

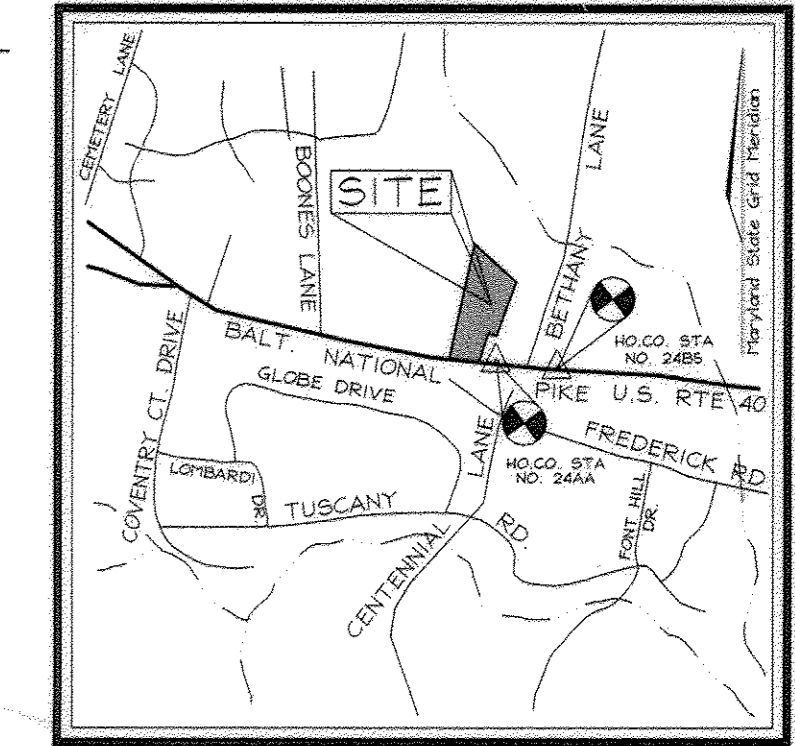
**GENERAL NOTES**

- 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 "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work.
- The contractor is to notify the following utilities or agencies at least five days before starting work on these drawings:
  - Miss Utility: 1-800-257-7777
  - Bell Atlantic Telephone company: 1-888-586-4301
  - Howard County Bureau of Utilities: 313-2366
  - AT&T Cable Location Division: 393-3553
  - B.G.#E. Co. Contractor Services: 850-4620
  - B.G.#E. Co. Underground Damage Control: 787-4620
  - State Highway Administration: 531-5533
- Site analysis:
  - Area of parcel: 3.0253 Ac.±
  - Present zoning: B-1
  - Use of structure: General Retail and Restaurant
  - Proposed Building area: 4,920sf
  - Proposed Building coverage on site: 0.11 Ac. or 3.7% of gross area
  - Proposed Paved parking lot/area: 0.59 Ac. or 20% of gross area
  - Area of Proposed landscape island: 0.03 Ac. = 1,160sf
  - Area of 15.0%-24.99% slopes on site: 6,832sf, see sheet 5 of 10
  - Area of 25.0%-50.0% slopes on site: 22,855sf, see sheet 5 of 10
  - Total Contiguous area of 25.0%-50.0% slopes on site: 17,340sf
- Project background:
  - Location: Ellicott City, Md.; Tax Map 24, Parcel 395 / B
  - Zoning: B-1
  - Subdivision: Parcel B-Ellicott Investment, Inc.
  - Section/Area: N/A
  - Site Area: 3.0253 Acres±
  - DPZ references: SDP-97-140; SDP-84-237; F-85-162; F-97-184
- 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 start of work.
- Any damage to public rights-of-way, paving, or existing utilities will be corrected at the contractor's expense.
- Existing utilities located from Road Construction Plans, Field Surveys, Public Water and Sewer Extension Plans and available record drawings. Approximate location of existing utilities are shown for the contractor's information. Contractor shall locate existing utilities well in advance of construction activities and take all necessary precautions to protect the existing utilities and to maintain uninterrupted service. Any damage incurred due to contractor's operation shall be repaired immediately at the contractor's expense.
- All reinforced concrete for storm drain structures shall have a minimum of 28 days strength of 3,500 p.s.i.
- 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.
- Estimates of earthwork quantities are provided solely for the purpose of calculating fees.
- Soil compaction specifications, requirements, methods and materials are to be in accordance with the recommendations of the project Geotechnical Engineer. Geotechnical Engineer to confirm acceptability of proposed paving section, based on soil test prior to construction.
- All storm drain pipe bedding shall be Class 'C'.
- The existing topography is taken from field run survey with two foot contour intervals prepared by Marks & Vogel Associates, Inc. dated January, 1997 and by Vogel & Associates, Inc. dated May, 2000. 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. 24AA and 24B5 were used for this project.
- A noise study is not required for this project.
- All paving to be per details, sheet 6 of 10, see detail sheet 2 of 10 for limits.
- All curb and gutter to be Howard County Standard concrete Detail 3.01 unless otherwise specified.
- Contractor responsible to construct all handicap parking and handicap access in accordance with current ADA requirements. All entrances on front of Proposed Addition to have handicap access and a 5' level area (max. 2.0% grade) in front of the entrance.
- Where drainage flows away from curb, contractor to reverse the gutter pan.
- All elevations are to flowline/bottom of curb unless otherwise noted.
- All dimensions are to face of curb unless otherwise noted.
- Public Water available from existing building (6" Water) SDP-97-140. Exact location to be determined by the Architect; Public Sewer available from existing parking lot (6" Sewer) SDP-97-140.
- Stormwater Management provided under SDP-84-237.
- The existing SWM Pond on Parcel B to be maintained by those who share benefit of Pond as described in Liber 1270 Folio 66.
- All exterior lighting shall conform to Zoning Regulations Section 134.
- Building to utilize existing Water Meter setting in **Ex. Building** (SDP-97-140).
- APFO traffic test prepared by The Traffic Group on June 29, 2000.
- Geotechnical report prepared by Herbst/Benson & Associates on June 25, 2000.
- Adjust existing storm drain structures as shown on chart on sheet 2 of 10.
- No clearing, grading or construction is permitted within the wetlands, stream or their buffers (see General Note #32).
- Forest Conservation obligations in accordance with Section 16.1202 of the Howard County Code and Forest Conservation Manual is met by the filing of a Declaration of Intent for clearing of less than 40,000 sf of forest on a single lot.
- The proposed disturbance to the wetlands and wetland buffer for the SWM outfall pipe was determined to be an essential disturbance in accordance with Section 16.116 (c) of the Howard County Subdivision and Land Development Regulations.
- Retaining Walls to have guards placed on top where necessary, see details sheet 4 of 10.
- Landscaping in accordance with Section 16.124 of the Howard County Code and Landscape Manual will be provided as shown. Surety in the amount of \$5,100.00 will be made part of the Developer's Agreement.

# SITE DEVELOPMENT PLAN BETHANY SQUARE PHASE II

**LEGEND**

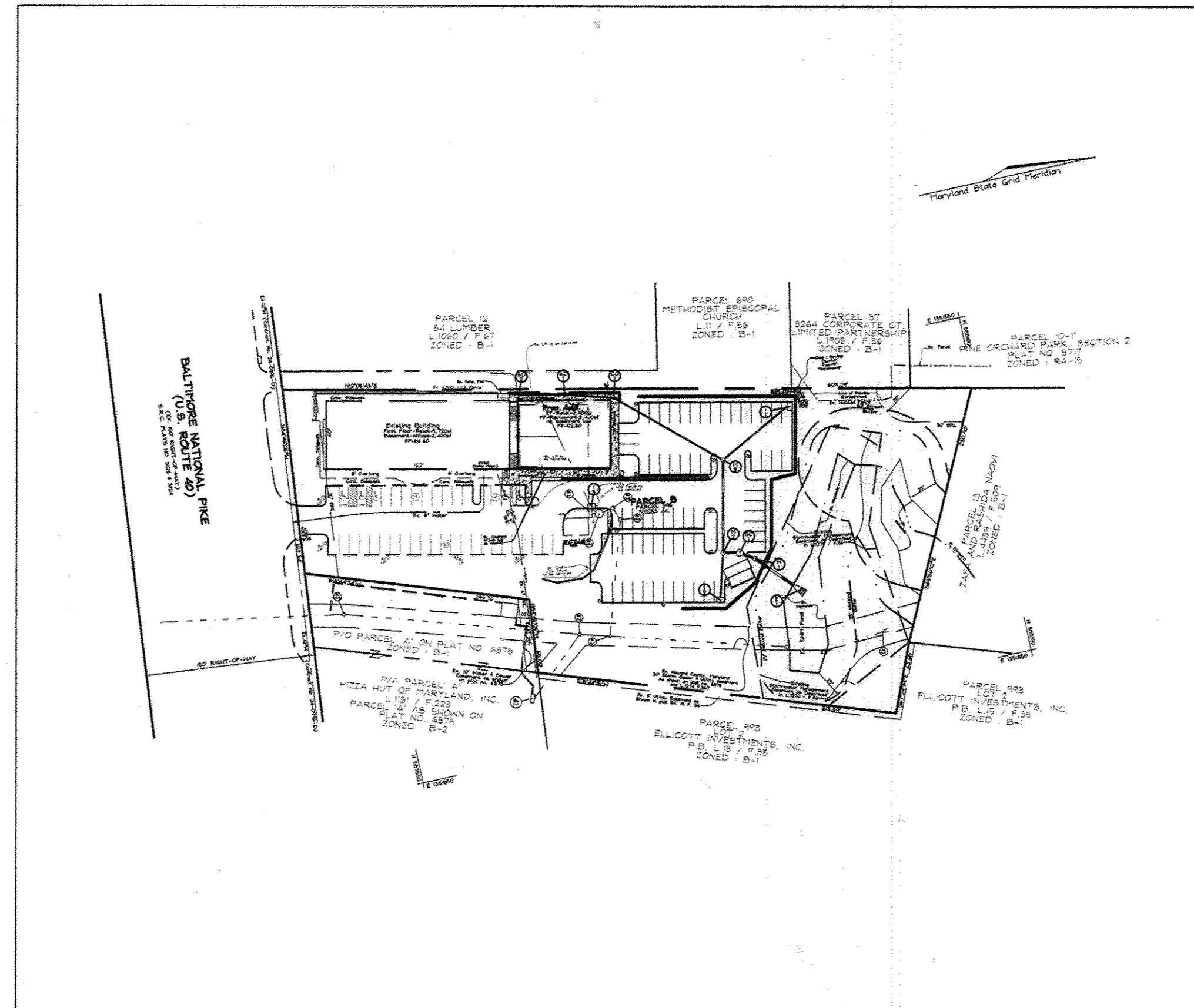
- Existing Contour: -362
- Proposed Contour: +82.53
- Proposed Spot Elevation: +82.53
- Direction of Flow: [Symbol]
- Existing Trees to Remain: [Symbol]
- Light Poles: [Symbol] Post Top
- Concrete: [Symbol]
- Stormwater Management Area: [Symbol]



**BENCHMARKS**

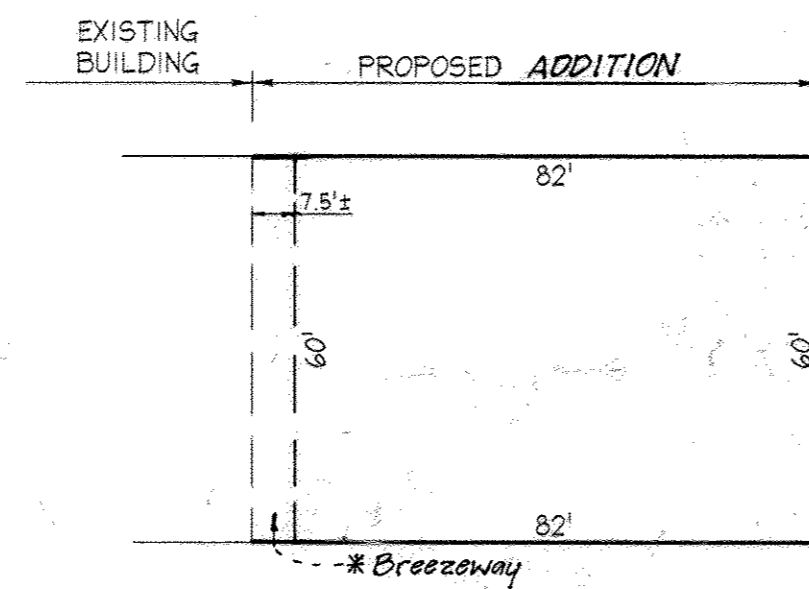
Howard County Station 24B5  
N 586,956.263 E 1,356,570.823  
Elevation 390.965  
Howard County Station 24AA  
N 587,380.636 E 1,352,603.649

SHEET INDEX	
DESCRIPTION	SHEET NO.
Cover Sheet	1 of 14
Site Development Plan	2 of 14
Sediment and Erosion Control Plan	3 of 14
Sediment and Erosion Control Details	4 of 14
Storm Drain Drainage Area Map	5 of 14
Storm Drain Profiles and Miscellaneous Details	6 of 14
Landscape Plan	7 of 14
Retaining Wall Details	8 of 14
Retaining Wall Details	9 of 14
Retaining Wall Details	10 of 14
MISCELLANEOUS DETAILS	11 of 14
STRUCTURAL NOTES, ABBREVIATIONS LEGEND AND SYMBOLS	12 of 14
PARTIAL PLAN AND ELEVATION	13 of 14
SECTIONS AND DETAILS	14 of 14



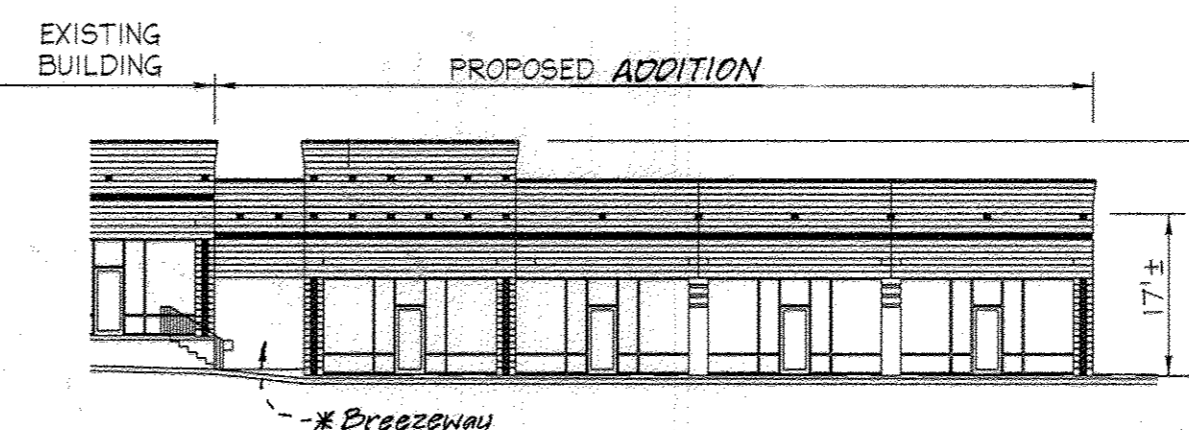
**LOCATION MAP**

SCALE: 1"=100'



**BUILDING PLAN VIEW**

SCALE: 1"=30'

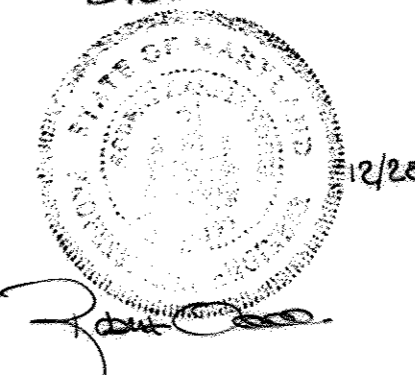


**BUILDING ELEVATION**

SCALE: 1"=20'

\* Breezeway area not to be used for retail sales purposes

As BUILT For STORMCEPTOR



**OWNER/DEVELOPER**

Conily Corporation  
Sergio Acie (President)  
10132 Baltimore National Pike  
Ellicott City, MD 21042  
410.461.4400

ADDRESS CHART	
STREET ADDRESS	
Existing Building - 10132 Baltimore National Pike	
SUBDIVISION NAME	SECTION/AREA
Parcel B-Ellicott Investment, Inc.	N/A
PLAT NO.	BLOCK NO.
12838	2
ZONE	TAX/ZONE
B-1	24
ELECT. DIST.	CENSUS TR.
2nd	6022
WATER CODE	SEWER CODE
H08	5990000

**PARKING TABULATION**

EXISTING BUILDING	REQUIRED	EXISTING
SHOPPING CENTER: 18,503 SF: 6 SPACES/1,000 SF: 75 SPACES	75 SPACES	56 SPACES
Total Spaces=	75 spaces	56 spaces
Handicap Spaces=	3 spaces/1 Van	3 spaces/1 Van
PROPOSED ADDITION	REQUIRED	PROPOSED
SHOPPING CENTER: 4,920 SF: 6 SPACES/1,000 SF: 30 SPACES	30 SPACES	30 SPACES
Total Spaces=	30 spaces	50 spaces
Handicap Spaces=	2 spaces/1 Van	2 spaces/1 Van
Overall Total Spaces=	105 spaces	106 spaces
Overall Handicap Spaces=	5 spaces/2 Van	5 spaces/2 Van

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 12/20/00  
DIRECTOR DATE  
*[Signature]* 12/21/00  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
*[Signature]* 12/15/00  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

No.	REVISION	DATE
4	REVISED SHEET INDEX	6/1/17
3	REVISED PARKING CALCULATION FOR SHOPPING CENTER USE	12/12/16
2	ADD OUTDOOR SEATING AREA, ADJUST PARKING CALCULATIONS	11/22/16
1	Remove reference to Proposed Building #2	3/18/01

**SITE DEVELOPMENT PLAN  
BETHANY SQUARE  
PHASE II  
PROPOSED ADDITION**

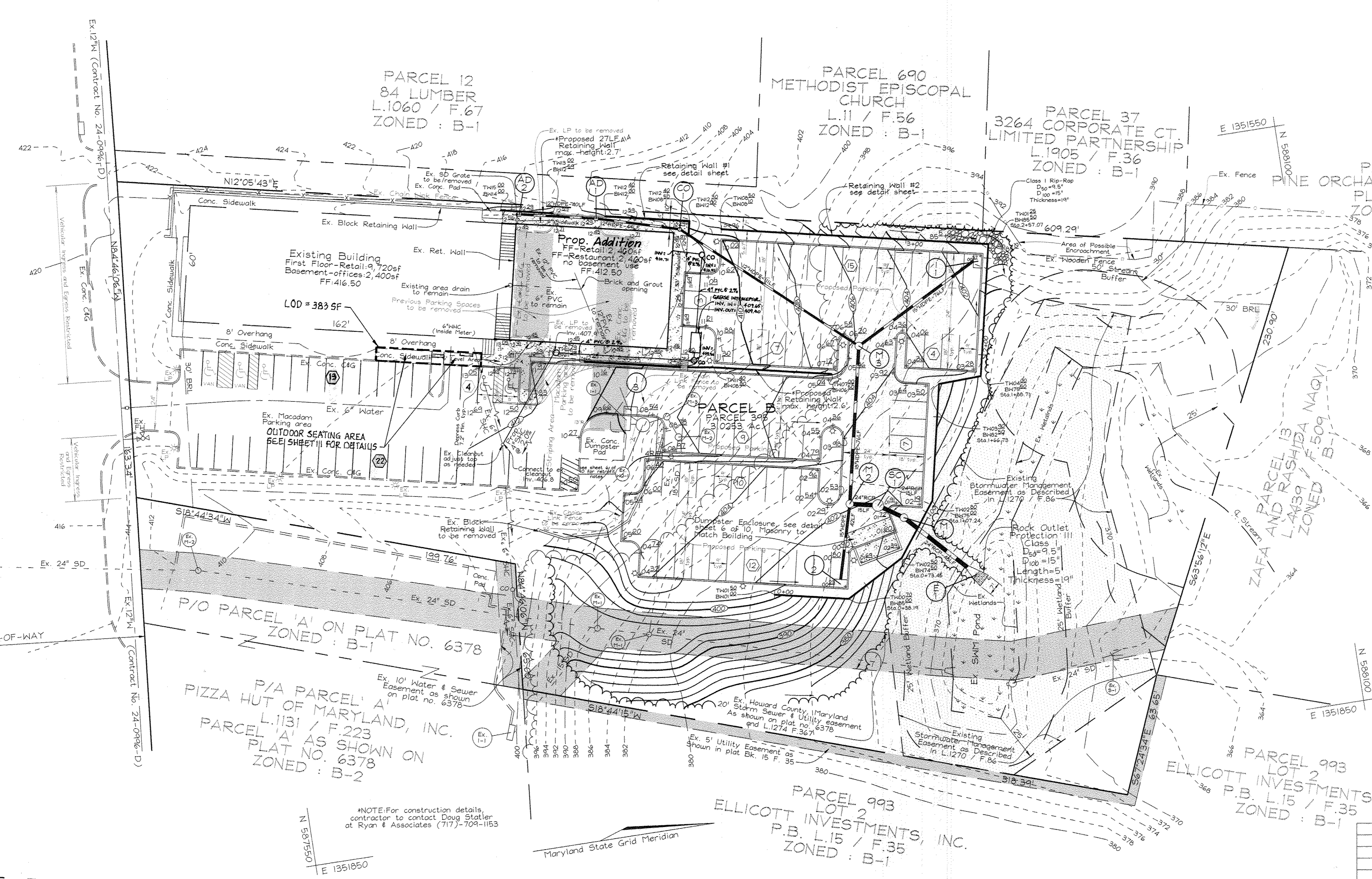
TAX MAP #24 BLOCK #2 P.#395 PARCEL B  
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**VOGEL & ASSOCIATES**  
ENGINEERS/SURVEYORS/PLANNERS

