
















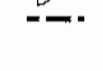







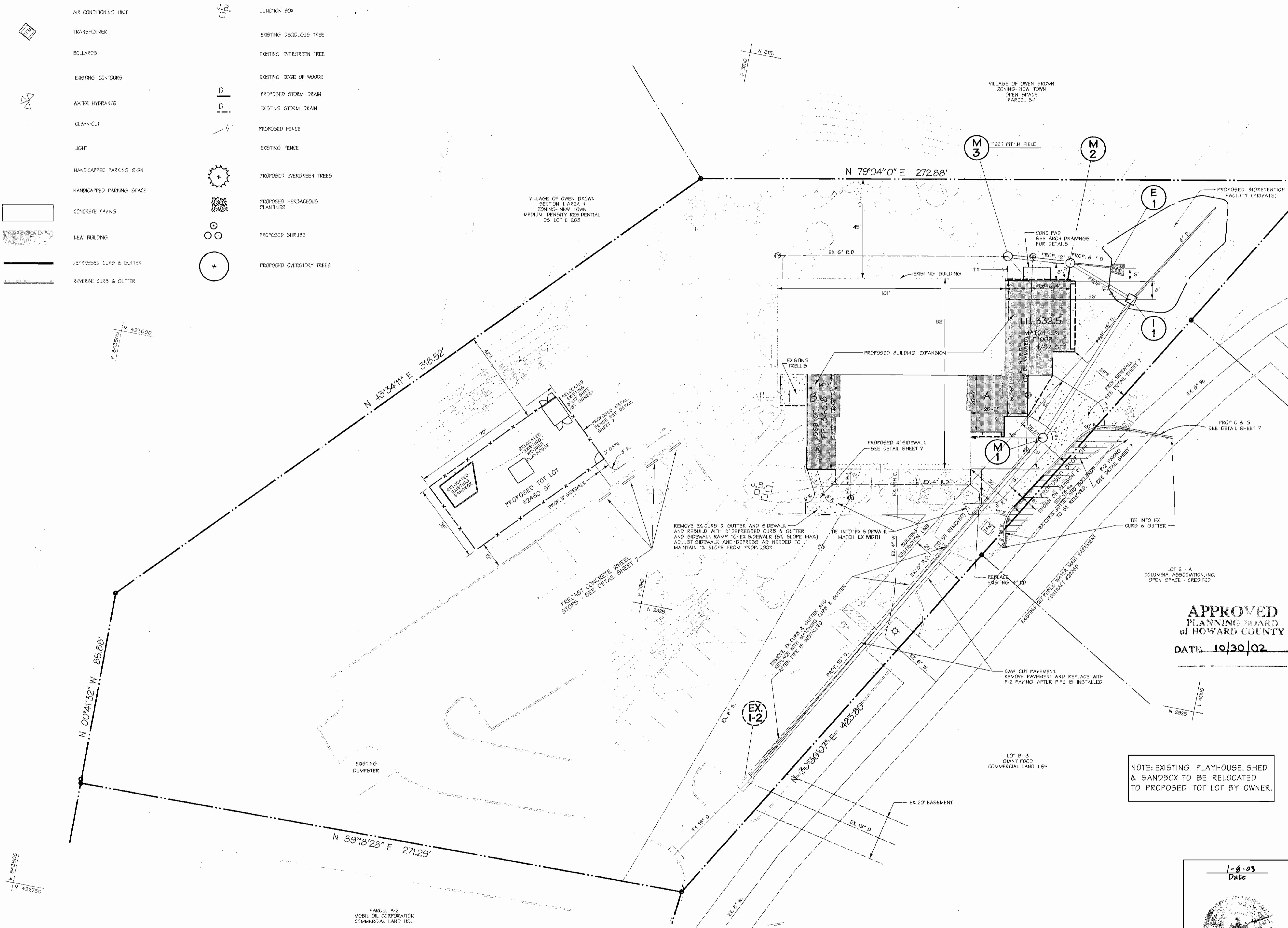


LEGEND

-  AIR CONDITIONING UNIT
-  TRANSFORMER
-  BOLLARDS
-  EXISTING CONTOURS
-  WATER HYDRANTS
-  CLEAN-OUT
-  LIGHT
-  HANDICAPPED PARKING SIGN
-  HANDICAPPED PARKING SPACE
-  CONCRETE PAVING
-  NEW BUILDING
-  DEPRESSED CURB & GUTTER
-  REVERSE CURB & GUTTER
-  JUNCTION BOX
-  EXISTING DECIDUOUS TREE
-  EXISTING EVERGREEN TREE
-  EXISTING EDGE OF WOODS
-  PROPOSED STORM DRAIN
-  EXISTING STORM DRAIN
-  PROPOSED FENCE
-  EXISTING FENCE
-  PROPOSED EVERGREEN TREES
-  PROPOSED HERBACEOUS PLANTINGS
-  PROPOSED SHRUBS
-  PROPOSED OVERSTORY TREES



DATA SOURCES:
 TOPOGRAPHY PER FIELD RUN SURVEY BY DMW DATED 04/08/01
 BOUNDARY PER RECORD PLAT


APPROVED
 PLANNING BOARD
 of HOWARD COUNTY
 DATE: 10/30/02

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING	
<i>[Signature]</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	12/1/03 DATE
<i>[Signature]</i> CHIEF, DIVISION OF LAND DEVELOPMENT	1/22/03 DATE
<i>[Signature]</i> DIRECTOR	1/23/03 DATE

**Owen Brown Interfaith Center
 Site Improvements & Building Additions**
 Lots 1-A & 2-A, Village of Owen Brown, Section 1, Area 3
 OWNER/DEVELOPER
 (LOT 1-A) Owen Brown Interfaith Center, Inc.
 (LOT 2-A) Columbia Association, Inc.

DMW
 Daft · McCune · Walker, Inc.
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals
 300 East Pennsylvania Avenue
 Towson, Maryland 21286
 410 296 3333
 Fax 296 4705

SUBDIVISION NAME	SECTION AREA	LOT/PANEL #
Village of Owen Brown	1/3	P/O 436, Lots 1-A & 2-A
PLAT OR PROJECT # ZONE	TAXING MAP	ELECT. DISTRICT
5719 21 NT	26	6
WATER CODE	SEWER CODE	GENERIC TRACT
E 11	5330800	6027/04
TITLE		
SITE PLAN		
Drn By: KDE	Scale: 1" = 20'	Proj. No. 01026.B
Des By: RLH	Date: 11-20-02	
Chk By:	Approved:	2 of 9

1-6-03
 Date

 P.E. 10551

LEGEND

- EX. CURB & GUTTER
- EX. MAJOR CONTOURS
- EX. MINOR CONTOURS
- PROP. STORM DRAIN
- PROP. SEWER
- PROP. WATER
- EX. STORM DRAIN
- EX. SEWER
- EX. WATER
- PARKING COUNT LABELS
- CONCRETE SIDEWALKS
- STANDARD CURB
- DEPRESSED CURB
- REVERSE CURB
- EXISTING LIGHT FIXTURE
- EXISTING EDGE OF WOODS
- EXISTING TREE (DECIDUOUS/EVERGREEN)
- PROPOSED H.C. RAMP
- PROP. MINOR CONTOUR (1')
- PROP. MAJOR CONTOUR (5')
- LIMIT OF DISTURBANCE
- SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED FENCE
- EXISTING FENCE
- EX. BOLLARDS
- AC - AIR CONDITIONING UNIT
- EX. TRANSFORMER
- HANDICAPPED PARKING SIGN
- HANDICAPPED PARKING SPACE
- EX. JUNCTION BOX
- EX. CLEAN OUT

BMP SELECTION (PER CHAPTER 4) -

- 1) FILTERING SYSTEM 'OK'. WATERSHED IS NOT SPECIAL. (NO CRITICAL AREA, NO CLASS III or IV STREAMS, NO SENSITIVE STREAM, NO AQUIFER PROTECTION, NO RESERVOIR PROTECTION NOR SHELLFISH BREACH).
- 2) NO TERRAIN FACTORS.
- 3) THE BMP SELECTED IS F-6 BIORETENTION
 - Rev - MAY BE PROVIDED BY INFILTRATION.
 - Cpv - N/A
 - Qp - N/A
 - NO SAFETY CONCERNS
 - THIS IS NOT A HOT SPOT
 - SPECIAL NATURAL SOILS NOT NEEDED
 - EX. WATER TABLE > 2' BELOW STONE BOTTOM
 - SITE AREA = 0.13 AC. ± < 5 AC.
 - SLOPE RESTRICTIONS - NONE
 - HEAD > 5.0'
 - ULTRA-URBAN - N/A
 - OWNERSHIP/MAINTENANCE RESPONSIBILITY - PRIVATE/OWEN BROWN INTERFAITH CENTER, INC.

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

Jim Myers 1/16/03
 U.S. NATURAL RESOURCES CONSERVATION SERVICE
 DATE

APPROVED: *Jim R. Blanton* 1/16/03
 HOWARD SOIL CONSERVATION DISTRICT
 PLAN NUMBER

DEVELOPERS CERTIFICATE:

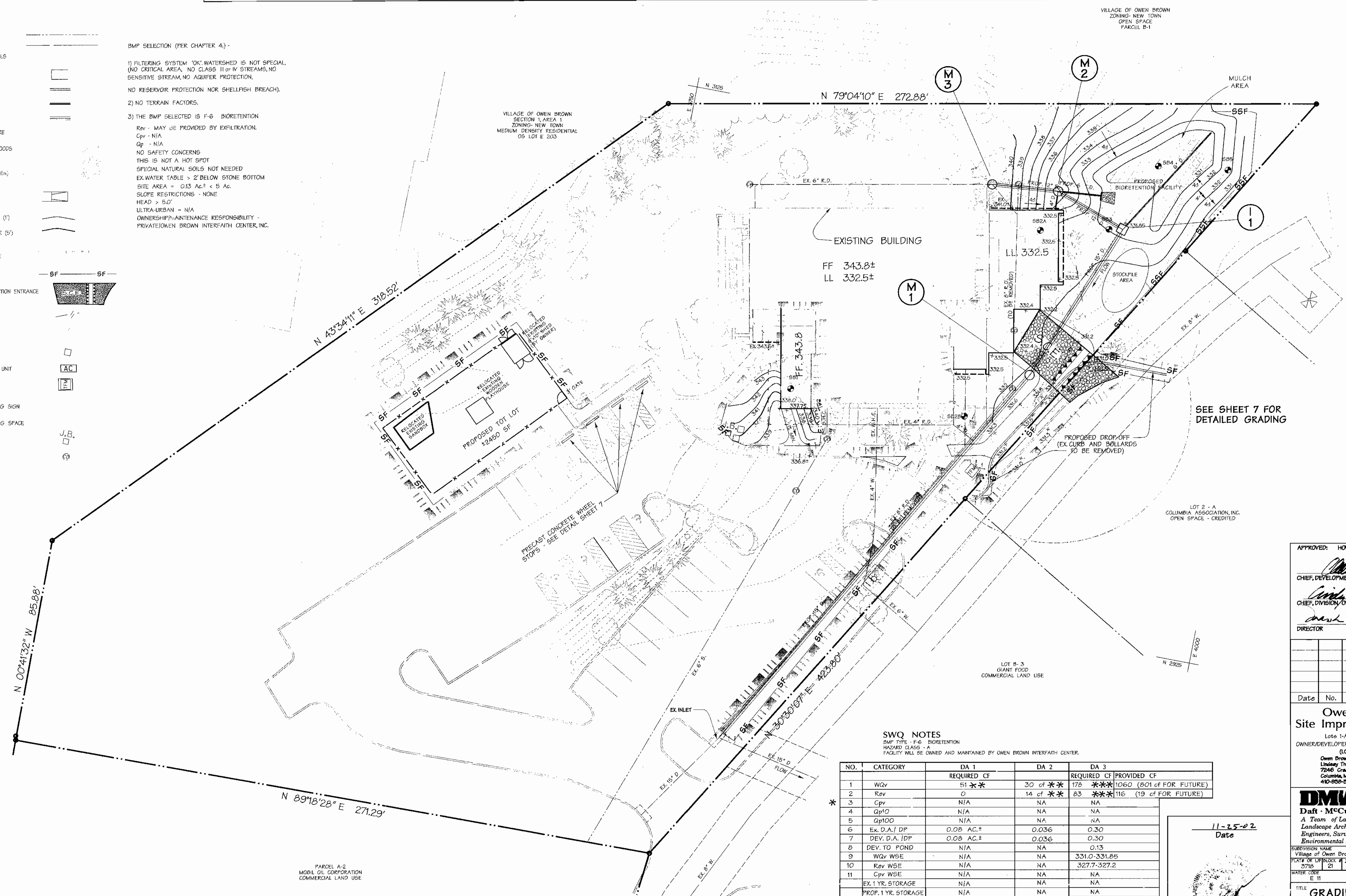
I WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE AND PROVIDE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION WITH AN "AS-BUILT" PLAN.

Richard Dean 1/16/03
 SIGNATURE OF DEVELOPER
 PRINT NAME BELOW SIGNATURE Richard Dean
 DATE

ENGINEERS CERTIFICATE:

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. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE THE FACILITY CONSTRUCTION AND PROVIDE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION WITH AN "AS-BUILT" PLAN OF THE FACILITY WITHIN 30 DAYS OF COMPLETION.

John W. Remick, Jr. 1/12/02
 SIGNATURE OF ENGINEER
 PRINT NAME BELOW SIGNATURE John W. Remick, Jr.
 DATE



DATA SOURCES:
 TOPOGRAPHY PER FIELD RUN SURVEY BY DMW DATED 04/08/01
 BOUNDARY PER RECORD PLAT

APPROVED
 DEPARTMENT OF PLANNING & ZONING
 OF HOWARD COUNTY
 10/30/02

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

John W. Remick, Jr. 1/21/03
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Jim R. Blanton 1/22/03
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Mark V. Leight 1/21/03
 DIRECTOR DATE

Date	No.	Revision Description

Owen Brown Interfaith Center Site Improvements & Building Additions
 Lots 1-A & 2-A, Village of Owen Brown, Section 1, Area 3

OWNER/DEVELOPER

(LOT 1-A)
 Owen Brown Interfaith Center Inc.
 Lindsay Thompson
 7246 Craffe Rock Way
 Columbia, MD 21046-5048
 410-958-5000

(LOT 2-A)
 Columbia Association, Inc.
 10221 Winthrop Circle
 Columbia, MD 21044-3410
 410-501-5501

DMW
 Daft - McCune - Walker, Inc.
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

200 E. Pennsylvania Avenue
 Towson, Maryland 21286
 410 296 5333
 Fax 296 4705

GRADING, ESC AND STORMWATER MANAGEMENT PLAN

Drn By: KDE Scale: 1" = 20' Proj. No. 01026.B
 Des By: RLH Date: 11-20-02
 Chk By: RLH Approved: **3 of 9**

SWQ NOTES
 BMP TYPE - F-6 BIORETENTION
 HAZARD CLASS - A
 FACILITY WILL BE OWNED AND MAINTAINED BY OWEN BROWN INTERFAITH CENTER.

NO.	CATEGORY	DA 1	DA 2	DA 3	REQUIRED CF	PROVIDED CF
1	WQv	51	30	83	178	106.0 (80% FOR FUTURE)
2	Rev	0	14	83	106.0	116 (19% FOR FUTURE)
3	Cpv	N/A	NA	NA	NA	NA
4	Qp100	N/A	NA	NA	NA	NA
5	Qp100	N/A	NA	NA	NA	NA
6	Ex. D.A./DP	0.08 AC.±	0.036	0.30	0.30	0.30
7	DEV. D.A./DP	0.08 AC.±	0.036	0.30	0.30	0.30
8	DEV. TO POND	N/A	NA	0.13	0.13	0.13
9	WQv WSE	N/A	NA	331.0	331.0	331.0
10	Rev WSE	N/A	NA	327.7	327.2	327.2
11	Cpv WSE	N/A	NA	NA	NA	NA
	EX. 1 YR. STORAGE	N/A	NA	NA	NA	NA
	PROP. 1 YR. STORAGE	N/A	NA	NA	NA	NA

* CHANNEL PROTECTION PROVIDED BY LAKE ELKHORN
 ** WATER QUALITY & RECHARGE PROVIDED IN BIORETENTION
 *** PRETREATMENT PROVIDED BY GRADE LEVEL AREA & GRASS FILTER STRIP
 IMP. AREA DRAINING TO BMP= 5400 SF > 4343 SF (REQUIRED)

11-25-02
 Date

R.E. 1055'

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.

Conditions Where Practice Applies

- I. This practice is limited to areas having 2:1 or flatter slopes where:
 - a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant 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.

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

Construction and Material Specifications

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

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

- I. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slags, coarse fragments, gravel sticks, roots, trash, and other materials larger than 1 1/2 inch in diameter.
- II. Topsoil must be free of plants or plant parts such as Bermuda grass, quack grass, Johnsongrass, nutgrass, poison ivy, thistle, or others as specified.
- III. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-5 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

II. For sites having disturbed areas under 5 acres:

- I. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
- III. For sites having disturbed areas over 5 acres:
 - I. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
 - a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
 - b. Organic contents 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.
 - or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
 - Notes: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
 - II. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
 - V. Topsoil Application
 - I. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
 - II. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.
 - III. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
 - IV. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

Topsoil Specifications

- 1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (SEE NOTES).
- 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 LAWS AND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THEREOF.
- 3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
 - A. SEVEN CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DICES, PERMETER DEVICES AND ALL SLOPES STEEPER THAN 3:1.
 - B. FOURTEEN DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- 4. ALL SEDIMENT TRAPS/BASINS SHALL BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1 CHAPTER 12 OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- 5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE "1984 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" FOR PERMANENT SEEDINGS (DEC. 5), SODS (DEC. 5), TEMPORARY SEEDINGS (DEC. 5), AND MULCHING (DEC. 5). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SODDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 7. SITE ANALYSIS:

TOTAL AREA OF SITE	2.2 ACRES
AREA TO BE FENCED OR PAVED	0.45 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.31 ACRES
TOTAL CUT	700 CUBIC YARDS
TOTAL FILL	600 CUBIC YARDS
- 8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- 9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERMETER DEVICES AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER GRADING, EROSION OR GRADING, OR OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- 11. REVISIONS FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THOSE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

Sediment Control General Notes

Not To Scale

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seedbed preparation - Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil amendments - In lieu of soil test recommendations, use one of the following Schedules:

- 1. Preferred - Apply 2 tons per acre Dolomitic Limestone (92 lbs./1000 sq. ft.) and 1000 lbs. per acre 10-10-10 fertilizer (14 lbs./1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 Ureaform fertilizer (9 lbs./1000 sq. ft.)
- 2. Acceptable - Apply 2 tons per acre Dolomitic Limestone (92 lbs./1000 sq. ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs./1000sq.ft.) before seeding. Harrow or disk into upper three inches of soil.

Seeding - For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs./1000sq.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 (.05 lbs./1000sq.ft.) of weeping lovegrass. During the period of October 15 thru February 28, protect site by Option (1) - 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option (2) - Use sod. Option (3) - seed with 60 lbs./acre Kentucky 31 tall fescue and mulch with 2 tons/acre well anchored straw.

Mulching - Apply 1-1/2 to 2 tons per acre (70 - 90 lbs./1000sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 216 gallons per acre (5 gal/1000sq.ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000sq.ft.) for anchoring.

Maintenance - Inspect all seeding areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be re-disturbed where a short-term vegetative cover is needed.

Seedbed preparation - Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil amendments - Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs./1000sq.ft.)

Seeding - For the periods March 1 thru April 30, and August 15 thru October 15, seed with 2-1/2 bushel per acre of annual ryegrass (3.2 lbs./1000sq.ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (.07 lbs./1000sq.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 - 90 lbs./1000sq.ft.) of unrotted weed free small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 216 gal. per acre (5 gal/1000 sq.ft.) of emulsified asphalt on flat areas. On slopes 8 ft. or higher, use 348 gal. per acre (8 gal/1000 sq.ft.) for anchoring.

Refer to the 1984 Maryland Standards and Specifications for Soil Erosion and Sediment Control for additional rates and methods not covered.

Permanent Seeding Notes

SEQUENCE OF CONSTRUCTION

SEQUENCE	NUMBER OF DAYS
1. OBTAIN A GRADING PERMIT.	1
2. INSTALL SEDIMENT AND EROSION CONTROL DEVICES.	2
3. ROUGH GRADE SITE.	2
4. FINE GRADE SITE.	5
5. INSTALL CURB & GUTTER, PAVING, SIDE WALKS, STORM DRAIN AND DIVERSION MANHOLE, BLOCK 6" PIPE INTO SWM BMP UNTIL SITE IS STABILIZED.	7
6. STABILIZE ALL AREAS IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS.	5
7. UPON APPROVAL OF THE SEDIMENT AND EROSION CONTROL INSPECTOR, REMOVE ALL EROSION CONTROL MEASURES, INSTALL SWM BMP TYPE F-6 BIORETENTION FILTER EXCAVATE TO INVERT OF RECHARGE AREA, INSTALL UNDER DRAIN GRAVEL, 6" PERFORATED PIPE, INSTALL GEOTEXTILE AND PLANTING SOIL, INSTALL 2" MULCH AS SHOWN ON PLAN, STABILIZE ALL DISTURBED AREA, ONCE EVERYTHING IS STABILIZED, REMOVE 6" PIPE BLOCKING.	8

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

John M. Mayo 1/16/03
U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE DATE

John P. Robinson 1/16/03
HOWARD COUNTY CONSERVATION DISTRICT DATE

APPROVED: *Richard Dean* 1/16/02
SIGNATURE OF DEVELOPER DATE

PRINT NAME: BELOW SIGNATURE *Richard Dean*

DEVELOPERS CERTIFICATE:

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/WE SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE THE CONSTRUCTION AND PROVIDE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION WITH AN "AS-BUILT" PLAN.

