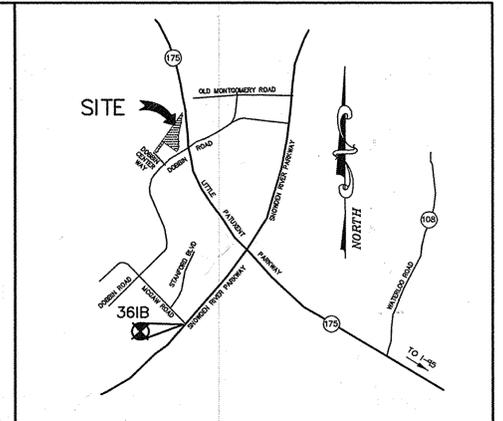
COLUMBIA AUTO PARK

SECTION 1 AREA 1

PARCEL L-1 AND L-2

6th ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

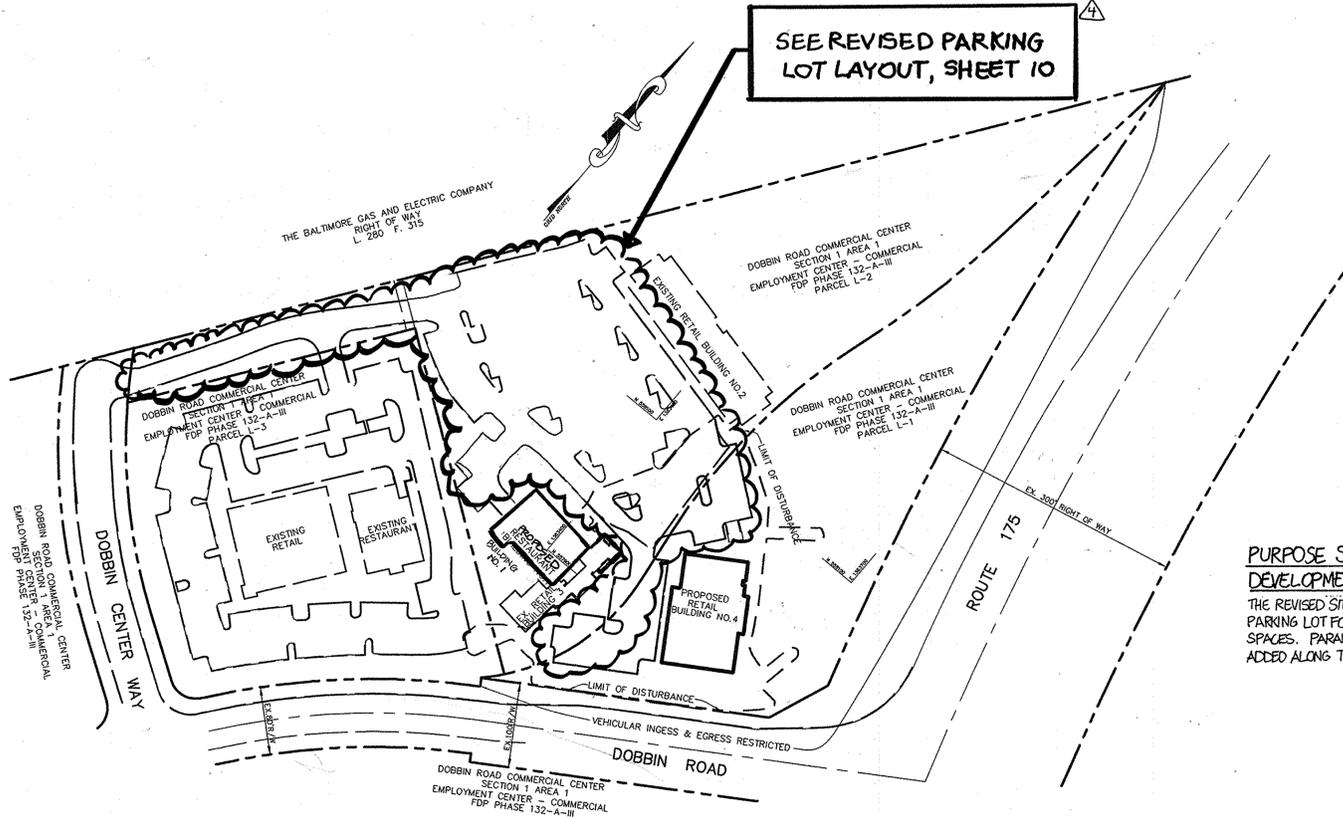


VICINITY MAP
SCALE: 1"=2000'
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PERMITTED USE NO. 20894285

AREA TABULATION CHART

AREA OF SITE:	PARCEL L-1 3,0804 AC. (133,312 SF)	PARCEL L-2 5,689 AC. (247,913 SF)
LIMIT OF DISTURBED AREA	1.6 AC. (68,498 SF)	
PRESENT ZONING	NT - EMPLOYMENT CENTER - COMMERCIAL	
EXISTING USES (BUILDINGS 1, 2, & 3)	SIT DOWN RESTAURANT AND RETAIL	
PROPOSED USES (BUILDING 4)	RETAIL	
PARCEL L-2 EXISTING USES		
BUILDING NO.1	RESTAURANT	7395 SF GROSS AREA (INCL. PATIO AREA)
BUILDING NO.2	RETAIL	12572 SF NLA (13140 SF GROSS AREA)
BUILDING NO.3	RETAIL	4940 SF NLA (5040 SF GROSS AREA)
PARCEL L-1 PROPOSED USES		
BUILDING NO.4	ONE STORY RETAIL	10990 GROSS SF (10,588 NLA SF)
PARKING REQUIRED - PER FDP 132-A-III		
BUILDING NO.1	7395 SF @ 5 SP/1000 SF =	37 SPACES
BUILDING NO.2	12572 SF @ 5 SP/1000 SF =	63 SPACES
BUILDING NO.3	4940 SF @ 5 SP/1000 SF =	25 SPACES
BUILDING NO.4	10588 NLA SF @ 5 SP/1000 SF =	53 SPACES
TOTAL PARKING REQUIRED =	178 SPACES	
TOTAL PARKING PROVIDED ON PARCELS L-1 AND L-2 =	259 SPACES	

APPROVED
PLANNING BOARD
HOWARD COUNTY
DATE: Feb 3, 2005



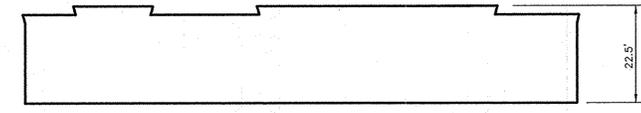
LOCATION PLAN
1" = 100'

PURPOSE STATEMENT OF REVISED SITE DEVELOPMENT PLAN:
THE REVISED SITE DEVELOPMENT PLAN REDESIGNS THE PARKING LOT FOR A NET INCREASE OF 44 PARKING SPACES. PARALLEL PARKING SPACES HAVE BEEN ADDED ALONG THE ENTRANCE DRIVE.

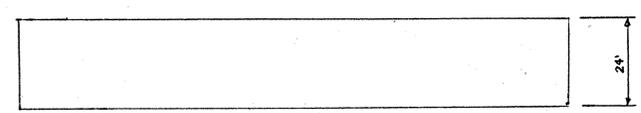
BENCH MARK
HOWARD COUNTY CONTROL
STATION 371C
N 554,993.538
E 1,360,668.022
ELEV. 335.821

HOWARD COUNTY CONTROL
STATION 3618
N 553,348.629
E 1,364,085.254
ELEV. 386.389

33. REVISIONS TO THIS PLAN WERE APPROVED BY THE HOWARD COUNTY PLANNING BOARD ON JUNE 5, 2014.



BUILDING ELEVATION
1" = 20'



BUILDING 1 ELEVATION
NOT TO SCALE

ADDRESS CHART

PARCEL NUMBER	STREET ADDRESS
L-1	6478 DOBBIN CENTER WAY

SUBDIVISION NAME COLUMBIA AUTO PARK	SECT./AREA 1/1	PARCEL L-1 AND L-2
PLAT NO. 17265	BLOCK # ZONING 17 NT	TAX MAP NO. 36
WATER CODE -	ELECT. DIST. CENSUS TRACT 6 6068.02	SEWER CODE -

2-24-15	4	REVISE PARKING LOT
6/28/10	3	ADD SHEET 9
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.		
DIRECTOR <i>Stephen Cafferty</i>		3/30/05 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION <i>Chris Dorman</i>		3/10/05 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT <i>Wanda Adams</i>		3/10/05 DATE
4/28/10	2	REMOVE EXISTING RESTAURANT, CONSTRUCT NEW RESTAURANT AND ADD ADDITION TO RETAIL
8/30/05	1	REVISED PROVIDED PARKING TOTAL
DATE	NO.	REVISION
OWNER/DEVELOPER DOBBIN CORNER LLC c/o GLENBROOK PROPERTIES INC. c/o MICHAEL ABRAMS 6508 OLD FARM COURT ROCKVILLE, MARYLAND 20852 301-468-8009		
PROJECT SHOPPES AT DOBBIN CORNER COLUMBIA AUTO PARK SECTION 1 AREA 1 PARCELS L-1 AND L-2		
AREA TAX MAP 36, BLOCK 17, PARCEL 401, ZONED NT 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE TITLE SHEET		
Patton Harris Rust & Associates, pc Engineers, Surveyors, Planners, Landscape Architects. 8818 Centre Park Drive Columbia, MD 21045 T 410.997.8900 F 410.997.9282		
DATE 		DESIGNED BY: C.J.R.
		DRAWN BY: DAM
		PROJECT NO: 11912-1.1 C100COV
		DATE: MARCH 9, 2005
		SCALE: AS SHOWN
		DRAWING NO. 1 OF 17

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/ CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY PATTON HARRIS RUST & ASSOCIATES DATED APRIL 2004.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 371C AND 3618 WERE USED FOR THIS PROJECT.
- WATER IS PUBLIC. CONTRACT NO. 24-1681-D
- SEWER IS PUBLIC. CONTRACT NO. 24-1681-D
- PARCEL L-2 WORK IS CONSIDERED A REDEVELOPMENT PROJECT. WATER QUALITY FOR THE REDEVELOPMENT IS PROVIDED BY A PRIVATELY OWNED AND MAINTAINED BIORETENTION FACILITY. PARCEL L-1 IS NEW DEVELOPMENT WITH REV. ADDRESSED BY GRASS CHANNEL CREDIT AND WQV ADDRESSED IN PRIVATELY OWNED AND MAINTAINED BIORETENTION FACILITY. CPV WAS NOT REQUIRED.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
- A 100- YEAR FLOODPLAIN STUDY FOR THIS PROJECT IS NOT REQUIRED.
- NO WETLANDS ARE FOUND ON THIS PROJECT PER FIELD VISIT BY PHRA DATED APRIL 2004.
- A TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY LEE CUNNINGHAM & ASSOCIATES DATED AUGUST 2004.
- A NOISE STUDY FOR THIS PROJECT IS NOT REQUIRED.
- THE BOUNDARY SURVEY FOR THIS PROJECT WAS PREPARED BY PATTON HARRIS RUST & ASSOCIATES DATED APRIL 2004.
- SUBJECT PROPERTY ZONED NT PER 02-02-04 COMPREHENSIVE ZONING PLAN.
- ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
- SEE DEPARTMENT OF PLANNING AND ZONING FILE NO'S. SDP-87-218C, SDP-83-216, SDP-79-151, FDP-132-A-111, F-05-99
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T180.
- ALL LIGHTING IS TO BE DIRECTED/REFLECTED AWAY FROM ADJACENT PUBLIC ROADS AND RESIDENTIALLY ZONED PROPERTIES, AND BE IN ACCORDANCE WITH SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS.
- LANDSCAPE SHALL BE PROVIDED IN ACCORDANCE WITH THIS SITE PLAN UNDER THE NEW TOWN ALTERNATIVE COMPLIANCE, AND LANDSCAPE SURETY WILL BE POSTED WITH THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$5910.
- CROSS PARKING AND INGRESS/EGRESS EASMENTS HAVE BEEN RECORDED IN THE LAND RECORDS OFFICE OF HOWARD COUNTY, MARYLAND DATED SEPTEMBER 2, 2004 AND LIBER 8644 FOLIO 43.
- THIS PLAN IS EXEMPT FROM FOREST CONSERVATION OBLIGATIONS IN ACCORDANCE WITH SECTION 16.1202 (b)(1)(iv) OF THE FOREST CONSERVATION MANUAL, SINCE IT IS LOCATED IN A PLANNED UNIT DEVELOPMENT OF THE NEW TOWN ZONING DISTRICT WHICH HAS HAD PRELIMINARY DEVELOPMENT PLAN APPROVAL BEFORE 12/31/92.
- AT ITS REGULARLY SCHEDULED MEETING ON 01/07/10, THE PLANNING BOARD CONSIDERED A CONCEPT SITE PLAN TO REPLACE THE EXISTING ROCKY RUN RESTAURANT WITH A BUFFALO WILD WINGS RESTAURANT ON PARCEL L2 AS A SPECIAL SUBJECT. THE PLANNING BOARD DETERMINED THAT THE REPLACEMENT OF THE EXISTING RESTAURANT BUILDING WITH A NEW RESTAURANT BUILDING OF SIMILAR SIZE AND LOCATION WOULD NOT REQUIRE THEIR RE-APPROVAL OF THE RED-LINE REVISION FOR THIS RESTAURANT BUILDING REPLACEMENT, PROVIDED THERE IS NO CHANGE OR INCREASE IN THE PREVIOUSLY APPROVED OVERALL FLOOR AREAS AS PREVIOUSLY APPROVED BY THE PLANNING BOARD.
- KNOX BOX SHALL BE LOCATED TO THE RIGHT OF THE MAIN FRONT ENTRANCE AS SHOWN. IT SHALL BE PLACED AT A RANGE OF 4'-5' IN HEIGHT AND NO MORE THAN 4' LATERALLY FROM THE DOOR.

P:\projects\119121-11E\gr\Plans\C100COV.dwg, 03/09/2005 08:20:37 AM, HP750C(68) pnc3, 1:1

SEE SHEET 10 FOR
PARKING LOT
REDEVELOPMENT

- NOTES:**
1. ALL RADII ARE 5' UNLESS OTHERWISE NOTED.
 2. ALL DIMENSIONS ARE TO FACE OF CURB OR BUILDING UNLESS OTHERWISE NOTED.
 3. ALL ON-SITE ROADS ARE PRIVATE.
 4. STD./REV./BARR.CURB *X- DENOTES TRANSITION BETWEEN STANDARD, REVERSE & BARRIER CURB
 5. STREET LIGHT, 250 WATT HPS (SAG) MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE USING A 12' ARM.

- LEGEND**
- EXISTING 10' CONTOURS
 - EXISTING 2' CONTOURS
 - PROPOSED 10' CONTOURS
 - PROPOSED 2' CONTOURS
 - PROPOSED CURB & GUTTER & BARRIER CURB
 - PROPOSED STORM DRAIN
 - EXISTING TREELINE
 - PROPOSED TREELINE
 - P-2 PAVING (HO.CO. DETAIL R-2.01)
 - PAVING TO BE REMOVED
 - CONCRETE SIDEWALK (HO.CO. DETAIL R-3.05)

NOTE: PROPOSED 8"x6" T&S AND 10 LF OF PROPOSED 6" WATER TO BE CONSTRUCTED BY HOWARD COUNTY ADD AGREEMENT.

2/24/15 5 REVISE PARKING LOT

APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE FEB 3, 2015

11/21/12 4 REVISED SHC
6/22/10 3 ADD SHC AND W/L

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR [Signature] 3/30/05 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION [Signature] 2/21/05 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT [Signature] 6/20/05 DATE

1/28/10 2 REVISED EXISTING RESTAURANT, CONSTRUCT NEW RESTAURANT AND ADD ADDITIONS TO RETAIL
8/30/05 1 MODIFIED DUMPSTER PAD, 4 BUREL/SOAK, HANDICAP PARKING, PARALLEL SEWER ALIGNMENT, ADDED STAIRS, SIDEWALK, 1 LIGHTS.

DATE NO. REVISION

OWNER/DEVELOPER DOBBIN CORNER LLC
c/o GLENBROOK PROPERTIES INC.
c/o MICHAEL ABRAMS
6508 OLD FARM COURT
ROCKVILLE, MARYLAND 20852
301-468-8009

PROJECT **SHOPPES AT DOBBIN CORNER**
COLUMBIA AUTO PARK SECTION 1 AREA 1
PARCELS L-1 AND L-2

AREA TAX MAP 36, BLOCK 17, PARCEL 401, ZONED NT
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

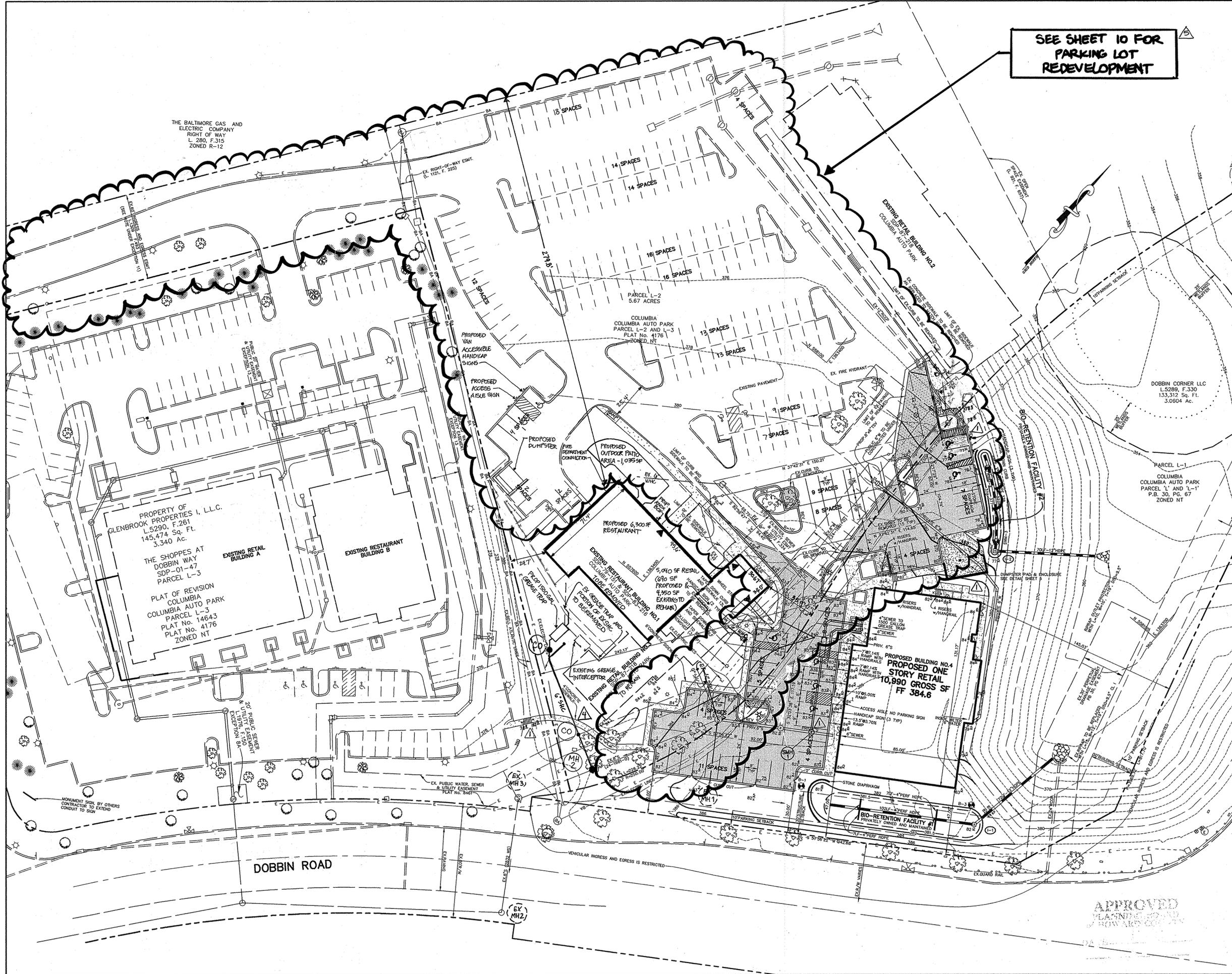
TITLE **SITE DEVELOPMENT PLAN**

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

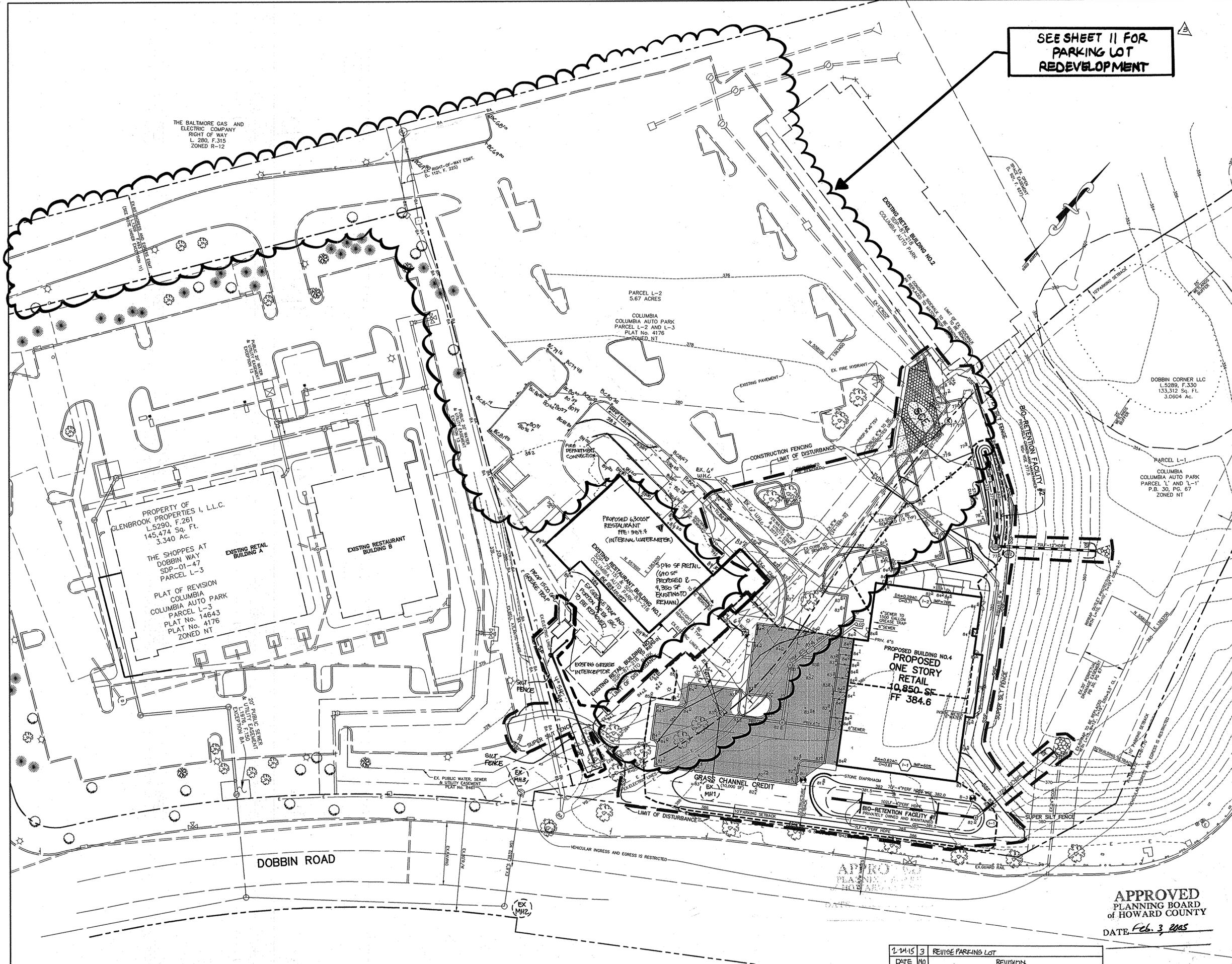
3.9.05
DATE

DESIGNED BY : C.J.R.
DRAWN BY: DAM
PROJECT NO : 11912-1.1
C400SIT.DWG
DATE : MARCH 9, 2005
SCALE : 1" = 30'
DRAWING NO. 2 OF 17

