

SHEET INDEX	
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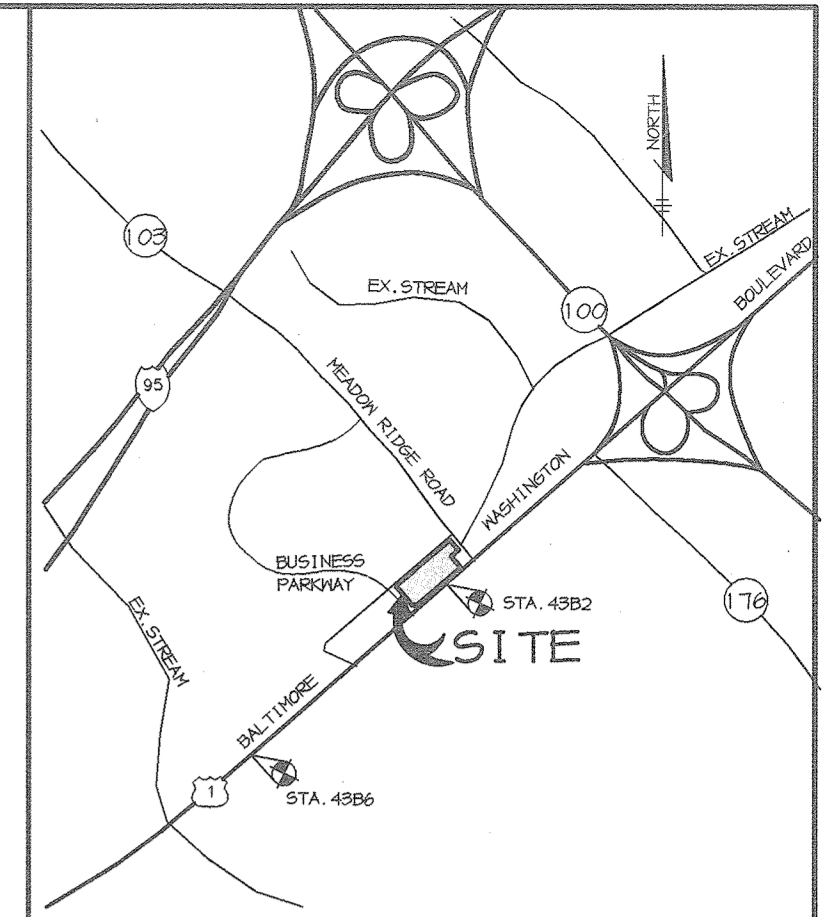
SITE DEVELOPMENT PLAN

MEADOWRIDGE BUSINESS PARK

PARCEL R-1

1st ELECTION DISTRICT

HOWARD COUNTY, MARYLAND



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/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- ALL PLAN DIMENSIONS ARE TO FACE OF CURB AND FACE OF BUILDING UNLESS OTHERWISE NOTED.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 4386 AND 4382 WERE USED FOR THIS PROJECT.
- WATER IS PUBLIC. CONTRACT NO. 511-W. NEW WATER SERVICE TO BE UNDER ADO AGREEMENT.
- SEWER IS PUBLIC. SEWER DRAINAGE AREA: PATAPSCO CONTRACT NO. 705-S. NEW SEWER SERVICE TO BE UNDER ADO AGREEMENT.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
- A 100-YEAR FLOODPLAIN STUDY WAS PREPARED BY RIEMER MUEGGE & ASSOCIATES DATED AUGUST 2000.
- THE WETLANDS DELINEATION FOR THIS PROJECT IS FROM RECORDED PLAT 9047.
- AN AFPO TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY LEE CUNNINGHAM & ASSOCIATES DATED MAY, 2001. ACCORDING TO THE TRAFFIC STUDY A RIGHT TURN LANE NEEDS TO BE PROVIDED AT ROUTE 1/ROUTE 103 INTERSECTION. LANE CONSTRUCTION WILL COMMENCE PRIOR TO BUILDING CONSTRUCTION.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- THE BOUNDARY SURVEY FOR THIS PROJECT IS BASED ON PREVIOUSLY RECORDED PLAT NO. 9047 AND 14861.
- SUBJECT PROPERTY ZONED M-1 PER 10-18-93 COMPREHENSIVE ZONING PLAN.
- ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
- SEE DEPARTMENT OF PLANNING AND ZONING FILE NOS WP-00-33, WP-01-115, F-01-74, WP-01-17.
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
- ALL STORM DRAIN PIPE BEDDING SHALL BE CLASS 'C' AS SHOWN IN FIG. 11.4, VOLUME 1 OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- STORM DRAIN TRENCHES WITHIN ROAD RIGHT OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, I.E., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, LATEST AMENDMENTS.
- PROFILES STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO 11B.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY RIEMER MUEGGE & ASSOCIATES, INC. DATED MARCH 2000.
- A GEOTECHNICAL STUDY WAS PREPARED BY GTA, INC. DATED JAN. 1998.
- STORMWATER QUALITY AND QUANTITY MANAGEMENT IS PROVIDED VIA A BAYSAYER AND A DETENTION POND.
- WP-00-33 IS A WAIVER PETITION REQUESTING PERMISSION TO WAIVE SECTION 16.116(c)(1) AND TO PERMIT GRADING WITHIN WETLAND BUFFERS AND STREAM BUFFERS AND WAS APPROVED ON FEBRUARY 14, 2000.
- ARMY COE/WDE PERMIT TO FILL WETLANDS EXPIRES SEPTEMBER 2, 2002. PERMIT NUMBER IS #CENAB-OP-RW 90-1204-4.
- THIS PARCEL IS PART OF A PLANNED BUSINESS PARK GREATER THAN 75 ACRES THAT WAS RECORDED PRIOR TO DECEMBER 31, 1992 AND IS THEREFORE EXEMPT FROM THE FOREST CONSERVATION ORDINANCE.
- THERE ARE NO CEMETARIES OR BURIAL GROUNDS ON THE SITE TO THE BEST OF OUR KNOWLEDGE.
- WP-01-115 IS A WAIVER PETITION REQUESTING PERMISSION TO WAIVE SECTION 16.156(k) TO REACTIVATE A SITE DEVELOPMENT PLAN WHICH WAS DENIED FOR FAILURE TO SUBMIT ORIGINALS (BY 3-27-01) WITHIN 180 DAYS OF THE TECHNICALLY COMPLETE LETTER DATED SEPTEMBER 28, 2000. WAIVER WAS APPROVED MAY 10, 2001, SUBJECT TO THE FOLLOWING CONDITIONS:
 - WITH REACTIVATION OF THIS SITE DEVELOPMENT PLAN, WP-00-33 IS ALSO REACTIVATED. SUBJECT TO THE THREE CONDITIONS STIPULATED IN THE APPROVAL LETTER DATED 2-14-00.
 - UPDATE THE AFPO STUDY STUDY AS REQUIRED BY THE ATTACHED COMMENTS FROM DEVELOPMENT ENGINEERING DIVISION (DED).
 - SUBMIT A REVISED SDP WITHIN 45 DAYS OF THIS APPROVAL (BY JUNE 24, 2001) ADDRESSING ALL OUTSTANDING COMMENTS FROM DED. FOUR COMPLETE SETS OF THE SDP SHOULD BE SUBMITTED (2 FOR THE DIVISION OF LAND DEVELOPMENT, 2 FOR DED). TWO COMPLETE SETS OF ANY SUPPLEMENTAL INFORMATION REQUIRED BY DED SHOULD ALSO BE SUBMITTED IN THE PACKAGE FOR THAT DIVISION.
- LANDSCAPE SURETY WILL BE POSTED WITH DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$21,600.00.

27. WP-01-17 - A WAIVER OF SECTION 16.156 (m)(1)(i) WAS APPROVED BY THE DIRECTOR OF PLANNING AND ZONING ON SEPTEMBER 2, 2002. THE APPROVAL IS SUBJECT TO TWO CONDITIONS:

- SDP-00-144 IS HEREBY REACTIVATED FOR A ONE YEAR PERIOD TO APPLY FOR BUILDING PERMITS TO INITIATE CONSTRUCTION OF THE APPROVED BUILDING(S) FOR THE SUBJECT PROPERTY. THE APPLICANT SHALL COMPLY WITH ALL BUILDING PERMIT APPLICATION REQUIREMENTS OF DED.
- COMPLIANCE WITH DEPT. OF ENVIRONMENTAL AND COMMUNITY PLANNING COMMENTS DATED AUGUST 17, 2002, TO ADD A SIDEWALK AND STREET TREES ALONG U.S. ROUTE 1.

AS-BUILT CONTROL BENCHMARKS

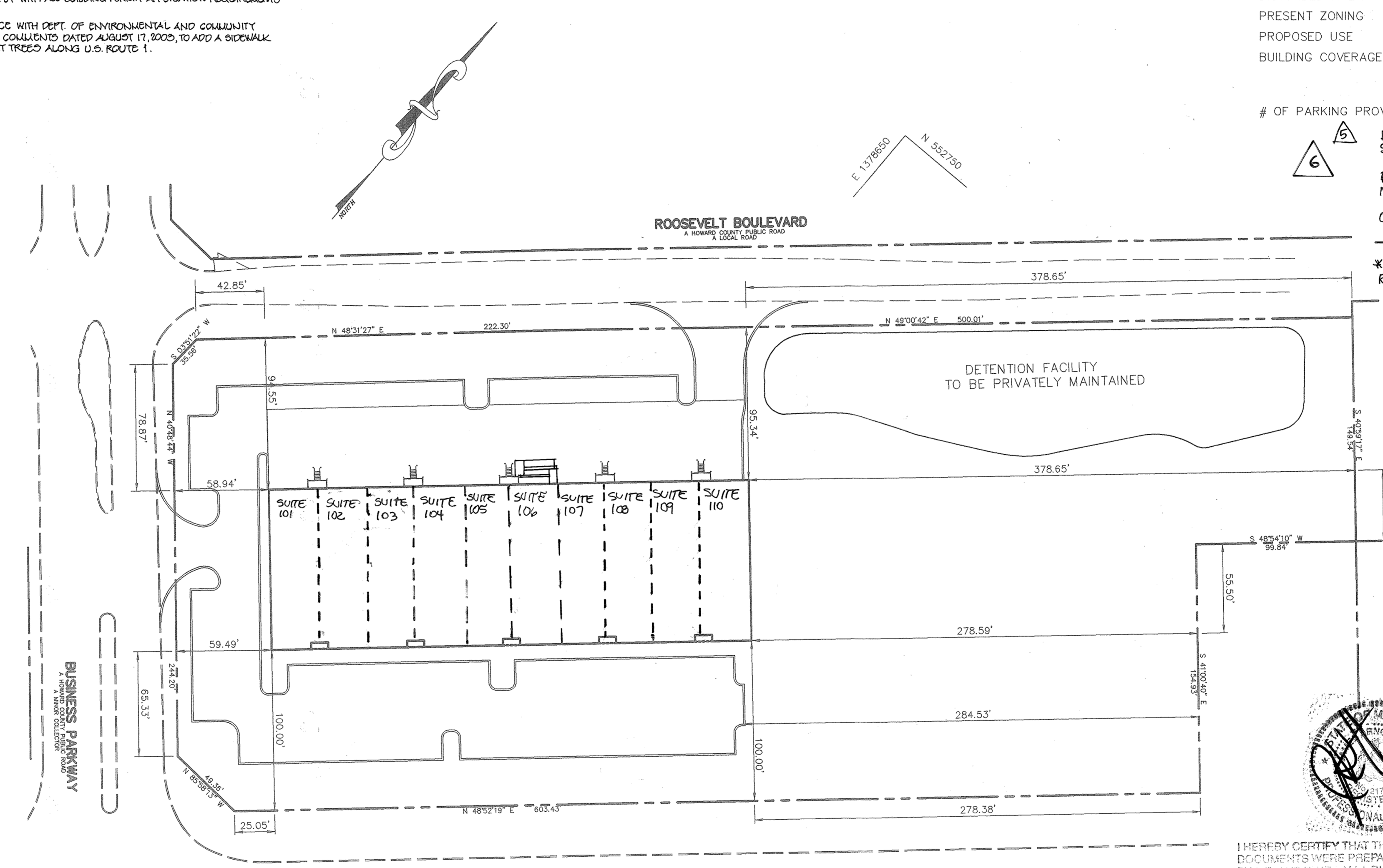
- HO. CO. SURVEY CONTROL STATION 43B6
N 550,601.59 E 1,376,866.05
ELEV. 210.61
- HO. CO. SURVEY CONTROL STATION 43B2
N 551,655.01 E 1,378,176.94
ELEV. 209.67

SITE ANALYSIS

AREA OF PARCEL	4.62 ACRES 201,444 SF
DISTURBED AREA	3.59 ACRES 156,164 SF
PRESENT ZONING	M-1
PROPOSED USE	1 OFFICE/WAREHOUSE FACILITY (ONE STORY)
BUILDING COVERAGE	30,000 SF (15% COVERAGE)

# OF PARKING PROVIDED	102 SPACES (INCLUDING 5 HC)
DAYCARE - 3,000 SF @ 3 SP/1,000 SF	= 9 SPACES
SCHOOL - 6,000 SF @ 1 SP/1,000 SF	= 6 SPACES
150 STUDENTS @ 1 SP/1,000 SF	= 150 SPACES
PAINT STORE - 3,000 SF @ 5 SP/1,000 SF	= 15 SPACES
MARTIAL ARTS STUDIO - 3,000 SF @ 10 SP/1,000 SF	= 30 SPACES
OCCUPATIONAL AND PHYSICAL THERAPY - 6,000 SF @ 5 SP/1,000 SF	= 30 SPACES

* SEE SHARED PARKING ANALYSIS REDUCING PARKING REQUIRED TO 98 SPACES.



SUITE	SF	USE
101	3,000	OCCUPATIONAL AND PHYSICAL THERAPY
102	3,000	OCCUPATIONAL AND PHYSICAL THERAPY
103	3,000	MARTIAL ARTS STUDIO
104	3,000	DAYCARE
105	3,000	PAINT STORE
106	6,000*	SCHOOL
107	3,000	SCHOOL
108	3,000	SCHOOL
109	3,000	SCHOOL
110	3,000	SCHOOL

* INCLUDES A 3,000 SF MEZZANINE

FOR REVISION #4 ONLY
#5
#6

AS-BUILT CERTIFICATION

STATE OF MARYLAND
AIMEE C. REMINGTON
PROFESSIONAL ENGINEER
LICENSE NO. 21774
EXPIRATION DATE: 11-10-2019

12-12-16
10-19

PARCEL	STREET ADDRESS
R-1	6785 BUSINESS PARKWAY

PLAT #	BLOCK #	ZONING	TAX MAP NO.	ELECT. DIST.	GENUS TRACT
14861	23	M-1	37	1st	6012

BUILDING ELEVATION

SCALE: 1" = 30'

NO.	DATE	REVISION	BY
6	8-8-19	ADD MEZZANINE, INCREASE NUMBER OF STUDENTS, ADJUST PARKING TABULATIONS AND UPDATE SUITE CHART	PJS
5	1-10-19	ADJUST PARKING TABULATIONS AND ADD SUITE CHART	ALC
4	12-12-16	ADD DAY CARE + PLAY AREA TO SUITE M	PJS
3	12-20-12	ADD TEMPORARY ACCESS FOR SUITE G	BEI

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Joseph J. Smith 11/26/01
DIRECTOR DATE

William J. Remington 10/26/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Candy Remington 10/21/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

OWNER/DEVELOPER

SDC, INC.
8480 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21043
410-465-4244

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL R-1
A WAREHOUSE BUILDING

AREA ZONED M-1 PARCEL R-1
TAX MAP 37, BLOCK 23 & TAX MAP 43, BLOCK 4 & 5
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE SHEET

RIEMER MUEGGE & ASSOCIATES INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21045
tel 410.997.8800 fax 410.997.9282

DATE 10-9-01

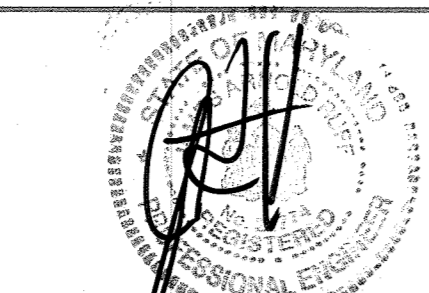
DESIGNED BY: CJR
DRAWN BY: K.E.V.
PROJECT NO: 00036/SDP1.DWG
DATE: SEPTEMBER 21, 2001
SCALE: 1"=50'
DRAWING NO. 1 OF 11

Christopher J. Reid
CHRISTOPHER J. REID #19949

P:\proj\10036\SDP1.DWG Wed Sep 19 13:32:36 2001 RIEMER MUEGGE & ASSOCIATES, A DIVISION OF PHRGA

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 28559 Expiration Date: 7-22-13
 For REVISIONS BY BENCHMARK ENGINEERING, INC. ONLY



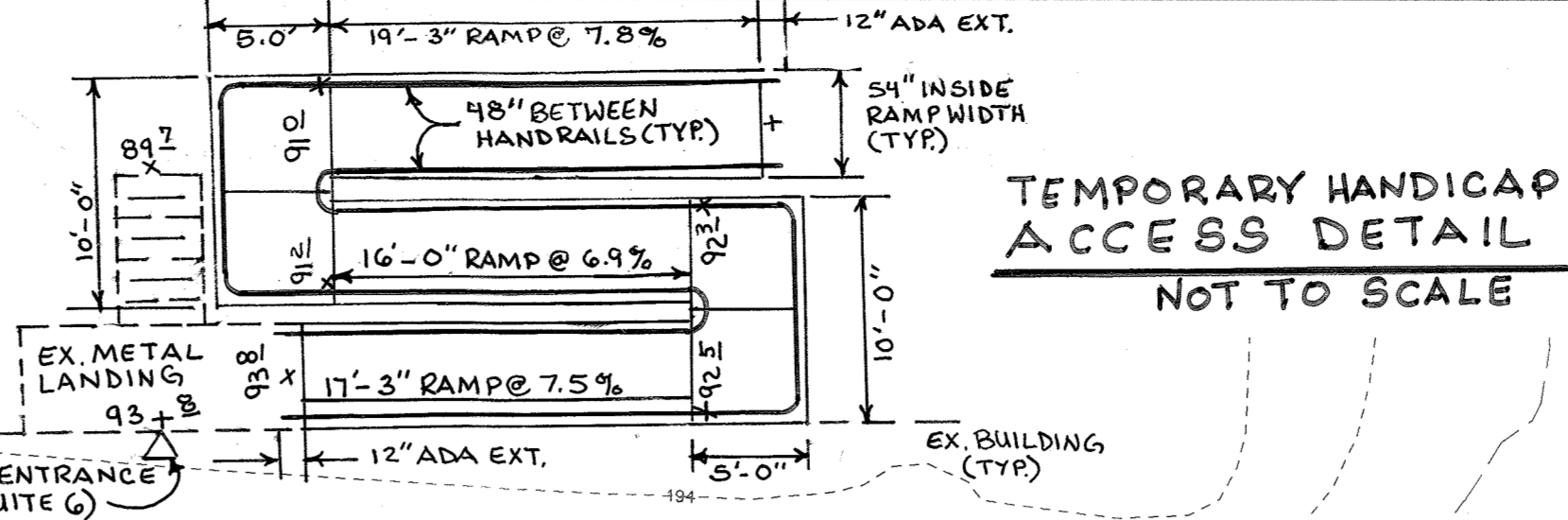
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21714, EXPIRATION DATE: 11-10-2017

FOR REVISION #4 ONLY

1190 SF PLAY AREA FENCED w/ A 72" GREEN HOOPER FENCE PERIMETER PATTERNS (K) POWDER COATED, 0.99 WIRE MESH (2'x4' OR EQUAL) PLAY AREA ACCESSIBLE PER SECTION 240 OF THE 2010 ADA REGULATIONS

PROP. 8" SEWER TO BE CONSTRUCTED UNDER ADVANCED DEPOSIT AGREEMENT BY HO.CO.

ROOSEVELT BOULEVARD
 A HOWARD COUNTY PUBLIC ROAD
 A LOCAL ROAD

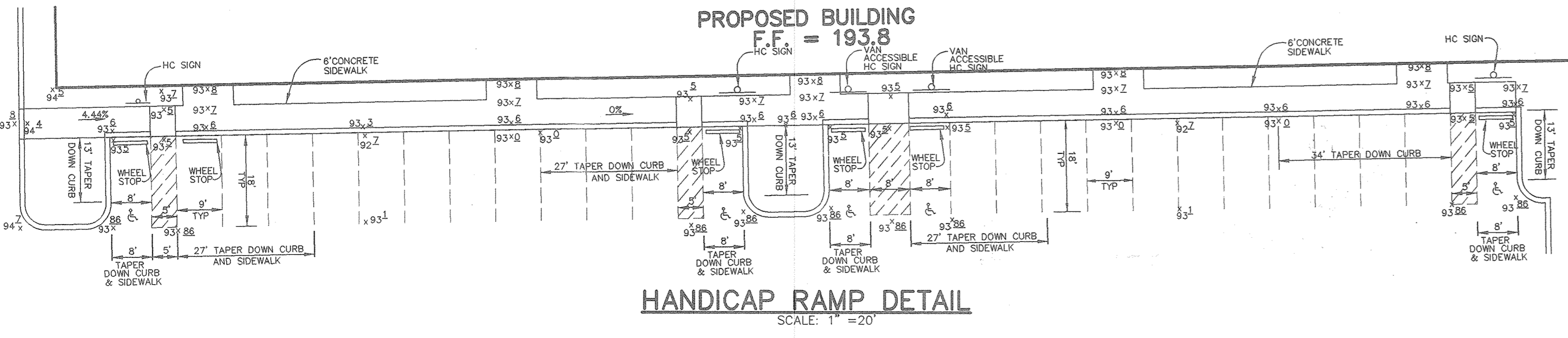
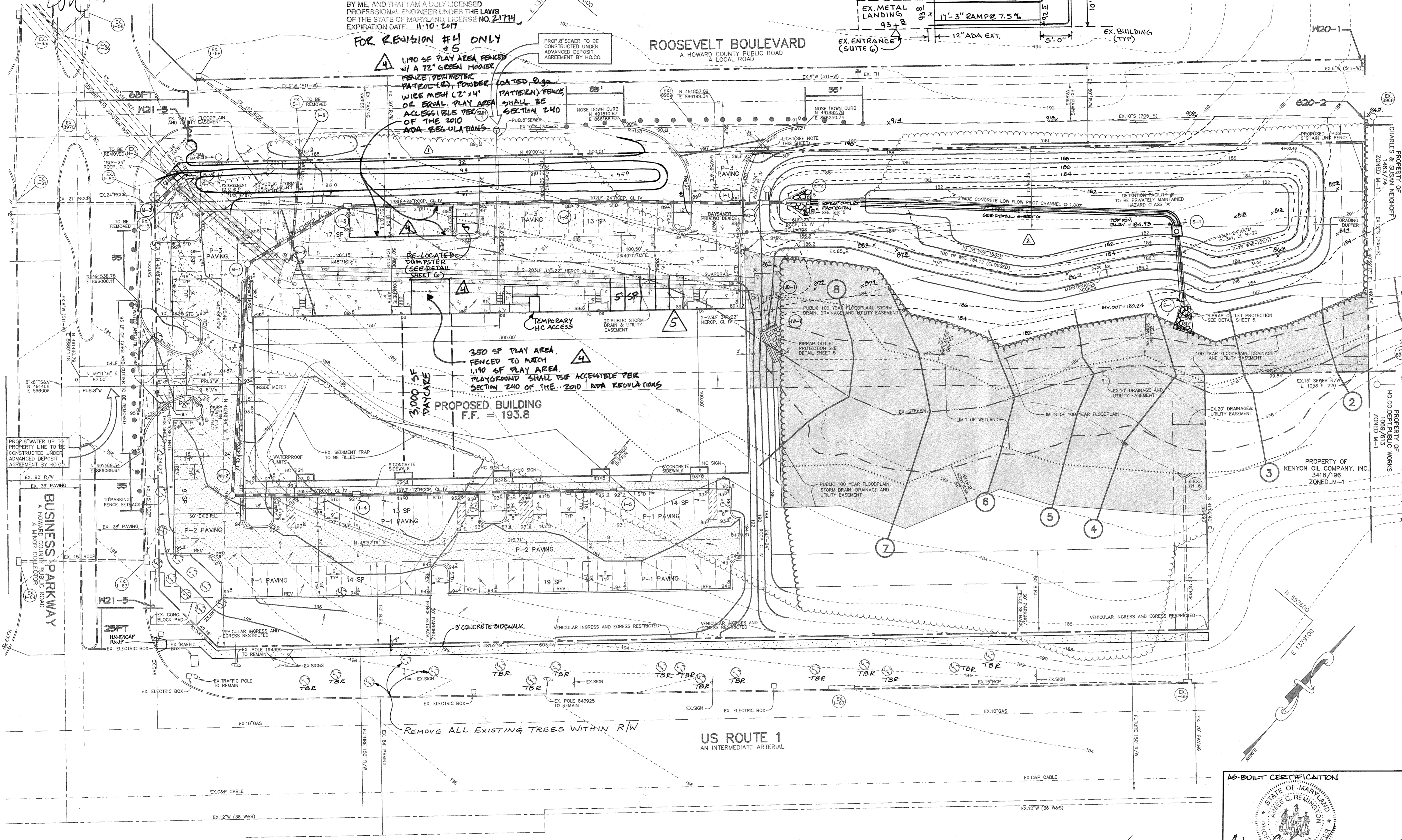