Richard Dean 1/16/02
SIGNATURE OF DEVELOPER DATE

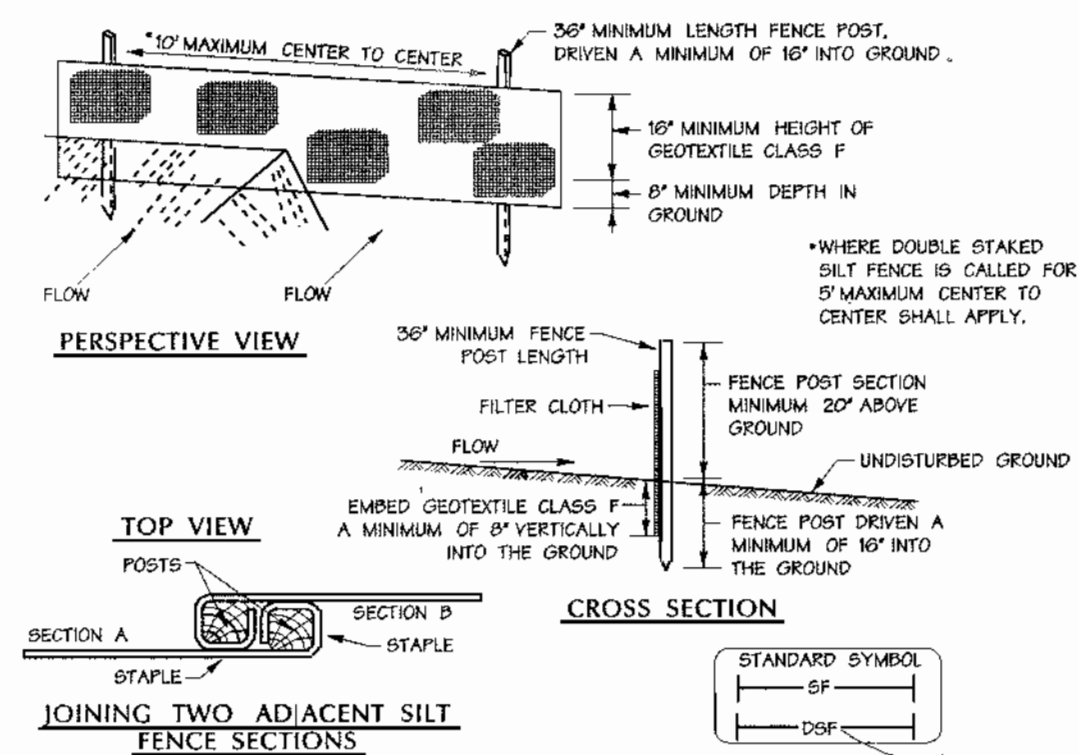
John W. Ranocchi 1/25/02
SIGNATURE OF ENGINEER DATE

Silt Fence

Not To Scale

Stabilized Construction Entrance

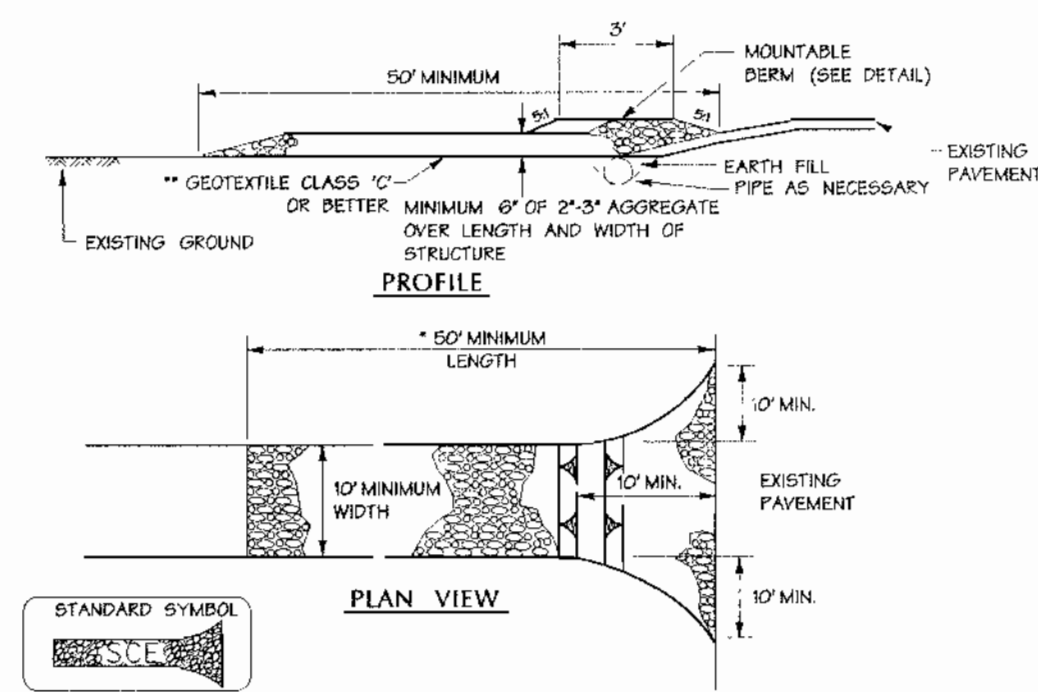
Not To Scale



CONSTRUCTION SPECIFICATIONS

- FENCE POSTS SHALL BE A MINIMUM OF 30" LONG DRIVEN 10" MINIMUM INTO THE GROUND. WOOD POSTS SHALL BE 1 1/2" SQUARE (MINIMUM) OR 1 1/2" DIAMETER (MINIMUM) ROUND AND SHALL BE OF SOUND QUALITY HARDWOOD. STEEL POSTS WILL BE STANDARD T OR U SECTION WEIGHING NOT LESS THAN 100 POUND PER LINEAR FOOT.
- 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 LB/SQ IN (MIN)
 - TENSILE MODULUS 20 LB/SQ IN (MIN)
 - FLOW RATE 0.3 GAL PER MIN (MAX)
 - FILTERING EFFICIENCY 75% (MIN)
- WHERE ENDS OF GEOTEXTILE FABRIC COME TOGETHER, THEY SHALL BE OVERLAPPED, FOLDED AND STAPLED TO PREVENT SEDIMENT PIPING.
- SILT FENCE SHALL BE INSPECTED AFTER EACH RAINFALL EVENT AND MAINTAINED WHEN BULGES OCCUR OR WHEN SEDIMENT ACCUMULATION REACHED 50% OF THE FABRIC HEIGHT.

STANDARD SYMBOL: SF (Silt Fence), DSF (Double Staked Silt Fence)



CONSTRUCTION SPECIFICATIONS

- LENGTH - MINIMUM OF 50' (50' FOR SINGLE RESIDENCE LOT)
- WIDTH - 10' MINIMUM, SHOULD BE FLARED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- GEOTEXTILE FABRIC CLASS C (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 GEOTEXTILES.
- 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.
- SURFACE WATER - ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED THROUGH THE ENTRANCE MAINTAINING POSITIVE DRAINAGE. PIPE INSTALLED THROUGH THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROTECTED WITH A MOUNTABLE BERM WITH 24" SLOPES AND A MINIMUM OF 6" OF STONE OVER THE PIPE. PIPE HAS TO BE SIZED ACCORDING TO THE DRAINAGE WHEN THE SIZE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY A PIPE WILL NOT BE NECESSARY. PIPE SHOULD BE SIZED ACCORDING TO THE AMOUNT OF RUNOFF TO BE CONVEYED. A 6" MINIMUM WILL BE REQUIRED.
- 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.

APPROVED
PLANNING DIVISION
10/30/02

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

John W. Ranocchi 1/21/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

John W. Ranocchi 1/22/03
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

John W. Ranocchi 1/23/02
DIRECTOR DATE

Date	No.	Revision Description

Owen Brown Interfaith Center Site Improvements & Building Additions

Lot 1-A & 2-A, Village of Owen Brown, Section 1, Area 3

OWNER/DEVELOPER

(LOT 1-A)
Owen Brown Interfaith Center, Inc.
1222 Whipple Circle
Columbia, MD 21046-0646
410-596-3000

(LOT 2-A)
Columbia Association, Inc.
1022 Whipple Circle
Columbia, MD 21046-3410
410-391-2661

DMW
Datt - McCune - Walker, Inc.
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

200 East Pennsylvania Avenue
Crown, Maryland 21286
410 296 3333
Fax 296 4705

SUBDIVISION NAME: Village of Owen Brown SECTION AREA: 12.5
DATE OF LAYOUTS: 3/7/03 PLATZONE MAP: 36 ELECT. DISTRICT: 12-105-001
WATER CODE: E-11 SEWER CODE: 3330800