CHRISTOPHER J. REID #19949



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**SEE SHEET 11 FOR
PARKING LOT
REDEVELOPMENT**

LEGEND

LIMIT OF DISTURBANCE	---
SUPER SILT FENCE	SSF
STABILIZED CONSTRUCTION ENTRANCE	SCS
DRAINAGE AREA LINES	---

10,000 SF AREA OF PAVING DRAINING TO GRASS CHANNEL TO ADDRESS Rev FOR PARCEL L-1

**APPROVED
PLANNING BOARD
OF HOWARD COUNTY**

DATE: 3.9.05

BY THE DEVELOPER:

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY 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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Michael Abrams 3.9.05
DEVELOPER *Michael Abrams* DATE

BY THE ENGINEER:

I CERTIFY THAT THIS PLAN FOR 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.

Chris Raw 3.9.05
ENGINEER *Chris Raw* DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Major 3/14/05
NATURAL RESOURCES CONSERVATION SERVICE DATE

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

John R. Winters 3/14/05
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Bradley J. Kelly 3/30/05
DIRECTOR DATE

Chris Raw 3/21/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Andy Hamer 3/30/05
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
6/22/10	2	ADD SEC AND WHC
4/28/10	1	REMAKE EXISTING RESTAURANT, CONSTRUCT NEW RESTAURANT AND ADD ADDITIONS TO RETAIL

OWNER/DEVELOPER
DOBBIN CORNER LLC
c/o GLENBROOK PROPERTIES INC.
c/o MICHAEL ABRAMS
6508 OLD FARM COURT
ROCKVILLE, MARYLAND 20852
301-468-8009

PROJECT **SHOPPES AT DOBBIN CORNER**
COLUMBIA AUTO PARK SECTION 1 AREA 1
PARCELS L-1 AND L-2

AREA TAX MAP 36, BLOCK 17, PARCEL 401, ZONED NT
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE **GRADING, SEDIMENT CONTROL AND DRAINAGE AREA MAP**

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.9.05
DATE

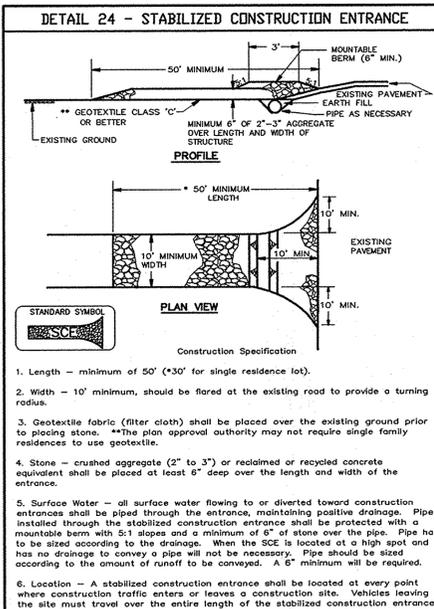
DESIGNED BY: C.J.R.
DRAWN BY: DAM
PROJECT NO: 11912-1.1
C200ESC.DWG
DATE: MARCH 9, 2005
SCALE: 1" = 30'
DRAWING NO. 3 OF 17

CHRISTOPHER J. REID #19949

**APPROVED
PLANNING BOARD
OF HOWARD COUNTY**

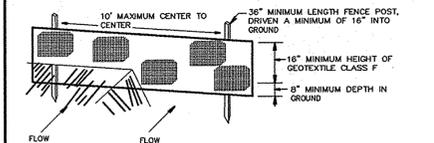
DATE Feb. 3, 2005

DATE	NO.	REVISION
1-24-05	3	REVISE PARKING LOT



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 mounded 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. A 6" minimum will be required, according to the amount of runoff to be conveyed.
 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.

U.S. DEPARTMENT OF AGRICULTURE PAGE 1-19-3 MARYLAND DEPARTMENT OF ENVIRONMENT
 SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION



1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pound per linear foot.
 2. Geotextile 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 ft²/minute (max.) Test: MSMT 322
 Filtering Efficiency 75% (min.) Test: MSMT 322
 3. Where ends of geotextile fabric come together, they shall be overlapped, folded or stapled to prevent seepage of bypass.
 4. Silt fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reaches 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE PAGE 1-15-3 MARYLAND DEPARTMENT OF ENVIRONMENT
 SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

30.0 - DUST CONTROL

DEFINITION
 CONTROLLING DUST BLOWING AND MOVEMENT ON CONSTRUCTION SITES AND ROADS.

PURPOSE
 TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, REDUCE ON AND OFF-SITE DAMAGE, HEALTH HAZARDS, AND IMPROVE TRAFFIC SAFETY.

CONTIIONS WHERE PRACTICE APPLIES
 THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT.

SEVERATIONS

TEMPORARY METHODS

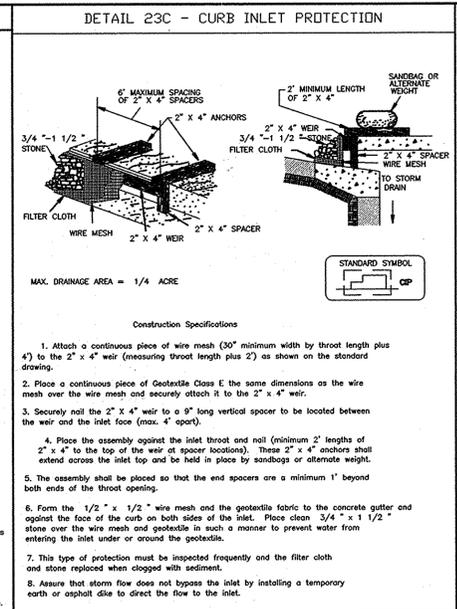
- MULCHES - SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE CRIMPED OR TACKED TO PREVENT BLOWING.
- VEGETATIVE COVER - SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER.
- TILLAGE - TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE, THIS IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHESD-TYPE PLOWS SPACED ABOUT 12' APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.
- IRRIGATION - THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED. AT NO TIME SHOULD THE SITE BE IRRIGATED TO THE POINT THAT RUNOFF BEGINS TO FLOW.
- BARRIERS - SOLID BOARD FENCES, SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 100 FEET ARE EFFECTIVE IN CONTROLLING SOIL BLOWING.
- CALCIUM CHLORIDE - APPLY AT RATES THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.

PERMANENT METHODS

- PERMANENT VEGETATION - SEE STANDARDS FOR PERMANENT VEGETATIVE COVER, AND PERMANENT STABILIZATION WITH SOD. EXISTING TREES OR LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.
- TOPSOILING - COVERING WITH LESS EROSION SOIL MATERIALS. SEE STANDARDS FOR TOPSOILING.
- STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

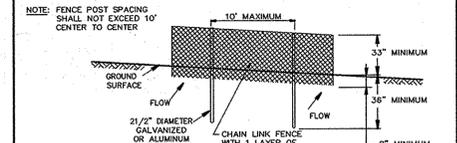
REFERENCES

- AGRICULTURE HANDBOOK 346. WIND EROSION FORCES IN THE UNITED STATES AND THEIR USES IN PREDICTING SOIL LOSS.
- AGRICULTURE INFORMATION BULLETIN 354. HOW TO CONTROL WIND EROSION, USDA-ARS.



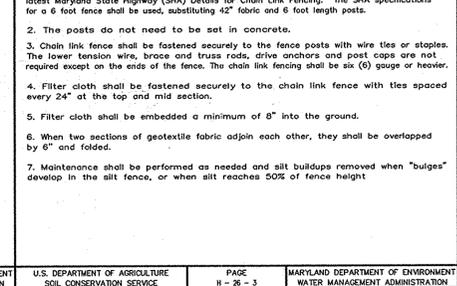
1. Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4") to the 2" x 4" weir (measuring throat length plus 2") as shown on the standard drawing.
 2. Place a continuous piece of Geotextile Class F of the same dimensions as the wire mesh over the weir mesh and securely attach it to the 2" x 4" weir.
 3. Securely nail the 2" x 4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4" open).
 4. Place the assembly against the inlet throat and nail (minimum 2" length of 2" x 4" to top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by spacers or alternate weight.
 5. The assembly shall be placed so that the end encloses a minimum 1' beyond both ends of the throat opening.
 6. Form the 1/2" x 1/2" wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4" x 1 1/2" stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.
 7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
 8. Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

U.S. DEPARTMENT OF AGRICULTURE PAGE 1-16-3B MARYLAND DEPARTMENT OF ENVIRONMENT
 SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

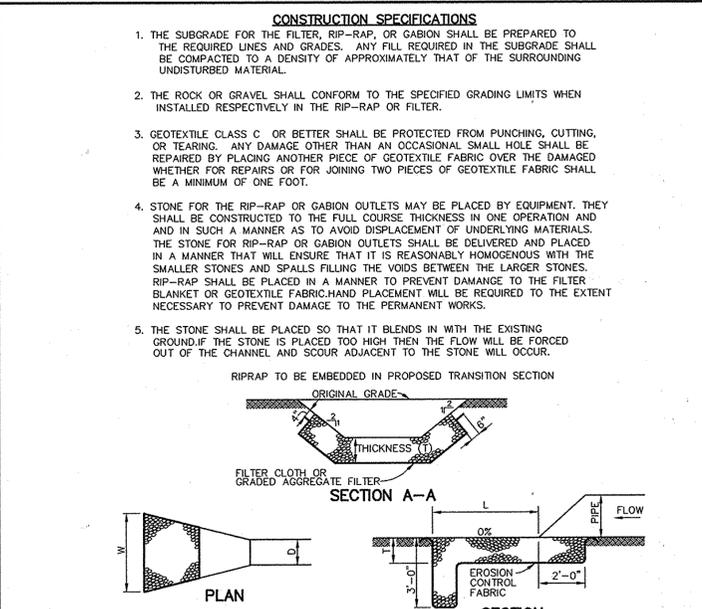


NOTE: FENCE POST SPACING SHALL NOT EXCEED 10' CENTER TO CENTER.
 1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway (SHA) Details for Chain Link Fencing. The SHA specifications for a 6 foot fence shall be used, substituting 42" fabric and 6 foot length posts.
 2. The posts do not need to be set in concrete.
 3. Chain link fence shall be fastened securely to the fence posts with wire ties or staples. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence. The chain link fencing shall be (6) gauge or heavier.
 4. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
 5. Filter cloth shall be embedded a minimum of 6" into the ground.
 6. When two sections of geotextile fabric adjoin each other, they shall be overlapped by 6" and folded.
 7. Maintenance shall be performed as needed and all buldups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.

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 SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION



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 SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION



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 SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

RIPRAP OUTLET PROTECTION DETAIL

STRUCTURE	MEDIAN STONE DIA.	LENGTH (L)	WIDTH (W)	THICKNESS (T)
E-1	9.5" CL 1 SHA RIPRAP	15'	12'	19"
E-2	9.5" CL 1 SHA RIPRAP	10'	10'	19"

NO SCALE

21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

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.

CONTIIONS WHERE PRACTICE APPLIES

- 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 NUTRIENTS.
 -c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
 -d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
- 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

- 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 EXPERIMENTATION STATION.
- 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 SOIL SCIENTISTS 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 ONDERS, 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, NUTSEG, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
 -iii. WHERE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 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.
- FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:
 -i. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
- 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 TO 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.

- PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
- 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, ALBERT 42" HIGH CURBS, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
 -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.
- ALTERNATIVE FOR PERMANENT SEEDING - INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERCIAL FERTILIZER, FERTILIZER AND SEEDING 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 SITE 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) BY 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.
 -d. 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. REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SODDING, MD-VA, PUB. #1, COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES. REVISED 1973.

U.S. DEPARTMENT OF AGRICULTURE PAGE 1-26-3 MARYLAND DEPARTMENT OF ENVIRONMENT
 SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

STANDARD SEDIMENT CONTROL NOTES

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 147 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3:1. BY 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, BUT BEFORE PROCEEDING WITH SEEDING, SOO, TEMPORARY SEEDING, AND MULCHING (SEC. 6). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHED OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSON FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:
 TOTAL AREA OF SITE (L-1 & L-2) 8.76 ACRES
 AREA DISTURBED 1.6 ACRES
 AREA TO BE ROOFED OR PAVED 1.1 ACRES
 AREA TO BE VEGETATIVELY STABILIZED 0.5 ACRES
 TOTAL CUT 1500 CU. YARDS
 TOTAL FILL 1500 CU. YARDS
 OFFSITE WASTE AREA LOCATION TO HAVE ACTIVE GRADING PERMIT
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROL, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
- SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.
- SEDIMENT WILL BE REMOVED FROM TRAPS WHEN ITS DEPTH REACHES CLEAN OUT ELEVATION SHOWN ON THE PLANS.
- CUT AND FILL QUANTITIES PROVIDED UNDER SITE ANALYSIS DO NOT REPRESENT BID QUANTITIES. THESE QUANTITIES DO NOT DISTINGUISH BETWEEN TOPSOIL, STRUCTURAL FILL OR EMBANKMENT MATERIAL, NOR DO THEY REFLECT CONSIDERATION OF UNDERCUTTING OR REMOVAL OF UNSUITABLE MATERIAL. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH SITE CONDITIONS WHICH MAY AFFECT THE WORK.

U.S. DEPARTMENT OF AGRICULTURE PAGE 1-16-3B MARYLAND DEPARTMENT OF ENVIRONMENT
 SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION - LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCHING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS - APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS. PER 1000 SQ.FT.).

SEEDING - FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2-1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS. PER 1000 SQ.FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WEEPING LOVEGRASS (0.07 LBS. PER 1000 SQ.FT.). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS. PER 1000 SQ.FT.) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL. PER ACRE (5 GAL. PER 1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES, 8 FT. OR HIGHER, USE 347 GAL. PER ACRE (8 GAL. PER 1000 SQ.FT.) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LEIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION - LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCHING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS - IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

- PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS. PER 1000 SQ.FT.) AND 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS. PER 1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS. PER 1000 SQ.FT.).
- ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS. PER 1000 SQ.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS. PER 1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

SEEDING - FOR THE PERIOD MARCH 1 THRU APRIL 30 AND FROM AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE (1.4 LBS. PER 1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (0.05 LBS. PER 1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY ONE OF THE FOLLOWING OPTIONS:

- 2 TONS PER ACRE OF WELL-ANCHORED MULCH STRAW AND SEED AS SOON AS POSSIBLE IN THE SPRING.
- USE SOD.
- SEED WITH 60 LBS. PER ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS PER ACRE WELL ANCHORED STRAW.

MULCHING - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS. PER 1000 SQ.FT.) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL. PER ACRE (5 GAL. PER 1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES, 8 FT. OR HIGHER, USE 347 GAL. PER ACRE (8 GAL. PER 1000 SQ.FT.) FOR ANCHORING.

MAINTENANCE - INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

U.S. DEPARTMENT OF AGRICULTURE PAGE 1-26-3 MARYLAND DEPARTMENT OF ENVIRONMENT
 SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

APPROVED PLANNING BOARD OF HOWARD COUNTY
 DATE: Feb. 3, 2005

SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT.
- INSTALL STABILIZED CONSTRUCTION ENTRANCE, SUPER SILT FENCE. (2 DAYS)
- REMOVE EXISTING PAVING AND SIDEWALK. INSTALL TEMPORARY ACCESS TO EXISTING BUILDINGS WITH CONSTRUCTION FENCING. (1 WEEK)
- BEGIN ROUGH GRADING AND BUILDING CONSTRUCTION.
- AS SUBGRADE ELEVATIONS ARE ESTABLISHED, INSTALL WATER AND SEWER. (3 WEEKS)
- INSTALL CURB AND GUTTER AND PAVE. (3 WEEKS)
- PERFORM FINE GRADING, LANDSCAPING AND SIDEWALKS. (2 WEEKS)
- APPLY TOPSOIL AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (2 DAYS)
- COMPLETE BUILDING CONSTRUCTION. (6 MONTHS)
- UPON PERMISSION OF COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (1 DAY)

BY THE DEVELOPER:

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY REVISIONS TO THIS PLAN SHALL BE APPROVED BY THE HOWARD COUNTY DEPARTMENT OF ENVIRONMENT AND PLANNING. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Michael Abrams 3/9/05
 DEVELOPER DATE

BY THE ENGINEER:

I CERTIFY THAT THIS PLAN FOR 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.

John J. Reid 3/9/05
 ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

John J. Reid 3/14/05
 NATURAL RESOURCES CONSERVATION SERVICE DATE

John J. Reid 3/14/05
 HOWARD SOIL CONSERVATION DISTRICT DATE

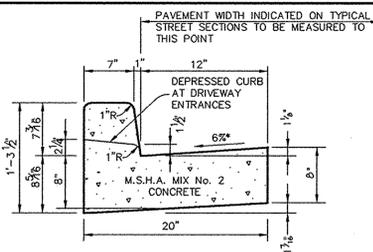
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Stephen J. Kelly 3/30/05
 DIRECTOR DATE

John J. Reid 3/30/05
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

John J. Reid 3/30/05
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

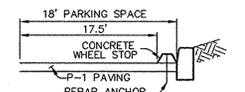
DATE	NO.	REVISION
OWNER/DEVELOPER		
DOBBIN CORNER LLC c/o GLENBROOK PROPERTIES INC. c/o MICHAEL ABRAMS 6508 OLD FARM COURT ROCKVILLE, MARYLAND 20852 301-468-8009		
PROJECT		
SHOPPES AT DOBBIN CORNER COLUMBIA AUTO PARK SECTION 1 AREA 1 PARCELS L-1 AND L-2		
AREA		
TAX MAP 36, BLOCK 17, PARCEL 401, ZONED NT 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE		
SEDIMENT CONTROL DETAILS		
Patton Harris Rust & Associates, pc Engineers, Surveyors, Planners, Landscape Architects. 8818 Centre Park Drive Columbia, MD 21045 T 410.997.8900 F 410.997.9282		
P.H.R.A. 3.1.05 DATE		
DESIGNED BY: C.J.R.		
DRAWN BY: DAM		
PROJECT NO.: 11912-1-1 C200DET.DWG		
DATE: MARCH 9, 2005		
SCALE: AS SHOWN		
DRAWING NO.: 4 OF 17		
CHRISTOPHER J. REID #19949		



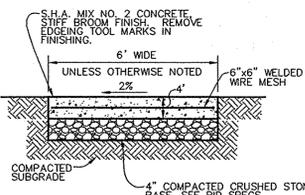
HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-3.01).

* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AS THE PAVEMENT.

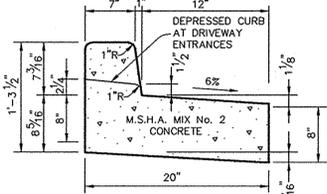
STANDARD 7" COMBINATION CURB AND GUTTER
NO SCALE



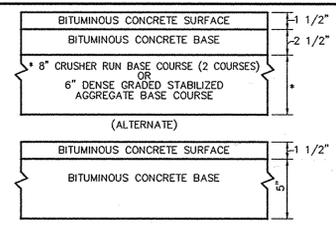
CONCRETE WHEEL STOP LOCATION PLAN
NO SCALE



SIDEWALK w/ REINFORCING
NO SCALE

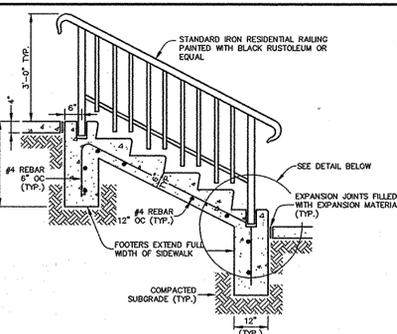


REVERSE 7" COMBINATION CURB AND GUTTER
NO SCALE

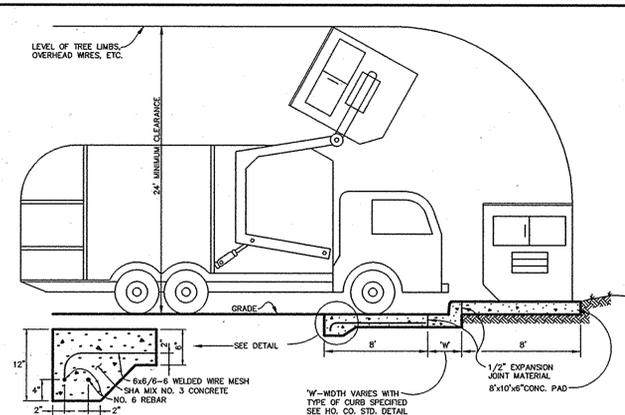


HOWARD COUNTY DESIGN MANUAL VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-2.01)

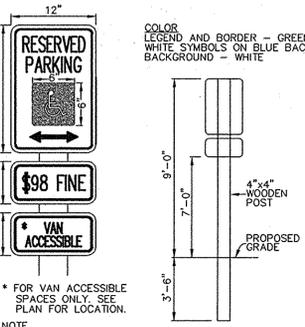
P-2 PAVING
NO SCALE



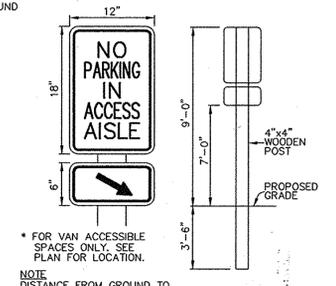
STEP AND RAILING DETAIL
NO SCALE



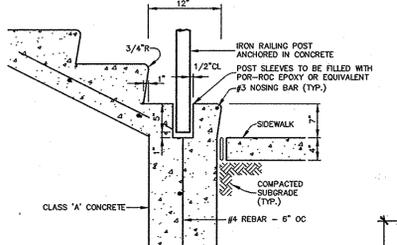
DUMPSTER PAD
NO SCALE



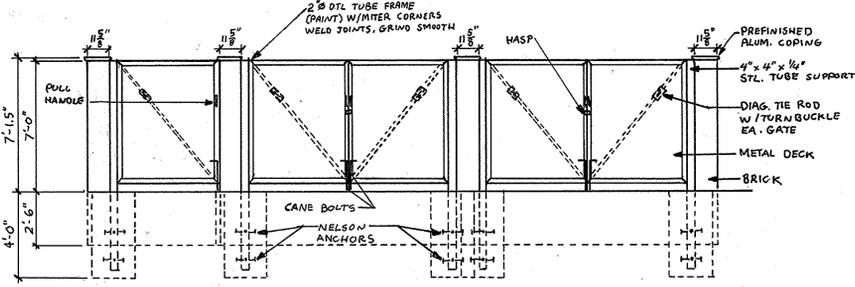
HANDICAP SIGN DETAIL
NO SCALE



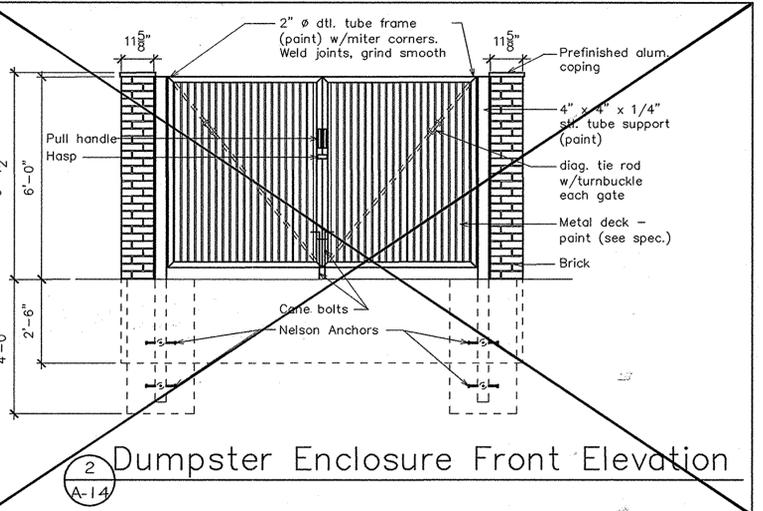
ACCESS AISLE SIGN
NO SCALE



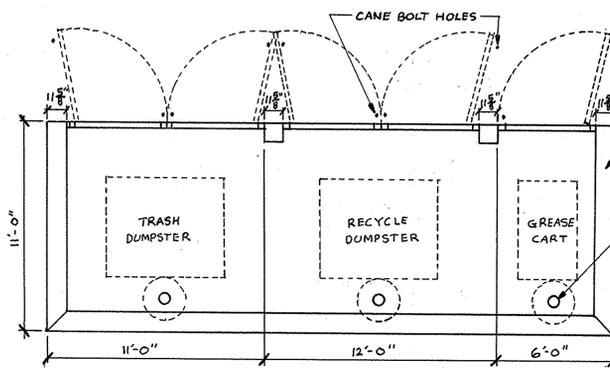
TYPICAL CONCRETE STEP WITH RAIL DETAIL
NO SCALE



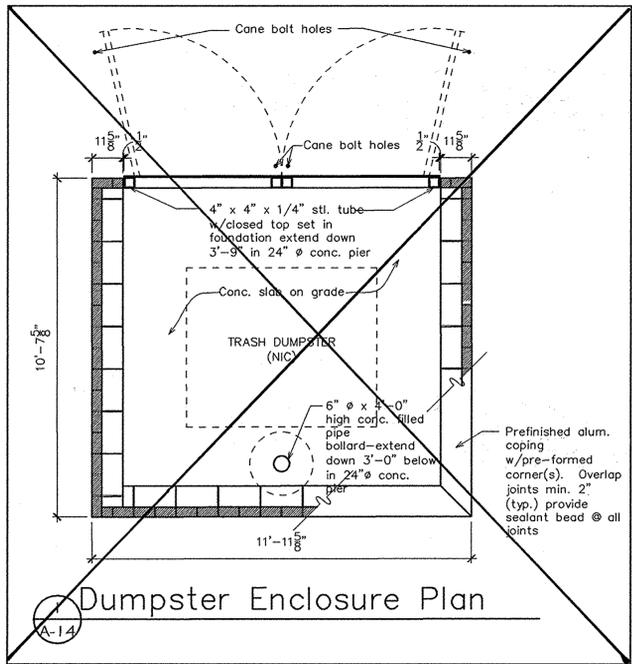
DUMPSTER ENCLOSURE FRONT ELEVATION



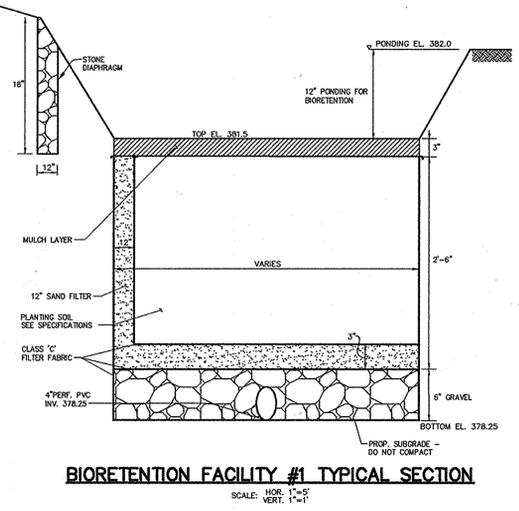
Dumpster Enclosure Front Elevation



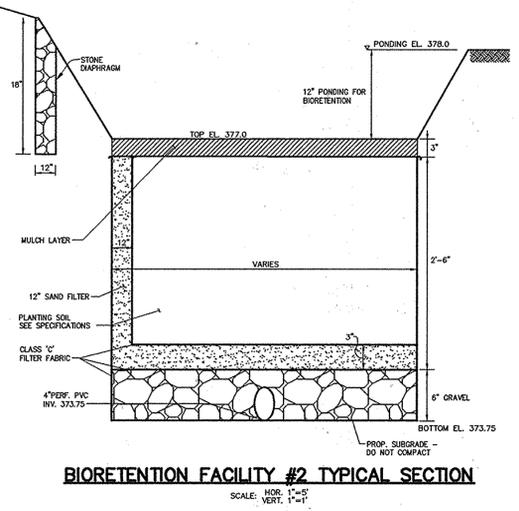
DUMPSTER ENCLOSURE PLAN



Dumpster Enclosure Plan



BIORETENTION FACILITY #1 TYPICAL SECTION



BIORETENTION FACILITY #2 TYPICAL SECTION

MATERIAL	SPECIFICATIONS	SIZE	NOTES
PLANTINGS	SEE LANDSCAPE PLAN SHEET	N/A	
PLANTING SOIL (2.5' TO 4' DEEP)	SAND 35 - 60 % SILT 30 - 55 % CLAY 10 - 25 %	N/A	USDA SOIL TYPES LOAMY SAND, SANDY LOAM, OR LOAM
MULCH	SHREDDED HARDWOOD	N/A	AGED 6 MONTHS, MINIMUM
MULCH DIAGRAM AND CURTAIN DRAIN	PEA GRAVEL: ASTM-D-448 ORNAMENTAL STONE: WASHED COBBLES	PEA GRAVEL: No. 6 STONE: 2" to 5"	
GEOTEXTILE	CLASS "C" - APPARENT OPENING SIZE (ASTM-D-4751), GRAB TENSILE STRENGTH (ASTM-D-4632), PUNCTURE RESISTANCE (ASTM-D-4822)	N/A	FOR USE AS NECESSARY BENEATH UNDERDRAINS ONLY.
UNDERDRAIN GRAVEL	AASHTO M-43	0.375" to 0.75"	
UNDERDRAIN PIPE	F 758, TYPE PS 28 OR AASHTO M-278	4" TO 6" RIGID SCHEDULE 40 PVC OR SDR35	3/8" PER F. @ 60°C, 4 HOLES PER ROW.
SAND	AASHTO M-6 or ASTM C-33	0.02" to 0.04"	SAND SUBSTITUTIONS SUCH AS DIABASE AND GRASTONE #10 ARE NOT ACCEPTABLE. NO CALCIUM CARBONATED OR DOLOMITIC SAND SUBSTITUTIONS ARE ACCEPTABLE. NO "ROCK DUST" CAN BE USED FOR SAND.

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE Feb. 3, 2005

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
DIRECTOR Stephen Lafferty 3/30/05 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION 9/0 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT 9/5 DATE

OPERATION AND MAINTENANCE SCHEDULE FOR BIO-RETENTION AREAS

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

8/30/05 MODIFIED DUMPSTER ENCLOSURE DETAILS
DATE NO. REVISION
OWNER/DEVELOPER
DOBBIN CORNER LLC
c/o GLENBROOK PROPERTIES INC.
c/o MICHAEL ABRAMS
6508 OLD FARM COURT
ROCKVILLE, MARYLAND 20852
301-468-8009

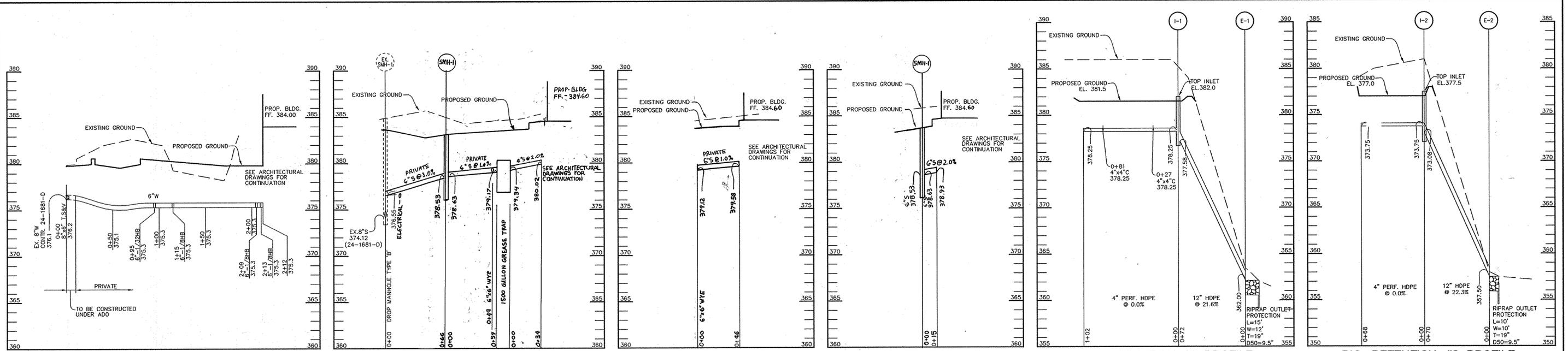
PROJECT **SHOPPES AT DOBBIN CORNER**
COLUMBIA AUTO PARK SECTION 1 AREA 1
PARCELS L-1 AND L-2
AREA TAX MAP 36, BLOCK 17, PARCEL 401, ZONED NT
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

DETAIL SHEET

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282
DATE 3.9.05

DESIGNED BY: C.J.R.
DRAWN BY: DAM
PROJECT NO.: 11912-1.1
"C900DET.DWG"
DATE: MARCH 9, 2005
SCALE: AS SHOWN
DRAWING NO. 5 OF 17

CHRISTOPHER J. REID #19949



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

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

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

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

BIO-RETENTION #1 PROFILE
SCALE:
HOR.-1"=50'
VERT.-1"=5'

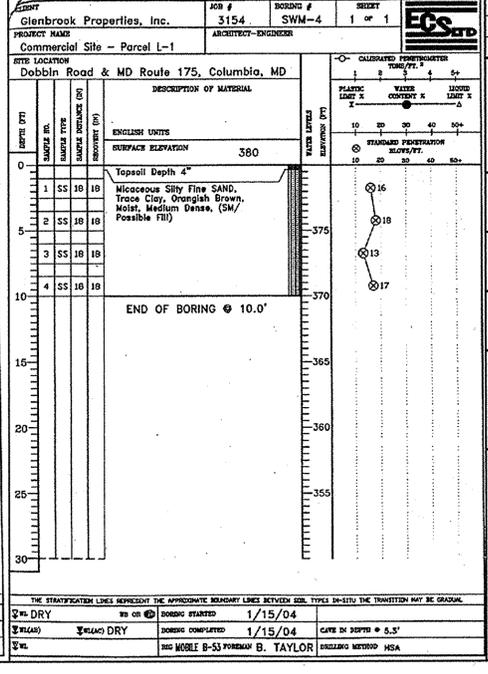
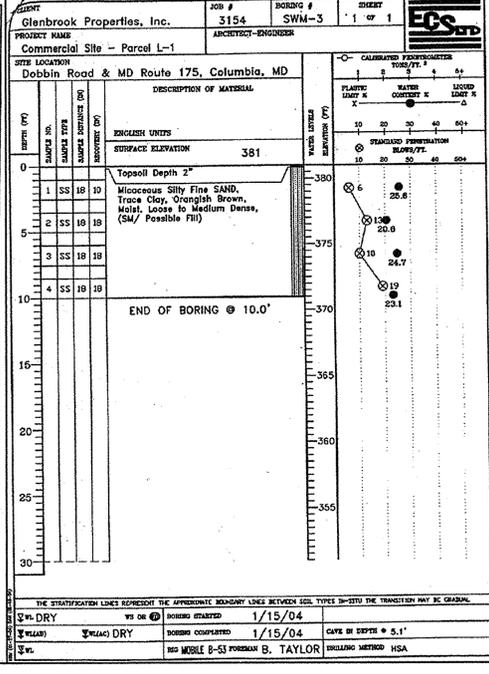
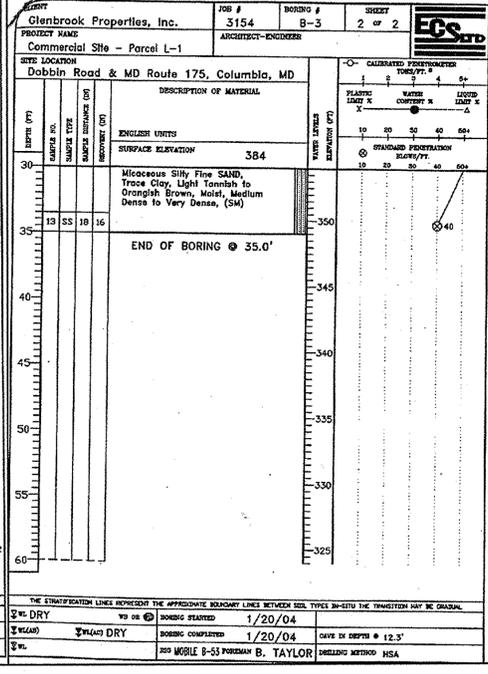
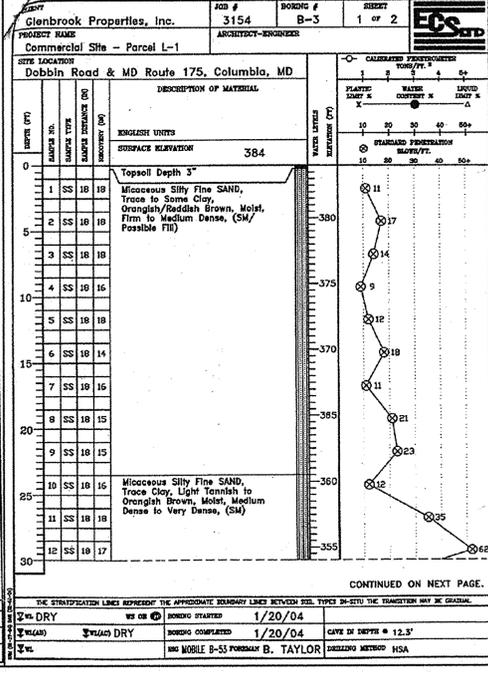
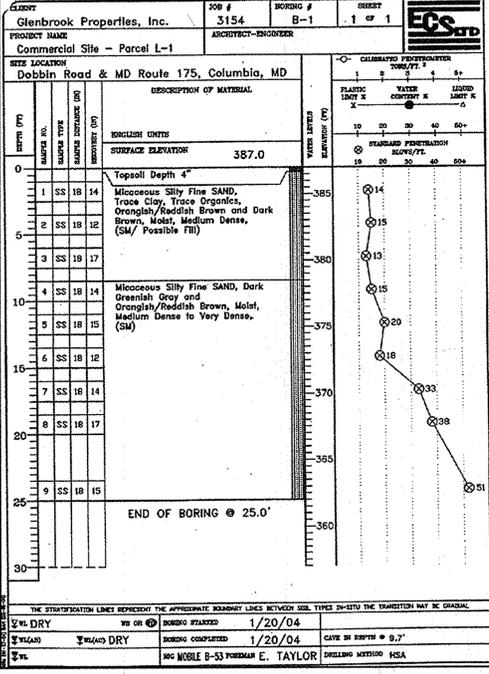
BIO-RETENTION #2 PROFILE
SCALE:
HOR.-1"=50'
VERT.-1"=5'

STRUCTURE SCHEDULE						
STRUCTURE	TYPE	LOCATION	INV. IN	INV. OUT	TOP	REMARKS
I-1	S	N 557919 E 1363687	378.25 (4")	377.58 (12")	382.0	HOCO STD. DETAIL SD-4.22
I-2	S	N 558075 E 1363575	373.75 (4")	373.08 (12")	377.5	HOCO STD. DETAIL SD-4.22
E-1		N 557989 E 1363700	382.0 (12")			
E-2		N 558117 E 1363631	357.5 (12")			

