

COLUMBIA JUNCTION

SECTION 3 - PARCEL 'A'

6th ELECTION DISTRICT

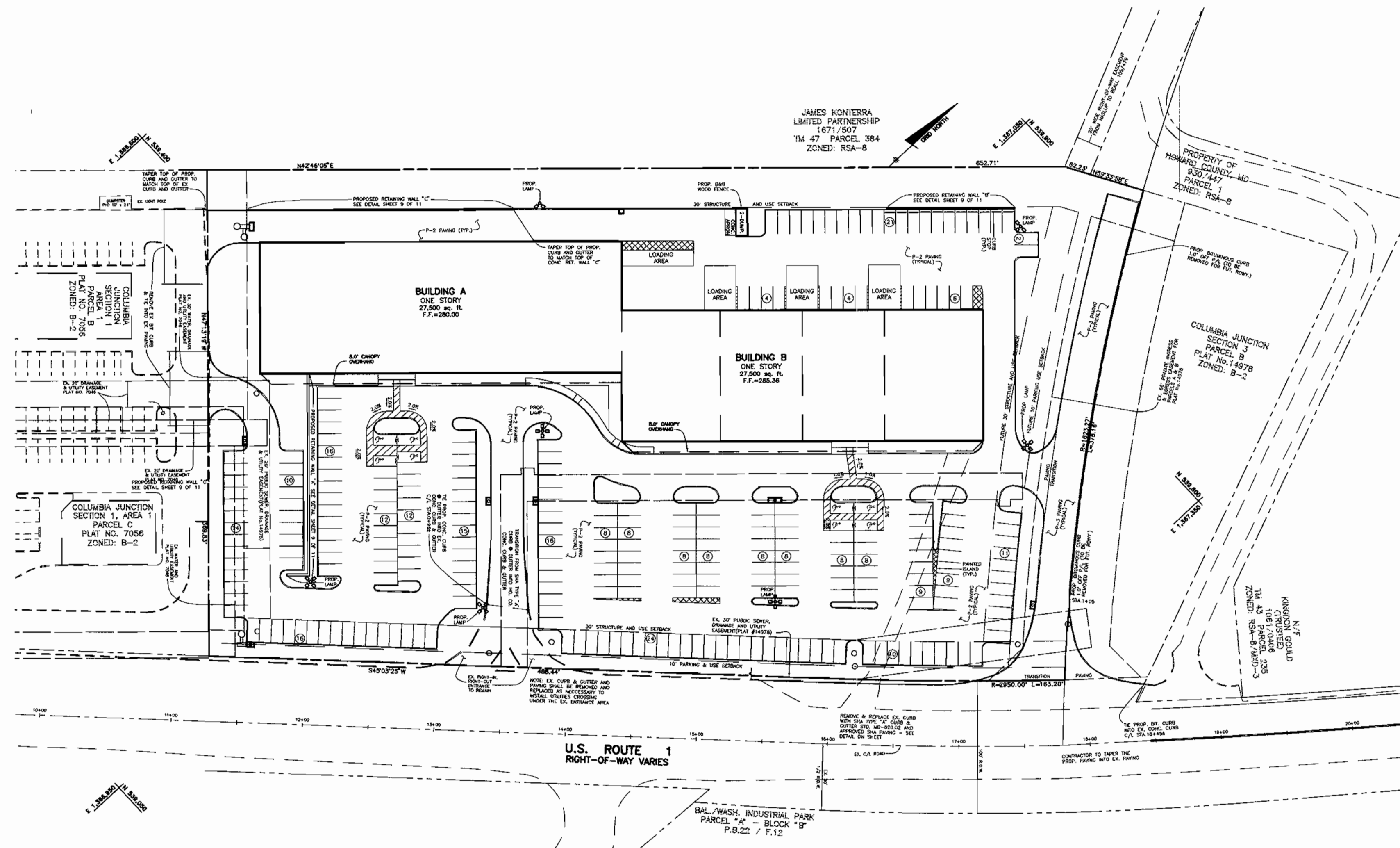
HOWARD COUNTY, MARYLAND

SITE DEVELOPMENT PLAN

SHEET INDEX	
NO.	DESCRIPTION
1	COVER SHEET
2	SITE DEVELOPMENT PLAN - GRADING PLAN
3	SEDIMENT & EROSION CONTROL PLAN
4	SEDIMENT & EROSION CONTROL NOTES AND DETAILS
5	STORM DRAINAGE AREA MAP
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9	RETAINING WALL NOTES AND DETAILS
10	MISCELLANEOUS NOTES AND DETAILS
11	TRAFFIC PLANS, NOTES AND DETAILS

LEGEND

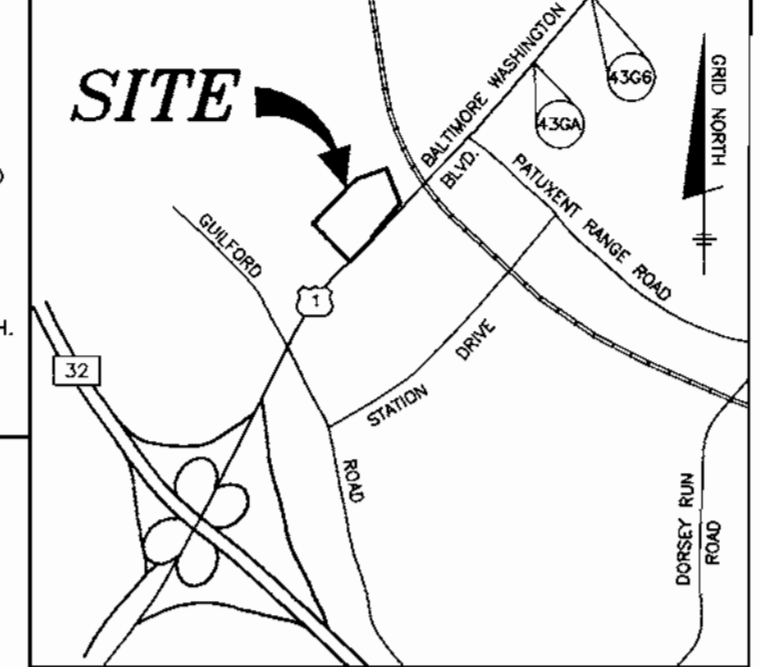
SOILS CLASSIFICATION	AbC1
SOILS DELINEATION	---
EXISTING CONTOURS	---999---
PROPOSED CONTOURS	---999---
LIMIT OF WETLANDS	---
EXISTING WOODS LINE	---
PROPOSED WOODS LINE	---
EXISTING STRUCTURE	---
PROPOSED STRUCTURE	---
DRAINAGE AREA	---
DRAINAGE DIVIDE	---
Tc STUDY PATH	---
LIMIT OF DISTURBANCE	---
STABILIZED CONSTRUCTION ENTRANCE	---
SILT FENCE DIVERSION	---
SUPER SILT FENCE	---
INLET PROTECTION	---
EARTH DIKE	---



BENCH MARKS - NAD '83

HO. CO. NO. 436A EL=241.665
 STAMPED DISC SET ON 3" CYLINDRICAL CONC.
 BASE 1"-2" BELOW SURFACE, 72.5' SW OF
 C&P POLE #178, 4.8' FROM EOP NORTHBOUND
 LANE OF U.S. ROUTE 1.
 N-541,797.053 E-1,369,159.481

HO. CO. NO. 436B EL=220.142
 STAMPED DISC SET ON 3" CYLINDRICAL CONC.
 BASE 1"-2" BELOW SURFACE, 68.8' SW OF F.H.
 AT CORNER OF MOTEL, 3.5' SE OF EOP
 NORTHBOUND LANE OF U.S. ROUTE 1.
 N-544,117.540 E-1,370,550.805



VICINITY MAP
SCALE: 1" = 200'

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 FIVE(5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- 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' INTERVALS PREPARED BY TSA GROUP, INC., ON OR ABOUT SEPTEMBER 9, 1998 AND BY BENCHMARK ENGINEERING, INC. ON OR ABOUT NOVEMBER 22, 2000.
- VERTICAL CONTROL AND HORIZONTAL CONTROL BASED UPON HOWARD COUNTY NAD '83 CONTROL STATIONS No.436A & No.436B.
- WATER AND SEWER FOR THIS PROJECT IS PUBLIC, CONTRACT NO. 24-3901-D. DRAINAGE AREA IS IN THE PATUXENT WATERSHED.
- THIS PROPERTY IS WITHIN THE METROPOLITAN WATER AND SEWER DISTRICT.
- STORMWATER MANAGEMENT FOR PARCEL 'A' WAS PREVIOUSLY PROVIDED WITHIN THE SWMF CONSTRUCTED AS PART OF F-88-160.
- TRAFFIC STUDY WAS PREPARED BY LEE CUNNINGHAM AND ASSOC., INC. IN APRIL, 1999 AND APPROVED IN NOVEMBER, 1999 AS PART OF THE PRELIMINARY PLAN SP-99-011.
- FOREST STAND DELINEATION PROVIDED BY ECO-SCIENCES, INC. DATED FEB., 1999.
- THE FOREST CONSERVATION REQUIREMENT FOR THIS SITE WILL BE PROVIDED BY A FEE-IN-LIEU PAYMENT FOR 102,366 S.F. OF TOTAL REFORESTATION, TO BE PAID ALONG WITH THIS SITE DEVELOPMENT PLAN.
- THERE ARE NO WETLANDS, WETLANDS BUFFERS, STREAMS, STREAM BUFFERS, FLOODPLAIN OR STEEP SLOPES LOCATED ON THIS SITE.
- EXISTING UTILITIES SHOWN WERE LOCATED BY RECORD DRAWINGS AND FIELD LOCATIONS.
- UNLESS NOTED AS "PRIVATE", ALL EASEMENTS ARE PUBLIC.
- CONTRACTOR SHALL ADJUST ALL UTILITIES AND RIM ELEVATIONS AS NEEDED TO MATCH THIS PLAN.
- ALL PROPOSED EXTERIOR LIGHTING SHALL BE DIRECTED/REFLECTED AWAY FROM ALL ADJACENT PUBLIC ROADS AND RESIDENTIAL ZONING DISTRICTS IN ACCORDANCE WITH SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS.
- ALL LANDSCAPING REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL SECTION 16.124(b)(3)(i).
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING WILL BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$31,110.00.
- A MARYLAND STATE HIGHWAY ACCESS PERMIT MUST BE OBTAINED PRIOR TO STARTING ANY CONSTRUCTION ACTIVITIES WITHIN THE STATE HIGHWAY RIGHT-OF-WAY.
- WP-99-35 WAS CONSIDERED AND DENIED ON 12/3/98, WHICH REQUESTED A WAIVER OF SECTION 16.144(c) AND (f) TO REQUIRE SUBMISSION OF A SKETCH PLAN AND PRELIMINARY PLAN FOR THE PROPOSED SUBDIVISION OF PARCELS 90, 91 AND 114.
- THE ACCESS ROAD FOR THE SITE IS INTENDED TO BECOME A PUBLIC ROAD w/66' RIGHT-OF-WAY IN THE FUTURE. AN AGREEMENT WILL BE RECORDED TO ENSURE THAT BOTH THE OWNERS OF PARCELS 'A' AND 'B' WILL ALLOW FOR THE FUTURE ROAD R/W DEDICATION.
- A SHARED VEHICULAR ACCESS AND PARKING EASEMENT SHALL BE EXECUTED BETWEEN THE EXISTING COLUMBIA JUNCTION SHOPPING CENTER PARCEL 180 AND THIS DEVELOPMENT PARCEL 548.
- TO THE BEST OF OUR KNOWLEDGE THERE ARE NO CEMETERY LOCATIONS ON-SITE.
- THE SUBJECT PROPERTY IS ZONED B-2 PER THE 1993 COMPREHENSIVE ZONING PLAN.
- PREVIOUS DEPARTMENT OF PLANNING AND ZONING REFERENCE NUMBERS INCLUDE: SP-99-011, WP-99-35, F-01-087

SITE DATA TABULATION

GENERAL SITE DATA

- PRESENT ZONING: B-2
- APPLICABLE DPZ FILE REFERENCES: SP-99-011, WP-99-35, F-01-087
- PROPOSED USE OF SITE: RETAIL/COMMERCIAL
- PROPOSED WATER: x PUBLIC
PROPOSED SEWER: x PUBLIC

AREA TABULATION

- TOTAL AREA OF SITE: 5.93± Ac.
- AREA OF 100 YR. FLOODPLAIN: N/A
- NET AREA OF SITE: 5.93± Ac.
- AREA OF THIS PLAN SUBMISSION: 5.93± Ac.
- APPROXIMATE LIMIT OF DISTURBANCE: 6.45± Ac.
- BUILDING COVERAGE OF SITE (PERMITTED): N/A
- BUILDING COVERAGE OF SITE (PROPOSED): 55,000 s.f.

OPEN SPACE DATA

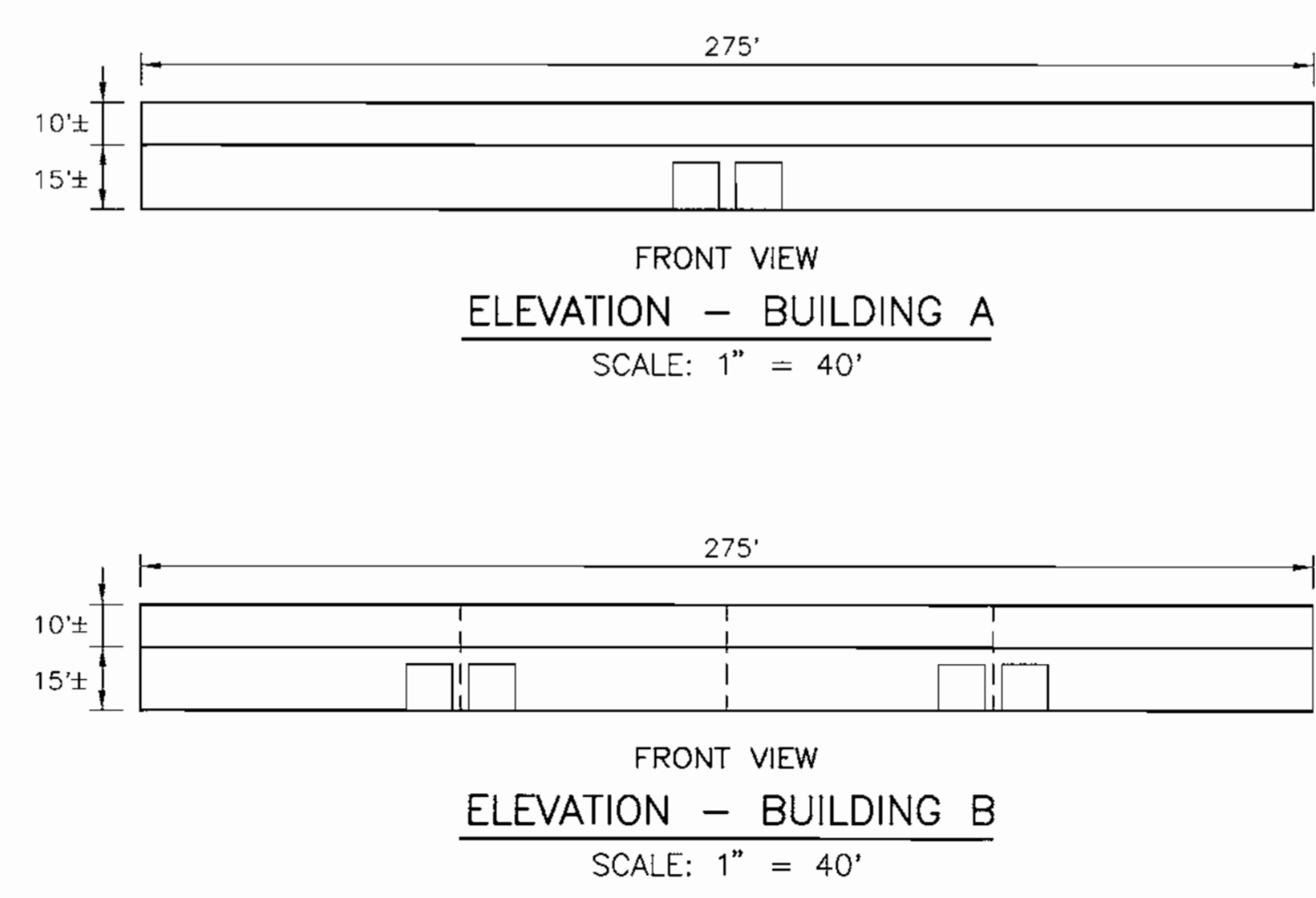
- OPEN SPACE ON SITE(0.0%): N/A
- AREA OF RECREATION OPEN SPACE REQUIRED BY SUBDIVISION & LAND DEVELOPMENT REGULATIONS: N/A
ACRES REQUIRED: N/A
ACRES PROVIDED: N/A

PARKING SPACE DATA

- FLOOR SPACE ON EACH LEVEL PER BUILDING(S) PER USE: 55,000 S.F.
- MAXIMUM NUMBER OF EMPLOYEES, TENANTS ON-SITE PER USE: N/A
- NUMBER OF PARKING SPACES REQUIRED BY ZONING REGULATIONS AND/OR FDP CRITERIA: 275
- TOTAL NUMBER OF PARKING SPACES PROVIDED ON-SITE: 275
- TOTAL NUMBER OF SERVICE PARKING SPACES PROVIDED ON-SITE: N/A
- NUMBER OF HANDICAPPED PARKING SPACES PROVIDED ON-SITE: 8

LOCATION PLAN

SCALE: 1"=60'



ADDRESS CHART	
BLDG. NO.	STREET ADDRESS
1	8570 BALT./WASH. BLVD. (U.S. RTE. 1)
2	8550 BALT./WASH. BLVD. (U.S. RTE. 1)

PERMIT INFORMATION CHART					
SUBDIVISION NAME	LOT/PARCEL#	ZONE			
COLUMBIA JUNCTION SECTION 3	PARCEL "A"	B-2			
PLAT No. 14978	BLOCK No. 1	SEC./AREA 3	TAX MAP 48	ELEC. DIST. 6th	CENSUS 6069.01
14979					
WATER CODE B-03		SEWER CODE 4250000			

NO.	DATE	REV PER HO. CO. COMMENTS OF	REVISION
1	7/31/01	REV PER HO. CO. COMMENTS OF	6/29/01

BENCHMARK ENGINEERING, INC.

ENGINEERS • LAND SURVEYORS • PLANNERS

8480 BALTIMORE NATIONAL PIKE • SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 phone: 410-465-6105 • fax: 410-465-6864
 email: Benchmark@comcast.com

12/20/01

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature]
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 11/9/02

[Signature]
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 11/14/02

[Signature]
 DIRECTOR
 DATE: 11/16/02

DEVELOPER: SCI LIMITED PARTNERSHIP
 P.O. BOX 417
 ELLICOTT CITY, MD 21041
 PHONE: 410-465-4244

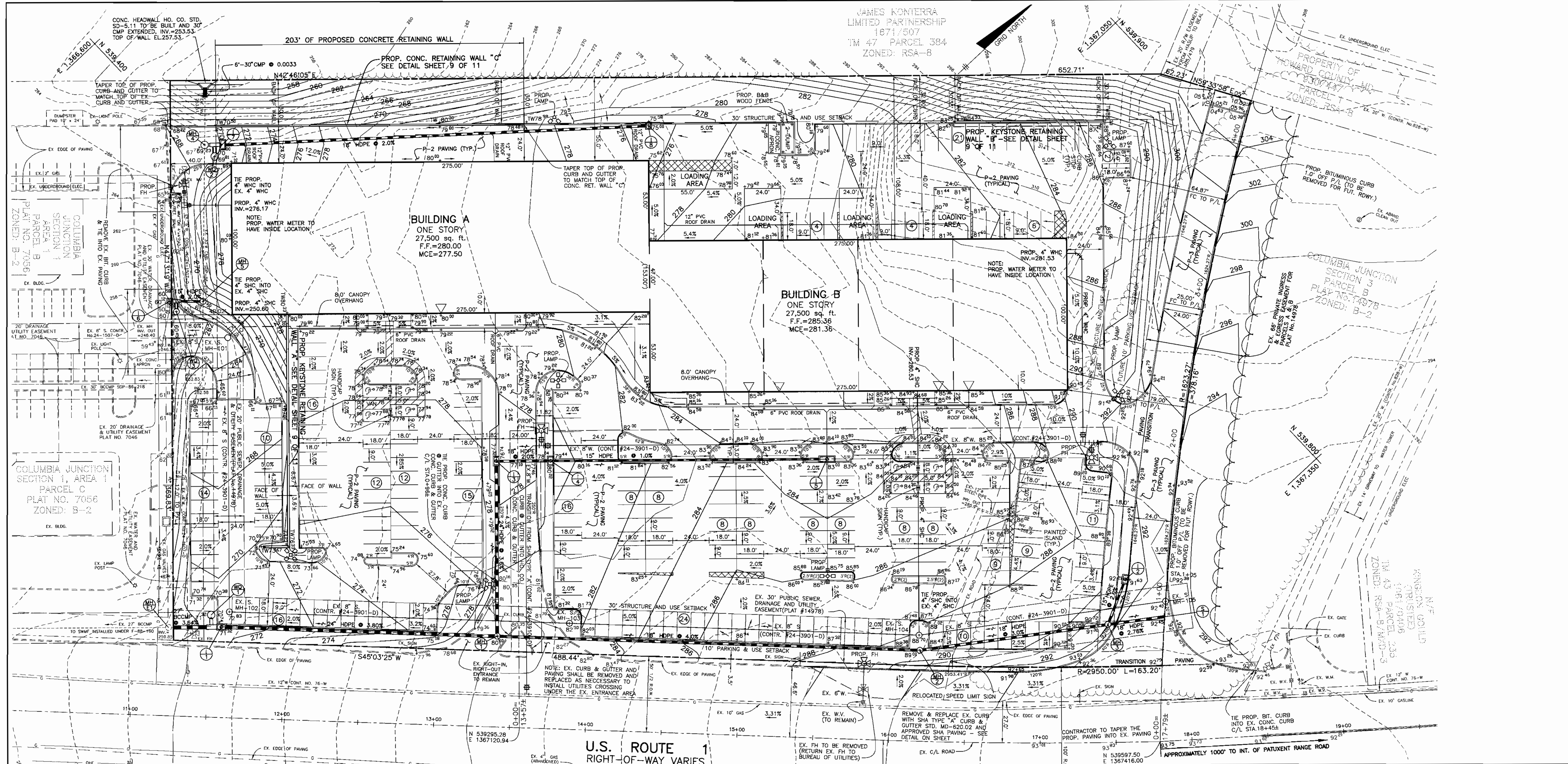
PROJECT: COLUMBIA JUNCTION SECTION 3 - PARCEL 'A' (RETAIL CENTER)

LOCATION: TAX MAP 48 - BLOCK 1 PARCELS 90, 91, 114 & 548
 6th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE: COVER SHEET

DATE: FEBRUARY, 2001 PROJECT NO. 1221
 DECEMBER, 2001

Design: DAM/MCR Draft: MCR Check: DAM SCALE: AS SHOWN DRAWING 1 OF 11



PLAN VIEW
SCALE: 1" = 30'

NOTE: FOR INDICATION OF CURB TYPES TO BE INSTALLED, SEE KEY MAP ON SHEET 5 OF 11

PARKING LOT LIGHT SCHEDULE		
SYMBOL	DESCRIPTION	LOCATION
	2) 150 WATT HPS VAPOR WITH 14' BLACK FIBERGLASS POLE.	N 539587.88 E 1366842.52
	3) 150 WATT HPS VAPOR WITH 14' BLACK FIBERGLASS POLE.	N 539643.46 E 1367104.99
	4) 150 WATT HPS VAPOR WITH 14' BLACK FIBERGLASS POLE.	N 539733.52 E 1367230.44 N 539512.08 E 1367186.72 N 539470.76 E 1367070.98 N 539345.93 E 1367038.46 N 539263.41 E 1366934.73