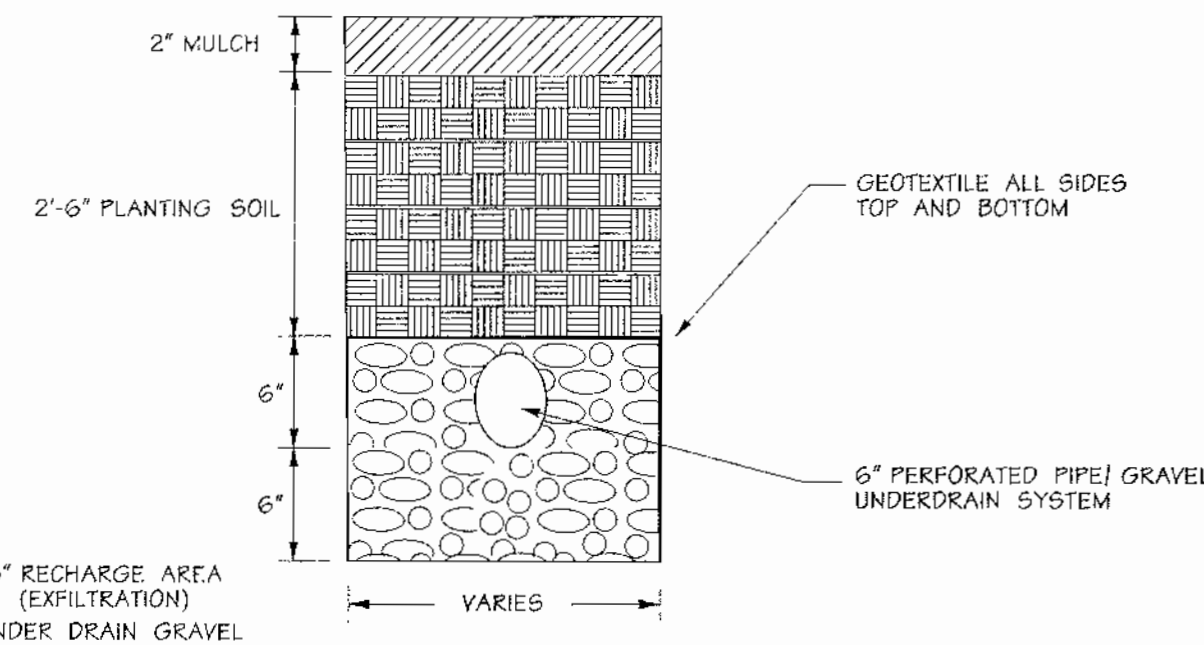
TITLE: **EROSION AND SEDIMENT CONTROL DETAILS**

Dwn By: KDE Scale: AS SHOWN Proj. No. 01026.A
Des By: RLH Date: 11-20-02
Chk By: RLH Approved: *John W. Ranocchi* 11-20-02

P.E. 10551

Table B.3.2 Materials Specifications for BioRetention

Material	Specification	Size	Notes
plantings	see Appendix A, Table A-4	n/a	plantings are site-specific
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
pea gravel diaphragm 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-475) grab tensile strength (ASTM-D-4632) puncture resistance (ASTM-D-4833)	n/a	for use as necessary beneath underdrains only
underdrain gravel	AASHTO M-43	0.375" to 0.75"	
underdrain piping	F 758, Type PS 25 or AASHTO M-276	4" to 6" rigid sched. 40 PVC or SDR35	3/8" perf. @ 6" on center, 4 holes per row minimum of 3" of gravel over pipes, not necessary under pipes
poored in place concrete [if required]	MSHA Mix No.3; f'c = 3500 psi @ 28 days, normal weight, air entrained, reinforcing to meet ASTM-615-60	n/a	on site testing of poured-in-place concrete required: 28 day strength and slump tests all concrete design (cast in place or precast) not using previously approved estate or local standards requires design drawings sealed & approved by a professional structural engineer licensed in state of Maryland - design to include meeting ACI code 360R/89; vertical loading [H-10 or H-20] allowable horizontal loading (based on soil pressures) and analysis of potential cracking
sand [1' deep]	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	sand substitutions such as Diabase and Graystone #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" shall be used for sand.



TYPICAL FILTER DETAIL

OPERATION AND MAINTENANCE SCHEDULE FOR BIO-RETENTION AREAS (F-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.
- SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING & FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DISEASED TREES & SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES & WIRES.
- MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2-3 YEARS.
- SOIL EROSION TO BE ADDRESSED ON AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

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

Project Name: Owen Brown Interfaith Center
Location: Howard County, Maryland

Boring Number: SB-3
Job #: 02222A

Date Started: 05-03-02

ELEV.	SOIL DESCRIPTION	DEPTH	SCALE	CON.	SAMPLE	NO.	REC.	BORING & SAMPLING NOTES
0.0	SURFACE							3" Topsoil
	Light brown, moist, loose/medium silt to medium dense/silt, sandy silty clay (Residual) (MLCL)	2-3	D			1	13"	No groundwater encountered while drilling
		5-7	D			2	14"	Caved in at 4.7' at Completion. Hole filled at completion for safety.
		6-7.8	D			3	12"	
	Light reddish brown, moist, medium dense, silty to clayey fine to medium sand (Residual) (SM/SC)	8-9	D			4	16"	
		9-9.9	D			5	16"	
12.0	Bottom of Hole at 12.0'							

Bottom of Hole at 12.0'

SAMPLER TYPE: DOWN-SPLIT BRON LUNGS
OTHERWISE NOTED: CONTACT
PRESSED SHIMPLY TUBE
CALCULATED FLIGHT AUGER
NO-ROCK CORE

SAMPLE CONDITIONS: DISINTEGRATED
INTACT
UNDISTURBED
L-LOST

GROUND WATER DEPTH: AT COMPLETION: 0.0 FT.
AFTER: 0.0 FT.

BORING METHOD: HSA-HOLLOW STEM AUGERS
C/C-CONT. FLIGHT AUGERS
D/C-DRIVING CASING
M/C-MUD DRILLING

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

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

Project Name: Owen Brown Interfaith Center
Location: Howard County, Maryland

Boring Number: SB-4
Job #: 02222A

Date Started: 05-03-02

ELEV.	SOIL DESCRIPTION	DEPTH	SCALE	CON.	SAMPLE	NO.	REC.	BORING & SAMPLING NOTES
0.0	SURFACE							3" Topsoil
	Light brown, moist, loose/medium silt to medium dense/silt, sandy silty clay (Residual) (MLCL)	2-3	D			1	14"	No groundwater encountered while drilling
		3-5.7	D			2	16"	
		6-7.9	D			3	12"	Caved in at 5.2' at Completion. Hole filled at completion for safety.
	Light reddish brown, moist, medium dense, silty to clayey fine to medium sand (Residual) (SM/SC)	8-9	D			4	16"	
		9-9-10-11	D			5	16"	
12.0	Bottom of Hole at 12.0'							

Bottom of Hole at 12.0'

SAMPLER TYPE: DOWN-SPLIT BRON LUNGS
OTHERWISE NOTED: CONTACT
PRESSED SHIMPLY TUBE
CALCULATED FLIGHT AUGER
NO-ROCK CORE

SAMPLE CONDITIONS: DISINTEGRATED
INTACT
UNDISTURBED
L-LOST

GROUND WATER DEPTH: AT COMPLETION: 0.0 FT.
AFTER: 0.0 FT.

BORING METHOD: HSA-HOLLOW STEM AUGERS
C/C-CONT. FLIGHT AUGERS
D/C-DRIVING CASING
M/C-MUD DRILLING

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

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

Project Name: Owen Brown Interfaith Center
Location: Howard County, Maryland

Boring Number: SB-5
Job #: 02222A

Date Started: 05-03-02

ELEV.	SOIL DESCRIPTION	DEPTH	SCALE	CON.	SAMPLE	NO.	REC.	BORING & SAMPLING NOTES
0.0	SURFACE							3" Topsoil
	Light brown, moist, loose/medium silt, sandy silty clay (Residual) (MLCL)	2-3	D			1	14"	No groundwater encountered while drilling
	Light brown to light gray, moist, medium dense, silty to clayey fine sand (Residual) (SM/SC)	5-6.7	D			2	16"	Caved in at 4.8' at Completion. Hole filled at completion for safety.
		8-8.9	D			3	12"	
		9-9	D			4	16"	
		9-9-10-9	D			5	16"	
12.0	Bottom of Hole at 12.0'							

Bottom of Hole at 12.0'

SAMPLER TYPE: DOWN-SPLIT BRON LUNGS
OTHERWISE NOTED: CONTACT
PRESSED SHIMPLY TUBE
CALCULATED FLIGHT AUGER
NO-ROCK CORE

SAMPLE CONDITIONS: DISINTEGRATED
INTACT
UNDISTURBED
L-LOST

GROUND WATER DEPTH: AT COMPLETION: 0.0 FT.
AFTER: 0.0 FT.

BORING METHOD: HSA-HOLLOW STEM AUGERS
C/C-CONT. FLIGHT AUGERS
D/C-DRIVING CASING
M/C-MUD DRILLING

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

APPROVED
PLANNING & ZONING
DEPARTMENT
DATE: 10/30/02

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

John Deane 1/21/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Chris Hamer 1/22/03
CHIEF, DIVISION OF LAND DEVELOPMENT

Frank J. D'Angelo 1/22/03
DIRECTOR

Date No. Revision Description

Owen Brown Interfaith Center
Site Improvements & Building Additions

Owner/Developer: (LOT 1-A) Owen Brown Interfaith Center, Inc. 10221 Winthrop Circle, Columbia, MD 21044-5410
(LOT 2-A) Columbe Association, Inc. 200 East Pennsylvania Avenue, Towson, Maryland 21286, 410-296-3333, Fax 296-4705

DMW
Daft - McCune - Walker, Inc.
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

200 East Pennsylvania Avenue
Towson, Maryland 21286
410-296-3333
Fax 296-4705

STORMWATER MANAGEMENT
DETAILS AND SOIL BORINGS

Drn By: KDE Scale: AS SHOWN Proj. No. 01026-n
Des By: RLH Date: 11-20-02
Chk By: RLH Approved: 5 of 9

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

Jim Myers 1/16/03
U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE

THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: *John P. Robertson* 1/16/03
HOWARD SOIL CONSERVATION DISTRICT

DEVELOPERS CERTIFICATE:

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE AND PROVIDE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION WITH AN "AS-BUILT" PLAN

Richard Deane 11/26/02
SIGNATURE OF DEVELOPER
PRINT NAME BELOW SIGNATURE: Richard Deane

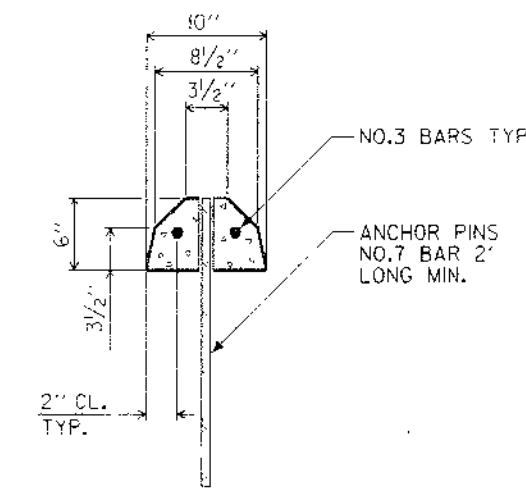
ENGINEERS CERTIFICATE:

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. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE THE BIO RETENTION FACILITY CONSTRUCTION AND PROVIDE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION WITH AN "AS-BUILT" PLAN OF THE FACILITY WITHIN 30 DAYS OF COMPLETION.