PIPE SCHEDULE		
PIPE LENGTH	SIZE	TYPE
198	4"	PERF. HDPE
142	12"	HDPE

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE Feb. 3, 2005

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
DIRECTOR: *Stephen Lafferty* 3/30/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION: *Michael Abrams* 3/16/05
CHIEF, DIVISION OF LAND DEVELOPMENT: *Chris Hanan* 3/30/05



8/30/05 REVISED SEWER PROFILES

OWNER/DEVELOPER: DOBBIN CORNER LLC
c/o GLENBROOK PROPERTIES INC.
c/o MICHAEL ABRAMS
6508 OLD FARM COURT
ROCKVILLE, MARYLAND 20852
301-468-8009

PROJECT: SHOPPES AT DOBBIN CORNER
COLUMBIA AUTO PARK SECTION 1 AREA 1
PARCELS L-1 AND L-2

AREA: TAX MAP 36, BLOCK 17, PARCEL 401, ZONED NT
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

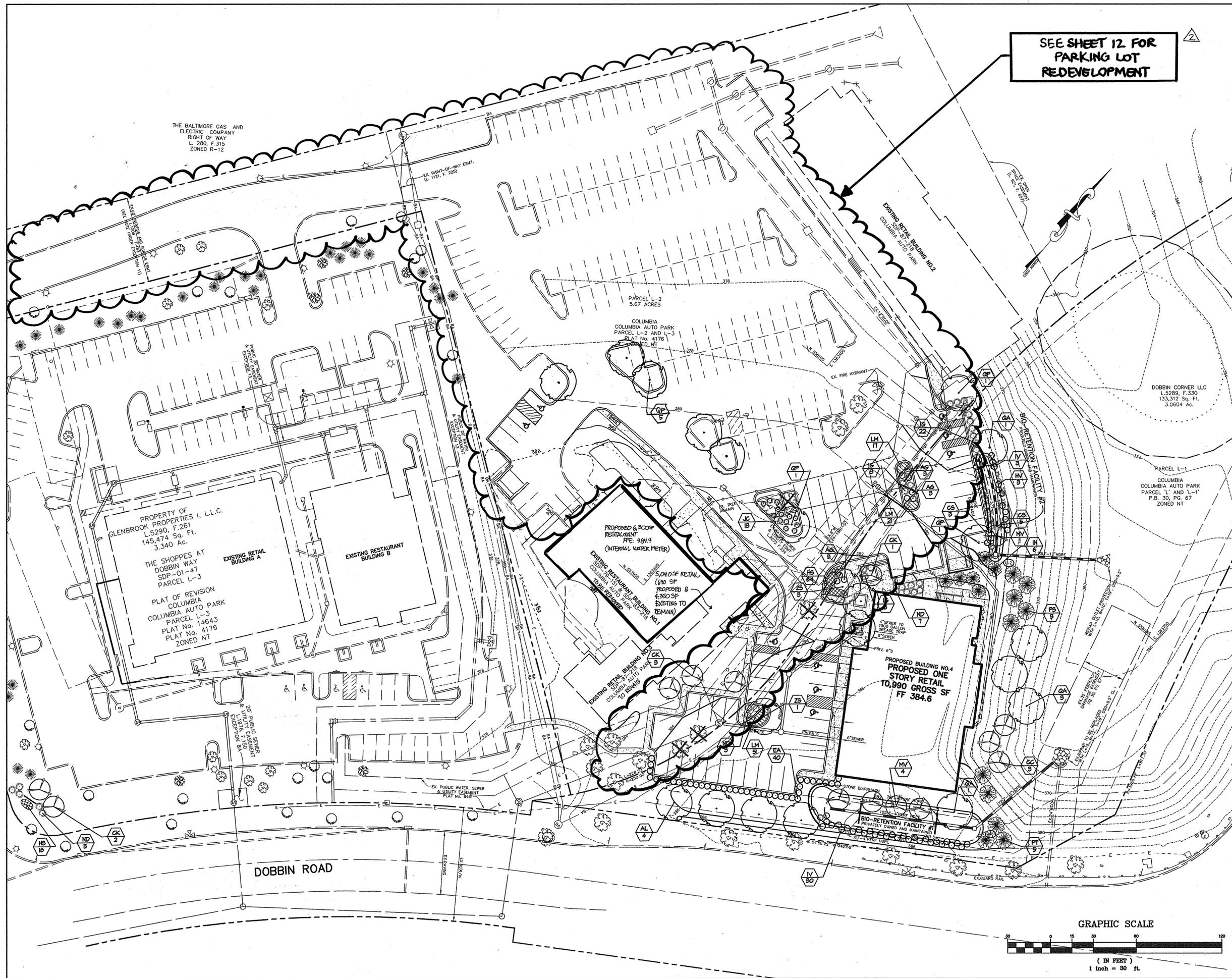
TITLE: PROFILE SHEET

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3.9.05 DATE

DESIGNED BY: C.J.R.
DRAWN BY: DAM
PROJECT NO: 11912-1.1
C700PRO.DWG
DATE: MARCH 9, 2005
SCALE: AS SHOWN
DRAWING NO. 6 OF 17

CHRISTOPHER J. REID #19949



SEE SHEET 12 FOR
PARKING LOT
REDEVELOPMENT

LEGEND	
EX. TREES	
EX. TREES TO BE REMOVED	
PROP. SHADE TREE	
PROP. EVERGREEN TREE	
PROP. ORNAMENTAL TREE	
PROP. SHRUBS	
LANDSCAPE PLANTING	
BIORETENTION LANDSCAPE PLANTING	

A LETTER OF APPROVAL FOR THE ALTERNATIVE COMPLIANCE OF LANDSCAPING IS ON FILE WITH THIS SITE DEVELOPMENT PLAN.

DOBBIN CORNER LLC
L.5289, F.330
133,312 Sq. Ft.
3.0604 Ac.

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE Feb 3, 2005

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>Edgar Lafferty</i>	3/30/05 DATE
DIRECTOR	
<i>John Dammann</i>	3/21/05 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	
<i>Andra Hamstra</i>	3/30/05 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	
2-24-05 2	REVISE PARKING LOT
4/28/06 1	REVISE EXISTING RESTAURANT, CONSTRUCT NEW RESTAURANT AND ADD ADDITION TO SECAL.
DATE NO.	REVISION

OWNER/DEVELOPER DOBBIN CORNER LLC
c/o GLENBROOK PROPERTIES INC.
c/o MICHAEL ABRAMS
6508 OLD FARM COURT
ROCKVILLE, MARYLAND 20852
301-468-8009

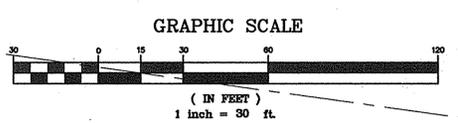
PROJECT SHOPPES AT DOBBIN CORNER
COLUMBIA AUTO PARK SECTION 1 AREA 1
PARCELS L-1 AND L-2

AREA TAX MAP 36, BLOCK 17, PARCEL 401, ZONED NT
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

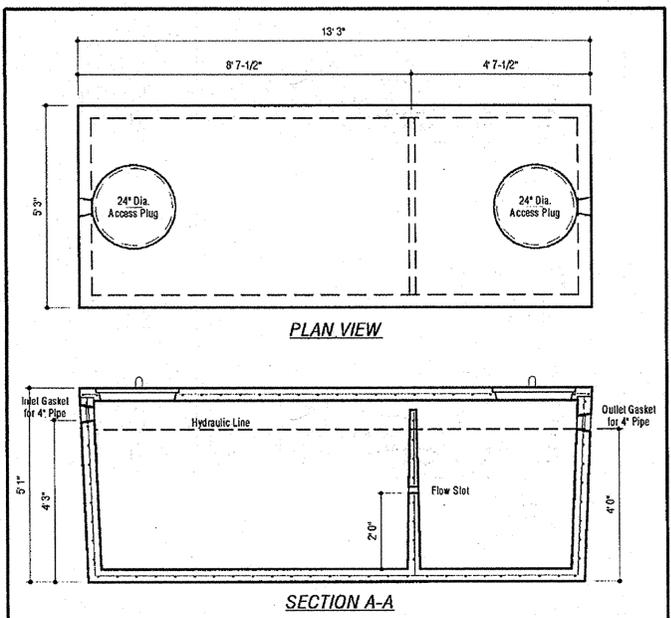
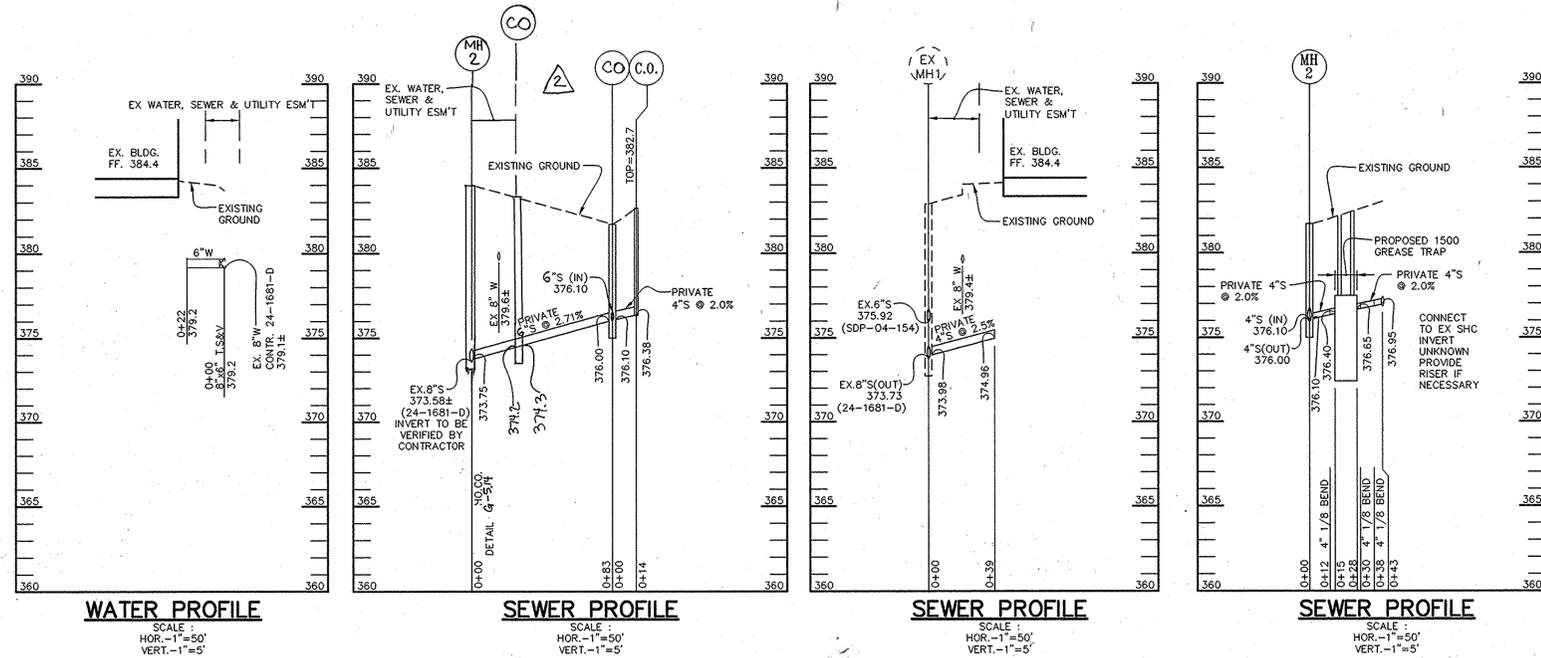
TITLE LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

3-9-05 DATE	DESIGNED BY: ALC
	DRAWN BY: ALC
PROJECT NO.: 11912-1.1 "L200LND01.DWG"	DATE: MARCH 9, 2005
SCALE: 1" = 30'	DRAWING NO. 7 OF 17
<i>Scott R. Wolford</i> SCOTT R. WOLFORD #797	



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STRUCTURE SCHEDULE						
STRUCTURE	TYPE	LOCATION	INV. IN	INV. OUT	TOP	REMARKS
MH-2	4'-0" MH	N 557777 E 1363450	373.75	373.50	384.0	HOCO STD. DETAIL C-5.14

PIPE SCHEDULE		
PIPE LENGTH	SIZE	TYPE
166 LF	6"	PVC SDR 35
22 LF	6"	DIP CL 54

DESIGN DATA & GENERAL NOTES

- Concrete strength $f_c = 4,000$ p.s.i. @ 28 days. Density = 150 pcf.
- Cement - Portland Type III per ASTM C 150-92.
- Admixtures & plasticizers per ASTM C 260 98 & C 494-92.
- Reinforcing per ASTM A105. Min. 1-1/2" cover.
- Top slab sealed with butyl rope mastic.
- 4" wall, base, & top thickness.

Mayer Bros, Inc.
 6264 Race Road
 Elkridge, Maryland 21075
 Tel. 410.756.1424
 Fax. 410.756.1438
 www.mayerbiosprecast.com

**1,500 GALLON SEPTIC TANK
 2-Compartment**
 Stock Item

Dwg. No. 1500-2C No Scale Jan 1, 2000

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Thomas E. Stutler 7/8/10
 DIRECTOR DATE

John D. ... 7/10/10
 CHIEF, DEVELOPMENT ENGINEERING DIVISION HSP DATE

Kevin ... 7/10/10
 CHIEF, DIVISION OF LAND DEVELOPMENT *DATE

11/29/12 2 REVISED SHC

6/22/10 1 ADD WATER AND SEWER HOUSE CONNECTIONS

DATE	NO.	REVISION
6/22/10	1	ADD WATER AND SEWER HOUSE CONNECTIONS

OWNER: DOBBIN SQUARE LLC
 C/O GDR GROUP LLC
 4600 POWDER MILL ROAD, SUITE 600
 BELTSVILLE, MD 20705

DEVELOPER: BERMAN ENTERPRISES
 ATTN: CHIP STEHLE
 5410 EDSON LANE, SUITE 220
 ROCKVILLE, MD 20852
 301.816.1548

PROJECT: SHOPPES AT DOBBIN CORNER
 COLUMBIA AUTO PARK SECTION 1 AREA 1
 PARCELS L-1 AND L-2

AREA: TAX MAP 36 PARCEL 401 ZONING NT
 6TH ELECTION DISTRICT
 6480 DOBBIN CENTER WAY, COLUMBIA
 HOWARD COUNTY, MARYLAND

TITLE: PROFILES, SCHEDULES AND DETAILS

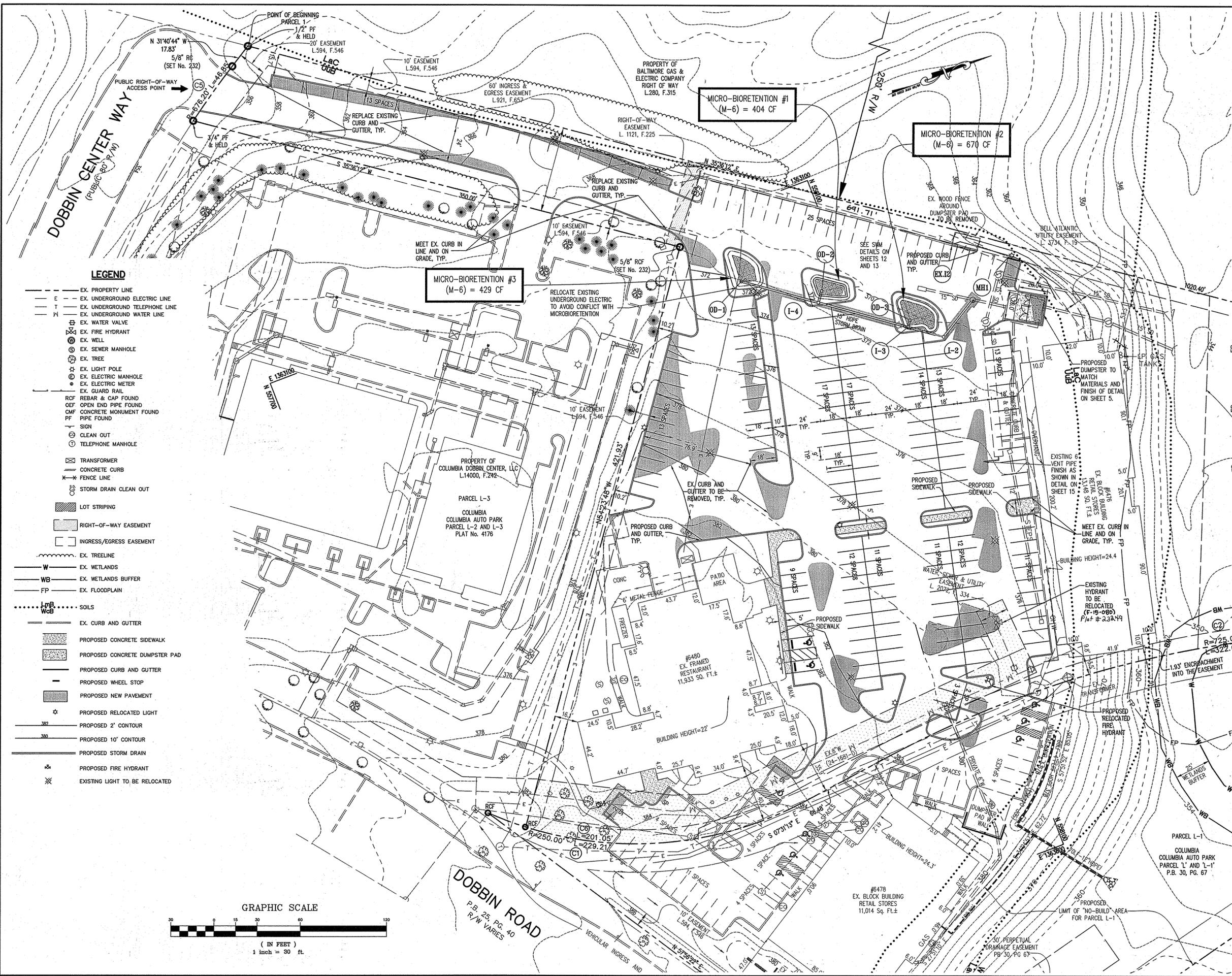
Patton Harris Rust & Associates
 Engineers, Surveyors, Planners, Landscape Architects.
 8818 Centre Park Drive, Suite 200
 Columbia, MD 21045
 T 410.997.8900
 F 410.997.9282

SEAL: 6-22-10
 DESIGNED BY: SCM
 DRAWN BY: SCM
 PROJECT NO: 11912-2-0
 C700PRO.DWG
 DATE: 6/22/10
 SCALE: AS SHOWN
 DRAWING NO. 9 OF 17

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 No. 2220
 EXPIRES 12/31/11

By: *Michael ...*
 PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33854, EXPIRATION DATE: 01-24-11

P:\Project\11912\2-0\PLANS\C700PRO.DWG



- ### DEMOLITION NOTES
1. ALL MATERIALS DEMOLISHED, UNLESS IDENTIFIED TO BE SALVAGED (CONCRETE, PAVING, AND OTHER DEBRIS) SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PER FEDERAL, STATE AND LOCAL REGULATIONS. ALL COSTS OF HAULING, DISPOSAL AND TIPPING FEES ARE THE RESPONSIBILITY OF THE CONTRACTOR AS PART OF THE BASE BID.
 2. ALL QUANTITIES OF DEMOLITION SHALL BE DETERMINED BY THE CONTRACTOR AND COVERED IN THE BASE BID. CONTRACTOR SHALL MAKE NECESSARY SITE INSPECTIONS PRIOR TO BID TO VERIFY ALL QUANTITIES TO HIS SATISFACTION.
 3. CONTRACTOR SHALL REFER TO SEPARATE PLANS IN THE CIVIL SERIES (STORMWATER MANAGEMENT, SEDIMENT CONTROL, ETC.) TO DETERMINE APPROPRIATE SEQUENCE OF ALL DEMOLITION ACTIVITIES.
 4. CONTRACTOR SHALL PROVIDE PROTECTIVE DEVICES TO AVOID DAMAGE TO TREES DURING CONSTRUCTION ACTIVITIES.
 5. REFER TO SEPARATE PLANS FOR SEDIMENT AND EROSION CONTROL REQUIREMENTS.
 6. CONTRACTOR SHALL COORDINATE WITH APPROPRIATE UTILITY COMPANY PRIOR TO REMOVAL OR RELOCATION OF ANY EXISTING UTILITIES.
 7. ALL UNDERGROUND ELECTRICAL LINES FEEDING LIGHTING FIXTURES SHALL BE REMOVED BACK TO SERVICE PANEL. ALL CONDUITS INSIDE BUILDING SHALL REMAIN OR BE REMOVED AS PER ELECTRICAL PLANS. INCLUDE 500 LF ELECTRICAL LINE REMOVAL IN BASE BID.
 8. EXISTING UTILITY LINES HAVE BEEN SHOWN USING THE BEST AVAILABLE RECORDS OBTAINED FROM UTILITY COMPANIES AND FIELD EVIDENCE. PRIOR TO COMMENCEMENT OF WORK, CONTRACTOR SHALL CALL MISS UTILITY TO LOCATE ALL UNDERGROUND UTILITY LINES AND SUPPLEMENT THOSE MARKINGS BY ENGAGING A PRIVATE UTILITY LOCATING COMPANY (AT CONTRACTORS EXPENSE) TO ENSURE THAT ALL EXISTING UTILITIES HAVE BEEN MARKED.