NO.	DATE	REVISION

BENCHMARK
ENGINEERS • LAND SURVEYORS • PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE • SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 • FAX: 410-465-6644
EMAIL: BENCHMCR@COMS.COM

12/20/01

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Howard County
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 1/9/02

David Hamilton
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 1/10/02

James R. Ruff
DIRECTOR
DATE: 1/14/02

DEVELOPER: SCI LIMITED PARTNERSHIP
P.O. BOX 417
ELLCOTT CITY, MD 21041
PHONE: 410-465-4244

PROJECT: COLUMBIA JUNCTION SECTION 3 - PARCEL 'A' (RETAIL CENTER)

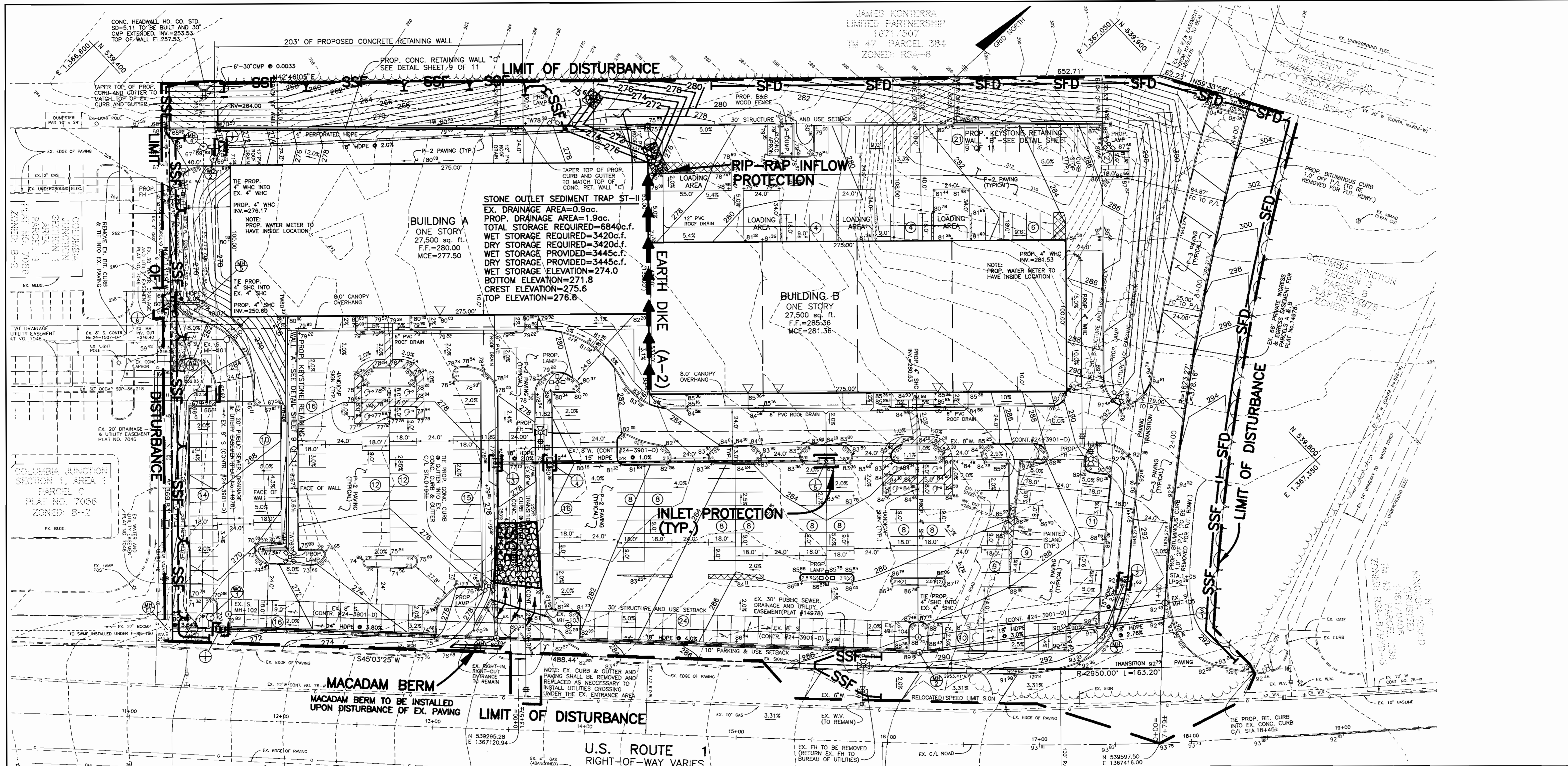
LOCATION: TAX MAP 48 - BLOCK 1 PARCELS 90, 91, 114 & 548 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: SITE DEVELOPMENT PLAN GRADING PLAN

DATE: FEBRUARY, 2001 PROJECT NO. 1221
DECEMBER, 2001

SCALE: AS SHOWN DRAWING 2 OF 11

Design: DAM/MCR Draft: MCR Check: DAM



NO.	DATE	REVISION
1	7/31/01	REV PER HO. SCD COMMENT OF 6/07/01

NOTE: TEMPORARY SWM IS BEING PROVIDED WITHIN THE SWM FACILITY BUILT UNDER F-88-160 (COLUMBIA JUNCTION SECTION 2 - AREA 1). THIS DESIGN WAS BASED ON A COMMERCIAL AND BUSINESS CURVE NUMBER WHICH HAS A HIGHER VALUE THAN NEWLY GRADED LAND EVEN WITH THE CHANGE IN THE HYDROLOGIC SOILS GROUP.

MAP SYMBOL	SOIL TYPE	MAPPING UNIT
Bm2	C	BELTSVILLE SILT LOAM - 1 TO 5 PERCENT SLOPES - MODERATELY ERODED
Bc2	C	BELTSVILLE SILT LOAM - 5 TO 10 PERCENT SLOPES - MODERATELY ERODED
IsB	C	ILKA LOAM - LOCAL ALLUVIUM - 1 TO 5 PERCENT SLOPES
Ss2	B	SASSAFRAS LOAM - 10 TO 15 PERCENT SLOPES - MODERATELY ERODED
SsE	B	SASSAFRAS SOILS - 15 TO 40 PERCENT SLOPES

NOTE: FOR LEGEND SEE SHEET 4 OF 11 SEDIMENT & EROSION CONTROL NOTES AND DETAILS

SEDIMENT CONTROL LOCATION AND IMPLEMENTATION SHOWN ON THIS PLAN IS SUBJECT TO REVISIONS IN THE FIELD AT THE DISCRETION OF THE SEDIMENT CONTROL INSPECTOR

ALL SEDIMENT CONTROL FEATURES SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS SHOWN IN THE 1984 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

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

DEVELOPER: *Shawn D. Hagan* DATE: 12-20-01

BY THE ENGINEER:
 "I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

ENGINEER: *Donald Maas* DATE: 12/20/01

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

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS: *Jim Meyer* DATE: 1/7/02

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING: *Chris Hamstra* DATE: 1/10/02

DIRECTOR: *James S. Smith* DATE: 1/10/02

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DEVELOPER:	PROJECT:
SCI LIMITED PARTNERSHIP P.O. BOX 417 ELLICOTT CITY, MD 21041 PHONE: 410-465-4244	COLUMBIA JUNCTION SECTION 3 - PARCEL 'A' (RETAIL CENTER)
TITLE:	LOCATION:
SEDIMENT AND EROSION CONTROL PLAN	TAX MAP 48 - BLOCK 1 PARCELS 90, 91, 114 & 548 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE:	PROJECT NO.:
FEBRUARY, 2001 DECEMBER, 2001	1221
SCALE:	DRAWING:
1" = 30'	3 OF 11

SEQUENCE OF CONSTRUCTION

- DAY 1 OBTAIN GRADING PERMIT.
DAY 2-5 INSTALL SUPER SILT FENCE, SILT FENCE DIVERSION, STABILIZED CONSTRUCTION ENTRANCE, EARTH DIKE AND SEDIMENT TRAPS
DAY 6-8 CLEAR AND GRUB SITE.
DAY 9-15 MASS GRADE SITE AND STABILIZE IN ACCORDANCE WITH TEMPORARY SEEDBED NOTES.
DAY 16-36 INSTALL STORM DRAINS EXCEPT FOR THE CONNECTION FROM THE WATER QUALITY INLET TO EX. MH-1 AND INSTALL INLET PROTECTION, CONDUIT BUILDING, WATER, SEWER, UTILITY AND RETAINING WALLS "B" AND "C" CONSTRUCTION.
DAY 37-97 INSTALL CURB & GUTTER AND PAVING EXCEPT WHERE THE SEDIMENT TRAPS ARE LOCATED AND STABILIZE ISLANDS IN ACCORDANCE WITH PERMANENT SEEDBED NOTES.
DAY 98-109 UPON APPROVAL OF HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE REMAINING SEDIMENT CONTROL DEVICES, INSTALL RETAINING WALL "A", COMPLETE THE STORM DRAIN INSTALLATION I-1 TO EX. MH-1 AND COMPLETE THE REMAINING CURB & GUTTER AND PAVING.