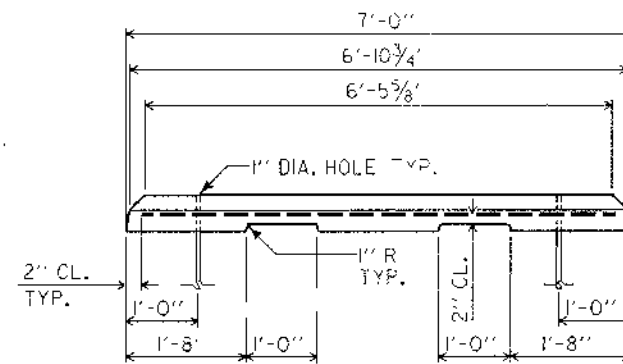
John W. Ranochio, Sr. 11-25-02
SIGNATURE OF ENGINEER
PRINT NAME BELOW SIGNATURE: John W. Ranochio, Sr.

11-25-02
Date

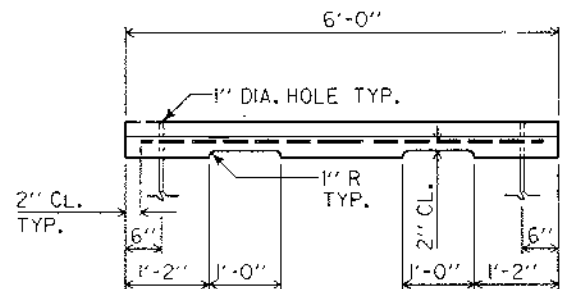
Professional Engr. No. 10551



TYP. SECTION - TYPES I & II

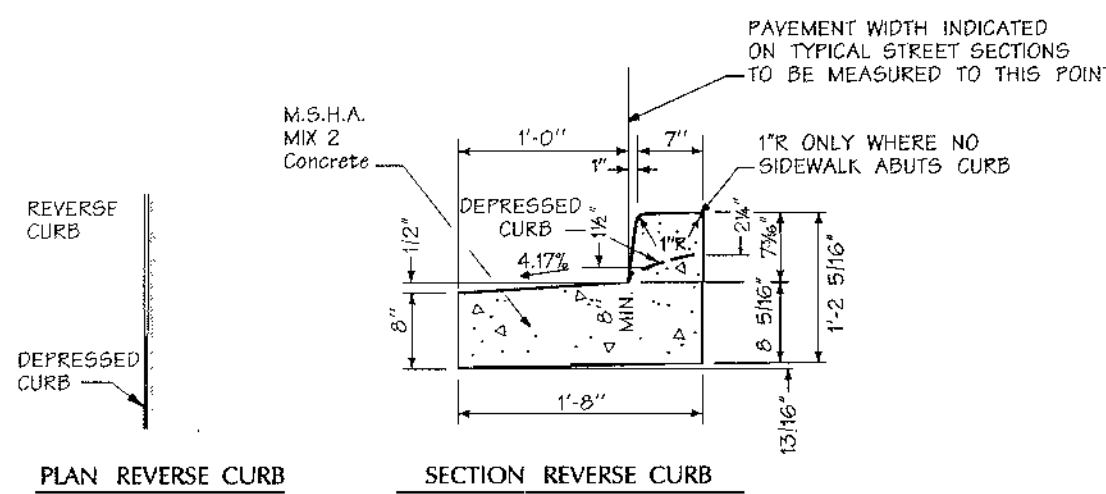


ELEVATION - TYPE I

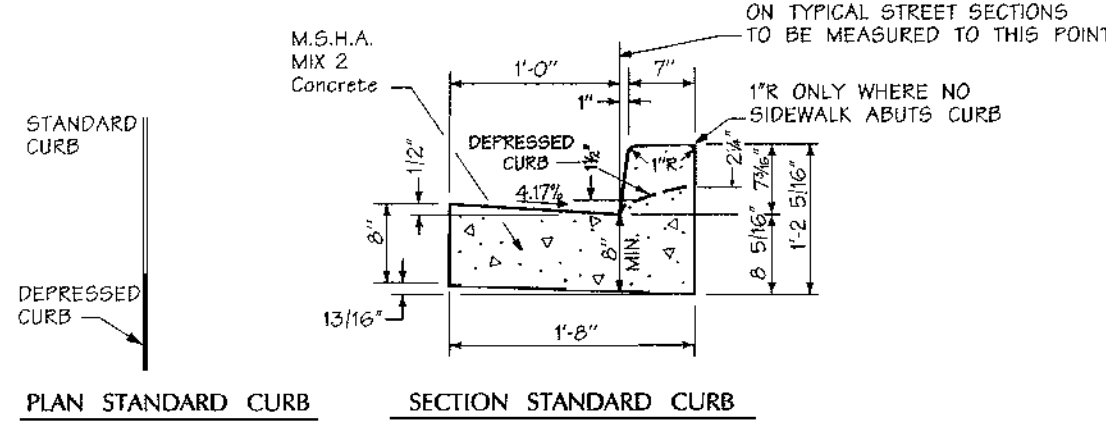


ELEVATION - TYPE II

PRECAST CONCRETE WHEELSTOP

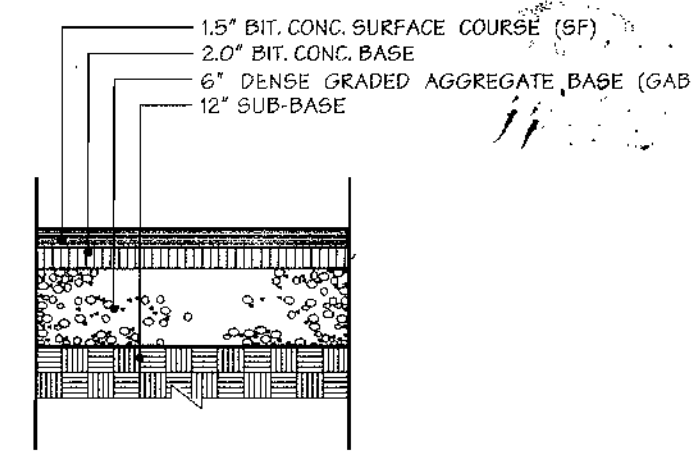


PLAN REVERSE CURB



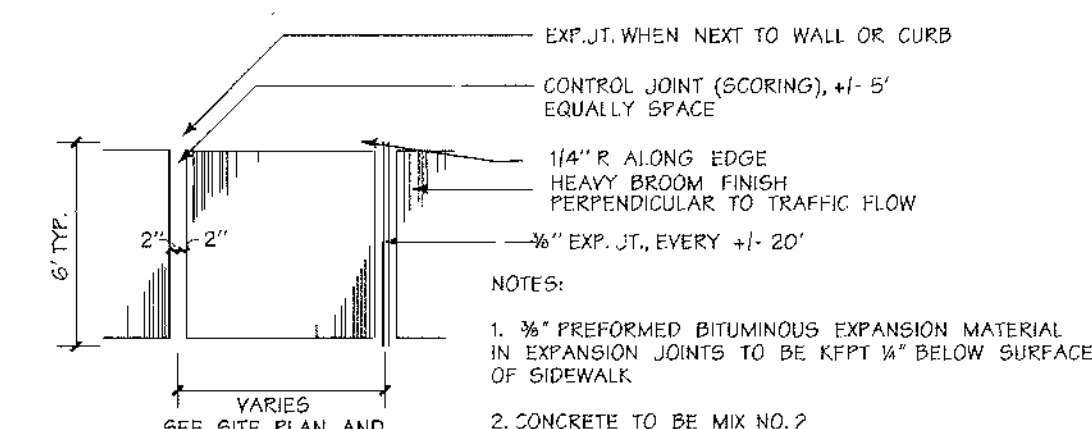
PLAN STANDARD CURB

Concrete Curb, Typical (R-3.01)
Not To Scale

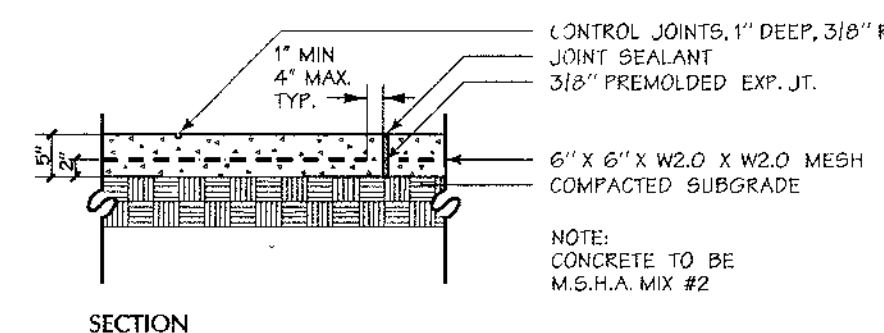


P2 PAVING

Asphalt Paving Detail (R-2.01)
Not To Scale

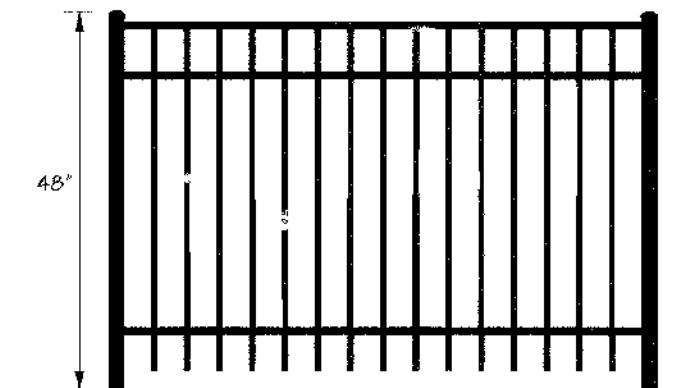


PLAN



SECTION

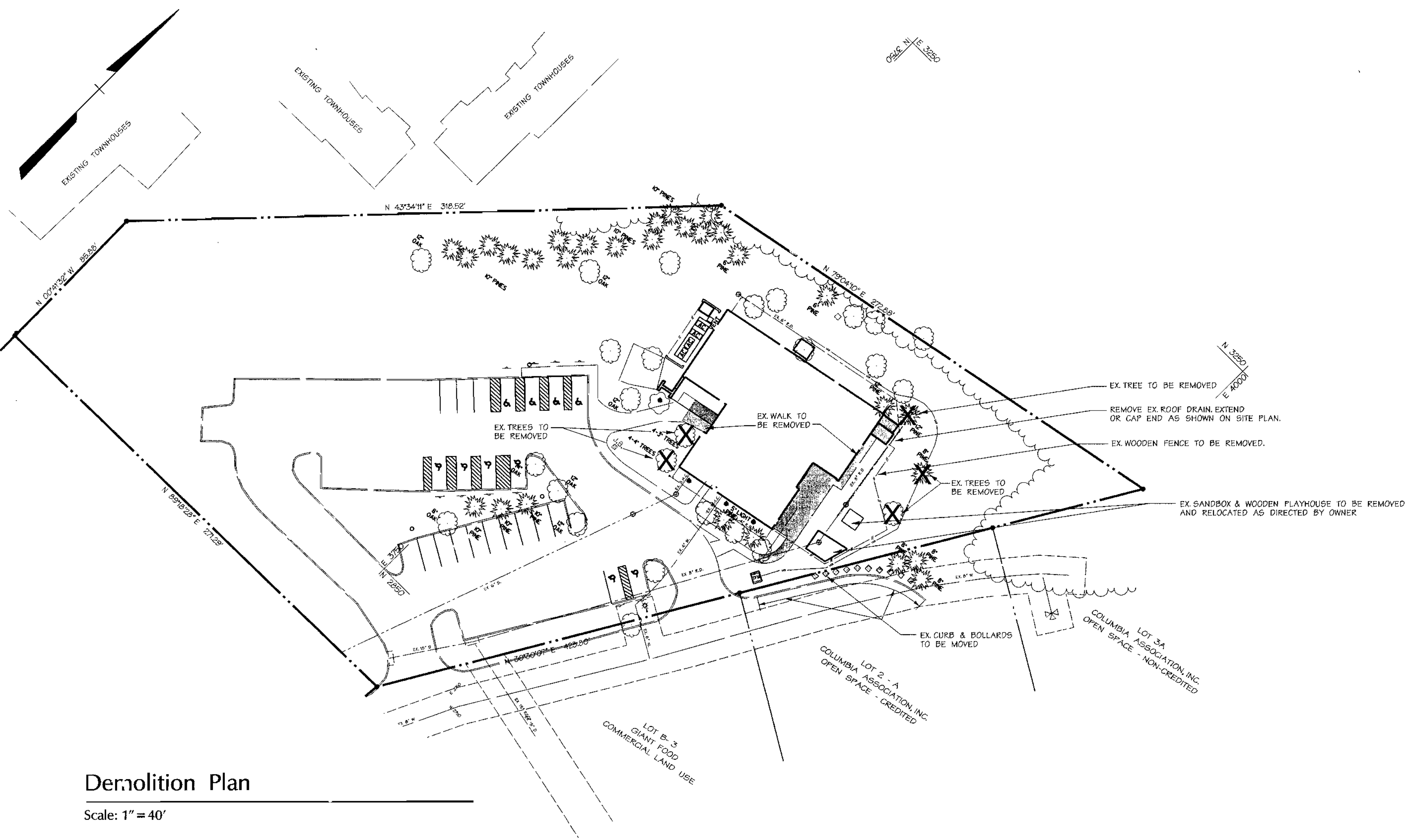
Concrete Walk (R-3.05)
Not To Scale



JERKIFF FENCE #202 (OR APPROVED EQUIVALENT)

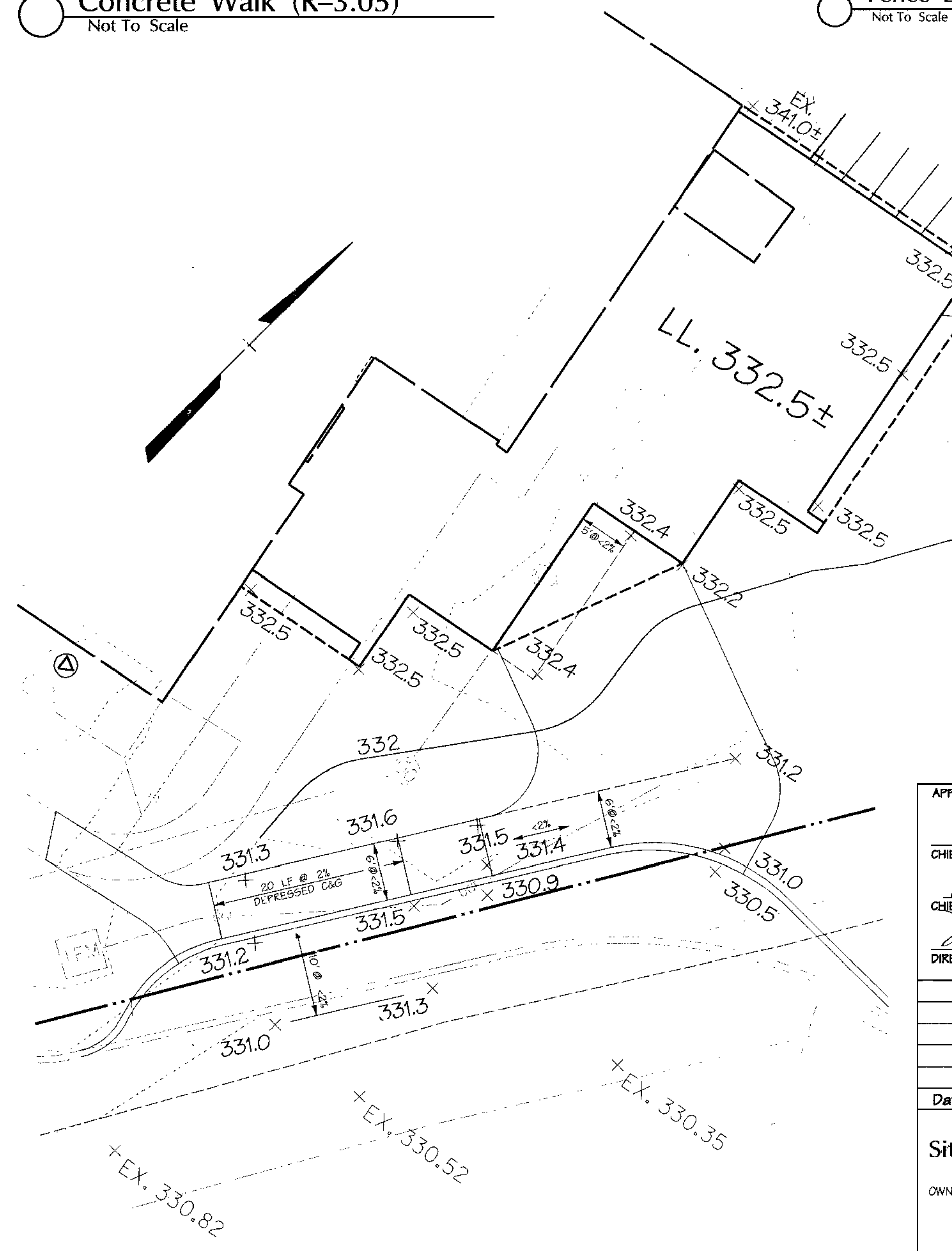
- INDUSTRIAL STRENGTH FENCE SPECIFICATIONS
- PICKETS: 1-5/8" X 1-5/8"
 - STRINGERS: 100"
 - SIDE WALLS: 200"
 - TOP WALL: 200"
 - STANDARD POSTS: 2-1/2" X 2-1/2" X 0.985"
 - HEAVY GATE POSTS: 4" X 4" X 1.25"
 - SPACING BETWEEN PICKETS: 4"
 - COLOR: BLACK
 - HEIGHT: 48"

Fence Detail
Not To Scale



Demolition Plan

Scale: 1" = 40'



Grading Detail

Scale: 1" = 10'

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING	
<i>[Signature]</i>	1/21/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>[Signature]</i>	1/22/03
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>[Signature]</i>	1/22/03
DIRECTOR	DATE

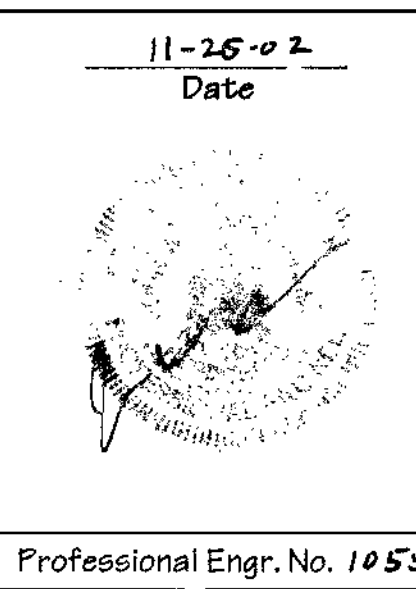
Date	No.	Revision Description
		Owen Brown Interfaith Center Site Improvements & Building Additions
		Lots 1-A & 2-A, Village of Owen Brown, Section 1, Area 3
OWNER/DEVELOPER		
(LOT 1-A) Owen Brown Interfaith Center, Inc. Lindsay Thompson 7246 Chadler Rock Way Columbia, MD 21046-2049 410-950-3000		(LOT 2-A) Columbia Association, Inc. 32221 Winthrop Circle Columbia, MD 21044-3410 410-561-2691