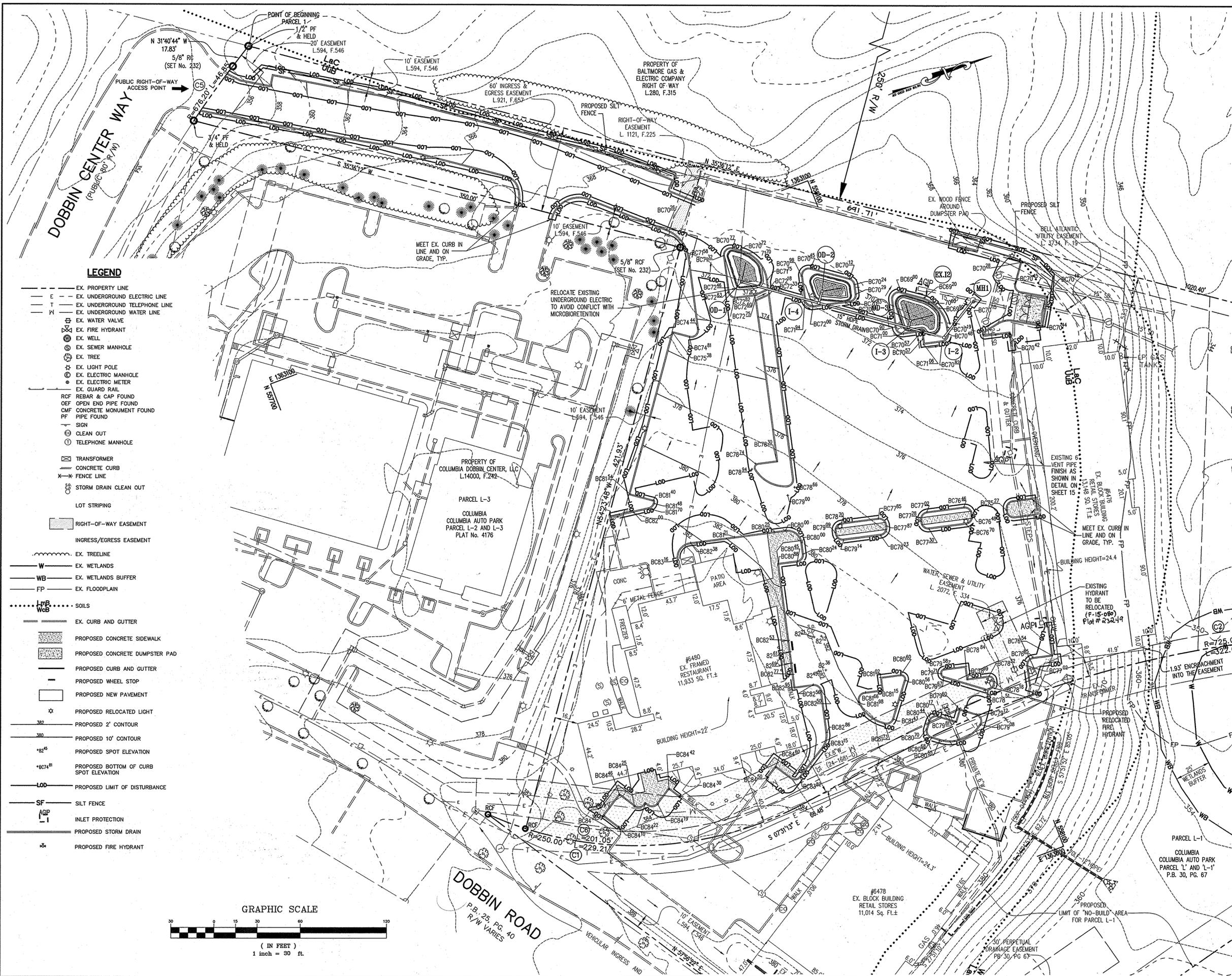
PURPOSE STATEMENT OF REVISED SITE DEVELOPMENT PLAN:

THE REVISED SITE DEVELOPMENT PLAN REDESIGNS THE PARKING LOT FOR A NET INCREASE OF 41 PARKING SPACES. PARALLEL PARKING SPACES HAVE BEEN ADDED ALONG THE ENTRANCE DRIVE.

THE REVISIONS SHOWN HAVE BEEN APPROVED BY THE PLANNING BOARD ON JUNE 5, 2014.

- ### LEGEND
- EX. PROPERTY LINE
 - EX. UNDERGROUND ELECTRIC LINE
 - EX. UNDERGROUND TELEPHONE LINE
 - EX. UNDERGROUND WATER LINE
 - EX. WATER VALVE
 - EX. FIRE HYDRANT
 - EX. WELL
 - EX. SEWER MANHOLE
 - EX. TREE
 - EX. LIGHT POLE
 - EX. ELECTRIC MANHOLE
 - EX. ELECTRIC METER
 - EX. GUARD RAIL
 - RCF REBAR & CAP FOUND
 - OCF OPEN END PIPE FOUND
 - CMF CONCRETE MONUMENT FOUND
 - PF PIPE FOUND
 - SIGN
 - CLEAN OUT
 - TELEPHONE MANHOLE
 - TRANSFORMER
 - CONCRETE CURB
 - FENCE LINE
 - STORM DRAIN CLEAN OUT
 - LOT STRIPING
 - RIGHT-OF-WAY EASEMENT
 - INGRESS/EGRESS EASEMENT
 - EX. TREELINE
 - EX. WETLANDS
 - EX. WETLANDS BUFFER
 - EX. FLOODPLAIN
 - SOILS
 - EX. CURB AND GUTTER
 - PROPOSED CONCRETE SIDEWALK
 - PROPOSED CONCRETE DUMPSTER PAD
 - PROPOSED CURB AND GUTTER
 - PROPOSED WHEEL STOP
 - PROPOSED NEW PAVEMENT
 - PROPOSED RELOCATED LIGHT
 - PROPOSED 2' CONTOUR
 - PROPOSED 10' CONTOUR
 - PROPOSED STORM DRAIN
 - PROPOSED FIRE HYDRANT
 - EXISTING LIGHT TO BE RELOCATED

APPROVED : DEPARTMENT OF PLANNING AND ZONING	
CHIEF, DEVELOPMENT ENGINEERING DIVISION	3/1/15
DATE	
CHIEF, DIVISION OF LAND DEVELOPMENT	3-27-15
DATE	
DIRECTOR	3/30/15
DATE	
DATE NO.	REVISION
OWNER	DOBBIN SQUARE LLC ATTN: CHIP STEHLE 5410 EDSON LANE, SUITE 220 ROCKVILLE, MD 20852 T: 301.816.1548
DEVELOPER	BERMAN ENTERPRISES ATTN: CHIP STEHLE 5410 EDSON LANE, SUITE 220 ROCKVILLE, MD 20852 T: 301.816.1548
PROJECT	SHOPPES AT DOBBIN CORNER COLUMBIA AUTO PARK SECTION 1 AREA 1 PARCELS L-1 AND L-2
AREA	TAX MAP 36 PARCEL 401 ZONING NT 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE	REVISED SITE DEVELOPMENT PLAN
Pennoni Associates Inc. Consulting Engineers	8818 Centre Park Drive Suite 200 Columbia, MD 21045 T 410.997.8900 F 410.997.9282
DESIGNED BY : PJS	
DRAWN BY: ALC	
PROJECT NO : BERE1302	
DATE : FEBRUARY 27, 2015	
SCALE : 1" = 30'	
DRAWING NO. 10 OF 17	



- ### GRADING AND CURB NOTES
- CONTRACTOR TO VERIFY EXISTING GRADES PRIOR TO START OF CONSTRUCTION. CONTRACTOR TO OWNER AND ENGINEER OF SIGNIFICANT DIFFERENCES IN GRADES.
 - PROPOSED CURB AND GUTTER SHALL MATCH EXISTING PAVEMENT GRADES, EXCEPT WHERE NOTED.
 - EXISTING PAVEMENT SHALL BE SAWCUT AT LIMITS OF DISTURBANCE AND REMOVED TO DEPTH REQUIRED TO ALLOW THE INSTALLATION OF THE PROPOSED CURB AND GUTTER. IN GENERAL, PAVEMENT SHALL BE SAWCUT 2" FROM EXISTING CURB AND GUTTER.
 - CONTRACTOR SHALL MEET EXISTING CURBS IN LINE AND ON GRADE AND SHALL PROVIDE SMOOTH TRANSITIONS WHERE CONNECTIONS TO EXISTING CURBS ARE REQUIRED.
 - FLOW ARROWS ON PLAN INDICATE THE PROPOSED DRAINAGE PATTERNS. CONTRACTOR SHALL ADVISE OWNER AND ENGINEER SHOULD THE PROPOSED DRAINAGE PATTERNS NOT WORK WITH EXISTING CONDITIONS.
 - AS PAVEMENT IS REMOVED, REPLACE EITHER WITH STONE SUBBASE AND BASE PAVING, OR WITH CURB AND GUTTER. ONLY REMOVE PAVEMENT TO THE EXTENT THAT AN AREA CAN BE STABILIZED WITH STONE SUBBASE OR CURB AND GUTTER DURING THE SAME DAY.
- THE REVISIONS SHOWN HAVE BEEN APPROVED BY THE PLANNING BOARD ON JUNE 5, 2014.

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: *Sharon K. Cruz* DATE: 2-25-15

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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

Signature of Developer: *William N. Stehle, Jr.* DATE: 2/25/2015

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

Signature: *John R. Roberts* DATE: 3/10/14
 HOWARD SCD

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Signature: *Ket Stevenson* DATE: 3/11/15
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

Signature: *John H. Gough* DATE: 3-22-15
 CHIEF, DIVISION OF LAND DEVELOPMENT

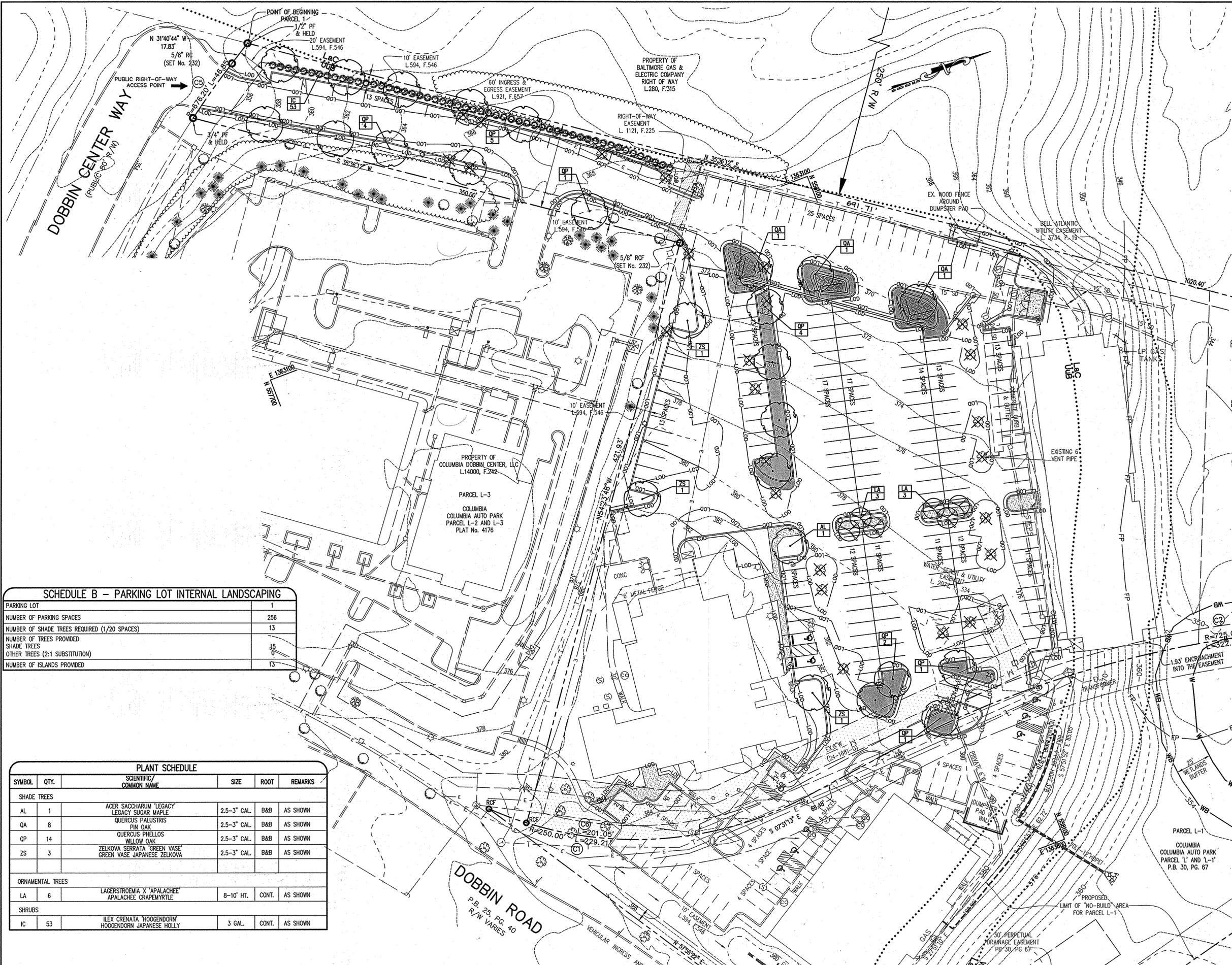
Signature: *John H. Gough* DATE: 2/20/15
 DIRECTOR

DATE NO.	REVISION
OWNER	DOBBIN SQUARE LLC ATTN: CHIP STEHLE 5410 EDSON LANE, SUITE 220 ROCKVILLE, MD 20852 T: 301.816.1548
DEVELOPER	BERMAN ENTERPRISES ATTN: CHIP STEHLE 5410 EDSON LANE, SUITE 220 ROCKVILLE, MD 20852 T: 301.816.1548
PROJECT	SHOPPES AT DOBBIN CORNER COLUMBIA AUTO PARK SECTION 1 AREA 1 PARCELS L-1 AND L-2
AREA	TAX MAP 36 PARCEL 401 ZONING NT 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
 REVISED GRADING AND SEDIMENT CONTROL PLAN

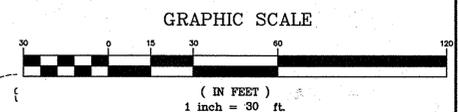
Pennoni Associates Inc. Consulting Engineers
 8818 Centre Park Drive
 Suite 200
 Columbia, MD 21045
 T 410.997.8900
 F 410.997.9282

DESIGNED BY: PJS
 DRAWN BY: ALC
 PROJECT NO: BERE1302
 DATE: FEBRUARY 27, 2015
 SCALE: 1"=30'
 DRAWING NO. 11 OF 17



LEGEND

- PROPOSED SHADE TREE
- PROPOSED ORNAMENTAL TREE
- CREDITED LANDSCAPE ISLAND
- EXISTING TREE TO BE REMOVED



THE REVISIONS SHOWN HAVE BEEN APPROVED BY THE PLANNING BOARD ON JUNE 8, 2014.

APPROVED : DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT-ENGINEERING DIVISION	DATE
<i>Chip Stehle</i>	3/11/15
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>Mark A. Wolfe</i>	3-27-15
DIRECTOR	DATE
<i>Mark A. Wolfe</i>	3/30/15

DATE NO.	REVISION

OWNER: DOBBIN SQUARE LLC
ATTN: CHIP STEHLE
5410 EDSON LANE, SUITE 220
ROCKVILLE, MD 20852
T: 301.816.1548

DEVELOPER: BERMAN ENTERPRISES
ATTN: CHIP STEHLE
5410 EDSON LANE, SUITE 220
ROCKVILLE, MD 20852
T: 301.816.1548

PROJECT: **SHOPPES AT DOBBIN CORNER**
COLUMBIA AUTO PARK SECTION 1 AREA 1
PARCELS L-1 AND L-2

AREA: TAX MAP 36 PARCEL 401 ZONING NT
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: **REVISED LANDSCAPE PLAN**

Pennoni Associates Inc.
Consulting Engineers
8818 Centre Park Drive
Suite 200
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

SEAL:

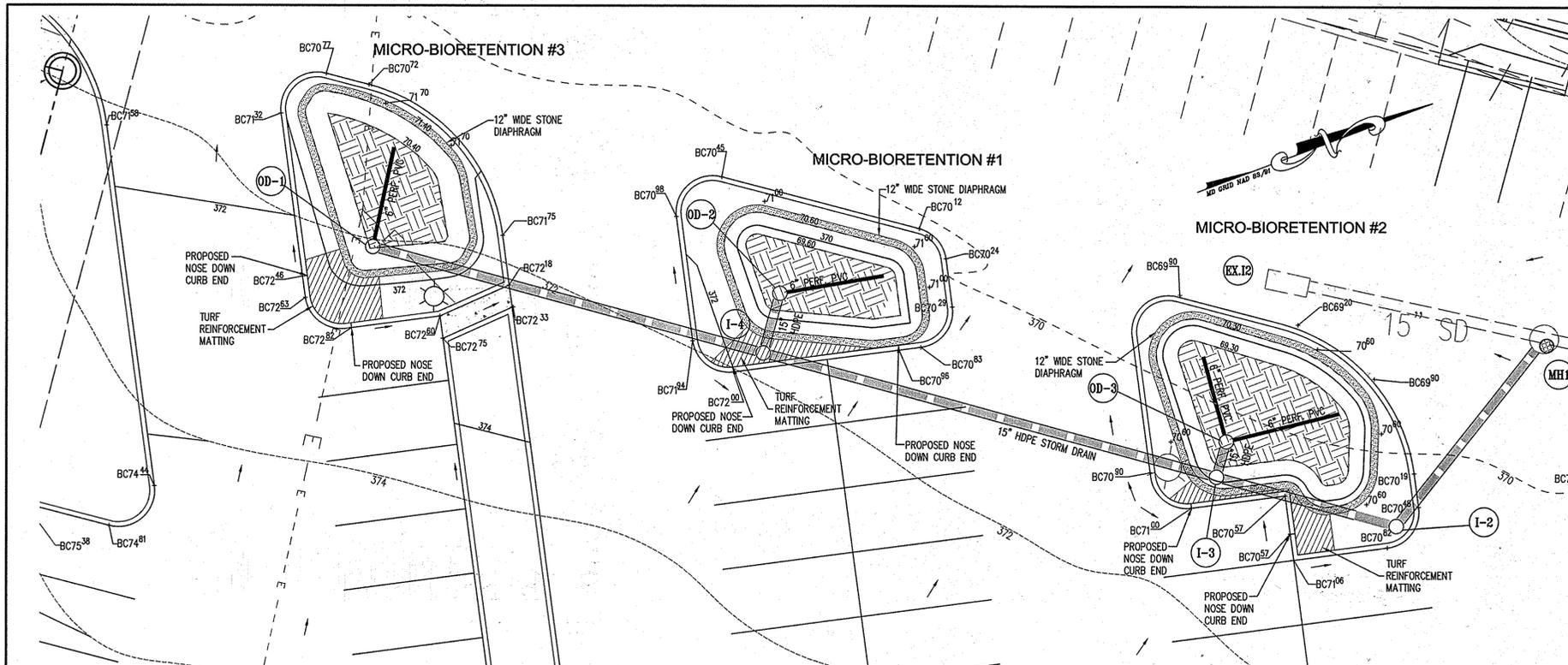
DESIGNED BY: PJS
DRAWN BY: ALC
PROJECT NO: BERE1302
DATE: FEBRUARY 27, 2015
SCALE: 1" = 30'
DRAWING NO. 12 OF 17