LEGEND

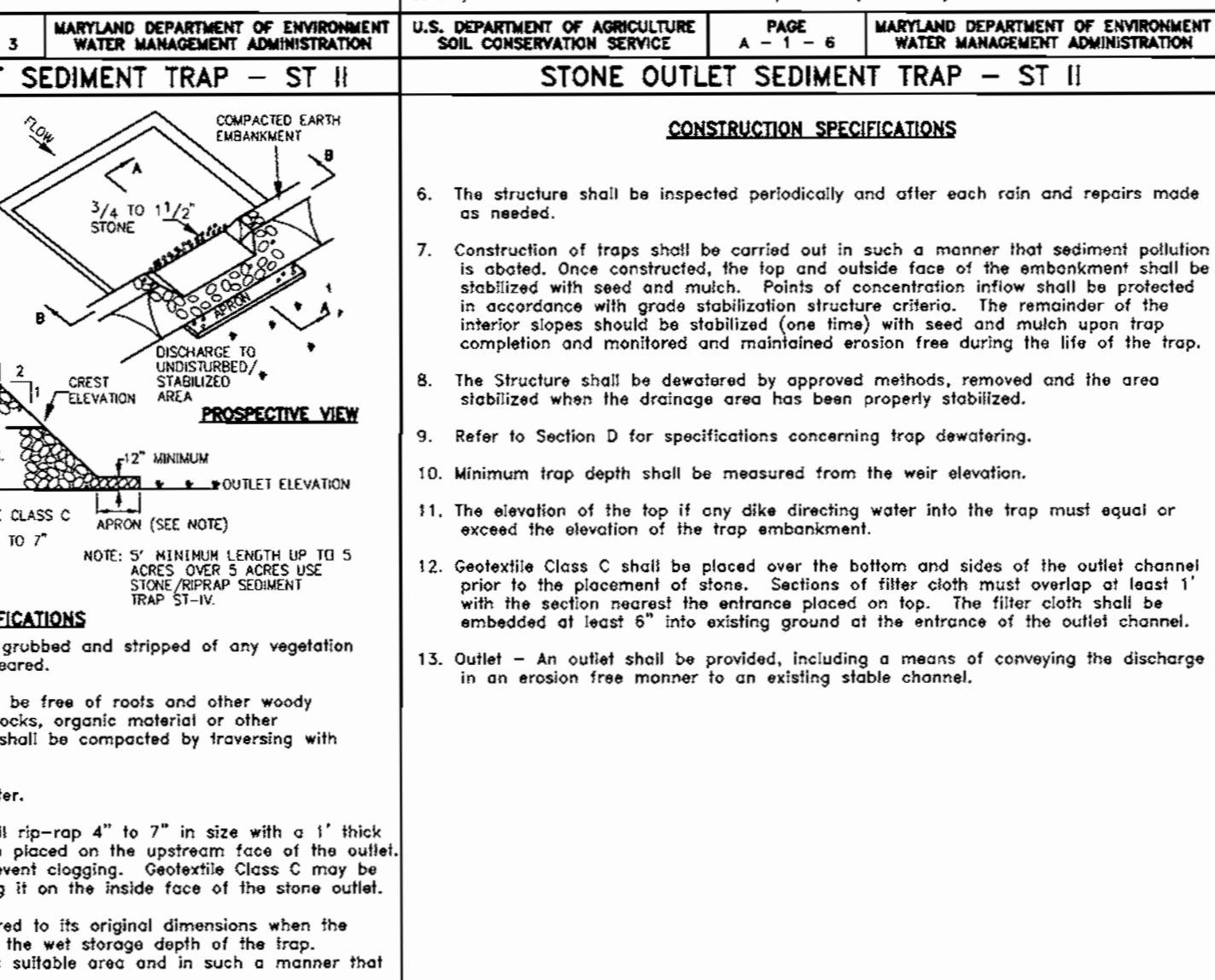
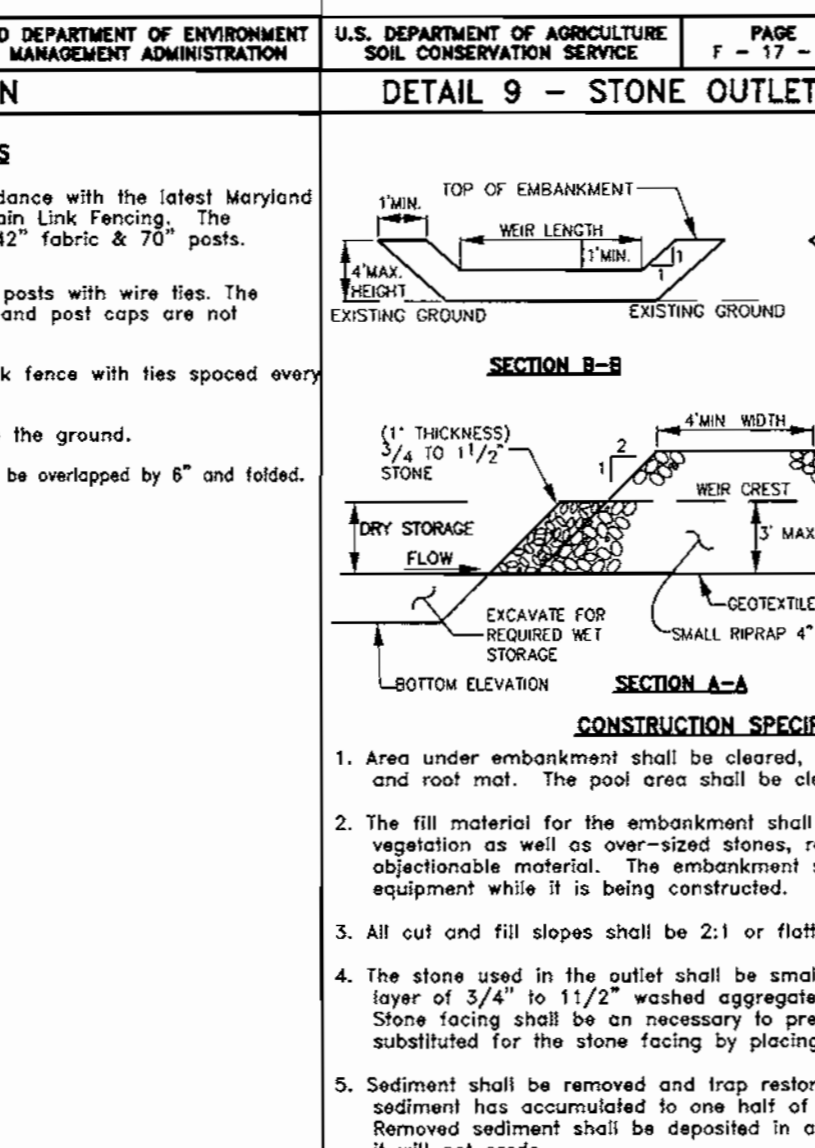
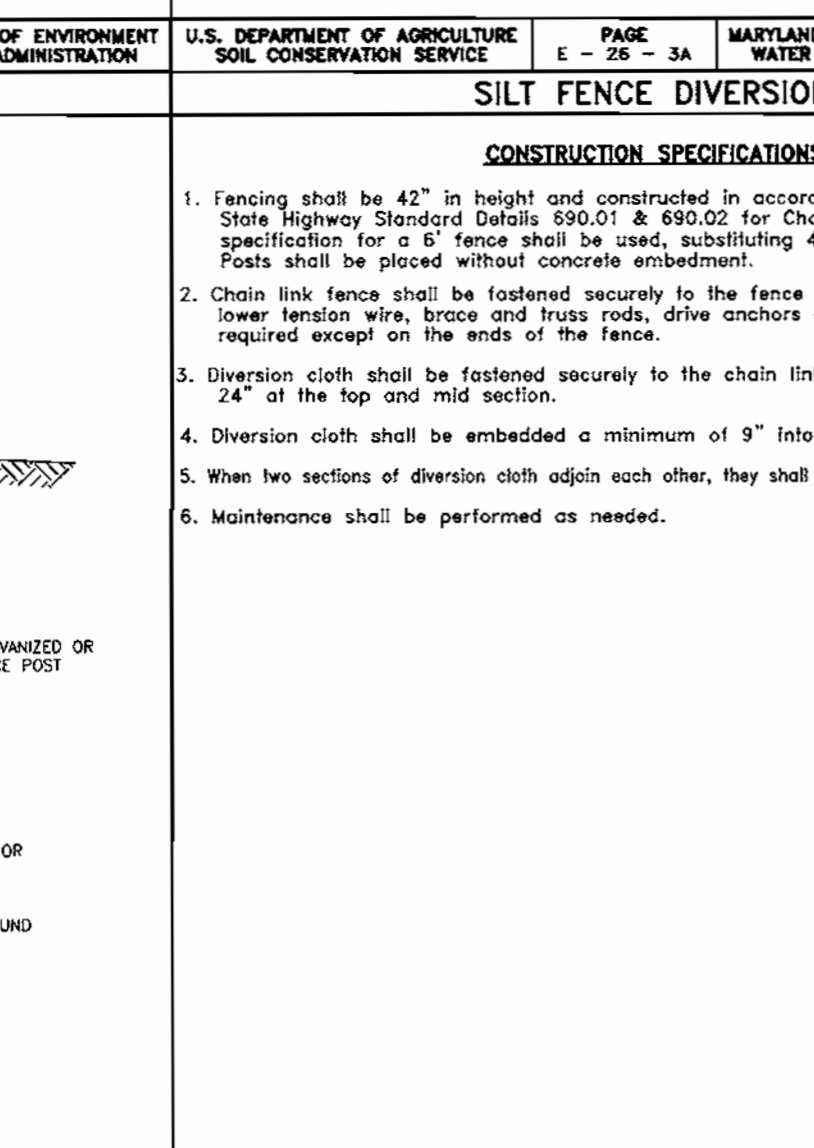
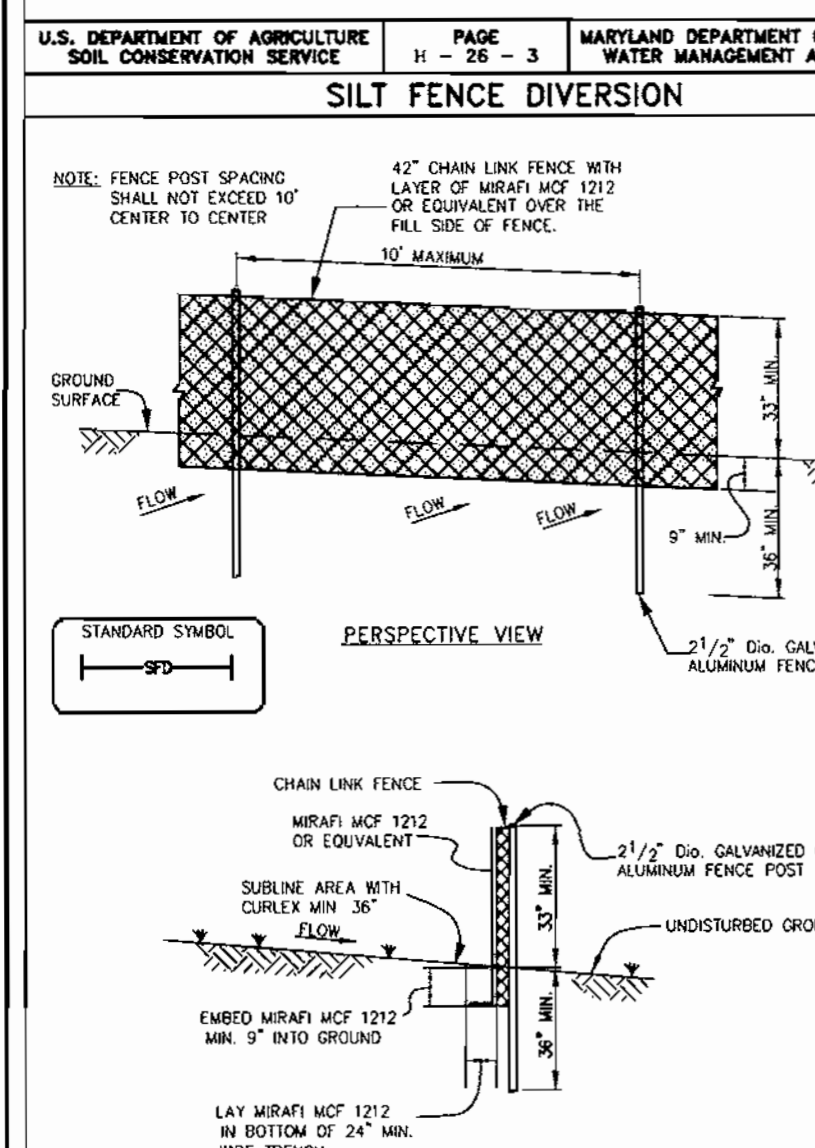
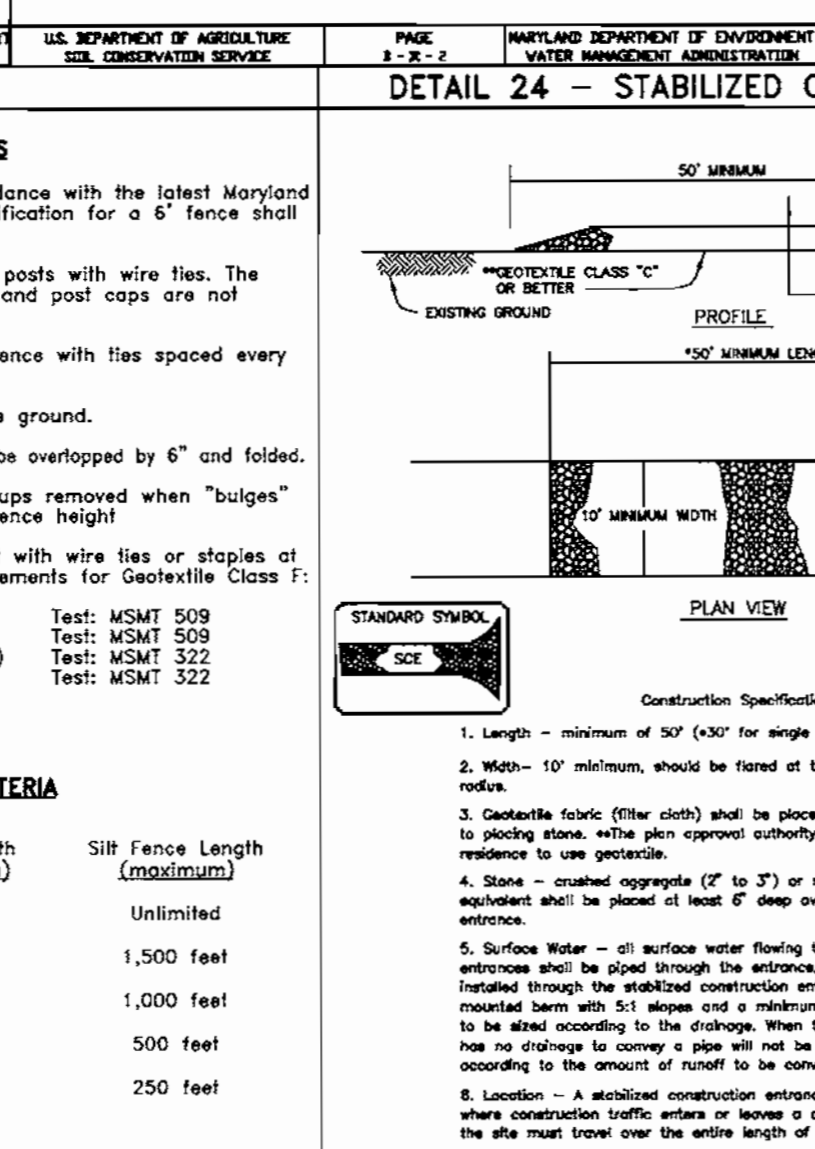
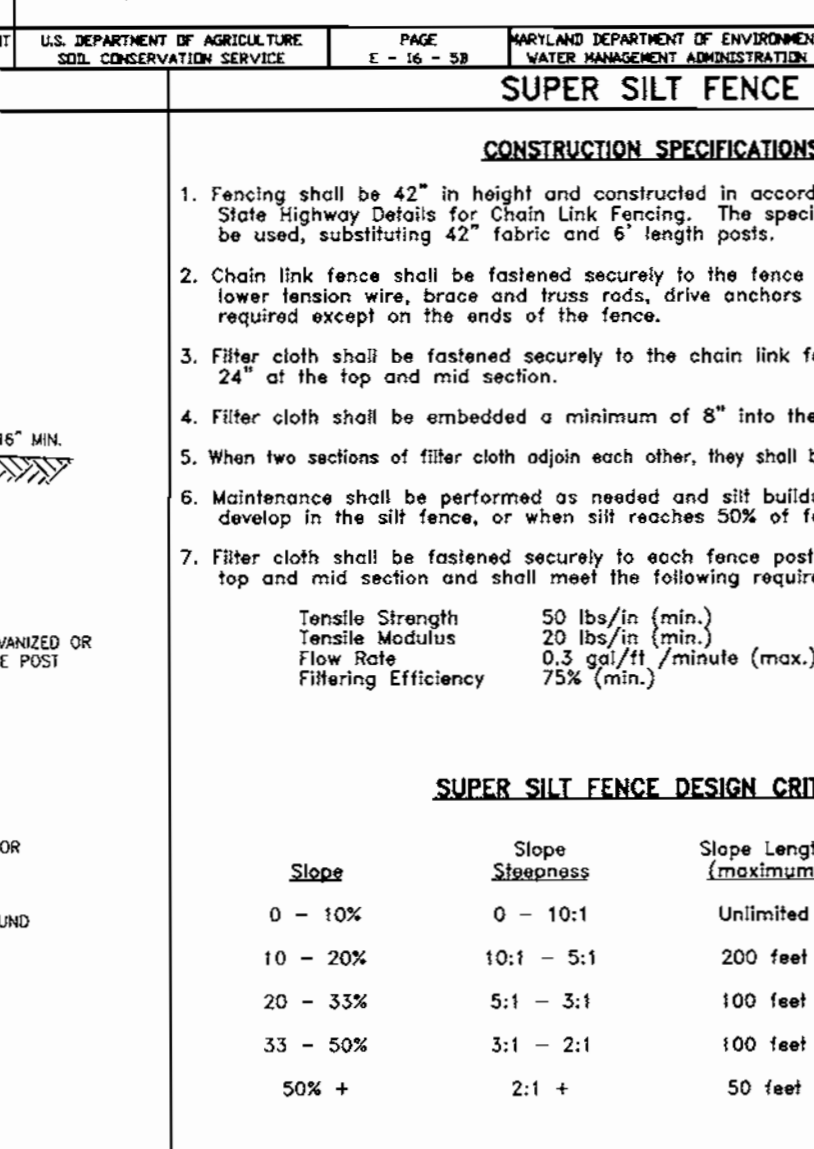
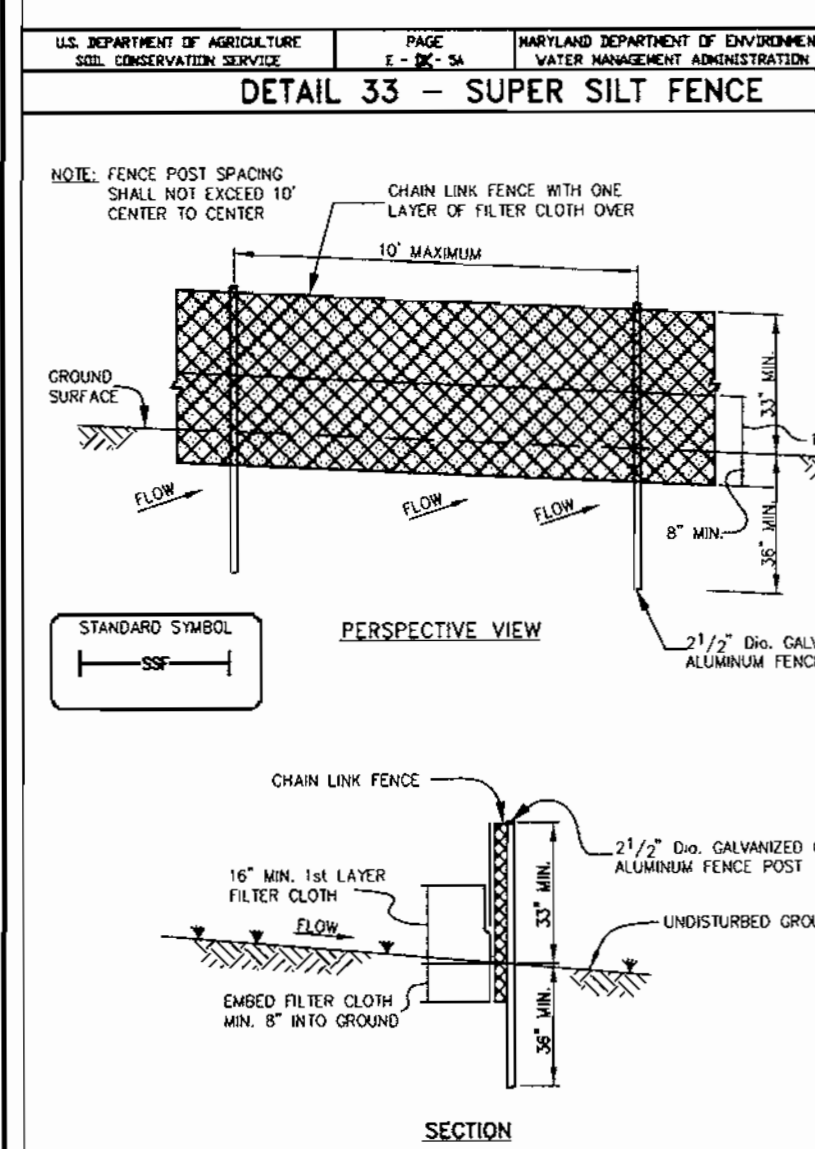
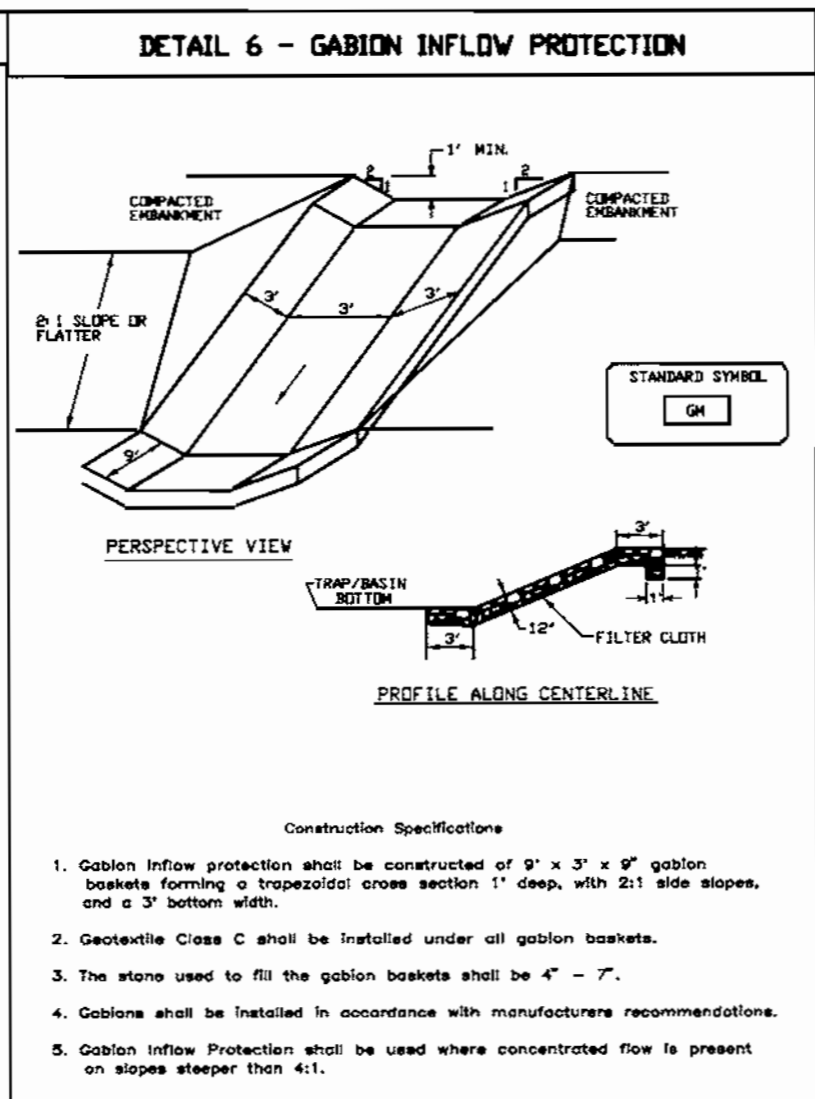
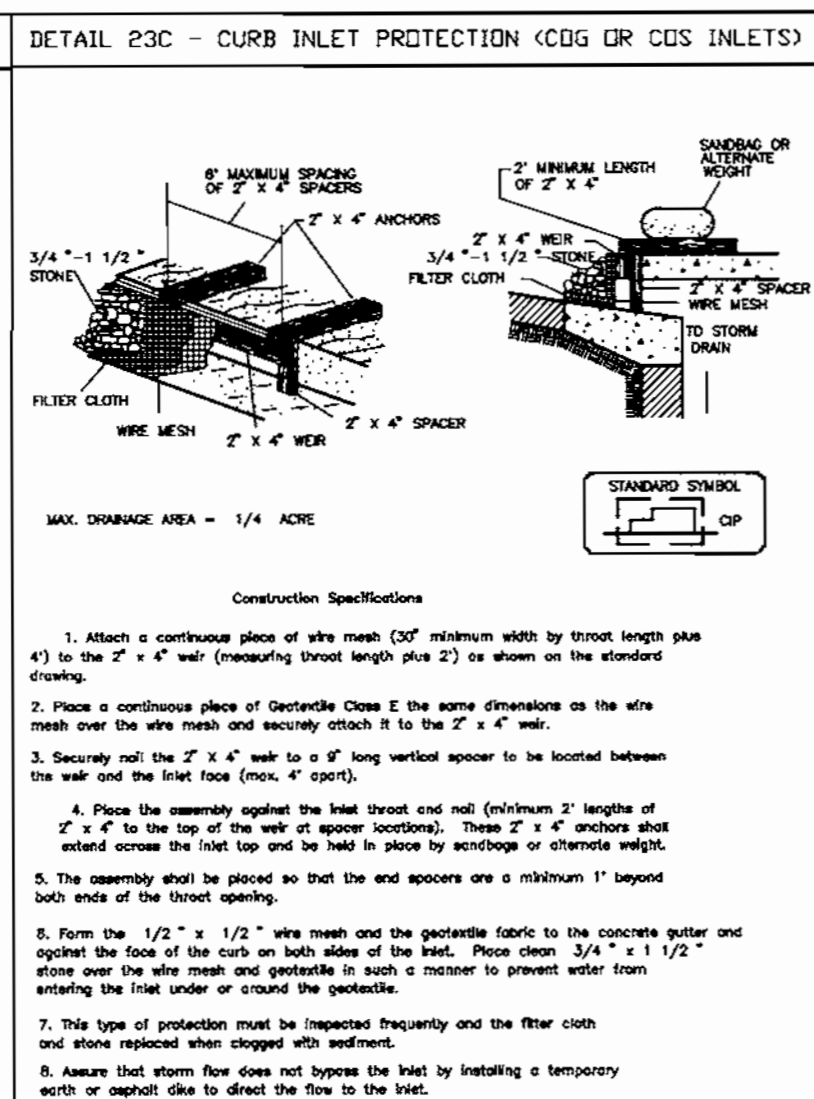
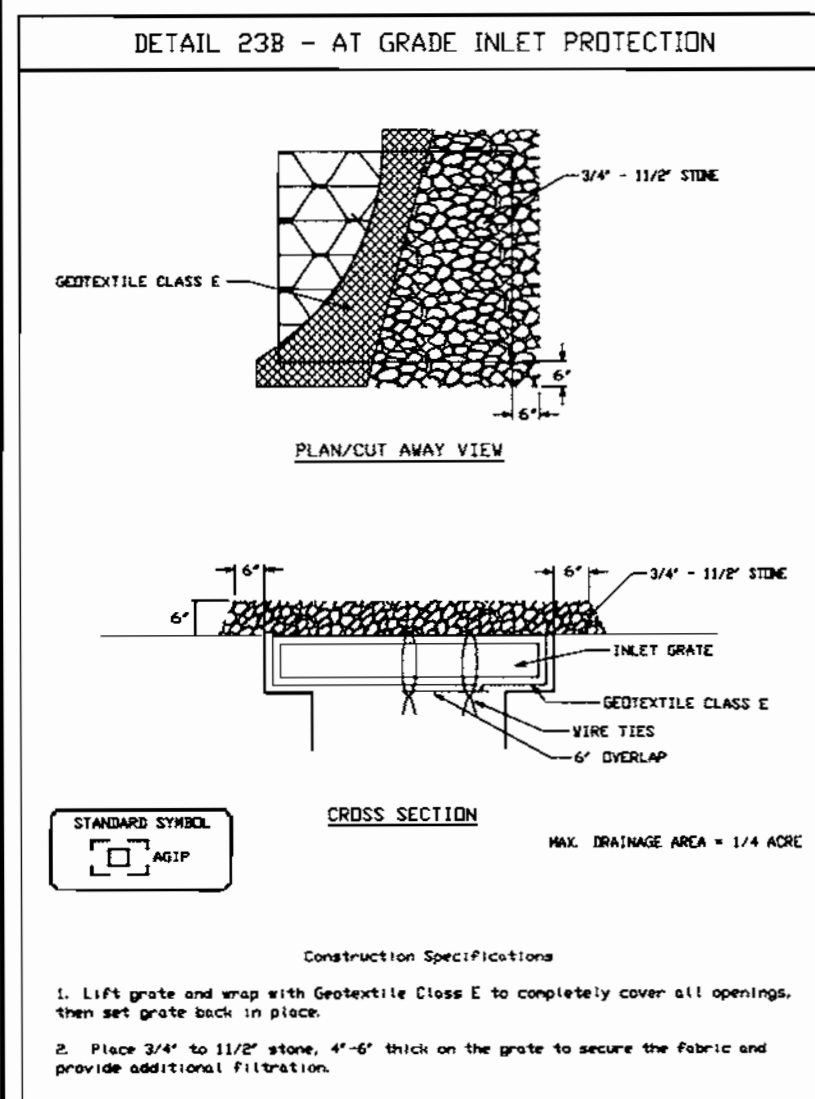
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EARTH DIKE

SEDIMENT CONTROL NOTES

- 1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION.
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: (A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DICES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1; (B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SO2 (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7. SITE ANALYSIS:
TOTAL AREA OF SITE 6.93 ACRES
TOTAL AREA DISTURBED 2.65 ACRES
AREA TO BE ROOFED OR PAVED 4.78 ACRES
AREA TO BE VEGETATIVELY STABILIZED 21,600 CU. YDS.
TOTAL CUT 12,600 CU. YDS.
TOTAL FILL 11,400 CU. YDS.
OFFSITE BORROW 0
8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING, OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL IS MADE.
11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES ARE LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

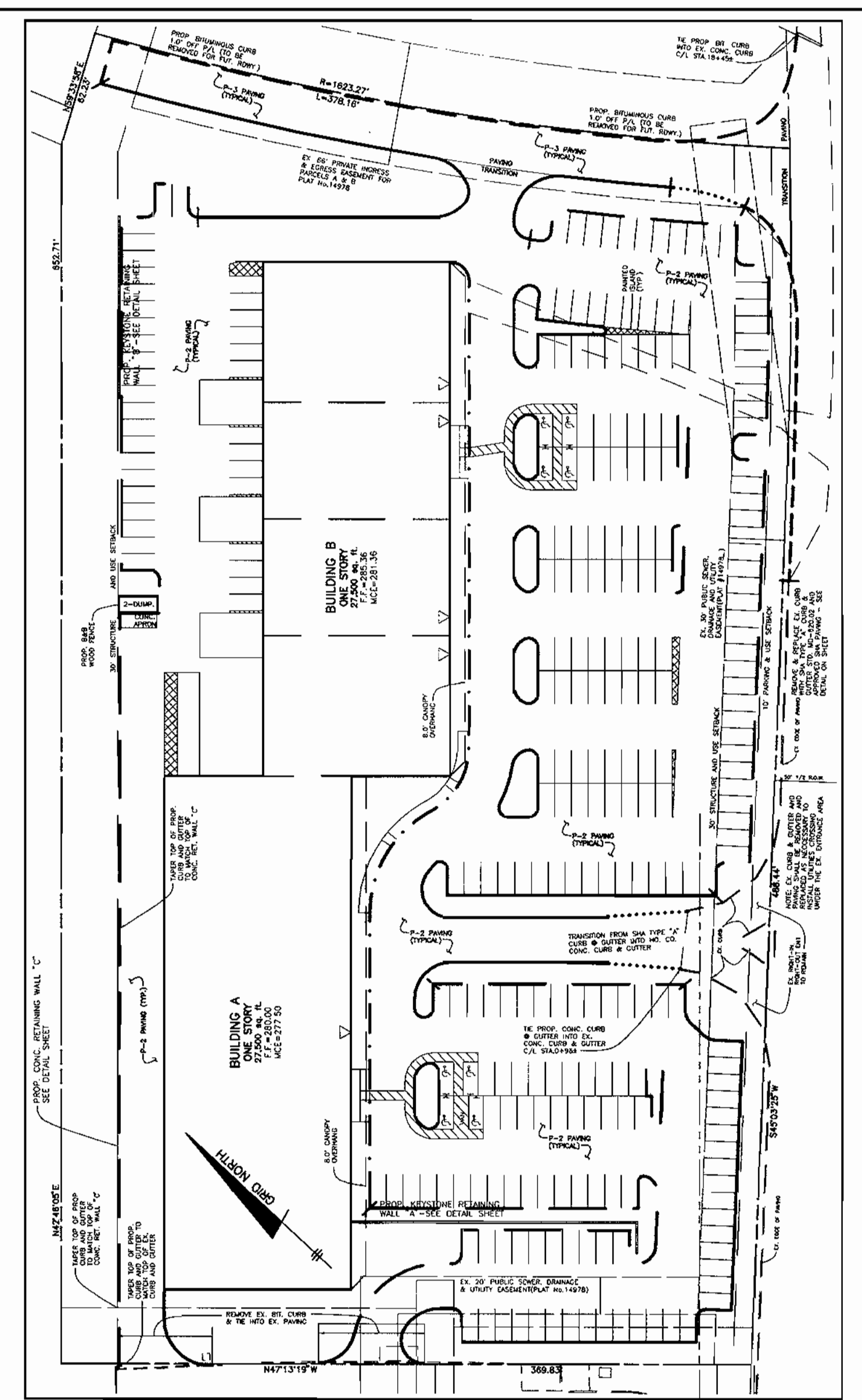
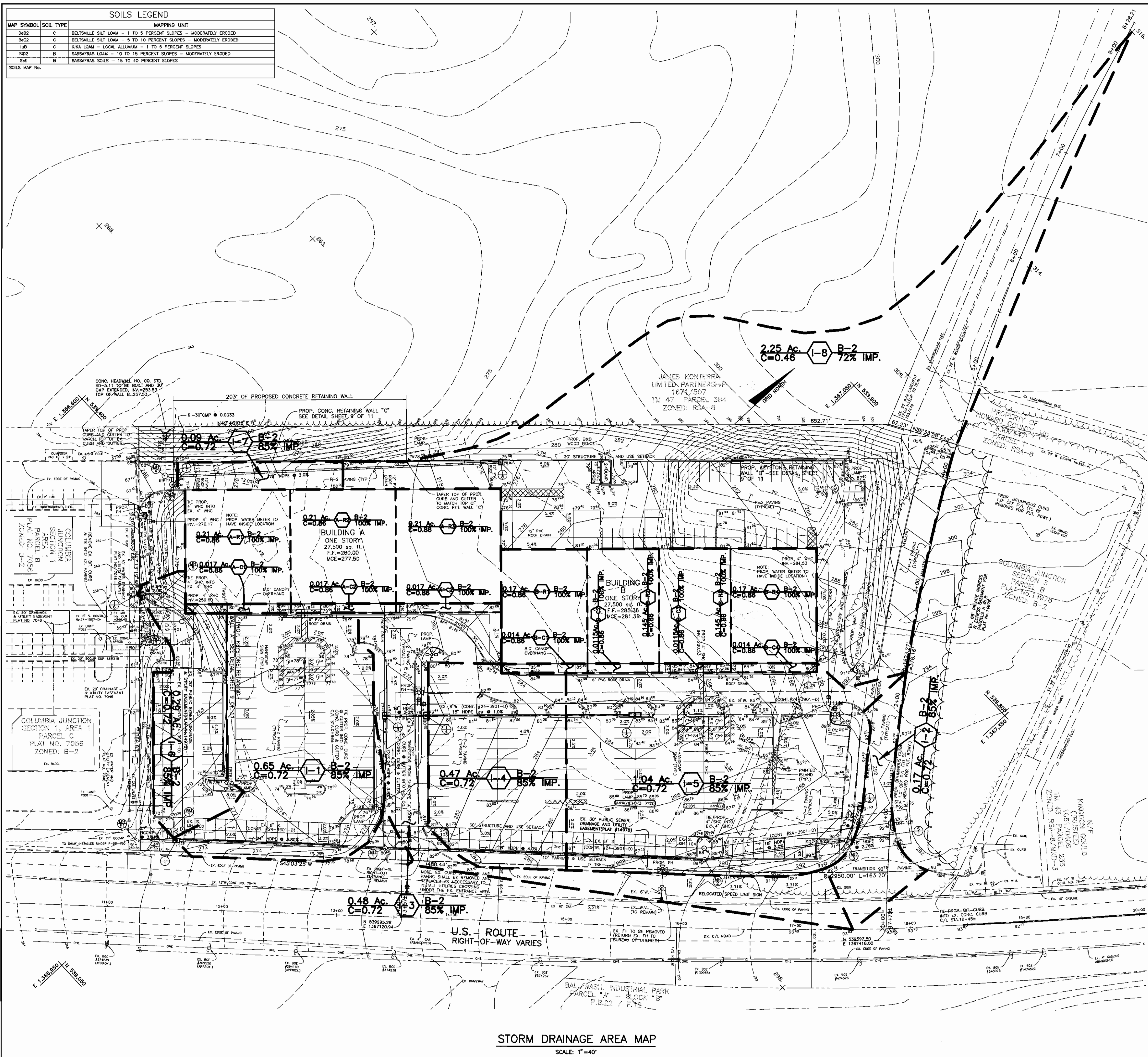
- Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.
To provide a suitable medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, nutrients toxic to plants, and/or unacceptable soil gradation.
Conditions Where Fragrance Applies
This practice is limited to areas having 2:1 or flatter slopes where:
a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
c. The original soil to be vegetated contains material toxic to plants.
d. The soil is so acidic that treatment with limestone is not feasible. If, for the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.
Construction and Material Specifications
I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Survey published by USDA-SCS in cooperation with Maryland Agricultural Experiment Station.
II. Topsoil Specifications - Topsoil to be used on topsoil must meet the following:
i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and soil contain less than 5% by volume of cinders, stones, sags, coarse fragments, gravel, rocks, trash, or other materials larger than 1 1/2" in diameter.
ii. Topsoil must be free of plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nutgrass, poison ivy, thistle, or others as specified.
III. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Limestone shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
IV. For sites having disturbed areas over 5 acres:
i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
ii. For sites having disturbed areas over 5 acres:
i. On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime will be prescribed to raise the pH to 6.5 or higher.
b. Organic content of topsoil shall be not less than 1.5 percent by weight.
c. Topsoil having suitable soil content greater than 500 parts per million shall not be used.
d. No nod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit disintegration of phytotoxic materials.
Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
ii. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
V. Topsoil Application
i. When topsoiling, maintain needed erosion and sediment control practices such as diversion, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
ii. Grade on the areas to be topsoiled, which have been previously established, shall be maintained, about 4" - 8" higher in elevation.
iii. Topsoil shall be uniformly distributed in a 4" - 8" layer and finely compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.
v. Alternative for Permanent Seeding - Instead of applying the full amounts of time and commercial fertilizer, composted sludge and amendments may be applied as specified below:
i. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested for prescribed amendments and for sites having disturbed areas over 5 acres shall conform to the following requirements:
a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of application of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements for use.
c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
d. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal time application rate.
References: Guideline Specifications, Soil Preparation and Sodding, MD-Va. Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institute, Revised 1973.



