

ORCHARD PARK CONDOMINIUM

APARTMENT DWELLINGS

SECTION 2, AREA 1

2nd ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SITE DEVELOPMENT PLAN

BENCH MARKS (HORIZONTAL CONTROL)

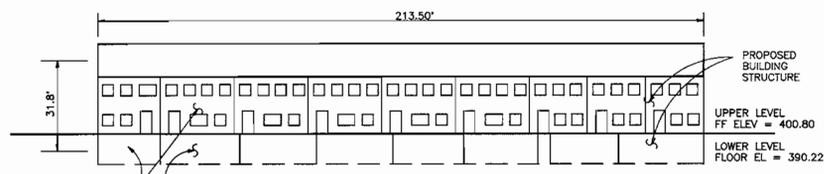
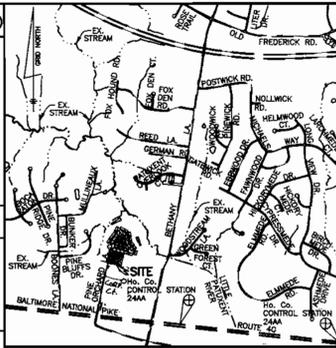
HO. CO. No. 244A
CONC. MONUMENT AT SURFACE, NEAR ENCHANTED FOREST SHOPPING CENTER, 2.5' NORTH OF THE CURB OF WEST BOUND LANE OF ROUTE 40, 36.2' EAST OF A FIRE HYDRANT AND 83.9' WEST OF A CAP POLE.
N 587,380.458 E 1,352,603.488 ELEV. 387.276

HO. CO. No. 2485
CONC. MONUMENT AT SURFACE, 8.3' NORTH OF EAST BOUND LANE OF ROUTE 40, 12.8' SOUTH OF WEST BOUND LANE OF ROUTE 40, AND 76.2' EAST OF THE CENTERLINE OF DOGWOOD ROAD.
N 588,956.209 E 1,356,570.817 ELEV. 390.965

BENCH MARKS (VERTICAL CONTROL)

RIGHT-OF-WAY POINT 311
ORCHARD HILL, SECTION 1, AREA 1 AS-BUILTS F-88-291
REBAR AND CAP ELEV. = 399.21

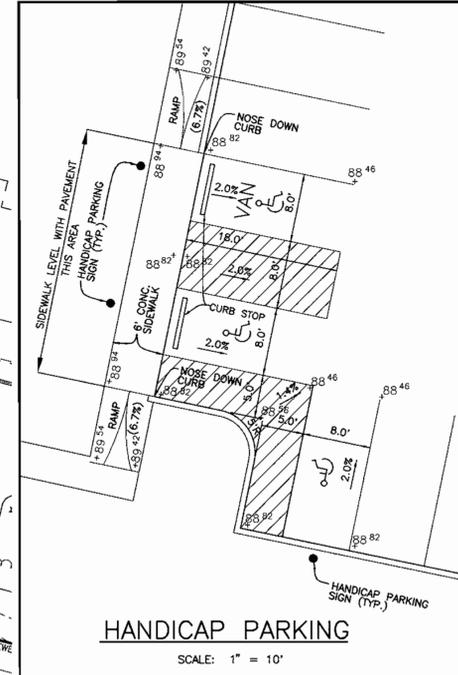
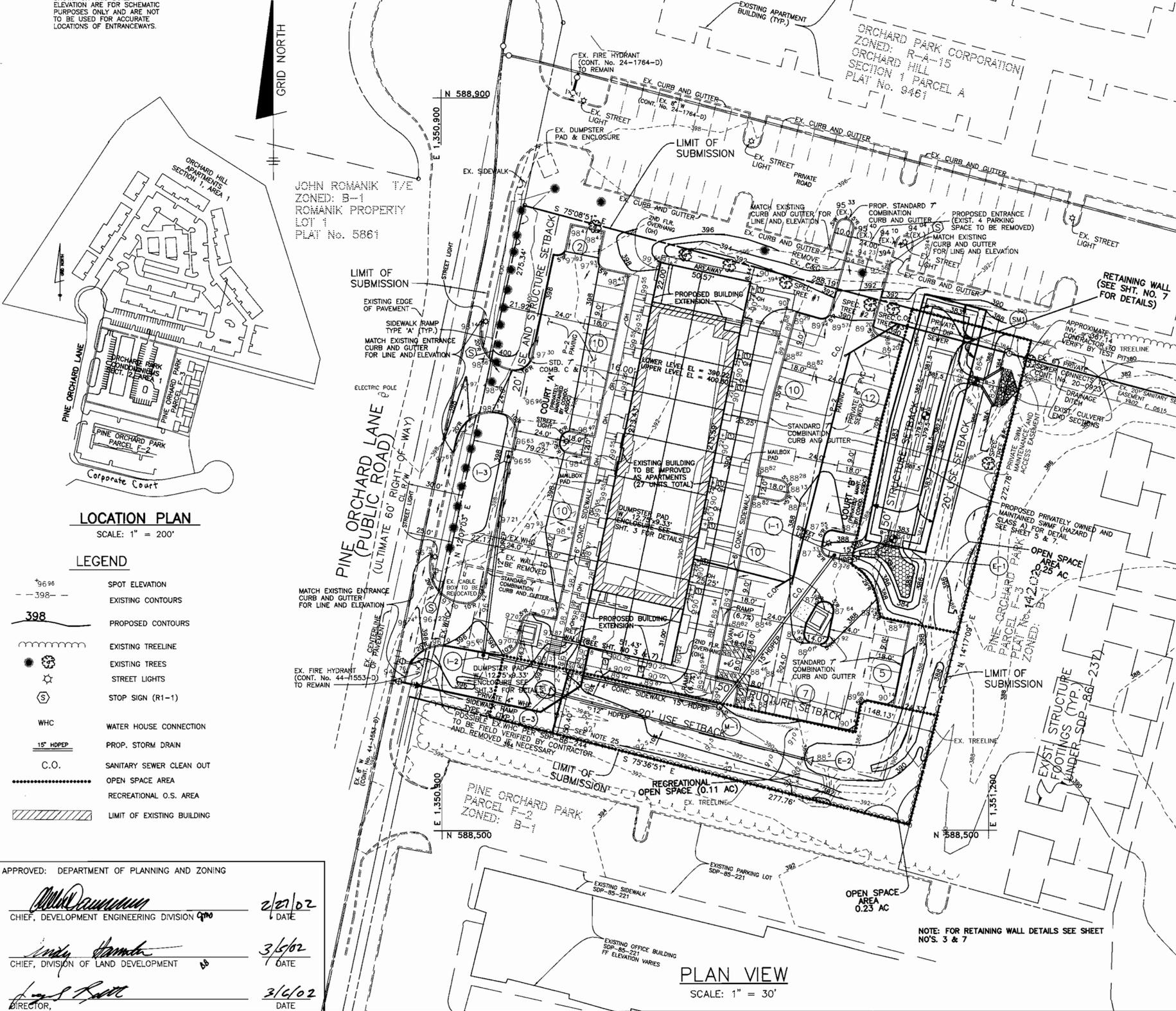
RIGHT-OF-WAY POINT 321
ORCHARD HILL, SECTION 1, AREA 1 AS-BUILTS F-88-291
REBAR AND CAP ELEV. = 400.45



ELEVATION VIEW OF BUILDING
SCALE: 1" = 30'

NOTE: AN ILLUSTRATION IS ON FILE WITH THIS SITE PLAN WHICH DEMONSTRATES THAT THE DESIGN OF THE BUILDING WILL MITIGATE THE VISUAL IMPACT FOR ALLOWING THE LENGTH OF THE STRUCTURE TO EXCEED THE 120' MAXIMUM.

THE ENTRANCE LOCATIONS SHOWN ON THIS BUILDING ELEVATION ARE FOR SCHEMATIC PURPOSES ONLY AND ARE NOT TO BE USED FOR ACCURATE LOCATIONS OF ENTRANCEWAYS.



- 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 THE DEPARTMENT OF PUBLIC WORKS CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST 5 (FIVE) WORKING DAYS PRIOR TO THE START OF WORK.
 - THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
 - TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE MOST CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
 - ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
 - THE CONTOURS SHOWN HEREON HAVE BEEN TAKEN FROM FIELD RUN TOPOGRAPHIC SURVEYS AT 2' INTERVAL. THE TOPOGRAPHY WAS PREPARED BY BENCHMARK ENGINEERING, INC. DATED DECEMBER, 1999, AND SUPERSEDES ALL PREVIOUS TOPOGRAPHIC FILES PURCHASED FROM HOWARD COUNTY GIS DEPARTMENT.
 - THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS Nos. 244A AND 2485 WERE USED FOR THIS PROJECT.
 - WATER AND SEWER FOR THIS DEVELOPMENT ARE PUBLIC.
 - STORMWATER MANAGEMENT WILL BE PROVIDED BY A PRIVATELY OWNED AND MAINTAINED DETENTION FACILITY FOR WATER QUALITY (SHALLOW MARSH) AND QUALITY CONTROL CLASSIFIED AS HAZARD CLASS A.
 - THERE ARE NO WETLANDS OR FLOODPLAIN WITHIN THE AREA OF THIS SUBMISSION.
 - THIS PROJECT IS CONDITIONALLY EXEMPT FROM THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION AS THERE WAS A SITE DEVELOPMENT PLAN (SDP-88-244) FOR THIS SITE APPROVED PRIOR TO DECEMBER 31, 1992 AND THERE IS NO EXPANSION OF THE DISTURBED AREA.
 - A TRAFFIC STUDY HAS BEEN DONE BY TRAFFIC GROUP, INC. DATED FEBRUARY 17, 2000.
 - GEOTECHNICAL REPORT COMPILED BY HILLS-CARNES ENGINEERING ASSOCIATES, INC. DATED FEBRUARY 4, 2000.
 - EXISTING UTILITIES WERE LOCATED BY RECORD DRAWINGS AND FIELD LOCATIONS.
 - UNLESS NOTED AS "PRIVATE" ALL EASEMENTS ARE PUBLIC.
 - CONTRACTOR SHALL ADJUST ALL UTILITIES AND RISE ELEVATIONS AS NEEDED TO MATCH THIS PLAN.
 - PARKING LOT AND ROADWAY LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III TABLES 5.0.3, 5.0A AND 5.05 AND AS SHOWN ON THESE PLANS AND SHALL CONFORM TO SECTION 134 OF THE ZONING REGULATIONS.
 - THE EXISTING STRUCTURE IS TO BE IMPROVED AND USED AS THE BASE FOR THE APARTMENT BUILDING.
 - THE SUBJECT PROPERTY IS ZONED R-A-15 PER THE 1983 COMPREHENSIVE ZONING PLAN.
 - UNDERGROUND UTILITIES MAY BE PRESENT WHICH WERE ASSOCIATED WITH THE CONSTRUCTION OF THE EXISTING FOUNDATION ON THE SITE. THE CONTRACTOR SHOULD ABANDON OR REMOVE THESE UTILITIES WHEN THEY ARE DISCOVERED DURING THE NEW CONSTRUCTION.
 - THERE ARE NO STEEP SLOPES LOCATED ON THIS SITE.
 - FOREST STAND DELINEATION AND WETLAND EVALUATION PERFORMED BY ENGINEERING CONSULTING SERVICES, LTD. ON MARCH 8, 2000.
 - TRASH COLLECTION FOR THIS SITE IS TO BE PRIVATE.
 - THE PROPOSED LOCATION OF THE SWMF SHOWN HAS BEEN APPROVED BY THE DEVELOPMENT ENGINEERING DIVISION THRU APPROVAL OF WATER DATED APRIL 4, 2000.
 - RAMP TO BE PROVIDED ON STAIRS. SEE HO. CO. STD. DETAILS G7.02 OR G7.03.
 - FINANCIAL SURETY FOR REQUIRED LANDSCAPING AND STREET TREES FOR THIS SITE IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS AND LANDSCAPE MANUAL SHALL BE MADE A PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$18,720.00. SEE SHEET 3.
 - OPEN SPACE REQUIREMENTS FOR THIS PROJECT ARE MET BY TWO OPEN SPACE AREAS OF 0.25 AC. AND 0.23 AC. AS SHOWN ON THIS PLAN AND IN ACCORDANCE WITH SUBDIVISION AND LAND DEVELOPMENT REGULATIONS SECTION 16.121(4).
 - THIS SITE PLAN CONFORMS TO THE 4th EDITION OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
 - IN THE EVENT OF A CHANGE IN OWNERSHIP OR CONTROL OF EITHER ORCHARD PARK CONDOMINIUM, SECTION 2, AREA 1 OR ORCHARD HILL, SECTION 1, PARCEL A TO AN ENTITY THAT WOULD NOT CONTROL BOTH PARCELS, EASEMENTS WILL BE REQUIRED FOR ACCESS, GRADING, UTILITY, SWM AND PARKING TO ENSURE VIABILITY OF BOTH PARCELS AND USES.