3691 Park Avenue, Suite 101 • Ellicott City, Maryland 21043  
Tel 410.461.5828 Fax 410.465.3966

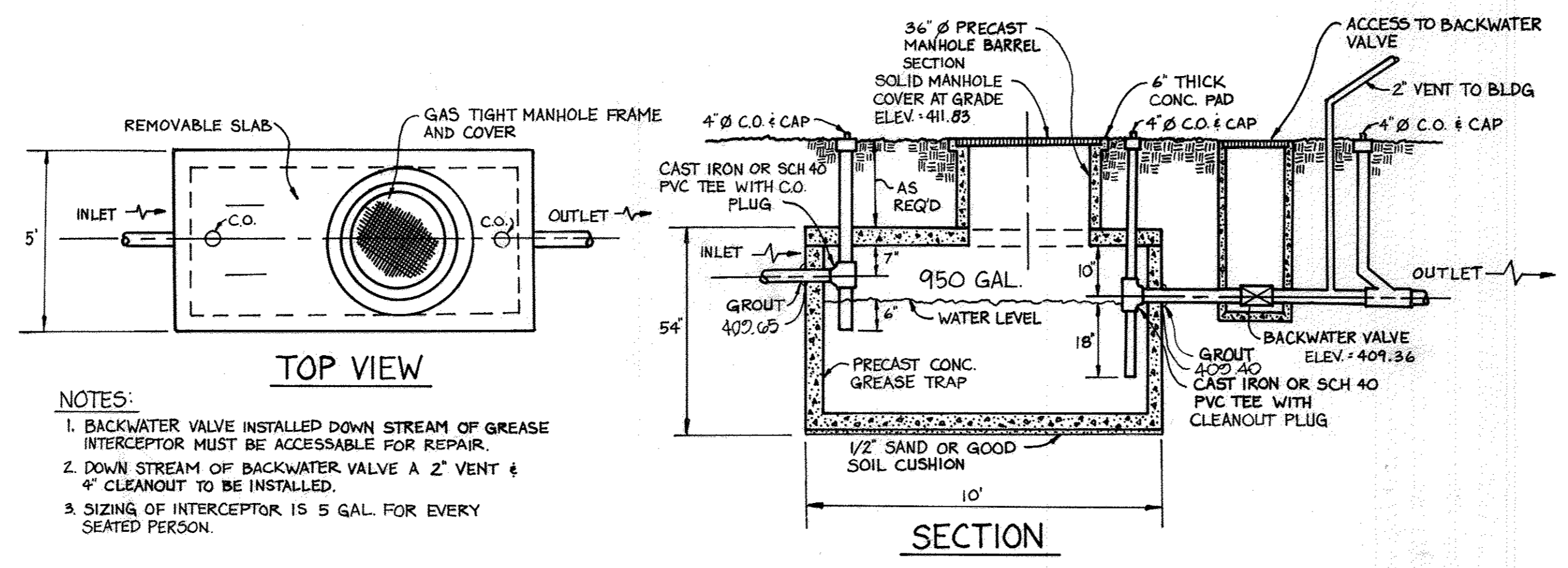
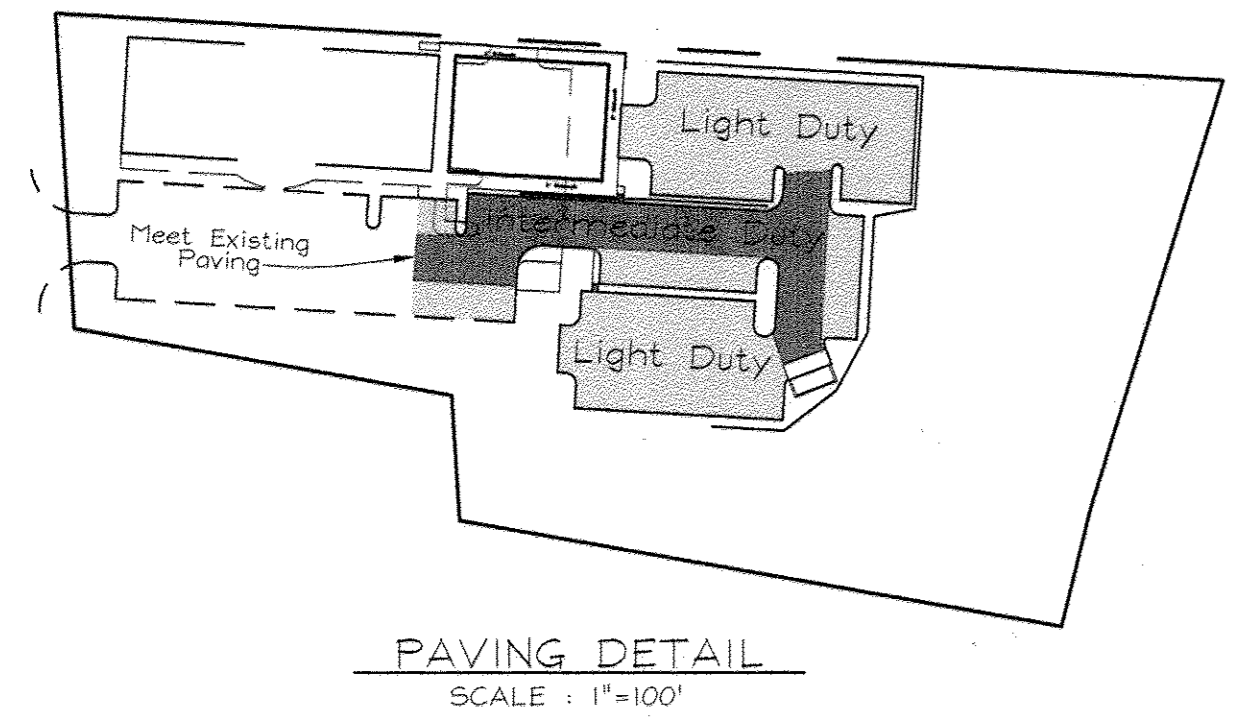
DESIGN BY: PS	1 SHEET OF 14
DRAWN BY: PS	
CHECKED BY: RHV	
DATE: Nov. 17, 2000	
SCALE: As Shown	
W.O. NO.: 00-009	

BALTIMORE NATIONAL PIKE  
(U.S. ROUTE 40)  
EX. 150' RIGHT-OF-WAY  
S.R.C. PLATS NO. 3123 & 3124



EXISTING STRUCTURES		
STRUCTURE NUMBER	EXISTING ELEVATION	PROPOSED ELEVATION
Existing M-0 SDP-97-140	408.0±	409.20
Existing M-1 SDP-97-140	382.0±	393.50
Existing M-2 SDP-97-140	400.5±	408.34
Existing M-3 SDP-97-140	404.0±	408.23
Existing M-1 SDP-84-237	387.5±	390.00

\*NOTE: For construction details, contractor to contact Doug Staller at Ryan & Associates (717)-709-1153



- NOTES:
1. BACKWATER VALVE INSTALLED DOWN STREAM OF GREASE INTERCEPTOR MUST BE ACCESSIBLE FOR REPAIR.
  2. DOWN STREAM OF BACKWATER VALVE A 2" VENT & 4" CLEANOUT TO BE INSTALLED.
  3. SIZING OF INTERCEPTOR IS 5 GAL. FOR EVERY SEATED PERSON.

NOTE: THE LOD OF 383 SF IS EXEMPT FROM PROVIDING SWM. ANY FUTURE INCREASE EXCEEDING 5,000 SF SHALL BE REQUIRED TO MEET CURRENT SWM CRITERIA.



AS-BUILT FOR STORMCEPTOR



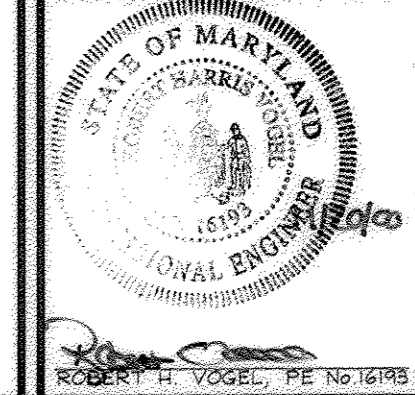
OWNER/DEVELOPER  
Conity Corporation  
Sergio Acle (President)  
10132 Baltimore National Pike  
Ellicott City, MD 21042  
410.461.4400

NO.	REVISION	DATE
3	ADD OUTDOOR SEATING AREA	11/22/16
2	ADDITION OF GREASE INTERCEPTOR AND DETAIL	10/18/01
1	Remove reference to Proposed Building #2	3/19/01

**SITE DEVELOPMENT PLAN**  
**BETHANY SQUARE**  
PHASE II  
PROPOSED ADDITION  
TAX MAP #24 BLOCK #2 P.395 PARCEL B  
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**VOGEL & ASSOCIATES**  
ENGINEERS/SURVEYORS/PLANNERS

3691 Park Avenue, Suite 101 • Ellicott City, Maryland 21043  
Tel 410.461.5828 Fax 410.465.3996

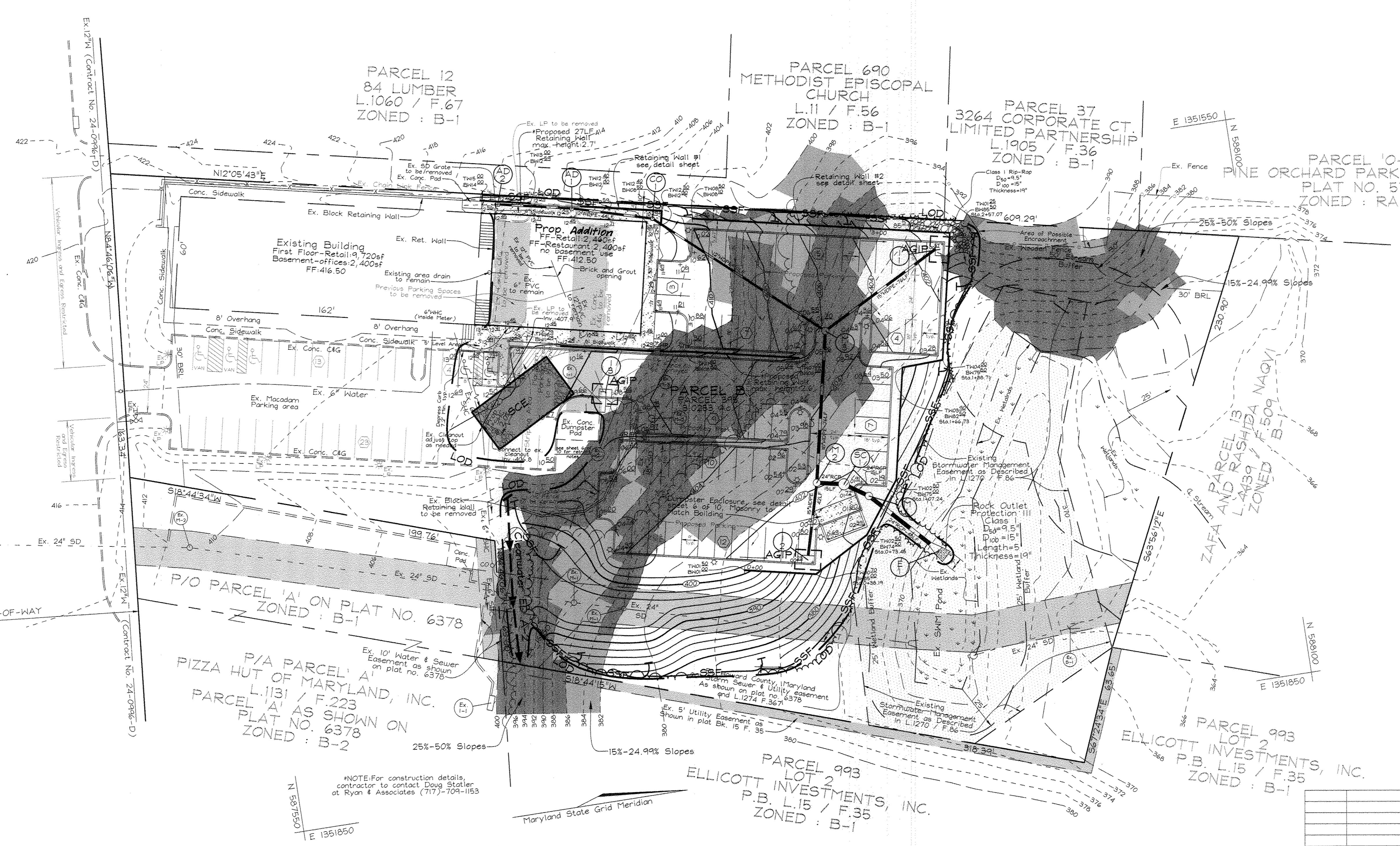


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CHECKED BY: RHY  
DATE: Nov. 17, 2000  
SCALE: 1"=30'  
W.O. NO.: 00-009

**LEGEND**

Existing Contour	---	-362
Proposed Contour	---	+82.53
Spot Elevation	○	
Direction of Flow	→	
Tree Protection Fence	⊖	
Existing Trees to Remain	⊖	
Light Poles	⊙	Post Top
Stabilized Construction Entrance	▨	
Super Silt Fence	—SSF—	SSF
Earth Dike	—ED—	ED A=1
Limit of Disturbance	—LOD—	LOD
At Grade Inlet Protection	□	AGIP

BALTIMORE NATIONAL PIKE  
(U.S. ROUTE 40)  
EX. 150' RIGHT-OF-WAY  
S.R.C. PLATS NO. 3123 & 3124



NOTE: For construction details, contractor to contact Doug Staller at Ryan & Associates (717)-709-1153

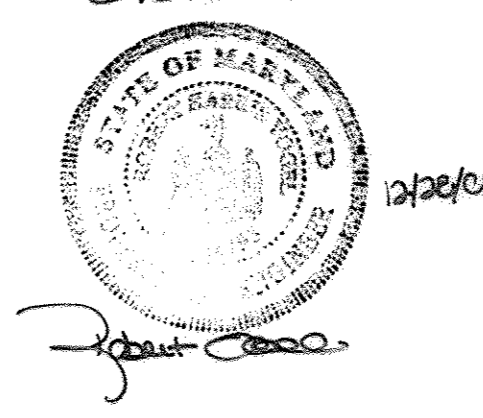
NO.	REVISION	DATE
1	Remove reference to Proposed Building #2	3.19.01

**SEDIMENT AND EROSION CONTROL PLAN**  
**BETHANY SQUARE**  
PHASE II  
PROPOSED ADDITION  
TAX MAP #24 BLOCK #2 P.395 PARCEL B  
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**VOGEL & ASSOCIATES**  
ENGINEERS-SURVEYORS-PLANNERS

3691 Park Avenue, Suite 101 • Ellicott City, Maryland 21043  
Tel 410.461.5828 Fax 410.465.3906

As-BUILT For STORMCEPTOR.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*John Damman* 12/15/00  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*Cindy Hamrick* 10/29/00  
CHIEF, DIVISION OF LAND DEVELOPMENT

*Joseph R. Smith* 12/30/00  
DIRECTOR

**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.

*Robert H. Vogel* 11/20/00  
SIGNATURE OF ENGINEER  
ROBERT H. VOGEL

**DEVELOPER'S CERTIFICATE**

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

*John K. Robertson* 11/20/00  
SIGNATURE OF DEVELOPER

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

*J. H. Warfield* 12/11/00  
USDA-NATURAL RESOURCE CONSERVATION SERVICE

*John K. Robertson* 12/11/00  
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

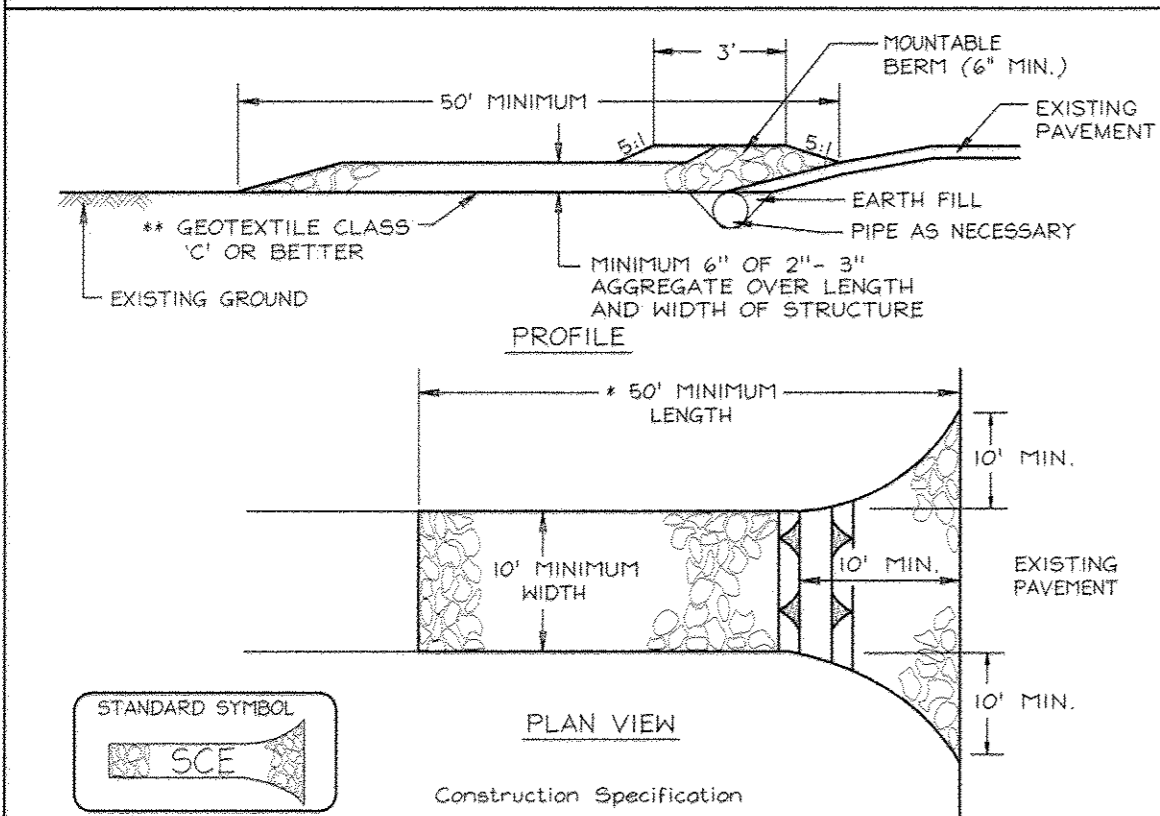
**OWNER/DEVELOPER**

Conly Corporation  
Sergio Acle (President)  
10132 Baltimore National Pike  
Ellicott City, MD 21042  
410.461.4400

DESIGN BY: PS  
DRAWN BY: PS  
CHECKED BY: RHV  
DATE: NOV. 17, 2000  
SCALE: 1"=30'  
W.O. NO.: 00-009

3 SHEET OF 14

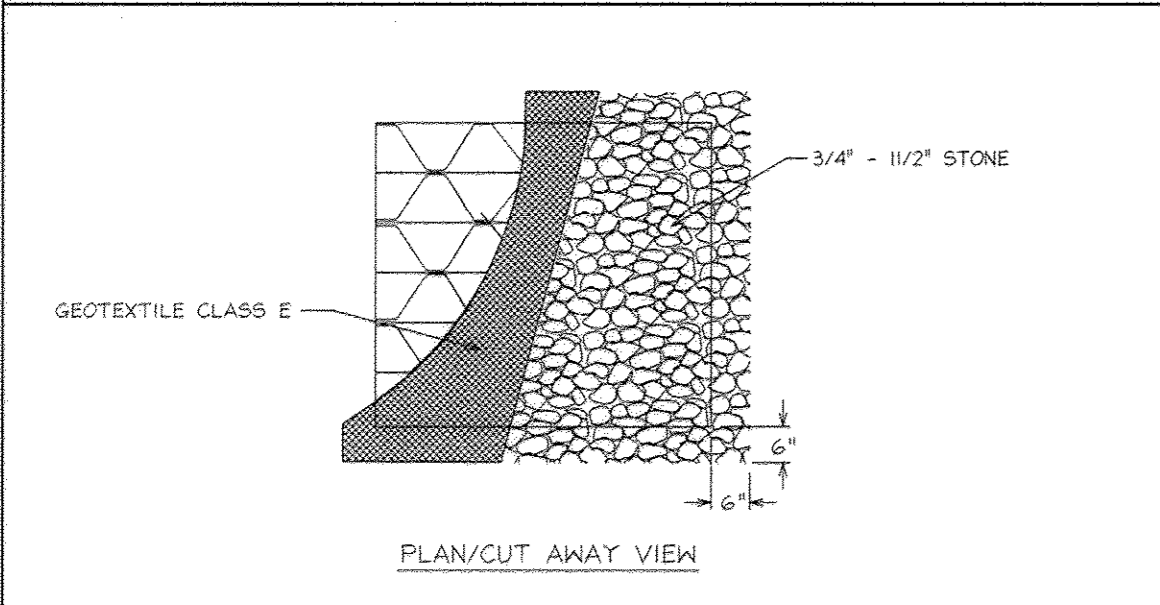
**DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE**



- Construction Specifications**
- Length - minimum of 50' (+ 30' for a single residence lot).
  - Width - 10' minimum, should be flared at the existing road to provide a turning radius.
  - 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.
  - 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 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey, a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6' minimum will be required.
  - 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 SOIL CONSERVATION SERVICE PAGE F-17-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

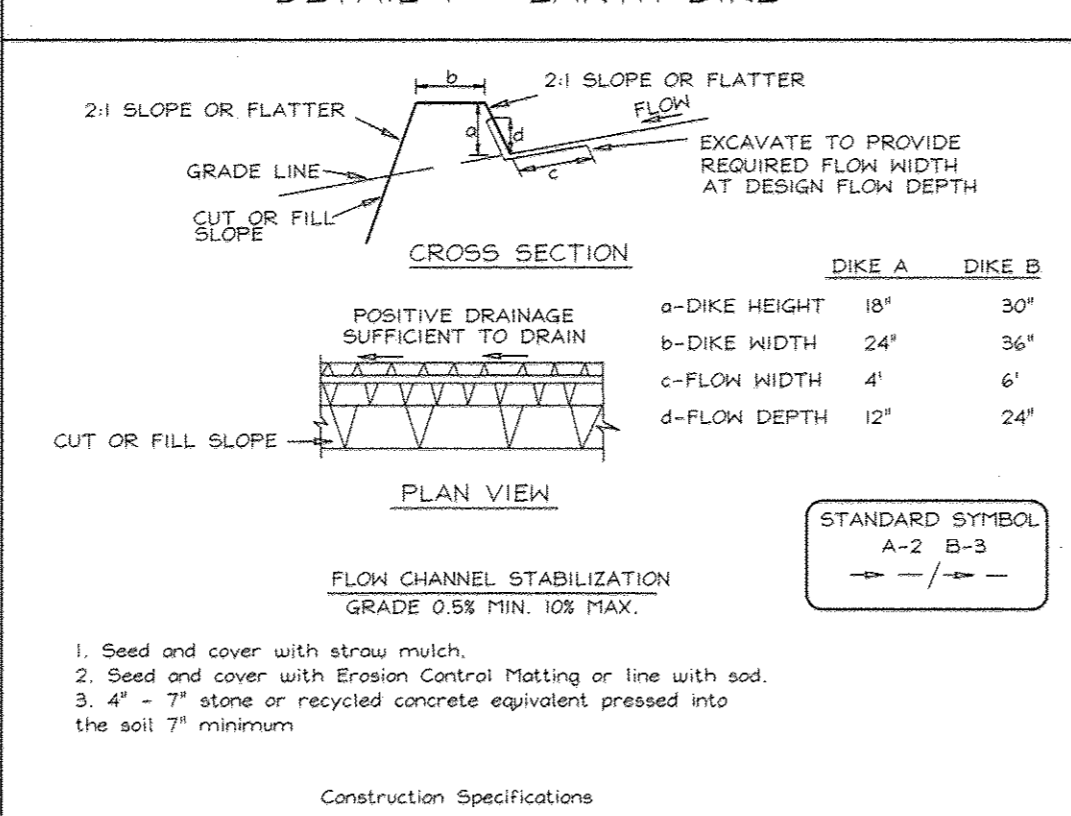
**DETAIL 23B - AT GRADE INLET PROTECTION**



- Construction Specifications**
- Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.
  - Place 3/4" to 1 1/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-16-5A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

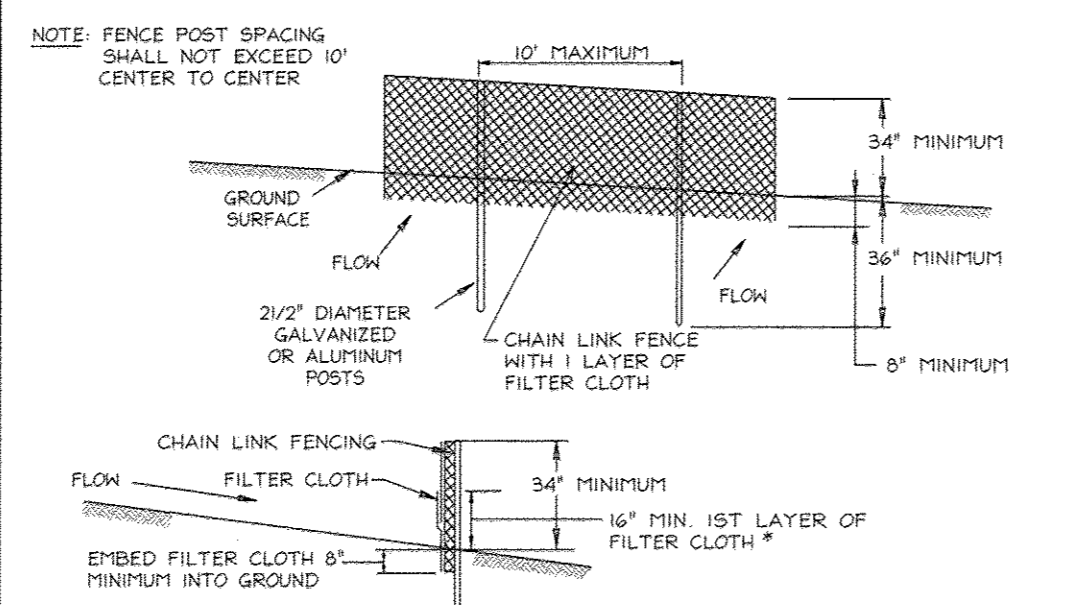
**DETAIL 1 - EARTH DIKE**



- Construction Specifications**
- Seed and cover with straw mulch.
  - Seed and cover with Erosion Control Matting or line with sod.
  - 4" - 7" stone or recycled concrete equivalent pressed into the soil 7" minimum.
  - All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
  - Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
  - Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity.
  - All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.
  - The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.
  - Fill shall be compacted by earth moving equipment.
  - All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.
  - Inspection and maintenance must be provided periodically and after each rain event.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE A-1-6 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**DETAIL 33 - SUPER SILT FENCE**



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

Tensile Strength	50 lbs/in (min.)	Test: MSHT 509
Tensile Modulus	20 lb/in (min.)	Test: MSHT 509
Flow Rate	0.3 gal/ft/minute (max.)	Test: MSHT 922
Filtering Efficiency	75% (min.)	Test: MSHT 922

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE H-28-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

No.	1	Remove reference to Proposed Building #2	3.10.01
		REVISION	DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Robert H. Vogel* 12/15/00  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Cindy Hamler* 12/16/00  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*Paul Foster* 12/20/00  
 DIRECTOR DATE

**ENGINEERS 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."

*Robert H. Vogel* 11/20/00  
 SIGNATURE OF ENGINEER DATE  
 ROBERT H. VOGEL

**DEVELOPER'S CERTIFICATE**

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

*John R. Robertson* 12/1/00  
 SIGNATURE OF DEVELOPER DATE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

*J. A. Warfield* 12/11/00  
 UDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

*John R. Robertson* 12/1/00  
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT HOWARD SCD DATE

**21.0 STANDARDS 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 vegetable growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradients.