BY THE DEVELOPER: I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.
Signature: [Signature] DATE: 12/20/01
Signature: [Signature] DATE: 12/20/01
Signature: [Signature] DATE: 1/7/02
Signature: [Signature] DATE: 1/9/02
Signature: [Signature] DATE: 1/11/02

SEDIMENT CONTROL LOCATION AND IMPLEMENTATION SHOWN ON THIS PLAN IS SUBJECT TO REVISIONS IN THE FIELD AT THE DISCRETION OF THE SEDIMENT CONTROL INSPECTOR.
ALL SEDIMENT CONTROL FEATURES SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS SHOWN IN THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
BENCHMARK ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
email: Benchmark@coils.com
PROJECT: COLUMBIA JUNCTION SECTION 3 - PARCEL 'A' (RETAIL CENTER)
LOCATION: TAX MAP 48 - BLOCK 1 PARCELS 90, 91, 114 & 548 618 ELECTORAL DISTRICT HOWARD COUNTY, MARYLAND
TITLE: SEDIMENT AND EROSION CONTROL NOTES & DETAILS
DATE: FEBRUARY, 2001 PROJECT NO. 1221
DECEMBER, 2001
SCALE: AS SHOWN DRAWING 4 OF 11
Design: DAM/MCR Draft: MCR Check: DAM

SOILS LEGEND		
MAP SYMBOL	SOIL TYPE	MAPPING UNIT
B&B2	C	BELTSVILLE SILT LOAM - 1 TO 5 PERCENT SLOPES - MODERATELY ERODED
B&C2	C	BELTSVILLE SILT LOAM - 5 TO 10 PERCENT SLOPES - MODERATELY ERODED
I&B	C	IUKA LOAM - LOCAL ALLUVIUM - 1 TO 5 PERCENT SLOPES
S&B2	B	SASSAFRAS LOAM - 10 TO 15 PERCENT SLOPES - MODERATELY ERODED
S&C	B	SASSAFRAS SOILS - 15 TO 40 PERCENT SLOPES



SCALE: 1"=60'

-----	TRANSITION CURB HO. CO. STD. R-3.02	-----	STANDARD BITUMINOUS CURB HO. CO. STD. R-3.03
-----	STD. COMBINATION CURB & GUTTER HO. CO. STD. R-3.01	-----	STANDARD BARRIER CURB HO. CO. STD. R-3.03
-----	MSHA TYPE "A" CURB & GUTTER	-----	MONOLITHIC CURB & SIDEWALK

NO.	DATE	REVISION

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Howard County
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Chris Hamilton
CHIEF, DIVISION OF LAND DEVELOPMENT

Joseph R. ...
DIRECTOR

1/9/02 DATE
1/16/02 DATE
1/16/02 DATE

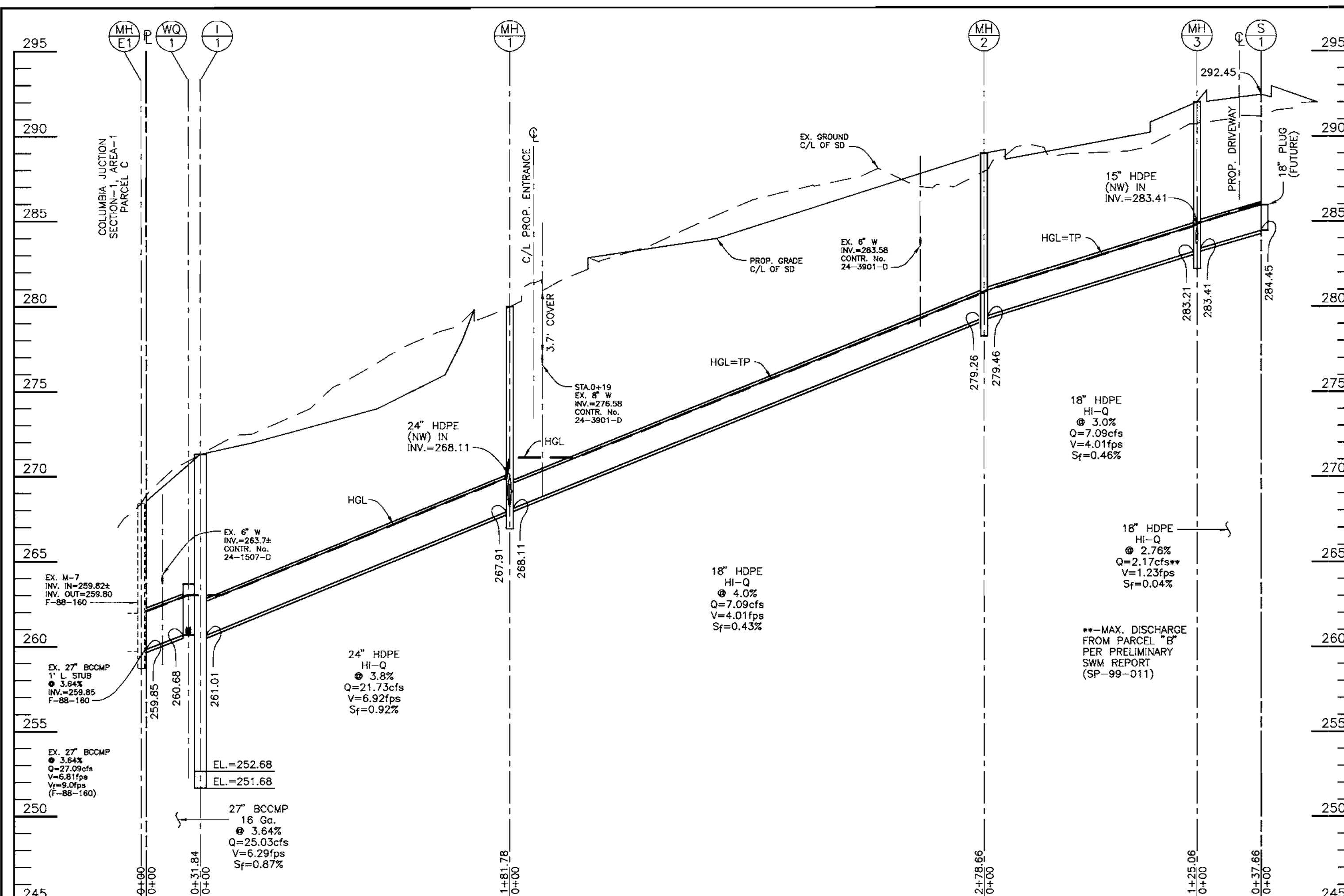
BENCHMARK
ENGINEERS • LAND SURVEYORS • PLANNERS

ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 • FAX: 410-465-6644
EMAIL: Benchmark@cois.com

DEVELOPER:	PROJECT:
SCI LIMITED PARTNERSHIP P.O. BOX 417 ELLCOTT CITY, MD 21041 PHONE: 410-465-4244	COLUMBIA JUNCTION SECTION 3 - PARCEL 'A' (RETAIL CENTER)
LOCATION:	TITLE:
TAX MAP 48 - BLOCK 1 PARCELS 90, 91, 114 & 548 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	STORM DRAINAGE AREA MAP AND DETAILS
DATE: FEBRUARY, 2001 DECEMBER, 2001	PROJECT NO. 1221
SCALE: AS SHOWN	DRAWING 5 OF 11

STORM DRAINAGE AREA MAP
SCALE: 1"=40'

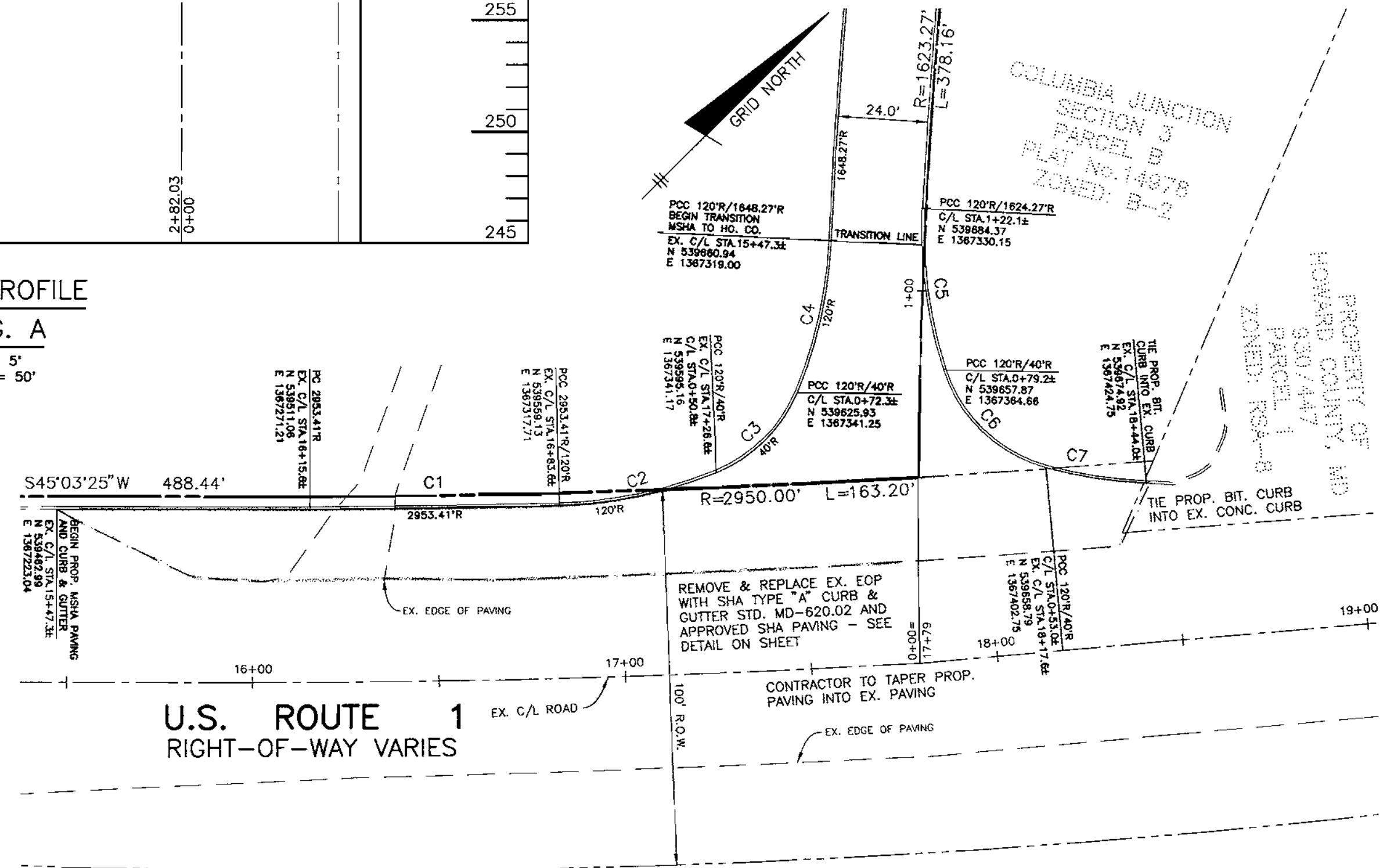


**STORM DRAIN PROFILE
ALONG FRONT OF SITE**
VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'

RUN	SIZE	LENGTH	TYPE & CLASS
EX. MH-1 TO I-1	27"	23.0'	BCCMP
I-1 TO MH-1	24"	181.78'	HDPE
MH-1 TO MH-2	18"	278.86'	HDPE
MH-2 TO MH-3	18"	125.06'	HDPE
MH-3 TO S-1	18"	37.66'	HDPE
MH-3 TO I-2	18"	31.97'	HDPE
MH-1 TO I-3	24"	115.61'	HDPE
I-3 TO I-4	18"	35.83'	HDPE
I-4 TO I-5	15"	182.16'	HDPE
I-6 TO MH-5	15"	14.0'	HDPE
I-7 TO I-8	18"	282.03'	HDPE

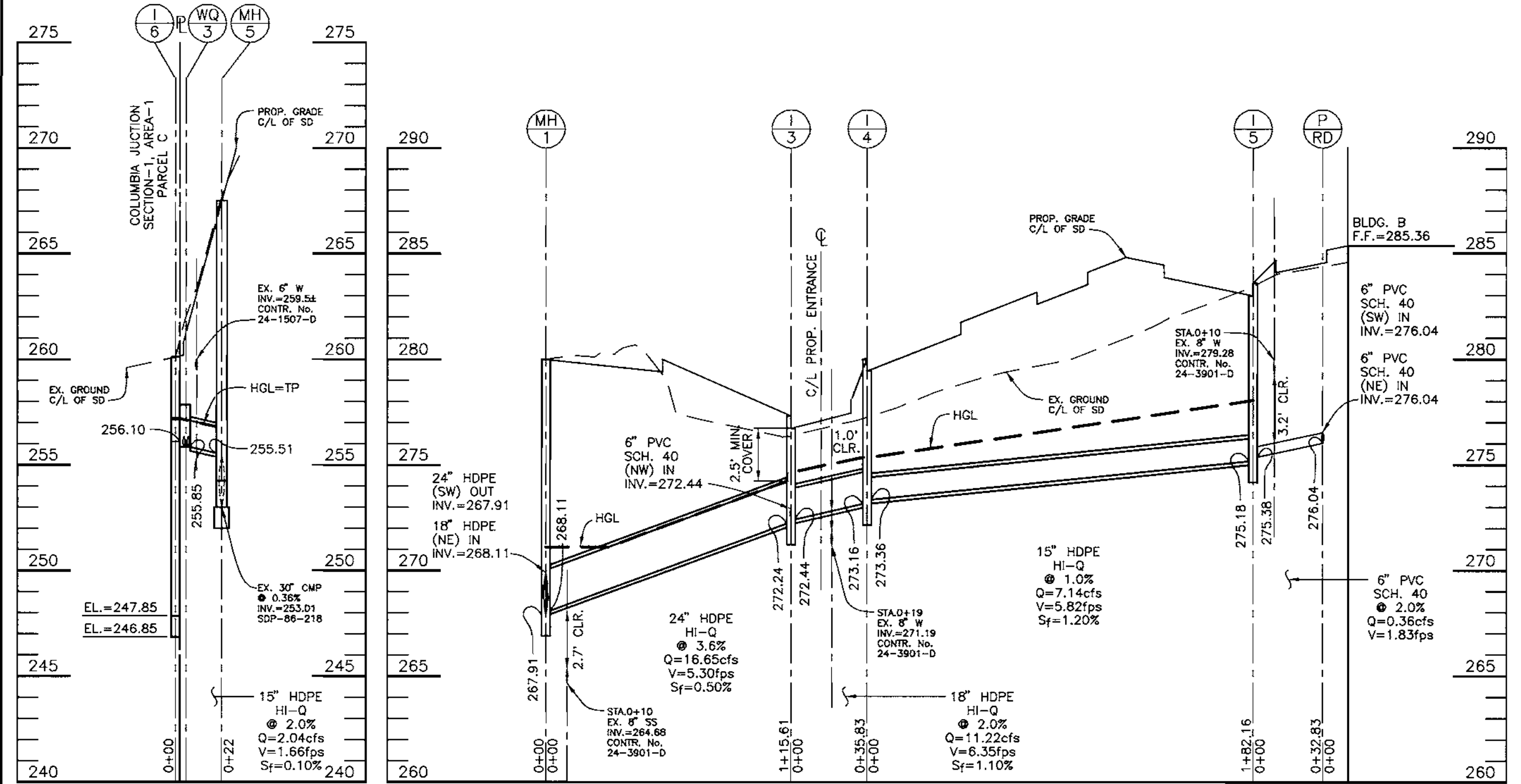
CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD
C1	2953.41	166.88'	11°17'51"	33.44'	N44°02'46"E 66.87'
C2	120.00'	43.24'	20°38'38"	21.86'	N33°04'32"E 43.00'
C3	40.00'	31.58'	45°13'47"	16.86'	N00°08'19"E 30.76'
C4	120.00'	41.70'	19°54'30"	21.06'	N32°25'49"W 41.49'
C5	120.00'	43.75'	20°53'16"	22.12'	S52°28'59"E 43.51'
C6	40.00'	39.72'	56°53'22"	21.67'	N88°37'42"E 38.10'
C7	120.00'	26.56'	12°40'53"	13.33'	N53°50'34"E 26.51'

**STORM DRAIN PROFILE
BEHIND BLDG. A**
VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'



**U.S. ROUTE 1
RIGHT-OF-WAY VARIES**

ENTRANCE DETAIL
SCALE: 1" = 30'



**STORM DRAIN PROFILE
ALONG ENTRANCE & PARKING LOT**
VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'

NO.	TYPE	LOCATION	INVERT IN	INVERT OUT	TOP ELEV.	HO. CO. STD.	REMARKS	FRONT TO BACK INSIDE DIM. OF INLET
I-1	"A"-S	N 539197.50 E 1366938.29	281.01	-	280.88	SD-4.40	-	2.50'
I-2	"A"-S	N 539653.84 E 1367322.23	-	-	284.05	SD-4.40	-	2.50'
I-3	"A"-S	N 539404.45 E 1366982.04	272.44	-	272.24	SD-4.40	-	2.50'
I-4	"A"-S	N 539430.76 E 1367006.37	273.36	-	273.16	SD-4.40	-	2.50'
I-5	"A"-S	N 539564.49 E 1367130.06	275.36	-	275.18	SD-4.41	-	2.50'
I-6	SINGLE "S"	N 539319.85 E 1366758.00	-	-	256.10	SD-4.22	-	2.83'
I-7	DOUBLE "S"	N 539415.11 E 1366706.05	261.96	-	261.98	SD-4.23	-	2.83'
I-8	"S" COM.	N 539825.08 E 1366889.08	267.80	-	267.60	SD-4.33	-	3.50'
MH-1	STD. PRE-CAST	N 539325.99 E 1367066.91	268.11	268.11	267.91	G-5-12	-	-
MH-2	STD. PRE-CAST	N 539522.88 E 1367284.08	278.46	-	278.26	G-5-12	-	-
MH-3	STD. PRE-CAST	N 539625.07 E 1367336.17	283.41	283.41	283.21	G-5-12	-	-
MH-4	5.0' W MANHOLE	N 539407.07 E 1366998.37	261.83	-	EX. 253.37	G-5-02	BUILD MH OVER EX. 30" CMP	-
MH-5	5.0' W MANHOLE	N 539335.85 E 1366713.10	255.51	-	EX. 253.01	G-5-02	BUILD MH OVER EX. 30" CMP	-
S-1	24" END CAP PLUG	N 539655.84 E 1367357.88	-	-	284.45	-	24" END CAP PLUG	-
WO-1	BAYSAVER "3K"	N 539197.99 E 1366927.89	256.68	-	256.88	-	BAYSAVER "3K"	-
WO-2	BAYSAVER "3K"	N 539405.84 E 1366708.07	267.63	-	257.63	-	BAYSAVER "3K"	-
WO-3	BAYSAVER "1K"	N 539318.11 E 1366766.03	251.85	-	251.85	-	BAYSAVER "1K"	-

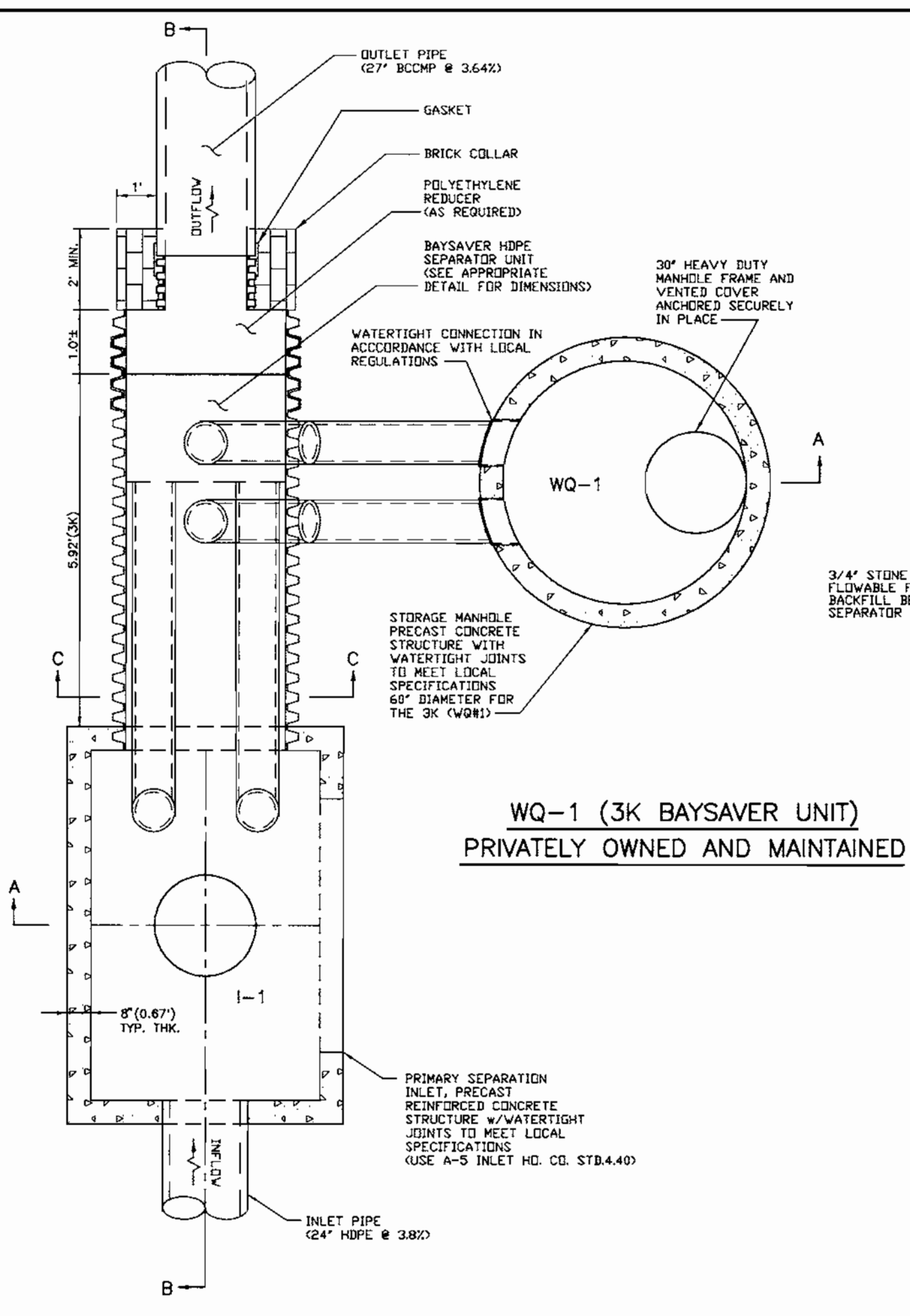
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Michael J. ...
CHIEF, DEVELOPMENT ENGINEERING DIVISION
Conrad ...
CHIEF, DIVISION OF LAND DEVELOPMENT
James S. ...
DIRECTOR