① - DENOTES GROUND FLOOR, HANDICAPPED ACCESSIBLE APARTMENT UNITS

PERMIT INFORMATION CHART

SUBMISSION NAME	SECTION/AREA	LOT/PARCEL #
ORCHARD PARK CONDOMINIUM	SECTION 2, AREA 1	PARCEL 381

LIBER/FOLIO	BLOCK No.	ZONE	TAX MAP	ELEC. DISTR.	CENSUS
N/A	1	R-A-15	24	2ND	6022.00

WATER CODE	SEWER CODE
F14	5980000

ADDRESS CHART

3197 PINE ORCHARD LANE

THE PURPOSE OF THIS SITE DEVELOPMENT PLAN IS TO RENOVATE AND EXPAND A PORTION OF THE EXISTING BUILDING STRUCTURE CONSTRUCTED UNDER SDP-88-244 INTO A 27 UNIT APARTMENT BUILDING WITH UPPER AND LOWER LEVEL UNITS AND ASSOCIATED SITE IMPROVEMENTS

SITE ANALYSIS DATA CHART

A) TOTAL PROJECT AREA: 1.81 Ac.±
 B) AREA OF PLAN SUBMISSION: 1.81 Ac.±
 C) LIMIT OF DISTURBANCE AREA: 1.9 Ac.±
 D) PRESENT ZONING: R-A-15
 E) PROPOSED USES FOR SITE AND STRUCTURES: APARTMENTS
 F) TOTAL NUMBER OF DWELLING UNITS ALLOWED: 27
 G) TOTAL NUMBER OF DWELLING UNITS PROPOSED ON SUBMISSION: 27
 H) NUMBER OF PARKING SPACES REQUIRED: 27 UNITS X 2 = 54
 NUMBER OF PARKING SPACES PROVIDED = 68
 NO. OF PARKING SPACES REQUIRED FOR ADJOINING SEC. 1/PAR. A: 409+
 NO. OF PARKING SPACES REMOVED FOR ENTRANCE TO THE SITE: 4
 NO. OF PARKING SPACES PROVIDED ON ADJOINING SEC. 1/PAR. A: 409+ (PRIOR TO REMOVING 4 SPACES)
 I) NUMBER OF SPACES RELOCATED FROM SECTION 1, PAR. A: 4
 OPEN SPACE PROVIDED ON SITE: 0.45 ACRES(25% OF GROSS AREA).
 J) OPEN SPACE PROVIDED 0.48 AC.
 K) AREA OF RECREATION OPEN SPACE REQUIRED BY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS ACRES REQUIRED: 0.11 AC.
 ACRES PROVIDED: 0.11 AC.
 L) BUILDING COVERAGE OF SITE: 0.25 ACRES AND 14% OF GROSS AREA
 M) APPLICABLE DPZ FILE REFERENCES: SDP-89-191, SDP-86-244, GP-88-71, 2B837M, SDP-89-07, S-88-18, P-88-35, F-88-291, SDP-90-135
 -AS INDICATED ON SDP-90-135

STREET LIGHT SCHEDULE

SYMBOL	LOCATION	DESCRIPTION
☀	COURT A N 588712.42 E 1350968.48	100 WATT HPS COLONIAL FUTURE (MOUNTED ON 14 FT. BLACK FIBERGLASS)
☀	COURT B N 588656.80 E 1351112.47	
☀	PINE ORCHARD N 588777.05 E 1350924.28	150 WATT HPS VAPOR COLONIAL POST TOP FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE, 2" TO 4" BEHIND HOOK OF CURB
☀	PINE ORCHARD LANE N 588646.84 E 1350986.37	

SHEET INDEX

NO.	DESCRIPTION
1	SITE DEVELOPMENT PLAN
2	SEDIMENT AND EROSION CONTROL PLAN, NOTES AND DETAILS
3	LANDSCAPE PLAN, NOTES AND DETAILS & RETAINING WALL PROFILES, NOTES AND DETAILS
4	STORM DRAIN DRAINAGE AREA MAP AND STORM DRAIN PROFILES
5	STORMWATER MANAGEMENT PROFILES, NOTES AND DETAILS
6	PRIVATE WATER AND SEWER PLAN & PROFILE PROFILES.
7	RETAINING WALL CONSTRUCTION DETAIL

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 2/21/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 3/6/02
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 3/6/02
DIRECTOR, DATE

NOTE: FOR RETAINING WALL DETAILS SEE SHEET NOS. 3 & 7

PLAN VIEW
SCALE: 1" = 30'

BENCHMARK ENGINEERING, INC.
ENGINEERS • LAND SURVEYORS • PLANNERS

8480 BALTIMORE NATIONAL PIKE • SUITE 418 • ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644

[Professional Engineer Seal]

OWNER/DEVELOPER: SECURITY / GARVEY L. P.
P. O. BOX 417
ELLICOTT CITY, MARYLAND 21041
410-465-4244

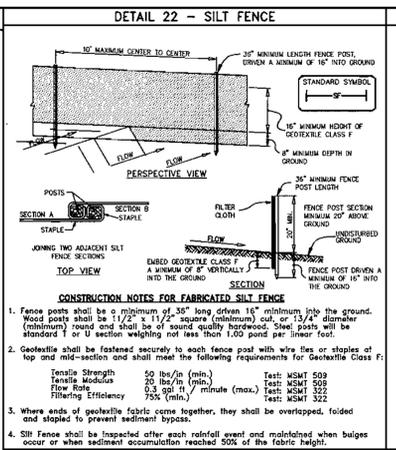
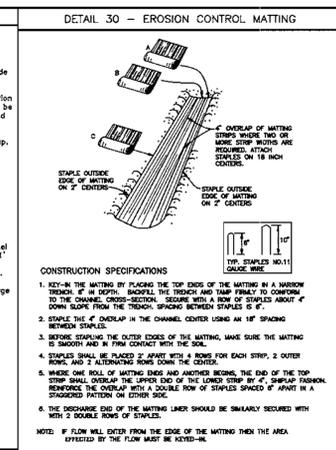
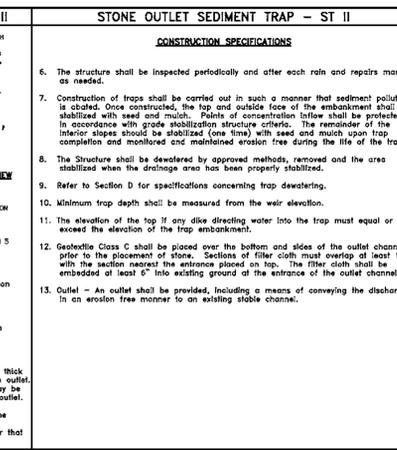
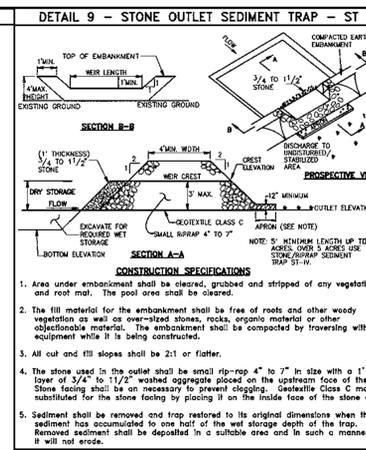
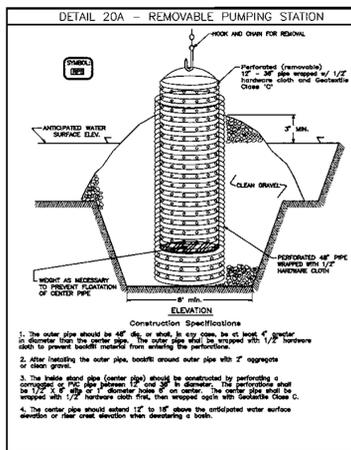
PROJECT: ORCHARD PARK CONDOMINIUM
APARTMENT DWELLINGS
SECTION 2, AREA 1

LOCATION: TAX MAP 24 - BLOCK 1 - PARCEL 381
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: SITE DEVELOPMENT PLAN

DATE: MARCH, 2000
SEPTEMBER, 2000 PROJECT NO. 1273

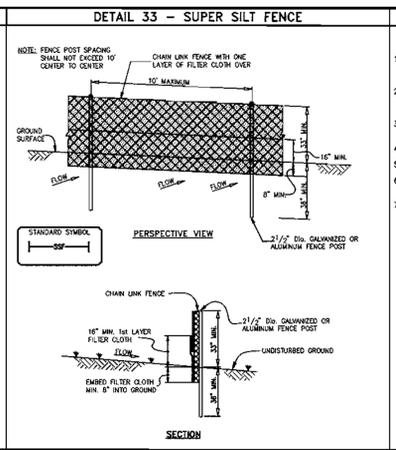
Design: GWF Draft: JMC SCALE: AS SHOWN DRAWING 1 OF 7



SILT FENCE DESIGN CRITERIA

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control.



SUPER SILT FENCE DESIGN CRITERIA

Slope Steepness	Slope Length (Maximum)	Silt Fence Length (Maximum)
0 - 10%	0 - 10:1	Unlimited
10 - 20%	10:1 - 5:1	200 feet
20 - 33%	5:1 - 3:1	100 feet
33 - 50%	3:1 - 2:1	100 feet
50% +	2:1 +	50 feet

CONSTRUCTION SPECIFICATIONS

- Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Design Manual. The specification for a 6" fence shall be updated, 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 rafter 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 6" 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 all buildings 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 of top and mid section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/ft (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/ft (min.)	Test: MSMT 509
Flow Rate	0.5 gal/ft (min.) (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 2 OF 4 MARYLAND DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 3 OF 10 MARYLAND DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 9 OF 10A MARYLAND DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 8 OF 8 MARYLAND DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES WATER MANAGEMENT ADMINISTRATION

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U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 15 OF 15 MARYLAND DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 11 OF 11 MARYLAND DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 17 OF 17 MARYLAND DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES WATER MANAGEMENT ADMINISTRATION

PERMANENT SEEDING NOTES

Apply to graded or cleared area 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, discing or other acceptable means before seeding. (If not previously loosened)

Soil Amendments: In lieu of soil test recommendations, use on the following schedules:

- Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sf) and 800 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sf) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sf) of clear gran.
- Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sf) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sf) before seeding. Harrow or disc into upper three inches of soil.

Seeding: For the periods March 1 through April 30 and August 1 through October 15, seed with 60 lbs per acre (1.4 lbs/1000 sf) of Kentucky 31 Tall Fescue. For the period May 1 through July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (0.05 lbs/1000 sf) of Weeping Lovegrass. During the period of October 16 through 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 seed. 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 sf) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sf) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sf) for anchoring.

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

SEDIMENT CONTROL NOTES

- 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 (315-1855).
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current Maryland Standards and Specifications for Soil Erosion and Sediment Control, and revisions thereto.
- Following initial soil disturbances or redisturbances, 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 calendar days as to all other disturbed or graded areas on the project site.
- 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".
- All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control for Permanent Seeding (Sec. 51) Soil (Sec. 54), Temporary Seeding (Sec. 50) and Mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operative condition until their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:

Total Area of Site:	1,814 acres
Area to be Disturbed:	1.94 acre
Area to be graded or paved:	1.04 acre
Area to be vegetatively stabilized:	0.94 acre
Total Cut:	1,287 CY
Total Fill:	3,581 C.Y.

 Offsite Borrow Area Location: Site with an active grading permit.
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance. Additional sediment controls must be provided, if deemed necessary by the Howard County DPM 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 may not be authorized until this initial approval by the inspection agency is made.
- Trenches for the construction of utilities is limited to three pipe lengths or that which can be back filled and stabilized within one working day, whichever is shorter.
- Quantities and estimates shown are for sediment control purposes only. Contractor shall prepare his/her own quantity estimates to his/her satisfaction.

SEQUENCE OF CONSTRUCTION

DAY 1 1.) OBTAIN GRADING PERMIT.

DAY 2 2.) THE CONTRACTOR(S) IS TO IDENTIFY AND MARK ANY HAZARDOUS CONDITIONS THAT MAY EXIST ONSITE, SUCH AS OVERHEAD POWERLINES, OLD WELLS, GAS LINES, ETC.

DAY 3-5 3.) CLEAR AND GRUB AS REQUIRED TO INSTALL SEDIMENT CONTROL DEVICES. INSTALL STABILIZED CONSTRUCTION ENTRANCE, EARTH DIKE AND SILT FENCE ALONG PINE ORCHARD LANE AND SUPER SILT FENCE ON WESTERN PORTION OF SITE. APPROVAL FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR IS REQUIRED TO PROCEED TO THE NEXT STEP.