SCHEDULE B - PARKING LOT INTERNAL LANDSCAPING

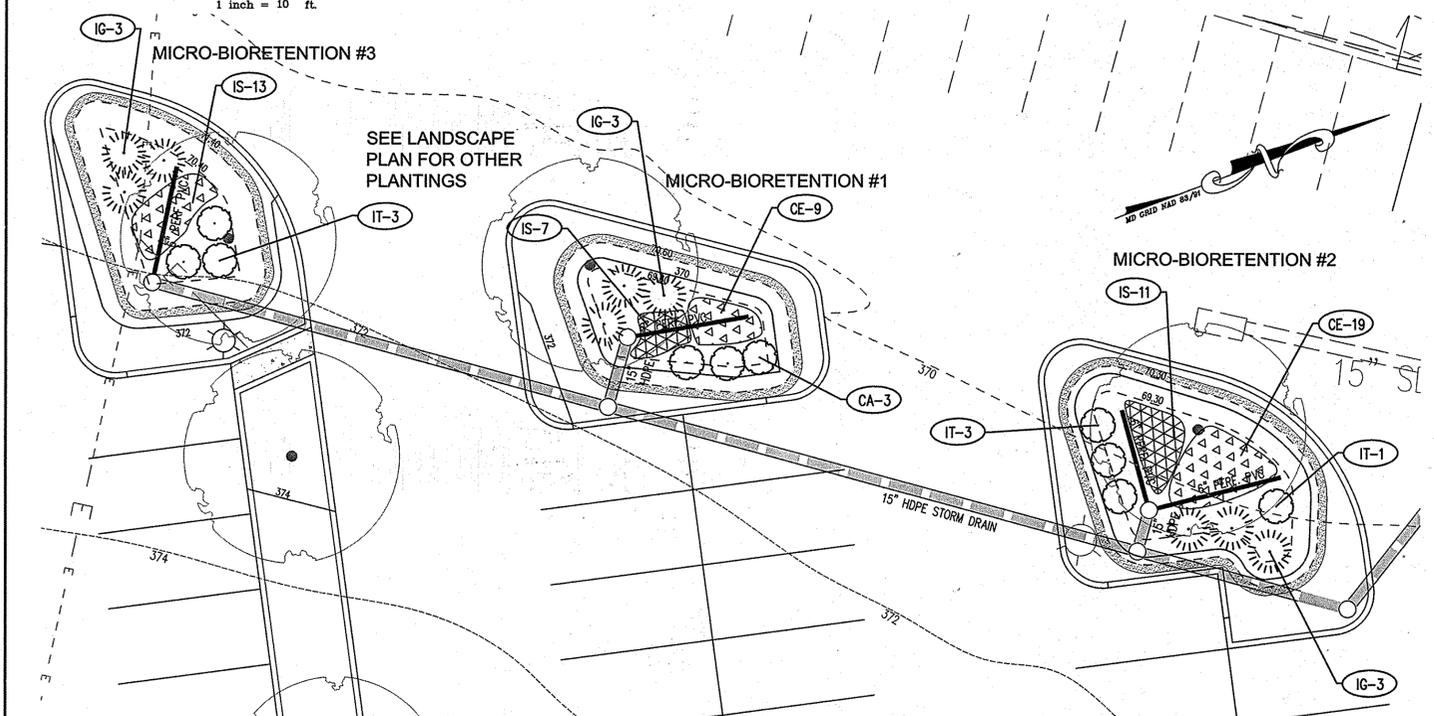
PARKING LOT	1
NUMBER OF PARKING SPACES	256
NUMBER OF SHADE TREES REQUIRED (1/20 SPACES)	13
NUMBER OF TREES PROVIDED	
SHADE TREES	15
OTHER TREES (2:1 SUBSTITUTION)	0
NUMBER OF ISLANDS PROVIDED	13

PLANT SCHEDULE

SYMBOL	QTY.	SCIENTIFIC/ COMMON NAME	SIZE	ROOT	REMARKS
SHADE TREES					
AL	1	ACER SACCHARUM 'LEGACY' LEGACY SUGAR MAPLE	2.5-3" CAL.	B&B	AS SHOWN
QA	8	QUERCUS PALUSTRIS PIN OAK	2.5-3" CAL.	B&B	AS SHOWN
QP	14	QUERCUS PHELLOS WILLOW OAK	2.5-3" CAL.	B&B	AS SHOWN
ZS	3	ZELKOVA SERRATA 'GREEN VASE' GREEN VASE JAPANESE ZELKOVA	2.5-3" CAL.	B&B	AS SHOWN
ORNAMENTAL TREES					
LA	6	LAGERSTROEMIA X 'APALACHEE' APALACHEE CRAPEMYRTLE	8-10' HT.	CONT.	AS SHOWN
SHRUBS					
IC	53	ILEX CRENATA 'HOOGENDORN' HOOGENDORN JAPANESE HOLLY	3 GAL.	CONT.	AS SHOWN



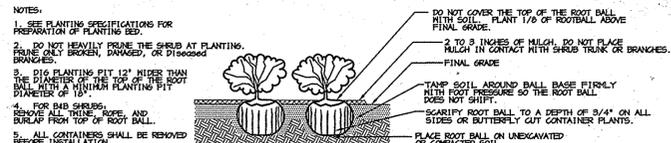
MICRO-BIORETENTION #1, #2 AND #3 DETAIL
SCALE: 1"=10'



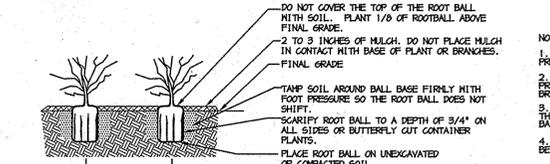
MICRO-BIORETENTION #1, #2 AND #3 LANDSCAPE PLAN
SCALE: 1"=10'

MICRO-BIORETENTION PLANT SCHEDULE						
SYMBOL	QTY.	SCIENTIFIC/ COMMON NAME	SIZE	ROOT	REMARKS	ZONE*
CA	3	CLETHRA ALNIFOLIA 'HUMMINGBIRD' HUMMINGBIRD CLETHRA	18-24" HT.	CONT.	AS SHOWN	
IG	9	ILEX GLABRA 'SHAMROCK' SHAMROCK INKBERRY	18-24" HT.	CONT.	AS SHOWN	
IT	7	ITEA VIRGINICA 'LITTLE HENRY' LITTLE HENRY VIRGINIA SWEETSPIRE	18-24" HT.	CONT.	AS SHOWN	
CE	28	CAREX ELATA 'AUREA' BOWLES GOLDEN SEDGE	2" PEAT POT	CONT.	24" ON CENTER	(1,2)3
IS	31	IRIS VERSICOLOR 'BLUE FLAG' BLUE FLAG IRIS	1 QUART	CONT.	24" ON CENTER	(2,3), 4

BIORETENTION PLANT LIST NOTES:
* HYDROLOGIC ZONES ACCORDING TO APPENDIX A OF THE MARYLAND MODEL STORMWATER MANAGEMENT ORDINANCE JULY 2000.
** ALSO KNOWN AS CAREX STRICTA 'AUREA'



SHRUB BED PLANTING DETAIL - B&B AND CONTAINER SHRUBS
NOT TO SCALE



PERENNIAL/GROUNDCOVER PLANTING DETAIL
NOT TO SCALE

OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)

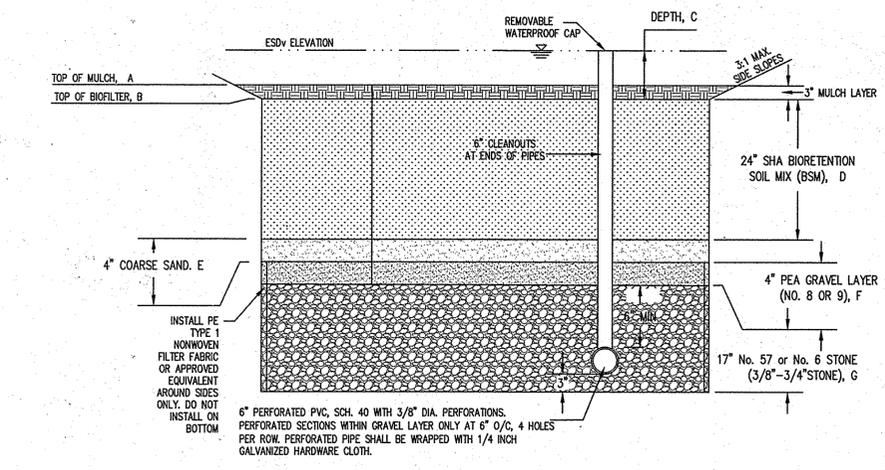
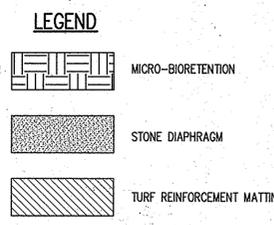
- ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.
- SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
- MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
- SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

BIOFILTRATION SPECIFICATIONS

- THE UNDERDRAIN PIPE MUST BE 6-INCH DIAMETER SCHEDULE 40 OR STRONGER PERFORATED PVC PIPE AT 0.00% SLOPE. THREE INCHES OF GRAVEL MUST BE PLACED UNDER THE PIPE, WITH A MINIMUM OF 6 INCHES OF GRAVEL OVER THE PIPE. PERFORATIONS MUST BE 3/8 INCH IN DIAMETER AND MUST BE LOCATED 4 INCHES ON CENTER, EVERY 90 DEGREES AROUND THE PIPE. PERFORATED PIPE MUST BEGIN AT LEAST 5FT. INSIDE THE FILTER MEDIA. FILTER FABRIC MUST NOT BE WRAPPED AROUND THE UNDERDRAIN PIPE.
- 6" INCH CLEAN-OUTS SHOULD BE USED. CLEANOUTS FOR EACH PIPE SHOULD EXTEND 6 INCHES ABOVE THE TOP OF THE PLANTING MEDIA AND HAVE A REMOVABLE CAP.
- THE GRAVEL LAYER SURROUNDING THE UNDERDRAIN PIPES MUST MEET MSHA SIZE #57 OR #6 (TABLE 901A), AND MUST PROVIDE A MINIMUM OF 6 INCHES COVER OVER THE PIPE, AND MINIMUM 3 INCHES UNDER THE PIPE. NO GEOTEXTILE OR FILTER FABRIC IS ALLOWED ANYWHERE WITHIN THE FILTER MEDIA (STONE OR SAND).
- A MINIMUM 4-INCH FINE AGGREGATE SAND LAYER AND 4-INCH PEA GRAVEL LAYER SHALL BE PROVIDED BELOW THE SOIL FILTER/PLANTING MEDIA. THE SAND MUST BE ASTM C33 FINE AGGREGATE CONCRETE SAND. MANUFACTURED SAND OR STONE DUST IS NOT ACCEPTABLE.
- THE PLANTING MEDIA MIX SHALL MEET SHABIORETENTION SOIL MIX STANDARDS. THE SOIL SHALL MEET THE FOLLOWING MINIMUM CRITERIA: A HOMOGENEOUS MIXTURE COMPOSED OF 5 PARTS COARSE SAND, 3 PARTS BASE SOIL, AND 2 PARTS FINE BARK. THE SOIL SHALL BE FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN 2 INCHES. THE PLANTING MATERIAL SHALL BE FLOODED AFTER PLACEMENT. ANY SETTLEMENT THAT OCCURS SHALL BE FILLED BACK TO THE DESIGN ELEVATION.
- THE SURFACE MULCH LAYER WILL CONSIST OF STANDARD FINE SHREDDED AGED HARDWOOD MULCH. THE MULCH SHOULD BE UNIFORMLY TO A DEPTH OF 2 TO 3 INCHES. YEARLY REPLISHING MAY BE NECESSARY. PINE BARK IS NOT ACCEPTABLE.

MICRO-BIORETENTION SEQUENCE OF CONSTRUCTION

- DO NOT BEGIN BIORETENTION INSTALLATION UNTIL SITE UPSTREAM OF MICRO-BIORETENTION IS STABILIZED AND FINE GRADING HAS BEEN COMPLETED.
- EXCAVATE MICRO-BIORETENTION. CONSTRUCTION SHALL BE PERFORMED WITH LIGHTWEIGHT, WIDE-TRACKED EQUIPMENT TO MINIMIZE DISTURBANCE AND COMPACTION. EXCAVATED MATERIALS SHALL BE PLACED IN A CONTAINED AREA. (1 DAY)
- PLACE STONE, UNDERDRAINS AND INLET STRUCTURES. (1 DAY)
- PLACE SAND LAYER IN LIFTS OF THREE INCHES. (0.5 DAY)
- PLACE PLANTING SOIL AND OBSERVATION WELLS. (1 DAY)
- PLACE MULCH. (0.5 DAY)
- INSTALL PLANT MATERIAL. (1 DAY)
- STABILIZE MICRO-BIORETENTION AREA. (0.5 DAY)



MICRO BIORETENTION TYPICAL SECTION
NOT TO SCALE

MICRO-BIORETENTION DESIGN DATA			
	1	2	3
A	369.85	369.55	370.65
B	369.60	369.30	370.40
C	12"	12"	12"
D	24"	24"	24"
E	4"	4"	4"
F	4"	4"	4"
G	17"	17"	17"
SURFACE AREA AT 'B' (SF)	170.5	298	183

SAND SPECIFICATIONS

- WASHED ASTM C33 FINE AGGREGATE CONCRETE SAND IS UTILIZED FOR STORMWATER MANAGEMENT APPLICATIONS. IN ADDITION TO THE ASTM C-33 SPECIFICATION, SAND MUST MEET ALL OF THE FOLLOWING CONDITIONS.
- SAND MUST MEET GRADATION REQUIREMENTS FOR ASTM C-33 FINE AGGREGATE CONCRETE SAND. AASHTO M-6 GRADATION IS ALSO ACCEPTABLE.
 - SAND MUST BE SILICA BASED. NO LIMESTONE BASED PRODUCTS MAY BE USED. IF THE MATERIAL IS WHITE OR GRAY IN COLOR, IT IS PROBABLY NOT ACCEPTABLE.
 - SAND MUST BE CLEAN, NATURAL, UNWASHED SAND DEPOSITS MAY NOT BE USED. LIKEWISE, SAND THAT HAS BECOME CONTAMINATED BY IMPROPER STORAGE OR INSTALLATION PRACTICES WILL BE REJECTED.
 - MANUFACTURED SAND OR STONE DUST IS NOT ACCEPTABLE UNDER ANY CIRCUMSTANCE.

THE REVISIONS SHOWN HAVE BEEN APPROVED BY THE PLANNING BOARD ON JUNE 5, 2014

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION *[Signature]* 3/11/15 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT *[Signature]* 3-27-15 DATE
 DIRECTOR *[Signature]* 3/30/15 DATE

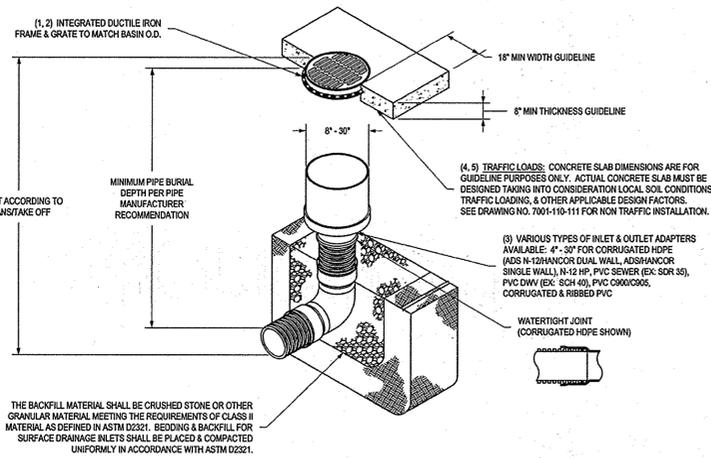
DATE	NO.	REVISION
		OWNER DOBBIN SQUARE LLC ATTN: CHIP STEHLE 5410 EDSON LANE, SUITE 220 ROCKVILLE, MD 20852 T: 301.816.1548
		DEVELOPER BERMAN ENTERPRISES ATTN: CHIP STEHLE 5410 EDSON LANE, SUITE 220 ROCKVILLE, MD 20852 T: 301.816.1548
		PROJECT SHOPPES AT DOBBIN CORNER COLUMBIA AUTO PARK SECTION 1 AREA 1 PARCELS L-1 AND L-2
		AREA TAX MAP 36 PARCEL 401 ZONING NT 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE STORMWATER MANAGEMENT PLAN AND DETAILS

Pennoni Associates Inc. 8818 Centre Park Drive
Consulting Engineers Suite 200
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T 410.997.8900
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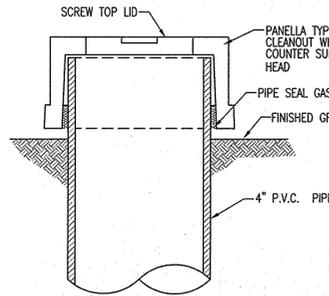
DESIGNED BY: PJS
 DRAWN BY: ALC
 PROJECT NO: BERE1302
 DATE: FEBRUARY 27, 2015
 SCALE: 1" = 10'
 DRAWING NO. 13 OF 17

NYLOPLAST INLINE DRAIN WITH STANDARD GRATE

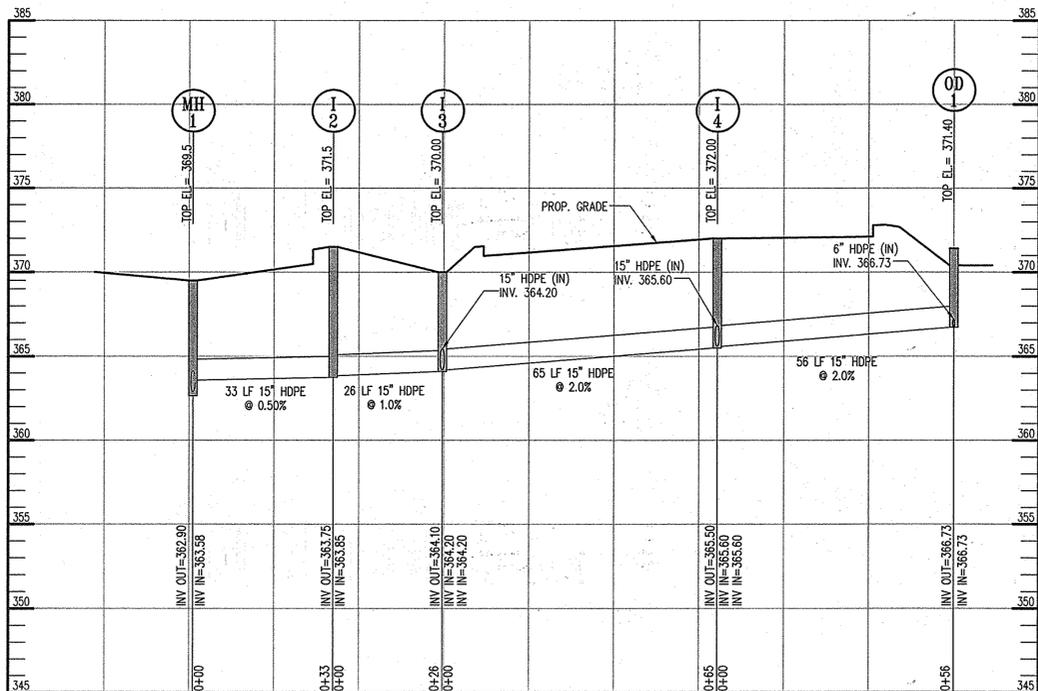


- 1 - 6" - 30" STANDARD GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 7040-06.
- 2 - 12" - 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 7040-06.
- 3 - 6" & 10" STANDARD GRATES FIT DIRECTLY ONTO NYLOPLAST DRAINING SEE DRAWING NO. 7001-10-000 & 7001-10-001.
- 4 - DRAINAGE CONNECTION JOINT TIGHTNESS SHALL CONFORM TO ASTM D2012 FOR CORRUGATED HDPE (ADS N-12 HANCOCK DUAL WALL), HD 10" & PVC SEWER (E.C. SCR 35).
- 5 - 12" - 30" STANDARD GRATES SHALL MEET H-20 LOAD RATING.
- 6 - 6" & 10" STANDARD GRATES ARE RATED FOR LIGHT DUTY APPLICATIONS ONLY. NO CONCRETE CURBING NEEDED FOR LIGHT DUTY RATING.

<p>THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS PROHIBITED EXCEPT BY EXPRESS WRITTEN PERMISSION FROM NYLOPLAST.</p>	<p>3120 VERONA AVE BURLINGTON, VA 22618 PH (703) 852-2443 FAX (703) 852-2400 www.nyloplast.com</p>
<p>DRAWN BY: EBC DATE: 1-23-06</p>	<p>MATERIAL: NYLOPLAST</p>
<p>REVISED BY: EBC DATE: 3-18-10</p>	<p>PROJECT NO: NAME TITLE NYLOPLAST WITH STANDARD GRATE QUICK SPEC INSTALLATION DETAIL</p>
<p>DWG NO. 7903-110-022 REV. H</p>	<p>SCALE: 1:40 SHEET 1 OF 1</p>

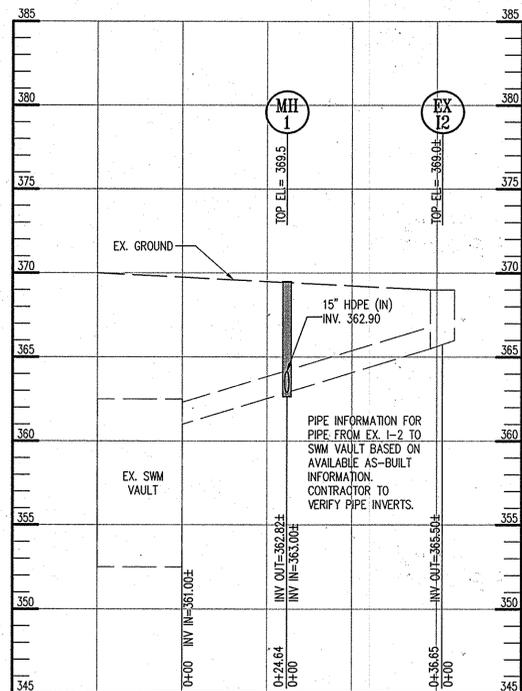


CLEAN-OUT/OBSERVATION WELL CAP
NOT TO SCALE



STORM DRAIN PROFILE - OD1 TO MH1

SCALE: HOR: 1"=20'
VERT: 1"=1'



STORM DRAIN PROFILE - EX 12 TO SWM VAULT

SCALE: HOR: 1"=20'
VERT: 1"=1'

STRUCTURE SCHEDULE

NUMBER	TYPE	LOCATION		INVERTS		TOP ELEVATION	REMARKS
		STATION	OFFSET	INV IN	INV OUT		
MH-1	4' PRECAST MANHOLE	SEE	PLAN	362.90	363.58	369.50	G-5.12
I-2	NYLOPLAST INLINE DRAIN WITH SOLID TOP	SEE	PLAN	363.85	363.75	371.50	SEE DETAIL THIS SHEET
I-3	NYLOPLAST INLINE DRAIN WITH SOLID TOP	SEE	PLAN	364.20 364.20	364.10	370.00	SEE DETAIL THIS SHEET
I-4	NYLOPLAST INLINE DRAIN WITH SOLID TOP	SEE	PLAN	365.60 365.60	365.50	372.00	SEE DETAIL THIS SHEET
OD-1	10" NYLOPLAST INLINE DRAIN WITH STANDARD GRATE	SEE	PLAN	366.73	366.73	371.40	SEE DETAIL THIS SHEET
OD-2	10" NYLOPLAST INLINE DRAIN WITH STANDARD GRATE	SEE	PLAN	365.59	365.59	370.60	SEE DETAIL THIS SHEET
OD-3	10" NYLOPLAST INLINE DRAIN WITH STANDARD GRATE	SEE	PLAN	364.25 364.25	364.25	370.30	SEE DETAIL THIS SHEET

NOTES:

- 1) ALL STRUCTURES ARE HOWARD STANDARDS UNLESS NOTED OTHERWISE. CONTRACTOR MAY USE PRECAST STRUCTURE WHERE AVAILABLE TO MEET THE STANDARD STRUCTURE SPECIFIED.
- 2) LOCATIONS ARE GIVEN TO CENTER OF STRUCTURE.
- 3) ELEVATIONS ARE GIVEN TO TOP OF GRATE FOR GRATE INLETS AND TOP OF LID FOR MANHOLES.
- 4) PIPE LENGTHS ARE GIVEN TO THE CENTER OF THE STRUCTURE. CONTRACTOR SHALL ADJUST LENGTH TO OBTAIN ACTUAL PIPE LENGTHS.