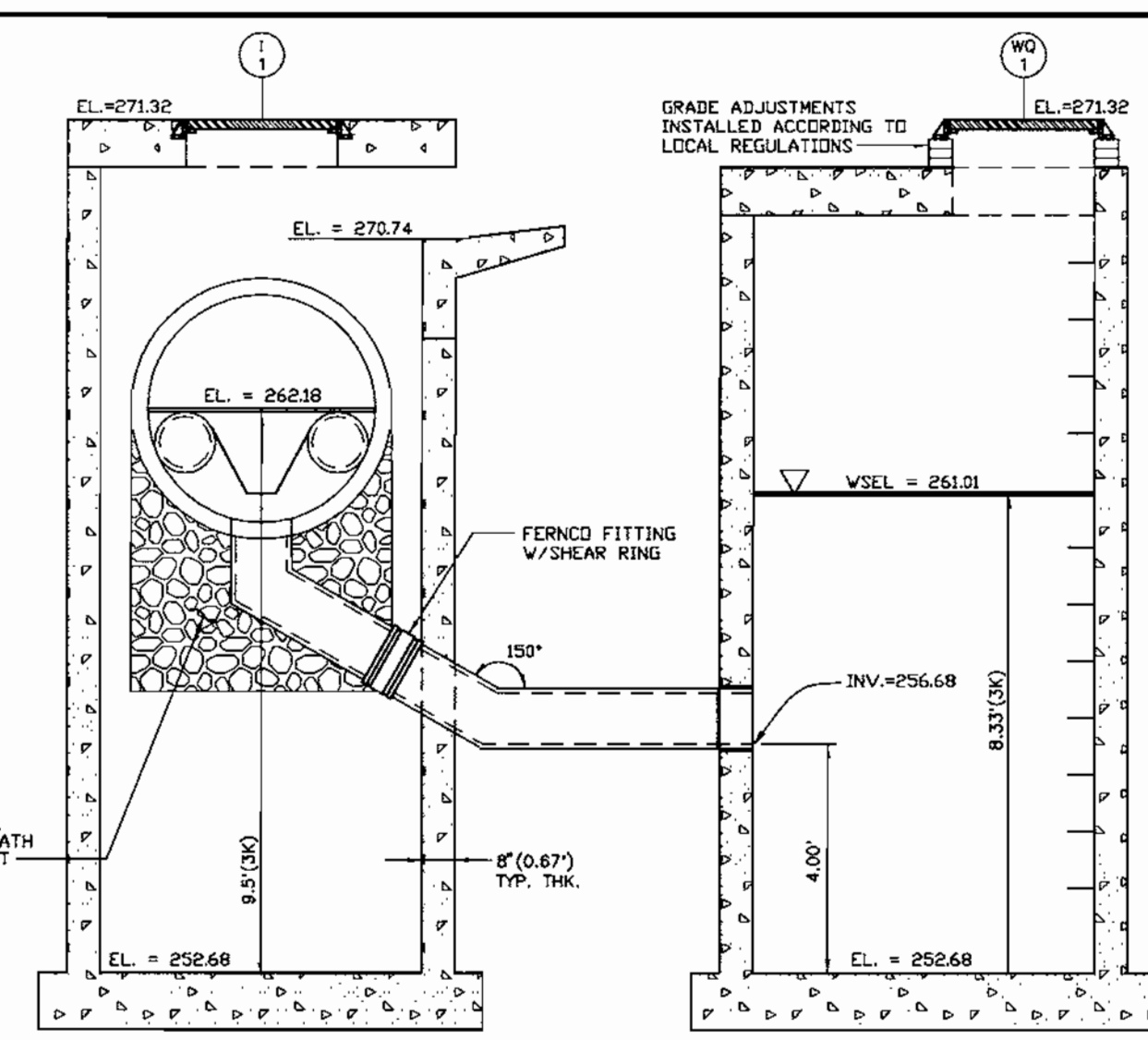
DEVELOPER:
SCI LIMITED PARTNERSHIP
P.O. BOX 417
ELICOTT CITY, MD 21041
PHONE: 410-465-4244

BENCHMARK ENGINEERING, INC.
ENGINEERS & LAND SURVEYORS & PLANNERS
8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
email: Benchmark@colis.com

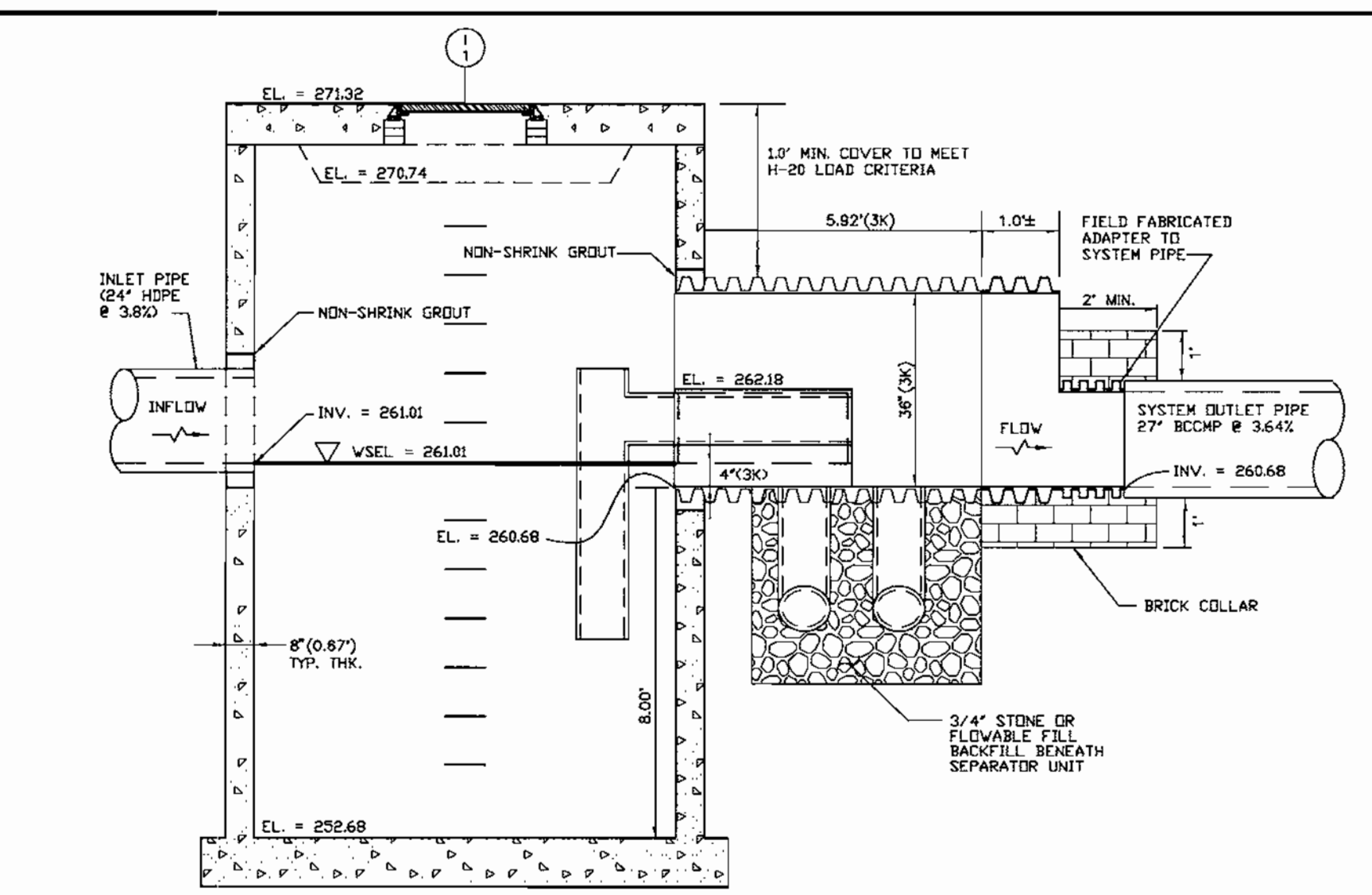
PROJECT: **COLUMBIA JUNCTION SECTION 3 - PARCEL 'A' (RETAIL CENTER)**
LOCATION: TAX MAP 48 - BLOCK 1 PARCELS 90, 91, 114 & 548 8th ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE: **STORM DRAIN PROFILES, NOTES AND DETAILS**
DATE: FEBRUARY, 2001 PROJECT NO. 1221
DECEMBER, 2001
SCALE: AS SHOWN DRAWING 6 OF 11



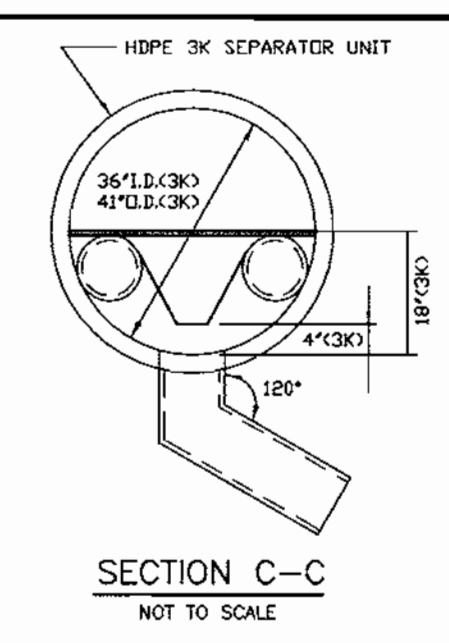
WQ-1 (3K BAYSAYER UNIT)
PRIVATELY OWNED AND MAINTAINED



SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE

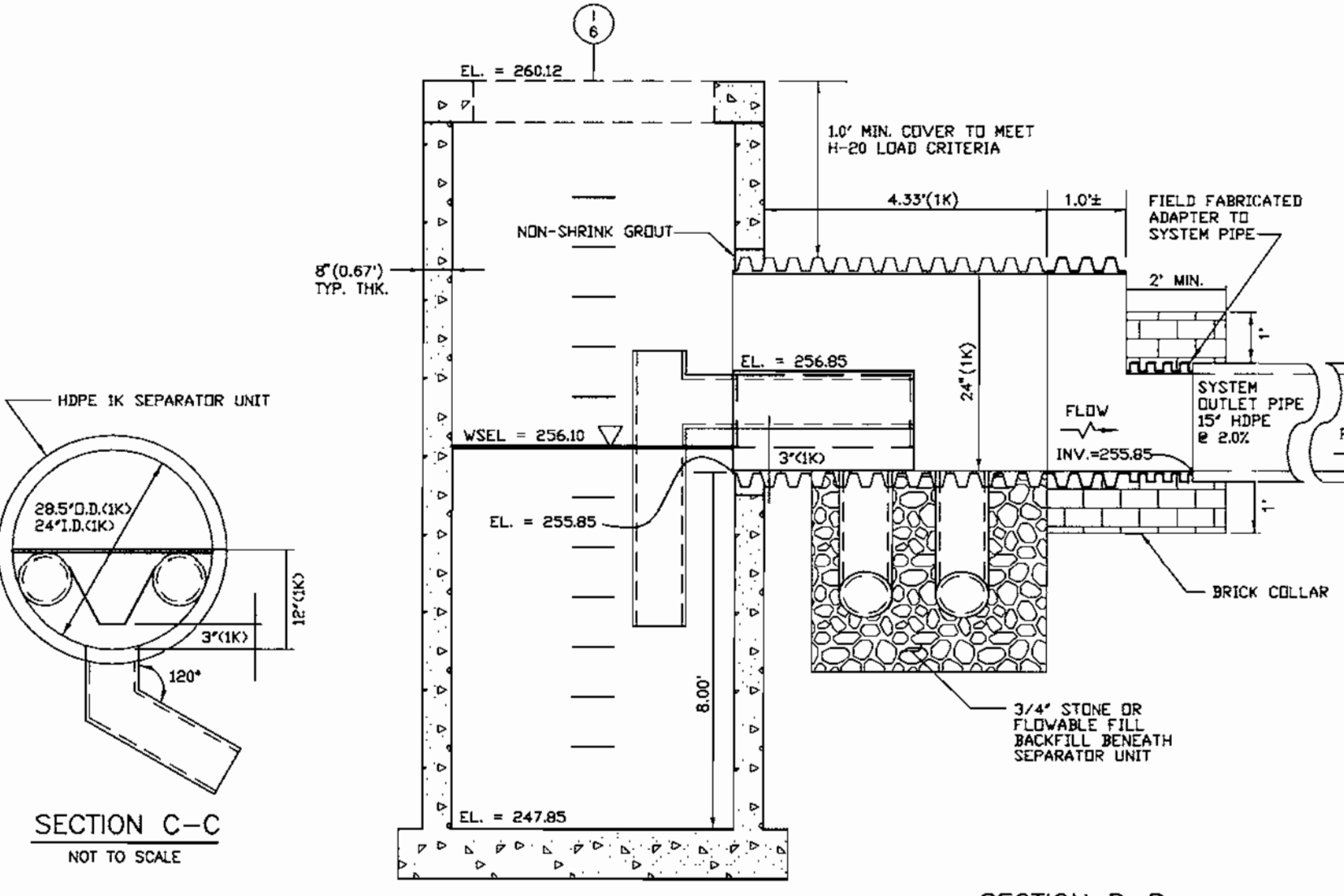


SECTION C-C
NOT TO SCALE

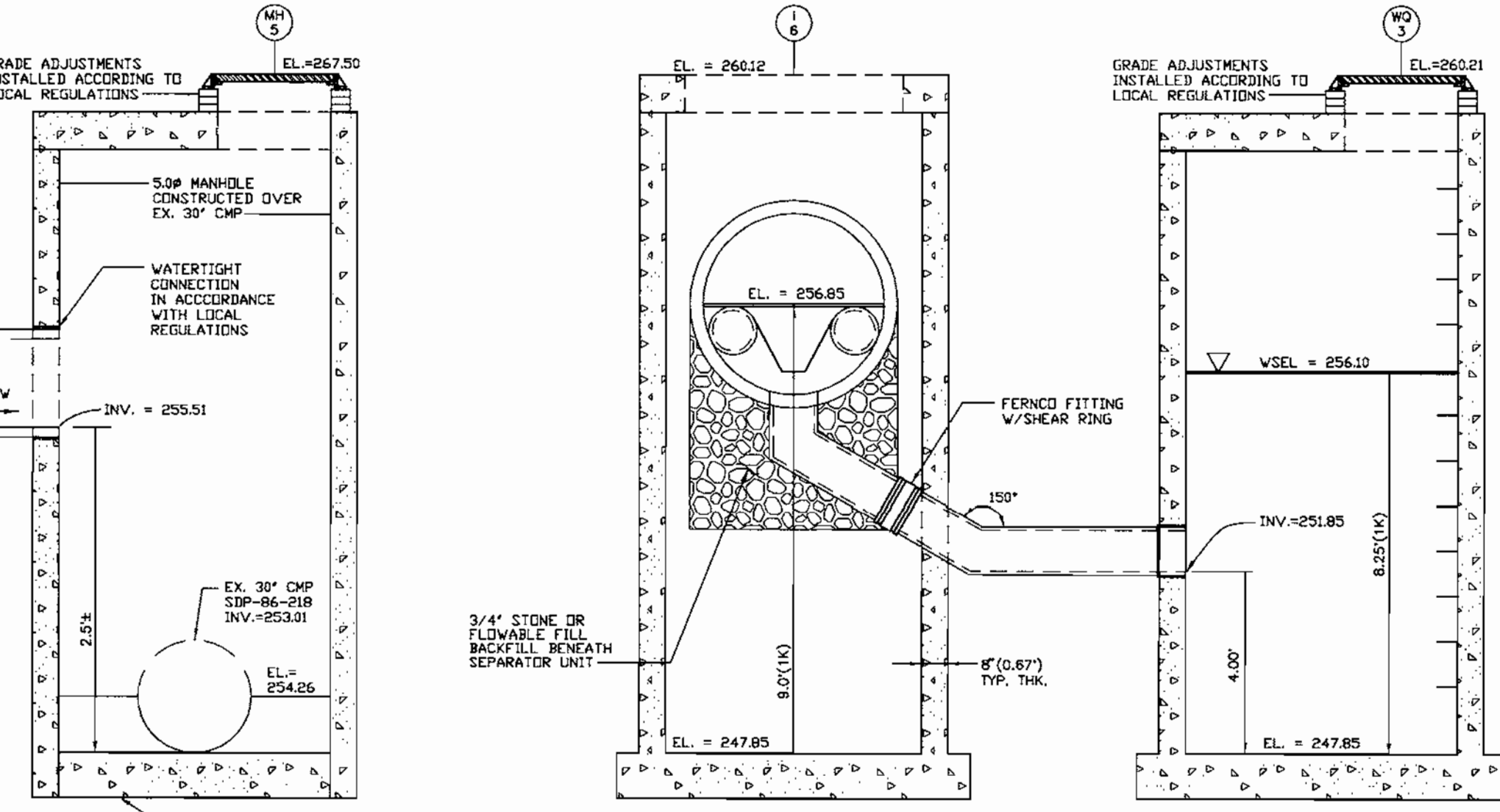
- Installation Instructions**
1. Call local utility locator to make certain it is safe to excavate.
 2. Stake out the location of the primary and storage structures and excavate the hole. Slopes must be laid back or shored as required.
 3. Excavation must provide adequate space to connect inlet and outlet pipes to the separator manhole and the Baysaver(?) unit. Install structures on solid subgrade as directed by a geotechnical engineer.
 4. Verify the subgrade elevation against the manhole dimensions and connecting storm drain inverts. Adjust base aggregate if necessary.
 5. Install the primary manhole and storage manhole. Make sure the bases are level and that the storage manhole openings are aligned with the separator unit. Install rubber gaskets on base units and coat with lubricating grease. Install additional manhole sections as required.
 6. Seal all lift holes according to applicable regulations.
 7. Backfill base sections of manholes to invert of storage manhole connecting pipes. Using an approved backfill material, backfill and compact in lifts which allow for acceptable compaction. Backfill compaction should be supervised by a geotechnical engineer, and is critical to prevent failure of the system.
 8. Install Baysaver(?) Separator Unit and connecting pipes. Seal all connecting joints and install reducer or reducer/adaptor. Provide temporary supports and hold-downs as necessary to stabilize unit during remaining backfill operation.
 9. Backfill separator unit and manholes. Areas not accessible to compaction equipment must be backfilled with 3/4\"/>
 - 10. Install and set manhole grade adjustments as necessary.
 - 11. Fill structures with water.
 - 12. The separator manhole and the storage manhole shall be cleaned when sediment control measures are removed and the site is permanently stabilized. Sediment and debris must be disposed of properly.
- Maintenance Instructions**
1. Remove the two 30\"/>
 - 2. Remove all water, debris, oils and sediment from the storage manhole using a vacuum truck or other equipment.
 - 3. Using a high pressure hose, clean the storage manhole and remove the cleaning water using the vacuum truck.
 - 4. Using a submersible pump, pump the bulk of the water from the primary manhole into the clean storage manhole. The pump intake must be kept below the water surface, and pumping must be stopped when the water surface falls to a level one foot above the accumulated sediments.
 - 5. Remove the remaining water and sediment from the primary manhole using a vacuum truck or other equipment.
 - 6. Using a high pressure hose, clean the primary manhole and remove the cleaning water using the vacuum truck.
 - 7. Fill the two structures with clean water.
 - 8. Replace the two 30\"/>
 - 9. Dispose to the contaminated water at an approved facility. Local regulations often prohibit discharge of this material to the sanitary sewer; the local sewer authority must authorize such a discharge.
- This procedure is intended to remove all the collected pollutants from the system while minimizing the volume of water that must be disposed of. Additional local regulations may apply to the maintenance procedure, and maintenance should be performed only by a qualified or licensed contractor.

PLAN VIEW / I-1 AND WQ-1
NOT TO SCALE

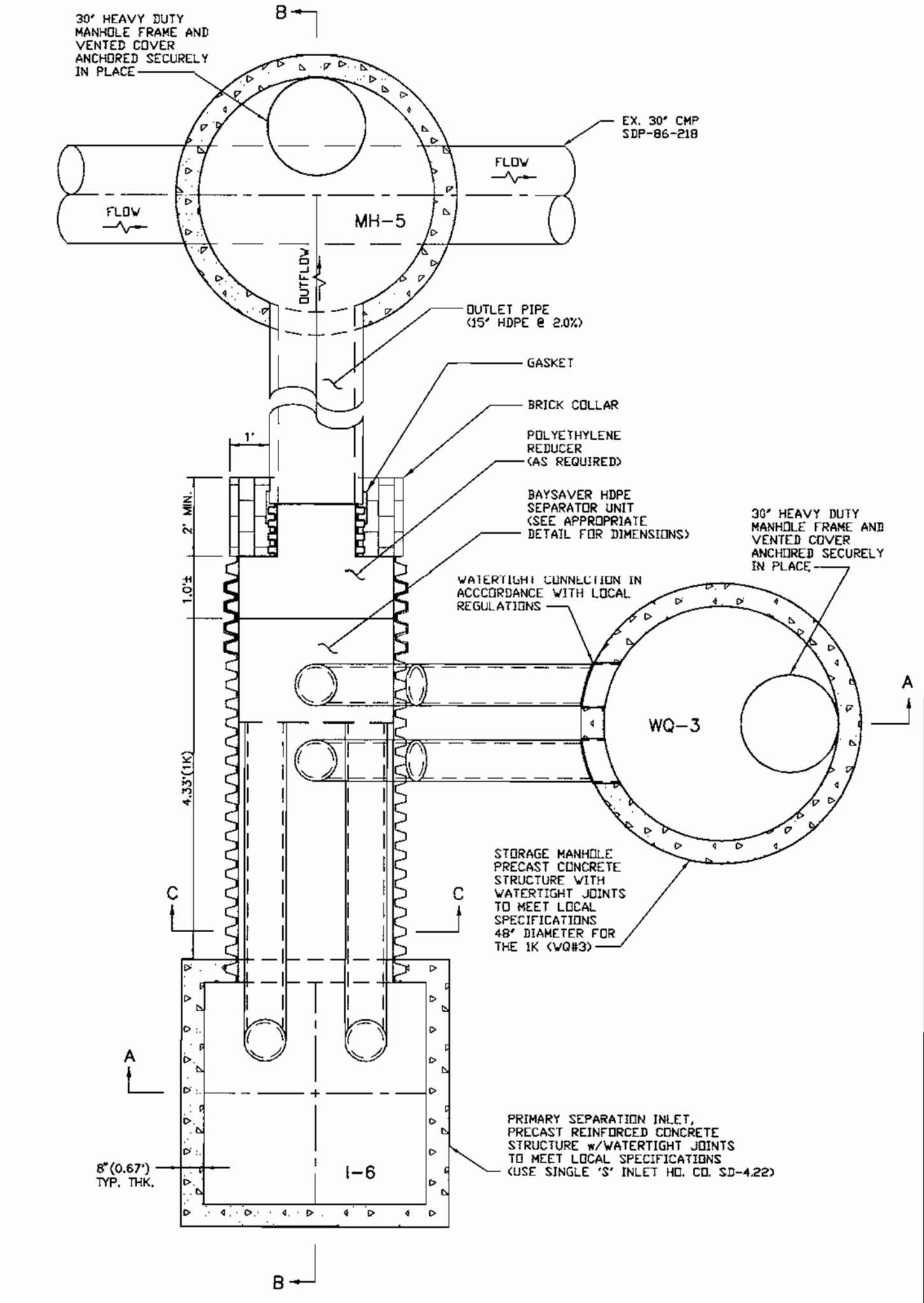
BAYSAYER, INC.
1010 DEER HOLLOW DR.
MOUNT AIRY, MD 21771
(PHONE) 301-829-6470
(TOLL) 1-800-BAYSAYER
(FAX) 301-829-3747
WWW.BAYSAYER.COM