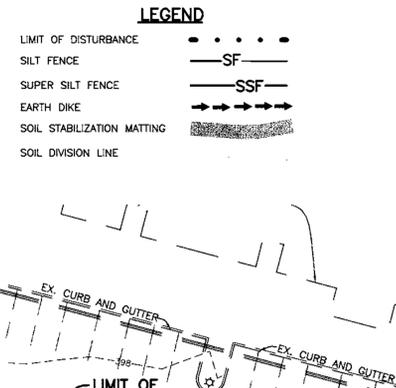
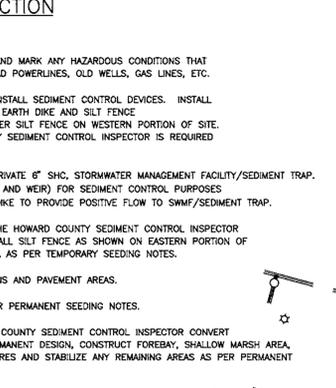
DAY 6-19 4.) CLEAR AND GRUB SITE CONSTRUCT PRIVATE 6" SHC, STORMWATER MANAGEMENT FACILITY/SEDIMENT TRAP. MODIFY RELEASE STRUCTURE (ORFICE AND WEIR) FOR SEDIMENT CONTROL PURPOSES (SEE DETAIL SHT 5). MODIFY EARTH DIKE TO PROVIDE POSITIVE FLOW TO SWMF/SEDIMENT TRAP.

DAY 20 5.) GRADE SITE. WITH PERMISSION OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR REMOVE SUPER SILT FENCE AND INSTALL SILT FENCE AS SHOWN ON EASTERN PORTION OF THE SITE. STABILIZE DISTURBED AREA AS PER TEMPORARY SEEDING NOTES.

DAY 21-111 6.) CONSTRUCT BUILDING, STORM DRAINS AND PAVEMENT AREAS.

DAY 112-118 7.) FINE GRADE SITE, STABILIZE AS PER PERMANENT SEEDING NOTES.

DAY 119-124 8.) WITH PERMISSION OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR CONVERT SWMF RELEASE STRUCTURE TO PERMANENT DESIGN, CONSTRUCT FOREBAY, SHALLOW MARSH AREA, REMOVE SEDIMENT CONTROL MEASURES AND STABILIZE ANY REMAINING AREAS AS PER PERMANENT SEEDING NOTES.



SEDIMENT TRAP DATA

THE PROPOSED SWM FACILITY IS TO BE USED AS SEDIMENT TRAP DURING CONSTRUCTION. A DETAIL FOR A STONE OUTLET SEDIMENT TRAP (ST-II) IS PROVIDED FOR TECHNICAL INFORMATION.

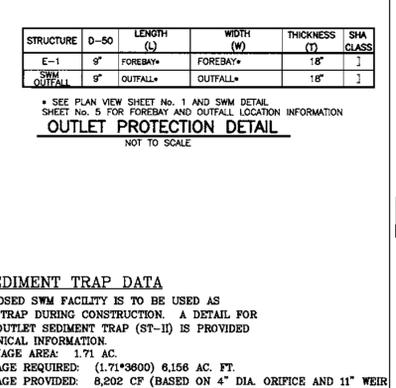
DRAINAGE AREA: 1.71 AC.
STORAGE REQUIRED: (1.71*3600) 6,156 AC. FT.
STORAGE PROVIDED: 8,202 CF (BASED ON 4" DIA. ORIFICE AND 11" WEIR BLOCKING OF SWMF RELEASE STRUCTURE UP TO ELEVATION 385.0). STORAGE VOLUME COMPUTATION PROVIDED IN THE STORMWATER MANAGEMENT REPORT.)

WEIR CREST ELEVATION: 385.0
BOTTOM ELEVATION: 382.5
EMBANKMENT ELEVATION: 385.5
DEPTH BELOW WEIR CREST: 2.5'
OUTLET ELEVATION: 382.5 (RELEASE STRUCTURE OUTLET APRON ELEVATION)
CLEANOUT ELEVATION: 384.1
DEPTH TO CLEANOUT ELEVATION FROM WEIR CREST: 0.9'
WEIR CREST LENGTH: 3.0'

STRUCTURE	D-50	LENGTH (L)	WIDTH (W)	THICKNESS (T)	SHA CLASS
SWMF	9"	FOREBAY*	FOREBAY*	18"	3
OUTFALL	9"	OUTFALL*	OUTFALL*	18"	3

* SEE PLAN VIEW SHEET NOS. 1 AND SWM DETAIL SHEET NO. 5 FOR FOREBAY AND OUTFALL LOCATION INFORMATION.

OUTLET PROTECTION DETAIL
NOT TO SCALE



ENGINEER'S CERTIFICATE

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

Donald Mean 1/25/02
Date

DEVELOPER'S CERTIFICATE

I/We certify that all development and construction will be done in accordance with this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction of this 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 onsite inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary.

Orchard Park LLC 1/25/02
Signature of Developer Date

TEMPORARY SEEDING NOTES

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

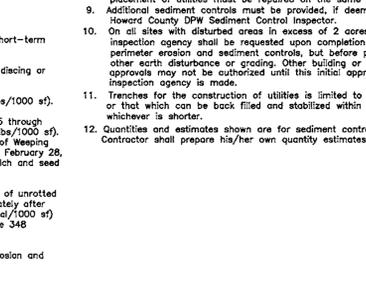
Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding. (If not previously loosened)

Soil Amendments: Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sf).

Seeding: For periods March 1 through April 30 and from August 15 through November 15, seed with 2-1/2 bushel per acre of annual ryegrass (3.2 lbs/1000 sf). For the period May 1 through August 15, seed with 3 lbs per acre of Weeping Lovegrass (0.07 lbs/1000 sf). For the period November 16 through 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 seed.

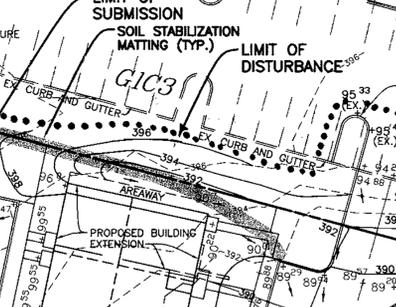
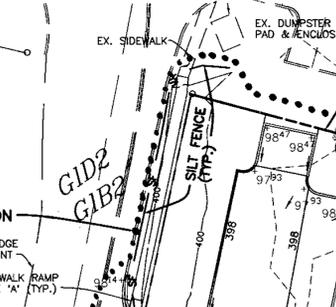
Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sf) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sf) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sf) for anchoring.

Refer to the 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control for rate and methods not covered.



CONSTRUCTION SPECIFICATIONS

- All temporary earth dikes shall have uninterrupted positive grade to an outlet. Soil elevations may be necessary for grades less than 1%.
- Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
- Filter cloth shall be installed under all rip-rap. Filter cloth shall be Geotextile Class C.
- Entrance and exit sections shall be installed as shown on the detail section.
- Rip-Rap used for the lining may be recycled for permanent outlet protection if the basin is to be converted to a stormwater management facility.
- Gabion inflow protection may be used in lieu of Rip-Rap inflow protection.
- Rip-Rap should blend into existing ground.
- Rip-Rap inflow protection shall be used where the slope is between 4:1 and 10:1, for slopes flatter than 10:1 use Earth Dike or Temporary Seeding Lining criteria.



CONSTRUCTION SPECIFICATIONS

- All lined inflow channels shall be 1' in depth, have a trapezoidal cross section with 2:1 or flatter side slopes and 3" (min.) bottom width. The channel shall be lined with 4" to 12" rip-rap to a depth of 18".
- Filter cloth shall be installed under all rip-rap. Filter cloth shall be Geotextile Class C.
- Entrance and exit sections shall be installed as shown on the detail section.
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- Rip-Rap inflow protection shall be used where the slope is between 4:1 and 10:1, for slopes flatter than 10:1 use Earth Dike or Temporary Seeding Lining criteria.

ENGINEER'S CERTIFICATE

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

Donald Mean 1/25/02
Date

DEVELOPER'S CERTIFICATE

I/We certify that all development and construction will be done in accordance with this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction of this 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 onsite inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary.

Orchard Park LLC 1/25/02
Signature of Developer Date

CONSTRUCTION SPECIFICATIONS

- All temporary earth dikes shall have uninterrupted positive grade to an outlet. Soil elevations may be necessary for grades less than 1%.
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DETAIL 1 - EARTH DIKE

3:1 SLOPE OR FLATTER

NOT TO SCALE

STANDARD SYMBOL: A-2 B-3

EXCAVATE TO PROVIDE POSITIVE FLOW WITH AT DESIGN FLOW DEPTH

CROSS SECTION

PLAN VIEW

FLOW CHANNEL STABILIZATION GRADE CLASS MIN. 10% MAX.

1. Seed and cover with straw mulch.

2. Seed and cover with Erosion Control Matting or lime with sod.

3. 4" to 7" stone or recycled concrete equivalent placed into the soil 7" minimum.

CONSTRUCTION SPECIFICATIONS

- All temporary earth dikes shall have uninterrupted positive grade to an outlet. Soil elevations may be necessary for grades less than 1%.
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U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 1 OF 1 MARYLAND DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES WATER MANAGEMENT ADMINISTRATION

APPROVED: DEPARTMENT OF PLANNING AND ZONING

John Romanik 2/27/02
DATE

John Romanik 2/14/02
DATE

John Romanik 2/14/02
DATE

John Romanik 2/14/02
DATE

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3:1 SLOPE OR FLATTER

NOT TO SCALE

STANDARD SYMBOL: A-2 B-3

EXCAVATE TO PROVIDE POSITIVE FLOW WITH AT DESIGN FLOW DEPTH

CROSS SECTION

PLAN VIEW

FLOW CHANNEL STABILIZATION GRADE CLASS MIN. 10% MAX.

1. Seed and cover with straw mulch.

2. Seed and cover with Erosion Control Matting or lime with sod.

3. 4" to 7" stone or recycled concrete equivalent placed into the soil 7" minimum.

CONSTRUCTION SPECIFICATIONS

- All temporary earth dikes shall have uninterrupted positive grade to an outlet. Soil elevations may be necessary for grades less than 1%.
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U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 1 OF 1 MARYLAND DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES WATER MANAGEMENT ADMINISTRATION

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

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FLOW CHANNEL STABILIZATION GRADE CLASS MIN. 10% MAX.

1. Seed and cover with straw mulch.

2. Seed and cover with Erosion Control Matting or lime with sod.

3. 4" to 7" stone or recycled concrete equivalent placed into the soil 7" minimum.

CONSTRUCTION SPECIFICATIONS

- All temporary earth dikes shall have uninterrupted positive grade to an outlet. Soil elevations may be necessary for grades less than 1%.
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FLOW CHANNEL STABILIZATION GRADE CLASS MIN. 10% MAX.

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3. 4" to 7" stone or recycled concrete equivalent placed into the soil 7" minimum.

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FLOW CHANNEL STABILIZATION GRADE CLASS MIN. 10% MAX.

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3. 4" to 7" stone or recycled concrete equivalent placed into the soil 7" minimum.

CONSTRUCTION SPECIFICATIONS

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3. 4" to 7" stone or recycled concrete equivalent placed into the soil 7" minimum.

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3. 4" to 7" stone or recycled concrete equivalent placed into the soil 7" minimum.

CONSTRUCTION SPECIFICATIONS

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U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 1 OF 1 MARYLAND DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES WATER MANAGEMENT ADMINISTRATION