LEGEND

CONCRETE	[Pattern]
P-1 PAVING	[Pattern]
P-2 PAVING	[Pattern]
P-3 PAVING	[Pattern]
STD-REV	STANDARD CURB - REVERSE CURB
STREET LIGHT (SINGLE)	SEE NOTE 1

TRAFFIC CONTROL SIGNAGE LEGEND

[Symbol]	SIGN
[Symbol]	TEMPORARY BARRIER
[Symbol]	SHOULDER WORK W21-5 30"x 30"
[Symbol]	ROAD WORK AHEAD W20-1 30"x 30"
[Symbol]	END ROAD WORK



8-8-14	5	ADDS PARKING SPACES	RS
DATE	NO.	REVISION	BY

FLOODPLAIN CHART

X-SECT.	Q ₁₀₀ (CFS)	H.S.E.L. (FT)
1	154.64	179.21
2	154.64	179.09
3	154.64	179.02
4	134.68	179.50
5	134.68	180.48
6	134.68	181.12
7	134.68	182.02
8	134.68	182.68

SNMP #1

SUMMARY CHART DA TO DESIGN POINT		2 YR.	10 YR.	100 YR.
STORM ALLOWABLE RELEASE RATE (CFS)	60.48	106.64	-	-
DISCHARGE (CFS)	54.17	105.21	-	-
ELEVATION (FEET)	182.57	183.31	184.12*	-
STORAGE (ACRE-FEET)	0.287	0.464	0.664	-

* CLOSED CONDITIONS

- NOTES:
- STREET LIGHTS TO BE 250 WATT HPS VAPOR PENDANT FIXTURE (CUTOFF) MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE USING 12" ARM, ARM RADIAL TO FILET. STREET LIGHT ON ROOSEVELT BLVD. IS TO BE LOCATED AT STATION 0+27.89, 29LF TO THE LEFT. STREET LIGHT ON BUSINESS PARKWAY IS TO BE LOCATED AT STATION 0+53.75, 24LF TO THE RIGHT.
 - ALL EXTERIOR LIGHTING SHALL CONFORM TO ZONING REGULATIONS SECTION 134.
 - ALL CURB RADI ARE 5' UNLESS OTHERWISE LABELED.
 - ALL DIMENSIONS ARE TO FACE OF CURB OR BUILDING UNLESS OTHERWISE LABELED.
 - * LIMITS OF STD/REV CURB AND GUTTER.
 - FOR BUILDING LOCATION DIMENSIONS SEE SHEET 1.
 - NO TRUCK LOADING AREA MAY EXTEND INTO THE 50' STRUCTURE AND USE SETBACK
 8. TBR = TO BE REMOVED

4	12-12-16	ADD DAYCARE & PLAYGROUND TO SUITE 201	PSB
3	12-20-17	ADD TEMPORARY HC ACCESS FOR SUITE 6	BET
NO. 1	DATE	REVISION	BY

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[Signature]	11/26/16	DATE
DIRECTOR		
[Signature]	10/26/16	DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION		
[Signature]	10/31/16	DATE
CHIEF, DIVISION OF LAND DEVELOPMENT		

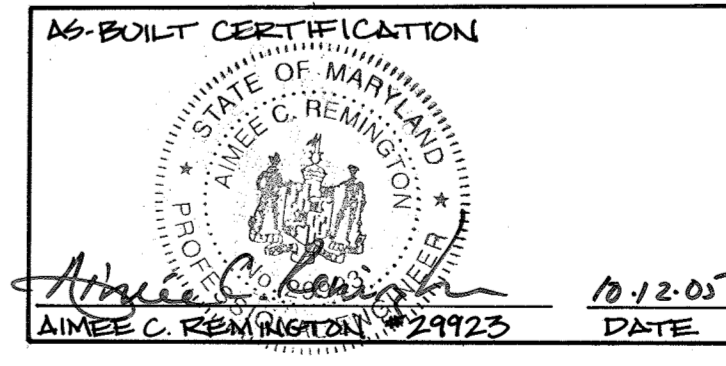
5-03-04 [Symbol] ADDED AS-BUILT DIRECTIONAL FACILITY INFO
 5-03-04 [Symbol] ADDED SIDEWALK ON RTE 1, BERM GRADING

OWNER/DEVELOPER: SDC, INC. 8480 BALTIMORE NATIONAL PIKE, ELLICOTT CITY, MARYLAND 21043, 410-465-4244

PROJECT: MEADOWRIDGE BUSINESS PARK PARCEL R-1 A WAREHOUSE BUILDING

AREA: ZONED M-1 PARCEL R-1 TAX MAP 37, BLOCK 23 & TAX MAP 43, BLOCK 4 & 5 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: **SITE DEVELOPMENT PLAN**



RIEMER MUEGGE & ASSOCIATES INC.
 ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
 8818 Centre Park Drive, Columbia, MD 21046
 tel 410.987.8900 fax 410.987.9282

10-9-01 DATE

DESIGNED BY: CJR
 DRAWN BY: DAM/K.E.V.
 PROJECT NO: 00036/SDP2.DWG
 DATE: SEPTEMBER 21, 2001
 SCALE: 1" = 30'
 DRAWING NO. 2 OF 11

CHRISTOPHER J. REID #19949
 AS-BUILT
 SDP-00-144

LEGEND

- DRAINAGE AREA DIVIDE
- SILT FENCE
- SUPER SILT FENCE
- L.O.D. LIMIT OF DISTURBANCE
- INLET PROTECTION
- SOIL LINE
- 100-YR FLOODPLAIN LIMITS
- WETLANDS LIMITS
- EXISTING STREAM
- FILTER BAGS

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

Suad Dly 10-17-01
 DEVELOPER DATE

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

Chris S. Reid 10-9-01
 ENGINEER DATE

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

Jim M. Jones 10/24/01
 NATURAL RESOURCES CONSERVATION SERVICE DATE

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

John R. Roberts 10/24/01
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Angela R. Tate 11/2/01
 DIRECTOR DATE

David Dammann 10/26/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy Horvath 10/26/01
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

12-20-12 2 ADJ TEMP HC ACCESS FOR SUITE G
 DATE NO. REVISION

OWNER/DEVELOPER
 SDG, INC.
 8480 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21043
 410-465-4244

PROJECT MEADOWRIDGE BUSINESS PARK
 PARCEL R-1
 A WAREHOUSE BUILDING

AREA ZONED M-1 PARCEL R-1
 TAX MAP 37, BLOCK 23 & TAX MAP 43, BLOCK 4 & 5
 1st ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE GRADING, SEDIMENT CONTROL
 PLAN AND DRAINAGE AREA MAP

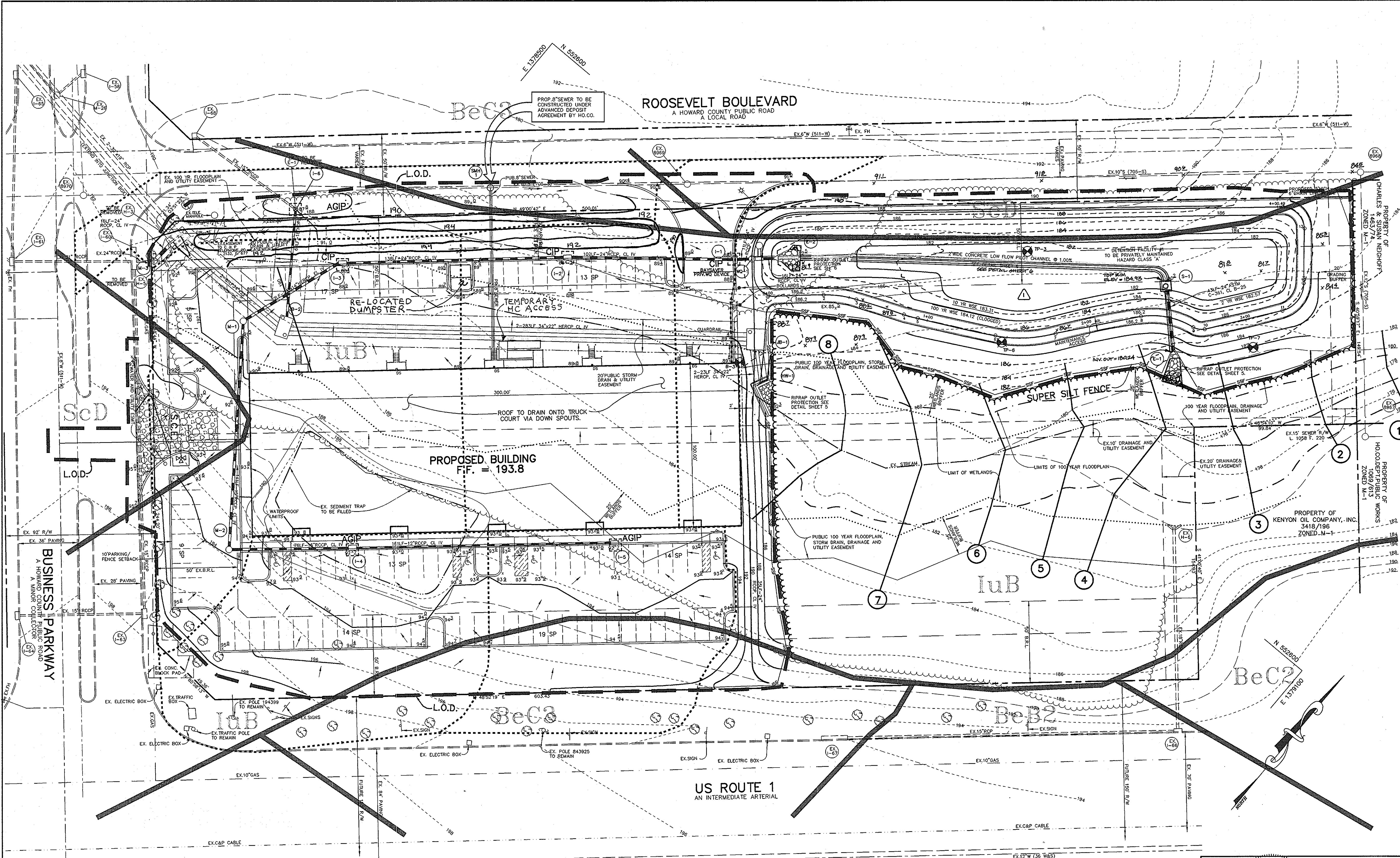
RIEMER MUEGGE & ASSOCIATES INC
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 8816 Centre Park Drive, Columbia, MD 21046
 tel 410.997.9800 fax 410.997.9282

10-9-01
 DATE
 DESIGNED BY : CJR

DRAWN BY: DAM/K.E.V.
 PROJECT NO : 00036/
 SDP3.DWG

DATE : SEPTEMBER 21, 2001
 SCALE : 1" = 30'

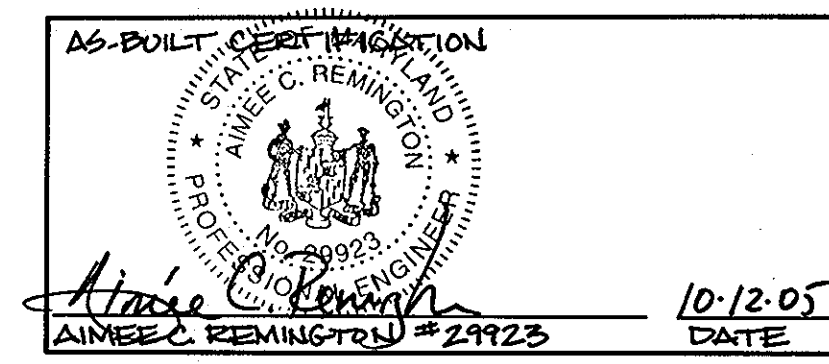
DRAWING NO. 3 OF 11
 SDP-00-144



FLOODPLAIN CHART

X-SECT	Q ₁₀₀ (CFS)	N.S.E.L. (FT)
1	154.64	174.21
2	154.64	174.04
3	154.64	174.02
4	134.60	174.50
5	134.60	180.48
6	134.60	181.12
7	134.60	182.02
8	134.60	182.68

- DAM & DATA SHMF #1**
- ① N 46°16'11" E 866022.30
 - ② CL STA 0+34.24
 - ③ CL STA 0+54.57
 - ④ CL STA 0+85.24
 - ⑤ CL STA 0+14.00
 - ⑥ CL STA 1+42.74
 - ⑦ CL STA 1+80.01
 - ⑧ CL STA 2+35.56
 - ⑨ CL STA 2+66.96
 - ⑩ CL STA 2+74.25
 - ⑪ CL STA 3+23.10
 - ⑫ CL STA 3+46.10
 - ⑬ CL STA 3+74.67
 - ⑭ CL STA 4+00.40
 - ⑮ N 42°00'15" E 866409.15
 - ⑯ N 40°12'56" E
 - ⑰ R = 60.00'
 - ⑱ N 67°31'31" E
 - ⑲ R = 100.00'
 - ⑳ S 62°50'57" W
 - ㉑ R = 75.00'
 - ㉒ R = 358.37'
 - ㉓ R = 50.00'
 - ㉔ R = 10.00'
 - ㉕ R = 545.00'
 - ㉖ R = 10.00'
 - ㉗ N 34°02'15" W
 - ㉘ R = 15.00'



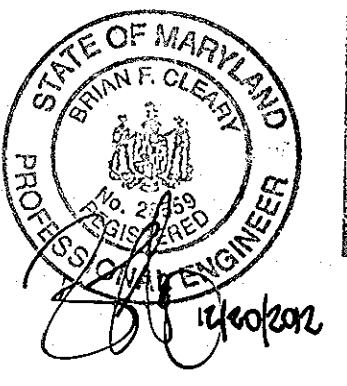
SOILS CHART

BeB2 BELTSVILLE SILT LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED
 BeC2 BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, MODERATELY ERODED
 BeC3 BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, SEVERELY ERODED
 IuB IUKA LOAM, LOCAL ALLUVIUM, 1 TO 5 PERCENT SLOPES
 SsD SANDY AND CLAYEY LAND, MODERATELY SLOPING

DRAINAGE DATA

INLET NOS.	AREA IN ACRES	C FACTOR	PERCENT IMPERVIOUS
1	0.24	0.78	88
2	0.54	0.76	85
3	0.89	0.76	85
4	0.51	0.49	45
5	0.41	0.52	49
6	0.33	0.45	39

Professional Conditions: I certify that these documents were prepared by me, or under my direct supervision, and that I am a duly licensed Professional Engineer under the laws of the State of Maryland.
 License No. **Z8559** Expiration Date: **7-22-13**
 FOR REVISION BY BENCHMARK ENGINEERING, INC. ONLY



TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redistributed 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. per 1000 sq. ft.).

Seeding - For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2-1/2 bushels per acre of annual rye (3.2 lbs. per 1000 sq. ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of creeping lovegrass (0.07 lbs. per 1000 sq. ft.). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching - Apply 1-1/2 to 2 tons per acre (10 to 90 lbs. per 1000 sq. ft.) of unrattled small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 216 gal. per acre (5 gal. per 1000 sq. ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 341 gal. per acre (8 gal. per 1000 sq. ft.) for anchoring.

Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

PERMANENT SEEDING NOTES

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

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

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

- 1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq. ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq. ft.) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (4 lbs. per 1000 sq. ft.).
- 2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq. ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs. per 1000 sq. ft.) before seeding. Harrow or disc into upper three inches of soil.

Seeding - For the period March 1 thru April 30 and from August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs. per 1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (0.05 lbs. per 1000 sq. ft.) of creeping lovegrass. During the period October 16 thru February 28, protect site by one of the following options:

- 1) 2 tons per acre of well-anchored mulch straw and seed as soon as possible in the spring.
- 2) Use sod.
- 3) Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.

Mulching - Apply 1-1/2 to 2 tons per acre (10 to 90 lbs. per 1000 sq. ft.) of unrattled small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 216 gal. per acre (5 gal. per 1000 sq. ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 341 gal. per acre (8 gal. per 1000 sq. ft.) for anchoring.

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

STANDARD SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).

2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1984 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERE TO.

3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 7 CALENDAR DAYS FOR ALL PERIMETER CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3:1. B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND MARKING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.

5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1984 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOO, TEMPORARY SEEDING, AND MULCHING (SEC. 6.) TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHED OF GRASSES.

6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

7. SITE ANALYSIS:

TOTAL AREA OF SITE	4.62 ACRES
AREA TO BE ROOFED OR PAVED	3.54 ACRES
AREA TO BE VEGETATIVELY STABILIZED	2.5 ACRES
TOTAL CUT	1.09 ACRES
TOTAL FILL	22,000 CU. YARDS
OFFSITE WASTE AREA LOCATION TO HAVE ACTIVE GRADING PERMIT	

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 OBTAINED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.

11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

12. SITE GRADING MUST BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.

13. SEDIMENT WILL BE REMOVED FROM TRAPS WHEN ITS DEPTH REACHES CLEAN OUT ELEVATION SHOWN ON THE PLANS.

14. CUT AND FILL QUANTITIES PROVIDED UNDER SITE ANALYSIS DO NOT REPRESENT BID QUANTITIES. THESE QUANTITIES DO NOT DISTINGUISH BETWEEN TOPSOIL, STRUCTURAL FILL OR ENHANCEMENT MATERIAL, NOR DO THEY REFLECT CONSIDERATION OF UNDERCUTTING OR REMOVAL OF UNSUITABLE MATERIAL. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH SITE CONDITIONS WHICH MAY AFFECT THE WORK.

21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

Definition
Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose
To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

- Conditions Where Practice Applies**
1. This practice is limited to areas having 2:1 or flatter slopes where:
 - a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
 - c. The original soil to be vegetated contains material toxic to plant growth.
 - d. The soil is so acidic that treatment with limestone is not feasible.

11. 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

1. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Topsoil, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experiment Station.
2. Topsoil Specifications - Soil to be used as topsoil must meet the following:
 - i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2" in diameter.
 - ii. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.
 - iii. Where subsoil is either highly acidic or composed of heavy clay, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. LIME shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

11. For sites having disturbed areas over 5 acres:
 - i. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
 - a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
 - b. Organic content of topsoil shall be not less than 1.5 percent by weight.
 - c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
 - ii. Note: Topsoil substitutes to amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority may be used in lieu of natural topsoil.
 - iii. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.

Topsoil Application

1. When topsoiling, maintain needed erosion and sediment control practices such as diversions, grade stabilization structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
2. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.
3. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
4. 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 seeded germination.

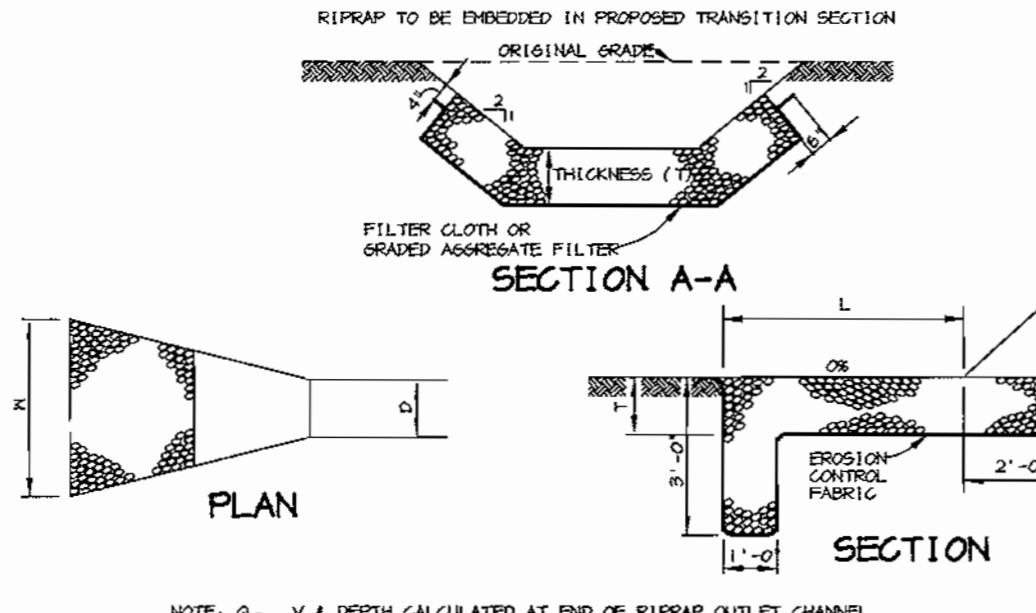
Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below.

1. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres and to be limited to permitted sites and amendments and for site having disturbed areas under 5 acres shall conform to the following requirements:
 - a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted under the title of jurisdiction 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 shall be added to meet the requirements prior to use.
 - c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
 - d. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

References: Guide Specifications, Soil Preparation and Sodding, MD-MA, Pub. 41, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institute, Revised 1978.

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT.
2. INSTALL SCE, SUPER SILT FENCE AND SILT FENCE. (3 DAYS)
3. CLEAR FOR #1 INSTALL HN-1 THRU JB-3, THEN JB-3 TO H-4, AND FC-1 TO 1-6. (3 WEEKS)
4. ROUGH GRADE SITE AND COMMENCE BUILDINGS CONSTRUCTION.
5. CONSTRUCT SWP #1 AND AS SUBGRADES ARE ESTABLISHED, INSTALL STORM DRAINS, WATER AND SEWER UTILITIES. (3 WEEKS)
6. INSTALL CURB AND GUTTER THEN PAVE. (2 WEEKS)
7. APPLY TOPSOIL AND STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES. (3 DAY/5)
8. INSTALL LIGHTS, LANDSCAPING, SIGNAGE AND SIDEWALKS AND COMPLETE BUILDINGS CONSTRUCTION. (5 MONTHS)
9. UPON PERMISSION OF DUMP SEDIMENT CONTROL INSPECTOR, CLEAN STORM DRAIN INLETS AND FLUSH OUT PIPES.
10. UPON PERMISSION OF DUMP SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES, STABILIZE REMAINING DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (1 DAY)



NOTE: $Q_p = V \times \text{DEPTH CALCULATED AT END OF RIPRAP OUTLET CHANNEL}$

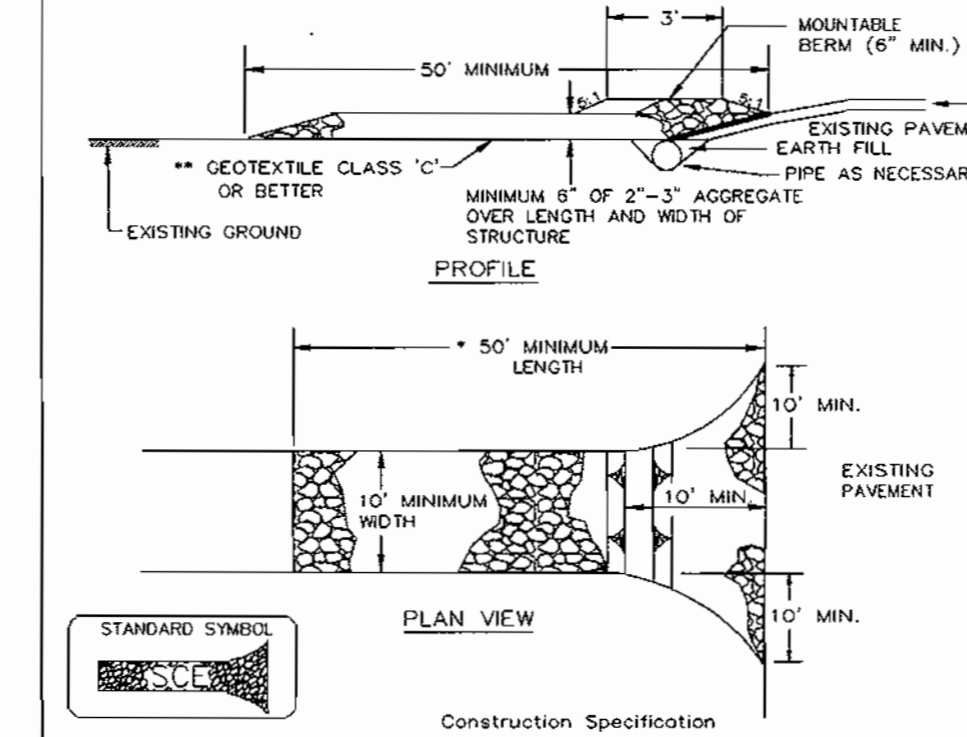
STRUCTURE	MEAN STONE DIA.	LENGTH (L)	HATCH (H)	THICKNESS (T)	Q_p (FPS)	V_p	PARTIAL PERM. (PT)
E-1	4.5"	10'	12'	14"	8.58	2.36	1.00
E-2	4.5"	10'	6'	14"	13.17	4.14	1.46
HN-1	4.5"	20'	8'	14"	41.43	4.22	1.87

RIPRAP OUTLET PROTECTION DETAIL

CONSTRUCTION SPECIFICATIONS

1. THE SUBGRADE FOR THE FILTER, RIP-RAP, OR GABION SHALL BE PREPARED TO RECEIVE FILTER LINES AND GRASSES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
2. THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIP-RAP OR FILTER.
3. GEOTEXTILE CLASS C OR BETTER SHALL BE PROTECTED FROM PUNCHING, CUTTINGS, OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF GEOTEXTILE FABRIC OVER THE DAMAGED AREA. REPAIRS OR REPAIRS FOR JOINING TWO PIECES OF GEOTEXTILE FABRIC SHALL BE A MINIMUM OF ONE FOOT.
4. STONES FOR THE RIP-RAP OR GABION OUTLETS MAY BE PLACED BY EQUIPMENT, THEY SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR RIP-RAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. RIP-RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE FABRIC. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.
5. THE STONE SHALL BE PLACED SO THAT IT BLENDS IN WITH THE EXISTING GROUND. IF THE STONE IS PLACED TOO HIGH THEN THE FLOW WILL BE FORCED OUT OF THE CHANNEL AND SCOUR ADJACENT TO THE STONE WILL OCCUR.