**Conditions Where Practice Applies**

- This practice is limited to areas having 2:1 or flatter slopes where:
  - The texture of the exposed subsoil/parent material is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
  - 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.
  - The original soil to be vegetated contains material toxic to plant growth.
  - 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 Experiment Station.
- Topsoil Specifications - Soil to be used as topsoil must meet the following:
  - 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 a soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 and 1/2" in diameter.
  - Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutedge, poison ivy, thistle, or others as specified.
  - Where the subsoil is either highly acidic or composed of heavy clay, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lims shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedure.
- For sites having disturbed areas under 5 acres:
  - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization-Section 1 - Vegetative Stabilization Methods and Materials.

**SEDIMENT CONTROL NOTES**

- A minimum of 48 hours notice must be given to the Howard County Department of Inspection, License and Permits Sediment Control Division prior to the start of any construction (913-1855).
- All vegetation 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 redistribution, permanent or temporary stabilization shall be completed within: (a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes, and all slopes greater than 3:1, (b) 14 days as to all other disturbed or graded areas on the project site.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 7, HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding, sod, temporary seeding, and mulching (Sec. G). Temporary stabilization with mulch alone shall be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:
 

Total Area	9.03 Acres
Area Disturbed	1.25 Acres
Area to be roofed or paved	0.52 Acres
Area to be vegetatively stabilized	0.73 Acres
Total Cut	7cy
Total Fill	19,750CY
Offsite waste/borrow area location	
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment controls must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
- On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals shall 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.
- To be determined by contractor, with pre-approval of the Sediment Control Inspector with an approved and active grading permit.

**SEQUENCE OF CONSTRUCTION**

- Obtain grading permit.
- Notify Howard County Department of Inspections, License and Permits at (410)313-1850 at least 24 hours before starting any work.
- Install Stabilized Construction Entrances, Super Silt Fence and Earth Dike. (3 days)
- Rough grade site and begin Retaining Wall construction. (2 weeks)
- Continue grading and Retaining Wall construction while constructing Sewer and Storm Drain, adjust existing structures as shown on sheet 2 of 10 and install Inlet Protection. See sheet 6 of 10 for Ex. Stormceptor retrofit instructions. (4-8 weeks)
- Begin building construction. (4-8 months)
- As building construction continues fine grade site, and finish Retaining Wall construction. (2 weeks)
- Install curb and gutter, paving and sidewalks. (2 weeks)
- Install Landscaping (1 week)
- With permission of the Inspector, remove all Sediment Controls from the site.
- Stabilize all disturbed areas immediately. (1 week)
- During grading and after each rainfall, contractor will inspect and provide necessary maintenance to the Sediment Control measures on this plan.
- Following initial soil disturbances or redistribution permanent or temporary stabilization shall be completed within:
  - 7 calendar days for all perimeter Sediment Control Structures, Dikes,
  - 14 calendar days for all other disturbed areas.

**TEMPORARY SEEDING NOTES**

**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./1000 sq.ft.).

**SEEDING:** For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2 lbs/acre of annual ryegrass (3.2 lbs./1000 sq.ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (07 lbs./1000 sq.ft.). For the period November 1 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./1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 2 1/2 gallons per acre (5 gal/1000 sq.ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 345 gallons per acre (8 gal/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-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.

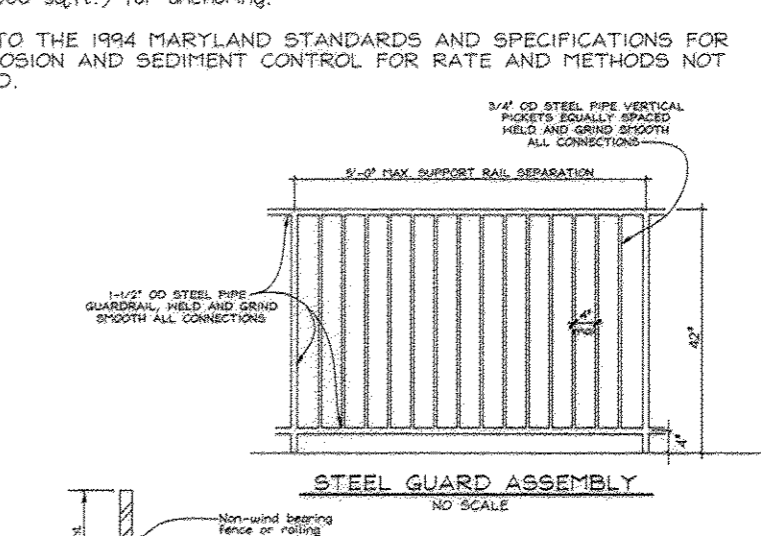
**SOIL AMENDMENTS:** In lieu of soil test recommendations, use one of the following schedules:

- Preferred-Apply 2 tons per acre dolomitic limestone (92 lbs./1000 sq.ft.) and 600 lbs per acre 10-10-10 fertilizer (14 lbs./1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At the time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (8 lbs./1000 sq.ft.).
- Acceptable-Apply 2 tons per acre dolomitic limestone (92 lbs./1000 sq.ft.) and apply 1000 lbs. per acre 10-10-10 fertilizer (23 lbs./1000 sq.ft.) before seeding. Harrow or disc 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 (14 lbs./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 (.05 lbs./1000 sq.ft.) of weeping lovegrass. During the period of October 16 thru February 28, protect site by Option (1) 2 tons per acre 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 to 90 lbs./1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 2 1/2 gallons per acre (5 gal/1000 sq.ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 345 gallons per acre (8 gal/1000 sq.ft.) for anchoring.

**MAINTENANCE:** Inspect all seeded areas and make needed repairs, replacements and reseedings.



**SEDIMENT AND EROSION CONTROL DETAILS**

**BETHANY SQUARE**

PHASE II

PROPOSED ADDITION

TAX MAP #24 BLOCK #2 P.395 PARCEL B  
 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**VOGEL & ASSOCIATES**  
 ENGINEERS-SURVEYORS-PLANNERS

3691 Park Avenue, Suite 101 • Ellicott City, Maryland 21043  
 Tel 410.461.5828 Fax 410.465.3966

DESIGN BY: PS  
 DRAWN BY: PS  
 CHECKED BY: RHV  
 DATE: Nov. 17, 2000  
 SCALE: As Shown  
 I.O. NO.: 00-009

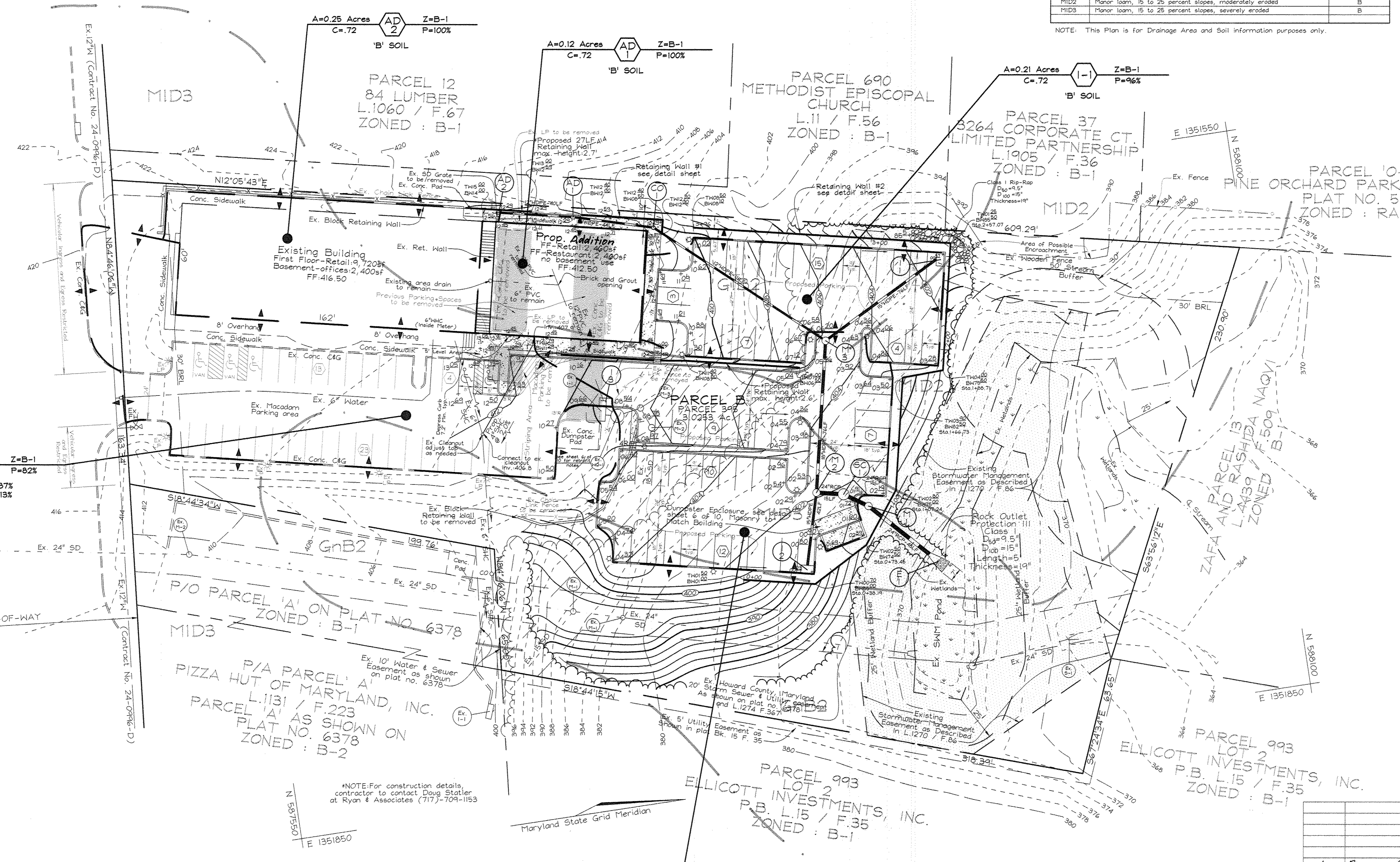
4 SHEET OF 14

SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	SOIL GROUP
GB2	Glenelg loam, 3 to 8 percent slopes, moderately eroded	B
GnB2	Glenelg silt loam, 3 to 8 percent slopes, moderately eroded	C
MID2	Minor loam, 15 to 25 percent slopes, moderately eroded	B
MID3	Minor loam, 15 to 25 percent slopes, severely eroded	B

NOTE: This Plan is for Drainage Area and Soil information purposes only.

LEGEND	
Existing Contour	---362
Proposed Contour	---(8)---
Spot Elevation	+82.53
Direction of Flow	→
Existing Trees to Remain	☼
Light Poles	☆ Post Top ○ Overhead ● Bollard
Soils Divide	---KcB2--- ---NeB2---
Proposed Drainage Divide	---▲---

BALTIMORE NATIONAL PIKE  
(U.S. ROUTE 40)  
(EX. 150' RIGHT-OF-WAY)  
S.R.C. PLATS NO. 3123 & 3124



NO.	REVISION	DATE
1	Remove references to Proposed Building #2	

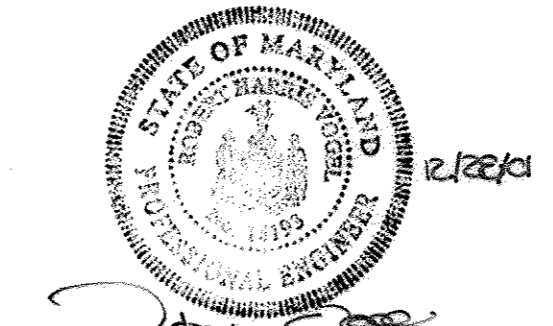
**STORM DRAINAGE  
DRAINAGE AREA MAP  
BETHANY SQUARE**  
PHASE II  
PROPOSED ADDITION  
TAX MAP #24 BLOCK #2 P.395 PARCEL B  
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**VOGEL & ASSOCIATES**  
ENGINEERS-SURVEYORS-PLANNERS  
3691 Park Avenue, Suite 101 • Ellicott City, Maryland 21043  
Tel 410.461.5828 Fax 410.463.3966

DESIGN BY: PS  
DRAWN BY: PS  
CHECKED BY: RHV  
DATE: Nov. 17, 2000  
SCALE: 1"=30'  
W.O. NO.: 00-009

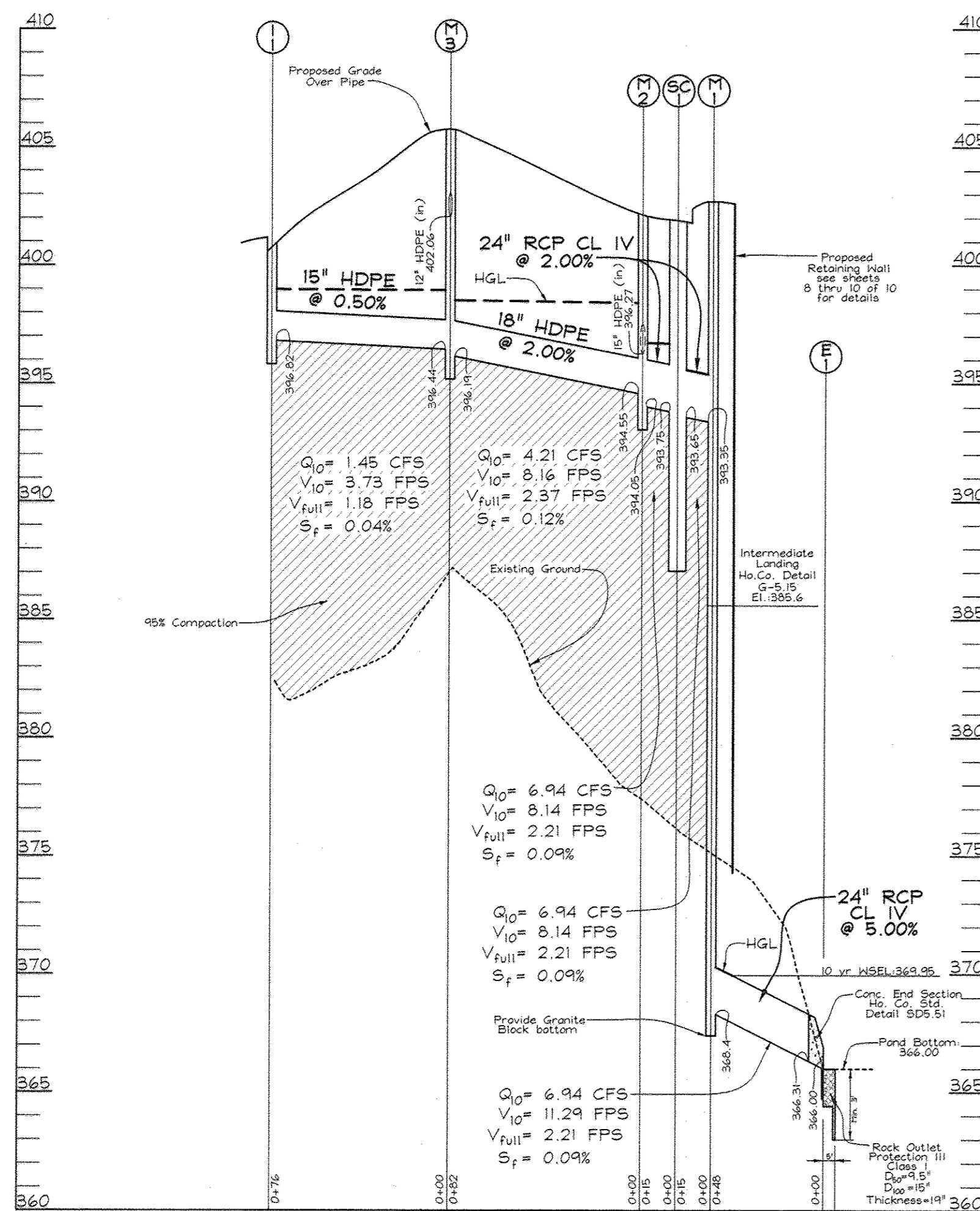
5 SHEET OF 14

AS-BUILT FOR  
STORMCEPTOR

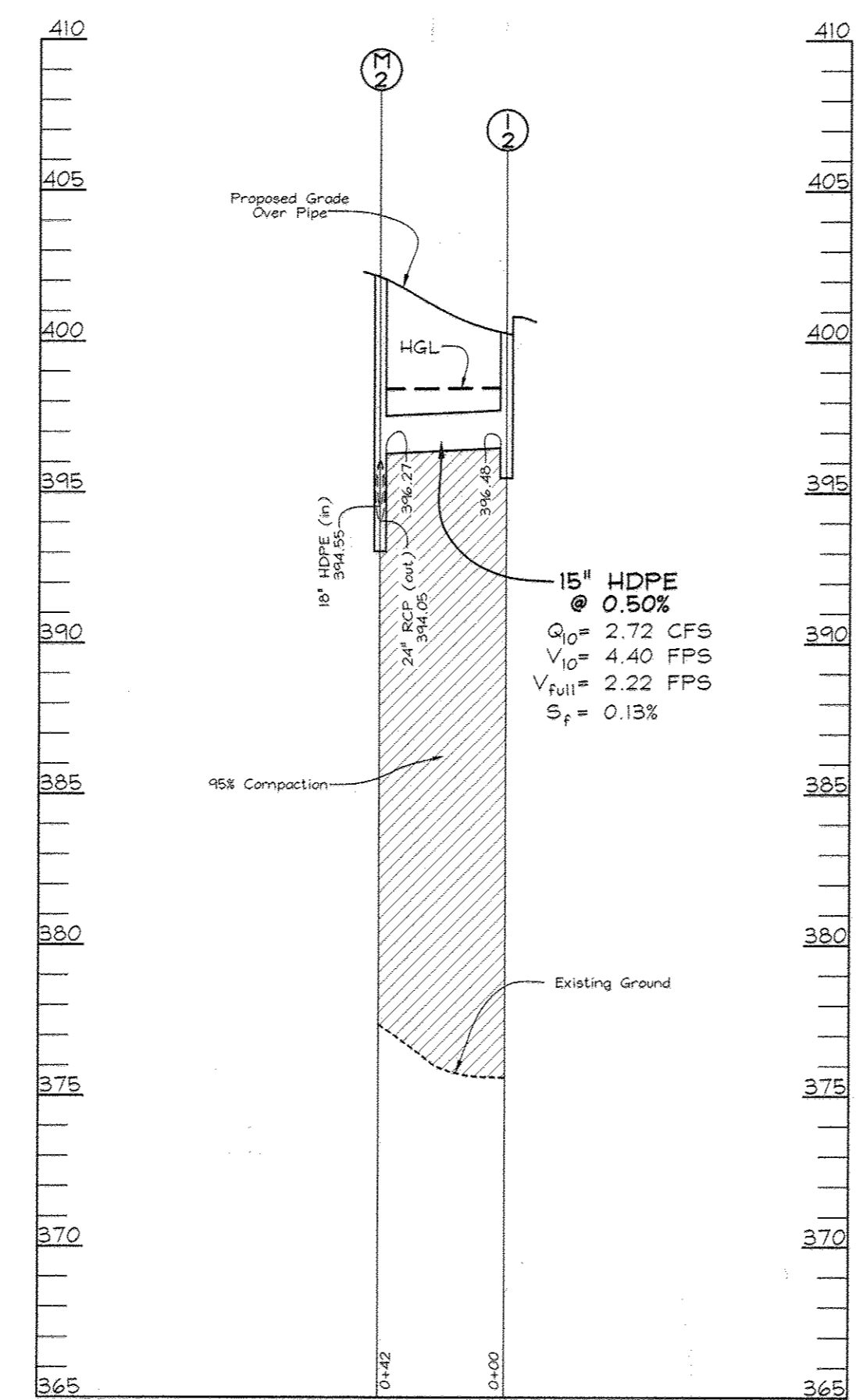


OWNER/DEVELOPER  
Conity Corporation  
Sergio Acle (President)  
10152 Baltimore National Pike  
Ellicott City, MD 21042  
410.461.4400

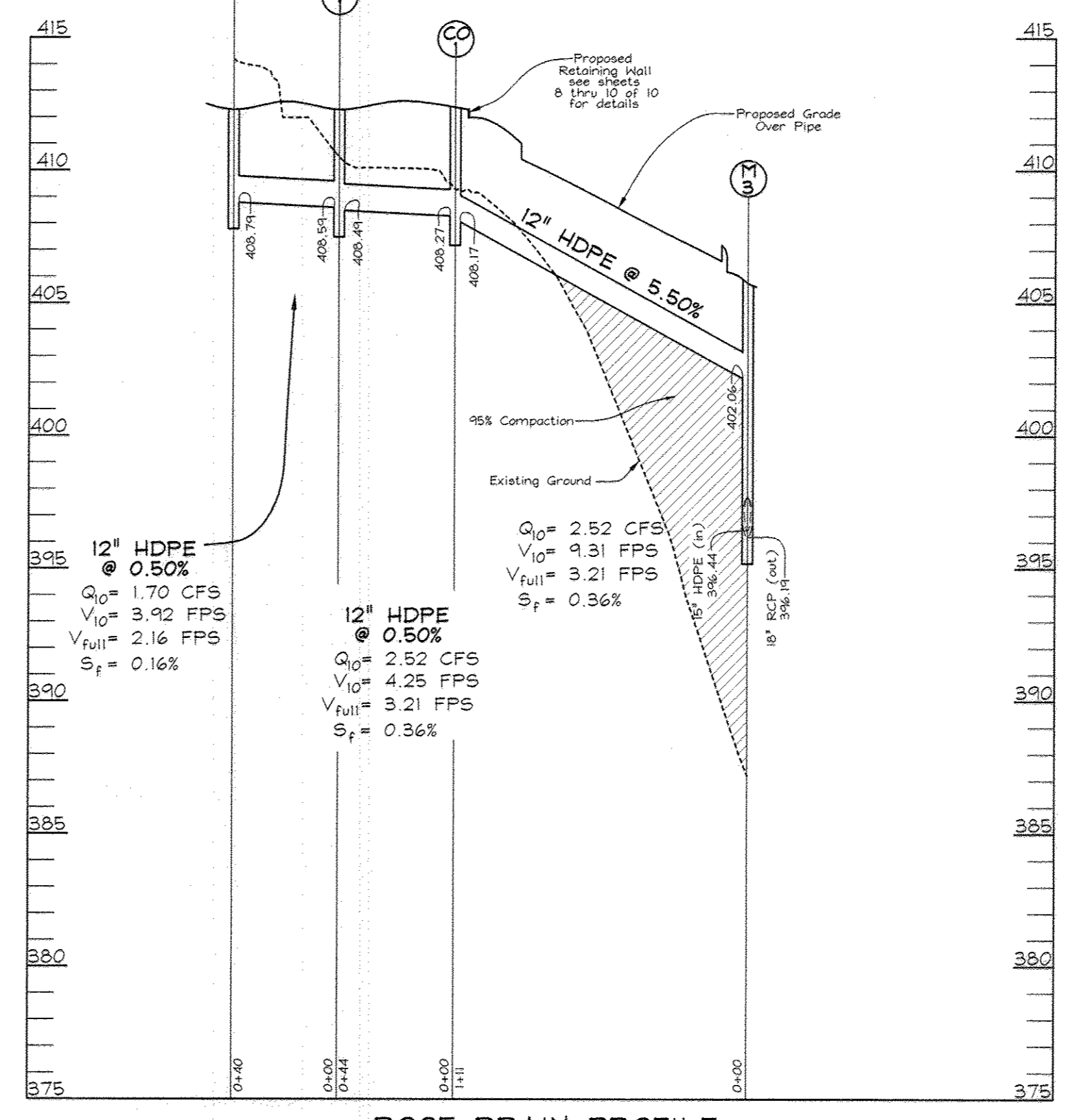
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION 06 12/15/00  
  