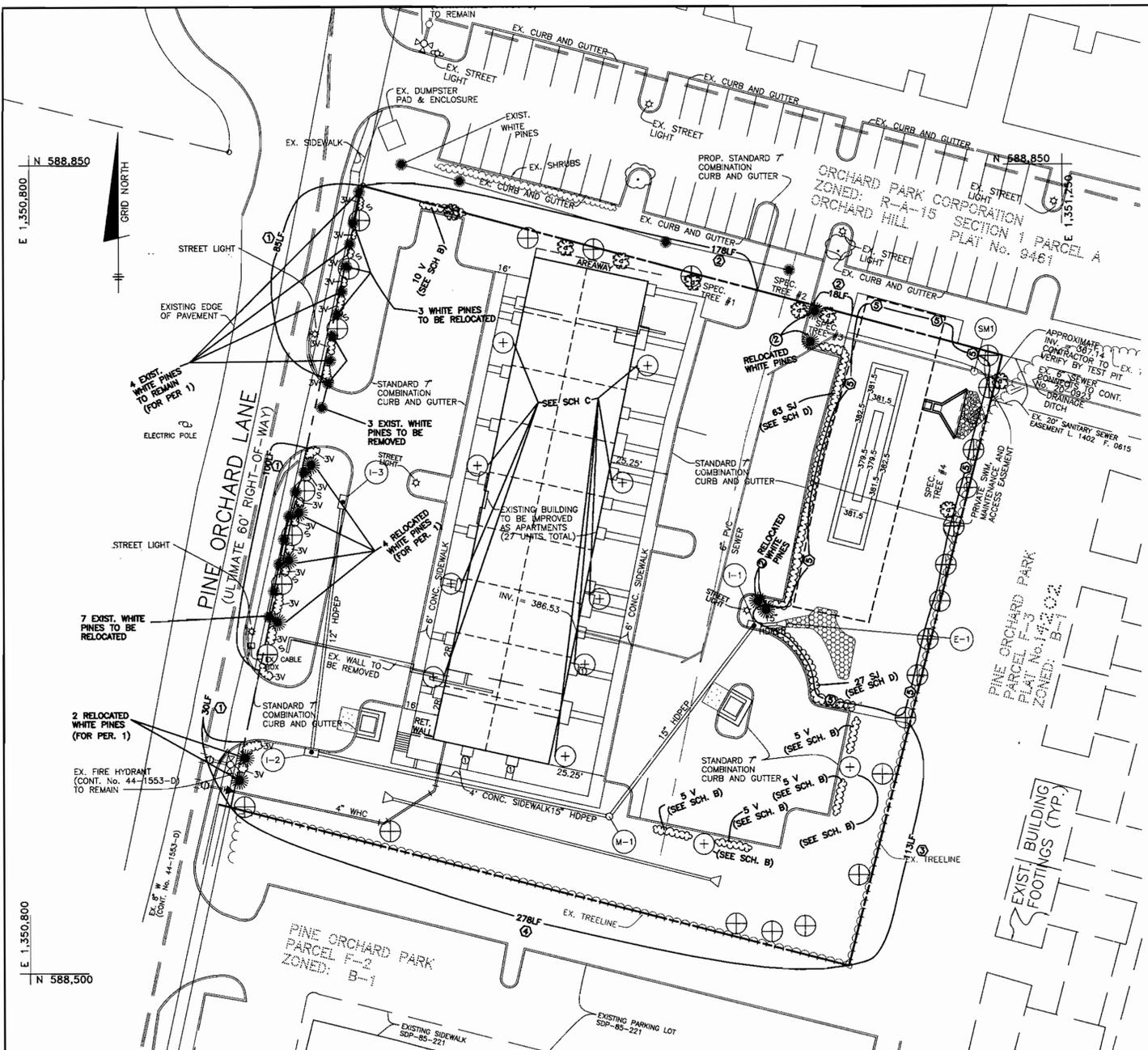
APPROVED: THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

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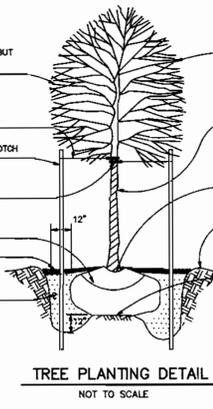
PLAN VIEW
SCALE: 1" = 30'

APPROVED: DEPARTMENT OF PLANNING AND ZONING

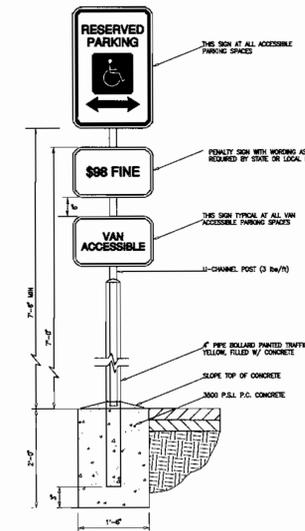
[Signature] 2/27/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 3/9/02
CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 3/5/02
DIRECTOR

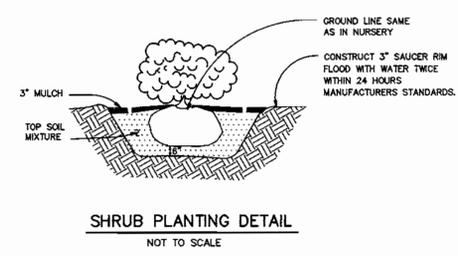


TREE PLANTING DETAIL
NOT TO SCALE

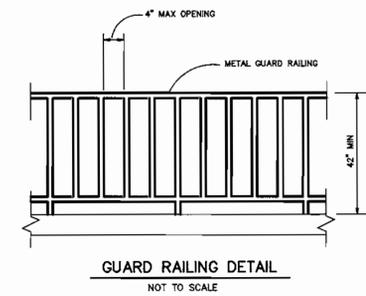


HANDICAP PARKING SIGN DETAIL
NOT TO SCALE

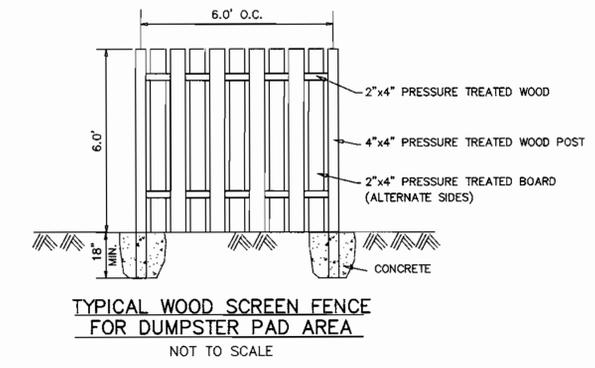
NOTE: SIGN DIMENSIONS, LETTERING, LOGO, ETC. TO BE IN ACCORDANCE WITH MARYLAND ACCESSIBILITY CODE (ADAAG A117, 1-86-4.6.2 AND 4.28).



SHRUB PLANTING DETAIL
NOT TO SCALE



GUARD RAILING DETAIL
NOT TO SCALE



TYPICAL WOOD SCREEN FENCE FOR DUMPSTER PAD AREA
NOT TO SCALE

SCHEDULE A PERIMETER LANDSCAPE EDGE				
CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES
	⊙ E	⊙ A	⊙ A	⊙ A
LANDSCAPE TYPE				
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	215'	196'	113'	278'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO
NUMBER OF PLANTS REQUIRED				
SHADE TREES	5	3	2	5
EVERGREEN TREES	-	-	-	-
OTHER TREES (2:1 SUBSTITUTE)	54	-	-	-
SHRUBS	-	-	-	-
NUMBER OF PLANTS PROVIDED				
SHADE TREES	7**	3	2	5
EVERGREEN TREES	10	-	-	-
OTHER TREES (2:1 SUBSTITUTE)	-	-	-	-
SHRUBS	54	-	-	-
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)				

* LANDSCAPE REQUIREMENTS FOR THE DUMPSTER PADS ARE MET BY A SCREENING FENCE CONSTRUCTED AROUND THE DUMPSTER PAD. SEE DETAIL THIS SHEET.
** ALTERNATIVE COMPLIANCE PROVIDED FOR STREET TREE REQUIREMENTS.

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING	
NUMBER OF PARKING SPACES	54
NUMBER OF TREES REQUIRED	1 PLANTING UNIT x 54 = 5
NUMBER OF TREES PROVIDED	2
SHRUBS (10:1 SUB)	30

SCHEDULE C RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING	
NUMBER OF DWELLING UNITS	27
NUMBER OF TREES REQUIRED (1 SHADE TREE PER 3 UNITS)	9
NUMBER OF TREES PROVIDED	9
SHRUBS (10:1 SUB)	-

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING	
LINEAR FEET OF PERIMETER	⊙ 503 B
NUMBER OF TREES REQUIRED	
SHADE TREES	10
EVERGREEN TREES	13
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	NO
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO
NUMBER OF TREES PROVIDED	
SHADE TREES	10
EVERGREEN TREES	4
SHRUBS (10:1 SUB)	90

STREET TREE REQUIREMENTS *	
LINEAR FEET OF ROAD RIGHT-OF-WAY	275
NUMBER OF TREES REQUIRED	1 STREET TREE x 275 = 7
NUMBER OF TREES PROVIDED (SYMBOL ⊕)	7*

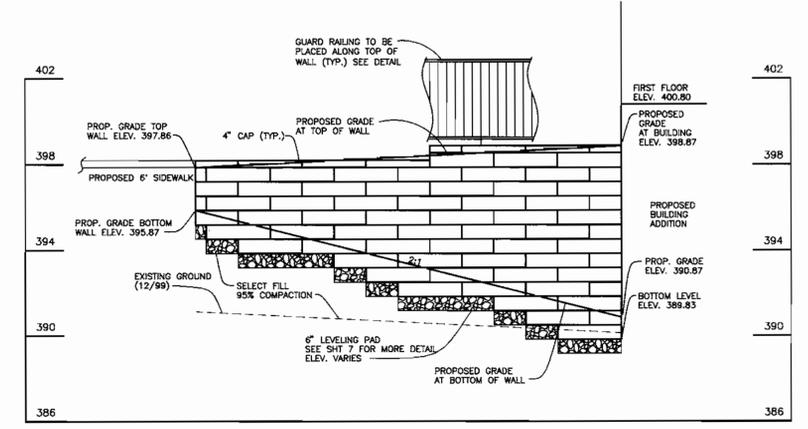
* ALTERNATIVELY COMPLIED WITH, INCLUDED IN SCHEDULE A - PERIMETER LANDSCAPE EDGE

- PLANTING NOTES
- TREES MUST BE PLANTED A MINIMUM OF 4 FEET FROM THE EDGE OF PAVING, A MINIMUM OF 5 FEET FROM ANY STORM DRAIN AND A MINIMUM OF 20 FEET FROM THE TOE OF SLOPE OF ANY STORMWATER MANAGEMENT EMBANKMENT.
 - THE DEVELOPER SHALL BE RESPONSIBLE FOR STREET TREES, STORMWATER MANAGEMENT POND PLANTINGS, PERIMETER LANDSCAPE PLANTINGS, PARKING LOT PLANTINGS AND THE INTERNAL LANDSCAPE PLANTINGS, UNDER THE DEVELOPER'S AGREEMENT.
 - THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
 - FINANCIAL LANDSCAPING SURETY FOR THE REQUIRED 38 SHADE TREES, 14 EVERGREEN TREES, AND 174 SHRUBS IN THE AMOUNT OF \$18,720.00 IS PART OF THE DEVELOPER'S AGREEMENT FOR THIS PROJECT.

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

ORCHARD PARK LLC
By: *[Signature]* MEMBER 1-25-02
DEVELOPER DATE

AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HERETOFORE LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATIONS OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.



ELEVATION ALONG FACE OF RETAINING WALL AT BUILDING
SCALE: VERT. 1" = 4'
HORIZ. 1" = 2'

LANDSCAPE PLANTING LIST				
SYMBOL	QUANTITY	NAME	REMARKS	
⊕	11	TILIA CORDATA 'GREENSPIRE' (GREENSPIRE LITTLELEAF LINDEN)	2 1/2" MIN. CAL FULL HEAD	
⊕	27*	ACER RUBRUM (RED SUNSET MAPLE)	2 1/2" MIN. CAL FULL HEAD	
⊕	14**	PINUS STROBUS (EASTERN WHITE PINE)	TRANSPLANTED FROM NEAR STREET	
⊕	90	JUNIPERUS CHINENSIS 'SARGENTI' (SARGENT JUNIPER)	18" - 24" SP.	
⊕	84	VIBURNUM RHYTIDOPHYLLUM (LEATHERLEAF VIBURNUM)	2-1/2' - 3' HT.	

* - INCLUDES THE 7 REQUIRED STREET TREES ALTERNATIVELY COMPLIED IN SCH. A
** - TREES LOCATED ALONG R/W LINE WITH PINE ORCHARD LANE TO EITHER REMAIN OR BE RELOCATED

NO. DATE REVISION

BENCHMARK ENGINEERING, INC.
ENGINEERS • LAND SURVEYORS • PLANNERS
8480 BALTIMORE NATIONAL PIKE • SUITE 418 • ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6844