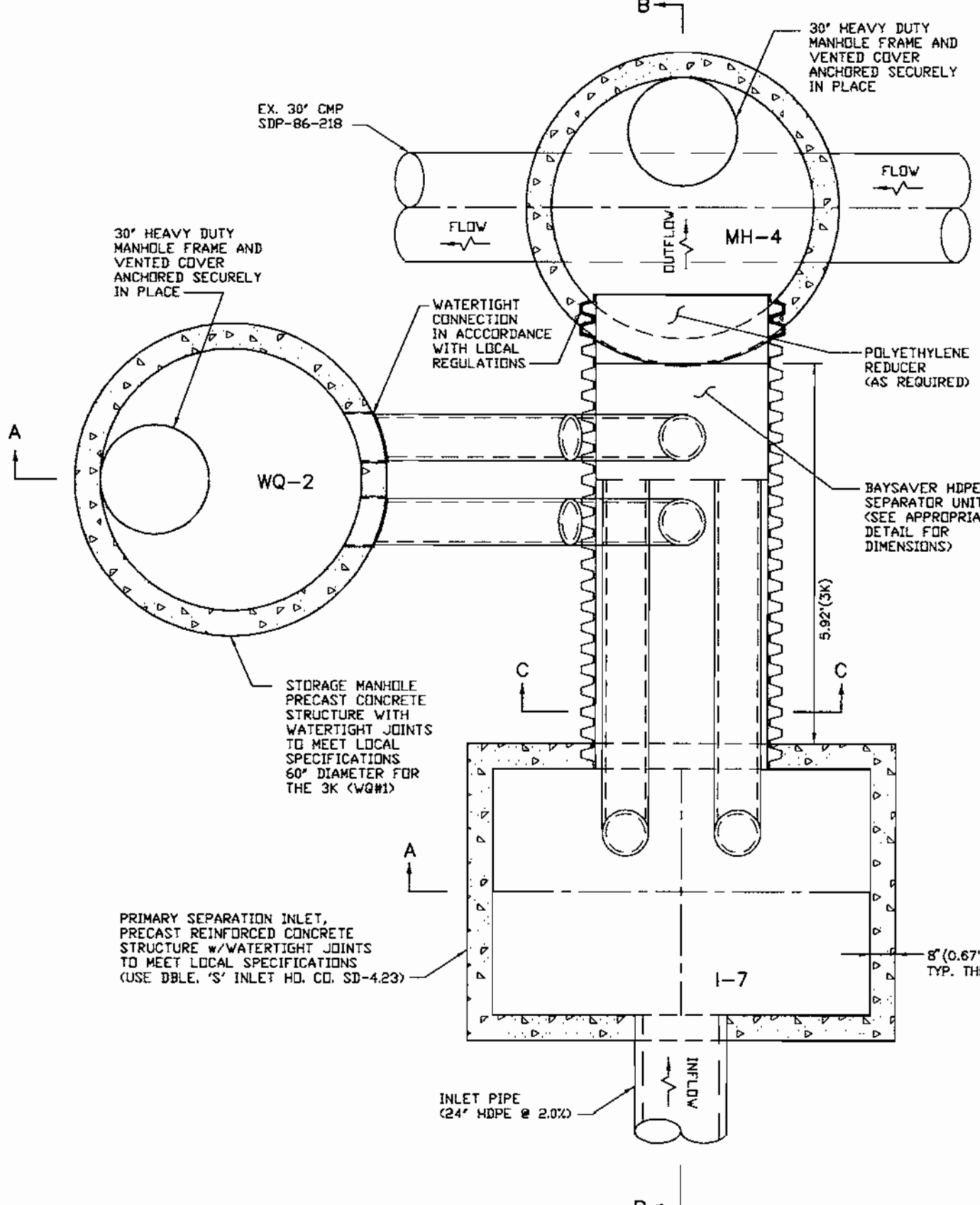
SECTION B-B
NOT TO SCALE



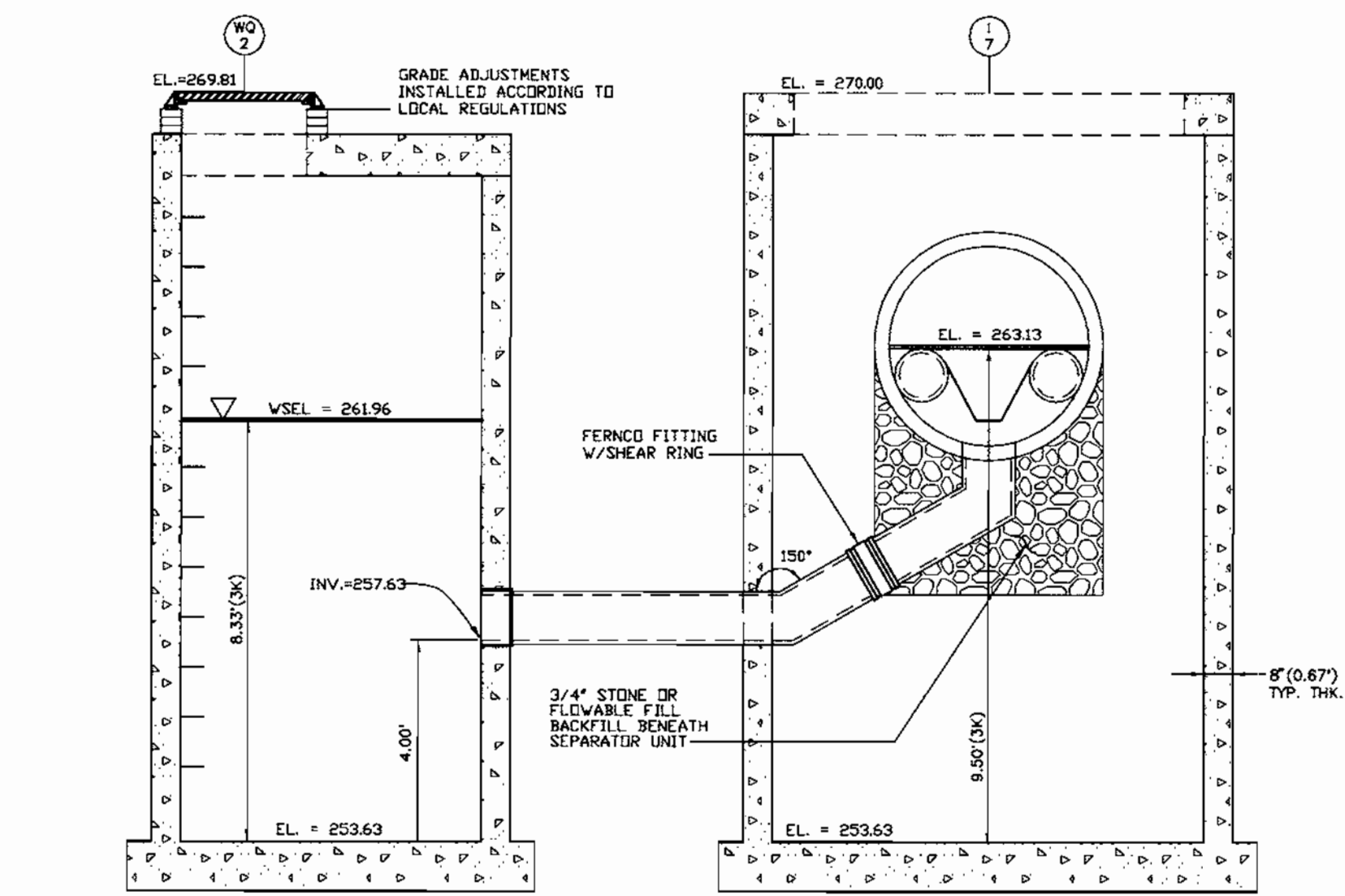
SECTION A-A
NOT TO SCALE



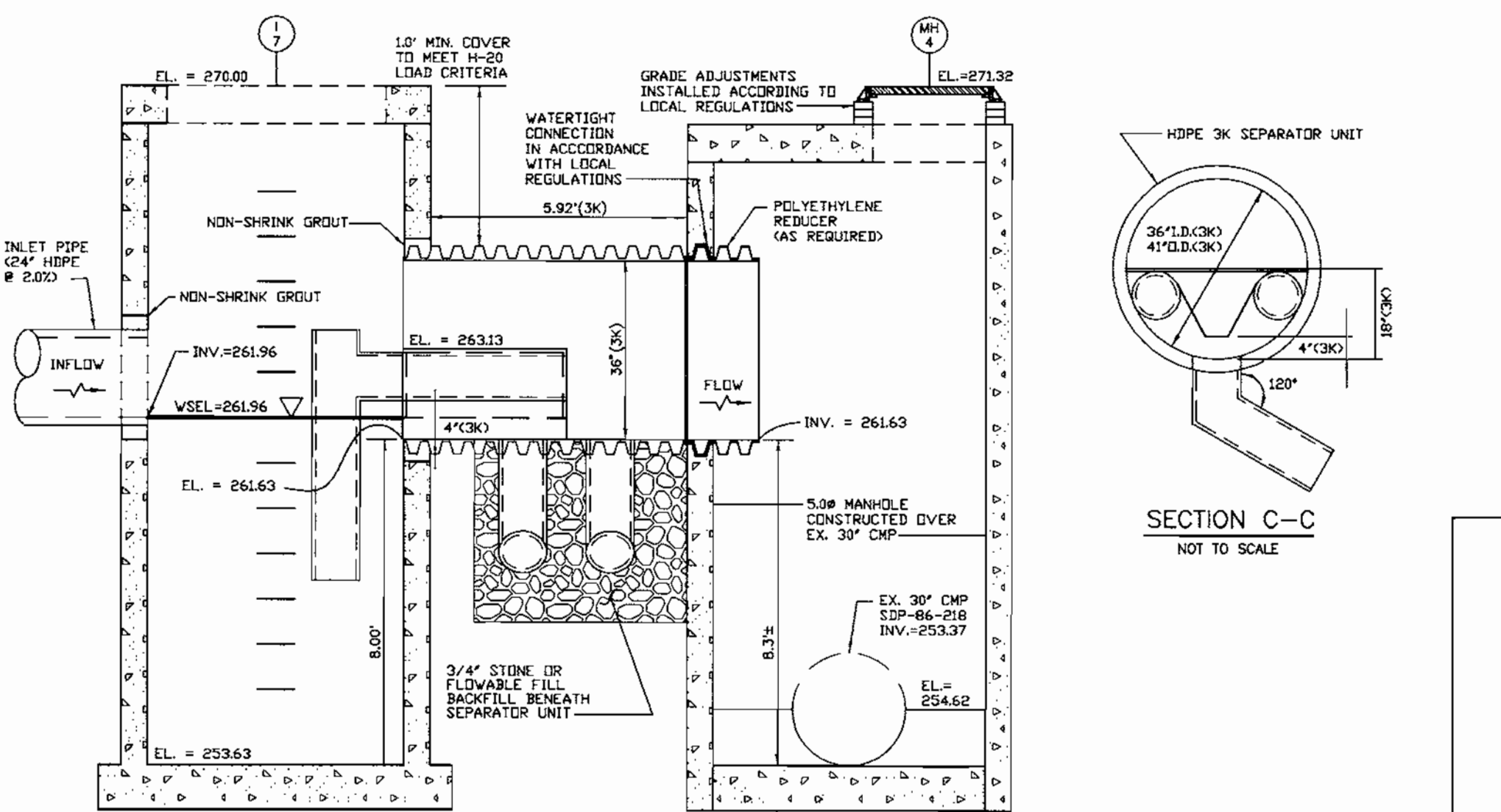
PLAN VIEW / I-6 & WQ-3 & MH-5
NOT TO SCALE



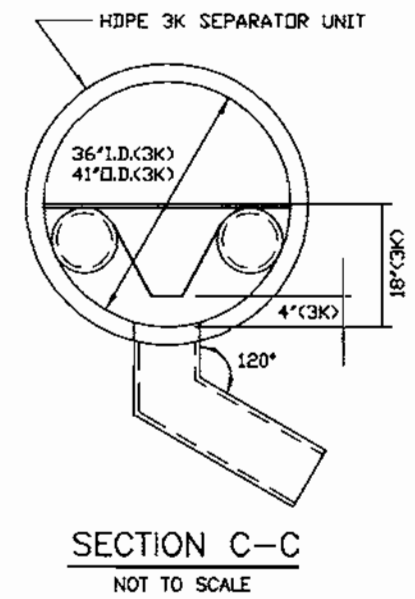
PLAN VIEW / I-7 & WQ-2 & MH-4
NOT TO SCALE



SECTION A-A
NOT TO SCALE




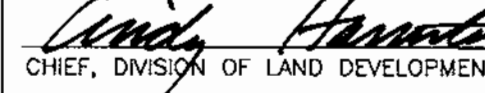

SECTION B-B
NOT TO SCALE



SECTION C-C
NOT TO SCALE

WQ-2 (3K BAYSAYER UNIT)
PRIVATELY OWNED AND MAINTAINED

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

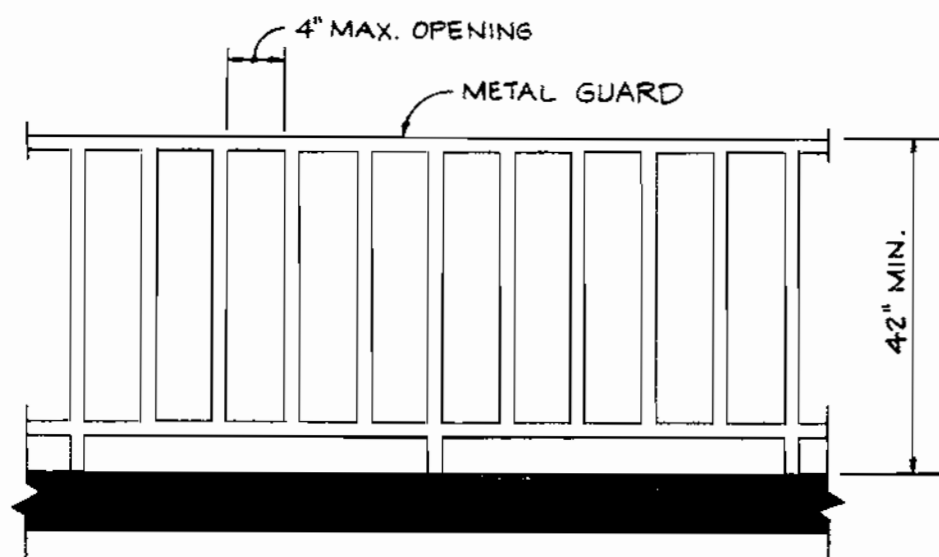
 1/9/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 1/12/02
 CHIEF, DIVISION OF LAND DEVELOPMENT
 1/16/02
 DIRECTOR

BENCHMARK ENGINEERING, INC.
ENGINEERS • LAND SURVEYORS • PLANNERS
8480 BALTIMORE NATIONAL PIKE • SUITE 418
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-8105 • FAX: 410-465-6544
email: Benchmark@cois.com



DEVELOPER:	PROJECT:	COLUMBIA JUNCTION
SCI LIMITED PARTNERSHIP P.O. BOX 417 ELLICOTT CITY, MD 21041 PHONE: 410-465-4244	SECTION 3 - PARCEL 'A' (RETAIL CENTER)	
TITLE:	LOCATION:	TAX MAP 48 - BLOCK 1 PARCELS 90, 91, 114 & 548 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE:	PROJECT NO.:	1221
SCALE:	DRAWING:	7 OF 11

NO.	DATE	REVISION



TYPICAL GUARD DETAIL
N.T.S.

SECTION 1821.0 GUARDS

1821.1 General: Where required by the provisions of Sections 406.5, 408.2, 1005.5, 1014.7, 1016.5 and 1825.5, guards shall be installed and constructed in accordance with the requirements of this section and Section 1015.5. A guardrail system is a system of building components located near the open sides of elevated walking surfaces for the purpose of minimizing the possibility of an accidental fall from the walking surface to the lower level.

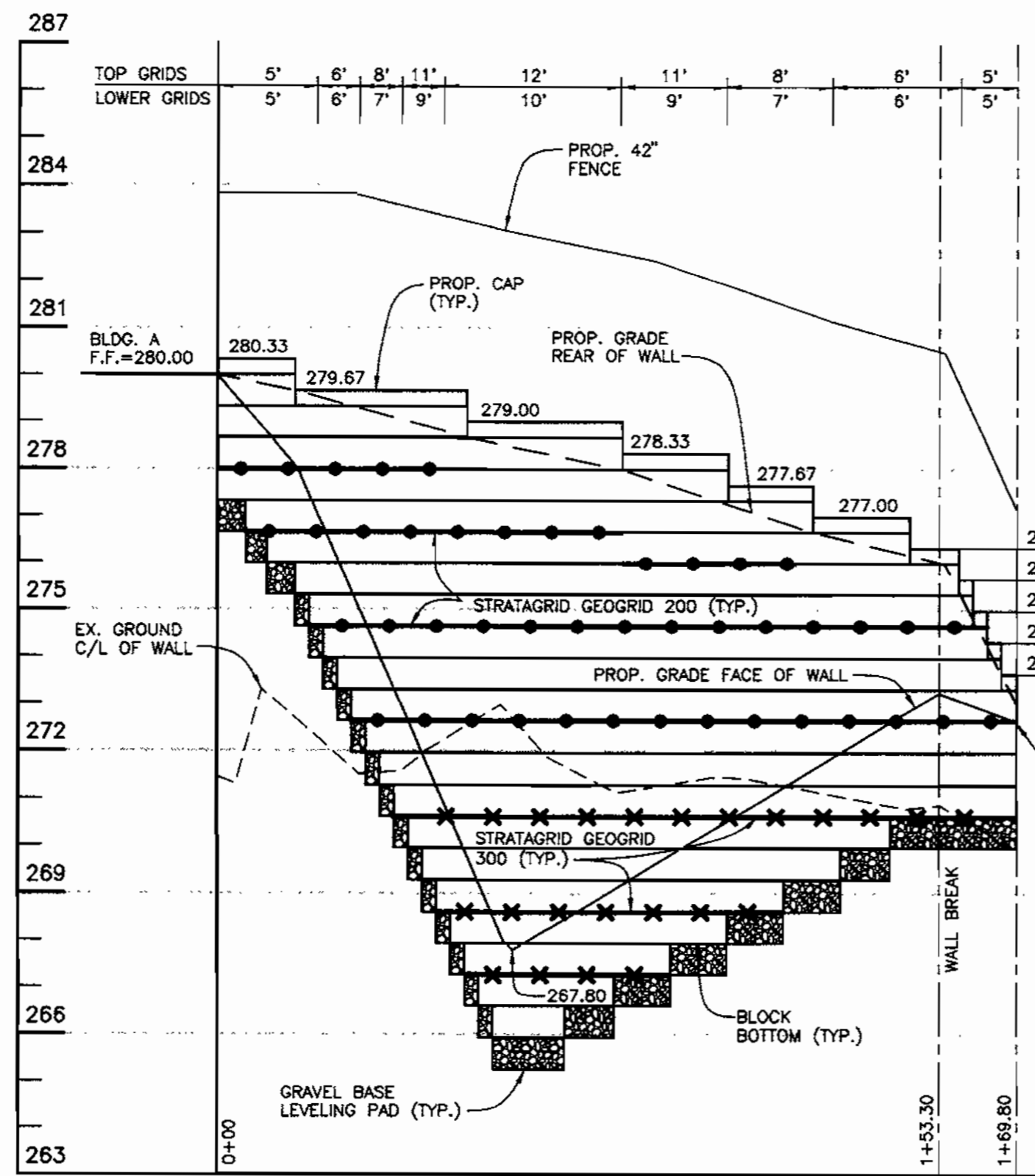
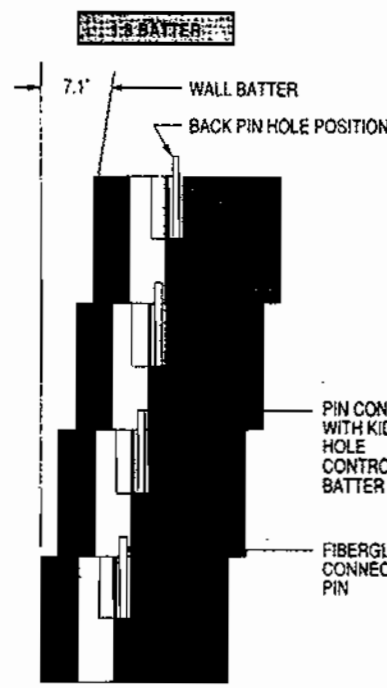
1821.2 Height: The guards shall be at least 42 inches (1067 mm) in height measured vertically above the leading edge of the tread or adjacent walking surface.

Exceptions

1. In other than occupancies in Use Group E, guards shall not be less than 34 inches (864 mm) in height above the leading edge of the tread along stairs which are not more than 20 feet (6096 mm) in height or which reverse direction at an intermediate landing with 12 inches (305 mm) or less measured horizontally between successive flights.

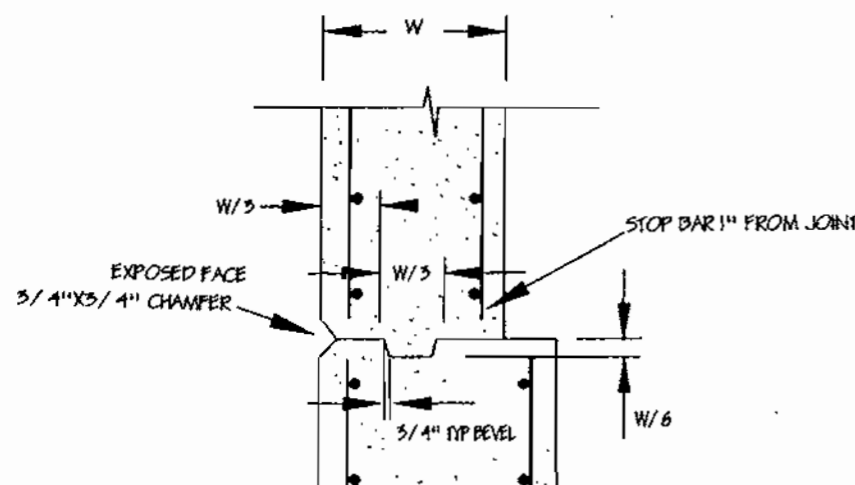
2. Guards along open-sided floor areas, mezzanines and landings in occupancies in Use Group R-3 shall not be less than 36 inches (914 mm) in height.

1821.3 Opening limitations: In occupancies in Use Groups A, B, E, H-4, I-1, I-2, M and R, and in public garages and open parking structures, open guards shall have balusters or balustrade material such that a sphere with a diameter of 4 inches (102 mm) cannot pass through any opening. Guards shall not have an ornamental pattern that would provide a ladder effect.