 CHIEF, DIVISION OF LAND DEVELOPMENT 06 12/15/00  
  
 DIRECTOR 06 12/20/00



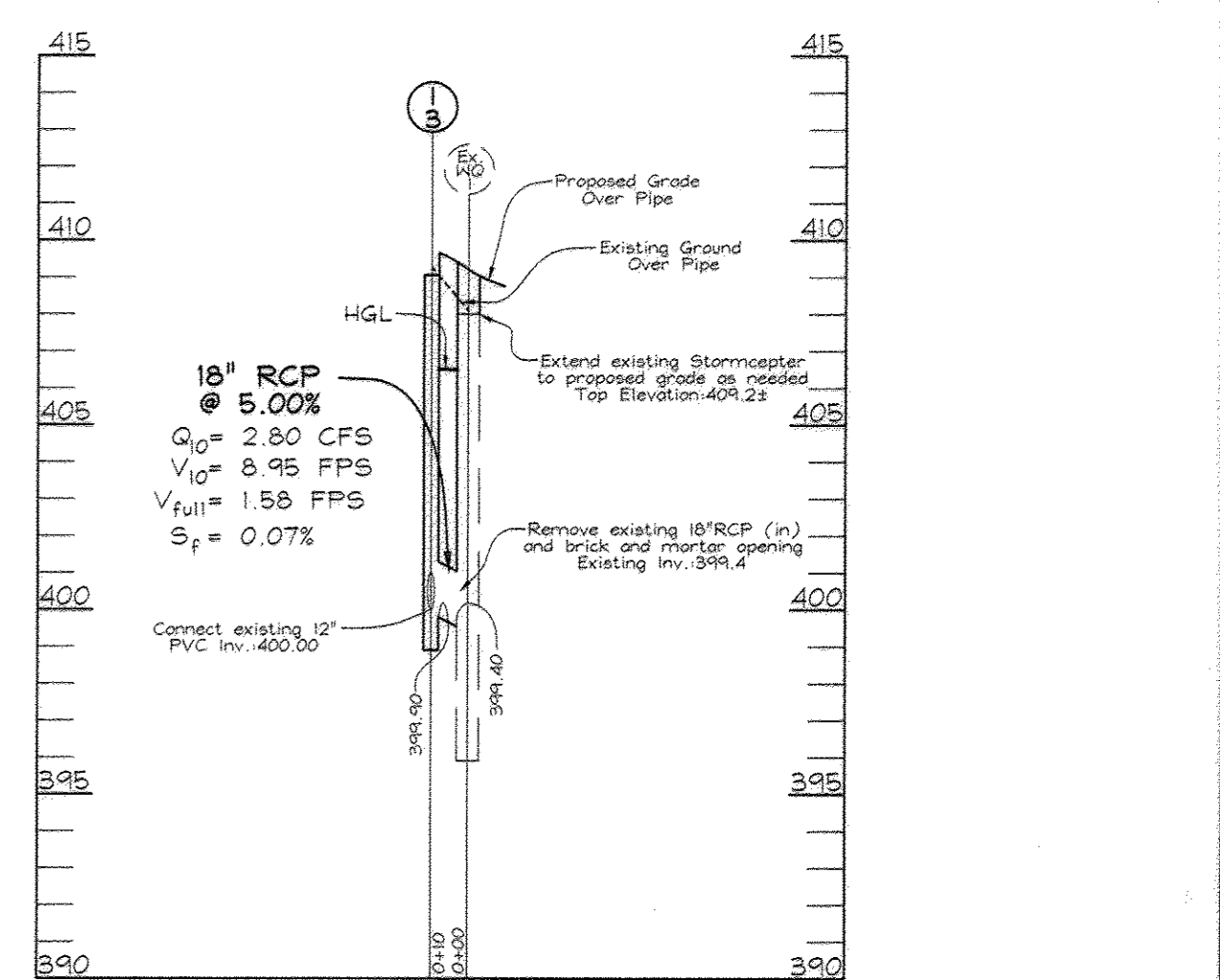
**STORM DRAIN PROFILE**  
SCALE: HORIZONTAL - 1"=50'  
VERTICAL - 1"=5'



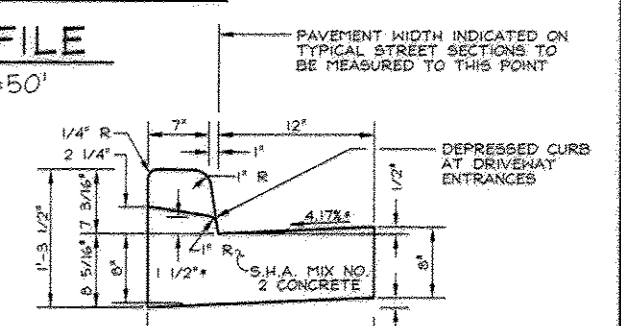
**STORM DRAIN PROFILE**  
SCALE: HORIZONTAL - 1"=50'  
VERTICAL - 1"=5'



**ROOF DRAIN PROFILE**  
SCALE: HORIZONTAL - 1"=50'  
VERTICAL - 1"=5'



**STORM DRAIN PROFILE**  
SCALE: HORIZONTAL - 1"=50'  
VERTICAL - 1"=5'



**STANDARD COMBINATION CURB AND GUTTER**  
HOWARD COUNTY STANDARD R-3.01  
NOT TO SCALE

**OPERATION AND MAINTENANCE SCHEDULE FOR STORMWATER MANAGEMENT DETENTION FACILITY**

**STORMWATER MANAGEMENT FACILITY ROUTINE MAINTENANCE**

- FACILITY WILL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE REPORTED DURING NEXT WEATHER TO DETERMINE IF FUNCTIONING PROPERLY.
- TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO (2) TIMES A YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER.
- OTHER SLOPES AND MAINTENANCE ACCESS SHOULD BE MOWED AS NEEDED.
- DEBRIS AND LITTER NEXT TO THE OUTLET STRUCTURE SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
- A VISIBLE SIGN OF EROSION IN THE POND AS WELL AS RIPRAP OUTLET AREAS SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

**NON-ROUTINE MAINTENANCE**

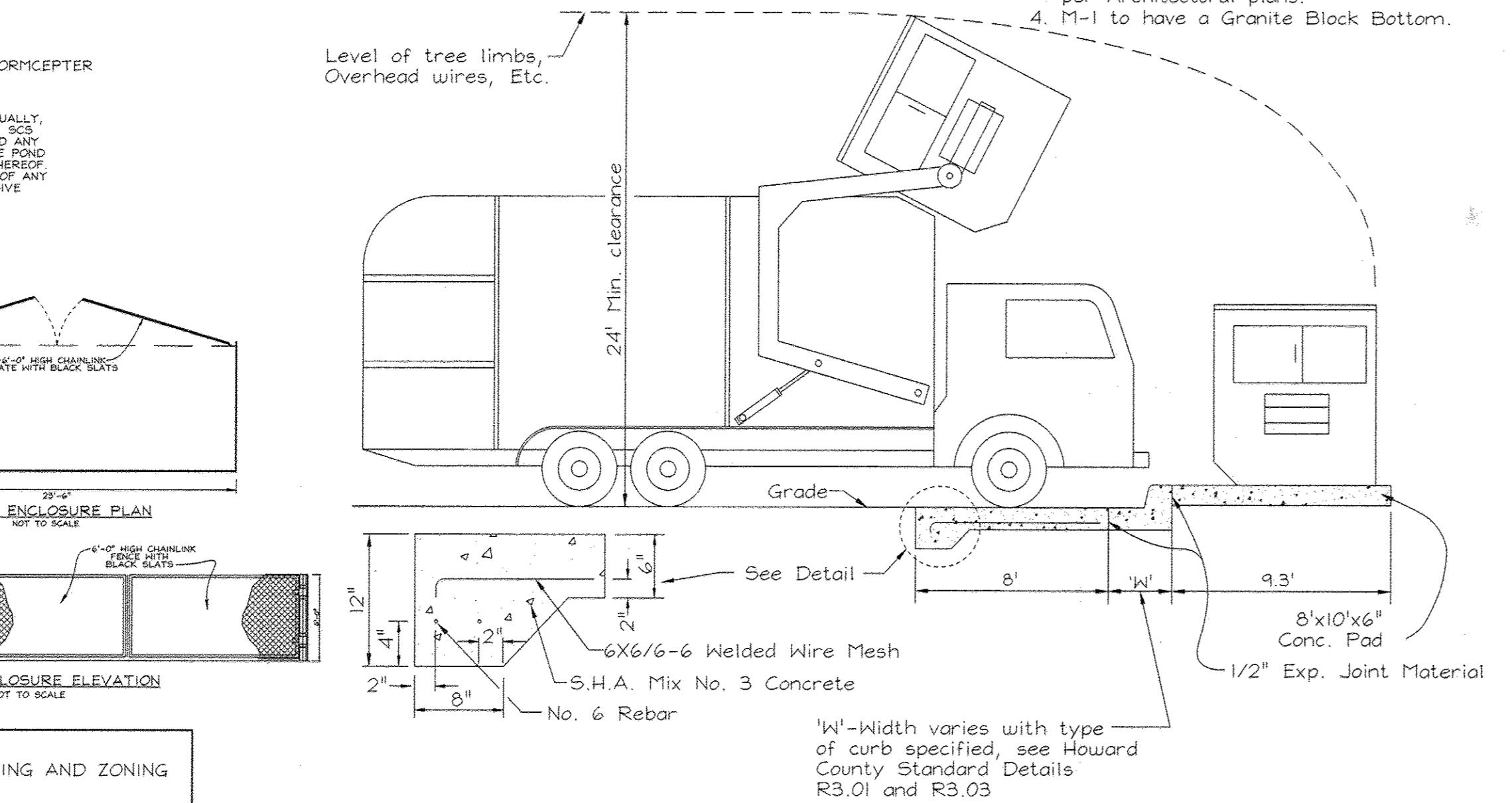
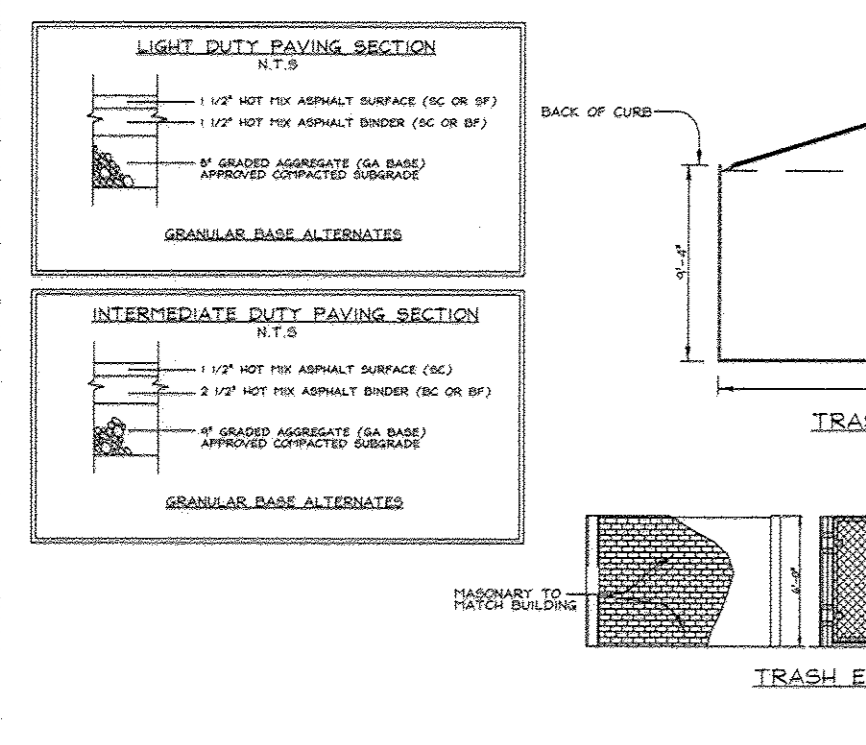
- STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
- SEDIMENT SHOULD BE REMOVED WHEN ITS ACCUMULATION SIGNIFICANTLY REDUCES THE DESIGN STORAGE, INTERFERES WITH THE FUNCTION OF THE RISER, WHEN DEEMED NECESSARY FOR AESTHETIC REASONS OR WHEN DEEMED NECESSARY BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

**POND SUMMARY**

	2 YEAR	10 YEAR	100 YEAR
FLOW INTO POND	35.4 C.F.S.	47.0 C.F.S.	
FLOW OUT OF POND	15.9 C.F.S.	34.4 C.F.S.	72.2 C.F.S.
W.S. ELEVATION	368.70	368.95	371.05
STORAGE VOLUME	0.37 AC FT	0.55 AC FT	1.00 AC FT

**OPERATION, MAINTENANCE AND INSPECTION**

INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN (UDM, SCCS, 'STANDARDS AND SPECIFICATIONS FOR PONDS' (HD-376), THE POND OWNER(S) AND ANY AGENTS, SUCCESSORS, OR ASSIGNEES SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEDIMENTATION, TURBID SEEPAGE, SLIDING OR SLIPPING.



**SOLID WASTE SERVICE PAD**  
HOWARD COUNTY STD. R 11.01  
NOT TO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: *[Signature]* 12/15/00  
 Chief, Division of Land Development: *[Signature]* 10/20/00  
 Director: *[Signature]* 12/20/00

References to Proposed Building #2 Removed

No.	REVISION	DATE
1	References to Proposed Building #2 Removed	3/10/01

**STRUCTURE SCHEDULE**

NO.	TYPE	LOCATION	TOP ELEV.	INV. IN.	INV. OUT.	REMARKS
I-1	Double Type 'S' Combination Inlet	N 587,937 E 1,351,595	401.33	-	396.82	SD 4.34
I-2	Double Type 'S' Combination Inlet	N 587,841 E 1,351,748	400.96	-	396.48	SD 4.34
I-3	Double Type 'S' Combination Inlet	N 587,747 E 1,351,643	409.05	-	399.90	SD 4.34
SC-1	Stormceptor STC 1200	N 587,867 E 1,351,711	401.90	393.75	393.65	STC 1200
E-1	Concrete End Section	N 587,912 E 1,351,755	368.31	366.31	366.00	SD 5.51
M-1	Std. Precast Manhole (see note #4)	N 588,879 E 1,351,720	402.70	393.35	368.40	G 5.11
M-2	Standard Precast Manhole	N 587,852 E 1,351,708	402.14	396.27	394.05	G 5.11
M-3	Standard Precast Manhole	N 587,869 E 1,351,628	405.76	408.27	408.17	Note #3
CO-1	Standard Cleanout	N 587,787 E 1,351,555	412.38	408.27	408.19	Note #3
AD-1	Area Drain	N 587,745 E 1,351,542	412.29	408.59	408.49	Note #3
AD-2	Area Drain	N 587,705 E 1,351,534	412.29	-	408.79	Note #3

NOTES

- Top elevations are to the center of the structure at top of curb for Double Type 'S' Combination inlets and to top center of manholes and Stormceptor.
- For top slab slopes see grading plan.
- See Architectural plans for details, connect roof drains per Architectural plans.
- M-1 to have a Granite Block Bottom.

**OPERATION AND MAINTENANCE SCHEDULE FOR STORMCEPTOR WATER QUALITY STRUCTURE**

- The Stormceptor Water Quality structure shall be periodically inspected and cleaned to maintain operation and function. The owner shall inspect the Stormceptor unit yearly at a minimum, utilizing the Stormceptor inspection/monitoring form. Inspections shall be done by using a clear Plexiglas tube (\"/>

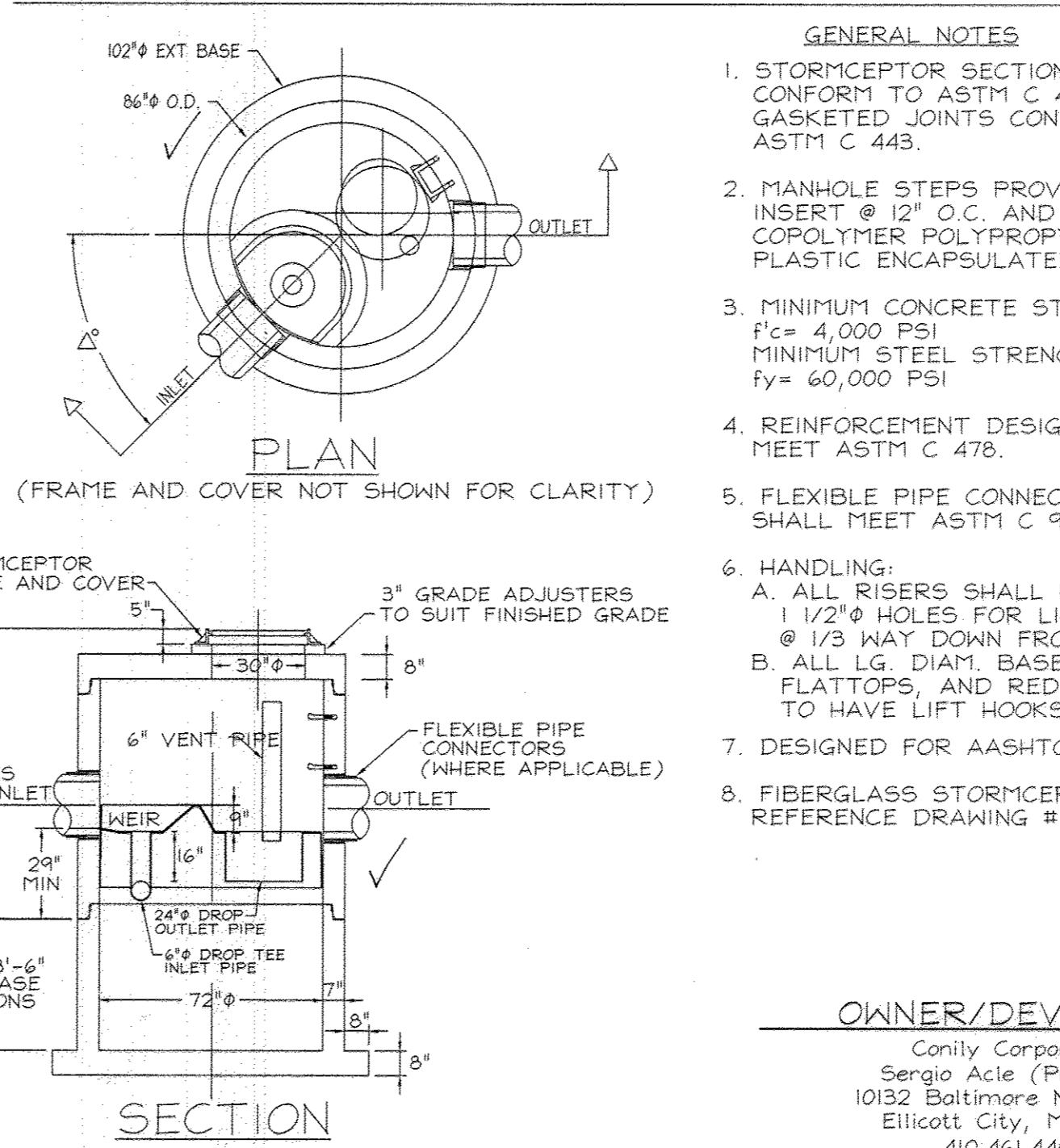
**EXISTING STORMCEPTOR RETROFIT**

Disassemble the existing Stormceptor down to the level of the user. Disconnect existing inlet and outlet pipes. Raise and rotate the section (with the wier attached) to match the proposed inlet pipe from I-3. Brick and grout existing outlet opening and construct new opening for the existing outlet pipe at same invert. Use new gaskets for both proposed inlet and outlet pipes. Reassemble the Stormceptor to the proposed elevation of 409.22.