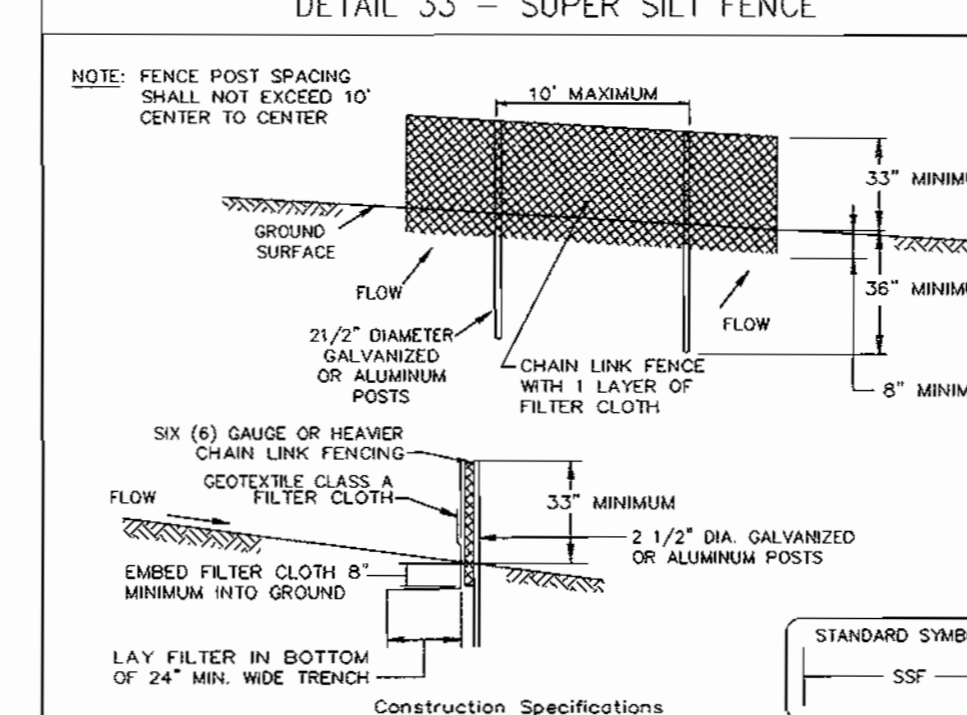
DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



1. Length - minimum of 50' (+30' for single residence lot).
2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. *The plan approval authority may not require single family residences to use geotextile.
4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

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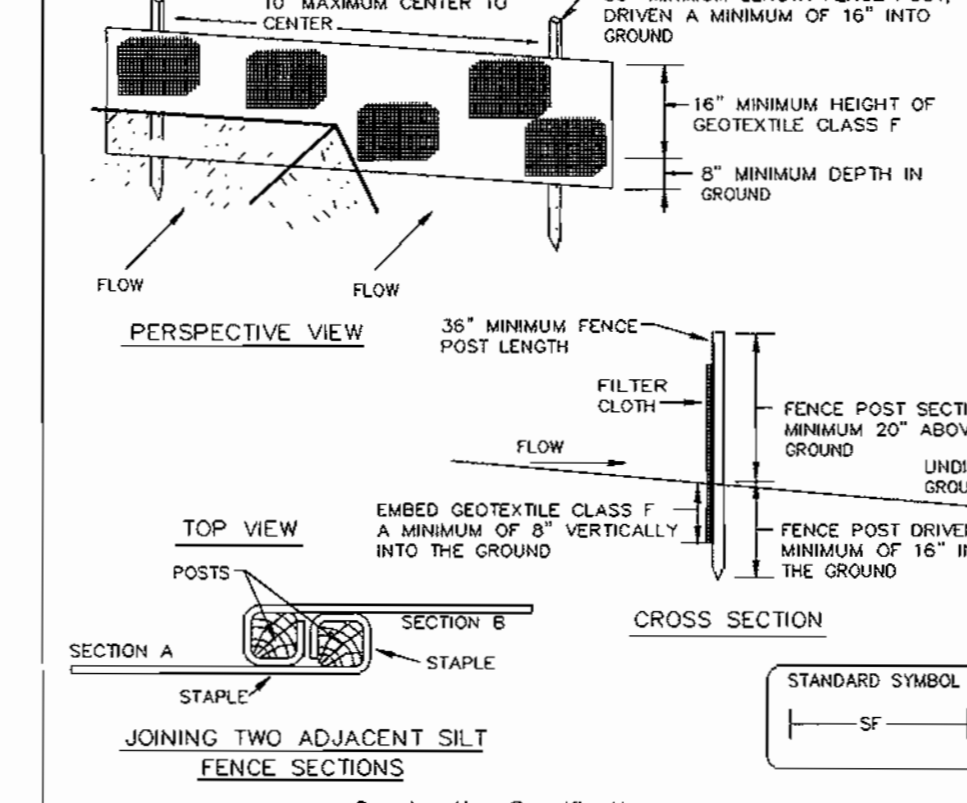
DETAIL 33 - SUPER SILT FENCE



1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway (SHA) Details for Chain Link Fencing. The SHA specifications for a 6 foot fence shall be used, substituting 42" fabric and 6 foot length posts.
2. The posts do not need to be set in concrete.
3. Chain link fence shall be fastened securely to the fence posts with wire ties or staples. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence. The chain link fence shall be six (6) gauge or heavier.
4. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
5. Filter cloth shall be embedded a minimum of 8" into the ground.
6. When two sections of geotextile fabric adjoin each other, they shall be overlapped by 6" and folded.
7. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.

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DETAIL 22 - SILT FENCE

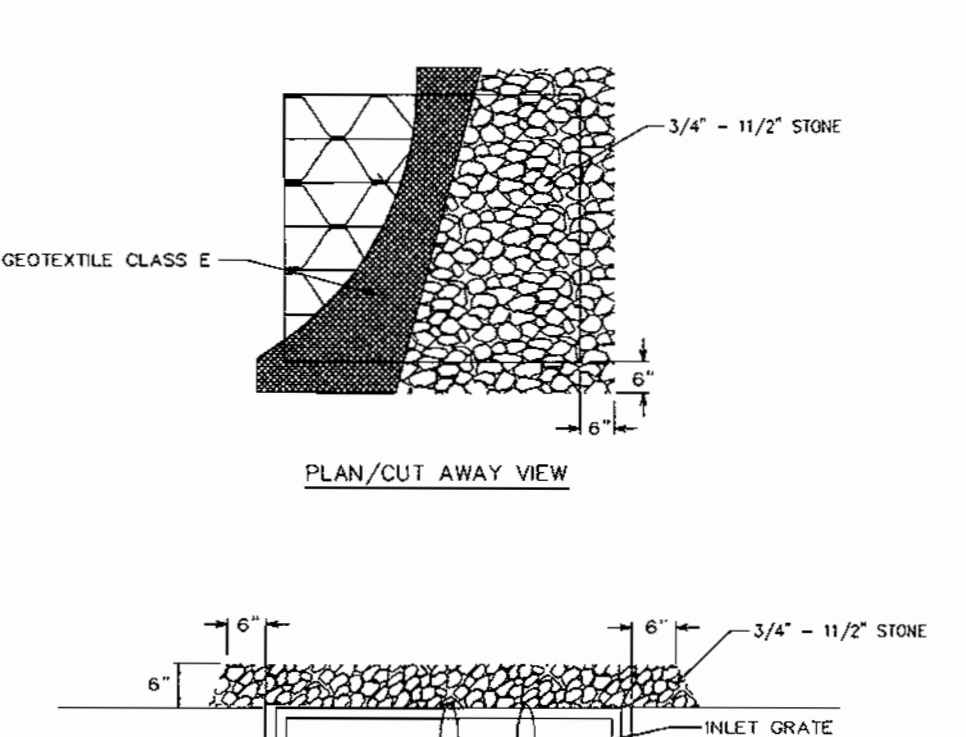


1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 1/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pound per linear foot.
2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/ft (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/ft (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft ² / minute (max.)	Test: MSMT 322
Fatening Efficiency	75% (min.)	Test: MSMT 322
3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reaches size of the fabric height.

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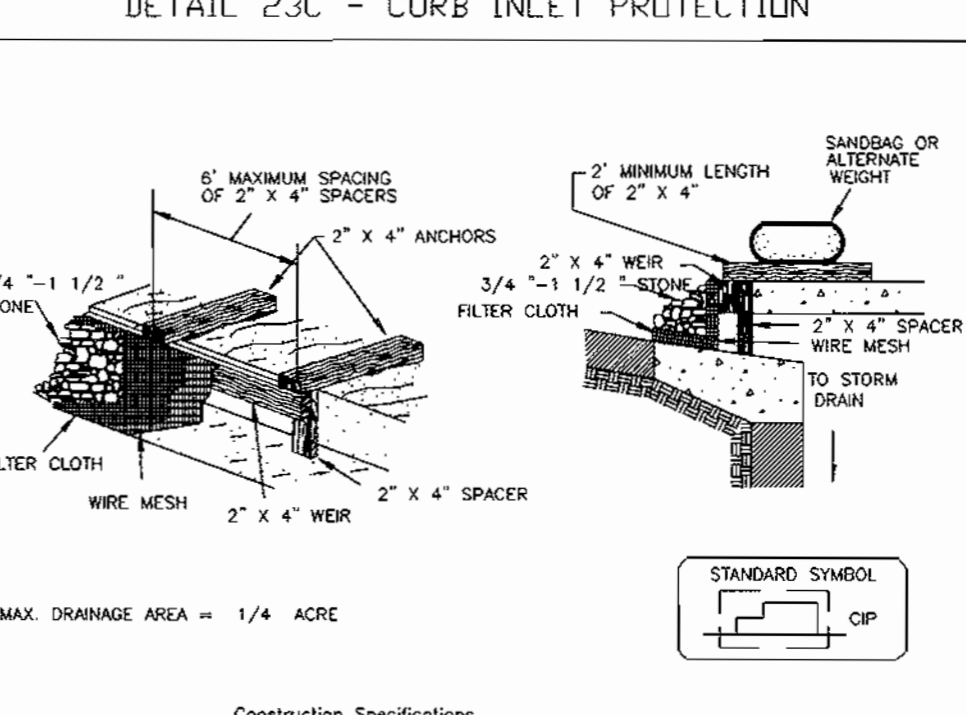
DETAIL 23B - AT GRADE INLET PROTECTION



1. Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.
2. Place 3/4" to 1 1/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. *The plan approval authority may not require single family residences to use geotextile.
4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

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DETAIL 23C - CURB INLET PROTECTION



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

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30.0 - DUST CONTROL

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

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

SPECIFICATIONS

- TEMPORARY METHODS**
1. MULCHES - SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE CRIMPED OR TACKED TO PREVENT BLOWING.
 2. VEGETATIVE COVER - SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER.
 3. TILLAGE TO ROUGHEN SURFACE AND BRING CLAYS TO THE SURFACE. THIS IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. SOIL FLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE FLOWS SPACED ABOUT 12" APART, SPACING-TOOTHED HARROWS, AND SIMILAR DEVICES ARE EXAMPLES OF EQUIPMENT WHICH MAY PROVIDE THE DESIRED EFFECT.
 4. IRRIGATION - THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AT 4 HOURS. AT NO TIME SHOULD THE SITE BE IRRIGATED TO THE POINT THAT RUNOFF BEGINS TO FLOW.
 5. BARRIERS - SOLID BOARD FENCES, SILT FENCES, SHOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 10 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING SOIL BLOWING.
 6. CALCIUM CHLORIDE - APPLY AT RATES THAT WILL KEEP SURFACE MOIST. MAY NEED REAPPLICATION.
- PERMANENT METHODS**
1. PERMANENT VEGETATION - SEE STANDARDS FOR PERMANENT VEGETATIVE COVER, AND PERMANENT STABILIZATION WITH SOO. EXISTING TREES OR LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.
 2. TOPSOILING - COVERING WITH LESS EROSION SOIL MATERIALS. SEE STANDARDS FOR TOPSOILING.
 3. STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.
- REFERENCES**
1. AGRICULTURE HANDBOOK 346. WIND EROSION FORCES IN THE UNITED STATES AND THEIR USES IN PREVENTING SOIL LOSS.
 2. AGRICULTURE INFORMATION BULLETIN 354. HOW TO CONTROL WIND EROSION. USDA-ARS.

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BY THE DEVELOPER :

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

DEVELOPER: *Stewart D. Hoff* DATE: 10-17-01

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 SITED CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