DMW
Daft · McCune · Walker, Inc.
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals
200 East Pennsylvania Avenue
Towson, Maryland 21286
410-296-3333
Fax 296-4705

SUBDIVISION NAME Village of Owen Brown	SECTION AREA 1/3	LOT/FACES # 4
PLAN OR LAYOUT # 271B	PARCELS MAP 21	ELECT. DISTRICT 6
WATER ZONE E-11	SEWER CODE 5330800	FENCIB DISTRICT 6067.04

TITLE: **SITE DETAILS, DEMOLITION PLAN & GRADING DETAIL**

Drn By: KDE	Scale: AS SHOWN	Proj. No. 01026.A
Des By: RLH	Date: 11-20-02	
Chk By: RLH	Approved:	



Professional Engr. No. 10551

B.3.5 Specifications for Bioretention

1. Material Specifications

The allowable materials to be used in bioretention area are detailed in Table B.3.2.

2. Planting Soil

The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two-inches. No other materials or substances shall be mixed or dumped within the bioretention area that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations.

The planting soil shall be free of Bermuda grass, Quackgrass, Johnson grass, or other noxious weeds as specified under COMAR 15.08.01.05.

The planting soil shall be tested and shall meet the following criteria:

pH range	5.2 - 7.0
organic matter	1.5 - 4% (by weight)
magnesium	35 lb./ac
phosphorus (phosphate - P2O5)	75 lb./ac
potassium (potash - K2O)	85 lb./ac
soluble salts	not to exceed 500 ppm

All bioretention areas shall have a minimum of one test. Each test shall consist of both the standard soil test for pH, phosphorus, and potassium and additional tests of organic matter, and soluble salts. A textural analysis is required from the site stockpiled topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the topsoil was excavated.

Since different labs calibrate their testing equipment differently, all testing results shall come from the same testing facility.

Should the pH fall out of the acceptable range, it may be modified (higher) with lime or (lower) with iron sulfate plus sulfur.