PIPE SCHEDULE

SIZE	TYPE	LINEAR FOOTAGE
6"	PERFORATED PVC	57
15"	HDPE	194

HDPE SPECIFICATIONS

CORRUGATED HIGH-DENSITY POLYETHYLENE STORM DRAIN (HDPE) PIPE FOR ON-SITE DRAINAGE AND UNDERGROUND DETENTION SYSTEM SHALL MEET THE REQUIREMENTS OF AASHTO M294. AASHTO WALL TYPE MAY BE TYPE "S" OR TYPE "D". PIPE AND FITTINGS SHALL BE MANUFACTURED FROM VIRGIN PE COMPOUNDS AND SHALL CONFORM TO THE APPLICABLE CURRENT EDITION OF THE AASHTO MATERIAL SPECIFICATIONS FOR CELL CLASSIFICATIONS AS DEFINED AND DESCRIBED IN ASTM D3350.

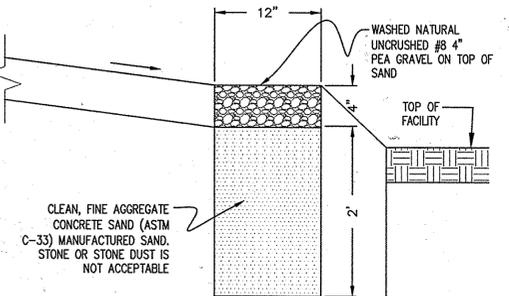
PIPES SHALL BE CONNECTED THROUGH A BELL AND SPIGOT CONNECTION. A RUBBER GASKET MEETING THE REQUIREMENTS OF ASTM F477 SHALL BE SUPPLIED ON THE SPIGOT END. THE PIPE SHALL BE WATER TIGHT TO 10.8 PSI PER A LABORATORY TEST IN ACCORDANCE WITH ASTM D3212. THE PIPE MANUFACTURER SHALL PROVIDE CERTIFICATIONS ON JOINT INTEGRITY.

PIPE TO MANHOLE CONNECTIONS SHALL BE MADE WITH A RUBBER BOOT-TYPE CONNECTION PRECAST INTO THE MANHOLE AND SHALL BE WATER TIGHT.

PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321 AND MANUFACTURER'S RECOMMENDATIONS.

ALL PIPES SHALL BE BEDDED ON 4" TO 6" OF (CLASS I-FILL (UNDER THE PIPE) AND UP TO 1/2 THE PIPE DIAMETER COMPACTED AT OPTIMUM MOISTURE CONTENT (PLUS OR MINUS 2 PERCENTAGE POINTS), AND TO A MINIMUM OF 95% OF THE MAXIMUM DENSITY AS DETERMINED IN THE LABORATORY BY ASTM TEST METHOD D-1557-78. ALL ADDITIONAL BACKFILL SHALL MEET PRINCE GEORGE'S COUNTY SPECIFICATIONS.

CORRUGATED HDPE STORM DRAIN SHALL BE N-12 PRO-LINK WT, AS MANUFACTURED BY ADS, INC., COLUMBUS, OH, OR APPROVED EQUAL.



STONE DIAPHRAGM TYPICAL SECTION
(NOT TO SCALE)

THE REVISIONS SHOWN HAVE BEEN APPROVED BY THE PLANNING BOARD ON JUNE 5, 2014.

Tensar NORTH AMERICAN GREEN

Tensar International Corporation
5401 St. Wendel-Cynthiana Road
Poseyville, Indiana 47633
Tel. 800.772.2040
Fax 812.867.0247
www.nsgreen.com

**Material and Performance Specification
P300 Turf Reinforcement Mat**

Description	Index Property	Test Method	Typical
<p>The permanent turf reinforcement mat shall be a machine-produced mat of 100% UV stable polypropylene fiber. The matting shall be of consistent thickness with the synthetic fibers evenly distributed over the entire area of the mat. The Matting shall be covered on the top side with black heavyweight UV stabilized polypropylene netting having ultraviolet additives to delay breakdown and an approximate 0.50 x 0.50 inch (1.27 x 1.27 cm) mesh. The bottom net shall also be UV stabilized polypropylene with a 0.63 x 0.63 (1.57 x 1.57 cm) mesh size. The blanket shall be sewn together on 1.50 inch (3.81 cm) centers with nondegradable thread. All mats shall be manufactured with a colored thread stitched along both outer edges as an overlap guide for adjacent mats.</p> <p>The P300 shall meet Type 5A, 5B, specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) FP-03 Section 713.18</p>	Thickness	ASTM D6525	0.54 in (13.72 mm)
	Resiliency	ASTM 6524	91.5%
	Density	ASTM D792	0.513 oz/in ³
	Mass/Unit Area	ASTM 6566	11.46 oz/yd ² (389 g/m ²)
	UV Stability	ASTM D4355 /1000 hr	90%
	Porosity	ECTC Guidelines	95.89%
	Stiffness	ASTM D1388	97.24 oz-in
	Light Penetration	ECTC Guidelines	15%
	Tensile Strength - MD	ASTM D6818	481 lbs/ft (7.02 kN/m)
	Elongation - MD	ASTM D6818	20%
Tensile Strength - TD	ASTM D6818	426 lbs/ft (6.22 kN/m)	
Elongation - TD	ASTM D6818	23%	
<p>Material Content</p>	Matrix	100% UV stabilized Polypropylene fiber	0.7 lbs/yd ² (0.38 kg/m ²)
	Netting	Top, UV stabilized Polypropylene	5 lb/1000 ft ² (2.44 kg/100 m ²)
	Thread	Bottom, UV stabilized Polypropylene	3 lb/1000 ft ² (1.47 kg/100 m ²)
<p>Standard Roll Sizes</p>	Width	6.5 ft (2.0 m)	8 ft (2.44 m)
	Length	108 ft (32.92 m)	112 ft (34.14 m)
	Weight ± 10%	61.0 lbs (27.66 kg)	76.25 lbs (34.59 kg)
<p>Bench Scale Testing (NTPEP)</p>	ECTC 2	50 mm (2 in)/hr-30 min Rainfall	SLR** = 11.92 SLR** = 10.79 SLR** = 10.17
	ECTC 3	Shear at 0.50 inch soil loss	3.30 lbs/ft ²
	ECTC 4	Top Soil, Fescue, 21 day Germination incubation	263% improvement of biomass
<p>* Bench Scale tests should not be used for design purposes. ** Soil Loss Ratio = Soil Loss Bare Soil/Soil Loss with PEP</p>			
<p>Maximum Permissible Shear Stress</p>			
		Short Duration	Long Duration
Phase 1 Unvegetated		2.0 lbs/ft ² (96 Pa)	2.0 lbs/ft ² (96 Pa)
Phase 2 Partially Veg.		8.0 lbs/ft ² (383 Pa)	8.0 lbs/ft ² (383 Pa)
Phase 3 Fully Veg.		8.0 lbs/ft ² (383 Pa)	8.0 lbs/ft ² (383 Pa)
Unvegetated Velocity		9.0 ft/s (2.7 m/s)	
Vegetated Velocity		16 ft/s (4.9 m/s)	
<p>Slope Design Data: C Factors</p>			
		Slope Gradients (S)	
Slope Length (L)	≤ 3:1	3:1 - 2:1	≥ 2:1
≤ 20 ft (6 m)	0.001	0.029	0.082
20-50 ft	0.036	0.060	0.086
≥ 50 ft (15.2 m)	0.070	0.090	0.110
<p>Roughness Coefficients- Unveg.</p>			
Flow Depth		Manning's n	
≤ 0.50 ft (0.15 m)		0.034	
0.50 - 2.0 ft		0.034-0.020	
≥ 2.0 ft (0.60 m)		0.020	
<p>Proud Participant of:</p>			

Tensar International Corporation warrants that at the time of delivery the product furnished hereunder shall conform to the specification stated herein. Any other warranty including merchantability and fitness for a particular purpose, are hereby executed. If the product does not meet specifications on this page and Tensar is notified prior to installation, Tensar will replace the product at no cost to the customer. This product specification supersedes all prior specifications for the product described above and is not applicable to any products shipped prior to January 1, 2011.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *3/1/15*
CHIEF, DIVISION OF LAND DEVELOPMENT: *3-27-15*
DIRECTOR: *3/6/15*

OWNER: DOBBIN SQUARE LLC
ATTN: CHIP STEHLE
5410 EDSON LANE, SUITE 220
ROCKVILLE, MD 20852
T: 301.816.1548

DEVELOPER: BERMAN ENTERPRISES
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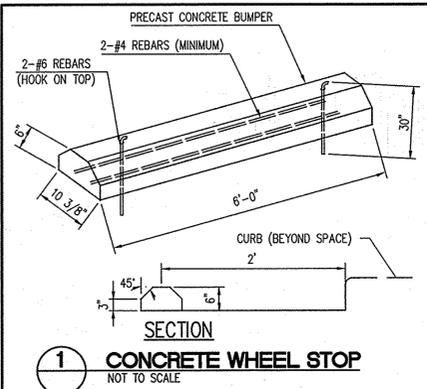
PROJECT: SHOPPES AT DOBBIN CORNER
COLUMBIA AUTO PARK SECTION 1 AREA 1
PARCELS L-1 AND L-2

AREA: TAX MAP 36 PARCEL 401 ZONING NT
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

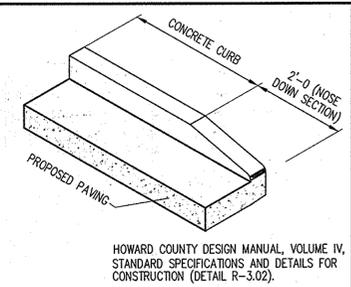
TITLE: **STORMWATER MANAGEMENT DETAILS**

Pennoni Associates Inc.
Consulting Engineers
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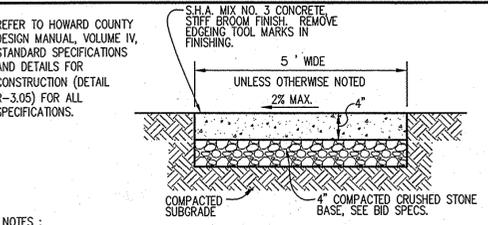
DESIGNED BY: PJS
DRAWN BY: ALC
PROJECT NO: BERE1302
DATE: FEBRUARY 27, 2015
SCALE: AS SHOWN
DRAWING NO. 14 OF 17



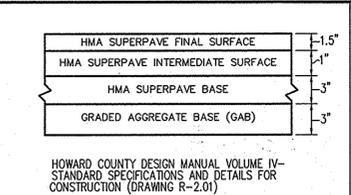
1 CONCRETE WHEEL STOP
NOT TO SCALE
HC DFW STD. R-302



2 NOSE DOWN CURB DETAIL
NOT TO SCALE
HC DFW STD. R-302



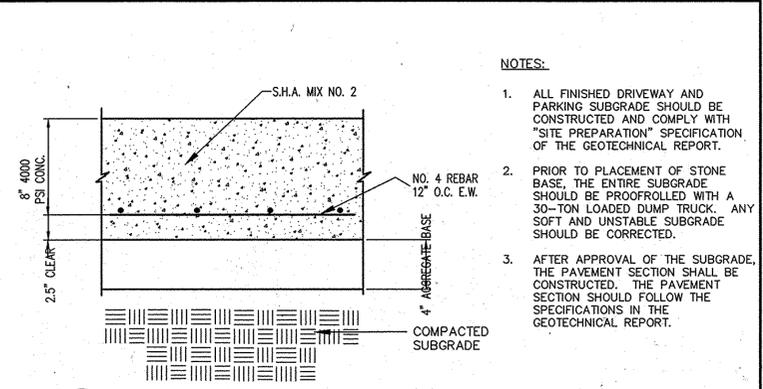
3 SIDEWALK DETAIL
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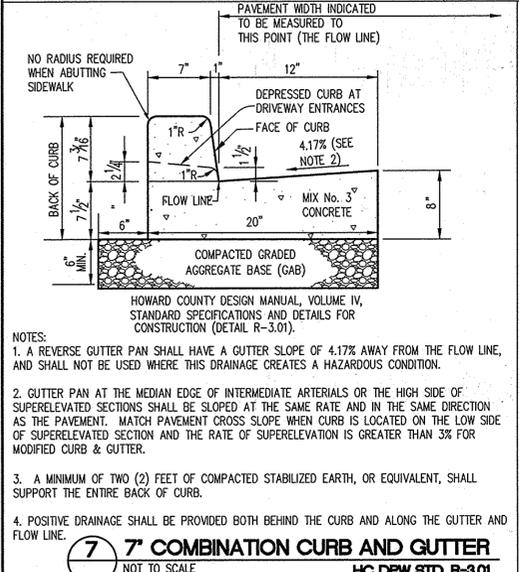
4 P-3 PAVING
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HC DFW STD. R-201

NOTE
SEE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION DETAIL R-404

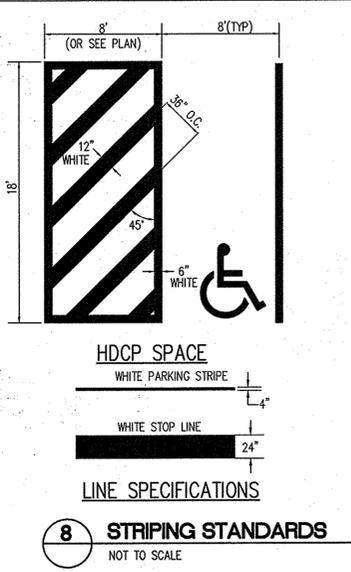
5 SIDEWALK RAMP TYPE C
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HC DFW STD. R-404



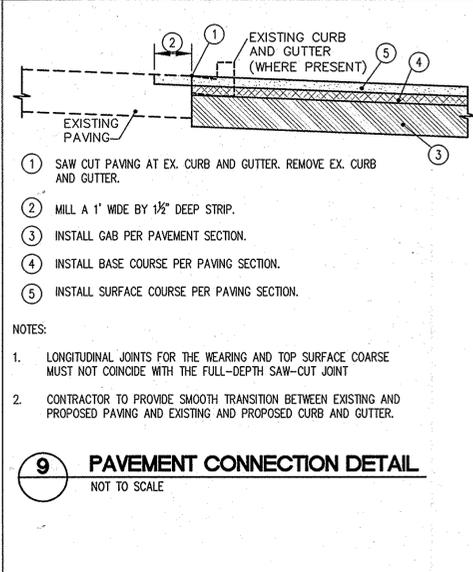
6 DUMPSTER CONCRETE DETAIL
NOT TO SCALE



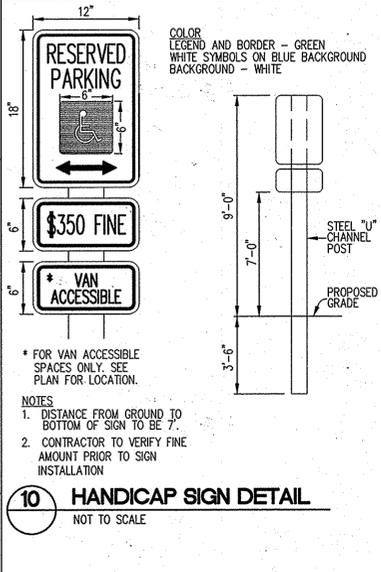
7 7' COMBINATION CURB AND GUTTER
NOT TO SCALE
HC DFW STD. R-301



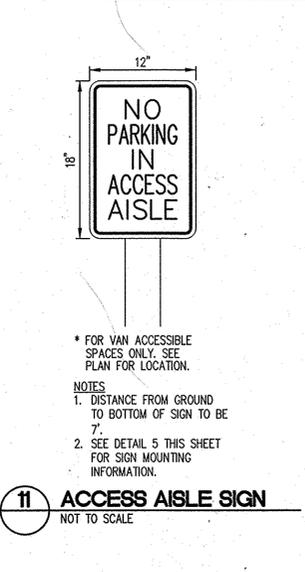
8 STRIPING STANDARDS
NOT TO SCALE



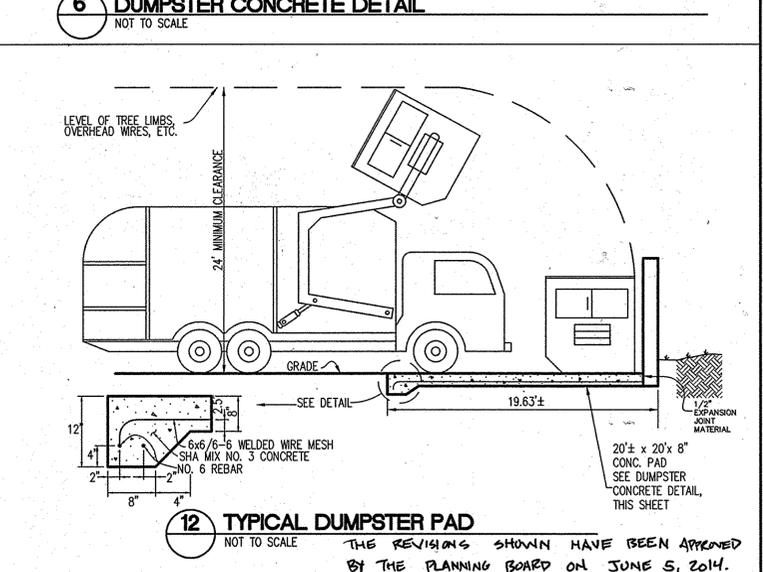
9 PAVEMENT CONNECTION DETAIL
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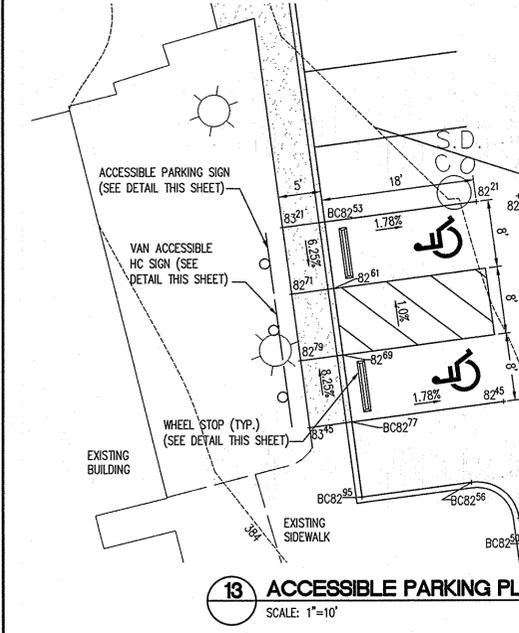
10 HANDICAP SIGN DETAIL
NOT TO SCALE



11 ACCESS AISLE SIGN
NOT TO SCALE



12 TYPICAL DUMPSTER PAD
NOT TO SCALE



13 ACCESSIBLE PARKING PLAN
SCALE: 1"=10'

NOTES:

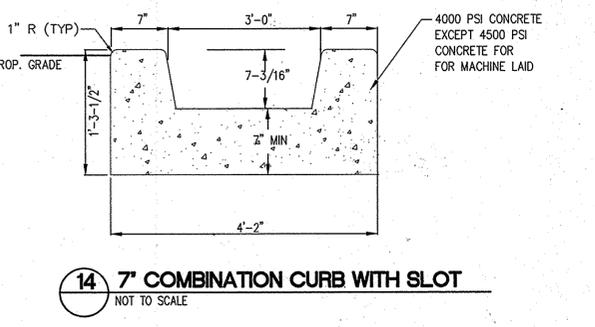
C) ALL HANDICAPPED PARKING SHALL BE SLOPED NO GREATER THAN 2% IN ANY DIRECTION, INCLUDING A 5' WIDE AREA BEHIND THE PARKING SPACES. CONTRACTOR SHALL CHECK ALL SLOPES PRIOR TO PLACING ANY WORK OR WORK MAY BE UNACCEPTABLE.