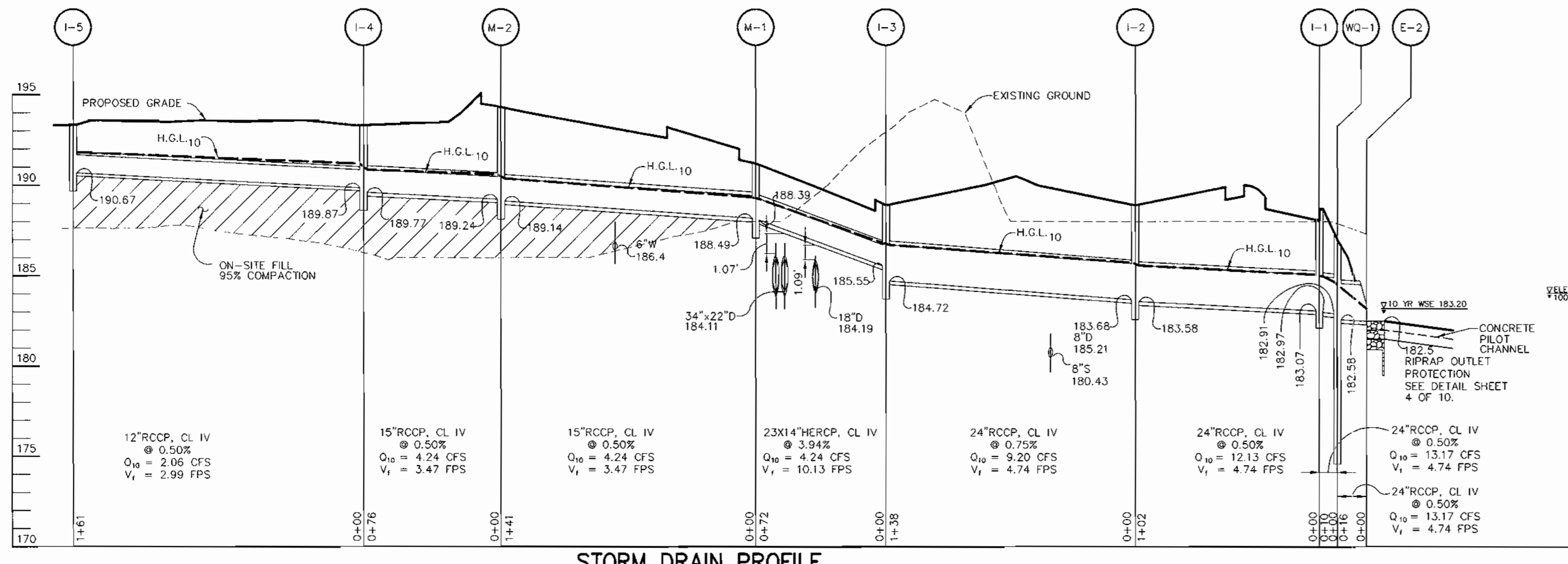
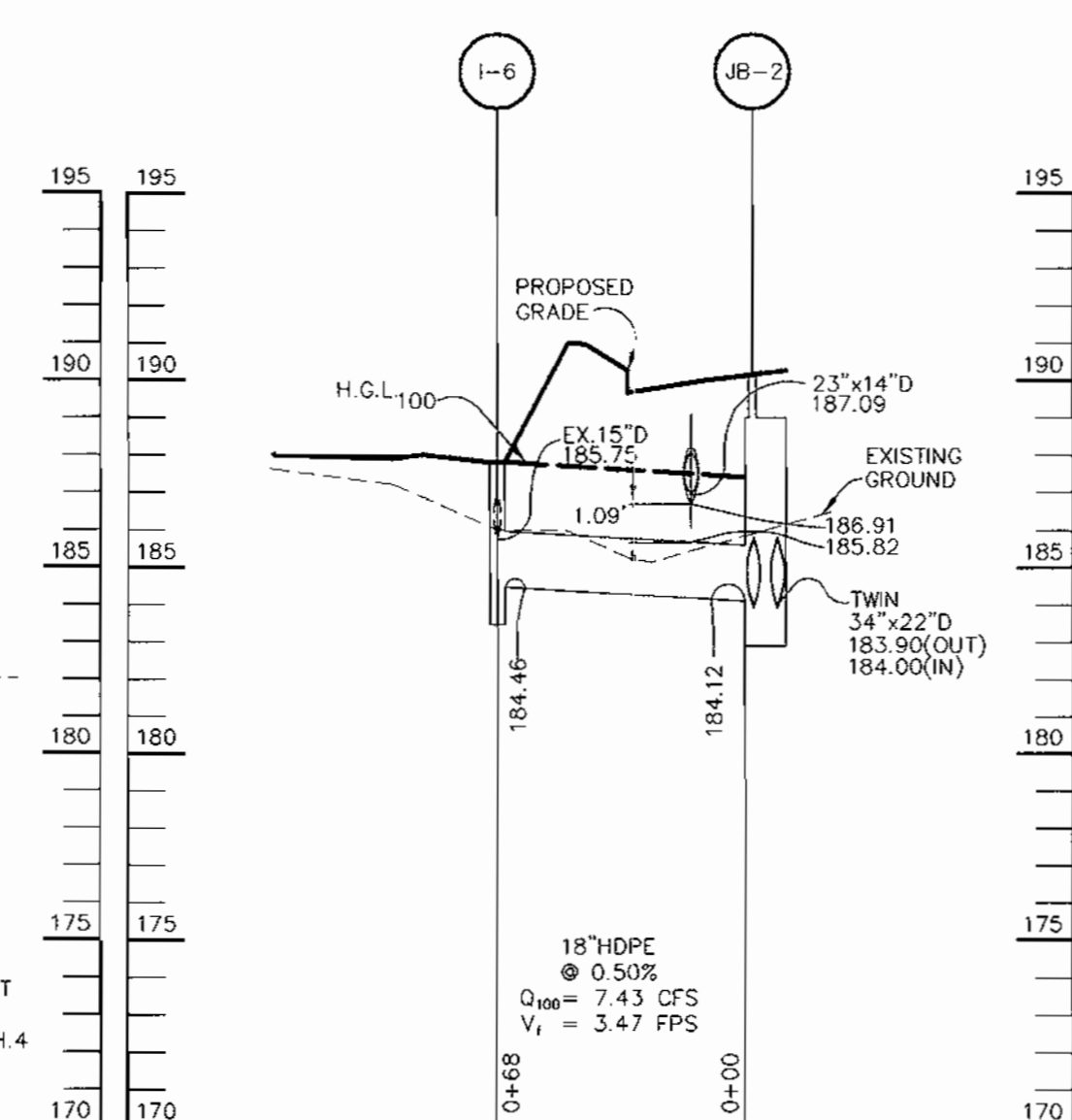
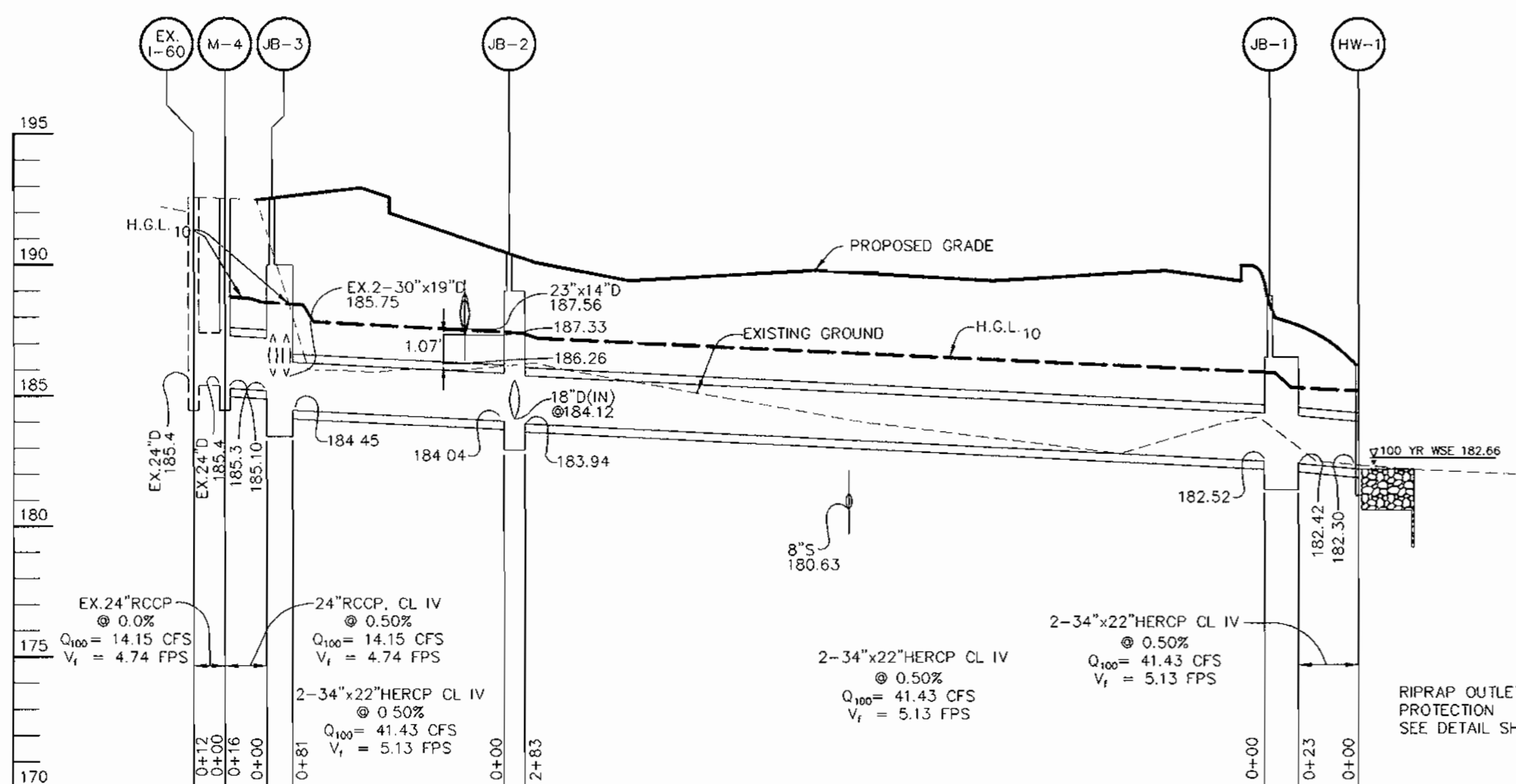
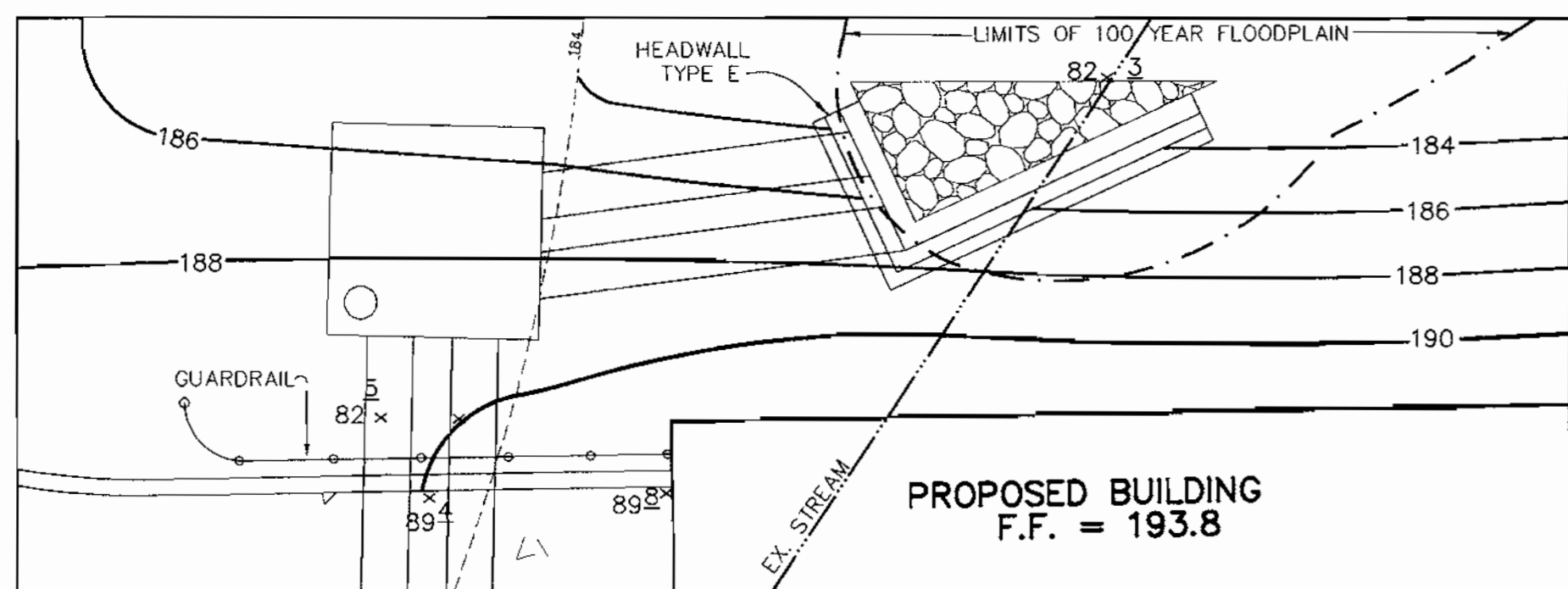
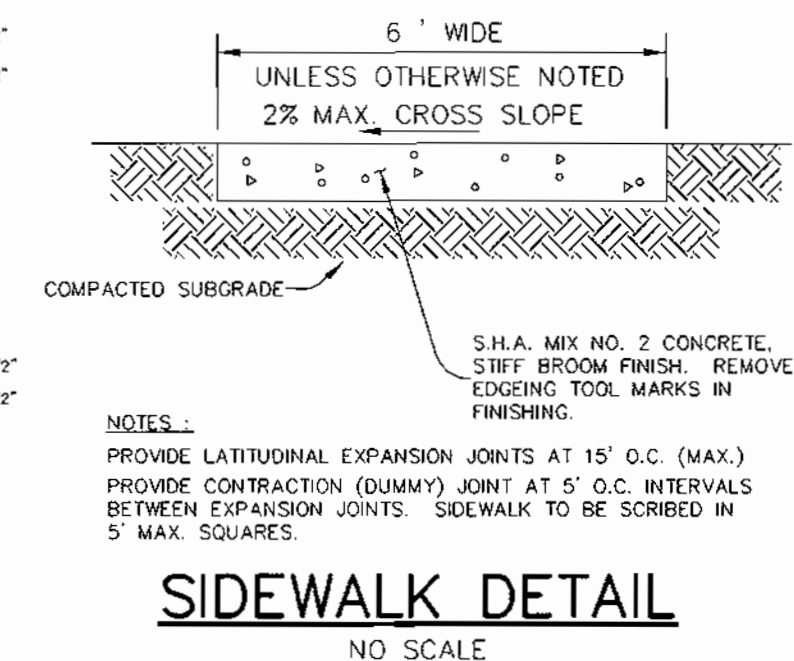
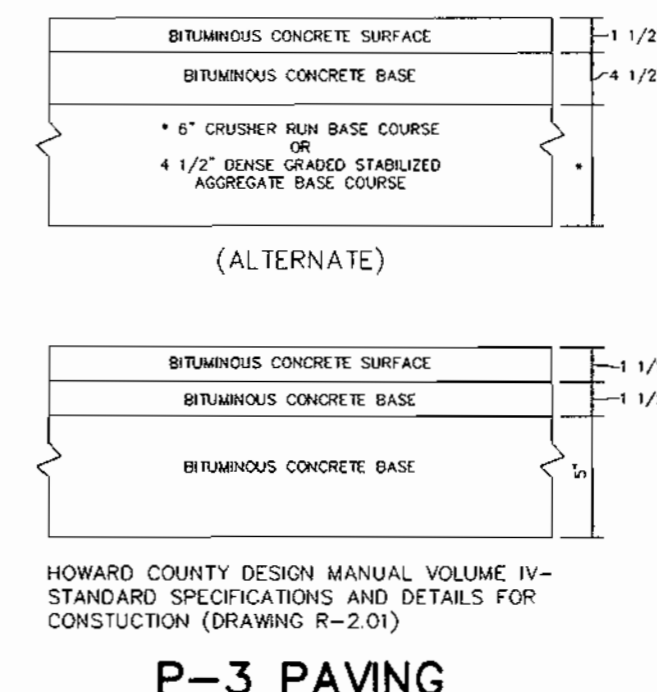
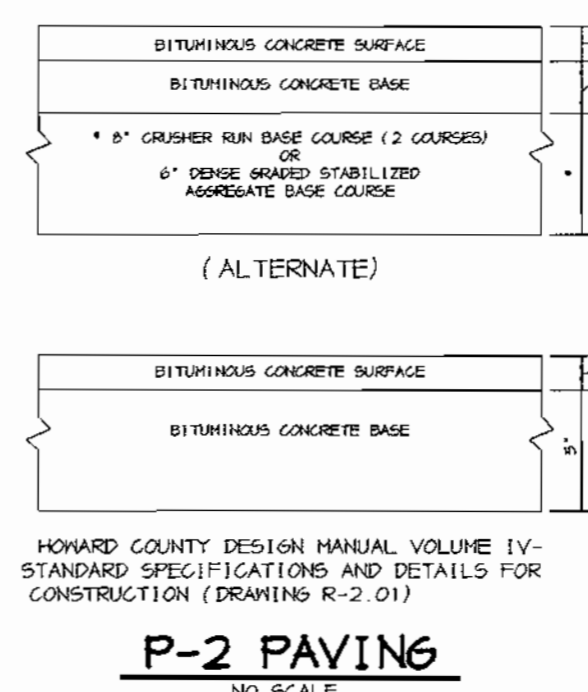
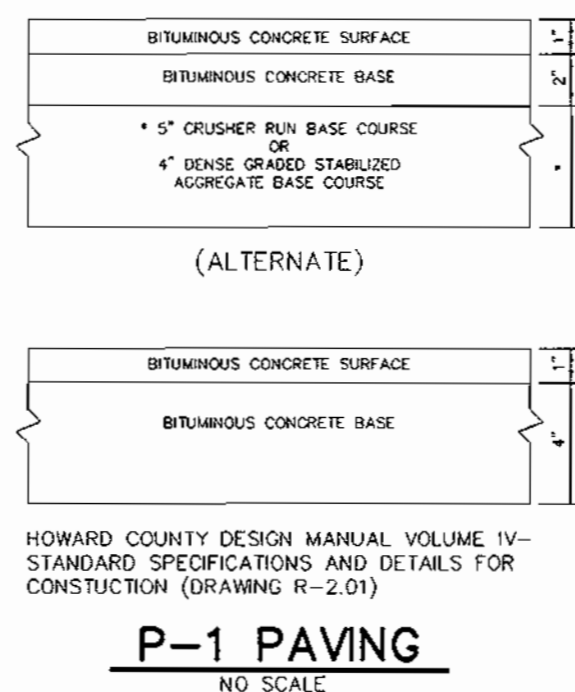
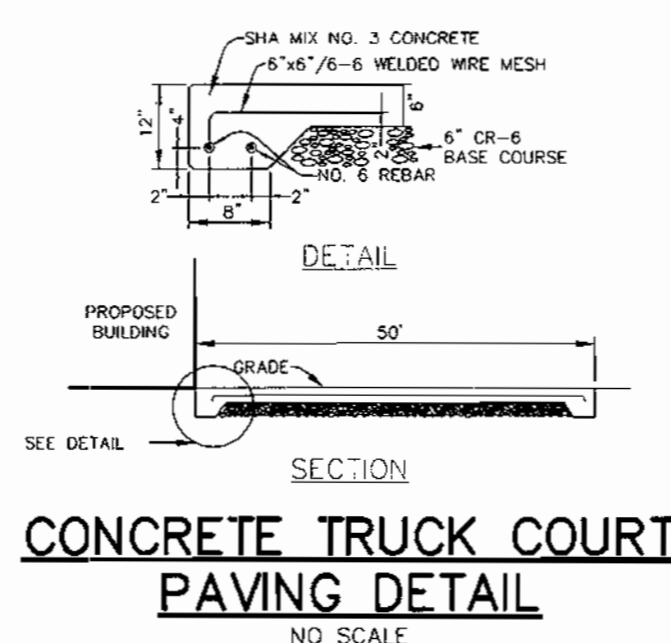
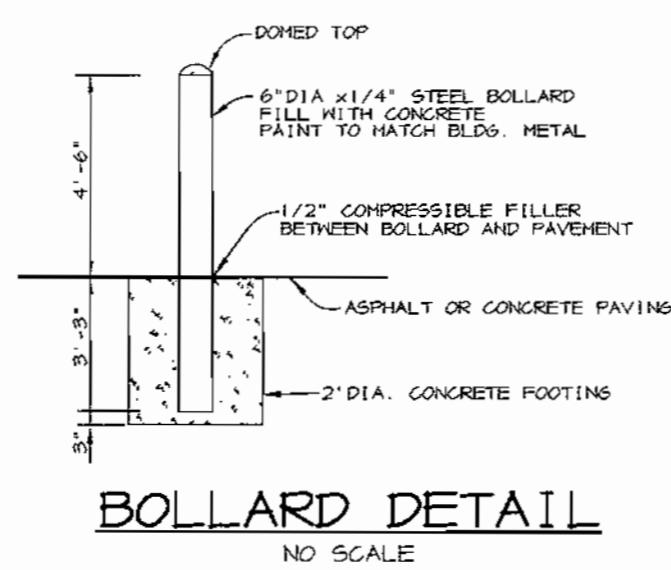
ENGINEER: *Christopher J. Reid* DATE: 10-9-01

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

Jim Meyer 10/24/01
NATIONAL RESOURCES CONSERVATION SERVICE DATE

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

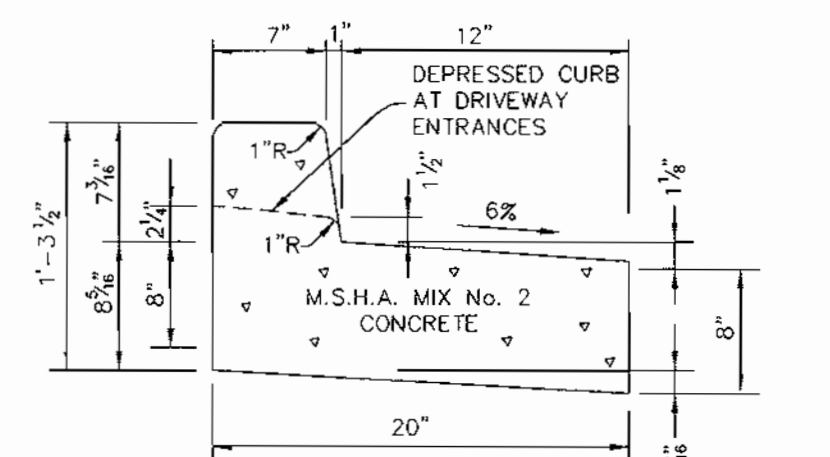
HOWARD SOIL CONSERVATION DISTRICT DATE: 10/29/01



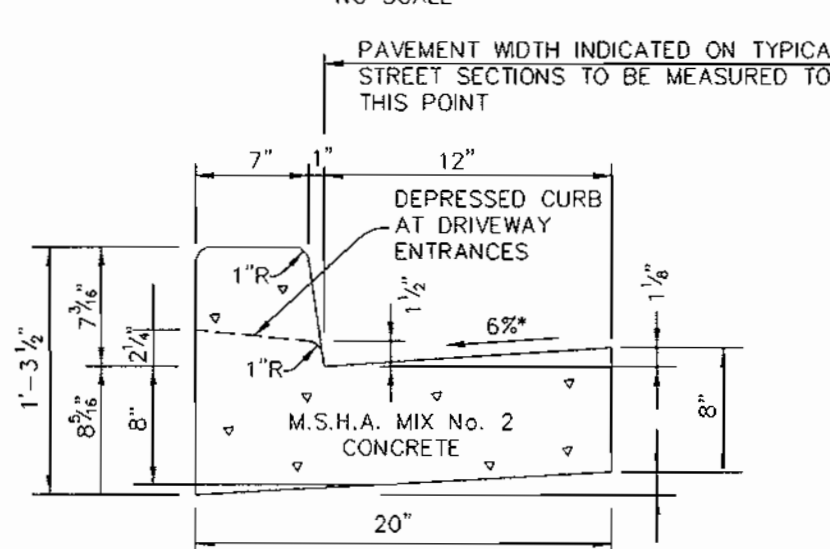
STRUCTURE SCHEDULE

STRUCTURE	TYPE	LOCATION	INV. IN	INV. OUT	TOP	REMARKS
1-1	A-5 2.5' WIDE	* N 552,564.47 E 1,370,670.32	103.07 (24")	102.97 (24")	100.7	HOCO STD. DETAIL SD 4.40
1-2	A-5 3' WIDE	* N 552,504.22 E 1,370,542.65	103.60 (24")	103.50 (24")	100.9	HOCO STD. DETAIL SD 4.01
1-3	A-5 3' WIDE	* N 552,412.04 E 1,370,404.12	105.55 (23x14")	104.72 (24")	100.9	HOCO STD. DETAIL SD 4.01
1-4	A-5 3' WIDE	* N 552,202.77 E 1,370,606.02	104.07 (15")	104.77 (15")	103.3	HOCO STD. DETAIL SD 4.40
1-5	A-5 2.5' WIDE	* N 552,339.50 E 1,370,727.14	-	100.67 (12")	103.3	HOCO STD. DETAIL SD 4.40
1-6	YARD INLET	* N 552,420.99 E 1,370,444.71	105.75 (15")	104.46 (10")	107.0	HOCO STD. DETAIL SD 4.14
M-1	4' MH	* N 552,347.64 E 1,370,464.24	100.44 (15")	100.39(23x14")	101.5	HOCO STD. DETAIL 6 5.12
M-2	4' MH	* N 552,234.46 E 1,370,547.75	104.24 (15")	104.14 (15")	104.4	HOCO STD. DETAIL 6 5.12
M-3	4' MH	* N 552,340.90 E 1,370,390.65	105.40 (EX. 24")	103.30 (24")	102.5	HOCO STD. DETAIL 6 5.12
S-1	CONTROL STRUCTURE	* N 552,720.00 E 1,370,004.43	100.20 (7")	100.20 (24")	104.5	SEE DETAIL SHEET 6
NO-1	3-K	* N 552,577.20 E 1,370,670.95	102.91 (24")	102.50 (24")	100.1	SEE DETAIL SHEET 7
E-1	24" END SECTION	* N 552,608.17 E 1,370,914.04	100.00 (24")	100.00(RIPRAP)	-	HOCO STD. DETAIL SD 5.51
E-2	24" END SECTION	* N 552,587.94 E 1,370,690.92	102.50 (24")	102.50(RIPRAP)	-	HOCO STD. DETAIL SD 5.51
HW-1	HEADWALL	* N 552,522.02 E 1,370,732.04	102.30 (THIN SD)	102.30(RIPRAP)	-	SEE DETAIL SHEET 6
JB-1	JUNCTION BOX	* A N 552,542.30 E 1,370,704.00 * B N 552,544.20 E 1,370,713.48 * C N 552,534.72 E 1,370,721.57 * D N 552,532.20 E 1,370,712.30	102.52 (THIN SD)	102.42 (THIN SD)	-	SEE DETAIL SHEET 8
JB-2	JUNCTION BOX	* A N 552,365.58 E 1,370,479.54 * B N 552,366.47 E 1,370,457.09 * C N 552,364.30 E 1,370,441.51 * D N 552,359.44 E 1,370,424.57	104.12 (18")	103.94 (THIN SD)	-	SEE DETAIL SHEET 8
JB-3	JUNCTION BOX	* A N 552,368.28 E 1,370,300.36 * B N 552,366.75 E 1,370,400.21 * C N 552,363.91 E 1,370,395.00 * D N 552,358.51 E 1,370,345.00	105.10 (24")	104.45 (THIN SD)	-	SEE DETAIL SHEET 8

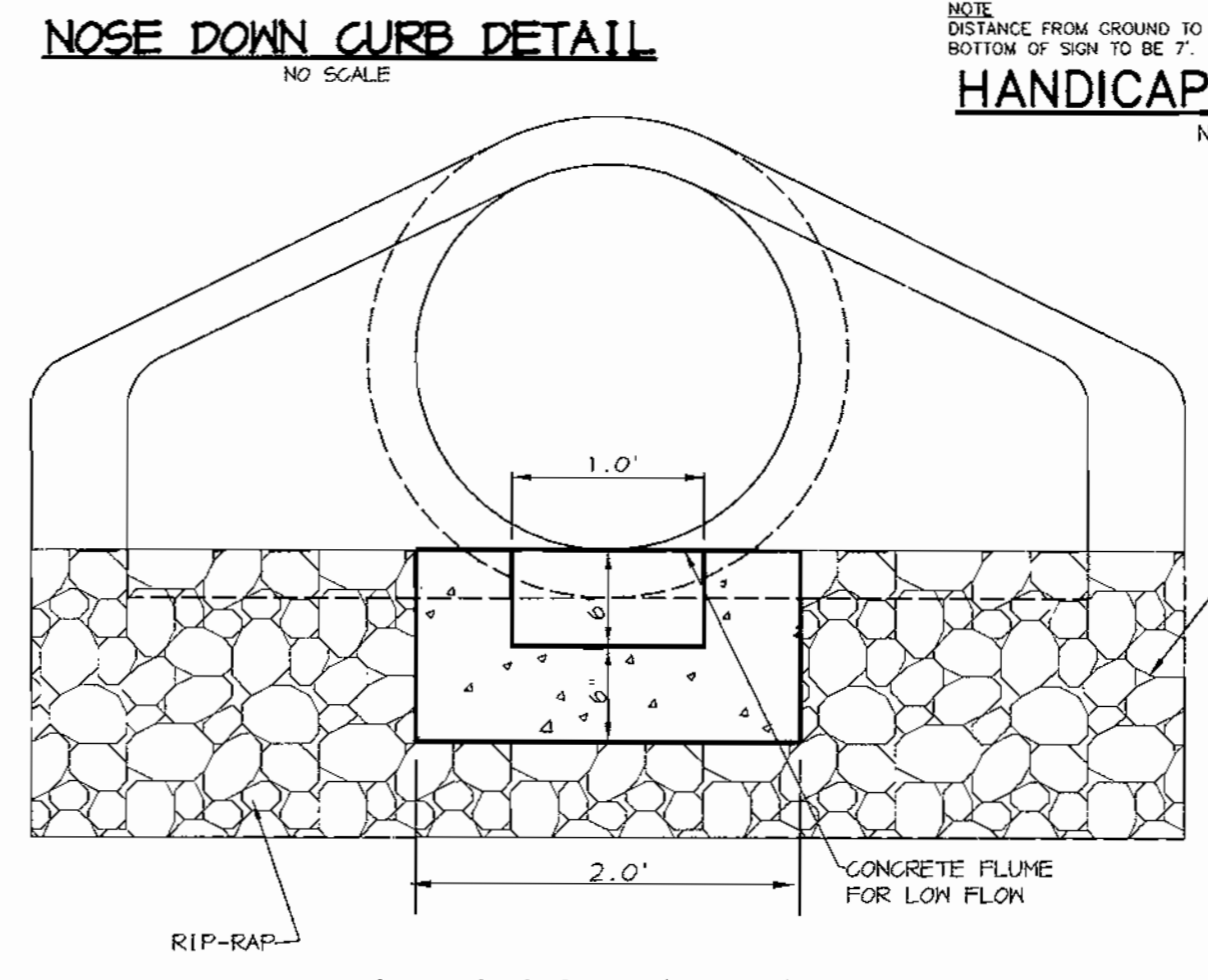
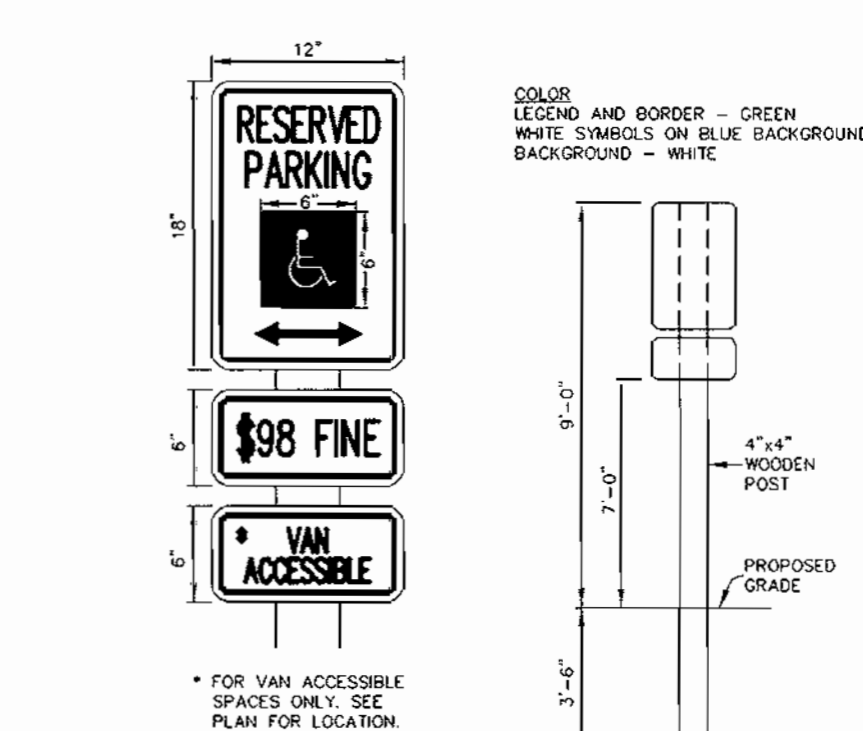
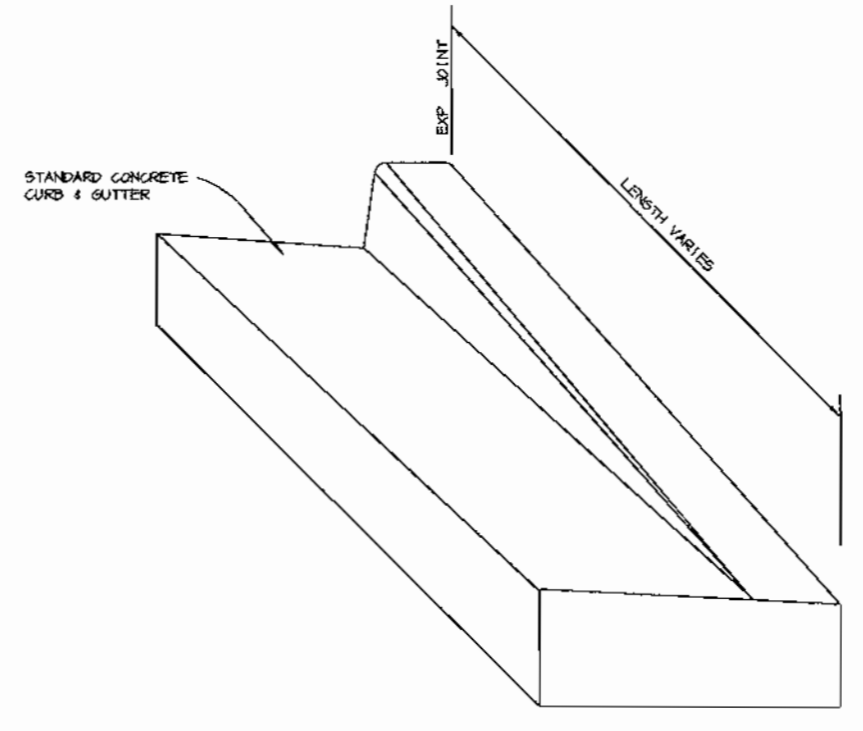
NOTES: * LOCATION OF "S" & "M" FACILITY INLETS AND MANHOLES IS AT CENTER OF TOP COVER; FOR "A" INLETS LOCATION IS GIVEN FOR CENTER OF THROAT OPENINGS AT FACE OF CURB; FOR END SECTIONS AND HEADWALLS THE LOCATION IS CENTER OF THROAT OPENINGS AT FACE OF STRUCTURE. TOP ELEVATION IS TOP OF CURB/SLOTE/RIM. FOR HEADWALL HW-1, THE LOCATION IS TAKEN AT THE MIDPOINT OF FACE OF WALL • PIPE OUTFALL.