3. Compaction

It is very important to minimize compaction of both the base of the bioretention area and the required backfill. When possible, use excavation hoes to remove original soil. If bioretention areas are excavated using a loader, the contractor should use wide track or marsh track equipment, or light equipment with turf type tires. Use of equipment with narrow tracks or narrow tires, rubber tires with large lugs, or high-pressure tires will cause excessive compaction resulting in reduced infiltration rates and is not acceptable. Compaction will significantly contribute to design failure.

Compaction can be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to restructure the soil profile through the 12-inch compaction zone. Substitute methods must be approved by the engineer. Rototillers typically do not till deep enough to reduce the effects of compaction from heavy equipment.

Rototill two to three-inches of sand into the base of the bioretention facility before backfilling the optional sand layer. Pump any ponded water before preparing (rototilling) base.

When backfilling the topsoil over the sand layer, first place three to four-inches of topsoil over the sand, then rototill the sand/topsoil to create a gradation zone. Backfill the remainder of the topsoil to final grade.

When backfilling the bioretention facility, place soil in lifts 12-inches to 18-inches. Do not use heavy equipment within the bioretention basin. Heavy equipment can be used around the perimeter of the basin to supply soils and sand. Grade bioretention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.

4. Plant Material

Recommended plant material for bioretention areas can be found in Appendix A, Section A.2.3.

5. Plant Installation

Mulch should be placed to a uniform thickness of two to three-inches. Shredded hardwood mulch is the only accepted mulch. Pine mulch and wood chips will float and move to the perimeter of the bioretention area during a storm event and are not acceptable. Shredded mulch must be well aged (6 to 12 months) for acceptance.

Root stock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/8th of the ball is above final grade surface. The diameter of the planting pit shall be at least six-inches larger than the diameter of the planting ball. Set and maintain the plant straight during the entire planting process. Thoroughly water ground bed cover after installation.

Trees shall be braced using two-inch by two-inch stakes only as necessary and for the first growing season only. Stakes are to be equally spaced on the outside of the tree ball.

Grasses and legume seed should be drilled into the soil to a depth of at least one-inch. Grass and legume plugs shall be planted following the non-grass ground cover planting specifications.

The topsoil specifications provide enough organic material to adequately supply nutrients from natural cycling. The primary function of the bioretention structure is to improve water quality. Adding fertilizers defeats, or at a minimum, impedes this goal. Only add fertilizer if wood chips or mulch are used to amend the soil. Rototill urea fertilizer at a rate of two pounds per 1,000 square feet.

6. Underdrains

Underdrains are to be placed on a 3'-0" wide section of filter cloth. Pipe is placed next, followed by the grave bedding. The ends of underdrain pipes not terminating in an observation well shall be capped.

The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5 percent. Observation wells and/or clean-out pipes must be provided (one minimum per every 1,000 square feet of surface area).

7. Miscellaneous

The bioretention facility may not be constructed until all contributing drainage area has been stabilized.

PIPE SCHEDULE

SIZE	TYPE & CLASS	LENGTH
4"	PVC	25 L.F.
6"	PVC	74 L.F.
12"	RCCP CLASS IV	60 L.F.
18"	RCCP CLASS IV	335 L.F.

MANHOLE SCHEDULE

NO.	TYPE	SIZE	INV. OUT	TOP ELEV.	LOCATION
M1		4'	326.15	331.80	SEE PLAN
M2		5'	332.00	335.50	SEE PLAN
M3		4'	336.90	341.50	SEE PLAN

** STRUCTURE BOTTOM 331.00. INSTALL INVERTED SYPHON SEE DETAIL THIS SHEET.

INLET SCHEDULE

NO.	TYPE	Q	INV. OUT	*TOP ELEV.	WIDTH	LOCATION
I-1	YARD		327.44	331.85		SEE PLAN

* TOP ELEV. = GRATE

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

John Moxley 1/16/03
DATE

U.S. NATURAL RESOURCES CONSERVATION SERVICE

THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John Moxley 1/16/03
DATE

APPROVED: HOWARD SOIL CONSERVATION DISTRICT

PLAN NUMBER

DEVELOPERS CERTIFICATE:

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE AND PROVIDE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION WITH AN "AS-BUILT" PLAN OF THE FACILITY WITHIN 30 DAYS OF COMPLETION.

Richard Dean 11/26/02
DATE

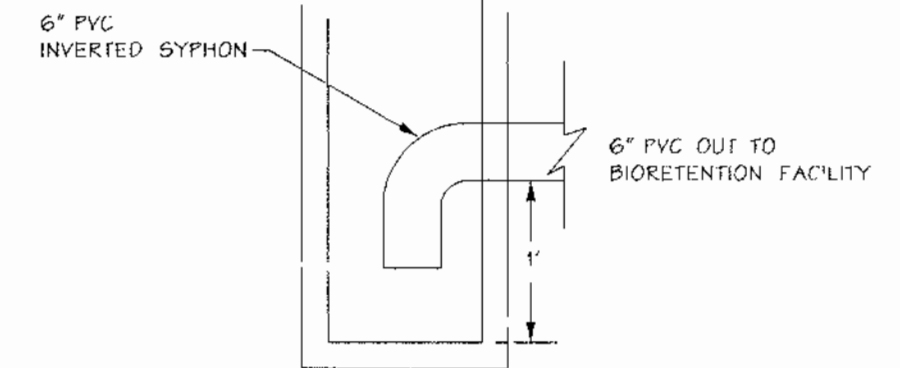
SIGNATURE OF DEVELOPER
PRINT NAME BELOW SIGNATURE Richard Dean

ENGINEERS CERTIFICATE:

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. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE THE BIORETENTION FACILITY CONSTRUCTION AND PROVIDE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION WITH AN "AS-BUILT" PLAN OF THE FACILITY WITHIN 30 DAYS OF COMPLETION.

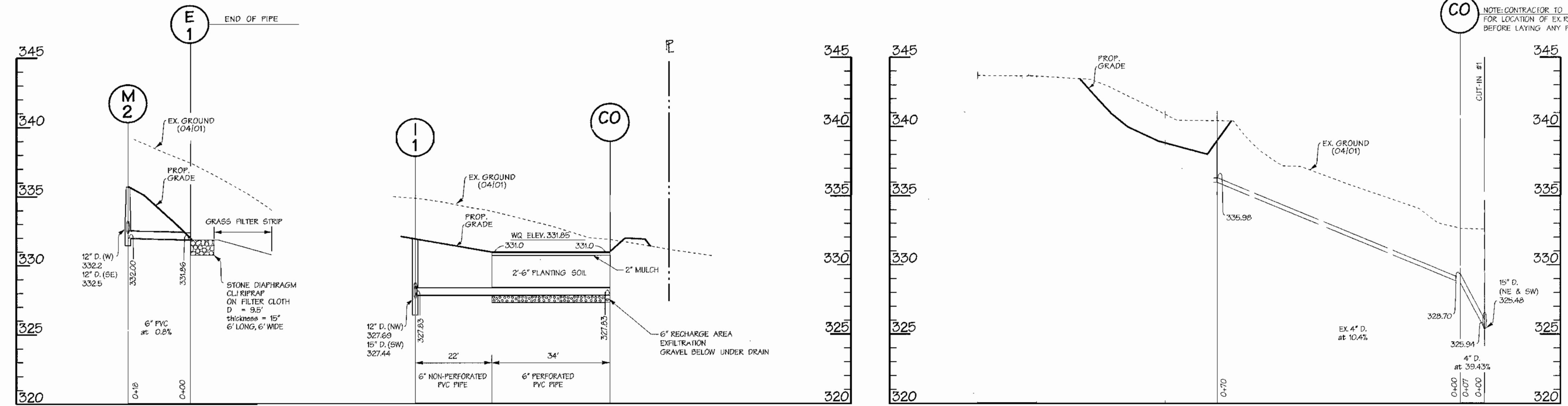
John W. Ramechie, S.E. 11-25-02
DATE

SIGNATURE OF ENGINEER
PRINT NAME BELOW SIGNATURE John W. Ramechie, S.E.



INVERTED SYPHON DETAIL

N.T.S.
NOTE: CONTRACTOR TO TEST PIT FOR LOCATION OF EX. ROOF DRAIN BEFORE LAYING ANY PIPE.



STORM DRAINS

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

STORM DRAINS

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

APPROVED
HOWARD COUNTY
10/30/02

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

Michael J. ... 1/21/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Carol ... 1/23/03
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Mark V. ... 1/21/03
DIRECTOR DATE

Date No. Revision Description

Owen Brown Interfaith Center
Site Improvements & Building Additions

Lots 1-A & 2-A, Village of Owen Brown, Section 1, Area 3

OWNER/DEVELOPER (LOT 1-A) Owen Brown Interfaith Center, Inc.
Lindsay Thompson
7248 Cradle Rock Way
Columbia, MD 21046-5046
410-650-3000

(LOT 2-A) Columbia Association, Inc.
10221 Winthrop Circle
Columbia, MD 21044-5410
410-381-3551

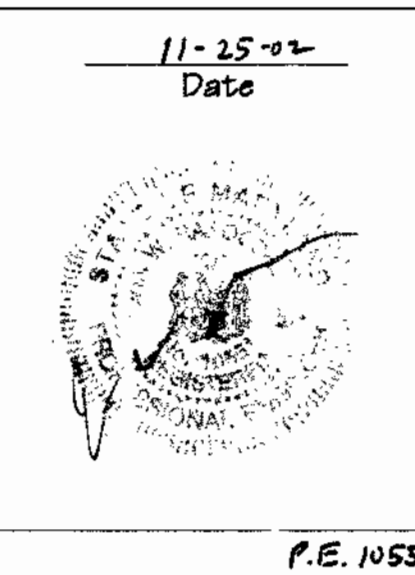
DMW
Daft · McCune · Walker, Inc.
A Team of Land Planners,
Landscape Architects,
Engineers, Surveyors &
Environmental Professionals

200 East Pennsylvania Avenue
Towson, Maryland 21286
410 296 3333
Fax: 410 296 4705

SUBDIVISION NAME Village of Owen Brown SECTION AREA 1/3 LOT/PARCEL # P10 435, Lots 1-A & 2-A
PLAT OR REFERENCE # 5715 ZONE RT EJECT. DISTRICT B CENSUS TRACT 6027.04
WATER CODE E 11 BOWER CODE 5300800