**STORMCEPTOR ORDER INFORMATION**

STORMCEPTOR MODEL: 1200  
 STRUCTURE: SC-1  
 TOP ELEVATION: 401.9  
 INLET PIPE INVERT: 393.75  
 OUTLET PIPE INVERT: 393.65  
 PIPE SIZE: 24\"/>

**STC 1200 PRECAST CONCRETE STORMCEPTOR**



- GENERAL NOTES**
- STORMCEPTOR SECTIONS SHALL CONFORM TO ASTM C 478. PROFILE GASKETED JOINTS CONFORMING TO ASTM C 443.
  - MANHOLE STEPS PROVIDED ABOVE INSERT @ 6\"/>

Precast Concrete **Stormceptor** Order Request Form

**CONTRACTOR INFORMATION**

Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_  
 State: \_\_\_\_\_  
 Zip Code: \_\_\_\_\_  
 Contact: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_

**OWNER INFORMATION**

Name: Conly Corporation-Sergio Acle  
 Phone: 410.634.1923  
 Fax: \_\_\_\_\_

**PERVIOUS DRAINAGE AREA FOR THIS UNIT** 0.93 acres

Stormceptor Model	Insert Size	Manhole Number	Top Elevation (ft)	Inlet Pipe Invert (ft)	Outlet Pipe Invert (ft)	Pipe Type	Inlet Pipe Inside Diameter (in)	Inlet Pipe Outside Diameter (in)	Outlet Pipe Inside Diameter (in)	Outlet Pipe Outside Diameter (in)
STC	SHIELD	SC-1	401.9	393.75	393.65	SCP	24"	24"	24"	24"
9000	3600									
1200	4800									
1800	6000									
2400	7200									

Project Name: Bethany Square Phase II  
 Approximate time frame of delivery (weeks): \_\_\_\_\_  
 Delivery Address: Street \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
 Designer Company: Vogel & Associates, Inc.  
 Designer Contact: Rob Vogel Phone: 410.661.5828 Fax: 410.665.3866

PLEASE FILL OUT COMPLETELY AND FAX TO: **CSIR Hydro Conduit**  
 ATTN: ED O'MALLEY FAX: (703)922-3659, PHONE: (703)313-6399  
 FOR TECHNICAL ASSISTANCE PLEASE CALL MIKE BARG, PHONE (703)313-6399

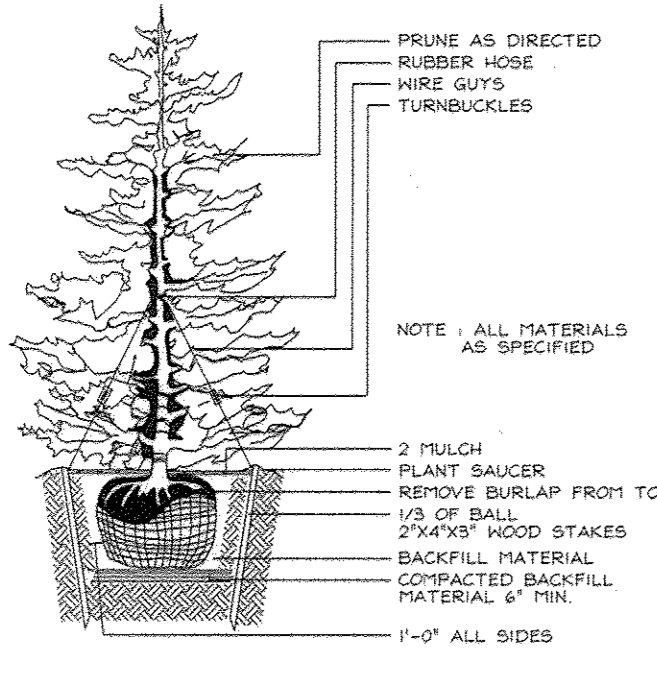
**STORM DRAIN PROFILES AND MISCELLANEOUS DETAILS BETHANY SQUARE**

PHASE II  
 PROPOSED ADDITION  
 TAX MAP #24 BLOCK #2 P.395 PARCEL B  
 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

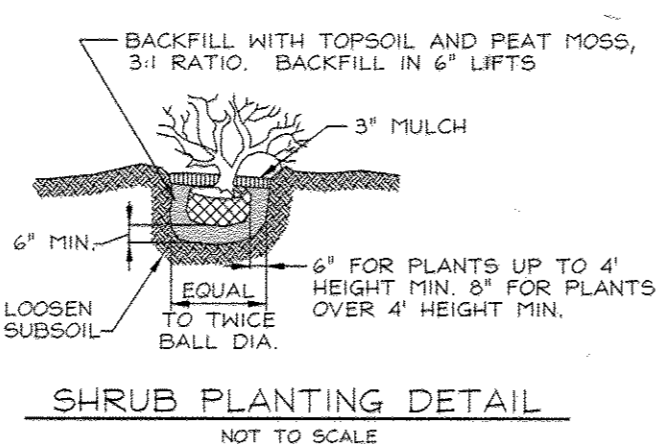
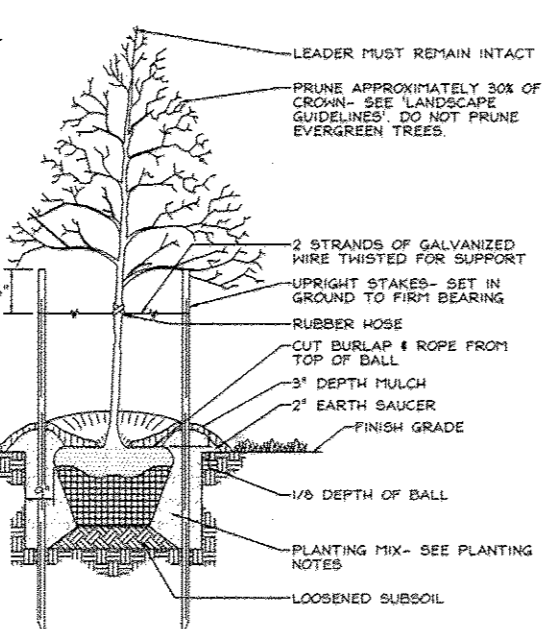
**VOGEL & ASSOCIATES**  
 ENGINEERS-SURVEYORS-PLANNERS  
 3891 Park Avenue, Suite 101 • Ellicott City, Maryland 21043  
 Tel 410.461.5828 Fax 410.465.3866

DESIGN BY: PS  
 DRAWN BY: PS  
 CHECKED BY: RHV  
 DATE: Nov. 17, 2000  
 SCALE: As Shown  
 I.O. NO.: 00-009

6 SHEET OF 14



- NOTES**
- SEE "LANDSCAPE SPECIFICATION" FOR ADDITIONAL PLANTING PRODUCT AND PROCEDURE REQUIREMENTS.
  - SEE "LANDSCAPE SPECIFICATION" FOR SUPPORTING TREES LARGER THAN 2-1/2" CALIBER.
  - PLANT SUPPORT STAKES PARALLEL TO WALKS & BENCHES.
  - KEEP MULCH 1" FROM TRUNK.
  - SEE ARCHITECTURAL PLANS FOR ADDITIONAL PLANTING WHICH EXCEED HOWARD COUNTY MINIMUM REQUIREMENTS.
  - TREES ARE NOT TO BE PLANTED OVER PRIVATE SEWERAGE SYSTEMS.



**SCHEDULE B  
PARKING LOT INTERNAL LANDSCAPING**

Number of parking spaces (39 ex. to remain, 68 prop)	107
Number of islands required for 68 spaces	3
Number of islands provided	3
Number of trees required for 107 spaces	5
Number of trees provided	
Existing Trees	1
Shade Trees	4
Other Trees (2:1 Substitution)	-

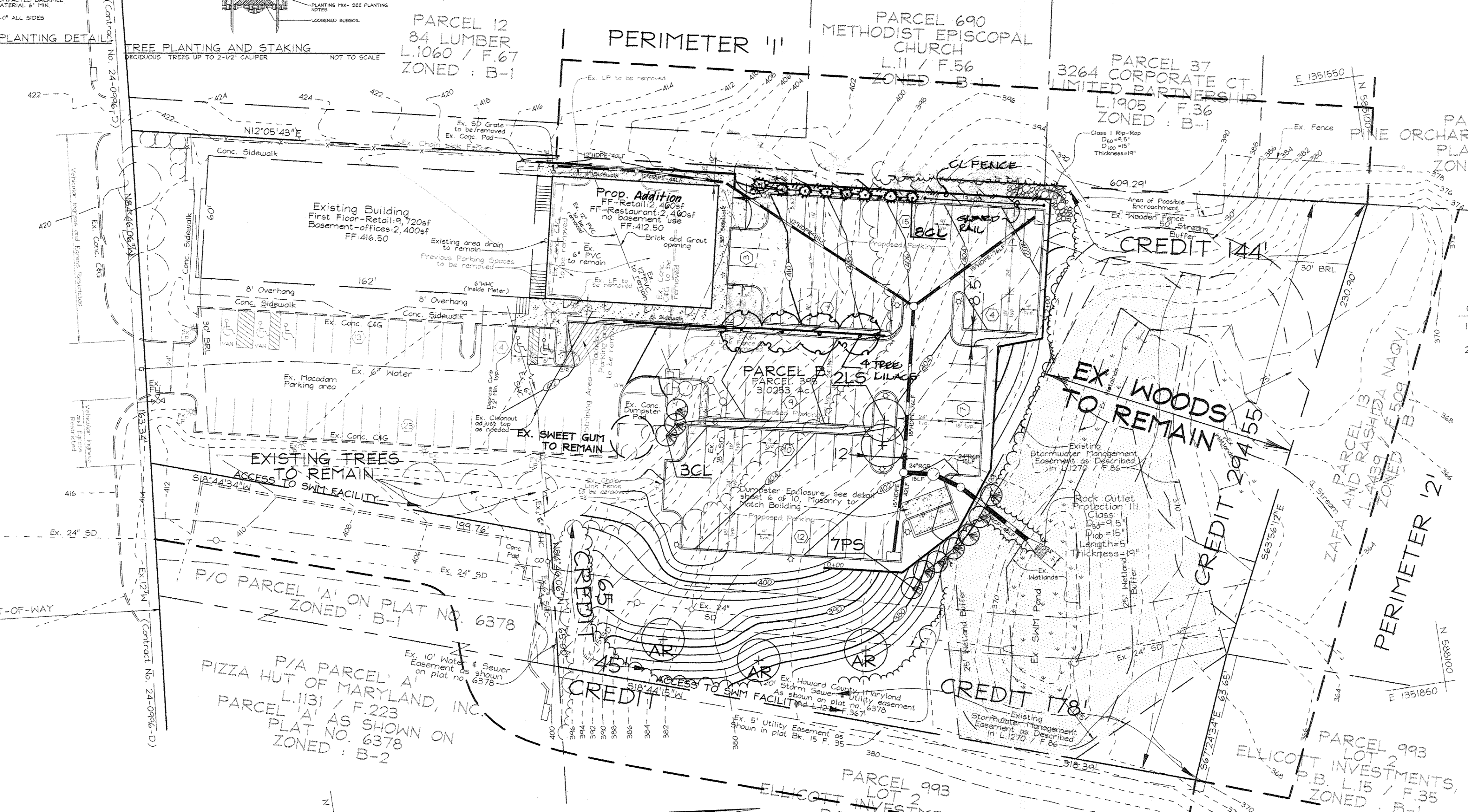
**LANDSCAPE SCHEDULE**

KEY	QUAN.	BOTANICAL NAME	SIZE	CAT
AR	9	Acer rubrum 'October Glory' October Glory Red Maple	2 1/2"-3" Cal.	B & B
CL	11	Cupressocyparis leylandii Leyland Cypress	5'-6" Ht.	B & B
LS	2	Liquidambar styraciflua Sweet Gum	2 1/2"-3" Cal.	B & B
PS	7	Pinus strobus 'Fastigiata' Pyramidal White Pine	5'-6" Ht.	B & B
TC	0	Taxus baccata 'Repandens' Dwarf English Yew	18"-24" Sp.	Cont.
	4	Syringa Tree Lilac	2 1/2"-3" Cal.	B & B

**LEGEND**

- Existing Contour
- Proposed Contour
- Spot Elevation
- Direction of Flow
- Existing Trees to Remain
- Shade Trees
- Evergreen Trees
- Perimeter Landscape Edge

**BALTIMORE NATIONAL PIKE  
(U.S. ROUTE 40)  
S.R.C. PLATS NO. 3123 & 3124**



- GENERAL NOTES**
- No shrubs or trees to be planted over Geogrid material.
  - Required landscape surety in accordance with Section 16.124 of the Howard County Code and Landscape Manual will be provided with the Developer's Agreement in the amount of \$5,100.00.

**SCHEDULE A  
PERIMETER LANDSCAPE EDGE**

CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES			
		1	2	3	Ex. Dumpster
Perimeter/Frontage Designation		A	A	A	N/A
Linear Feet of Roadway	395	294.55'	583.15'		N/A
Credit for Existing Vegetation** (Yes, No, Linear Feet Describe below if needed)	Yes	144'	294.55'	288'	1 Tree
Credit for Wall, Fence or Berm (Yes, No, Linear Feet Describe below if needed)	No	No	No	No	No
Number of Plants Required**	(251)	(0)	(295.15)		
Shade Trees	1:60	4	1:60	0	3
Evergreen Trees	-	-	-	-	7
Shrubs	-	-	-	-	-
Number of Plants Provided**		4	0	3	3
Shade Trees		-	-	-	3
Evergreen Trees		-	-	-	7
Other Trees (2:1 Substitution)		-	-	-	-
Shrubs (10:1 Substitution)		-	-	-	-
Existing Shade Trees**		-	-	-	3

2. Revise landscape per as-built conditions 4-12-02  
1. Remove references to Proposed Building #2 3-18-01  
REVISION DATE

**DEVELOPER'S/BUILDER'S CERTIFICATE**

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE(1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

SIGNATURE OF DEVELOPER: [Signature] DATE: 11/20/00

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: [Signature] DATE: 12/15/00  
Chief, Division of Land Development: [Signature] DATE: 12/18/00  
Director: [Signature] DATE: 12/20/00

**OWNER/DEVELOPER**  
Conity Corporation  
Sergio Acle (President)  
10132 Baltimore National Pike  
Elicott City, MD 21042  
410.461.4400

**LANDSCAPE PLAN  
BETHANY SQUARE  
PHASE II  
PROPOSED ADDITION**

TAX MAP #24 BLOCK #2 P.395 PARCEL B  
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**VOGEL & ASSOCIATES**  
ENGINEERS-SURVEYORS-PLANNERS

3601 Park Avenue, Suite 101 • Elicott City, Maryland 21043  
Tel 410.461.5828 Fax 410.465.3968

DESIGN BY: MHM  
DRAWN BY: PS/MM  
CHECKED BY: RHW  
DATE: November 17, 2000  
SCALE: 1"=30'  
N.O. NO.: 00-009

7 SHEET OF 14

# ALLAN BLOCK RETAINING WALL SYSTEM

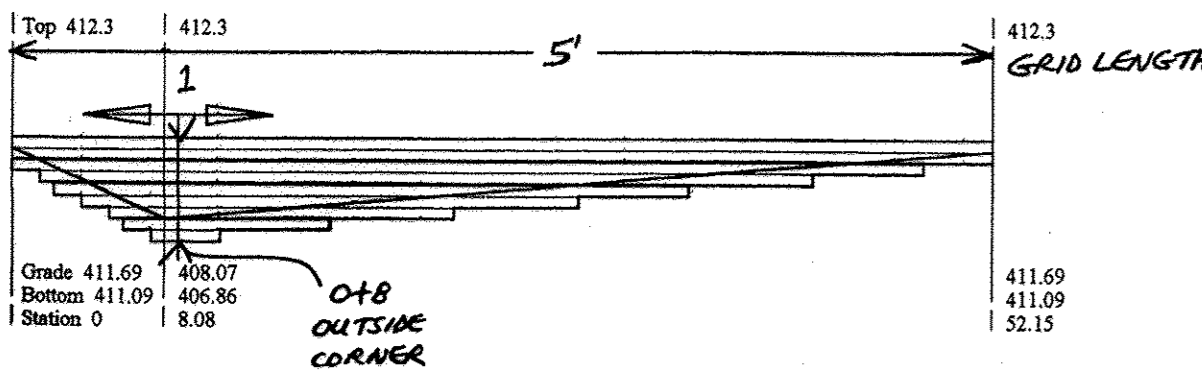
### Project Information

**Project Name:** BETHANY SQUARE- Phase II  
**Location:** Ellicott City, MD  
**Project Number:** DS201137  
**Wall Number:** 1 (W of proposed building)  
**Designer:** DKS  
**Date:** 6-9-00



**Allan Block Corp.**  
7400 Metro Blvd.  
Suite 185  
Edina, MN 55439  
Phone 612/835-3309  
Fax 612/835-9013  
http://www.allanblock.com

**Nitterhouse Masonry Prod**  
859 Cleveland Ave, PO Box 692  
Chambersburg, PA 17201  
717-267-4500  
717-264-7535 - fax



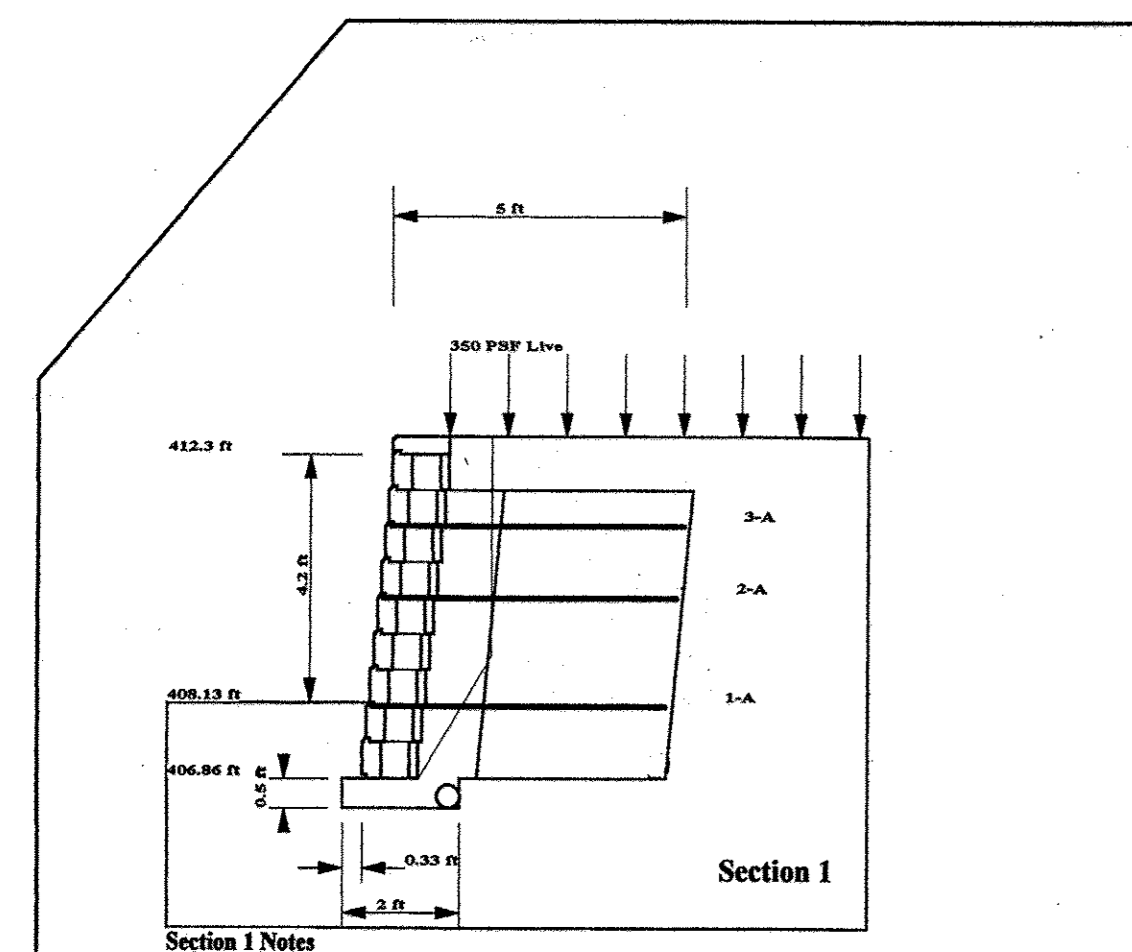
WALL #1

### SEE THE 8 1/2" X 11" PROJECT MANUAL FOR:

- INTERNAL AND EXTERNAL CALCULATIONS
- CROSS SECTIONS & DETAILS
- RYAN & ASSOCIATES SPECIFICATIONS
- ALLAN BLOCK SPECIFICATIONS

Section	1	2
Top	412.3	412.3
Grade	408.07	408.13
Bottom	406.96	406.96
Station	8.11	8.11

Allan Block Retaining Wall Elevation - 1 (W of proposed building)  
Horizontal Scale: 1" = 10'-0" Vertical Scale: 1" = 10'-0"



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**AB Classic**  
Total Wall Height = 5.44 Feet  
Block Height = 0.664 Feet  
Angle of Setback = 6 Deg.  
Depth of Block = 0.97 Feet  
Length of Block = 1.469 Feet

**Retained Soil**  
Friction Angle = 28 Deg.  
Unit Weight = 120 PCF

**Foundation Soil**  
Friction Angle = 28 Deg.  
Cohesion = 50 PSF  
Unit Weight = 120 PCF

**Bearing Capacity**  
Factor of Safety = 6.54

**Safety Factors Static**  
Actual Sliding = 1.941  
Actual Overturning = 4.742

**Safety Factors Seismic**  
Actual Sliding = N/A  
Actual Overturning = N/A

**Geogrid Layout**  
A-Minimum 3XT  
B-Minimum 3XT  
C-Minimum 3XT  
d-Geogrid Cap.  
Min. Length of Geogrid = 5 Feet

Ryan & Associates segmental retaining wall specifications and installation guidelines for Allan Block  
Page 1 of 6

### SPECIFICATION FOR SEGMENTAL RETAINING WALL SYSTEMS

#### PART 1: GENERAL

##### 1.01 Description

- A. Work includes furnishing and installing segmental retaining wall (SRW) units to the lines and grades designated on the construction drawings. Also included is furnishing and installing appurtenant materials required for construction of the retaining wall as shown on the construction drawings.

##### 1.02 Reference Standards

- A. Segmental Retaining Wall Units
1. ASTM C 140 - Sampling and Testing Concrete Masonry Units
- B. Geosynthetic Reinforcement
1. ASTM D 4595 - Tensile Properties of Geotextiles by the Wide-Width Strip Method.
  2. ASTM D 5262 - Test Method for Evaluating the Unconfined Creep Behavior of Geosynthetics
  3. GRI-GG1 - Single Rib Geogrid Tensile Strength
  4. GRI-GG5 - Geogrid Pullout
- C. Soils
1. ASTM D 698 - Moisture Density Relationship for Soils, Standard Method
  2. ASTM D 422 - Gradation of Soils
  3. ASTM 4318 - Atterberg Limits of Soil

##### D. Drainage Pipe

1. ASTM 3034 - Specification for Polyvinyl Chloride (PVC) Plastic Pipe
2. ASTM D1248 - Specification for Corrugated Plastic Pipe

- E. Where Allan Block specifications and reference documents conflict with these specifications, these specifications hold precedence.

#### PART 2: MATERIALS

##### 2.01 Segmental Retaining Wall Units

- A. SRW units shall be machine formed, Portland Cement concrete blocks specifically designed for retaining wall applications. SRW unit currently approved for this project is:

Allan Block Retaining Wall Units as manufactured by Nitterhouse Masonry Products.

- B. SRW units shall be capable of being erected with the horizontal gap between adjacent units not exceeding 1/8 inches.

- C. SRW units shall have a minimum 4" overlap of units on each successive course so that walls are interlocked and continuous.

Ryan & Associates segmental retaining wall specifications and installation guidelines for Allan Block  
Page 4 of 6

and proper installation of wall system.

- B. Contractor's field construction supervisor shall have demonstrated experience and be qualified to direct all work at the site.

##### 4.02 Excavation

- A. Contractor shall excavate to the lines and grades shown on the project plans. Contractor shall take precautions to minimize over-excavation. Over-excavation shall be filled with compacted infill material or as directed by the Geotechnical Engineer.
- B. Contractor shall verify location of existing structures and utilities prior to excavation. Contractor shall ensure all surrounding structures are protected from the effects of wall excavation. Excavation support (shoring), if required, is the responsibility of the Contractor.

##### 4.03 Foundation Preparation

- A. Following the excavation, the foundation soil shall be examined by the Owner's Geotechnical Engineer to assure actual foundation soil strength meets or exceeds the assumed design bearing strength. Soils not meeting the required strength shall be removed and replaced with select structural fill approved by the Owner's Geotechnical Engineer.
- B. Foundation soil shall be proofrolled and compacted to 95% standard Proctor density and inspected by the Owner's Geotechnical Engineer prior to placement of leveling pad materials.

##### 4.04 Leveling Pad Construction

- A. Leveling pad shall be placed as shown on the construction drawings with a minimum thickness of 6 inches. The leveling pad should at a minimum extend laterally at least a distance of 6 inches from the toe and heel of the lower most SRW Unit.
- B. Soil leveling pad material shall be compacted with a vibratory plate compactor to provide a firm, level-bearing surface on which to place the first course of units. Well-graded sand can be used to smooth the top 1/2 to 1/4 inch of the leveling pad. Compaction will be with mechanical plate compactors to achieve 95% of maximum standard Proctor density (ASTM D 698).

##### 4.05 SRW Unit Installation

- A. All SRW units shall be installed at the proper elevation and orientation as shown on the wall profiles and details on the construction plans. The SRW units shall be installed in general accordance with the manufacturer's recommendations. The design engineer of record (Ryan & Associates) specifications and drawings shall govern in any conflict between the two requirements.
- B. First course of SRW units shall be placed on the leveling pad. The units shall be leveled side-to-side, front-to-rear and with adjacent units, and aligned to ensure intimate contact with the leveling pad. The first course is the most important to ensure accurate and acceptable results. No gaps shall be left between the front of adjacent units. Alignment may be done by means of a string line or offset from base line to the back of the units.
- C. Clean all excess debris from top of units and install next course.
- D. Lay out of curves and corners shall be installed in accordance with the plan details or in general

Ryan & Associates segmental retaining wall specifications and installation guidelines for Allan Block  
Page 2 of 6

##### D. SRW units shall be sound and free of cracks or other defects that would interfere with the proper placing of the unit or significantly impact the strength or permanence of the structure. Cracking or excessive chipping may be grounds for rejection. Units showing cracks longer than 1/2" shall not be used within the wall. Units showing chips visible at a distance of 30 feet from the wall shall not be used within the wall.