REVERSE 7" COMBINATION CURB AND GUTTER NO SCALE



STANDARD 7" COMBINATION CURB AND GUTTER NO SCALE



LOW FLOW PILOT CHANNEL @ END SECTION DETAIL SCALE: 1" = 1"

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
 DIRECTOR: [Signature] 11/2/01 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: [Signature] 10/20/01 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT: [Signature] 10/20/01 DATE

DATE NO.	REVISION

OWNER/DEVELOPER: SDC, INC. 8480 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21043 410-465-4244

PROJECT: MEADOWRIDGE BUSINESS PARK PARCEL R-1 A WAREHOUSE BUILDING

AREA: ZONED M-1 PARCEL R-1 TAX MAP 37, BLOCK 23 & TAX MAP 43, BLOCK 4 & 5 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: DETAILS AND PROFILES

RIEMER MUEGGLE & ASSOCIATES INC.
 ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
 9818 Centre Park Drive, Columbia, MD 21046
 tel 410.997.8000 fax 410.997.9282

DATE: 10.9.01

DESIGNED BY: CJR
 DRAWN BY: DAM /KEV
 PROJECT NO: 00036/SDP6.DWG
 DATE: SEPTEMBER 21, 2001
 SCALE: AS SHOWN
 DRAWING NO. 5 OF 11

CHRISTOPHER J. REID #19949

MD-378 STANDARDS AND SPECIFICATIONS

SPECIFICATIONS
These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

SITE PREPARATION
Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25 foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

EARTH FILL
Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 4", frozen or other objectionable material. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #20 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch lifts (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift will be traversed by not less than one track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tire or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that when formed into a ball it will not crumble or get not be wet when squeezed out.

When required by the reviewing agency the minimum required density shall not be less than 98% maximum dry density with a moisture content within +/- 2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

Cut-off Trench - The cut-off trench shall be excavated into pervious material along an parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The slopes of the trench shall be 1:1 or flatter. The bottom of the trench shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1:1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

STRUCTURE BACKFILL
Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. As no during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 315 as modified. The mixture shall have a 100-200 psi 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2000 ohm-cm. Material shall be placed such that a minimum of 6" measured perpendicular to the pipe of flowable fill shall be under (bedding), over and on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to 9" to ensure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

PIPE CONDUITS
All pipes shall be circular in cross section.

Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe:
1. Materials - (Polymer coated steel pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges.

Materials - (Aluminum coated steel pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges. Aluminum coated steel pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-150 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with solid applied bituminous coating compound. Aluminum surfaces that are in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges. Aluminum pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-150 Type A. Aluminum surfaces that are in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. Not all galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

2. Coupling bands, anti-seep collars, and sections, etc., must be composed of the same material and coated as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.

3. Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be installed at an adequate number of corrugations to accommodate the band width. The following tube connections are acceptable for pipes less than 24" in diameter: Flanges on both ends of the pipe with a circular 3/8 inch closed cell neoprene gasket, pre-punched to the flange bolt circles, sandwiched between adjacent flanges; a 12 inch wide standard tape band with 12 inch wide by 3/8 inch thick closed cell circular neoprene gasket; and a 12 inch wide hugger tape band with o-ring gaskets having a minimum diameter of 1/2 inch and a minimum depth of 1/4 inch. Pipes 24 inches in diameter and larger shall be connected by a 24 inch long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end. A 24 inch wide by 3/8 inch thick closed cell circular neoprene gasket will be installed with 12 inch on the end of each pipe. Flanged joints with 3/8 inch closed cell gaskets the full width of the flange is also acceptable.

Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead.

4. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

5. Backfilling shall conform to "Structure Backfill."
6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:
1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-361.

2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding/grade for their entire length. This bedding/grade shall consist of high slump concrete placed under the pipe and up the side of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete grade is not needed for structural reasons, flowable fill may be used as described in the "Structure Backfill" section of this standard. Gravel bedding is not permitted.

3. Laying pipe - Bell and spigot pipe shall be placed with the bell and upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.

4. Backfilling shall conform to "Structure Backfill."
5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Plastic Pipe - The following criteria shall apply for pipe:
1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241, corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4 - 12 inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" shall meet the requirements of AASHTO M254 Type S.

2. Joints and connections to anti-seep collars shall be completely watertight.
3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

4. Backfilling shall conform to "Structure Backfill."
5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

CONCRETE
Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

ROCK RIPRAP
Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.

Geotextile shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 421.04, Class C.

CASE OF WATER DURING CONSTRUCTION
All work on permanent structures shall be carried out in areas free from water. The contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent work. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from the various parts of the work and for maintaining the excavation and foundation of other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation and maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom of required excavation and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level of the locations being refilled shall be maintained below the bottom of the excavation of such locations which may require draining the water to sumps from which the water shall be pumped.

STABILIZATION
All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spill and borrow areas, and other areas shall be stabilized by seeding, mulching and mounding in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

EROSION AND SEDIMENT CONTROL
Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State Highway Administration Standard Specifications for Construction and Materials, Section 421.04, Class C, concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

Refer to the 2000 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

MAINTENANCE REQUIREMENTS FOR DETENTION PONDS

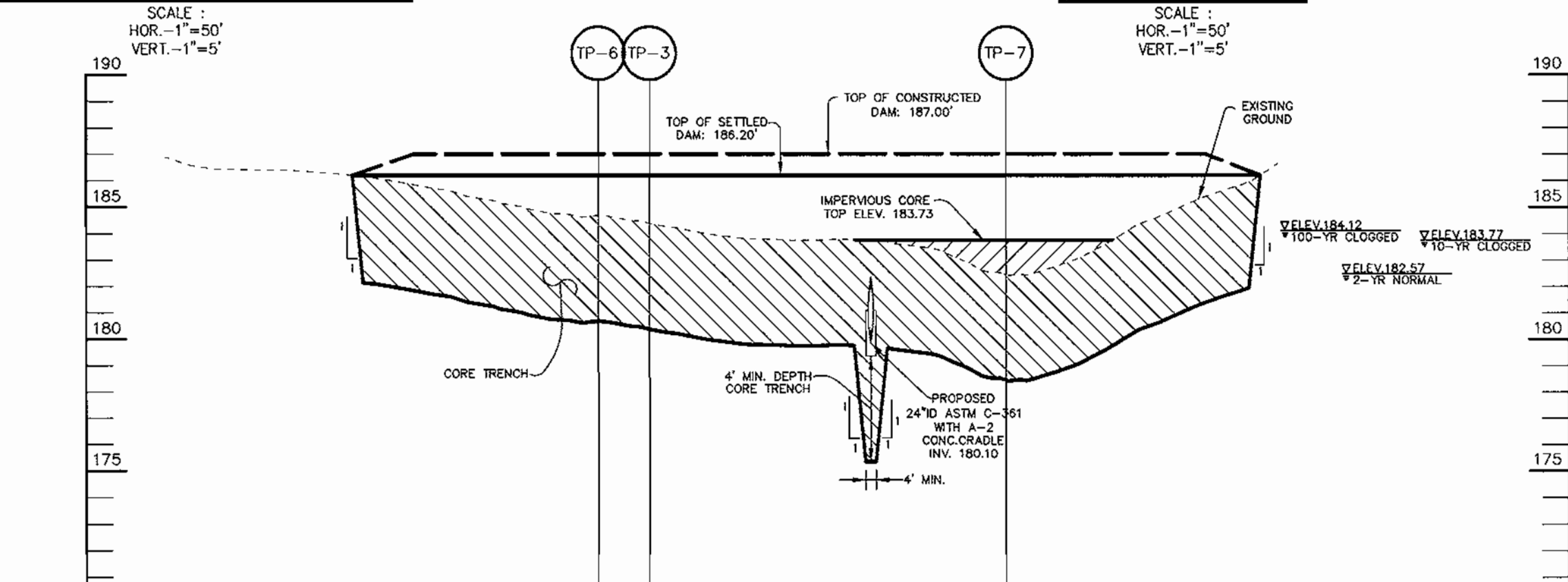
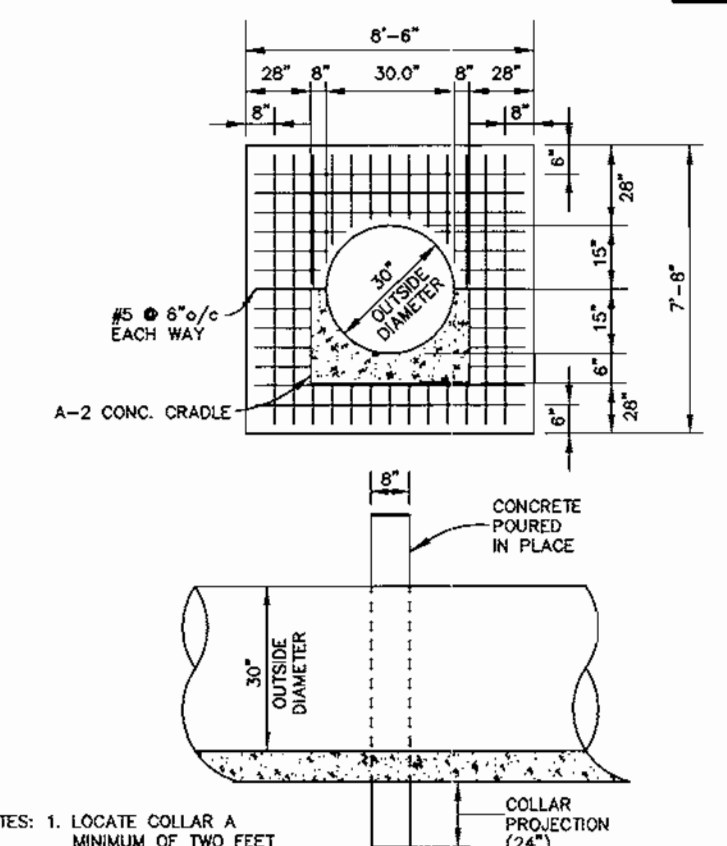
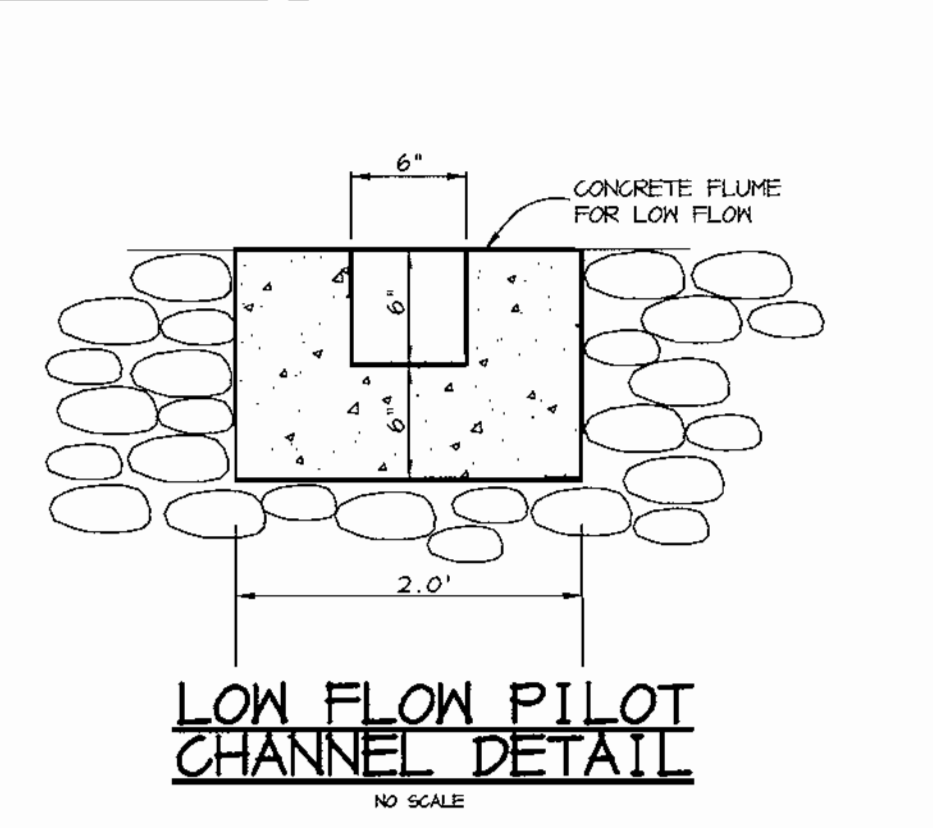
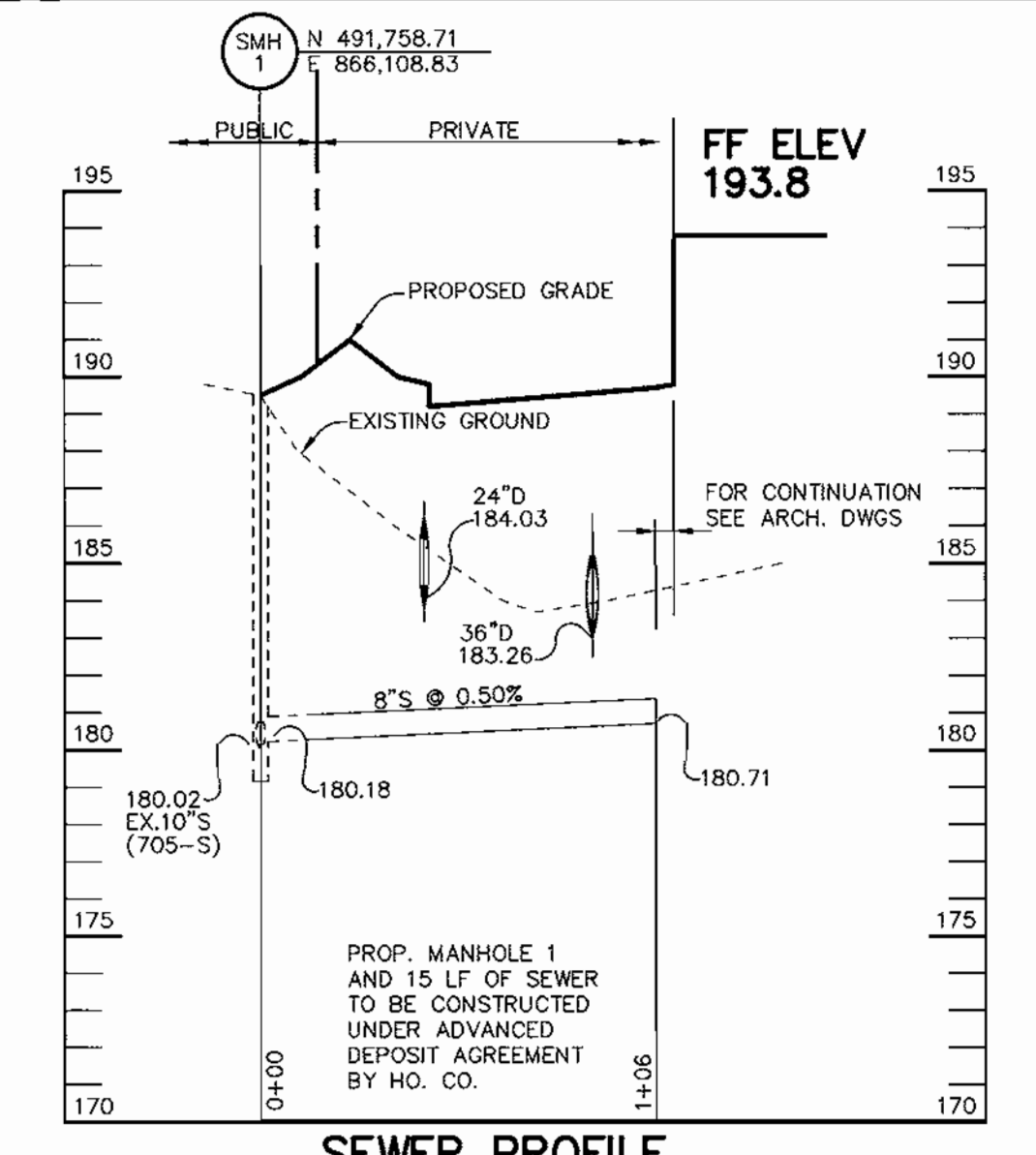
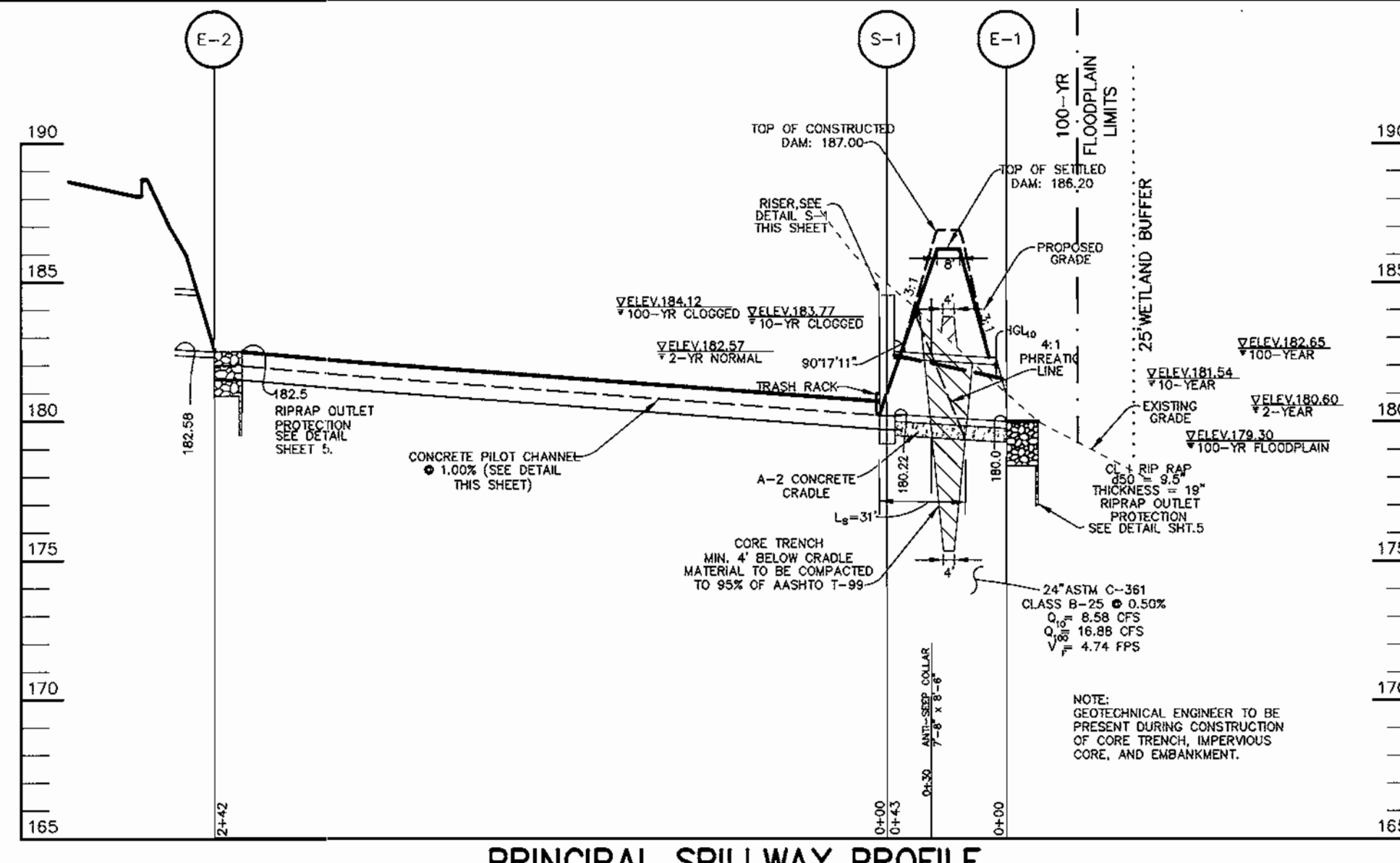
- REMOVAL OF SILT WHEN ACCUMULATION EXCEEDS SIX (6) INCHES IN BASINS WITHOUT FOREBAYS. IN BASINS WITH FOREBAYS, REMOVAL OF SILT SHALL OCCUR WHEN THE ACCUMULATION EXCEEDS FOUR (4) INCHES IN FOREBAY.
- REMOVAL OF ACCUMULATED PAPER, TRASH AND DEBRIS AS NECESSARY.
- VEGETATION GROWN ON THE EMBANKMENT TOP OR FACES IS NOT ALLOWED TO EXCEED 18 INCHES IN HEIGHT AT ANY TIME.
- ANNUAL INSPECTION AND REPAIR OF THE STRUCTURE.