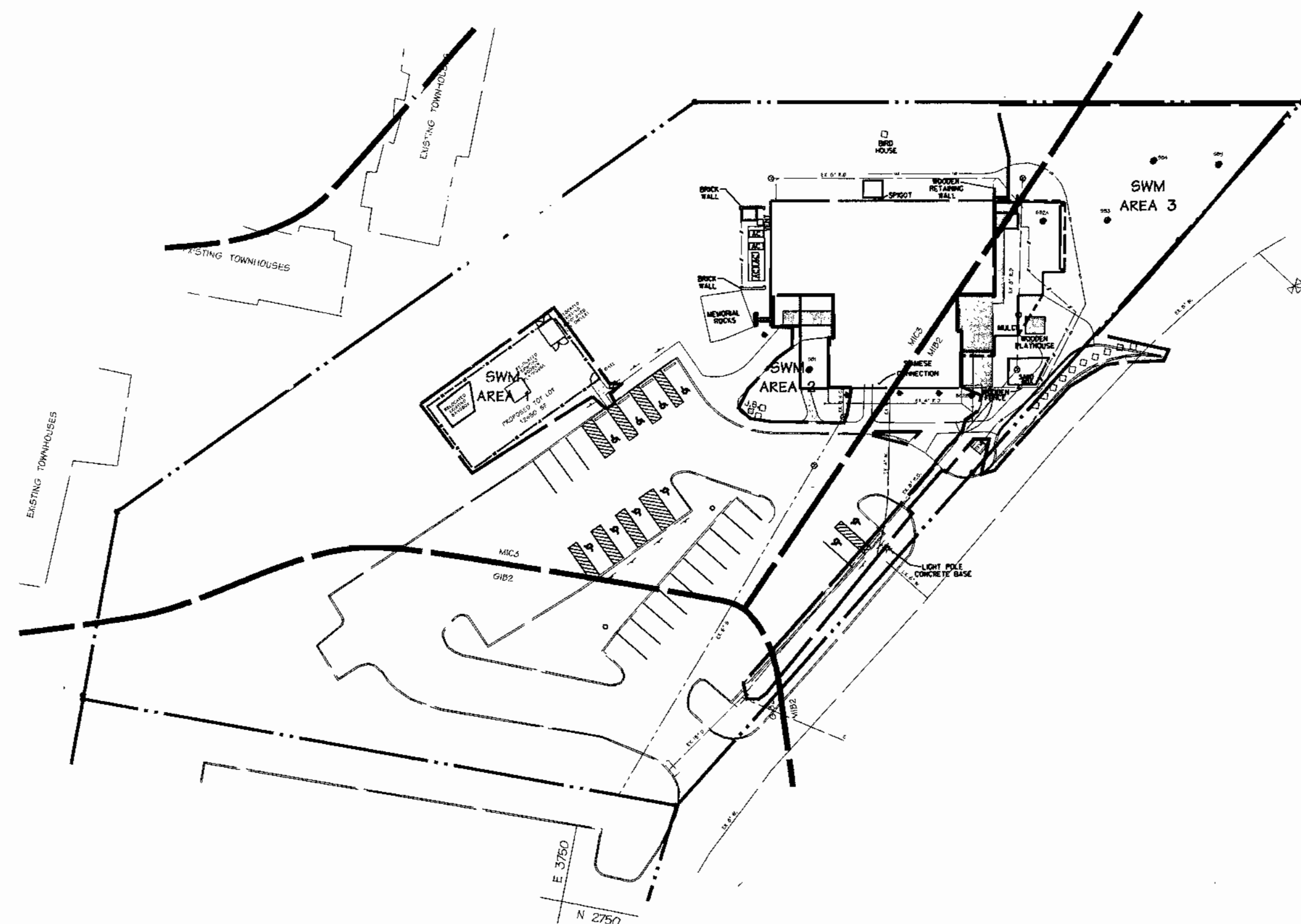
SWM PROFILES & SPECIFICATIONS

Drn By: KDE Scale: AS SHOWN Proj. No. 01026.B
Des By: RLH Date: 11-20-02
Chk By: RLH Approved: 8 of 9



LEGEND

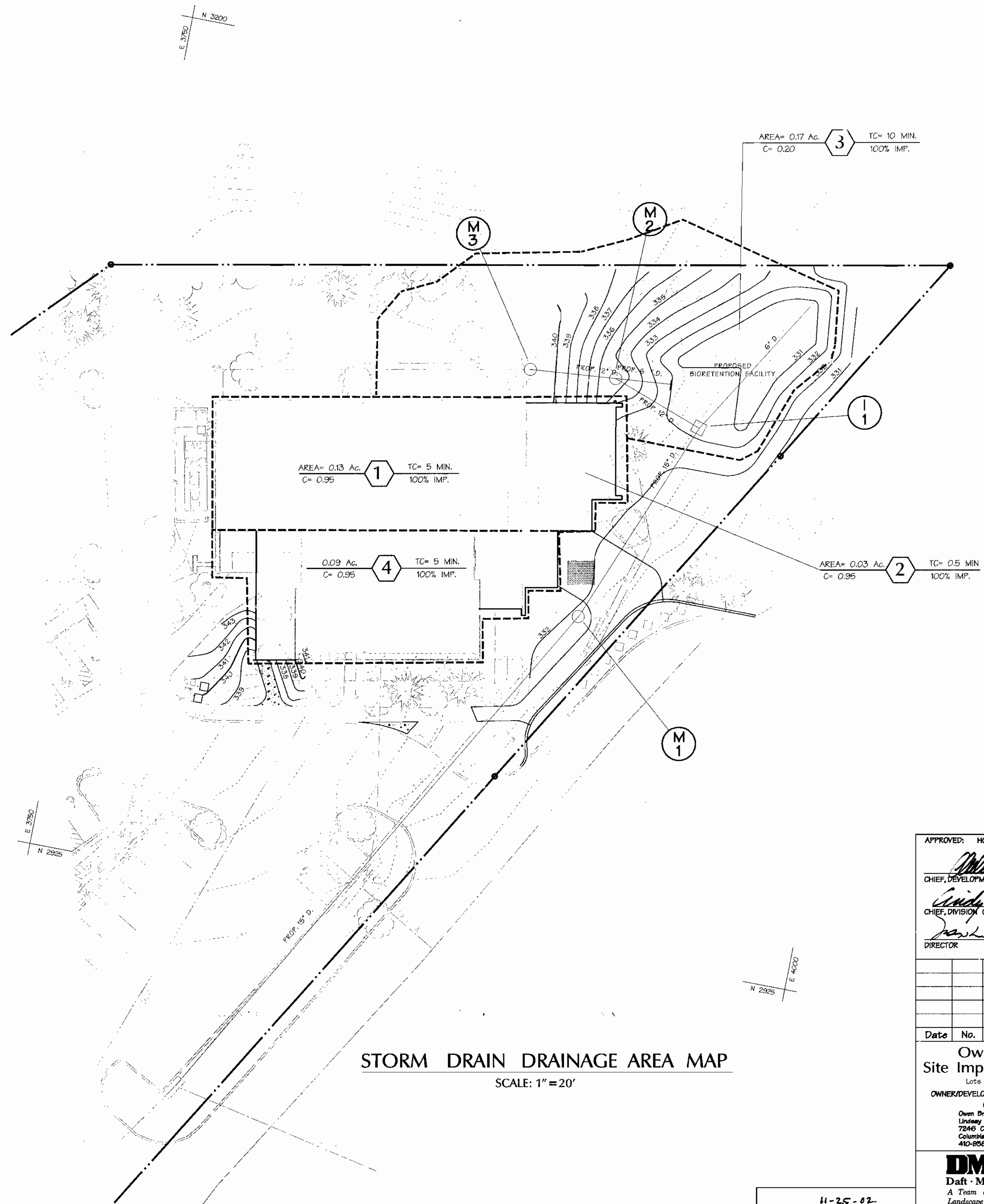
- EXISTING IMPERVIOUS TO REMAIN
- BORING LOCATION
- LIMIT OF DISTURBANCE
- STORM DRAIN DRAINAGE AREA LINE
- SWM DRAINAGE AREA LINE
- AIR CONDITIONING UNIT
- TRANSFORMER
- BOLLARDS
- EXISTING CONTOURS
- WATER HYDRANTS
- CLEAN-OUT
- LIGHT
- EX. STRUCTURE
- HANDICAPPED PARKING SIGN
- HANDICAPPED PARKING SPACE
- JUNCTION BOX
- EXISTING DECIDUOUS TREE
- EXISTING EVERGREEN TREE
- EXISTING EDGE OF WOODS
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- PROPOSED FENCE
- EXISTING FENCE
- PROPERTY BOUNDARY



STORMWATER MANAGEMENT DRAINAGE AREA MAP

SCALE: 1" = 50'

SEE MORE DETAILED MAP (1"=20') WITH
STORMWATER MANAGEMENT REPORT



STORM DRAIN DRAINAGE AREA MAP

SCALE: 1" = 20'

SOIL TYPE	HYDROLOGIC SOIL CLASSIFICATION
GIB2	B
MIB3	B
MIC3	B

DATA SOURCES:
TOPOGRAPHY PER FIELD RUN
SURVEY BY DMW DATED 04/08/01
BOUNDARY PER RECORD PLAT

APPROVED
BY HOWARD COUNTY
DATE: 10/30/02

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING	
<i>[Signature]</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	1/21/03 DATE
<i>[Signature]</i> CHIEF, DIVISION OF LAND DEVELOPMENT	1/22/03 DATE
<i>[Signature]</i> DIRECTOR	1/24/03 DATE

Date	No.	Revision Descriptive

**Owen Brown Interfaith Center
Site Improvements & Building Additions**
Lots 1-A & 2-A, Village of Owen Brown, Section 1, Area 3

OWNER/DEVELOPER
(LOT 1-A) Owen Brown Interfaith Center, Inc.
1222 Wisconsin Circle
Columbia, MD 21046-0046
410-526-2000
(LOT 2-A) Columbia Foundation, Inc.
1222 Wisconsin Circle
Columbia, MD 21044-3410
410-581-5601

DMW
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A Team of Land Planners,
Landscape Architects,
Engineers, Surveyors &
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200 East Pennsylvania Avenue
Pousson, Maryland 21286
410 296 3333
Fax 296 4705

SUBDIVISION NAME Village of Owen Brown	SECTION AREA 1/3	LOT/TRACT # 1-3
PLAT OF LOTS/BLK # ZONE 5719 21 NT	TAXATION MAP 36	ELECT. DISTRICT 6
WATER CODE E 11	REMARK CODE 0300800	CELESTIAL TRACT 6067.04

TITLE
**PROPOSED STORM DRAIN AND
SWM DRAINAGE AREA MAP**

Drn By: KDE	Scale: AS NOTED	Proj. No. 01026.B
Des By: RLH	Date: 11-20-02	9 of 9
Chk By: RLH	Approved:	