[Professional Seal]
1/25/02

OWNER/DEVELOPER: SECURITY / GARVEY L. P.
P. O. BOX 417
ELLICOTT CITY, MARYLAND 21041
410-465-4244

PROJECT: ORCHARD PARK CONDOMINIUM
APARTMENT DWELLINGS
SECTION 2, AREA 1

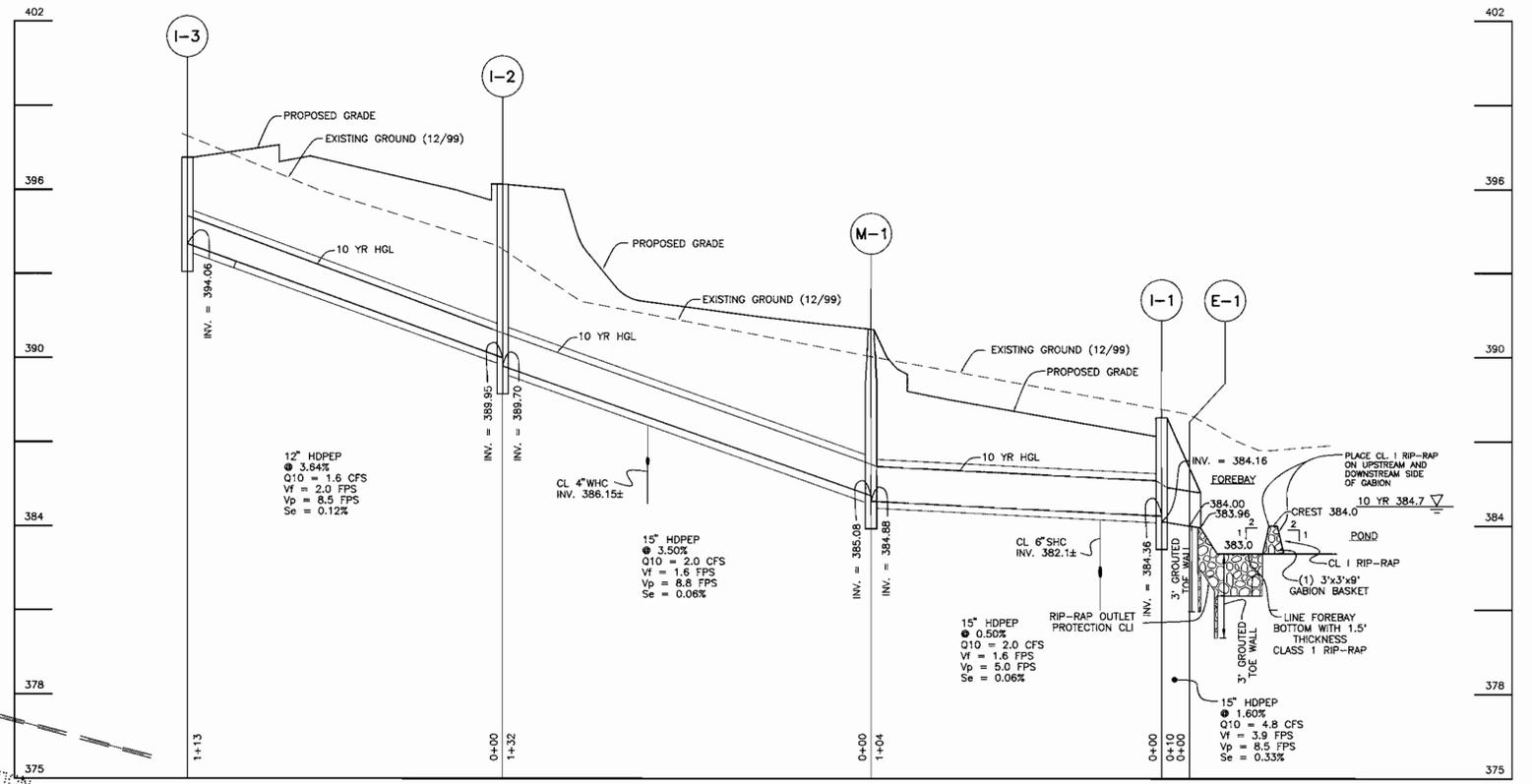
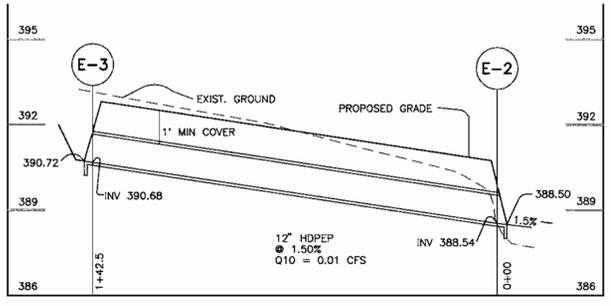
LOCATION: TAX MAP 24 - BLOCK 1 - PARCEL 381
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: LANDSCAPE PLAN AND NOTES AND DETAILS

DATE: MARCH, 2000
SEPTEMBER, 2000 PROJECT NO. 1273

SCALE: AS SHOWN DRAWING 3 OF 7

Design: GWF Draft: JMC

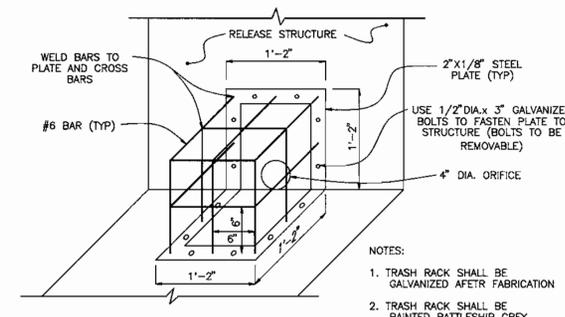


STORM DRAIN PROFILE E-1 TO L-3
SCALE: VERT. 1" = 3'
HORT. 1" = 30'

STRUCTURE	LOCATION	TOP ELEVATION	INVERT IN	INVERT OUT	TYPE	STANDARD No.	COMMENTS
L-1	N 588648.5739 E 135115.1773	387.86	384.36	384.16	A-5	SD-4.40	
L-2	N 588597.5410 E 1350923.0708	396.20	389.95	389.70	A-5	SD-4.40	
L-3	N 588703.7725 E 1350938.3634	397.15	394.06	394.06	A-5	SD-4.40	
M-1	N 588567.5944 E 1351052.3321	391.00	385.08	384.88	MANHOLE	G-5.11	
E-1	N 588650.9485 E 1351125.5316	-	384.00	383.96	15" END SECTION		HANCOR DESIGN MANUAL
E-2	N 588538.6575 E 1351099.7347	-	388.54	388.50	12" END SECTION		HANCOR DESIGN MANUAL
E-3	N 588575.1819 E 1350961.2750	-	390.72	390.68	12" END SECTION		HANCOR DESIGN MANUAL

PIPE SCHEDULE			
RUN	LENGTH	DIMENSION	MATERIAL
L-3 TO L-2	113 LF	12" DIA	HDPE
L-2 TO M-1	132 LF	15" DIA	HDPE
M-1 TO L-1	104 LF	15" DIA	HDPE
L-1 TO E-1	10 LF	15" DIA	HDPE
E-3 TO E-2	142.5 LF	12" DIA	HDPE

NOTE: ALL INLET TOP ELEVATIONS AND COORDINATES ARE AT THE CENTER OF THE INLET AT THE FACE OF CURB. ALL MANHOLE COORDINATES ARE AT THE CENTER OF THE STRUCTURE.



TRASH RACK DETAIL
SCALE: 1" = 1'-0"

- NOTES:
- TRASH RACK SHALL BE GALVANIZED AFETR FABRICATION
 - TRASH RACK SHALL BE PAINTED BATTLESHIP GRAY.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Michael J. ... 2/27/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Chris ... 3/5/02
CHIEF, DIVISION OF LAND DEVELOPMENT

Joseph ... 3/6/02
DIRECTOR

NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
ENGINEERS • LAND SURVEYORS • PLANNERS

8480 BALTIMORE NATIONAL PIKE • SUITE 418 • ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644

STATE OF MARYLAND PROFESSIONAL ENGINEER 1/25/02

OWNER/DEVELOPER:
SECURITY / GARVEY L. P.
P. O. BOX 417
ELLICOTT CITY, MARYLAND 21041
410-465-4244

PROJECT:
ORCHARD PARK CONDOMINIUM
APARTMENT DWELLINGS
SECTION 2, AREA 1

LOCATION:
TAX MAP 24 - BLOCK 1 - PARCEL 381
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
STORM DRAIN DRAINAGE
AREA MAP, STORM DRAIN PROFILE

DATE: MARCH, 2000
SEPTEMBER, 2000

PROJECT NO. 1273

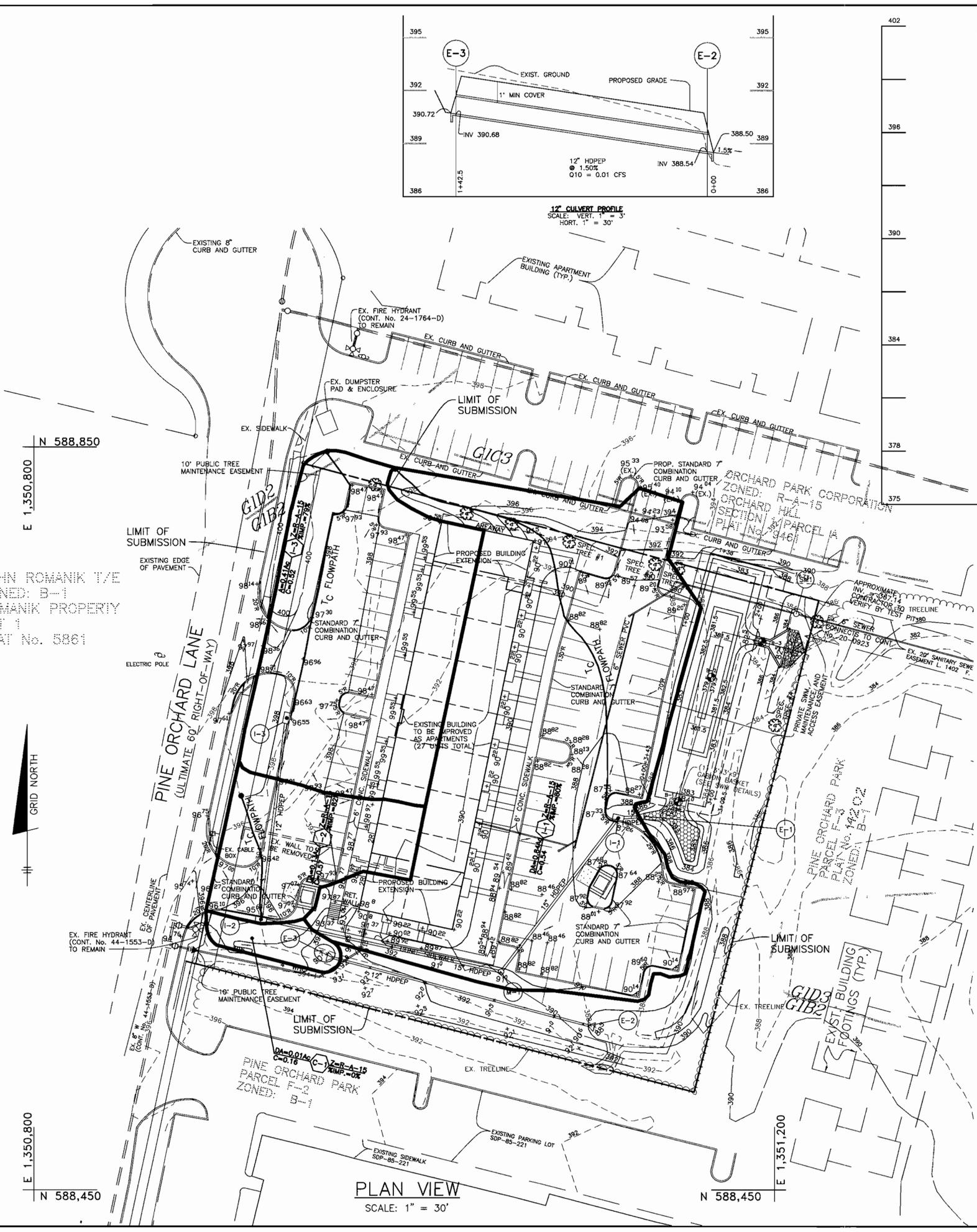
SCALE: AS SHOWN

DRAWING 4 OF 7

Design: GWF Draft: JMC

SOILS CLASSIFICATION *		
MAP SYMBOL	SOIL CHARACTERISTICS	HYDROLOGIC GROUP
CG-3	CHILLUM GRAVELLY LOAM, 5 TO 10 PERCENT SLOPES, SEVERELY ERODED	B
GB-2	GLENELG LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
GB-3	GLENELG LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED	B
GB-3	GLENELG LOAM, 15 TO 25 PERCENT SLOPES, SEVERELY ERODED	B

* PAGE 15 OF THE SOIL SURVEY OF HOWARD COUNTY, MARYLAND.