EMBANKMENT AND CUT-OFF TRENCH CONSTRUCTION RECOMMENDATIONS

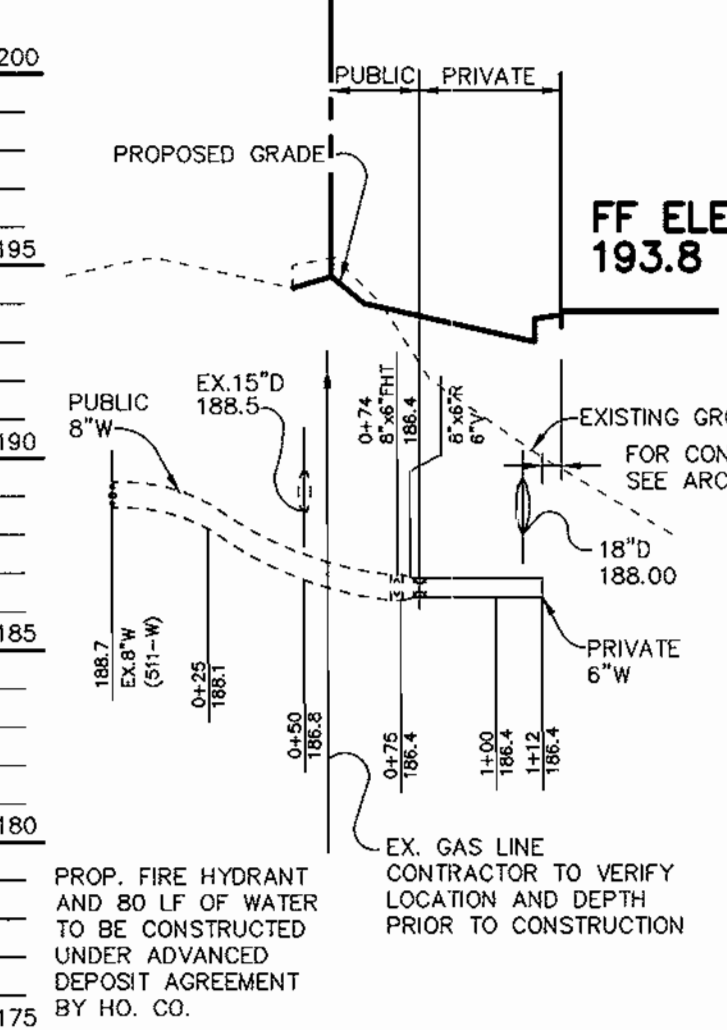
THE SITE SHOULD BE STRIPPED OF TOPSOIL AND ANY OTHER UNSUITABLE MATERIALS FROM THE EMBANKMENT OR STRUCTURE AREA IN ACCORDANCE WITH SOIL CONSERVATION GUIDELINES. AFTER STRIPPING OPERATIONS HAVE BEEN COMPLETED, THE EXPOSED SUBGRADE MATERIALS SHOULD BE PROTECTED WITH A LOADED DUMP TRUCK OR SIMILAR EQUIPMENT IN THE PRESENCE OF A GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE. FOR AREAS THAT ARE NOT ACCESSIBLE TO A DUMP TRUCK, THE EXPOSED MATERIALS SHOULD BE OBSERVED AND TESTED BY A GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE UTILIZING A DYNAMIC CONE PENETROMETER. ANY EXCESSIVELY SOFT OR LOOSE MATERIALS IDENTIFIED BY PROOFORMING OR PENETROMETER TESTING SHOULD BE EXCAVATED TO SUITABLY FIRM SOIL, AND THEN GRADES RE-ESTABLISHED BY BACKFILLING WITH

A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER SHOULD BE PRESENT TO MONITOR PLACEMENT AND COMPACTION OF FILL FOR THE EMBANKMENT AND CUT OFF TRENCH. IN ACCORDANCE WITH MARYLAND SOIL CONSERVATION SPECIFICATION 378 SOILS CONSIDERED SUITABLE FOR THE CENTER OF EMBANKMENT AND CUT OFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CH, OR CL. PER SCS 378, CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIALS IN THE EMBANKMENT IF DESIGN AND CONSTRUCTION ARE SUPERVISED BY A GEOTECHNICAL ENGINEER.

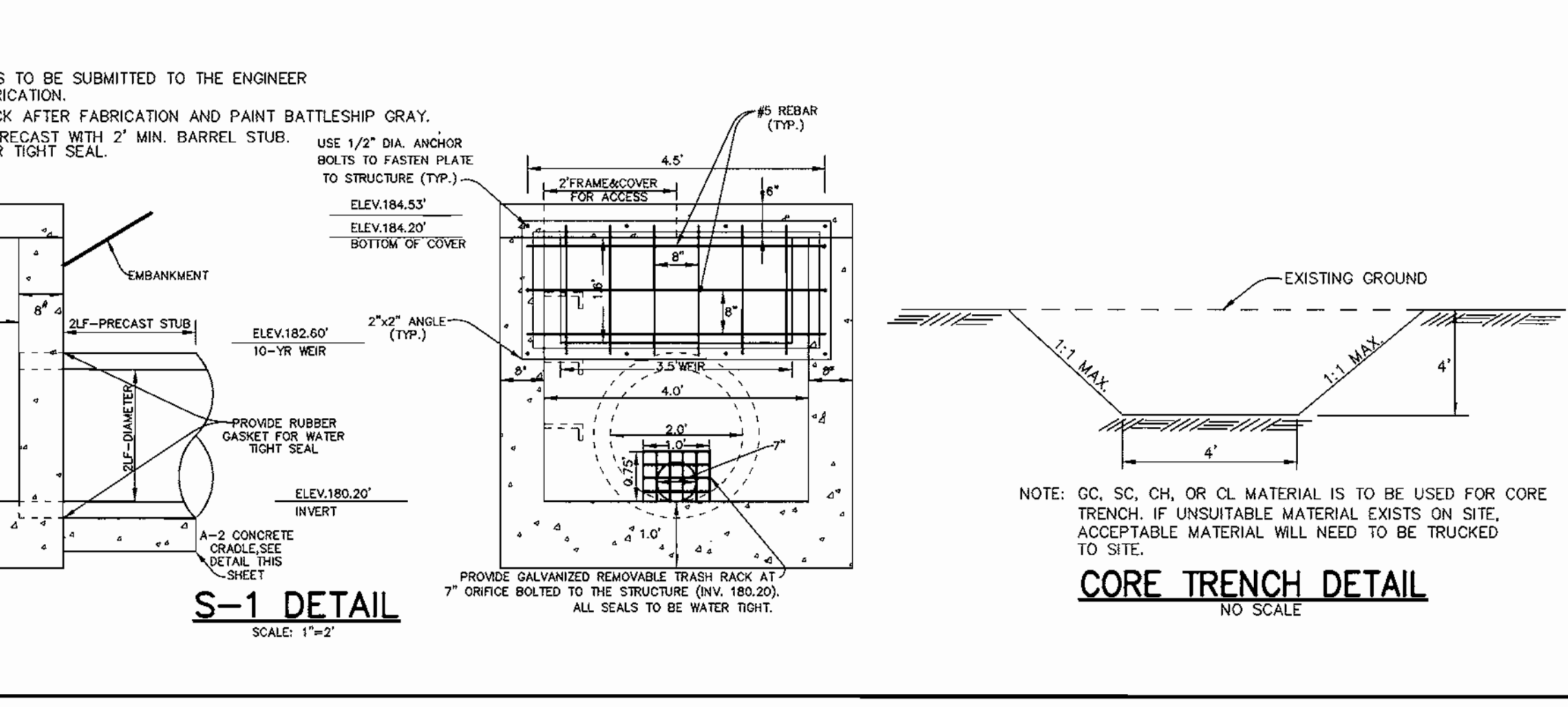
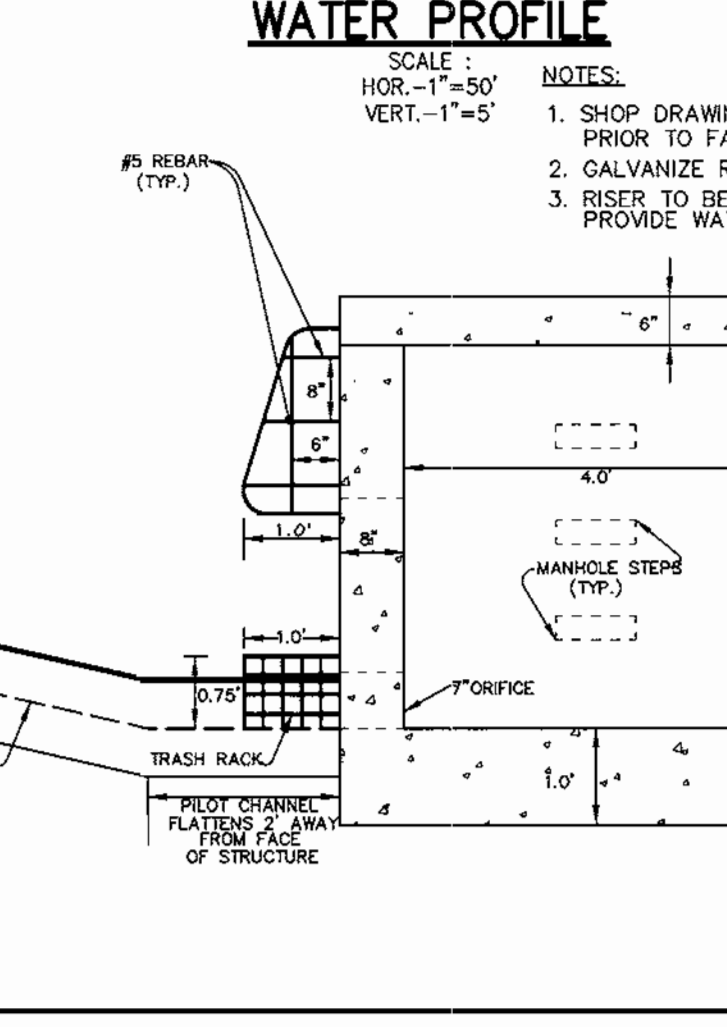
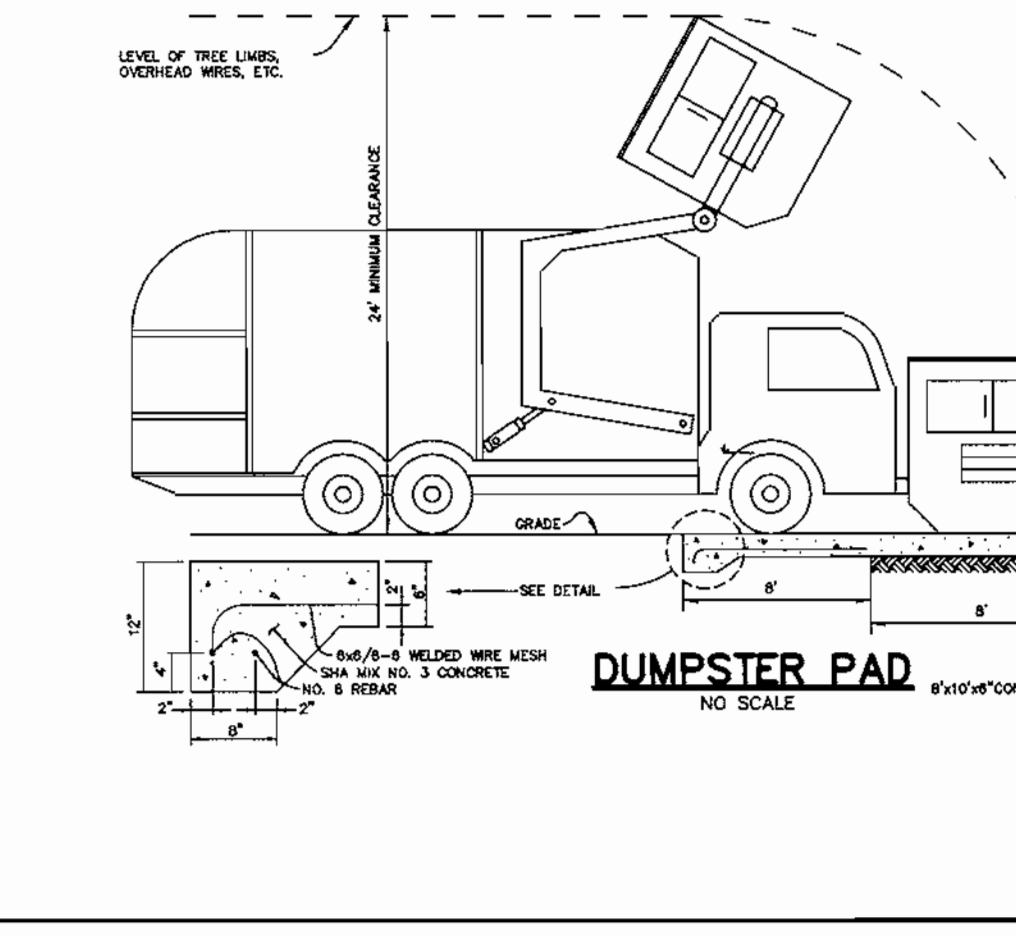
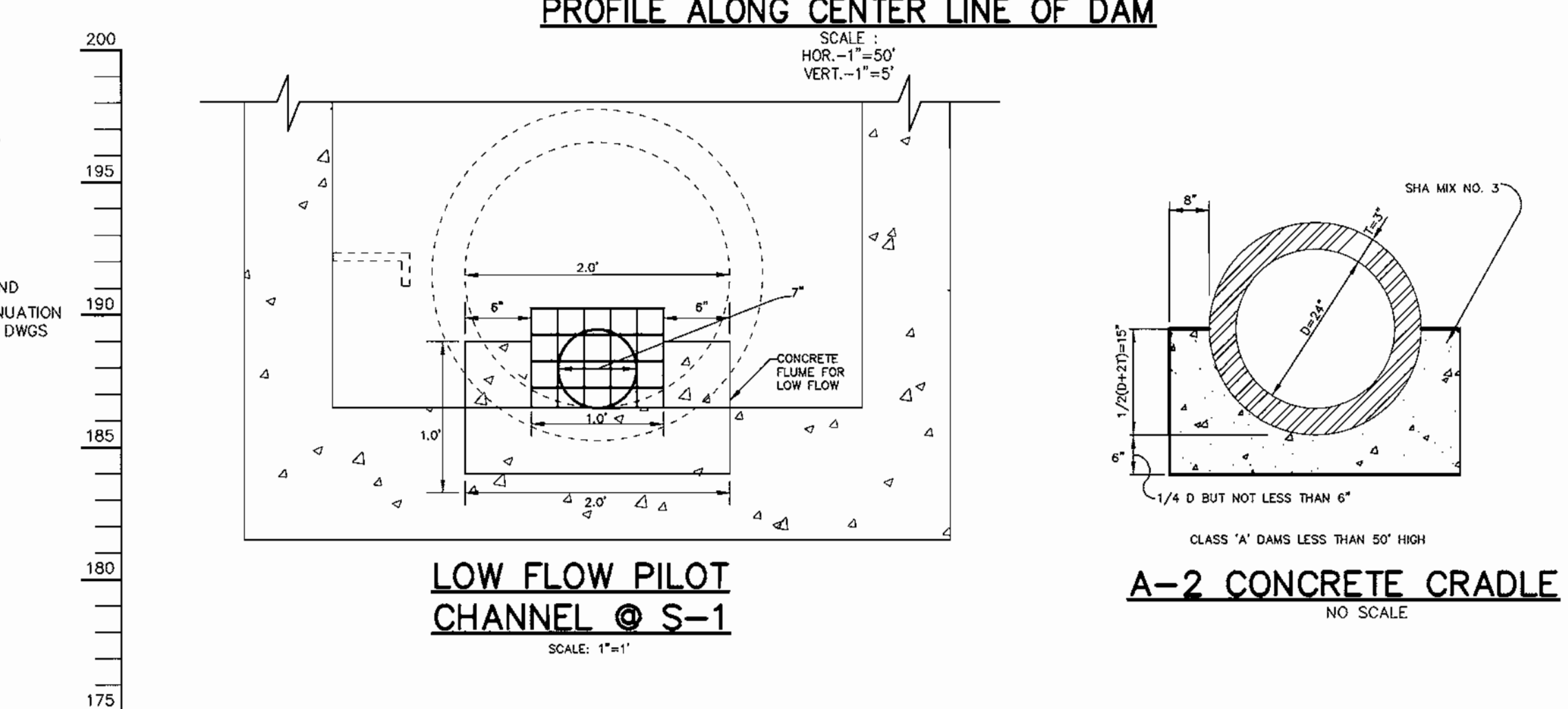
EXPLORATION WITH TEST PITS AND ADDITIONAL LABORATORY TESTING CAN BE CONDUCTED PRIOR TO CONSTRUCTION TO IDENTIFY AND QUANTIFY POTENTIAL BORROW AREAS. ALL FILL MATERIALS MUST BE PLACED AND COMPACTED IN ACCORDANCE WITH MD SCS 378 SPECIFICATIONS.



CONCRETE ANTI-SEEP COLLAR SWMF #1



LOW FLOW PILOT CHANNEL @ S-1



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

DEVELOPER: *Stewart Dyer* DATE: 10-17-01

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: *Christopher J. Reid* DATE: 10-9-01

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

NATURAL RESOURCES CONSERVATION SERVICE DATE: 10/24/01

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

HOWARD SOIL CONSERVATION DISTRICT DATE: 10/24/01

APPROVED BY HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR: *Paul Bantz* DATE: 11/2/01

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 10/26/01

CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 10/24/01

DATE	NO.	REVISION

OWNER/DEVELOPER: SDG, INC.
8480 BALTIMORE NATIONAL PIKE
ELLCOTT CITY, MARYLAND 21043
410-465-4244

PROJECT: MEADOWRIDGE BUSINESS PARK
PARCEL R-1
A WAREHOUSE BUILDING
AREA: ZONED M-1 PARCEL R-1
TAX MAP 37, BLOCK 23 & TAX MAP 43, BLOCK 4 & 5
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: STORMWATER MANAGEMENT DETAILS

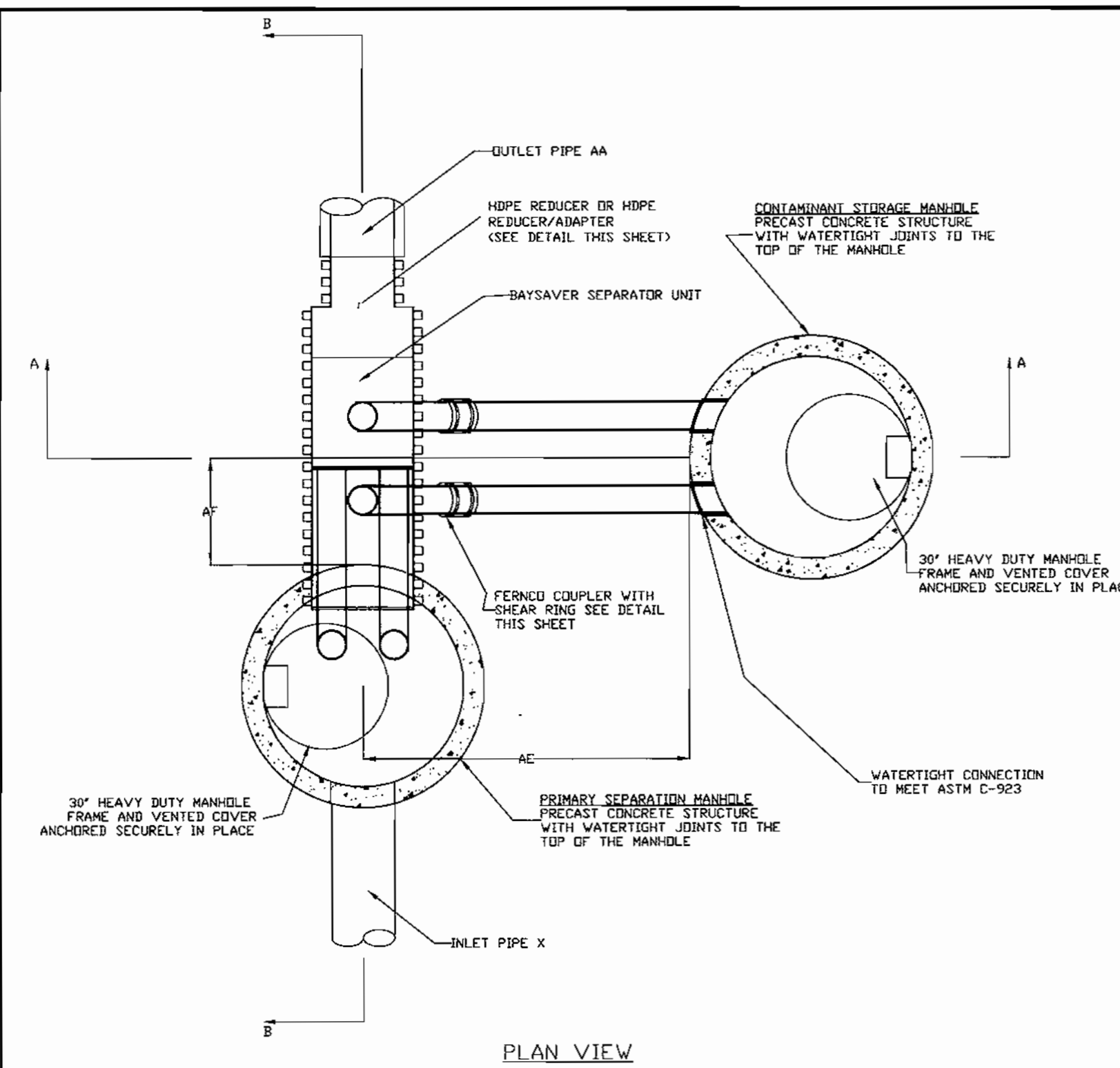
RIEMER MUEGGE & ASSOCIATES INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21045
Tel 410.997.9900 Fax 410.997.9282

DATE: 10-9-01

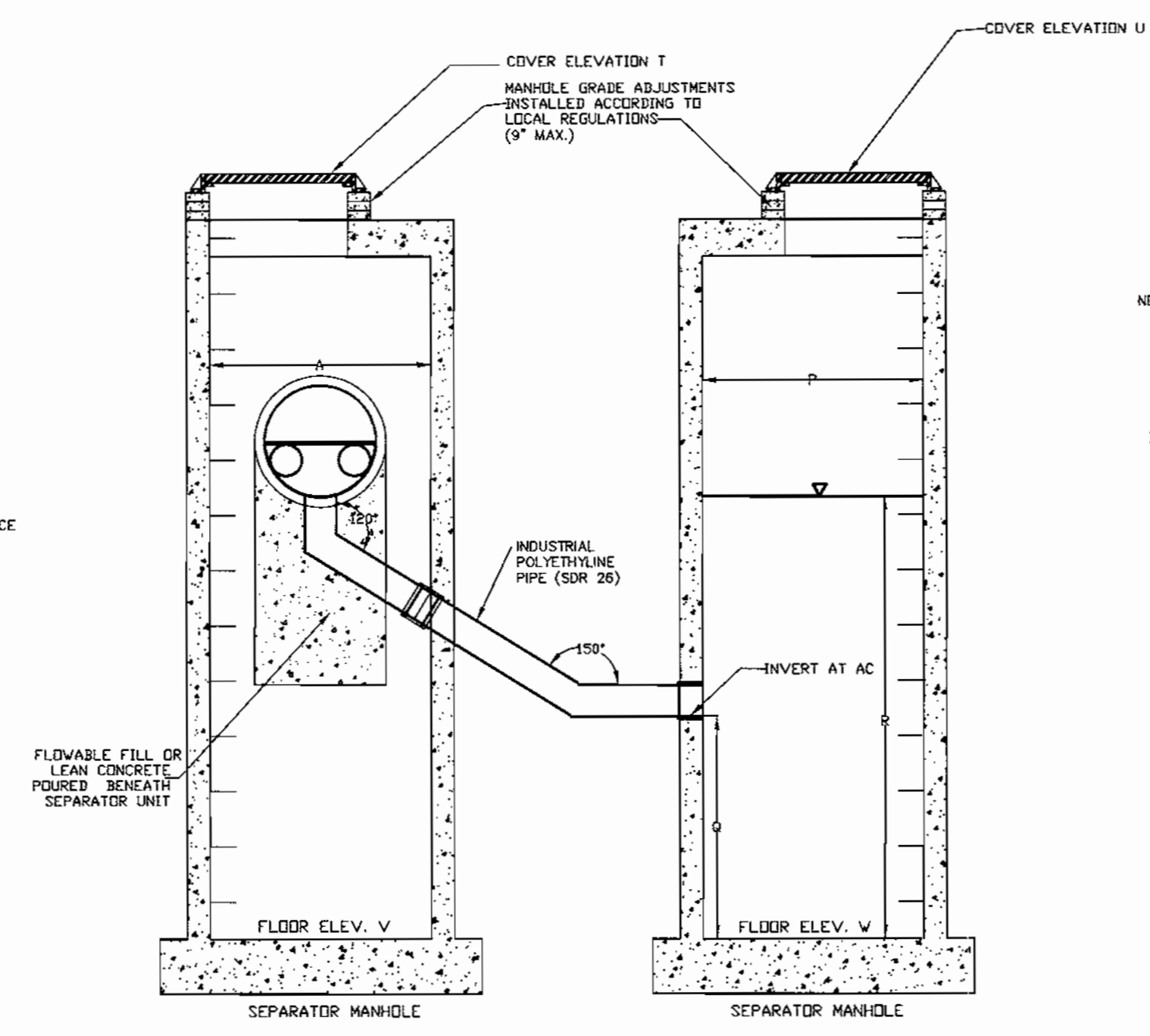
DESIGNED BY: CJR
DRAWN BY: DAM / KEV

PROJECT NO: 00036/SDP4.DWG
DATE: SEPTEMBER 21, 2001

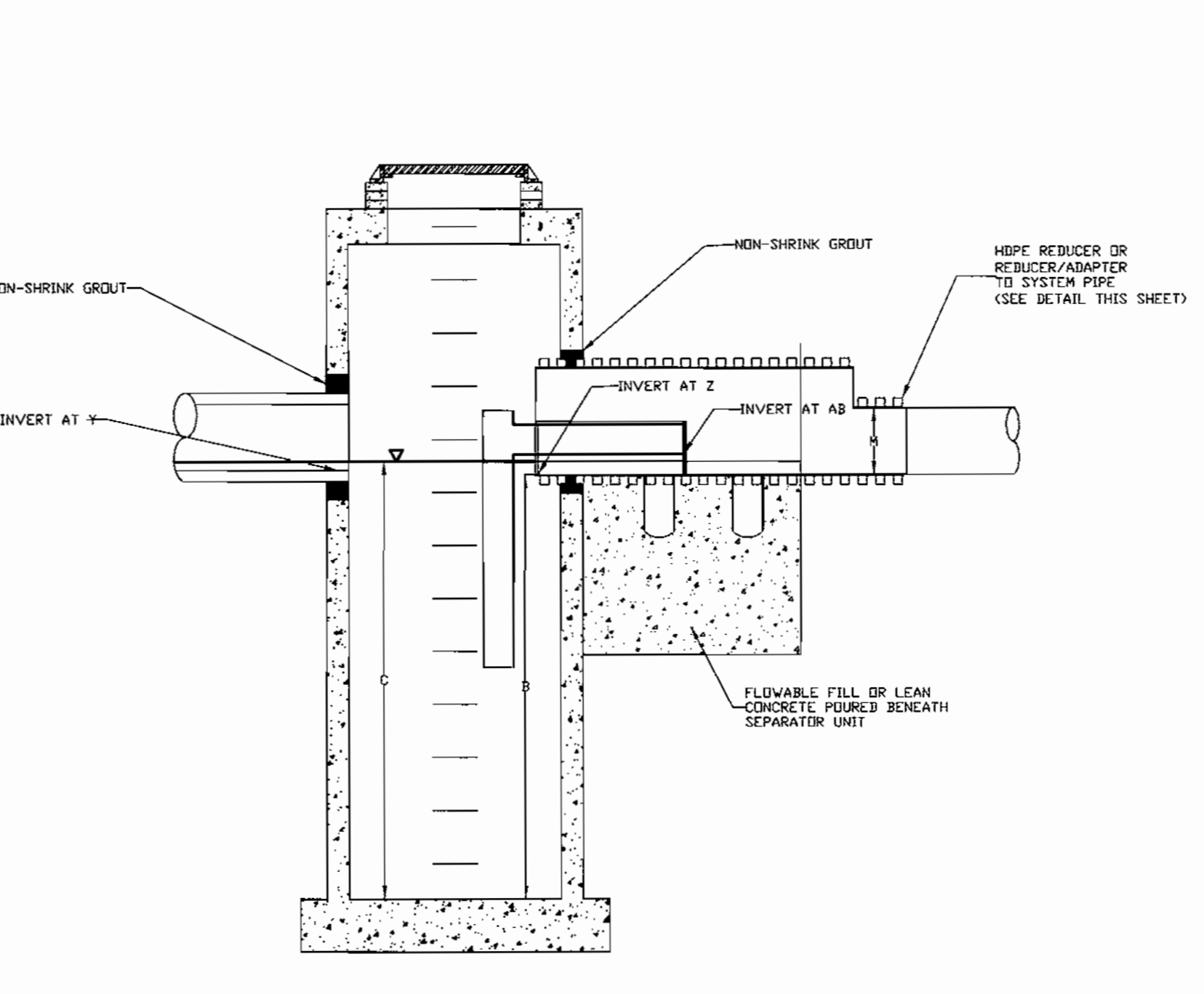
SCALE: AS SHOWN
DRAWING NO. 6 OF 11
CHRISTOPHER J. REID #19949