D) AN ACCESS ROUTE FROM THE PARKING SPACE(S) TO THE MAIN BUILDING ENTRANCE SHALL BE PROVIDED. ALL SLOPES ALONG THE DIRECTION OF TRAVEL SHALL NOT EXCEED 1:20 UNLESS THEY FALL UNDER CONDITION B) ABOVE. SLOPES IN EXCESS OF 1:20 EXCEPT FOR CURB RAMPS, REQUIRE A HANDRAIL MEETING ADA REQUIREMENTS.

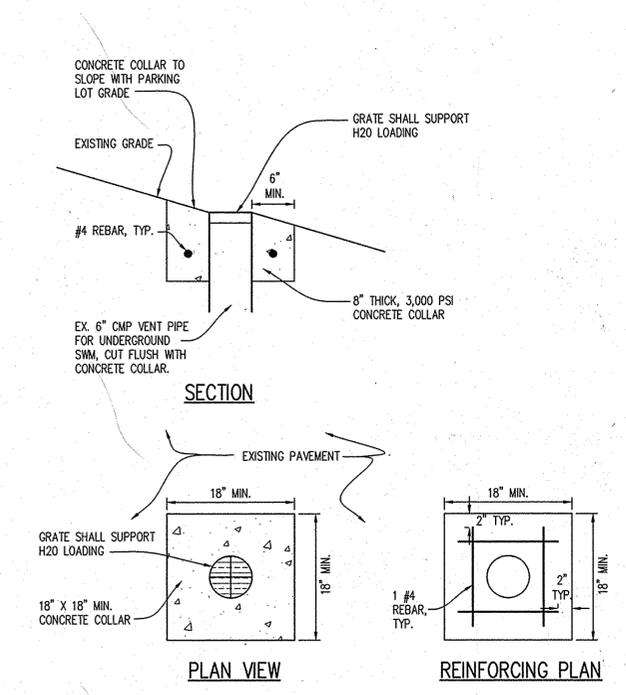
CONTRACTOR SHALL PROVIDE A LEVEL LANDING AT THE TOP OF CURB RAMPS AS REQUIRED IN SECTION 406.4 OF THE 2010 ADA.

A) MAXIMUM SIDEWALK CROSS SLOPES SHALL BE 2%.

B) A MINIMUM 5'x 5' LANDING AREA WITH A MAXIMUM SLOPE IN ANY DIRECTION OF 2% SHALL BE PROVIDED AT ALL CHANGES IN DIRECTION, TOPS AND BOTTOMS OF RAMPS, AND BUILDING EGRESS POINTS.



14 7' COMBINATION CURB WITH SLOT
NOT TO SCALE



15 6\"/>

APPROVED : DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *Chip Stehle* 3/15/15
 CHIEF, DIVISION OF LAND DEVELOPMENT: *John A. Long* 3/20/15
 DIRECTOR: *John A. Long* 3/20/15

DATE	NO.	REVISION

OWNER: DOBBIN SQUARE LLC ATTN: CHIP STEHLE, 5410 EDSON LANE, SUITE 220, ROCKVILLE, MD 20852, T: 301.816.1548

DEVELOPER: BERMAN ENTERPRISES ATTN: CHIP STEHLE, 5410 EDSON LANE, SUITE 220, ROCKVILLE, MD 20852, T: 301.816.1548

PROJECT: SHoppes AT DOBBIN CORNER, COLUMBIA AUTO PARK SECTION 1 AREA 1, PARCELS L-1 AND L-2

AREA: TAX MAP 36 PARCEL 401 ZONING NT, 6TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

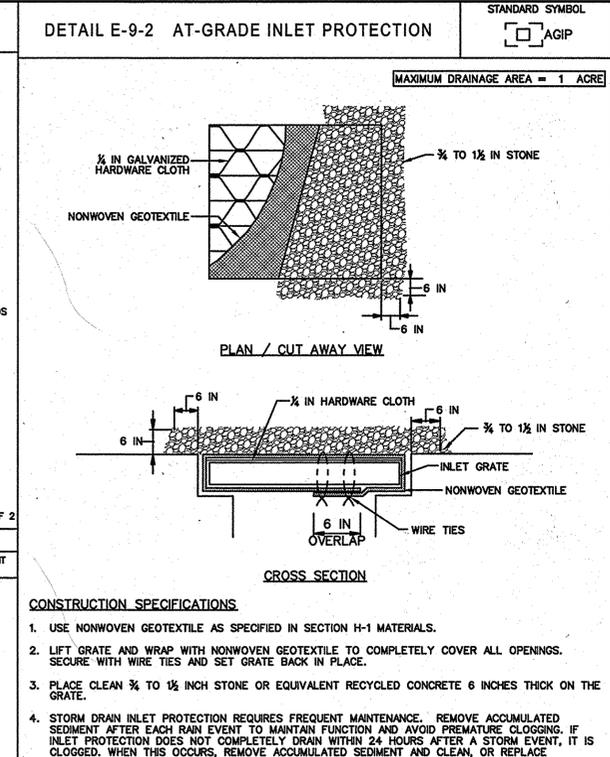
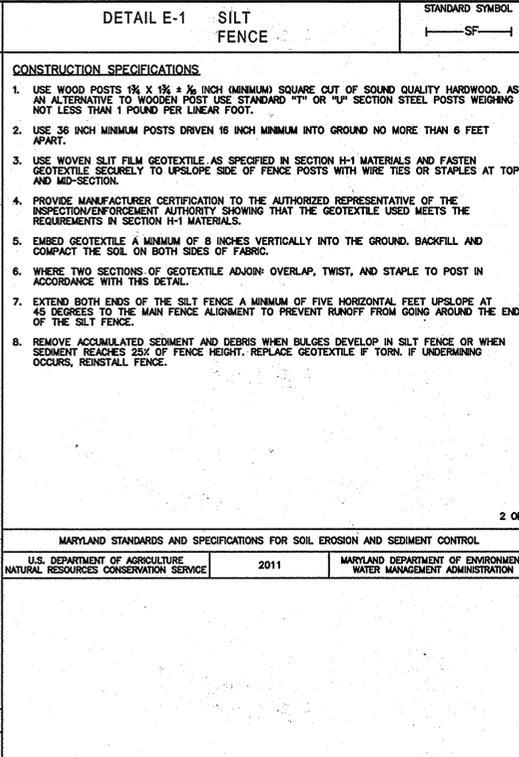
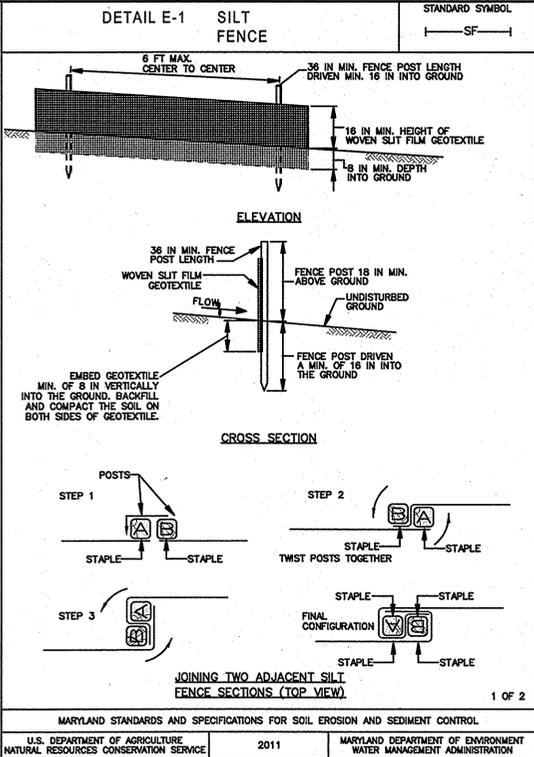
TITLE: SITE DETAILS

Pennoni Associates Inc. Consulting Engineers, 8818 Centre Park Drive, Suite 200, Columbia, MD 21045, T 410.997.8900, F 410.997.9282

DESIGNED BY: PJS
 DRAWN BY: ALC
 PROJECT NO: BERE1302
 DATE: FEBRUARY 27, 2015
 SCALE: AS SHOWN
 DRAWING NO. 15 OF 17

SEQUENCE OF CONSTRUCTION

1. CONDUCT A PRECONSTRUCTION MEETING WITH COUNTY INSPECTOR. (1 DAY)
2. OBTAIN GRADING PERMIT. (1 DAY)
3. INSTALL SILT FENCE AND INLET PROTECTION. (2 DAYS)
4. REMOVE EXISTING TREES, EXISTING LIGHT POLES, SIGNS, AND OTHER FEATURES. (2 DAYS)
5. SAWCUT EXISTING PAVEMENT AT LIMITS OF DISTURBANCE AND BEGIN REMOVAL OF EXISTING PAVEMENT AND CURB AND GUTTER. (2 WEEKS)
6. MODIFY VENT PIPE FROM EXISTING UNDERGROUND STORMWATER MANAGEMENT DEVICE PER DETAIL SHOWN IN THIS SET. CUT PIPE FLUSH WITH ULTIMATE GRADE, AND INSTALL A GRATE CAPABLE OF PROVIDING H2O LOADING.
7. AS PAVEMENT IS REMOVED, REPLACE EITHER WITH STONE SUBBASE AND BASE PAVING, OR WITH CURB AND GUTTER. ONLY REMOVE PAVEMENT TO THE EXTENT THAT AN AREA CAN BE STABILIZED WITH STONE SUBBASE OR CURB AND GUTTER DURING THE SAME DAY. (3 WEEKS)
8. AS CURBED ISLANDS ARE CONSTRUCTED, BACKFILL WITH TOPSOIL. (1 WEEK)
9. CONSTRUCTION STORM DRAIN FROM I-2 TO MH1. (3 DAYS)
10. EXCAVATE FOR THE CONSTRUCTION OF MH1. SCHEDULE CONSTRUCTION OF MH1 FOR A PERIOD WHEN DRY WEATHER IS FORECAST FOR AT LEAST THREE DAYS. (3 DAYS)
11. CONSTRUCT STORM DRAIN FROM OD-1 TO I-2. (1 WEEK)
12. UPON COMPLETION OF CURBING AROUND MICROBIORETENTION AREAS AND STORM DRAIN FOR MICROBIORETENTION AREAS, CONSTRUCTION MICROBIORETENTION FACILITIES. (2 WEEKS)
13. COMPLETE PAVING. (1 WEEK)
14. INSTALL LANDSCAPING AND STABILIZE SITE. (1 WEEK)
15. UPON PERMISSION OF COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES.



THE REVISIONS SHOWN HAVE BEEN APPROVED BY THE PLANNING BOARD ON JUNE 5, 2014.

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 (PRINT NAME BELOW SIGNATURE) DATE
 Shawn L. Cruz 2-25-15

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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) DATE
 William N. Stehle, Jr. 2/25/2015

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

SIGNATURE OF HOWARD SCD CHIEF STEPHEN 3/10/15

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
 3/1/15

CHIEF, DIVISION OF LAND DEVELOPMENT DATE
 3-27-15

DIRECTOR DATE
 3/20/15

OWNER
 DOBBIN SQUARE LLC
 ATTN: CHIP STEHLE
 5410 EDSON LANE, SUITE 220
 ROCKVILLE, MD 20852
 T: 301.816.1548

DEVELOPER
 BERMAN ENTERPRISES
 ATTN: CHIP STEHLE
 5410 EDSON LANE, SUITE 220
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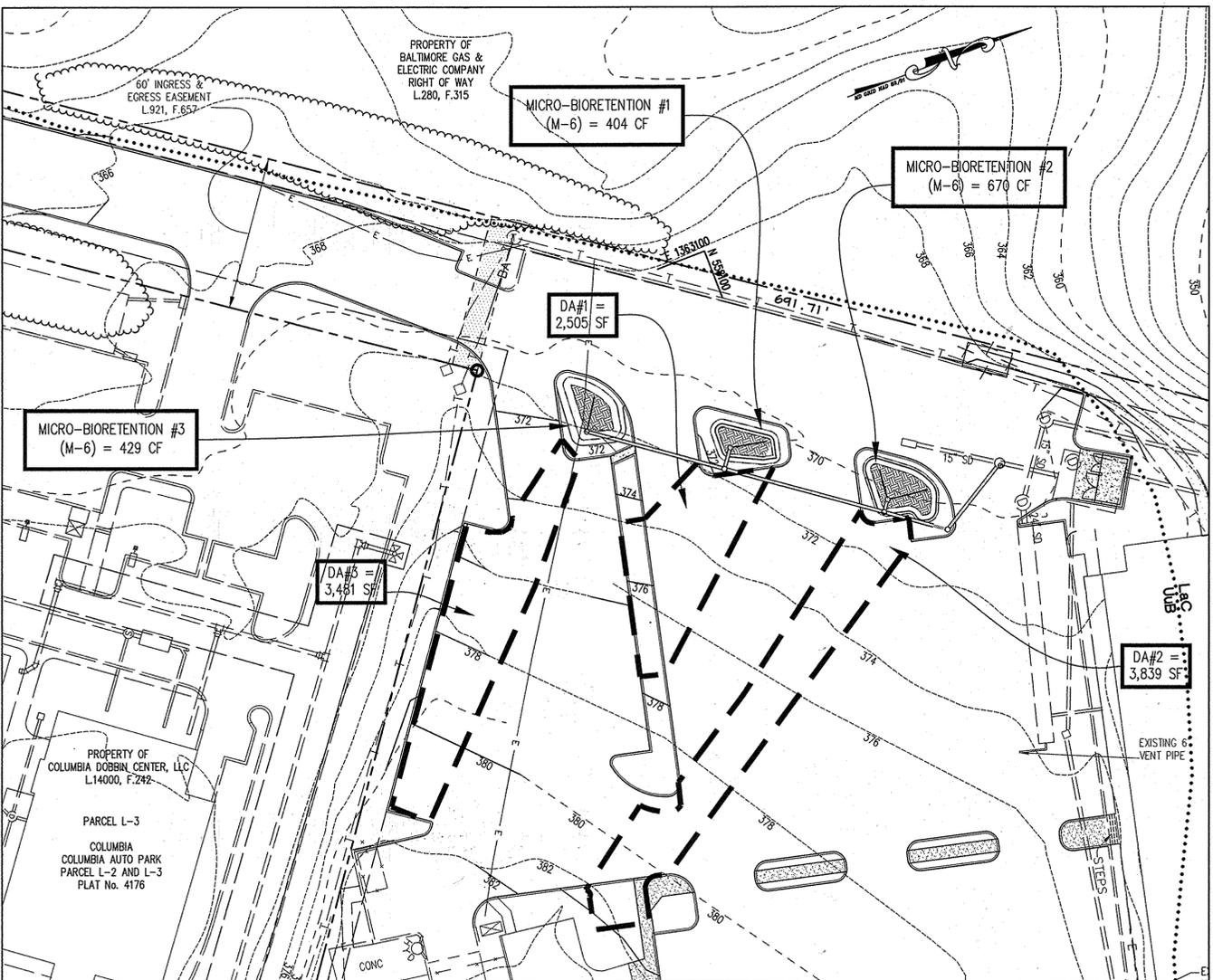
PROJECT
 SHOPPES AT DOBBIN CORNER
 COLUMBIA AUTO PARK SECTION 1 AREA 1
 PARCELS L-1 AND L-2

AREA
 TAX MAP 36 PARCEL 401 ZONING NT
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE
 SEDIMENT CONTROL
 DETAILS

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DESIGNED BY: PJS
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 SCALE: AS SHOWN
 DRAWING NO. 16 OF 17



HOWARD SOIL CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (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) 3 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 7 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4), AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
5. 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.
6. SITE ANALYSIS:
 TOTAL AREA OF SITE 8.75 ACRES
 AREA DISTURBED 0.92 ACRES
 AREA TO BE ROOFED OR PAVED 0.64 ACRES
 AREA TO BE VEGETATIVELY STABILIZED 0.28 ACRES
 TOTAL CUT 105 CU. YARDS
 TOTAL FILL 0 CU. YARDS
 OFFSITE WASTE AREA LOCATION TO HAVE ACTIVE GRADING PERMIT
7. ANY SEDIMENT CONTROL PRACTICE THAT IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
8. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
9. 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.
10. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIECE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.
11. ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH CONSTRUCTION.
12. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE ENFORCEMENT AUTHORITY. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE APPROVAL AUTHORITY, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.

B-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

DEFINITION
THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.

PURPOSE
TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

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

CRITERIA

A. SOIL PREPARATION

1. TEMPORARY STABILIZATION

a. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.

b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.

c. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

2. PERMANENT STABILIZATION

a. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:

i. SOIL PH BETWEEN 6.0 AND 7.0.

ii. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).

iii. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.

iv. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.

v. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.

b. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.

c. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES.

d. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.

e. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

B. TOPSOILING

1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS.

3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:

a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.

b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.

c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.

d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.

5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:

a. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CONCRETES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2 INCHES IN DIAMETER.

b. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERNARDIA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

c. 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.

6. TOPSOIL APPLICATION

a. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.

b. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO 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 MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.

c. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.

2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.

3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.

4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

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

DEFINITION

THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.

PURPOSE

TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

CONDITIONS WHERE PRACTICE APPLIES

TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.

CRITERIA

A. SEEDING

1. SPECIFICATIONS

a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.

b. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS.

c. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA, PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.

d. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL, UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

2. APPLICATION

a. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.

i. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES.

ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDING AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.

b. DRILL OR CULTPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.

i. CULTPACKING 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.

ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.

c. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).

i. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS), 200 POUNDS PER ACRE; K20 (POTASSIUM), 200 POUNDS PER ACRE.

ii. 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.

iii. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.

iv. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

B. MULCHING

1. MULCH MATERIALS (IN ORDER OF PREFERENCE)

a. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE SPECIFIED IN THE MARYLAND SEED LAW. STRAW MUST BE CLEAN, FREE OF MOISTURE, NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.

b. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.

i. WCFM IS TO 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.

ii. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.

iii. WCFM MATERIALS ARE TO 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 MUST FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.

iv. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.

v. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.

2. APPLICATION

a. APPLY MULCH TO ALL SEEDING AREAS IMMEDIATELY AFTER SEEDING.

b. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDING AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE.

c. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

3. ANCHORING

a. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:

i. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 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 FOLLOW THE CONTOUR.

ii. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

iii. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSE, TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.

iv. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

DEFINITION

TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS.

PURPOSE

TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

CRITERIA

1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3), 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 PLAN AND COMPLETED, THEN TABLE B.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN.

2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.

3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

TEMPORARY SEEDING SUMMARY

Hardiness Zone (from Figure B.3):		6B		Fertilizer Rate (10-20-20)		Lime Rate
Seed Mixture (from Table B.1):				N	P205	
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
	ANNUAL RYEGRASS	40	MAR 1 TO MAY 15; AUG 1 TO OCT 15	0.5		
	BARLEY	96	MAR 1 TO MAY 15; AUG 1 TO OCT 15	1.0		
	OATS	72	MAR 1 TO MAY 15; AUG 1 TO OCT 15	1.0		
	PEARL MILLET	20	MAY 16 TO JUL 31	0.5		
		436 lb/ac			2 tons/ac	
		(10 lb/1000 sq ft)			(90 lb/1000 sq ft)	

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION

TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

PURPOSE

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

CONDITIONS WHERE PRACTICE APPLIES

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

CRITERIA

A. SEED MIXTURES

1. GENERAL USE

a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.

b. ADDITIONAL SPECIAL SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANNING.

c. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.

d. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3 1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.

2. TURFGRASS MIXTURES

a. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.

b. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.

i. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATES: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.

ii. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.

iii. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES: CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.

iv. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES: CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 1 1/2 TO 3 POUNDS PER 1000 SQUARE FEET.

NOTES:

SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND"

CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE.

c. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES

WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, 6A) CENTRAL

MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B)

SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15

(HARDINESS ZONES: 7A, 7B)

d. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES. LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1 1/2 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.

e. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

PERMANENT SEEDING SUMMARY

Hardiness Zone (from Figure B.3):		6B		Fertilizer Rate (10-20-20)		Lime Rate
Seed Mixture (from Table B.3):				N	P205	
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
8	TALL FESCUE	100	MAR 1-MAY 15; AUG 1-OCT 15	1 1/2 - 2 1/2 in		
9	TALL FESCUE HARDY BLUEGRASS PERENNIAL RYEGRASS	60 60 60	MAR 1-MAY 15; AUG 1-OCT 15	1 1/2 - 2 1/2 in	45 pounds per acre (10 lb/1000 sq ft)	90 lb/ac (2 lb/1000 sq ft)
11	CENTRAL RD FESCUE CENTRAL RD FESCUE HARDY BLUEGRASS	30 30 30	MAR 1-MAY 15; AUG 1-OCT 15	1 1/2 - 2 1/2 in		2 tons/ac (90 lb/1000 sq ft)