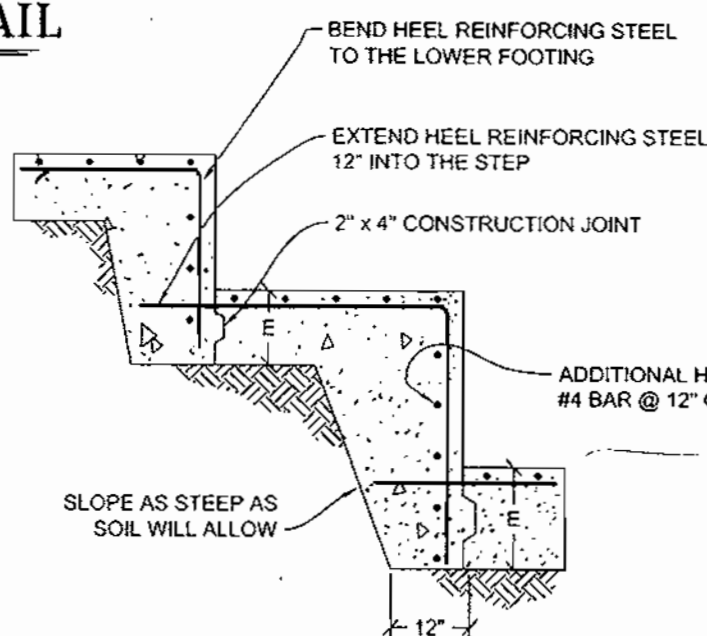
KEYSTONE RETAINING WALL "A" - PROFILE

HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 3'

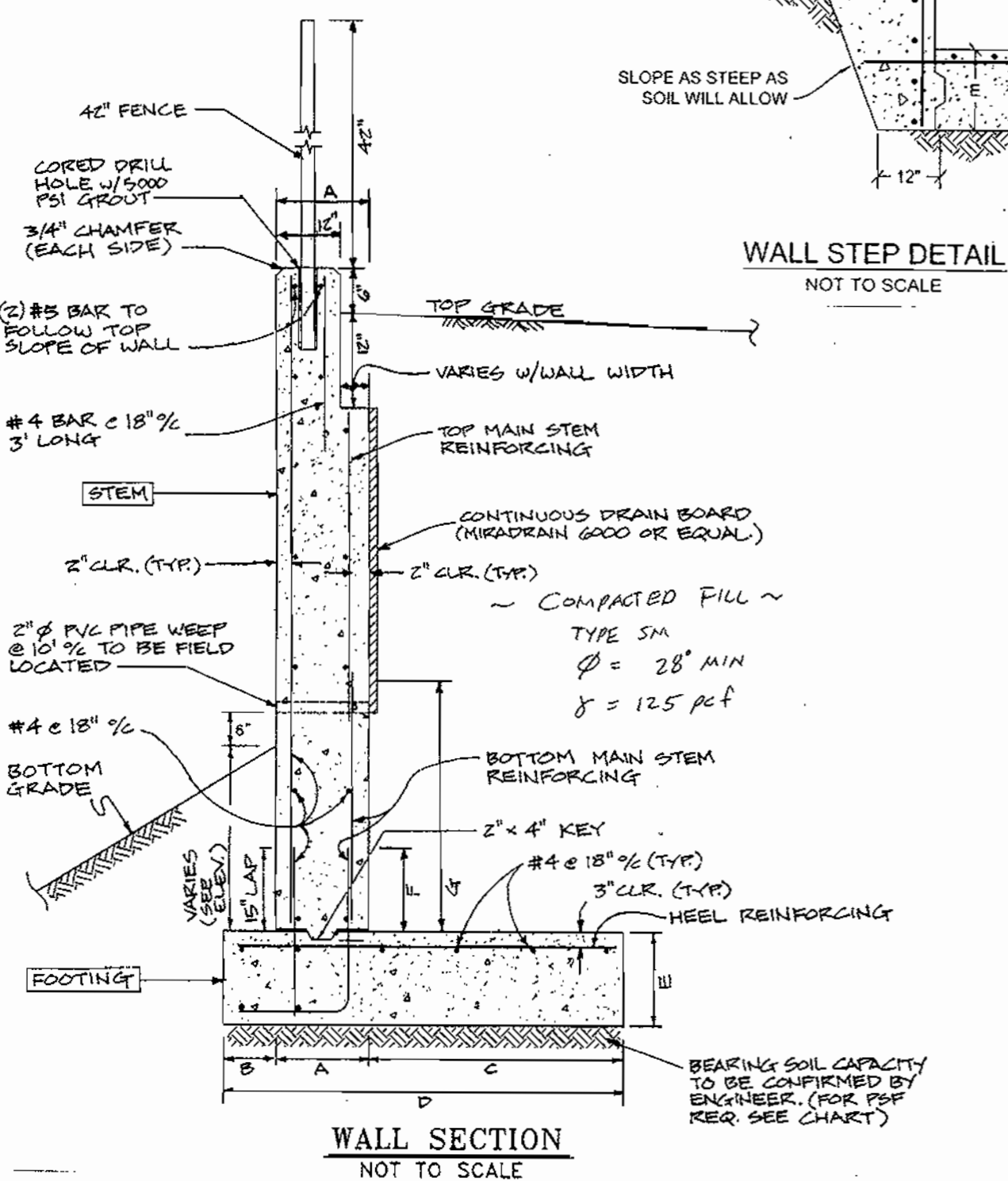


PLAN VIEW

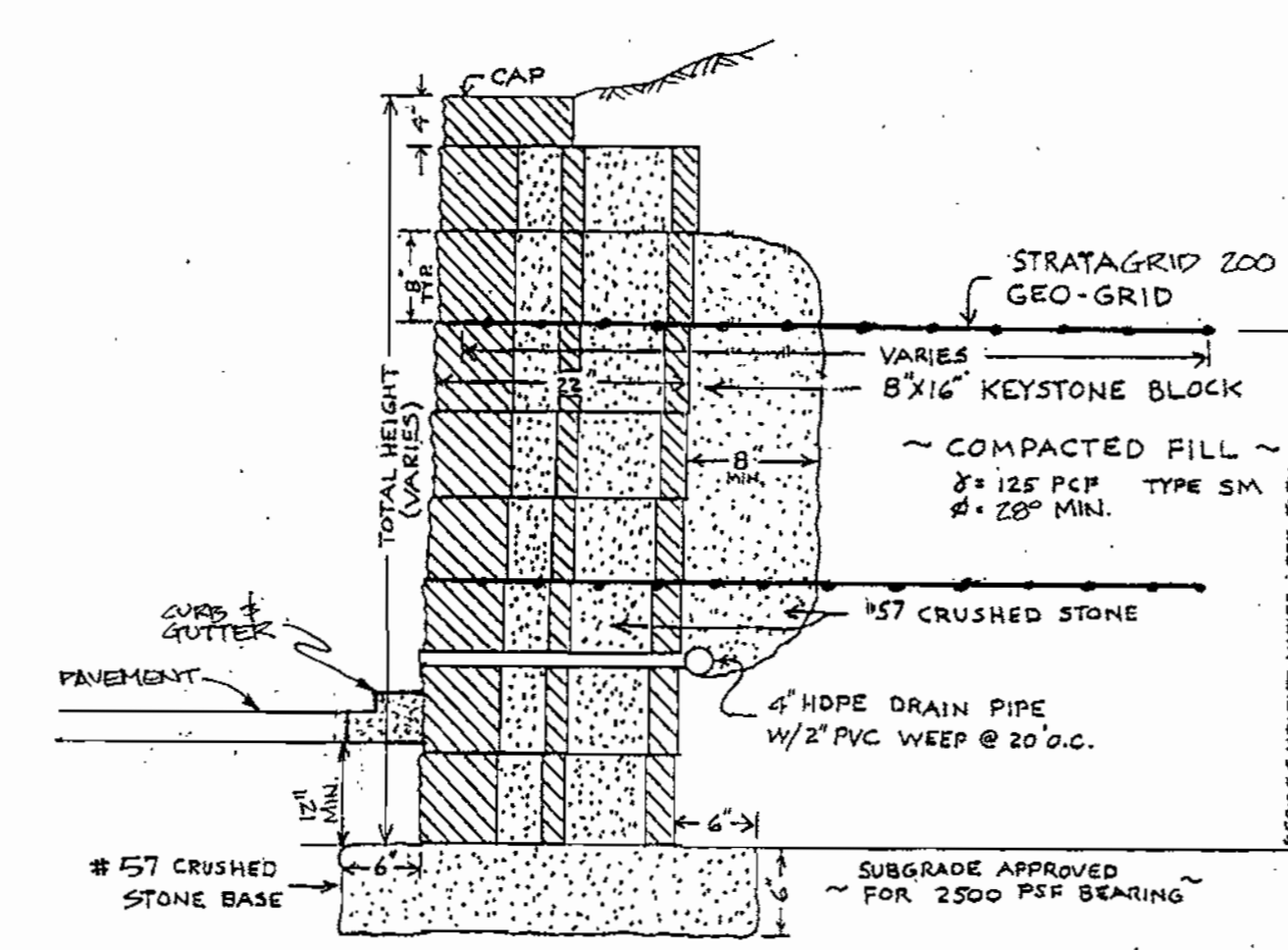
WALL STEM CONTRACTION JOINT DETAIL
NOT TO SCALE



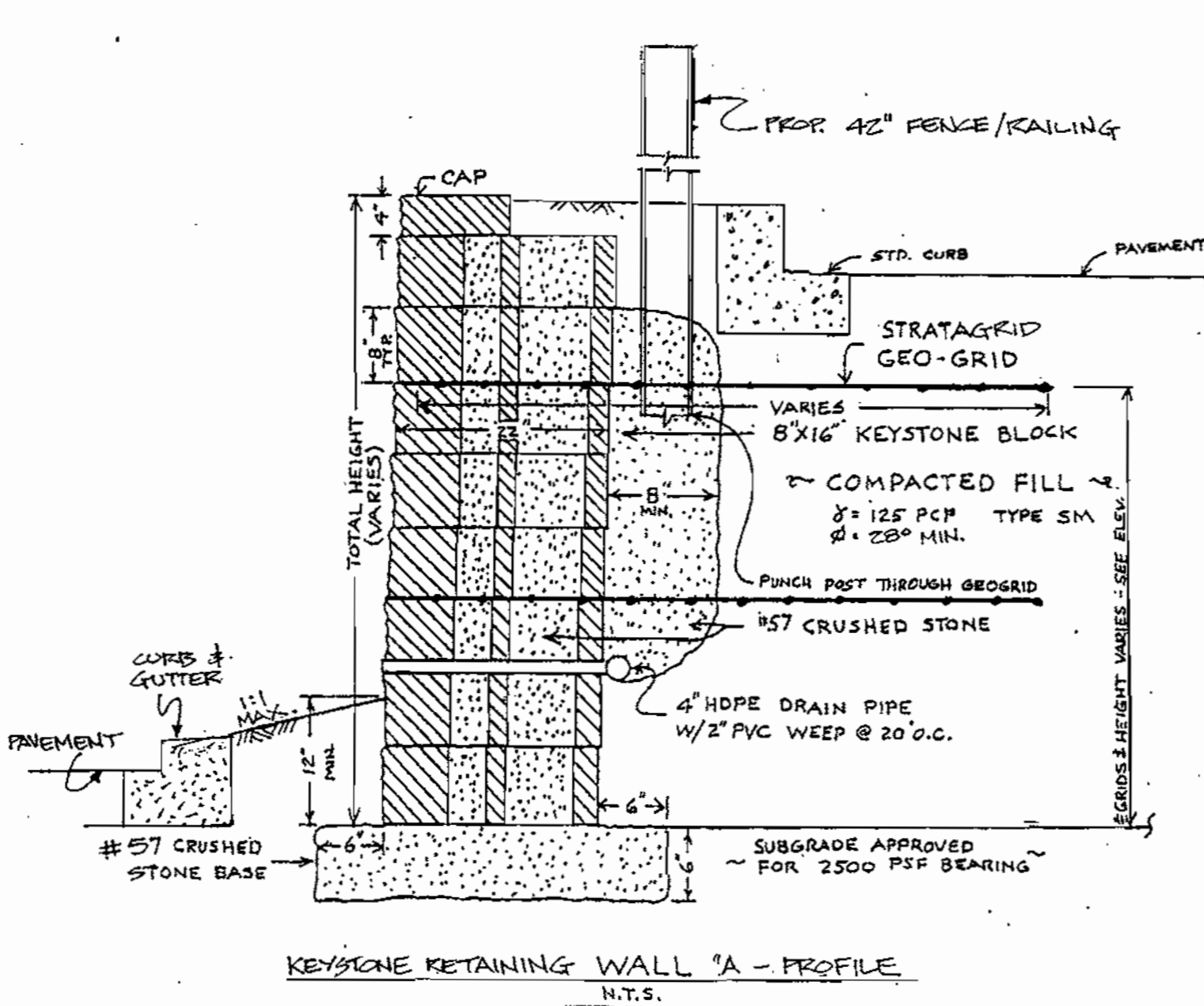
WALL STEP DETAIL
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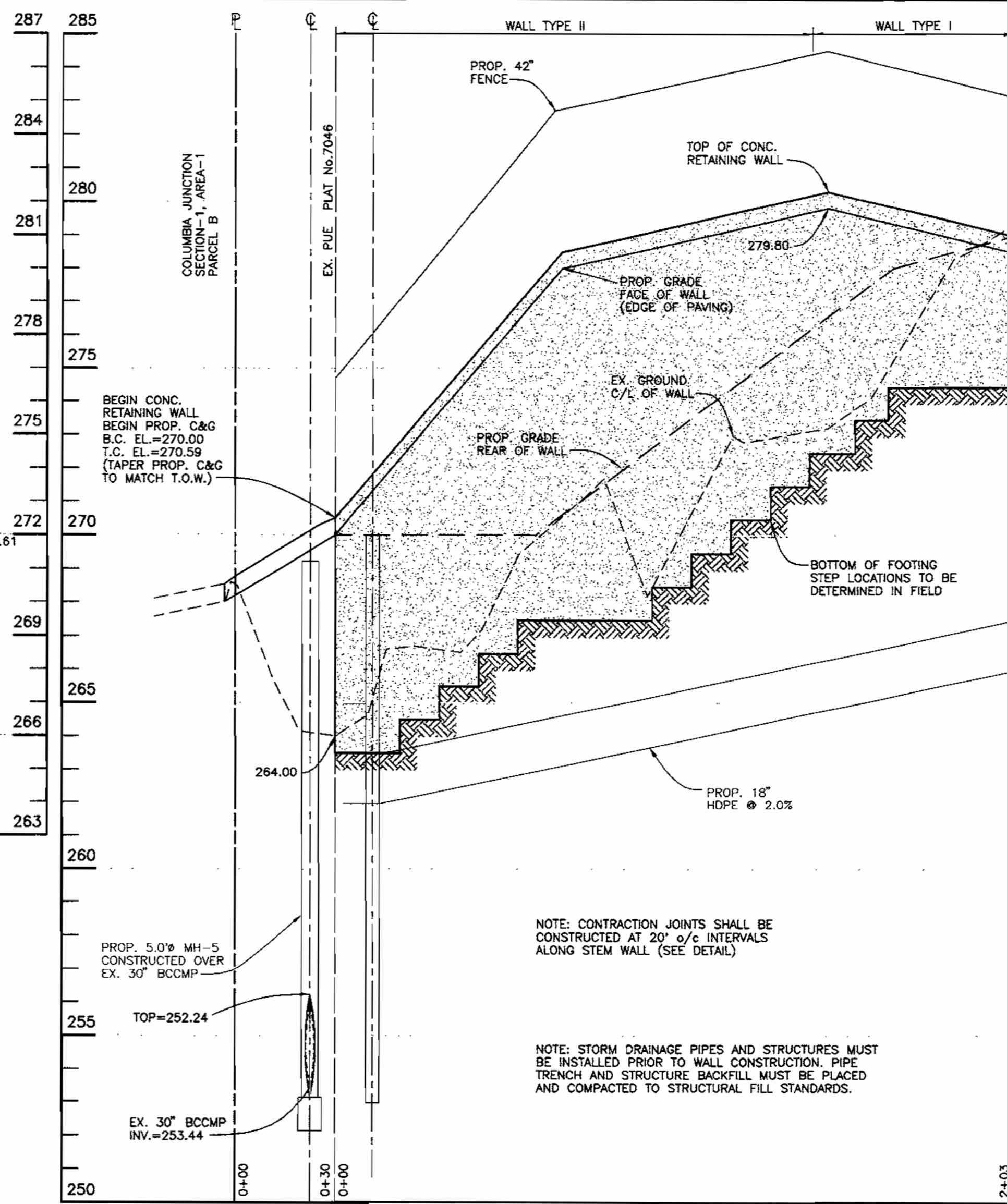
WALL SECTION
NOT TO SCALE



KEYSTONE RETAINING WALL "B" - PROFILE
N.T.S.

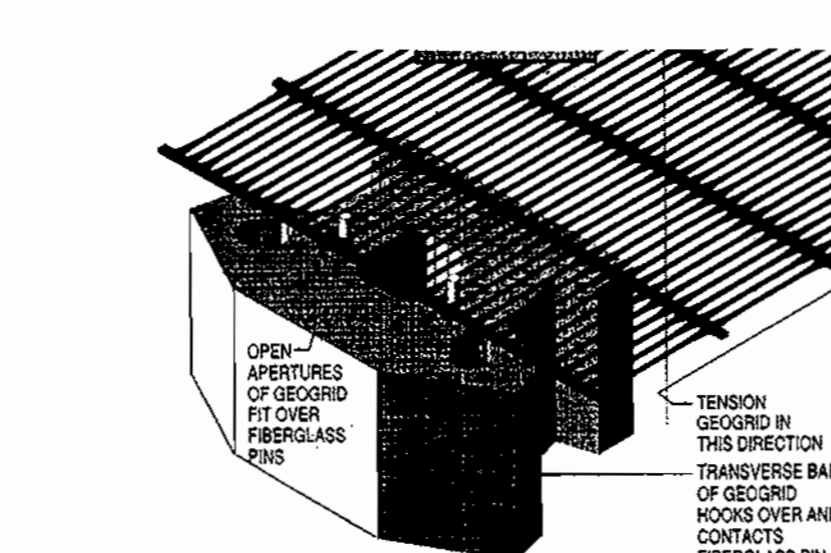


KEYSTONE RETAINING WALL "A" - PROFILE
N.T.S.



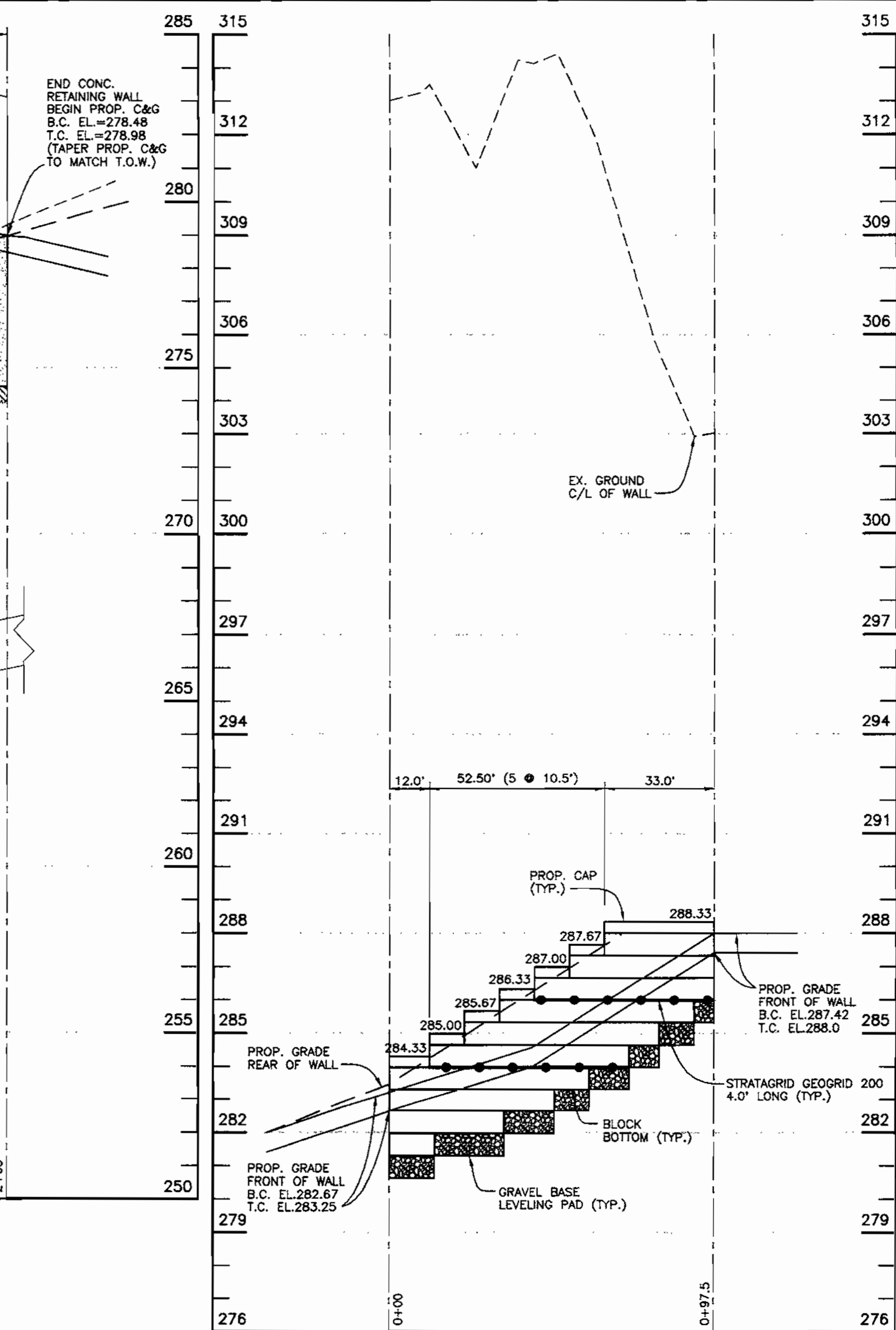
CONCRETE RETAINING WALL "C" - PROFILE

HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 3'



TYPICAL KEYSTONE RETAINING WALL DETAIL
N.T.S.

NOTE:
1. PROVIDE RAILING ON TOP OF RETAINING WALL ALONG PROPOSED SIDEWALK.
2. THE WALL BATTER (VERTICAL TILT) SHALL BE 7.1° OR 1:8 BATTER (SEE DETAIL THIS SHEET).



KEYSTONE RETAINING WALL "B" - PROFILE

HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 3'

- KEYSTONE RETAINING WALL NOTES:
- THE EARTH WORK AND CONSTRUCTION OF THE RETAINING WALLS SHALL BE PERFORMED UNDER THE OBSERVATION OF A MARYLAND REGISTERED PROFESSIONAL ENGINEER.
 - THE BEARING CAPACITY OF THE SOIL MUST BE VERIFIED IN THE FIELD PRIOR TO WALL CONSTRUCTION. THE FOLLOWING SOIL PROPERTIES WERE ASSUMED FOR DESIGN:
GRANULAR FILL - SOIL FRICTION ANGLE = 28° MIN.
UNIT WEIGHT = 125 PCF
 - BACKFILL SHALL BE COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR WITH THE PROPER EQUIPMENT (ASTM D-990)
 - MINIMUM ALLOWABLE BEARING PRESSURE IS 2500 PSF. IF BEARING IS FOUND TO BE INADEQUATE, AREA UNDER WALL AND REINFORCED BACKFILL MUST BE UNDERCUT AND REPLACED W/APPROPRIATE MATERIAL AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER.
 - WALLS SHALL BE KEYSTONE UNITS AND PINS. CORNER UNITS SHALL BE SET CUTS, CAPS AND CORNER UNITS SHALL BE SECURED W/FLEXIBLE EPOXY BASED ADHESIVE SUCH AS KEYSTONE KAISAL.
 - GEORGRID SHALL BE TENSAR STRAHDGRID.
 - WORK SHALL BE PERFORMED PER KEYSTONES CONSTRUCTION MANUAL BY A QUALIFIED CONTRACTOR.
 - A CERTIFICATION LETTER FROM A GEOTECHNICAL ENGINEER SHALL BE OBTAINED BY THE OWNER CERTIFYING THE MONITORING AND PLACEMENT OF FILL FOR THE RETAINING WALLS.

CONCRETE RETAINING WALL DIMENSION CHART

WALL TYPE	A	B	C	D	E	F	G	HEEL REIN.	TOP MAIN STEM REIN.	BOTT. MAIN STEM REIN.	REQUIRED SOIL BEARING CAP.
1	12"	1'-8"	5'-0"	7'-6"	12"	1'-8"	N/A	#5 @ 12"/c	#5 @ 12"/c	#5 @ 12"/c	2000 PSF
2	15"	2'-0"	7'-0"	10'-3"	15"	2'-8"	5'-8"	#7 @ 12"/c	#5 @ 12"/c	#7 @ 12"/c	2000 PSF

CONCRETE RETAINING WALL NOTES:

- CONCRETE SHALL BE 3500 PSI STRENGTH @ 28 DAYS
- REINFORCING STEEL SHALL BE GRADE 60
- REBAR SPLICES SHALL BE MIN. 40 BAR DIA.