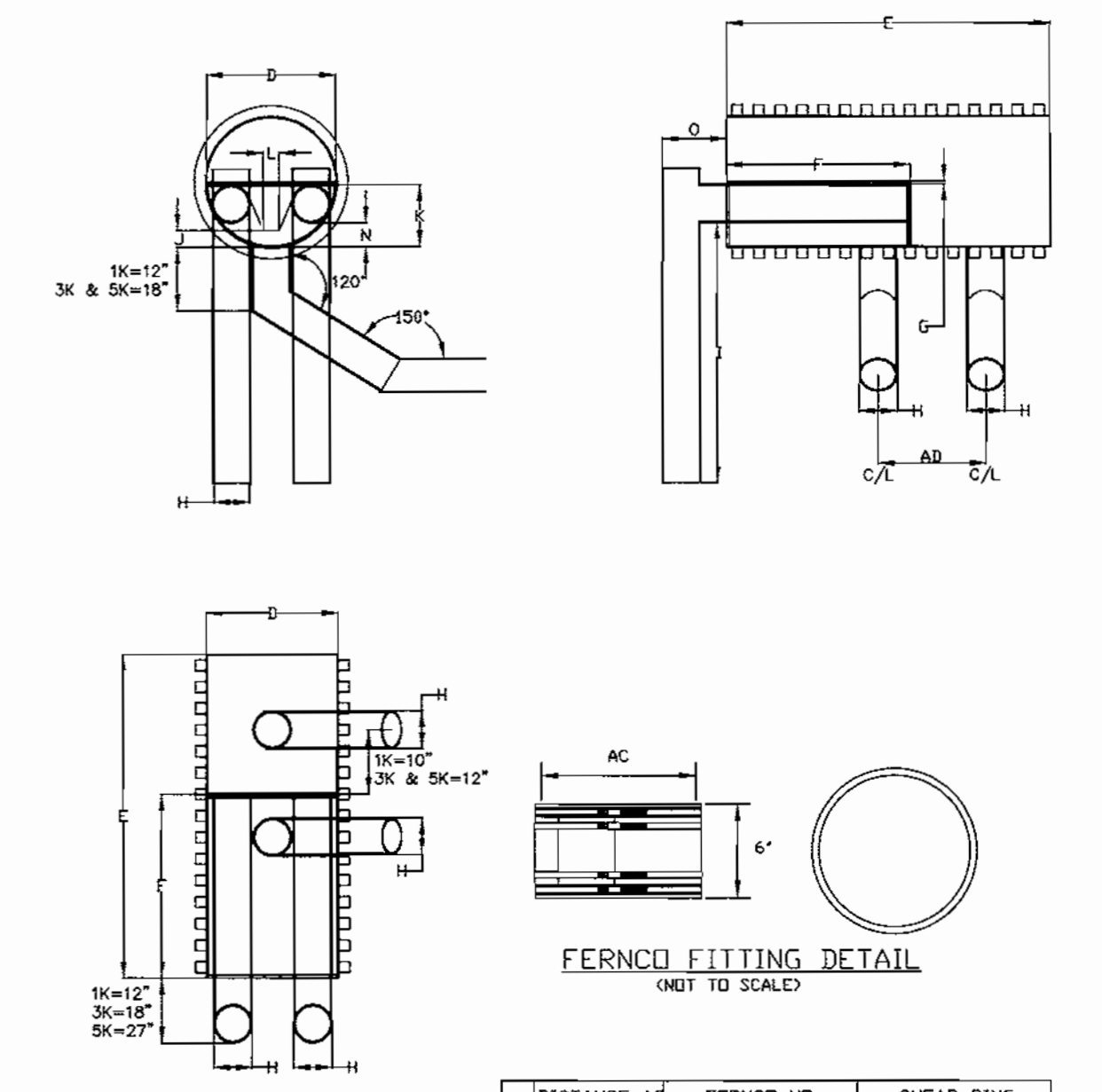
PLAN VIEW



SECTION AA

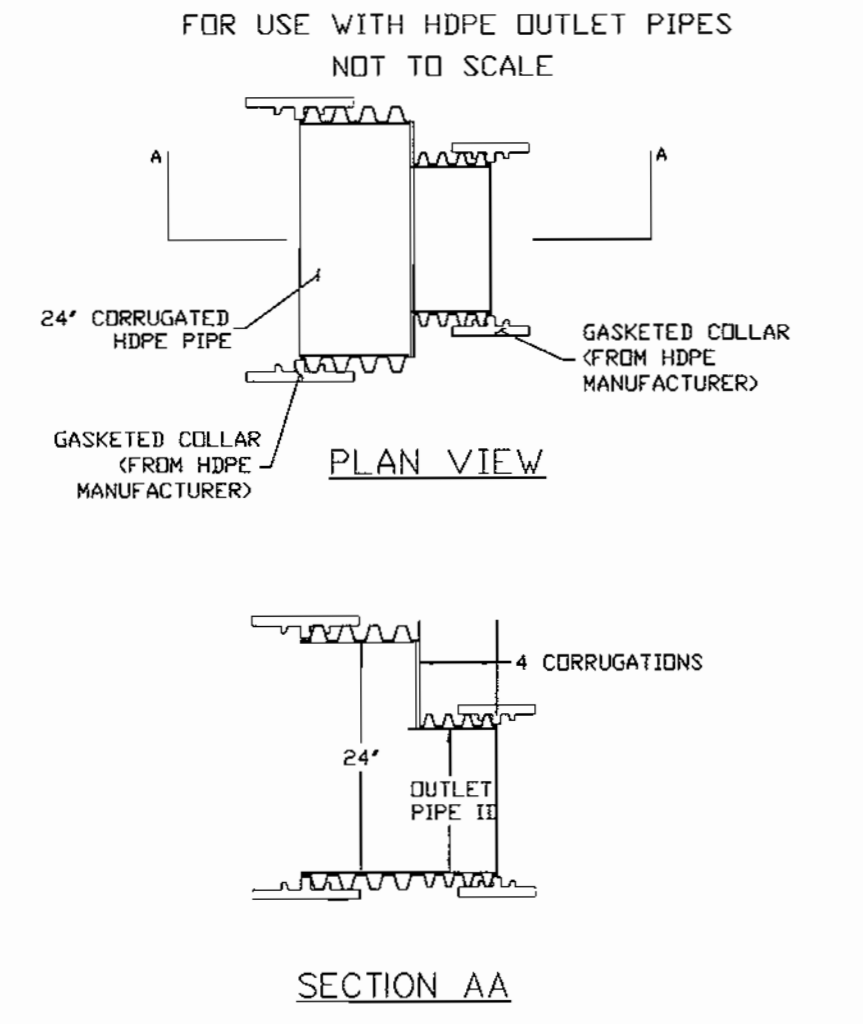


SECTION BB



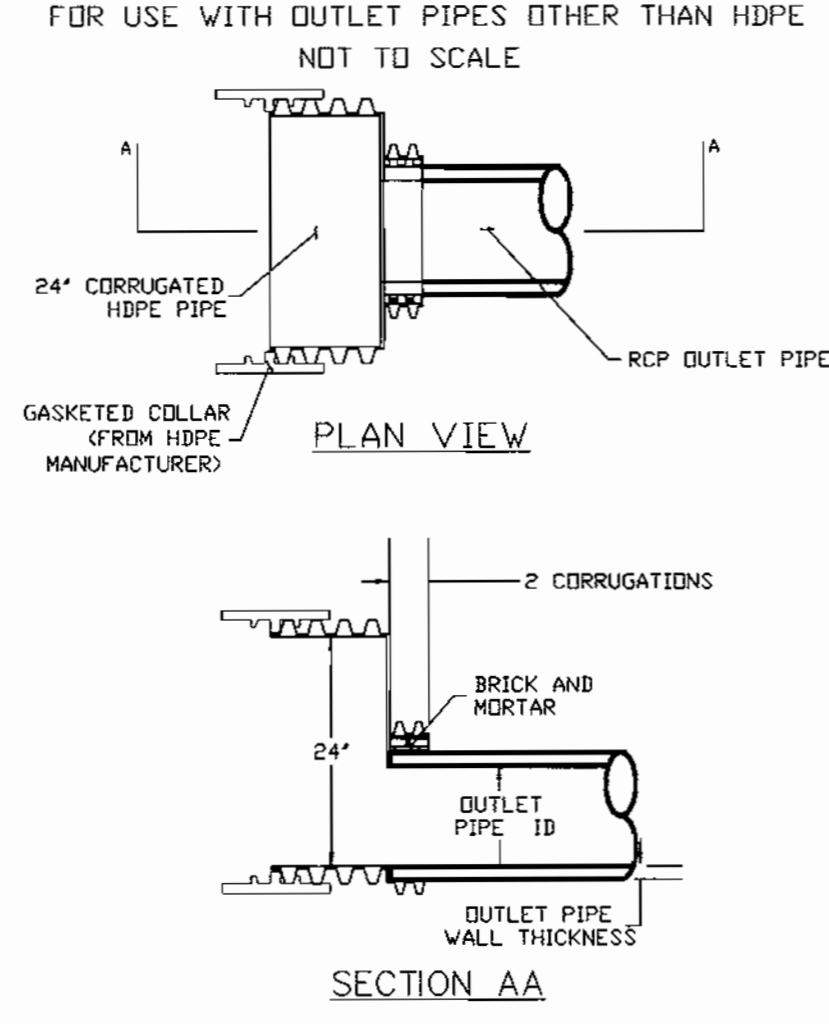
DISTANCE AC	FERROCO NO.	SHEAR RING
1K	7.00"	1055-66 SR-27
3K	10.60"	1056-100 SR-39
5K	12.73"	1004-100 SR-44

HDPE-HDPE REDUCER DETAIL



SECTION AA

REDUCER/ADAPTER DETAIL



SECTION AA

SEQUENCE OF CONSTRUCTION AND INSPECTOR'S CHECK-OFF LIST FOR DUAL MANHOLE SEPARATORS

Stage (X = Approval Required)	Developer's/Engineer Approval		Inspector		Geotechnical Engineer	
	Initials	Date	Initials	Date	Initials	Date
1. Pre-Construction Meeting	X		X		X	
2. Install Manholes and associated storm drainage: a. Obtain approval of subgrade from Geotechnical Engineer. (Subgrade to have a minimum of 95% compaction)					X	
b. Installation of precast base, lower tank and lower piping.	X		X			
c. Backfill and min. 95% compaction around lower tank and lower piping.					X	
d. Installation of precast middle section(s) with separator unit and remaining piping.	X		X			
e. Installation of precast top slab.	X		X			
f. Installation of adjustment rings and frame and cover.	X		X			
g. Installation of flowable fill or concrete backfill.					X	
3. Backfilling operation and compaction.					X	
4. Site is permanently stabilized. Sediment control measures removed and all sediment and debris removed from dual manhole separators.			X			
5. Final inspection.			X			

- GENERAL CONSTRUCTION NOTES
- ALL WORK MUST BE DONE WITH REGARD FOR THE SAFETY OF THE CONSTRUCTION CREW.
 - ALL WORK AND MATERIALS MUST COMPLY WITH APPLICABLE STATE AND LOCAL REGULATIONS.
 - KNOW THE LOCATION AND DEPTH OF ANY UNDERGROUND UTILITIES BEFORE EXCAVATION BEGINS.

NOTE: BAYSAVERS ARE TO BE INSTALLED WITH THE STORM DRAIN SYSTEM AND WILL FUNCTION AS SECONDARY SEDIMENT CONTROL DEVICES. UPON COMPLETION OF SITE STABILIZATION, EACH BAYSAYER SYSTEM SHALL BE FLUSHED CLEAN & THE MANHOLES CLEANED OUT AND REFILLED WITH CLEAN WATER.

NOTE: DIMENSIONAL SHOP DRAWINGS ARE TO BE APPROVED BY THE DESIGN ENGINEER

- BAYSAYER MAINTENANCE
- REMOVE THE ENTIRE VOLUME OF THE CONTAMINATED WATER BY VACUUM TRUCK.
 - CLEAN THE MANHOLE WALLS AND FLUSH OUT THE MANHOLE USING A HIGH PRESSURE HOSE AND REMOVE FLUSHING WATER BY VACUUM TRUCK. MAKE CERTAIN MANHOLE IS CLEAN.
 - CLEAN THE MANHOLE WALLS AND FLUSH OUT THE MANHOLE USING A HIGH PRESSURE HOSE AND REMOVE FLUSHING WATER BY VACUUM TRUCK. MAKE CERTAIN MANHOLE IS CLEAN.
 - CONTAMINATED MATERIAL REMOVED FROM THE MANHOLES MUST BE DISPOSED OF RESPONSIBLY AND LEGALLY BY THE OPERATOR OF THE VACUUM TRUCK.

- BAYSAYER INSTALLATION INSTRUCTIONS
- EXCAVATION MUST PROVIDE ADEQUATE SPACE TO CONNECT INLET AND OUTLET PIPES TO SEPARATOR MANHOLE AND BAYSAYER UNIT. INSTALL PRECAST BRGP STRUCTURES ON SOLID GROUND AS VERIFIED BY A GEOTECHNICAL ENGINEER.
 - VERIFY THE SUBGRADE ELEVATION AGAINST THE MANHOLE DIMENSIONS AND CONNECTING STORM DRAIN INVERTS.
 - MAKING SURE THE BASES ARE LEVEL AND THE STORAGE MANHOLE OPENINGS ARE ALIGNED WITH THE SEPARATOR UNIT, INSTALL PRIMARY AND STORAGE MANHOLES. INSTALL RUBBER GASKETS ON BASE UNITS AND COAT WITH LUBRICATING GREASE. INSTALL ADDITIONAL MANHOLE SECTIONS AS REQUIRED. SEAL LIFT HOLES WITH NON-SHRINK GROUT.
 - BACKFILL BASE SECTIONS OF MANHOLES TO DIVERT OF STORAGE MANHOLE CONNECTING PIPES. USING APPROVED BACKFILL MATERIAL, BACKFILL AND COMPACT IN 8 INCH LIFTS. BACKFILL AND COMPACTION SHOULD BE MONITORED BY A GEOTECHNICAL ENGINEER.
 - INSTALL BAYSAYER SEPARATOR UNIT AND CONNECTING PIPES. SEAL ALL CONNECTING JOINTS AND INSTALL SEPARATOR UNIT/STORM DRAIN JUNCTION COLLAR. CUT EXCESS LENGTH OF CONNECTING PIPES INSIDE STORAGE MANHOLE.
 - BACKFILL SEPARATOR UNIT AND MANHOLES. AREAS NOT ACCESSIBLE TO COMPACTION EQUIPMENT MUST BE BACKFILLED WITH LEAN CONCRETE OR FLOWABLE FILL.
 - INSTALL AND SET MANHOLE COVER GRADE ADJUSTMENT RINGS AS NECESSARY.
 - INSTALL AND SET MANHOLE FRAME AND COVER UNITS.

BAYSAYER SYSTEM DIMENSIONS

DESCRIPTION	1K SYSTEM	3K SYSTEM	5K SYSTEM
SEPARATOR MANHOLE DIMENSIONS			
A PRIMARY MANHOLE DIAMETER	48"	60"	96"
B MANHOLE DEPTH BELOW OUTLET	8' - 0"	8' - 0"	8' - 0"
C MINIMUM FLUID DEPTH	8' - 3"	8' - 4 1/2"	8' - 6"
STANDARD SEPARATOR UNIT DIMENSIONS			
D SEPARATOR UNIT ID	24"	36"	48"
E SEPARATOR UNIT LENGTH	60"	80 1/2"	79"
F BYPASS PLATE LENGTH	34"	45"	43"
G WEIR/BYPASS PLATE THICKNESS	3/4"	3/4"	3/4"
H ELBOW AND CONNECTING PIPE OD	7 1/2"	10 7/8"	12 7/8"
I ELBOW LENGTH	48"	48"	48"
J VEIR HEIGHT ABOVE INVERT	3"	4"	6"
K BYPASS PLATE HEIGHT ABOVE INVERT	12"	18"	24"
L WIDTH OF VEIR AT BASE	3"	4 1/2"	6"
M OUTLET PIPE DIAMETER	H	H	H
N ELBOW INVERT HEIGHT ABOVE UNIT INVERT	4 1/2"	7 1/2"	11"
O ELBOW PIPE OVERHANG	18"	18"	24"
STORAGE MANHOLE DIMENSIONS			
P STORAGE MANHOLE DIAMETER	48"	60"	96"
Q MANHOLE DEPTH BELOW INLET/OUTLET	48"	48"	48"
R FLUID DEPTH	8' - 0"	8' - 3"	8' - 0"
S TOTAL STORAGE VOLUME	200 CF	300 CF	450 CF
SYSTEM DIMENSIONS AND ELEVATIONS			
T SEPARATOR MANHOLE COVER ELEVATION	T	T	T
U STORAGE MANHOLE COVER ELEVATION	U	U	U
V SEPARATOR MANHOLE FLOOR ELEVATION	V	V	V
W STORAGE MANHOLE FLOOR ELEVATION	W	W	W
X INLET PIPE ID AND MATERIAL	X1 X2	X1 X2	X1 X2
Y INLET PIPE INVERT	Y1 Y2	Y1 Y2	Y1 Y2
Z SEPARATOR UNIT INVERT	Z	Z	Z
AA OUTLET PIPE ID AND MATERIAL	AA	AA	AA
AB ELBOW INVERT ELEVATION	AB	AB	AB
AC CONNECTING PIPE INVERT ELEVATION	AC	AC	AC
AD CONNECTION PIPE SPACING	28"	24"	24"
AE STORAGE MANHOLE SIDE OFFSET	72 ± 6"	72 ± 6"	72 ± 6"
AF STORAGE MANHOLE DOWNSTREAM OFFSET	23"	31"	25"

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

John J. Rutter 11/2/01
DIRECTOR DATE

Chris J. Reid 10/26/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy K. Hester 10/21/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

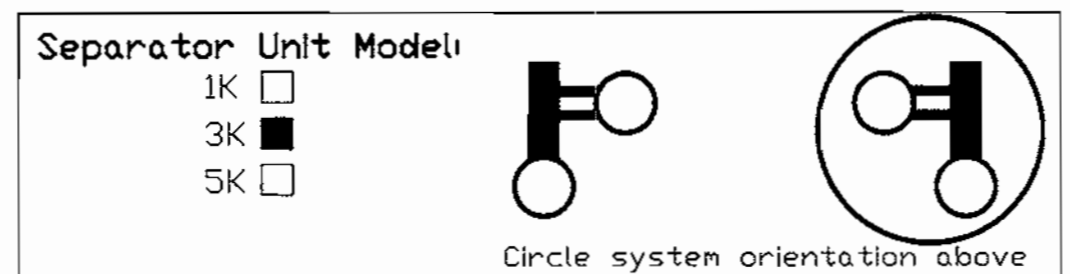
Project: MEADOWRIDGE BUS. Designer: RIEMER MUEGGE
Address: 6705 BUSINESS PARKWAY ELK RIDGE, MD. 21227
Phone: 410-997-8900
Fax: 410-997-9202

Delivery Date: _____

Owner: SDC, INC. Contractor: _____
Contact: STEVE BREEDEN Address: _____
Address: ELLICOTT CITY, MD 21043
Contact: _____
Phone: _____
Fax: _____

OPERATION AND MAINTENANCE SCHEDULE FOR BAYSAYER UNITS

- Baysaver structures will require periodic inspection and cleaning to maintain operation and function. Owners will have the Baysaver unit inspected yearly or as required by Howard County, utilizing the Baysaver units Inspection/Monitoring Form. Inspections can be done by using a clear Plexiglas tube ("sludge judge") to extract a water column sample. When sediment depths exceed the specified level (Table 6 of Technical Manual) then cleaning of the unit is required.
- Baysaver structures must be checked and cleaned immediately after petroleum spills. Contact appropriate regulatory agencies.
- Maintenance of Baysaver units should be done by a vacuum truck which will remove the water, sediment, debris, floating hydrocarbons, and other materials in the unit. The proper cleaning and disposal of the removed materials and liquid must be followed.
- Inlet and outlet pipes must be checked for any obstructions and if any obstructions are found they must be removed. Structural parts of the Baysaver will be repaired as needed.
- Owner shall retain and make Baysaver units Inspection/Monitoring Forms available to Howard County officials upon their request.



Manhole Specifications:

Primary Manhole Diameter: 60 inches
Storage Manhole Diameter: 60 inches

Floor Elevations:
Primary Manhole 174.50
Storage Manhole 174.50

Primary Manhole Inverts:
Separator Unit 182.91
Inlet Pipe(s) 182.91 (IN)
182.50 (OUT)

Please show orientation (including angle), size and material of inlet pipes above.