##### E. Concrete used to manufacture SRW units shall have a minimum 28 days compressive strength of 3,000 psi and a maximum moisture absorption rate, by weight, of 8% as determined in accordance with ASTM C 140. Compressive strength test specimens shall conform to the saw-cut coupon provisions of Section 5.2.4 of ASTM C140 with the following exception: Coupon shall be taken from the least dimension of the unit of a size and shape representing the geometry of the unit as a whole.

##### F. SRW units' molded dimensions shall not differ more than $\pm 1/8$ inch from that specified, except height which shall be $\pm 1/16$ inch as measured in accordance with ASTM C140.

##### 2.02 Geosynthetic Reinforcement

- A. Geosynthetic reinforcement shall consist of geogrids or geotextiles as indicated on the design plans. No grid substitutions shall be permitted without approval of Ryan & Associates.

##### 2.03 Leveling Pad

- A. Material for leveling pad shall consist of compacted sand, gravel, or combination thereof and shall be a minimum of 6 inches in depth. Lean concrete with strength of 200-300 psi and three inches thick maximum may also be used as a leveling pad material. The leveling pad should extend laterally at least a distance of 6 inches from the toe and heel of the lowermost SRW unit. Install geosynthetic grid in level pads as directed in the design plans.

##### 2.04 Drainage Aggregate

- A. Drainage aggregate shall be angular, clean stone or granular fill meeting the following gradation as determined in accordance with ASTM D422

Sieve Size	Percent Passing
1 inch	100
3/4 inch	75-100
No. 4	0-60
No. 40	0-50
No. 200	0-5

##### 2.05 Drainage Pipes

- A. The drainage collection pipe shall be a 4" perforated or slotted PVC, or corrugated HDPE pipe. The drainage pipe may be wrapped with a geotextile to function as a filter.
- B. Drainage pipe shall be manufactured in accordance with ASTM D 3034 and/or ASTM D 1248
- C. A drain pipe to daylight is mandatory on all walls 4' exposed height or taller.

##### 2.06 Reinforced (Infill) Soil

Ryan & Associates segmental retaining wall specifications and installation guidelines for Allan Block  
Page 5 of 6

accordance with SRW manufacturer's installation guidelines. Walls shall be interlocked by overlapping successive courses.

- E. Repeat procedures to extent of wall height.

- F. The wall face cant shall not differ more than  $\pm 2$  degrees from that specified.

##### 4.06 Geosynthetic Reinforcement Placement

- A. All geosynthetic reinforcement shall be installed at the proper elevation and orientation as shown on the wall profiles and details on the final construction plans. Partial grid coverage is not acceptable- no gaps shall be present between grid sections.
- B. At the elevations shown on the plans, the geosynthetic reinforcement shall be laid horizontally on compacted infill and on top of the concrete SRW units. Embedment of the geosynthetic in the SRW units shall be consistent with SRW manufacturer's recommendations. Correct orientation of the geosynthetic reinforcement shall be verified by the Contractor to be in accordance with the geosynthetic manufacturer's recommendations. The highest strength direction of the geosynthetic must be perpendicular to the wall face.
- C. Geosynthetic reinforcement layers shall be one continuous piece for their entire embedment length. Overlap of the geosynthetic in the design strength direction (perpendicular to the wall face) is not permitted.
- D. Tracked construction equipment shall not be operated directly on the geosynthetic reinforcement. A minimum of 6 inches of backfill is required prior to operation of tracked vehicles over the geosynthetic. Turning should be kept to a minimum. Rubber-tired equipment may pass over the geosynthetic reinforcement at slow speeds (less than 5 mph).
- E. The geosynthetic reinforcement shall be in tension and free of wrinkles prior to placement of soil fill. The nominal tension shall be applied to the reinforcement and secured in place with staples, stakes or by hand tensioning until reinforcement is covered by six inches of fill.

##### 4.07 Drainage Materials

- A. Drainage aggregate shall be installed to the line, grades, and sections shown on the final plans. Drainage fill shall be placed to the minimum thickness shown on the construction plans between and behind units.
- B. Drainage collection pipes shall be installed to maintain gravity flow of water outside the reinforced soil zone. The drainage collection pipe shall daylight into a storm sewer manhole or along a slope at an elevation lower than the lowest point of the pipe within the aggregate drain.

##### 4.08 Backfill Placement

- A. The reinforced backfill shall be placed as shown in the construction plans in the maximum compacted lift thickness of 10 inches and shall be compacted to a minimum of 95% of standard Proctor density (ASTM D 698) at a moisture content within 2% of optimum. The backfill shall be placed and spread in such a manner as to eliminate wrinkles or movement of the geosynthetic reinforcement and the SRW units. Compaction testing shall be done at 25%, 50%, 75%, and 100% of the wall height or as specified by the site geotechnical engineer.

Ryan & Associates segmental retaining wall specifications and installation guidelines for Allan Block  
Page 3 of 6

- A. The reinforced soil material shall be free of debris. Unless otherwise noted on the plans, the reinforced material shall consist of the inorganic USCS soil types GP, GM, GC, SW, SP, SM, SC meeting the following gradation, as determined in accordance with ASTM D422.

Sieve Size	Percent Passing
4 inch	100
No. 4	20-100
No. 40	0-60
No. 200	0-35

- B. The maximum particle size of poorly graded gravels (GP) (no fines) should not exceed 3/4 inch unless geosynthetic strength is reduced to account for additional installation damage from particles larger than this maximum.
- C. The plasticity index of the fine fraction shall be less than 20, with the liquid limit less than 50.

#### PART 3: DESIGN PARAMETERS

##### 3.01 Soil

- A. Should the actual soil conditions observed during construction differ from those used for the design (as indicated on the plans), the site geotechnical engineer and the design engineer (Ryan & Associates) must be notified.

##### 3.02 Design

- A. Scope: The retaining wall design engineer (Ryan & Associates) scope consists of: reviewing the design provided by the block manufacturer or the Allan Block Corporation, or preparing the entire wall design themselves and professionally sealing to enable the contractor to obtain the necessary permits. The design considers the internal and local stability of the reinforced soil mass and shall be in accordance with acceptable engineering practice and these specifications. Services outside this scope such as responding to the owners engineering firm (civil, structural, geotechnical or otherwise), provision of quality control testing & inspection, investigation of failed or non-conforming walls or any other services may be provided time & materials or for a negotiated fee.
- B. For constructability considerations, maximum vertical spacing between geogrid layers shall be three courses on 3 and 6 degree walls and four courses on 12 degree walls.
- C. Stormwater Management: The segmental retaining wall is not a stormwater management structure. Therefore, it is absolutely essential that surface water be prevented from entering the reinforced zone. This is usually accomplished by the site engineer (owner's civil engineer) grading the surface behind the wall to direct surface water to swales that issue the water around the wall ends, to inlets or over the top of the wall through culverts. If water is directed to the wall, the top six inches of compacted fill over the reinforced zone must have impermeable soil such as GC, SC, CL or an underlying geomembrane (geosynthetic liner).

#### PART 4: CONSTRUCTION

##### 4.01 Inspection

- A. The Owner or Owner's Representative is responsible for verifying that the contractor meets all the requirements of the specification. This includes all submittals for materials and design, qualifications,

Ryan & Associates segmental retaining wall specifications and installation guidelines for Allan Block  
Page 6 of 6

- B. Only a vibratory plate or small-scale vibratory smooth drum compactor equipment shall be allowed within 3 feet of the front of the wall face. Compaction within the 3 feet behind the wall face shall be achieved by at least three (3) passes of the lightweight mechanical plate compactor or roller.

- C. At the end of each day's operation, the Contractor shall slope the last level of backfill away from the wall facing to direct water runoff away from the wall face.

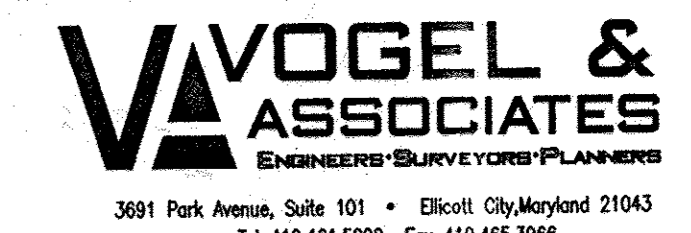
- D. At completion of wall construction, backfill shall be placed level with final top of wall elevation. If final grading, paving, landscaping, and/or storm drainage installation adjacent to the wall is not placed immediately after wall completion, temporary surface drainage shall be provided to ensure water runoff is not directed at the wall nor allowed to collect or pond behind the wall until final construction adjacent to the wall is completed.

NO.	REVISION	DATE

## RETAINING WALL BETHANY SQUARE PHASE II

TAX MAP #24 BLOCK #2 2ND ELECTION DISTRICT

PARCEL B  
HOWARD COUNTY, MARYLAND



3691 Park Avenue, Suite 101 • Ellicott City, Maryland 21043  
Tel 410.481.5828 Fax 410.465.3966

DESIGN BY: DKS  
DRAWN BY: DKS  
CHECKED BY: WKR  
DATE: July 8, 2000  
SCALE: AS SHOWN  
W.O. NO.: 00-009

8 SHEET OF 14

WILLIAM K. RYAN, PE No. 21588

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

WILLIAM K. RYAN, PE  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 12/15/00

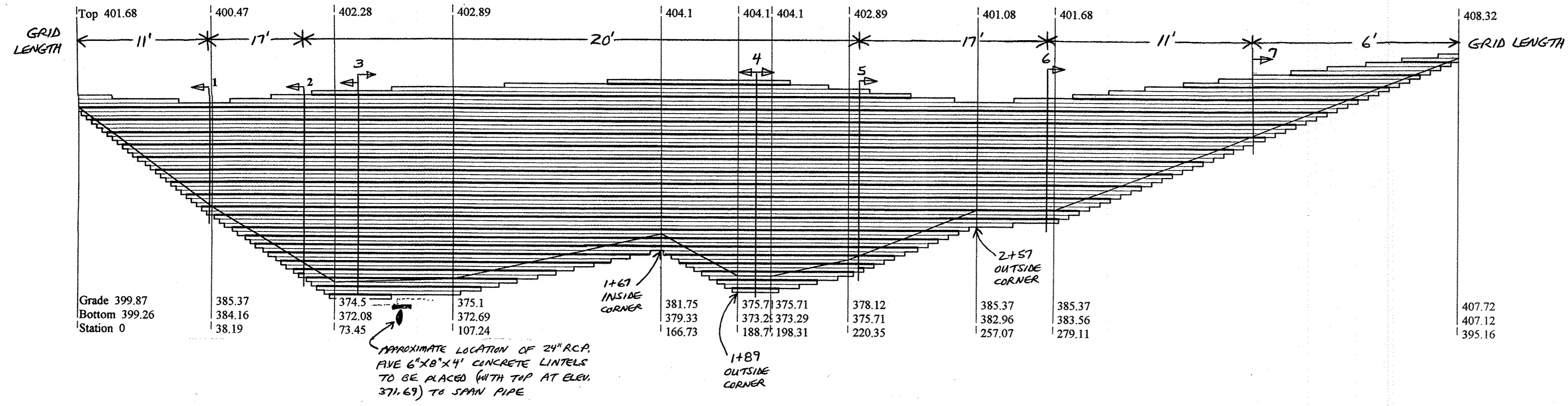
CINDY HAMILTON  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 12/20/00

JAMES A. SMITH  
DIRECTOR  
DATE: 12/20/00

#### OWNER/DEVELOPER

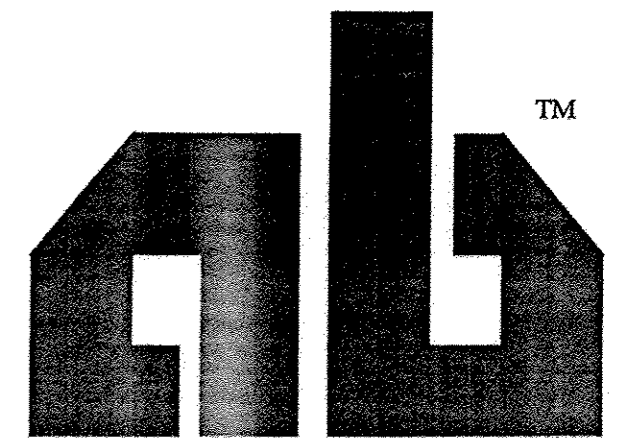
Conly Corporation  
Sergio Ade (President)  
4606 Prospect Avenue  
Glyndon, MD 21071  
410.833.1923





WALL #2

**Allan Block Retaining Wall Elevation - 2 (large wall N end of site)**  
 Horizontal Scale: 1" = 20'-0" Vertical Scale: 1" = 10'-0"



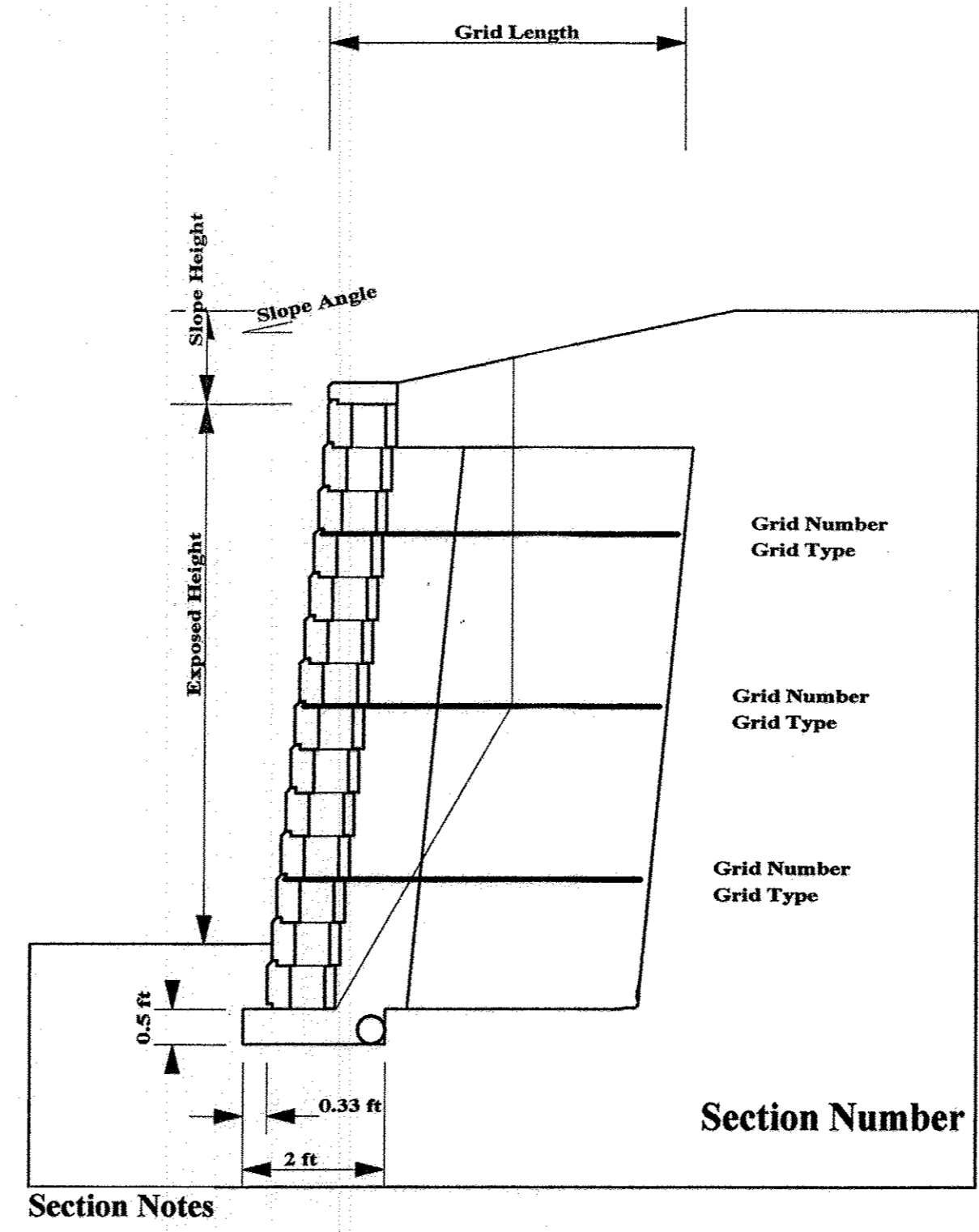
**Allan Block Corp.**  
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- SEE THE 8 1/2" X 11" PROJECT MANUAL FOR:**
- INTERNAL AND EXTERNAL CALCULATIONS
  - CROSS SECTIONS & DETAILS
  - RYAN & ASSOCIATES SPECIFICATIONS
  - ALLAN BLOCK SPECIFICATIONS

**General Notes**

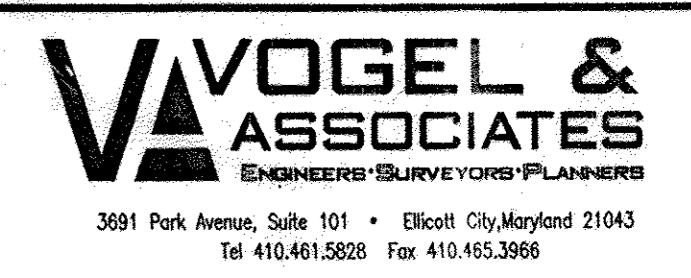
- Retaining wall units and installation shall conform to the Allan Block Modular Retaining Wall Systems Specification Guidelines or Geogrid Reinforcement Systems Specification Guidelines as published in the Allan Block Design Manual, ABENG.M5-98.
  - Soil compaction tests shall be taken at 25%, 50%, 75%, and 100% of the wall height or as specified by the site geo-technical engineer. Bearing capacity of the footer shall be verified prior to the installation of the stone base. The minimum bearing capacity allowed for this project is 2,500 PSF. The beginning of the wall (up to section 1) and the end of the wall (beyond section 7) can utilize a conventional 6" X 24" footer. The area between section 1 and section 8 must have an enlarged footer as detailed by cross sections 2-6. If the bearing capacity as tested by the geo-technical engineer always exceeds 4,200 PSF, a standard footer can be used on the entire project. (The highest bearing pressure exerted on this wall is 4,100 PSF on section 4.)
  - The geo-grids used in this design are Mirafi 3XT which has a LTDS of 1328, Mirafi 5XT which has a LTDS of 1702, and Mirafi 7XT which has a LTDS of 2180. Ryan & Associates shall be notified before any substitutions are made in the field.
  - Based on the geo-technical report done by Herbst/ Benson & Associates, an internal angle of friction of 28 was used for the site soil on this project. No CH (fat clay), MH (fat silt), or OH (organic) soils shall be used within the impact area of the wall (an area defined as the reinforced geo-grid zone and extending to twice the wall height behind the wall). If these unsuitable soils are encountered, they shall be removed and replaced with soils meeting or exceeding a friction angle of 28. The on site geo-technical engineer shall verify this during the construction process.
  - This design accounts for a live load surcharge of 250 PSF for the proposed parking area above the wall.
  - Any proposed guard rails subject to vehicle impact or fences subject to wind loading (solid or semi-solid) must be kept back a minimum of 3' from the rear of the wall to avoid loading of the wall. If car stops or curbing prevent vehicular impact, guard rails may be installed closer than the 3' minimum. Open rails (such as pipe, wrought iron, treated lumber, etc.) subject only to pedestrian loading may be placed directly behind the wall. The preferred method of installation is to place concrete form tubes within the wall during construction and grout in the posts later. If the posts are installed after the wall construction is complete, the post holes must be carefully hand dug and the grid hand cut to allow insertion and grouting. Augering and pile driving is prohibited.
  - Any proposed light poles must be kept back a minimum of 3' from the rear of the wall to prevent loading of the wall. If these poles are closer than 3', a structural analysis must be done and a device designed to transfer the wind loads to the soil. This service is available from Ryan & Associates for an additional cost.
  - Storm water structures are present within the grid reinforced zone of this wall. See the special notes regarding these structures in the 8 1/2" X 11" project manual for this project.
- Surface Drainage Notes**
- If water is encountered in the area of the wall during excavation or construction, a drainage system (chimney, composite or blanket) must be installed as directed by the geotechnical or site engineer.
  - A 4" perforated drain tile must be installed in this wall and vented to daylight at the end(s) of the wall or at the central low point of the wall. If this is not possible, vent through the wall, above finished grade, at maximum of 40' intervals. This pipe must have positive flow of at least .5%.
  - At the end of each day's construction and at final completion, grade the backfill to avoid water accumulation behind wall or in the reinforced zone.
  - Surface water must not be allowed to pond or be trapped in the area above the wall or at the toe of the wall.
  - Establish final grade with a positive gradient away from the wall structure. Concentrations of surface water runoff should be managed by providing necessary structures, such as paved ditches, drainage swales, catchbasins, etc.
  - All roof eaves should be guttered, with the outlets from the downspouts provided with adequate capacity to carry storm water from the structure to reduce the possibility of soil saturation and erosion. The connection should be in a closed conduit, which discharges at an approved location away from the wall structure.
  - Cut and fill slopes shall be constructed so that surface water will not be allowed to drain over the top of the slope face and or wall. This may require berms along the top of fill slopes and surface drainage ditches above cut slopes.
  - Irrigation activities at the site should be done in a controlled and reasonable manner.
  - The consulting geotechnical or site engineer for the project must address any design drainage features or site features, discovered during excavation.
  - Contain sources of concentrated water flow such as roof scuppers, drainage swales, parking lots, etc...and route around wall.