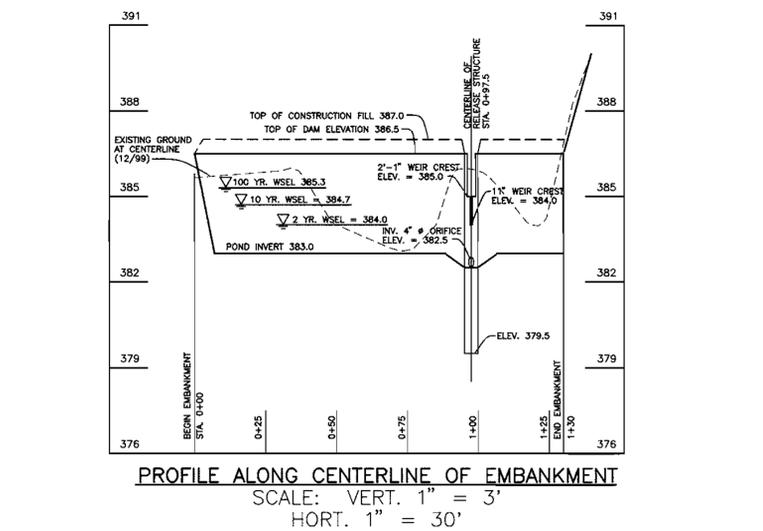
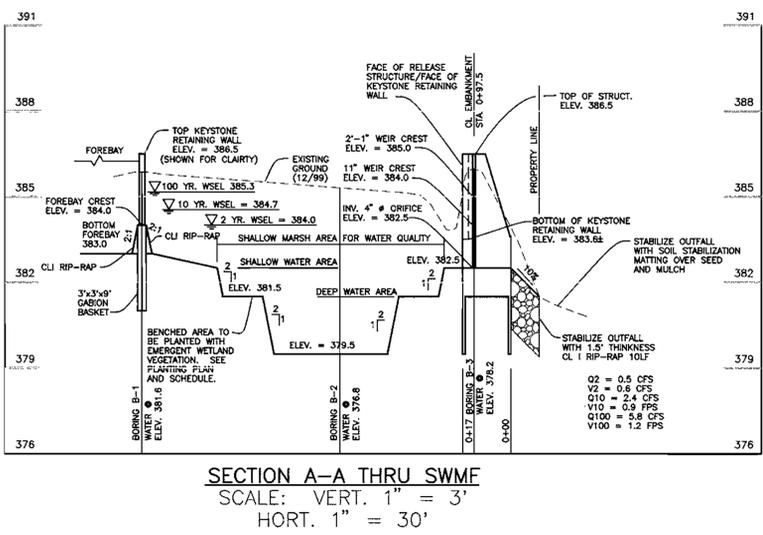
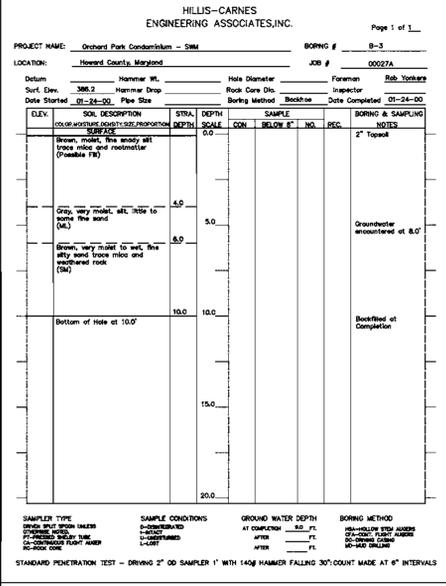
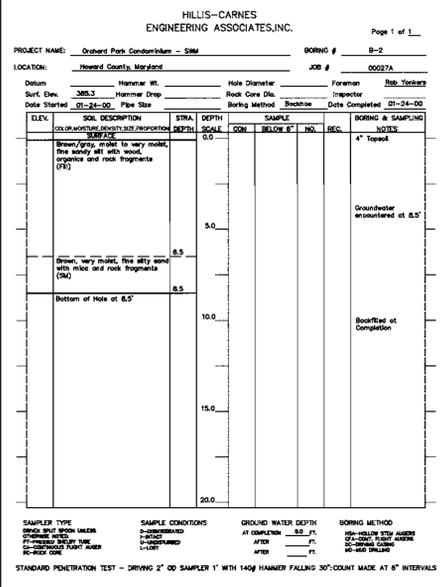
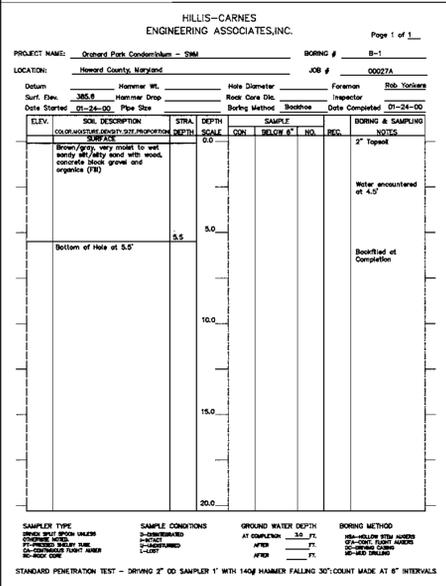


PLAN VIEW
SCALE: 1" = 30'

N 588,850
E 1,350,800

GRID NORTH

N 588,450
E 1,351,200



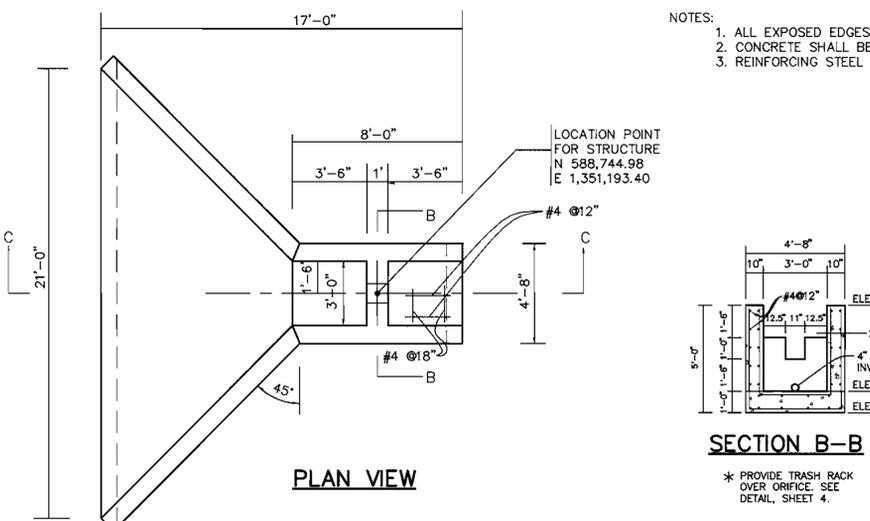
STORMWATER MANAGEMENT SUMMARY DATA

STORM FREQUENCY	PRE-DEVELOPED CONDITION DISCHARGE (CFS)	POST-DEVELOPED CONDITION DISCHARGE (CFS) WITH SWM		
		ROUTED AREA*	UNROUTED AREA	COMBINED DISCHARGE FROM SITE
2 YEAR	0.5	0.5	0.1	0.5
10 YEAR	2.5	2.4	0.5	2.5
100 YEAR	5.6	5.8	1.0	6.3

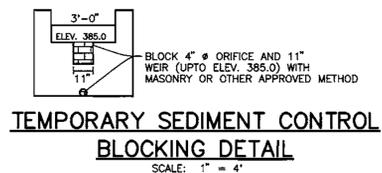
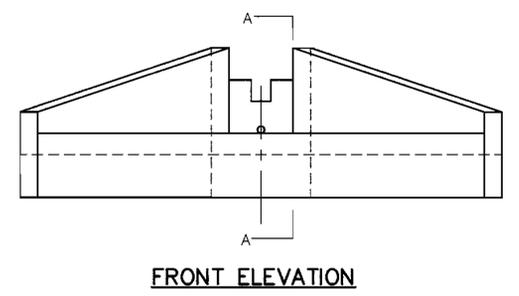
* DISCHARGE FROM SWM FACILITY

STORMWATER MANAGEMENT FACILITY
 TO BE A PRIVATELY OWNED AND MAINTAINED STORMWATER MANAGEMENT DETENTION FACILITY. (HAZARD CLASS "A").

2 YR. WSEL = 384.0
 10 YR. WSEL = 384.7
 100 YR. WSEL = 385.3

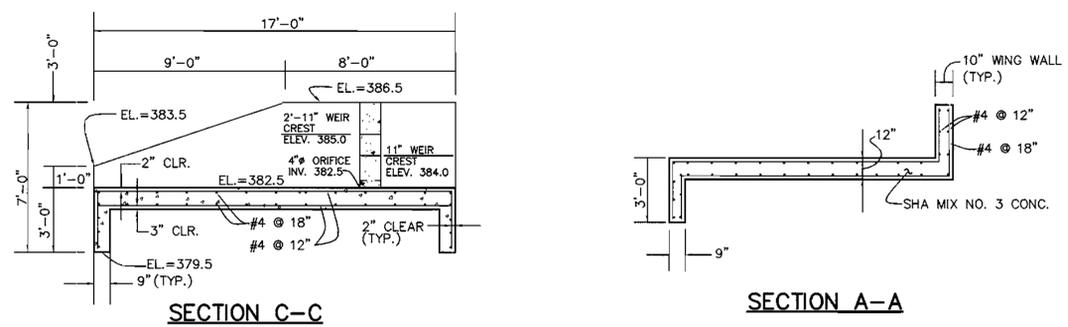
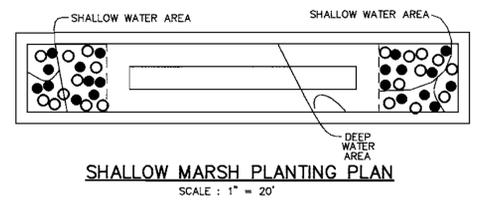


- NOTES:
1. ALL EXPOSED EDGES TO HAVE 3/4"x3/4" CHAMFER OR AS DIRECTED.
 2. CONCRETE SHALL BE SHA MIX NO. 3 (fc = 3500 PSI @ 28 DAYS)
 3. REINFORCING STEEL SHALL BE ASTM A-615 GRADE 60.



SHALLOW MARSH PLANTING SCHEDULE

SYMBOL	PLANT TYPE	QUANTITY
○	LIZARD'S TAIL (SAURURUS CERNUUS)	20
●	SOFT-STEM BULRUSH (SCIRPUS VALIDUS)	20



RELEASE STRUCTURE DETAILS
 SCALE: 1" = 4'

FACE OF KEYSTONE RETAINING WALL AROUND SWMF

Station	Northing	Easting	Line Data
0+00	588,658.4128	1,351,132.5290	N 11°40'52" E 65.19'
0+65.19	588,722.2479	1,351,145.7267	
0+65.19	588,722.2479	1,351,145.7267	N 15°37'12" E 73.04'
1+38.23	588,792.5934	1,351,165.3940	
1+38.23	588,792.5934	1,351,165.3940	S 75°08'51" E 34.89'
1+73.12	588,783.6492	1,351,199.1216	
1+73.12	588,783.6492	1,351,199.1216	S 14°17'09" W 136.27'
3+09.39	588,651.5968	1,351,165.4968	
3+09.39	588,651.5968	1,351,165.4968	N 78°19'08" W 33.67'
3+43.05	588,658.4128	1,351,132.5290	

* 0.222 AC.-FT. = 9,670 CF

APPROVED: DEPARTMENT OF PLANNING AND ZONING

W.D. Dammann 2/27/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

Christy Horvath 3/5/02
 CHIEF, DIVISION OF LAND DEVELOPMENT

Paul R. Ruff 3/6/02
 DIRECTOR

NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
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 PHONE: 410-465-6105 FAX: 410-465-8644

STATE OF MARYLAND PROFESSIONAL ENGINEER 1/25/02

OWNER/DEVELOPER: SECURITY / GARVEY L. P.
 P. O. BOX 417
 ELLICOTT CITY, MARYLAND 21041
 410-465-4244

PROJECT: ORCHARD PARK CONDOMINIUM APARTMENT DWELLINGS SECTION 2, AREA 1

LOCATION: TAX MAP 24 - BLOCK 1 - PARCEL 381
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: STORMWATER MANAGEMENT PLAN, NOTES, AND DETAILS