- SEQUENCE OF CONSTRUCTION FOR KEYSTONE RETAINING WALL
- REMOVE ALL SURFACE VEGETATION AND DEBRIS
 - EXCAVATE BASE TRENCH TO ALLOW FOR BASE LEVELING PAD AND FIRST COURSE OF KEYSTONE UNIT.
 - PLACE AND COMPACT BASE LEVELING PAD.
 - SET AND ALIGN BASE COURSE.
 - INSERT FIBERGLASS CONNECTING PINS.
 - PLACE UNIT/DRAINAGE MATERIAL. DRAINAGE MATERIAL SHALL BE NUMBER 57 CRUSHED STONE OR AS DIRECTED BY THE KEYSTONE MANUFACTURER. DO NOT OPERATE COMPACTION EQUIPMENT DIRECTLY OVER THE KEYSTONE UNIT. INSTALL GEORGRID REINFORCEMENT AT INTERVALS INDICATED ON WALL DETAIL.
 - BACKFILL AND COMPACT ALL SOILS PLACED BETWEEN THE UNIT/DRAINAGE MATERIAL AND THE RETAINED BACKFILL.
 - SWEEP TOP OF UNITS CLEAN PRIOR TO PLACEMENT OF THE NEXT COURSE.
 - INSTALL ADDITIONAL COURSES OF KEYSTONE UNIT AS INDICATED IN ABOVE SHEETS 5-9.
 - INSTALL RAILING.
 - POSITION AND INSTALL CAP UNITS.
 - FINISH GRADING.

NOTE: RETAINING WALL CONSTRUCTION SHALL BE PERFORMED UNDER THE OBSERVATION OF A MARYLAND REGISTERED PROFESSIONAL ENGINEER.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Howard County 1/9/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Chris Harvath 1/10/02
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

James R. Rantz 1/16/02
DIRECTOR DATE

NO. DATE REVISION

BENCHMARK ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE, SUITE 418
ELLICOTT CITY, MARYLAND 21043
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email: Benchmark@ceis.com

DEVELOPER: SCI LIMITED PARTNERSHIP
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ELLICOTT CITY, MD 21041
PHONE: 410-465-4244

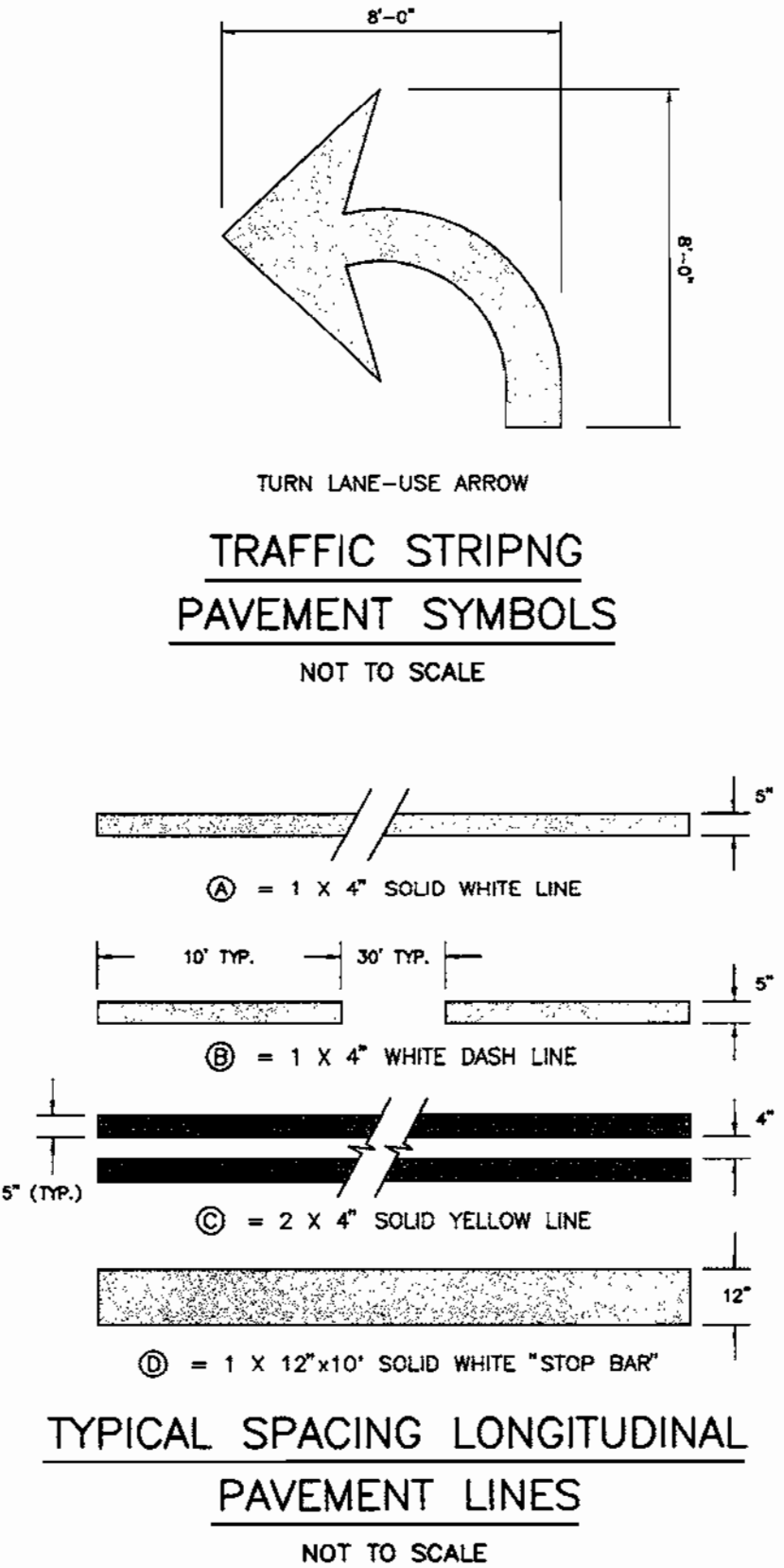
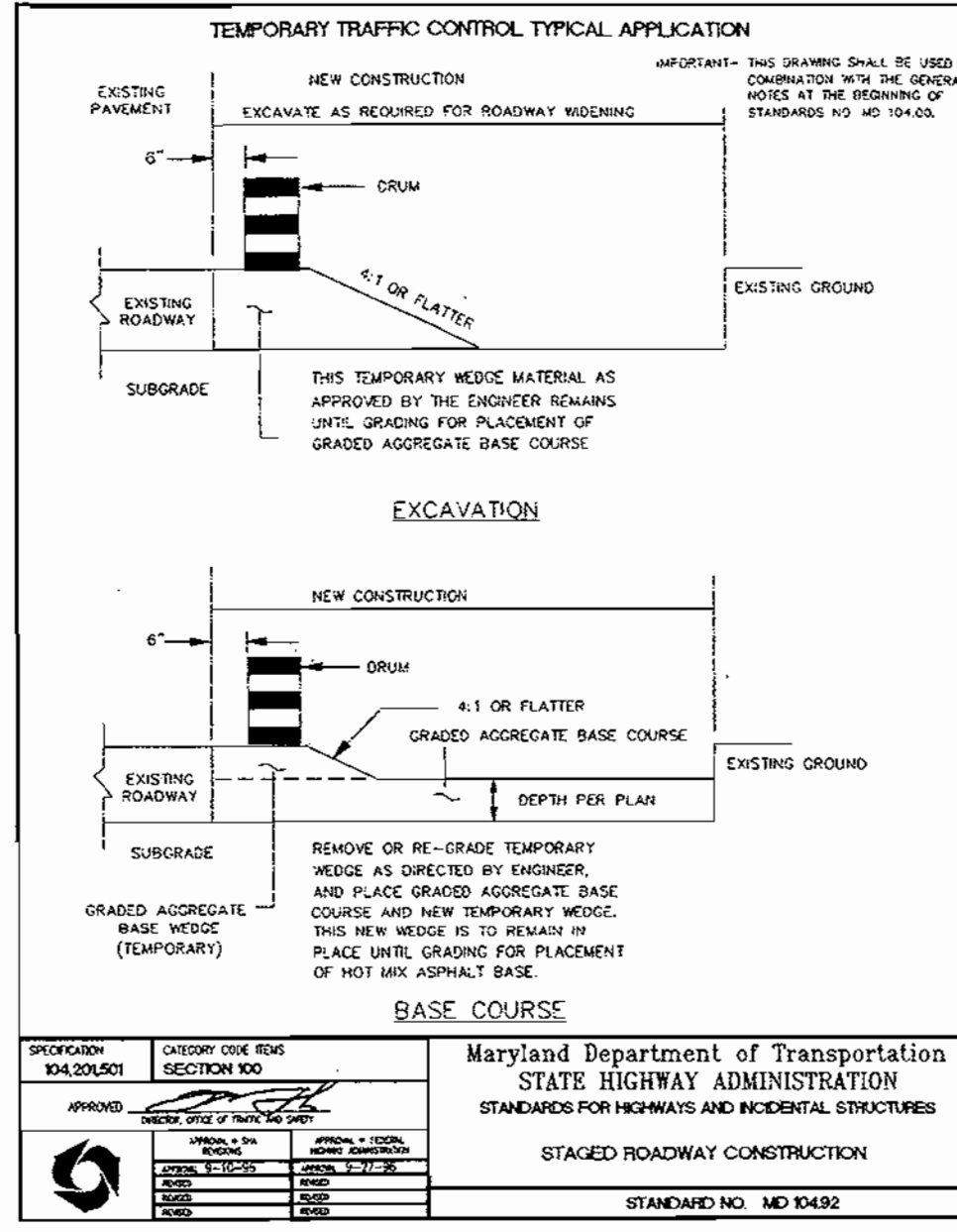
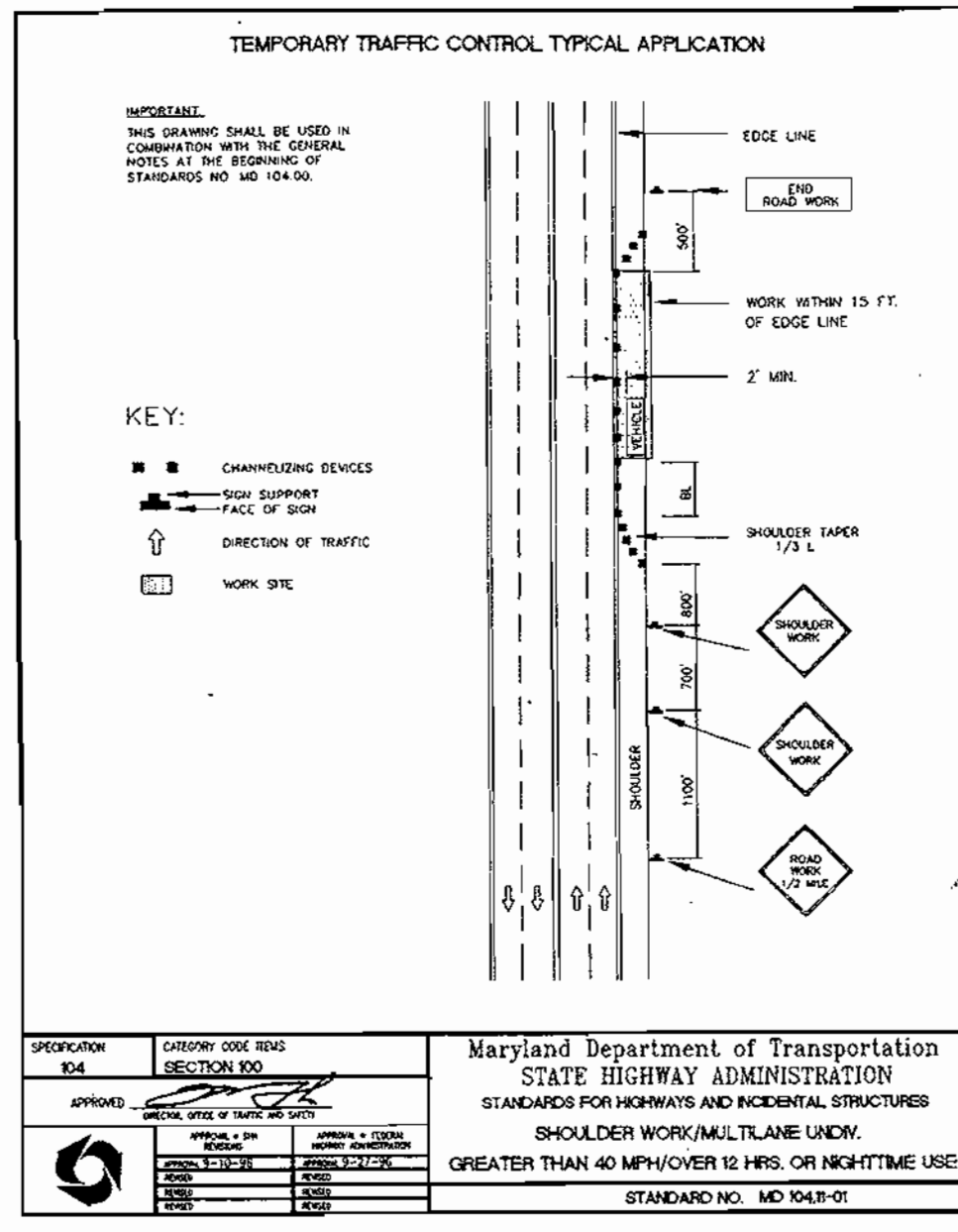
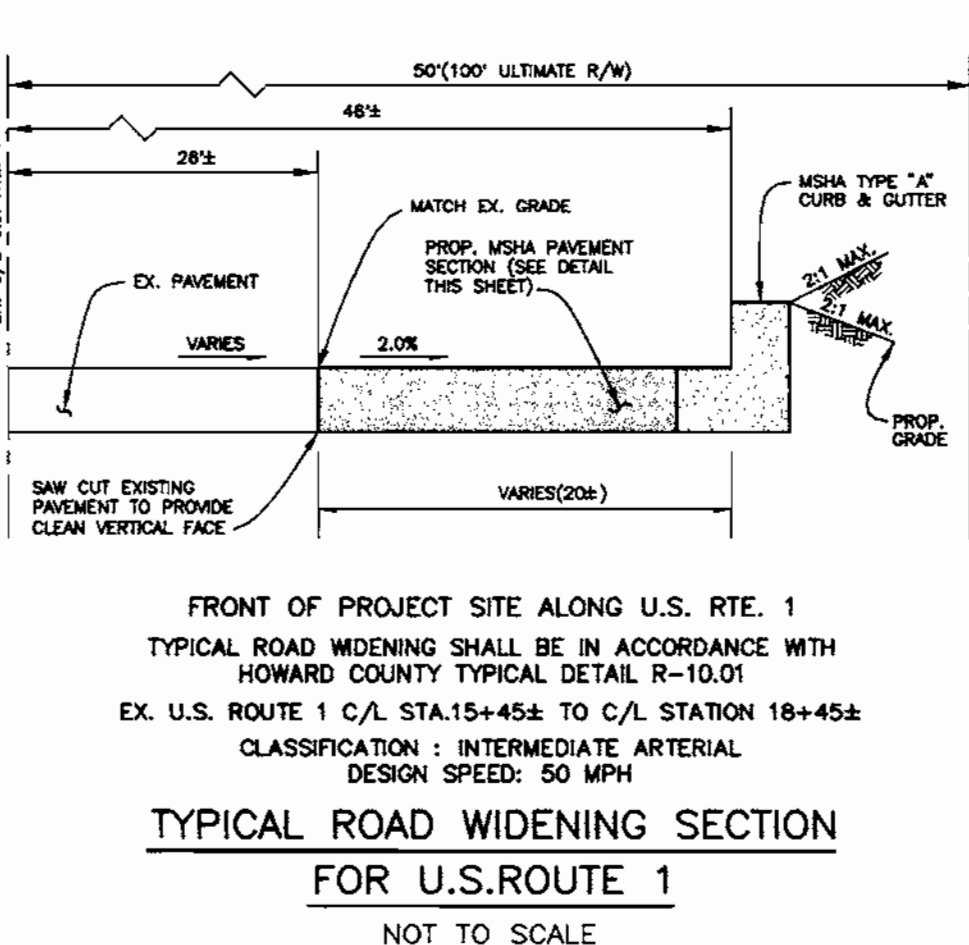
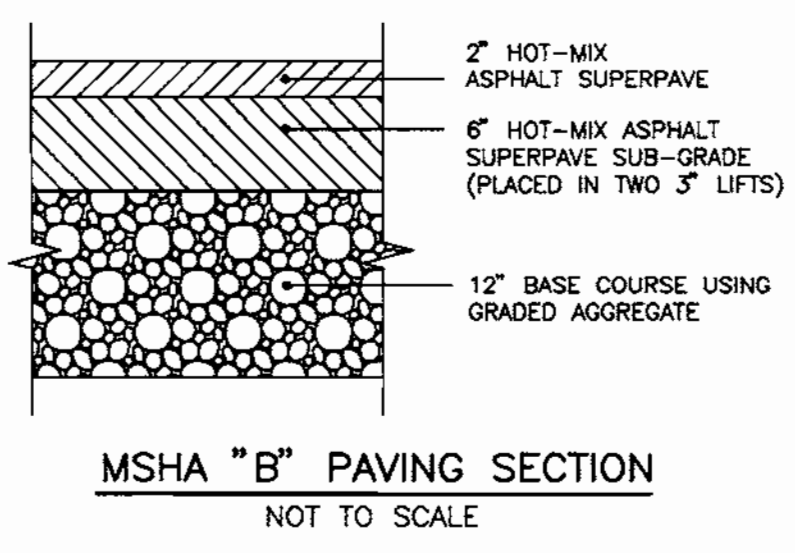
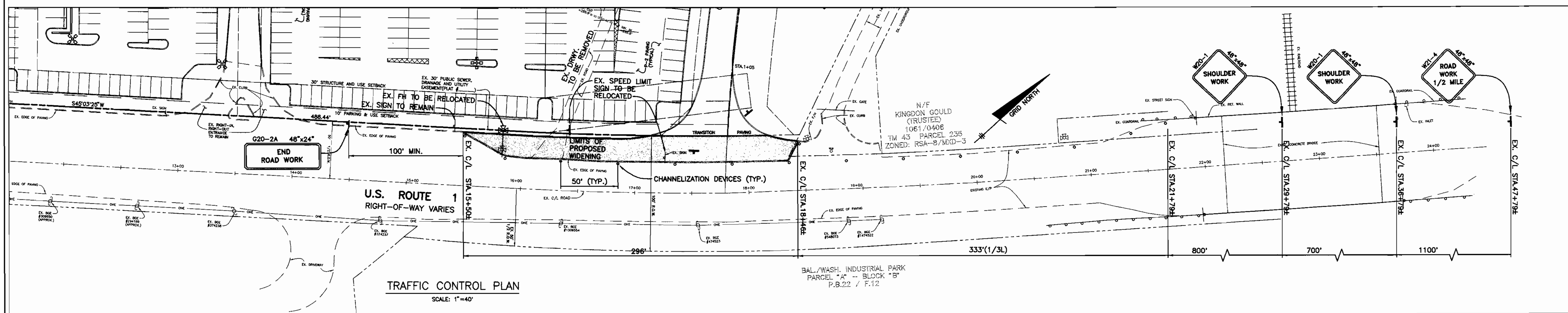
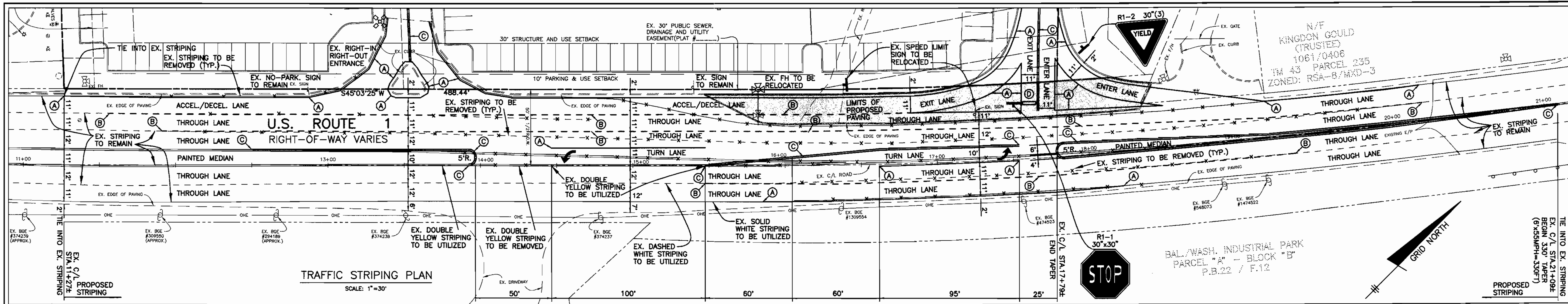
PROJECT: COLUMBIA JUNCTION SECTION 3 - PARCEL 'A' (RETAIL CENTER)

LOCATION: TAX MAP 48 - BLOCK 1
PARCELS 90, 91, 114 & 548
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

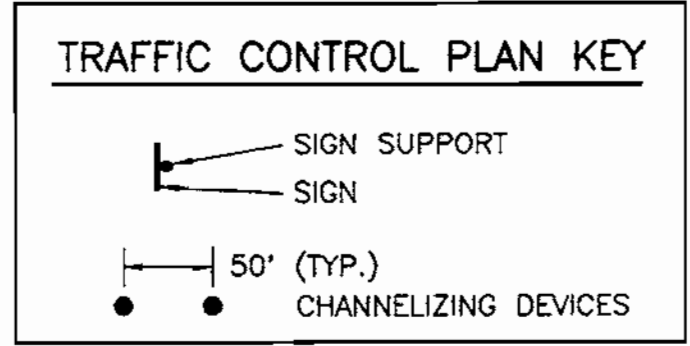
TITLE: RETAINING WALL PROFILES & DETAILS

DATE: FEBRUARY, 2001 PROJECT NO. 1221
DECEMBER, 2001

Design: DAM/MCR Draft: MCR Check: DAM SCALE: AS SHOWN DRAWING 9 OF 11



- PAVEMENT MARKING LEGEND**
- (A) = PAVEMENT LINES - 5" WHITE SOLID
 - (B) = PAVEMENT LINES - 5" WHITE DASH
 - (C) = PAVEMENT LINES - 5" DOUBLE YELLOW SOLID
 - (D) = PAVEMENT LINES - 12" WHITE SOLID "STOP BAR"
- PAVEMENT MARKING NOTES**
- 1) ALL PAVEMENT MARKINGS TO BE 5" WIDE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS. A SINGLE HEAT APPLIED REFLECTIVE THERMOPLASTIC "LEFT-TURN" ARROW SHALL BE APPLIED IN EACH OF THE PROP. LEFT-TURN LANES.
 - 2) ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (2000-MILLENNIUM EDITION).
 - 3) EX. PAVEMENT MARKINGS THAT ARE IN CONFLICT WITH THE PROP. PAVEMENT MARKINGS FOR THIS CONTRACT WILL BE REMOVED BY THE CONTRACTOR BY SLURRY SEAL IN ACCORDANCE WITH SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS (1993), SECTION 507.02.



APPROVED: [Signature] DATE: 1/9/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

APPROVED: [Signature] DATE: 1/10/02
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: [Signature] DATE: 1/10/02
 DIRECTOR

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

APPROVED: [Signature] DATE: 1/9/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

APPROVED: [Signature] DATE: 1/10/02
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: [Signature] DATE: 1/10/02
 DIRECTOR

NO.	DATE	REVISION

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STATE OF MARYLAND PROFESSIONAL ENGINEER
 122601

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PROJECT: **COLUMBIA JUNCTION SECTION 3 - PARCEL 'A' (RETAIL CENTER)**

LOCATION: TAX MAP 48 - BLOCK 1 PARCELS 90, 91, 114 & 548 8TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: **TRAFFIC PLANS, NOTES AND DETAILS**

DATE: FEBRUARY, 2001 PROJECT NO. 1221
 DECEMBER, 2001

SCALE: AS SHOWN DRAWING 11 OF 11

Design: DAM/MCR Draft: MCR Check: DAM