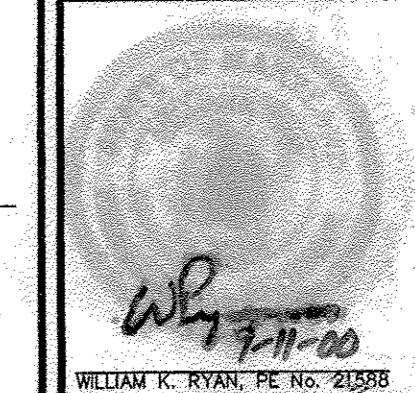
**Allan Block Retaining Wall Typical Section**

NO.	REVISION	DATE

RETAINING WALL  
 BETHANY SQUARE  
 PHASE II  
 TAX MAP #24 BLOCK #2 PARCEL B  
 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND



**VOGEL & ASSOCIATES**  
 ENGINEERS/SURVEYORS/PLANNERS  
 3691 Park Avenue, Suite 101 • Ellicott City, Maryland 21043  
 Tel 410.461.5828 Fax 410.465.3966



DESIGN BY: DKS  
 DRAWN BY: DKS  
 CHECKED BY: WKR  
 DATE: July 6, 2000  
 SCALE: AS SHOWN  
 W.O. NO.: 00-009

9 SHEET OF 14

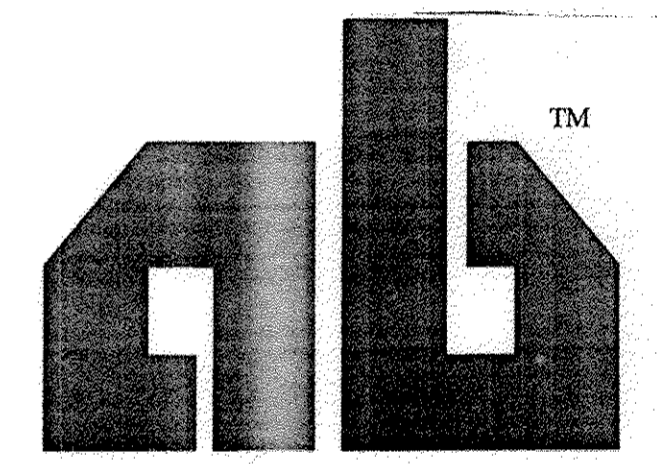
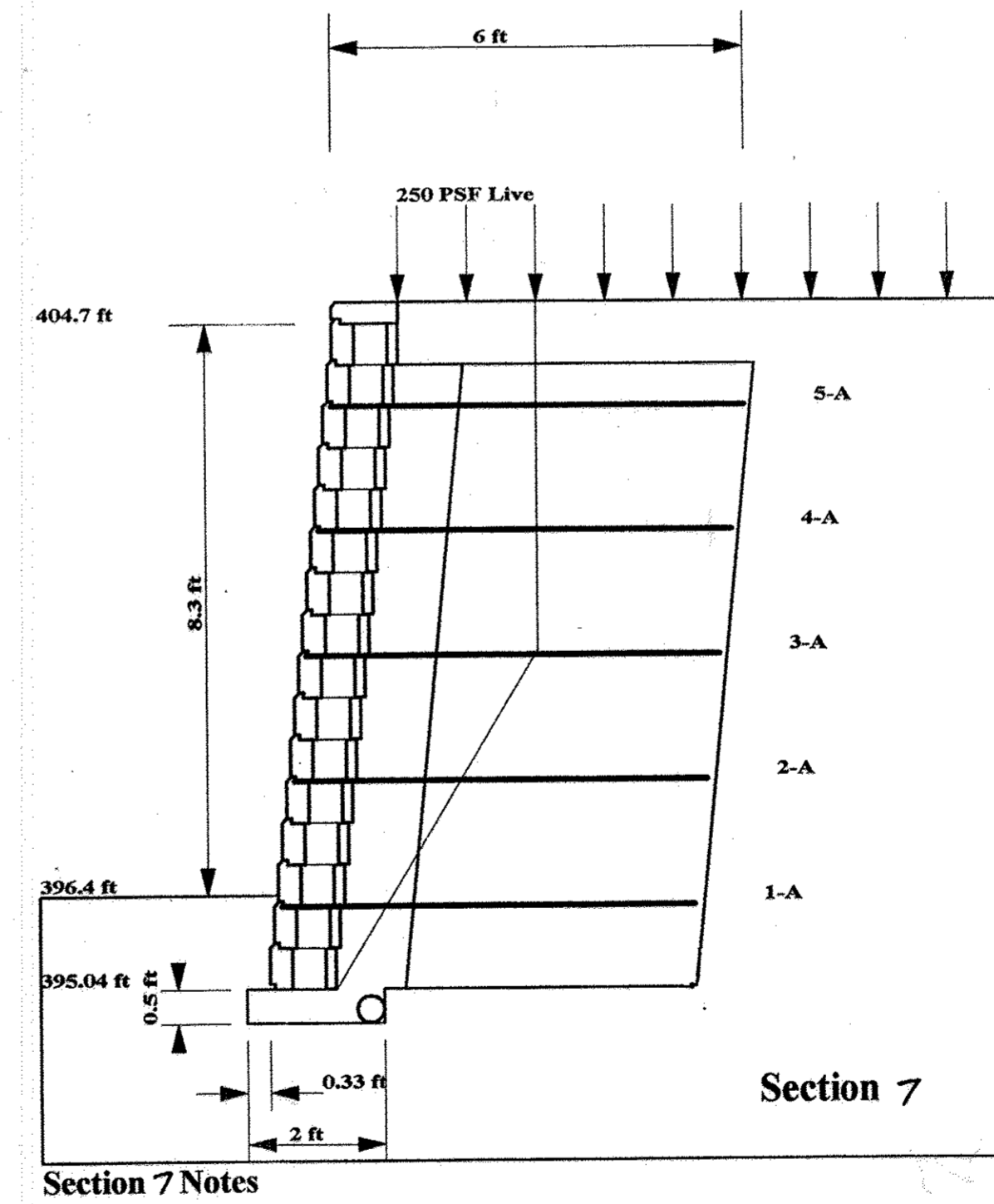
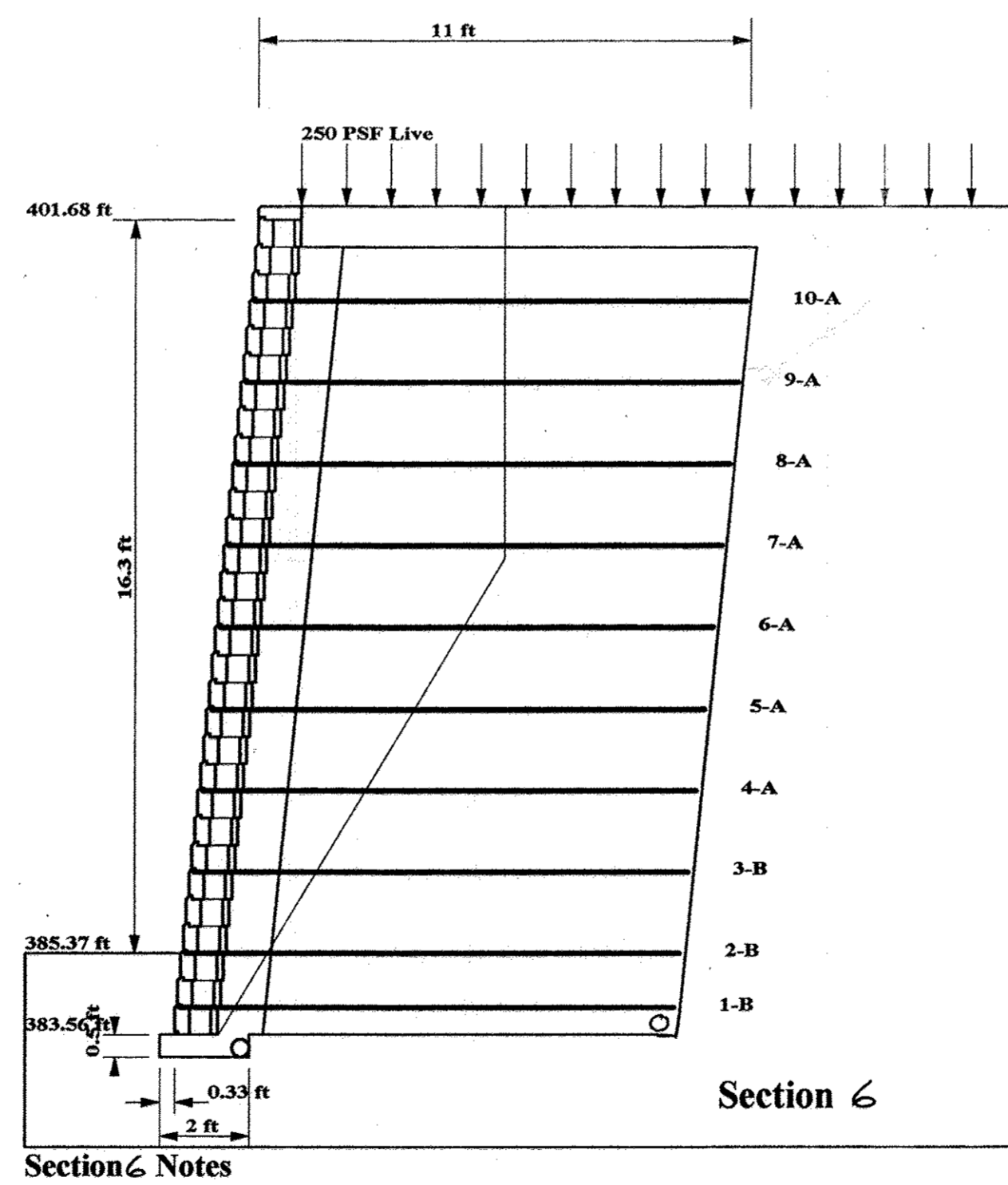
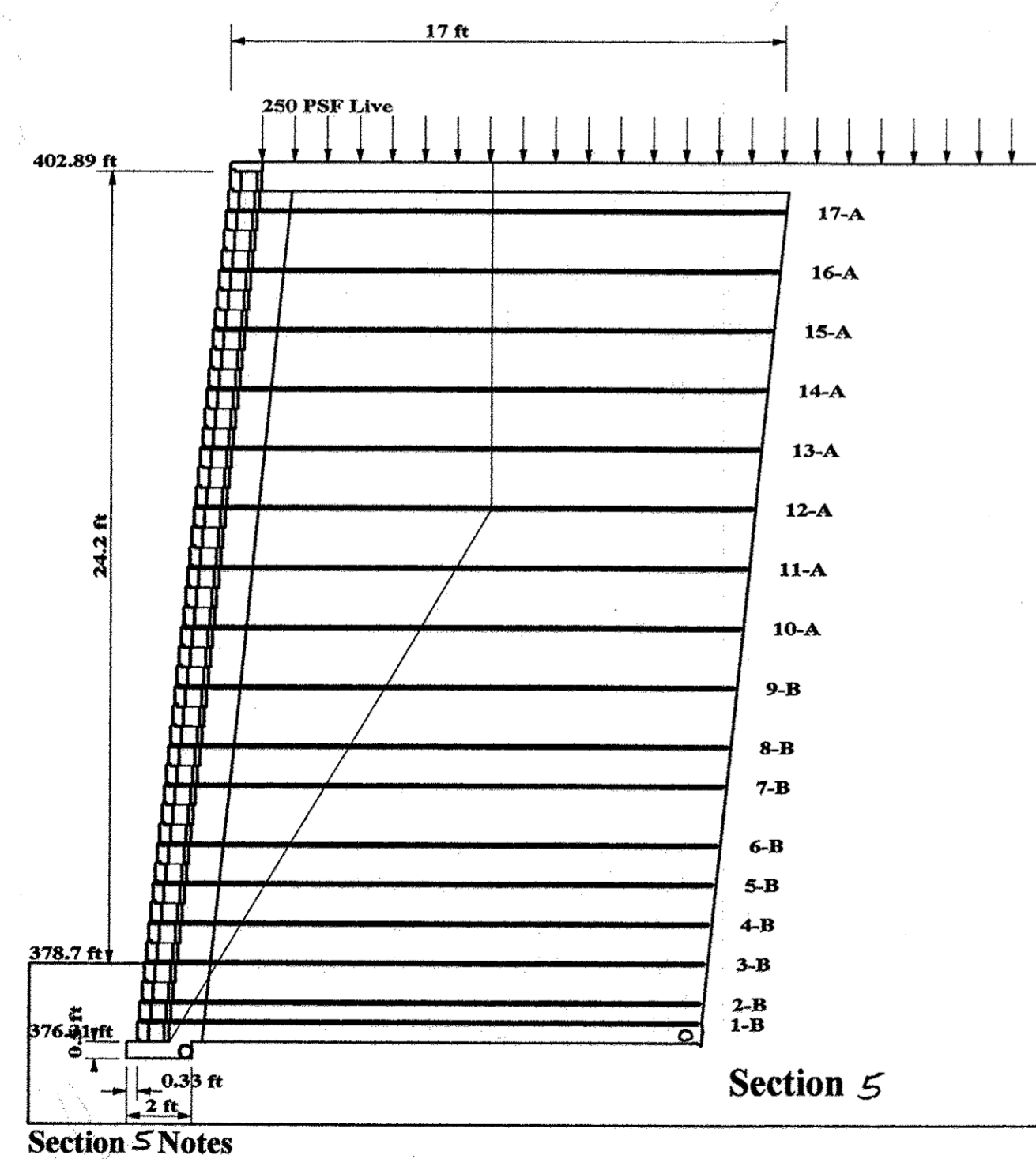
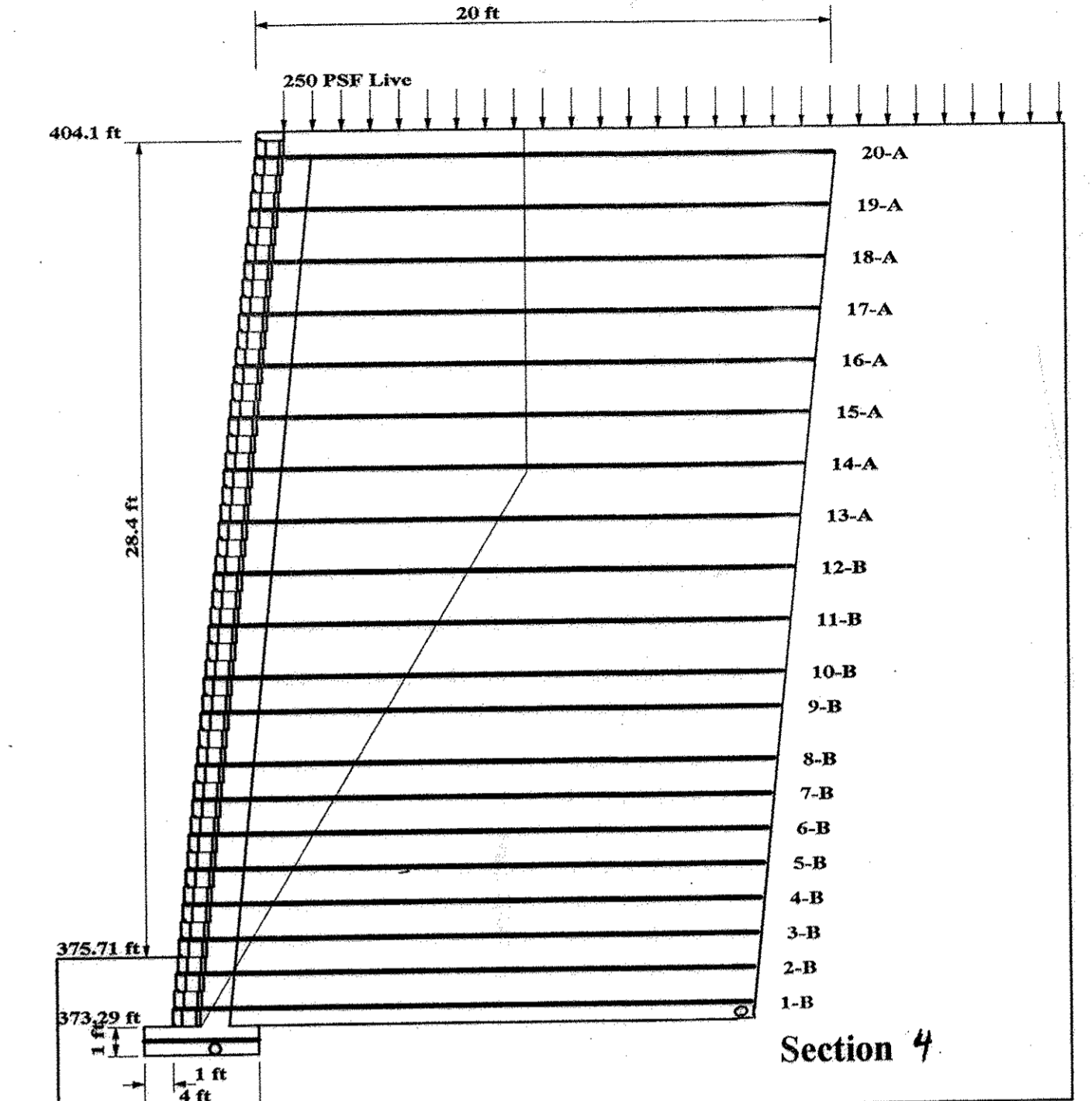
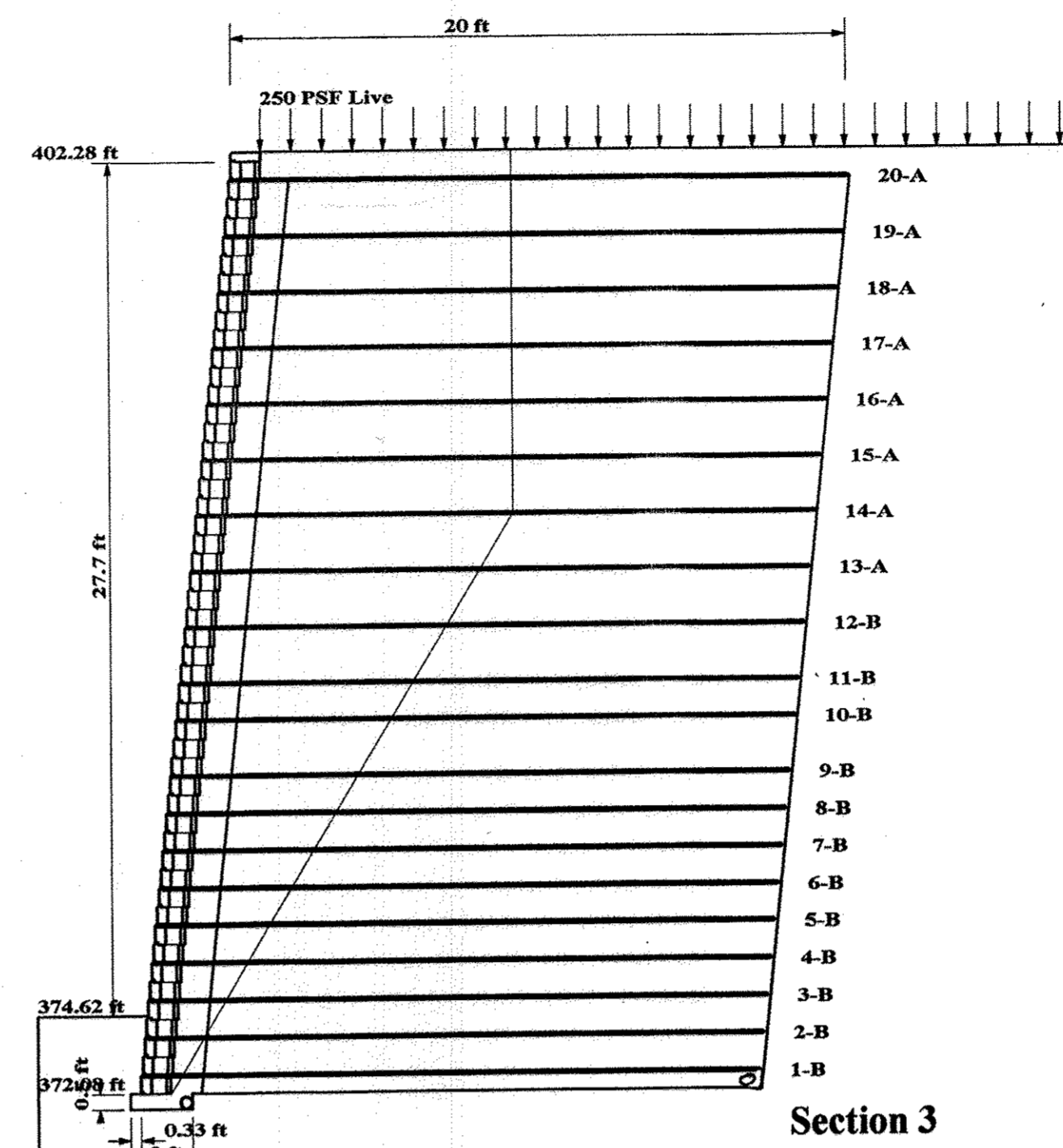
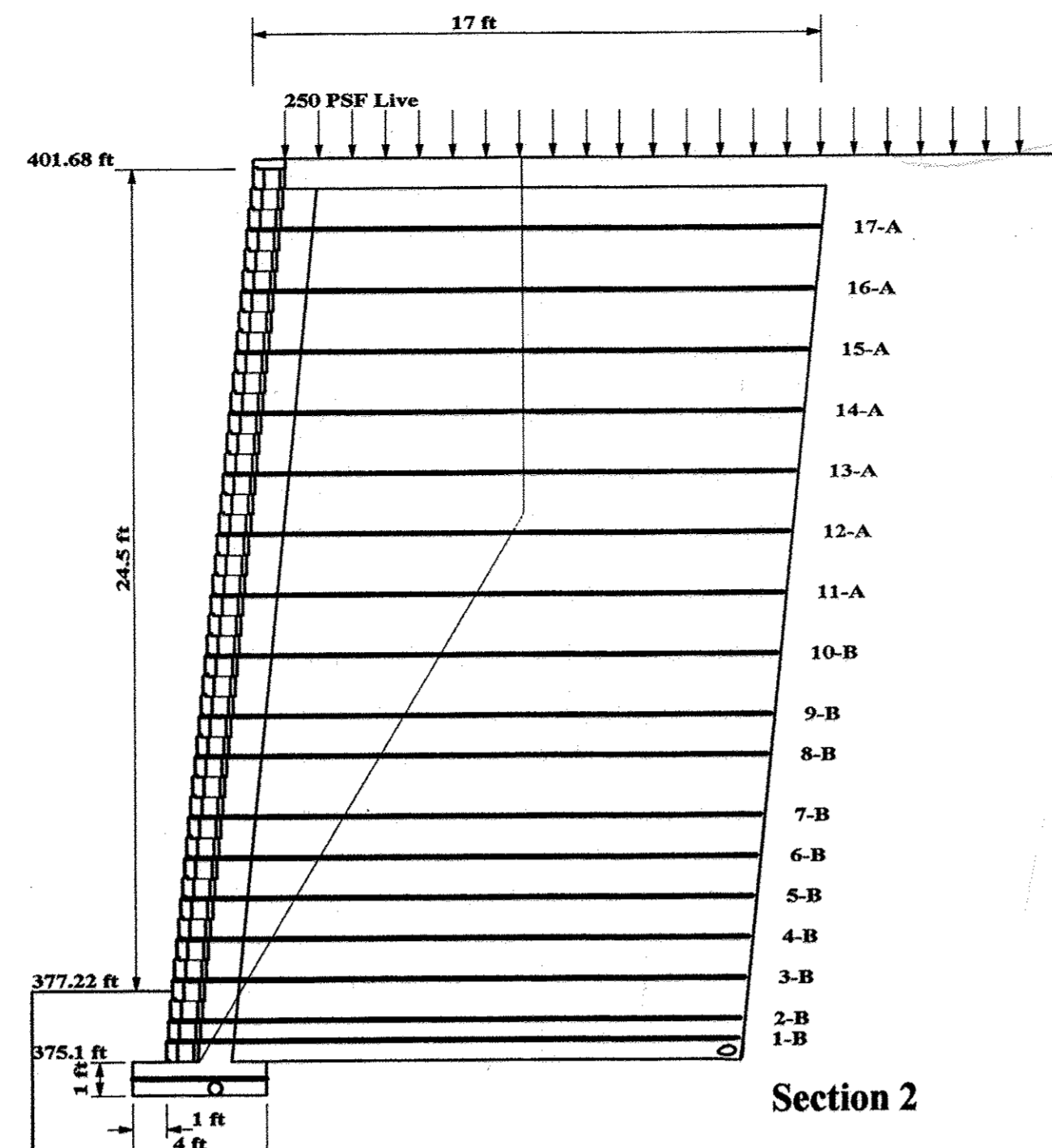
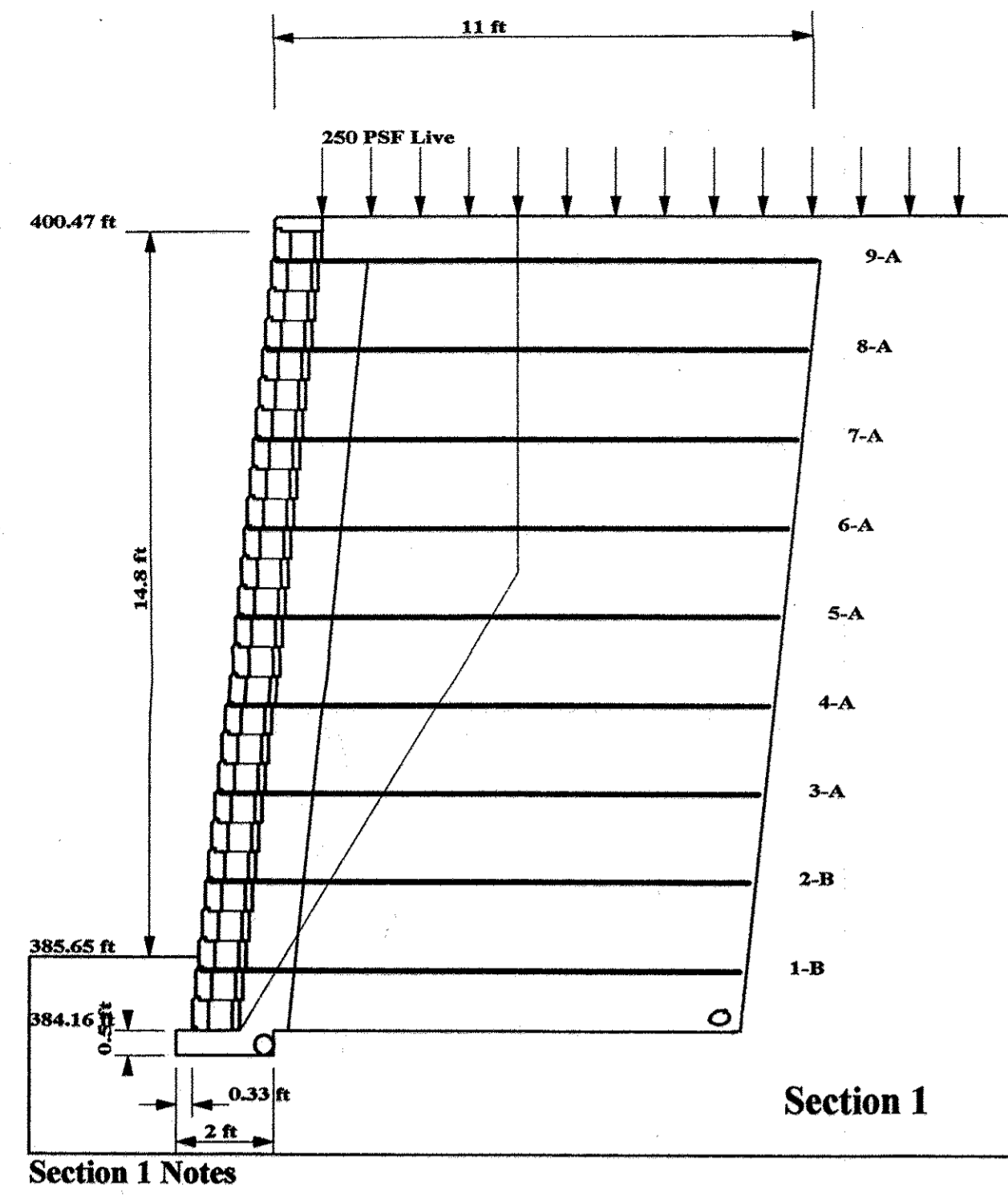
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Michael Dammann* 12/15/00  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