DATE: MARCH, 2000 PROJECT NO. 1273
 SEPTEMBER, 2000

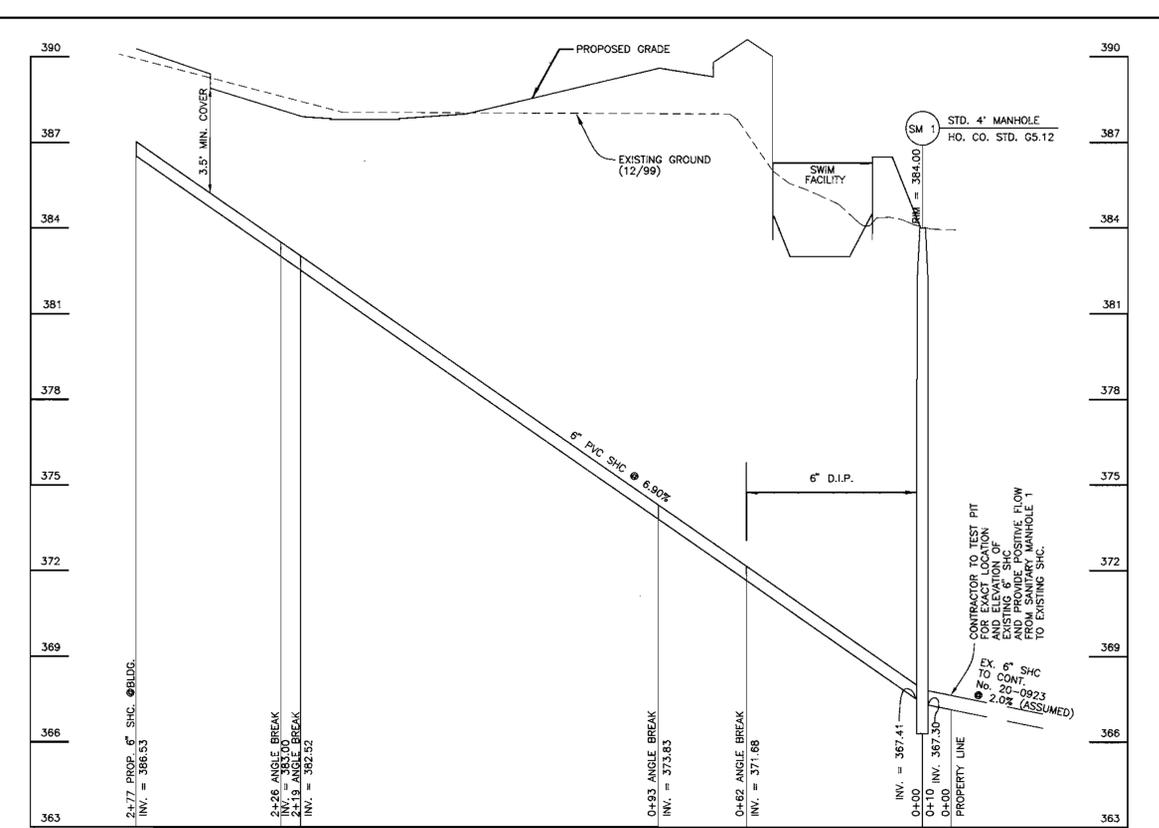
SCALE: AS SHOWN DRAWING 5 OF 7

Design: GWF Draft: JMC

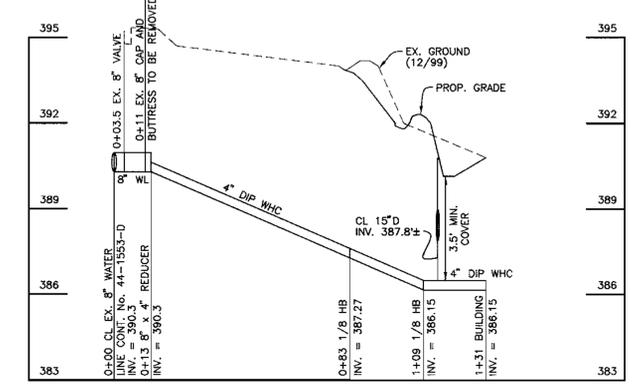
- OPERATION AND MAINTENANCE SCHEDULE OF PRIVATELY OWNED AND MAINTAINED STORMWATER MANAGEMENT FACILITY**
- ROUTINE MAINTENANCE**
1. FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY.
 2. TOP 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 SIDE SLOPES AND MAINTENANCE ACCESS SHOULD BE MOWED AS NEEDED.
 3. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
 4. VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS OUTLET AREA SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
- NON-ROUTINE MAINTENANCE**
1. STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, AND THE RELEASE STRUCTURE SHALL BE REPAIRED UPON THE DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
 2. SEDIMENT SHOULD BE REMOVED FROM THE POND NO LATER THAN WHEN THE CAPACITY OF THE POND IS HALF FULL OF SEDIMENT, WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, OR WHEN DEEMED NECESSARY BY HOWARD COUNTY'S DEPARTMENT OF PUBLIC WORKS.



PLAN VIEW
SCALE: 1" = 30'



PROFILE FOR PRIVATE 6" SHC
SCALE: VERT. 1" = 3'
HORT. 1" = 30'



PROFILE FOR PRIVATE 4" DIP WHC
SCALE: VERT. 1" = 3'
HORT. 1" = 30'

GENERAL NOTES

- PART 1 - GENERAL**
- APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SUPPLY. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
 - ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
 - ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATA.
 - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
 - CLEAR ALL UTILITIES BY A MINIMUM OF 6' CLEAR ALL POLES BY 2'-0" MINIMUM OR TUNNEL AS REQUIRED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONEY OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
 - FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS USE HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATIONS AND DETAIL FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
 - WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATION OF THE TEST PIT. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
 - CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - STATE HIGHWAY ADMINISTRATION.....531-5533
 - BALTIMORE GAS & ELECTRIC CO. CONTRACTOR SERVICES.....850-4620
 - BALTIMORE GAS & ELECTRIC CO. UNDERGROUND DAMAGE CONTROL.....787-9068
 - MISS UTILITY.....1-800-257-7777
 - COLONIAL PIPELINE CO.....795-1390
 - HOWARD CO. DEPT. OF PUBLIC WORKS BUREAU OF UTILITIES.....313-4900
 - TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR. CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
 - PLACE REGULATION "MEN WORKING" AND WARNING SIGNS AS REQUIRED TO COMPLY WITH MARYLAND STATE HIGHWAY ADMINISTRATION MANUAL OF TRAFFIC CONTROL FOR HIGHWAY MAINTENANCE OPERATIONS.
 - THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410) 313-2450 AT LEAST FIVE WORKING DAYS BEFORE ANY OPEN CUT OF ANY COUNTY ROAD OR BORING/JACKING OPERATION IN COUNTY ROADS FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(g) OF THE HOWARD COUNTY CODE.
- PART 2 - WATER**
- ALL WATER MAINS TO BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
 - TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3'-1/2" COVER UNLESS OTHERWISE NOTED.
 - VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
 - ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
 - THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- PART 3 - SEWER**
- ALL SEWER MAINS SHALL BE DIP OR P.V.C. UNLESS OTHERWISE NOTED.
 - THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2' - 0" OF EXTERIOR MANHOLE WALL.
 - ALL MANHOLES SHALL BE 4' - 0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
 - MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Mr. [Signature] 2/27/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Chris [Signature] 3/5/02
CHIEF, DIVISION OF LAND DEVELOPMENT

Joseph [Signature] 3/6/02
DIRECTOR

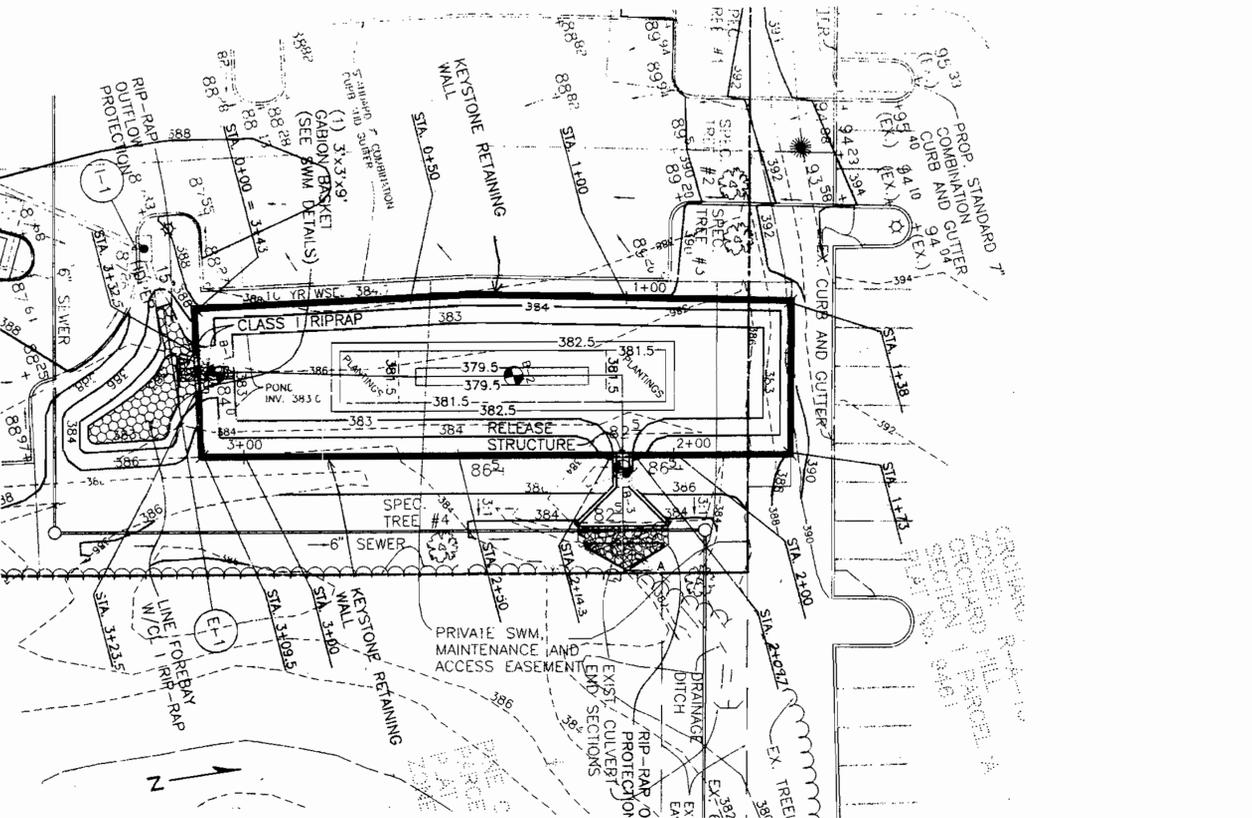
NO.	DATE	REVISION

BENCHMARK
ENGINEERS & LAND SURVEYORS - PLANNERS
ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE • SUITE 418 • ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644

1/25/02

OWNER/DEVELOPER: SECURITY / GARVEY L. P. P. O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244	PROJECT: ORCHARD PARK CONDOMINIUM APARTMENT DWELLINGS SECTION 2, AREA 1
LOCATION: TAX MAP 24 - BLOCK 1 - PARCEL 381 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND	TITLE: PRIVATE SHC AND WHC PLAN & PROFILES
DATE: MARCH, 2000 SEPTEMBER, 2000	PROJECT NO. 1273
Design: GWF Draft: JMC	SCALE: AS SHOWN DRAWING 6 OF 12



WALL LOCATION PLAN
1"=20"