*Candy Kimmiche* 12/20/00  
 CHIEF, DIVISION OF LAND DEVELOPMENT

*Joseph R. Hutter* 12/20/00  
 DIRECTOR

OWNER/DEVELOPER  
 Conily Corporation  
 Sergio Acle (President)  
 4606 Prospect Avenue  
 Glyndon, MD 21071  
 410.833.1923

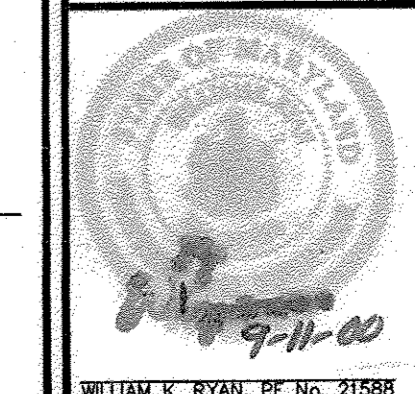


**Allan Block Corp.**  
7400 Metro Blvd.  
Suite 185  
Edina, MN 55439  
Phone 612/835-5309  
Fax 612/835-0013  
**Nitterhouse Masonry Products**  
859 Cleveland Ave, PO Box 692  
Chambersburg, PA 17201  
717-267-4500  
717-264-7535 - fax

NO.	REVISION	DATE

**RETAINING WALL**  
**BETHANY SQUARE**  
PHASE II  
TAX MAP #24 BLOCK #2 PARCEL B  
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**VOGEL & ASSOCIATES**  
ENGINEERS SURVEYORS PLANNERS  
3691 Park Avenue, Suite 101 • Ellicott City, Maryland 21043  
Tel 410.461.5828 Fax 410.465.3966



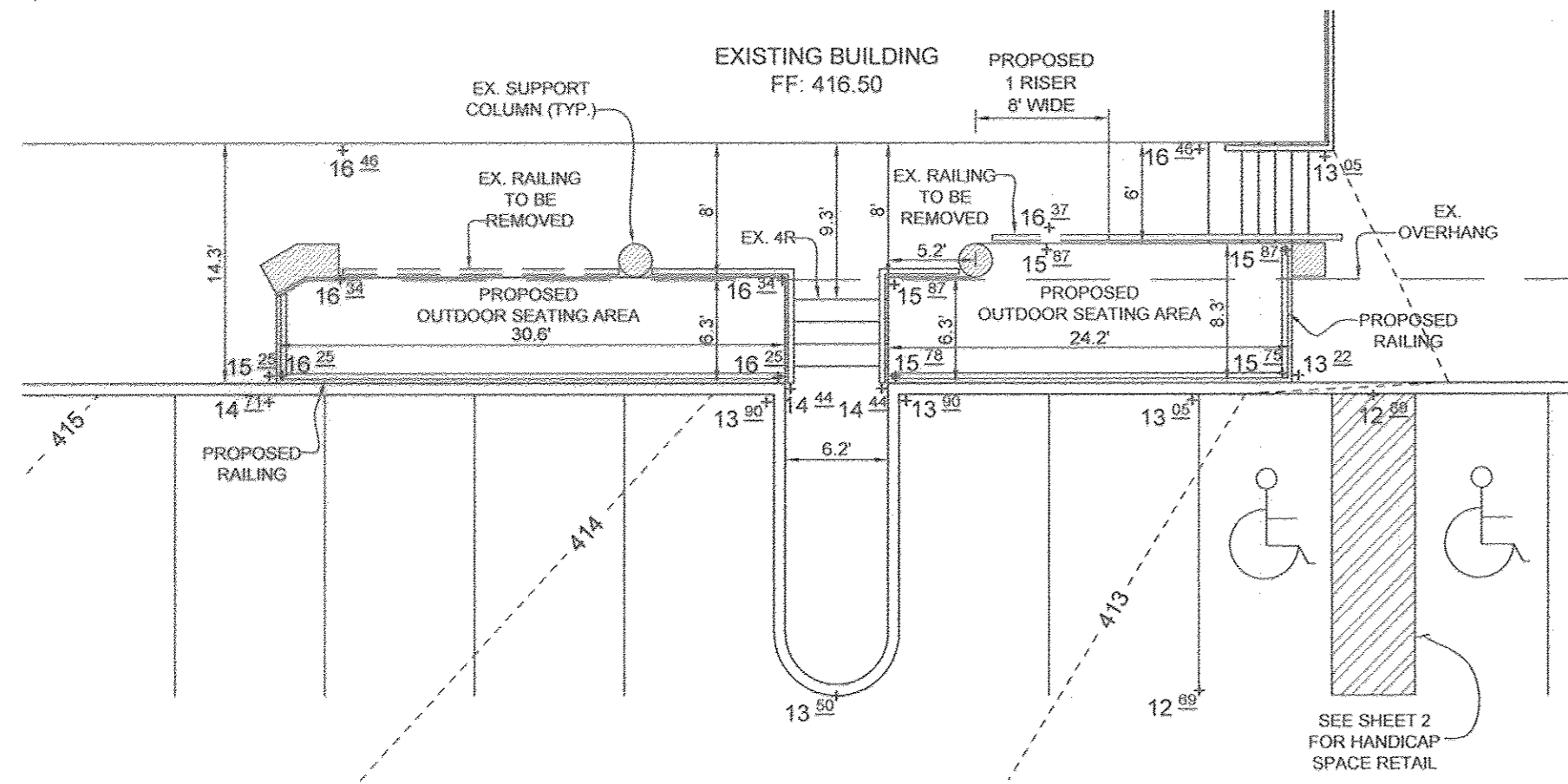
DESIGN BY: DKS  
DRAWN BY: DKS  
CHECKED BY: MKR  
DATE: July 6, 2000  
SCALE: AS SHOWN  
W.O. NO.: 00-009

10 SHEET OF 14

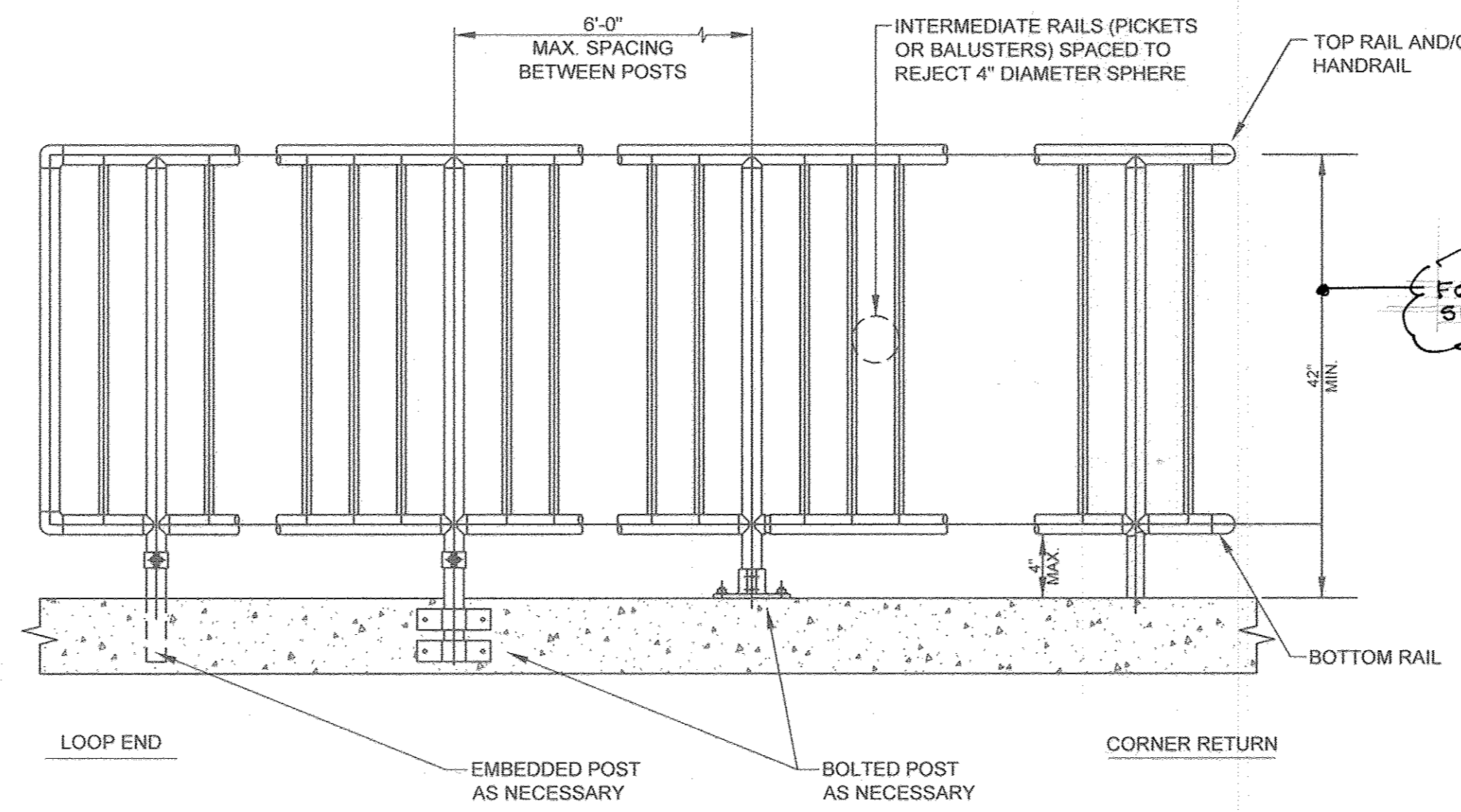
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 12/15/00  
  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE 12/20/00  
  
 DIRECTOR DATE 12/20/00

SEE THE 8 1/2" X 11" PROJECT MANUAL FOR:  
 • INTERNAL AND EXTERNAL CALCULATIONS  
 • CROSS SECTIONS & DETAILS  
 • RYAN & ASSOCIATES SPECIFICATIONS  
 • ALLAN BLOCK SPECIFICATIONS

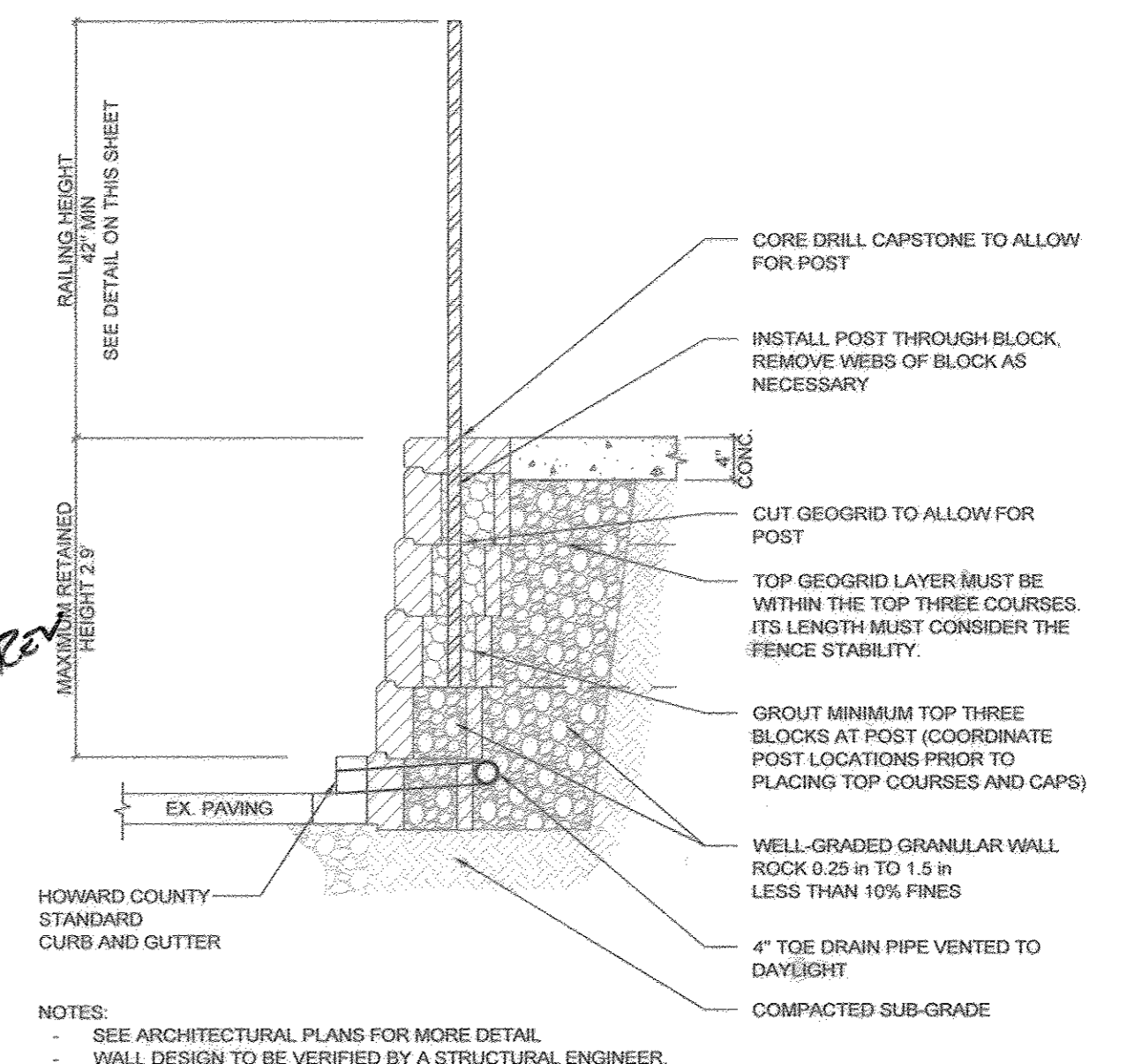
OWNER/DEVELOPER  
 Conity Corporation  
 Sergio Acle (President)  
 4606 Prospect Avenue  
 Glyndon, MD 21071  
 410.833.1923



**OUTDOOR SEATING AREA**  
SCALE: 1"=10'



**TYPICAL RAILING**  
FOR FURTHER INFORMATION SEE AMERICAN RAILING SYSTEMS, INC.  
(WWW.AMERICANRAILING.COM/CAD\_DETAILS.HTM)  
NOT TO SCALE



**TYPICAL RETAINING WALL SECTION**  
ALLAN BLOCK CORPORATION OR EQUIVALENT  
WWW.ALLANBLOCK.COM  
NOT TO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Chad Edman* 12-2-16  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Kevin Deane* 12-6-16  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

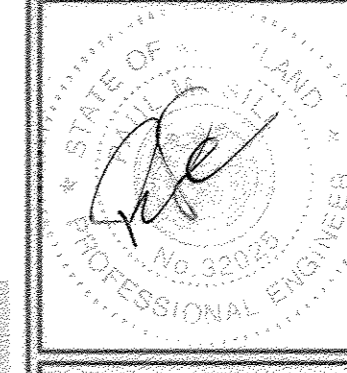
*Walter J. J. J.* 12-6-16  
DIRECTOR DATE

**OWNER/DEVELOPER**

CONILY CORPORATION  
SERGIO ACLE (PRESIDENT)  
10132 BALTIMORE NATIONAL PIKE  
ELLICOTT CITY, MD 21042  
410-461-4400

**MISCELLANEOUS DETAILS  
BETHANY SQUARE  
PHASE II**

TAX MAP #24 BLOCK #2 P.395 PARCEL B  
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND



**SILL ENGINEERING GROUP, LLC**

3300 North Ridge Road, Suite 160  
Ellicott City, Maryland 21043  
Phone: 443.325.7682  
Fax: 443.325.7685  
Email: info@sillengineering.com  
Civil Engineering for Land Development

DESIGN BY: PS  
DRAWN BY: RA  
CHECKED BY: PS  
SCALE: AS SHOWN  
DATE: NOVEMBER 22, 2016  
PROJECT #: 16-048  
SHEET #: 11 of 14

THE PURPOSE OF THIS REVISED SITE DEVELOPMENT PLAN IS TO PROVIDE A DETAIL FOR AN OUTDOOR SEATING AREA AND ASSOCIATED DETAILS.

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. 52025, EXPIRATION DATE: JUNE 20, 2019.

**GENERAL NOTES**

- REFER TO DRAWING NO. 12 FOR STRUCTURAL NOTES, SPECIFICATIONS, ABBREVIATIONS AND SYMBOLS.

**TAI**  
 Engineers · Managers · Technical Services  
 600 Red Brook Blvd., Suite 300  
 Owings Mills, MD 21117  
 T. 410 356 3108  
 F. 410 356 3109

KEY PLAN

**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. 34723      EXPIRATION: 07/05/2017

REV.	DESCRIPTION	DATE

REV.	DESCRIPTION	DATE
1	I.F.C. - COUNTY COMMENTS	05/24/17
0	ISSUED FOR CONSTRUCTION	04/14/17
A	ISSUED FOR REVIEW	04/13/17

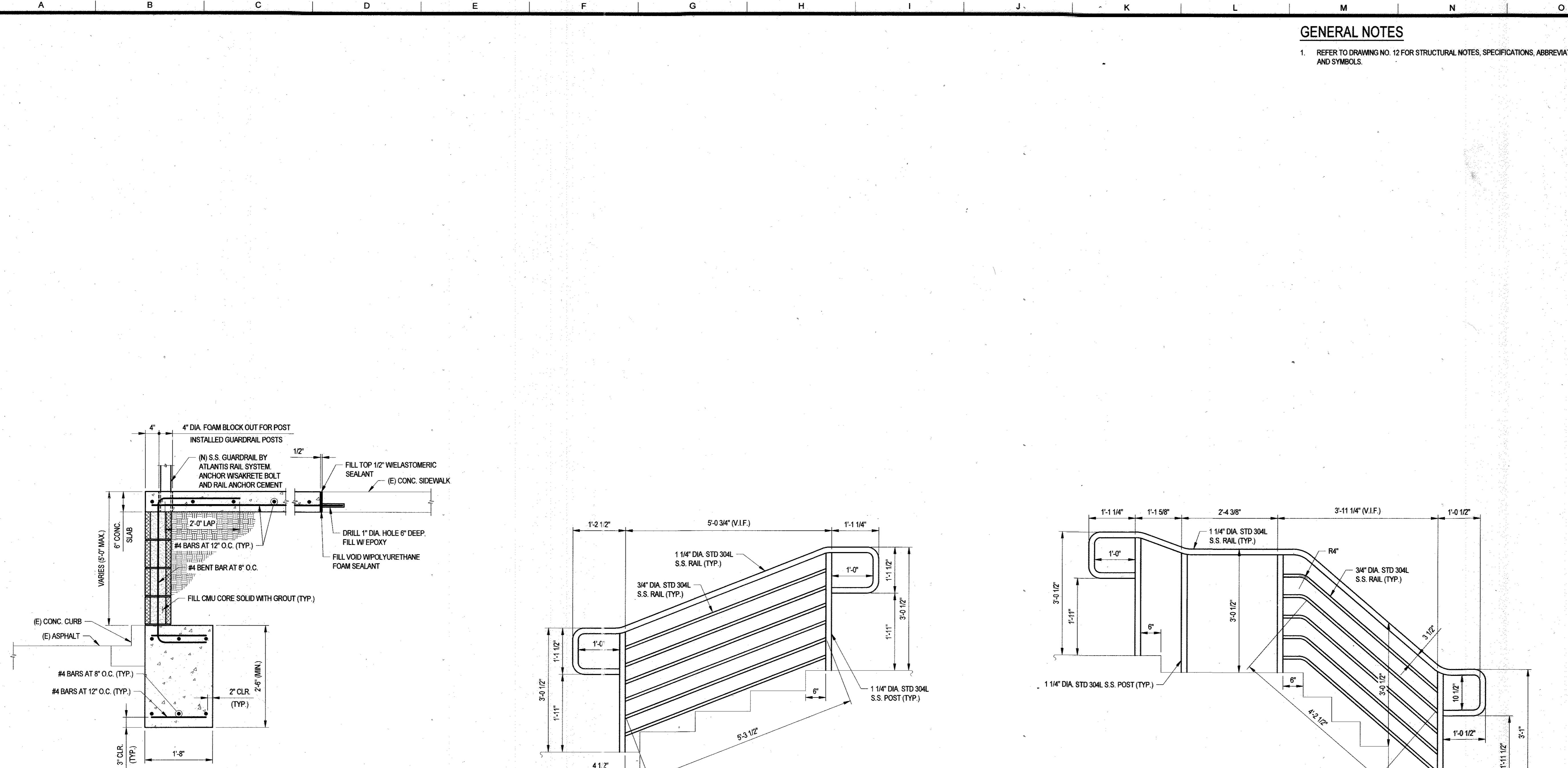
PROJECT TITLE  
**BETHANY SQUARE  
 RETAINING WALL**  
 10132 BALTIMORE PIKE, ELLICOTT CITY, MARYLAND 21042

SHEET TITLE  
**STRUCTURAL**

**SECTION AND DETAILS**

SCALE: AS SHOWN      SHEET SIZE: 24" x 36"  
 DRAWN BY: BGR      CLIENT REF.: N/A  
 ENGINEER: TCK      PROJECT NO.: 17-0549

SHEET NUMBER  
**SHEET 14 OF 14**



**SECTION A-A**  
 SCALE: 3/4"=1'-0"

**STAIR 1 HANDRAIL DETAIL**  
 SCALE: 3/4"=1'-0"

**STAIR 2 HANDRAIL DETAIL**  
 SCALE: 3/4"=1'-0"

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Charles Scovitch*      6.8.17  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION      DATE

*Walt Sheehan*      6.12.17  
 CHIEF, DIVISION OF LAND DEVELOPMENT      DATE

*William J. Jaffe*      6-12-17  
 DIRECTOR      DATE

**TAP MAP #24  
 BLOCK #2 P. 395  
 2ND ELECTION DISTRICT  
 PARCEL B  
 HOWARD COUNTY, MARYLAND**