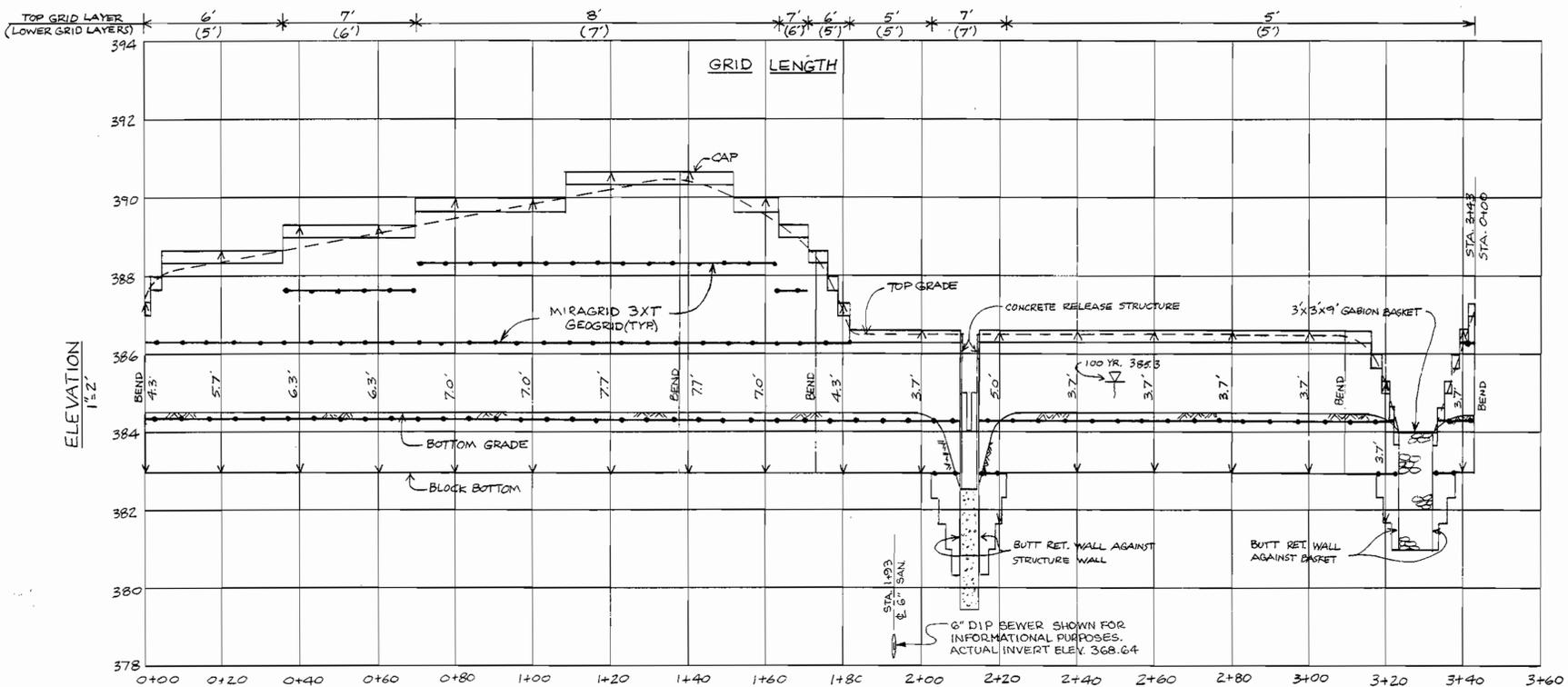
SPECIFICATION GUIDELINES
KEYSTONE CONCRETE MODULAR RETAINING WALL

- PART 1: GENERAL**
- 1.01 DESCRIPTION**
- A. Work includes furnishing and installing modular block retaining wall units to the lines and grades designated on the construction drawings and as specified herein.
 - B. Work includes preparing foundation soil, furnishing and installing leveling pad, unit fill and backfill to the lines and grades designated on the construction drawings.
 - C. Furnishing and installing all appurtenant materials required for construction of the retaining wall as shown on the construction drawings.
- 1.02 RELATED WORK**
- A. Section 02275 - Geogrid Soil Reinforcement.
- 1.03 REFERENCE STANDARDS**
- A. ASTM C90 - 85 Hollow Load Bearing Masonry Units.
 - B. ASTM C140 - 75 Sampling and Testing Concrete Masonry Units.
 - C. ASTM C145 - 85 Solid Load Bearing Concrete Masonry Units.
- 1.04 DELIVERY, STORAGE AND HANDLING**
- A. Contractor shall check the materials upon delivery to assure that proper material has been received.
 - B. Contractor shall prevent excessive mud, wet cement, epoxy, and like materials which may affix themselves, from coming in contact with the material.
 - C. Contractor shall protect the materials from damage. Damaged material shall not be incorporated into the retaining wall structure.
- 1.05 SUBMITTALS**
- A. Samples of all products used in the work of this section.
 - B. Latest edition of manufacturers specifications for proposed materials, method of installation and list of material proposed for use.
- 1.06 QUALITY ASSURANCE**
- A. Soil testing and inspection services for quality control testing during earthwork operations will be supplied by the owner.
- PART 2: PRODUCTS**
- 2.01 CONCRETE UNITS**
- A. Masonry units shall be Keystone® Retaining Wall Units as manufactured by:
 - B. Concrete wall units shall have a minimum net 28 day compressive strength of 3000 psi. The concrete shall have a maximum moisture absorption of 8 to 8.5%.
 - C. Exterior dimensions may vary in accordance with ASTM C90 - 85. Standard and Compact units shall have a minimum of 1 square foot face area each. Mini units shall have a minimum 1/2 square foot face area each.
 - D. Keystone Standard units shall provide a minimum of 150 psf of wall face area. Fill which is contained within the dimensions of the units may be considered as 80% effective weight.
- PART 3: EXECUTION**
- 3.01 EXCAVATION**
- A. Contractor shall excavate to the lines and grades shown on the construction drawings. Over excavation shall not be paid for and replacement with compacted fill and/or wall system components will be required at contractor expense. Contractor shall be careful not to disturb embankment materials beyond lines shown.
- 3.02 FOUNDATION SOIL PREPARATION**
- A. Foundation soil shall be excavated as required for footing dimensions shown on the construction drawings, or as directed by the Engineer.
- 3.03 BASE LEVELING PAD**
- A. Leveling pad materials shall be placed as shown on the construction drawings, upon undisturbed in situ soils, to a minimum thickness of 8 inches.
 - B. Material shall be compacted so as to provide a level hard surface on which to place the first course of units. Compaction shall be to 95% of standard proctor for sand or gravel type materials. For crushed rock, material shall be densely compacted.
 - C. Leveling pad shall be prepared to insure complete contact of retaining wall unit with base.
 - D. Leveling pad materials shall be to the depths and widths shown. Contractor may opt for using reduced depth of sand, gravel or crushed rock using a concrete topping. Concrete shall be unreinforced and a maximum of 1" to 3" thick.
- 3.04 UNIT INSTALLATION**
- A. First course of concrete wall units shall be placed on the base leveling pad. The units shall be checked for level and alignment. The first course is the most important to assure accurate and acceptable results.
 - B. Insure that units are in full contact with base. Two pins are required per unit. Pull each unit toward, away from the embankment, against pins in the previous course and backfill as the course is completed. Repeat procedure to the extent of wall height.
 - C. As appropriate where the wall changes elevation, units can be stepped with grade or turned into the embankment with a concrete return end. Provide appropriate buried units on compacted leveling pad in area of convex return end.
- 3.05 CAP INSTALLATION**
- A. Place Keystone Cap units over projecting pins from units below. Pull forward to set back position. Back fill and compact to finished grade.
 - B. As required, provide permanent mechanical connection to wall units with construction adhesive or epoxy. Apply adhesive or epoxy to bottom surface of cap units and install on units below.
- 3.06 GEOGRID INSTALLATION**
- A. Follow the requirements of Section 02275, GEOGRID SOIL REINFORCEMENT.
- 3.07 FIBERGLASS CONNECTING PINS**
- A. Material shall consist of pultruded fiberglass reinforcement rods.
 - B. Pins shall have a minimum flexural strength of 128,000 psi and short beam shear of 8400 psi.
- 3.08 BASE LEVELING PAD MATERIAL**
- A. Material shall consist of compacted sand, gravel, crushed rock or leveling concrete (non-reinforced) as shown on construction drawing.
 - B. The compacted leveling pad shall be a minimum 8 inches thick. When using a non-reinforced leveling concrete option, 1" to 3" thick, maintain the total leveling pad thickness.
- 3.09 UNIT FILL**
- A. Fill for units shall be free draining crushed stone, 3/8" to 3/4", or coarse gravel (no more than 5% shall pass the No. 200 sieve with a maximum size of 3/4"). Gradation of the fill shall be approved by the Engineer.
 - B. Place recommended fill behind the retaining wall units.
- 3.10 BACKFILL**
- A. Material shall be in situ soils when approved by the engineer unless otherwise specified in the drawings. Unsuitable soils for backfill (heavy clays or organic soils) shall not be used in the backfill or in the reinforced soil mass.
 - B. Where additional fill is required contractor shall submit sample and specifications to the engineer to determine if acceptable.

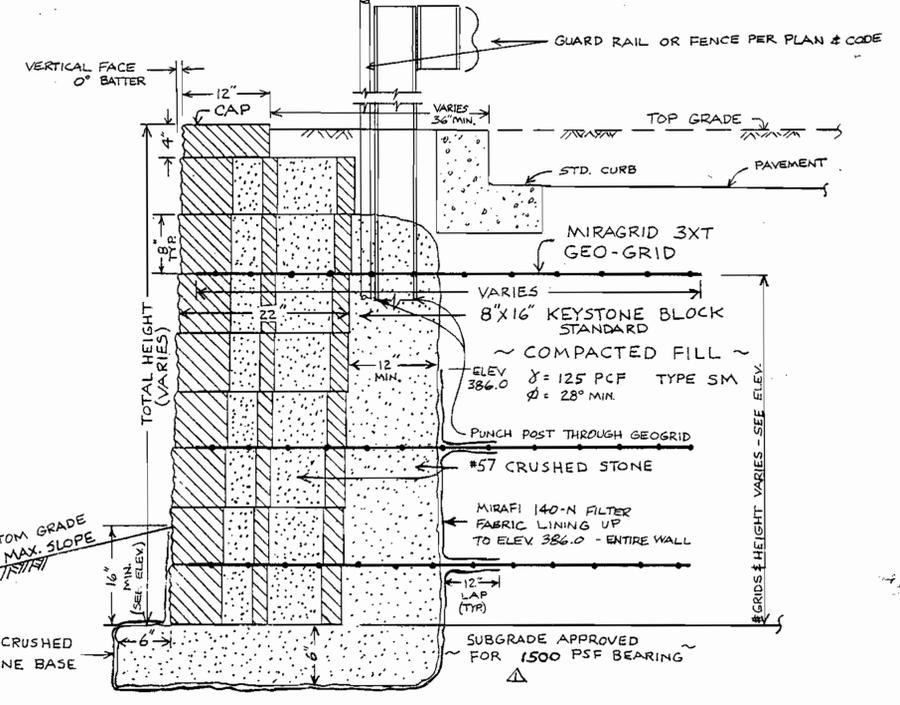
NOTE: RETAINING WALL CONSTRUCTION SHALL BE PERFORMED UNDER THE SUPERVISION OF THE GEOTECHNICAL ENGINEER.

GEOGRID SOIL REINFORCEMENT

- PART 1: GENERAL**
- 1.01 DESCRIPTION**
- A. Work includes furnishing and installing geogrid reinforcement, wall fill, and backfill to the lines and grades designated on the construction drawings.
 - B. Work includes furnishing and installing all appurtenant materials required for construction of the geogrid reinforced soil retaining wall as shown on the construction drawings.
- 1.02 RELATED WORK**
- A. Section 02275 - KEYSTONE CONCRETE MODULAR RETAINING WALL.
- 1.03 REFERENCE STANDARDS**
- A. See specific geogrid manufacturers reference standards.
- 1.04 DELIVERY, STORAGE AND HANDLING**
- A. Contractor shall check the geogrid upon delivery to assure that the proper material has been received.
 - B. Geogrids shall be stored above -20°F.
 - C. Contractor shall prevent excessive mud, wet cement, epoxy and like materials which may affix themselves to the geogrid, from coming in contact with the geogrid material.
 - D. Rolled geogrid material may be laid flat or stood on end for storage.
- 1.05 SUBMITTALS**
- A. Samples of all products used in the work of this section.
 - B. Latest edition of manufacturers specifications for proposed materials, method of installation and list of material proposed for use.
- 1.06 QUALITY ASSURANCE**
- A. Soil testing and inspection services for quality control testing during earthwork operation will be supplied by the owner.
- PART 2: PRODUCTS**
- 2.01 DEFINITIONS**
- A. Geogrid products shall be high density polyethylene expanded sheet or polyester woven fiber materials, specifically fabricated for use as soil reinforcement.
 - B. Concrete retaining wall units are as detailed on the drawings and are specified under Section 02275 - KEYSTONE CONCRETE MODULAR RETAINING WALL.
 - C. Wall fill is a free draining granular material used with the concrete units.
 - D. Backfill is the soil which is used as fill for the reinforced soil mass.
 - E. Foundation soil is the in situ soil.
- 2.02 GEOGRID**
- A. Geogrid shall be the type as shown on the drawings having the property requirements as described within the manufacturers specifications.
- 2.03 ACCEPTABLE MANUFACTURERS**
- A. A manufacturer's product shall be approved by the Engineer prior to bid opening.
- PART 3: EXECUTION**
- 3.01 FOUNDATION SOIL PREPARATION**
- A. Foundation soil shall be excavated to the lines and grades as shown on the construction drawings or as directed by the Engineer.
- 3.02 WALL ERECTION**
- A. Wall section shall be as specified under Section 02275 - KEYSTONE CONCRETE MODULAR RETAINING WALL.
- 3.03 GEOGRID INSTALLATION**
- A. The geogrid soil reinforcement shall be laid horizontally on compacted backfill. Connect to the concrete wall units by hooking geogrid over fiberglass pins. Pull taut, and anchor before backfill is placed on the geogrid.
 - B. Stack in the geogrid at the wall unit connections shall be removed.
 - C. Geogrid shall be laid at the proper elevation and orientation as shown on the construction drawings or as directed by the Engineer.
 - D. Correct orientation (roll direction) of the geogrid shall be verified by the contractor.
 - E. To pretension geogrid, pull pinned geogrid taut to eliminate loose folds. Stake or secure back edge of geogrid prior to and during backfill and compaction.
 - F. Follow manufacturers guidelines relative to overlap requirements of uniaxial and biaxial geogrids.
- 3.04 FILL PLACEMENT**
- A. Backfill material shall be placed in 8 inch lifts and compacted to 95% of Standard Proctor.
 - B. Backfill shall be placed, spread, and compacted in such a manner that minimizes the development of slack or loss of pretension of the geogrid.
 - C. Only hand-operated compaction equipment shall be allowed within 3 feet of the back surface of the Keystone units.
 - D. Backfill shall be placed from the wall rearward into the embankment to insure that the geogrid remains taut.
 - E. Tracked construction equipment shall not be operated directly on the geogrid. A minimum backfill thickness of 8 inches is required prior to operation of tracked vehicles over the geogrid. Turning of tracked vehicles should be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid.
 - F. Rubber-tired equipment may pass over the geogrid reinforcement at slow speeds, less than 10 MPH. Sudden braking and sharp turning shall be avoided.



WALL ELEVATION
1"=20"



TYPICAL WALL PROFILE
N.T.S.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 2/2/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 2/5/02
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 2/6/02
DIRECTOR DATE



HILLIS-CARNES ENGINEERING ASSOCIATES, INC.
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Annapolis Junction, Maryland
Fax: (410)880-4098

JOB NUMBER: J00024-A
SCALE: AS SHOWN
DATE: 6/20/00
PAGE 1 OF 1

DESIGNED BY: RWS
DRAWN BY: RWS
APPROVED BY: RWS
REVISED DATE: 8/29/00

RETAINING WALL CONSTRUCTION DETAIL
ORCHARD PARK CONDOMINIUM
HOWARD COUNTY, MARYLAND