Cover Elevations:
Primary Manhole 187.0
Storage Manhole 187.0

WQ-1/WQ-1A

This order can be faxed to Bay Saver, Inc. at (301) 829-3747

DATE NO. REVISION

OWNER/DEVELOPER

SDC, INC.
8480 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21043
410-465-4244

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL R-1
A WAREHOUSE BUILDING

AREA ZONED M-1 PARCEL R-1
TAX MAP 37, BLOCK 23 & TAX MAP 43, BLOCK 4 & 5
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE WATER QUALITY NOTES AND DETAILS

RIEMER MUEGGE & ASSOCIATES INC
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21045
tel 410.997.8800 fax 410.997.8282

10.9.01 DATE

DESIGNED BY: CJR

DRAWN BY: BAYSAYER

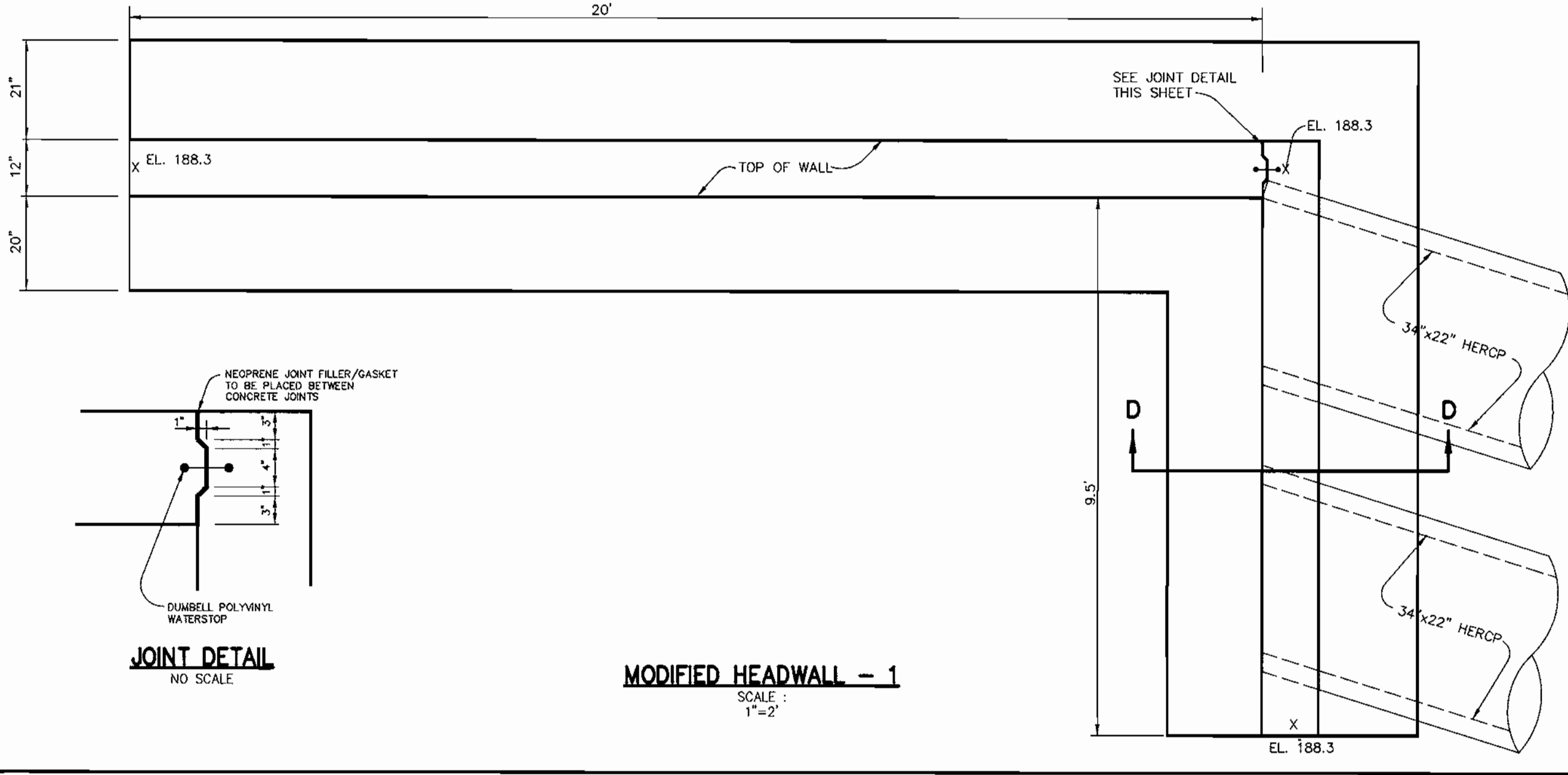
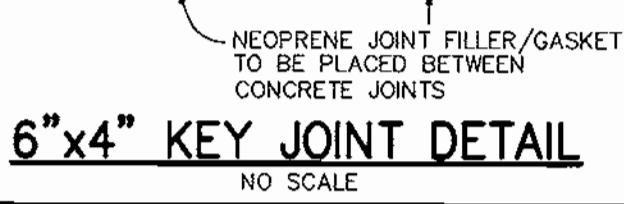
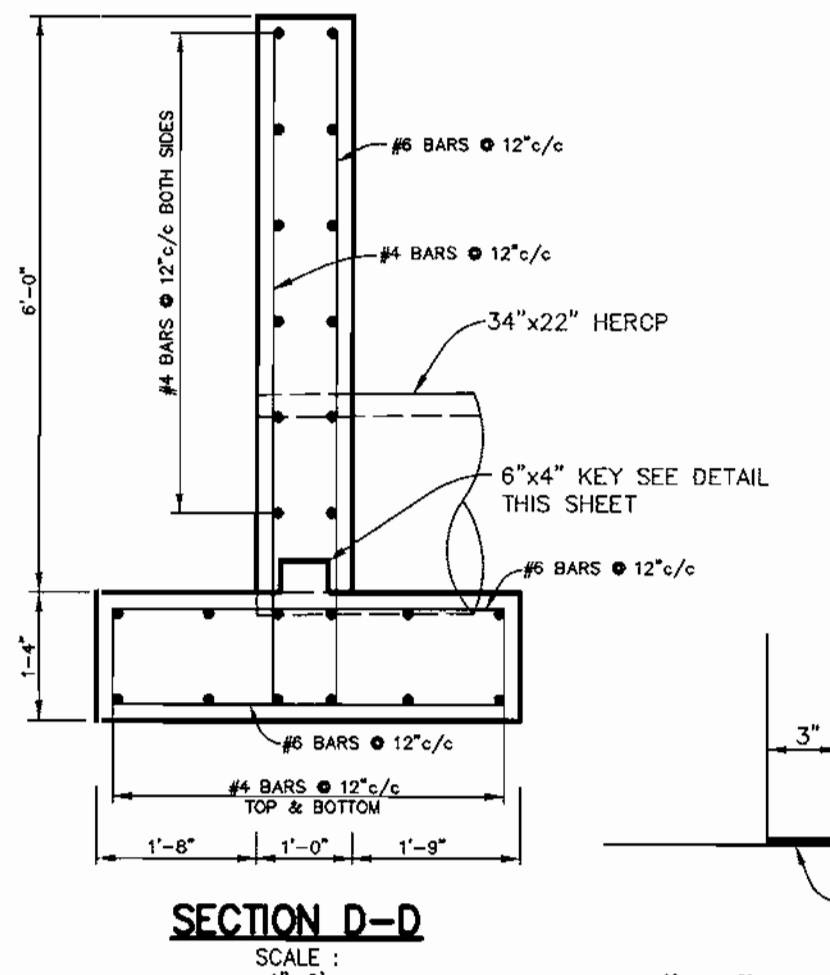
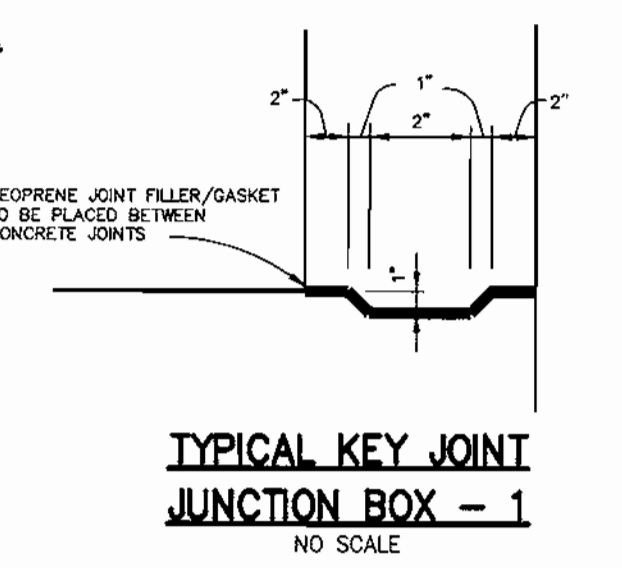
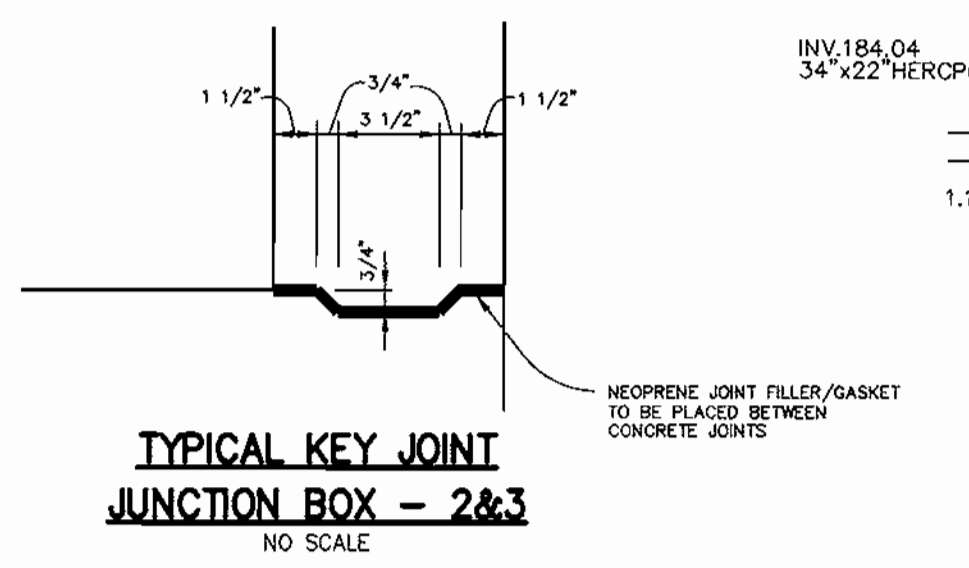
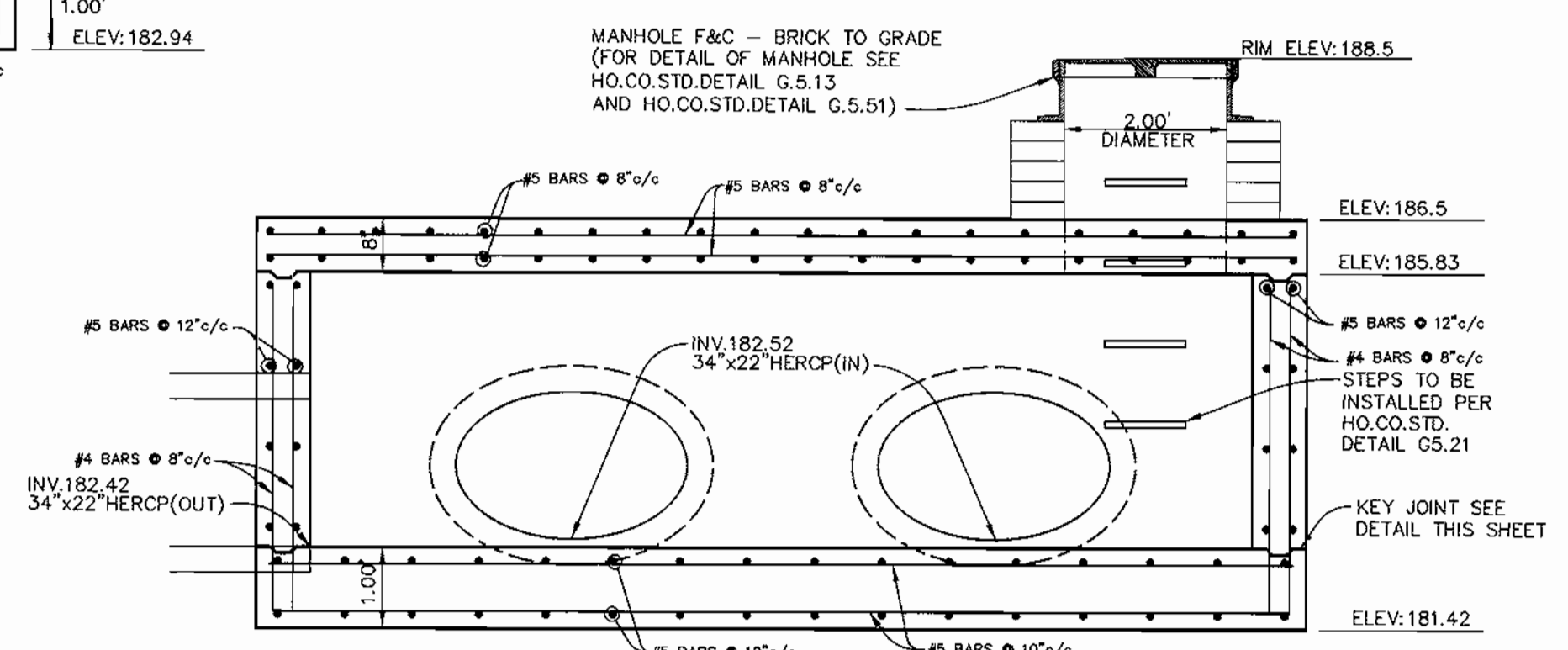
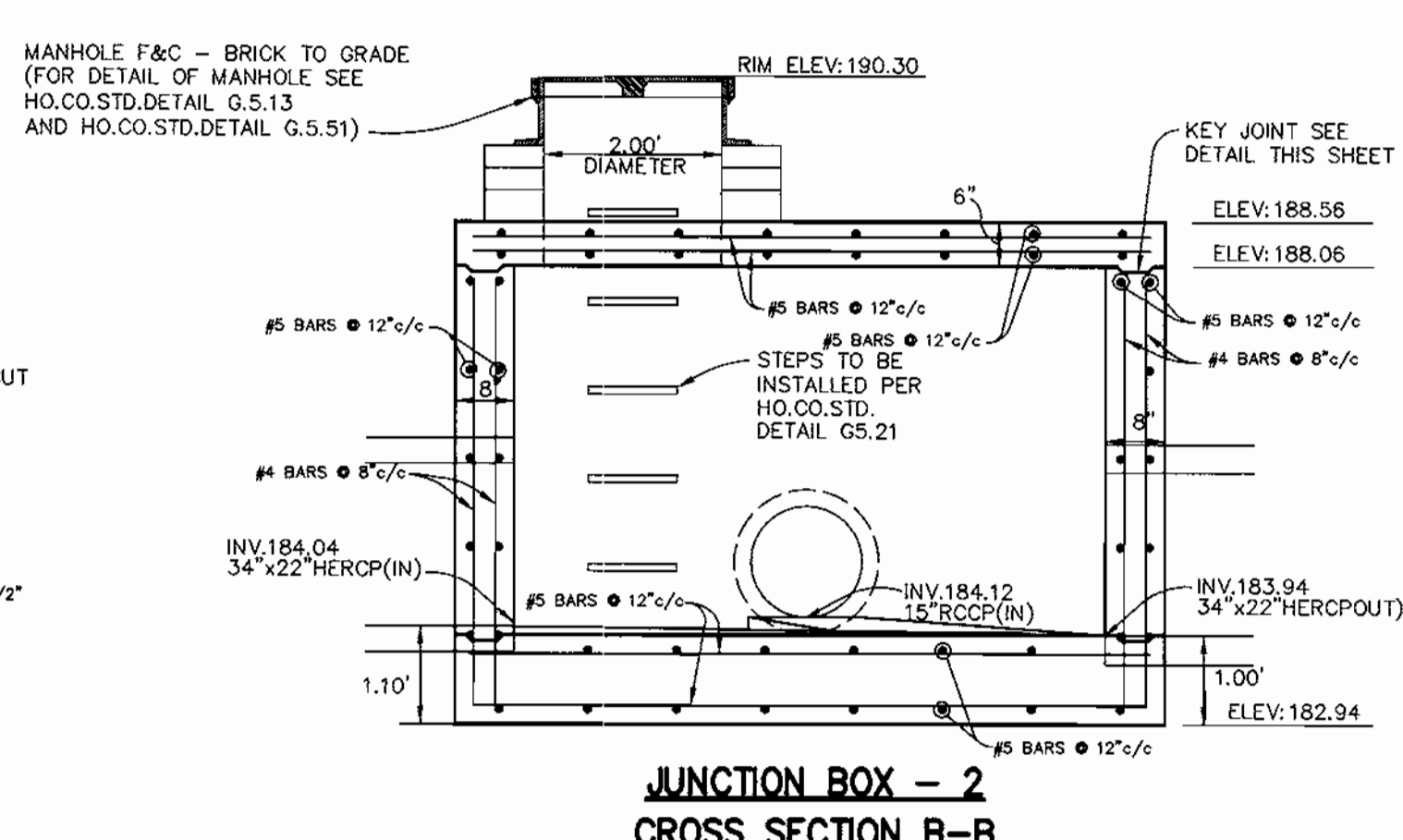
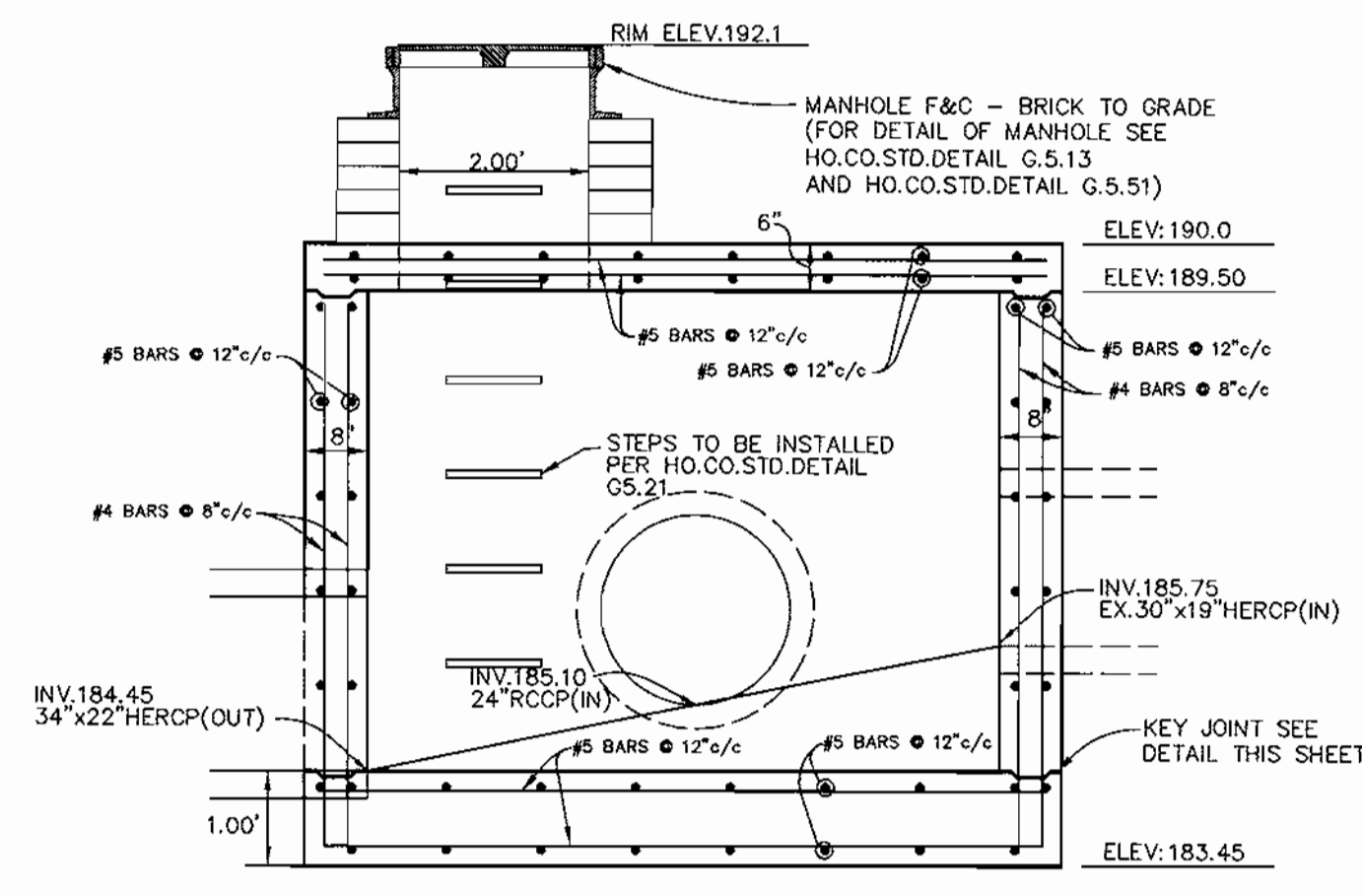
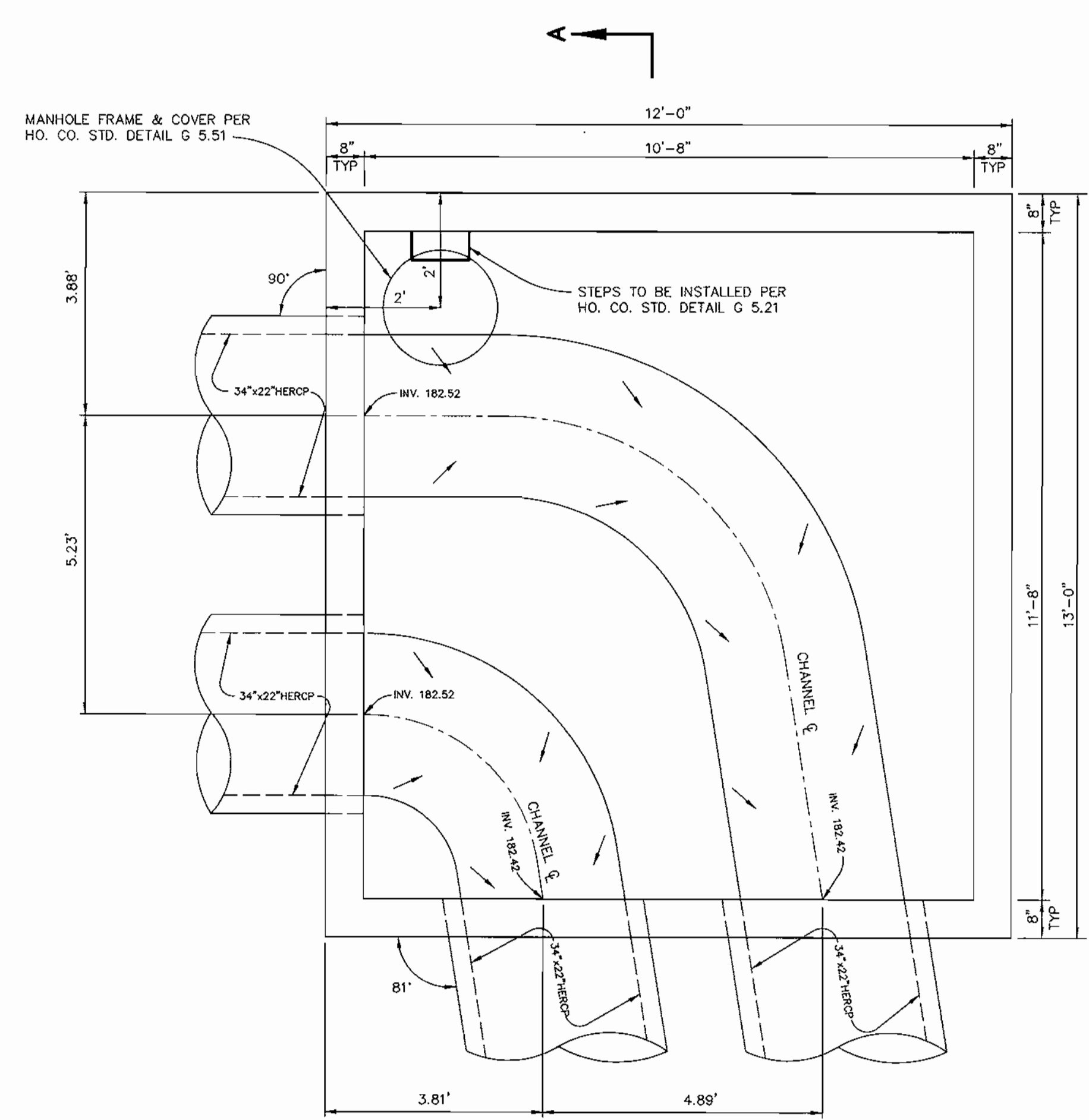
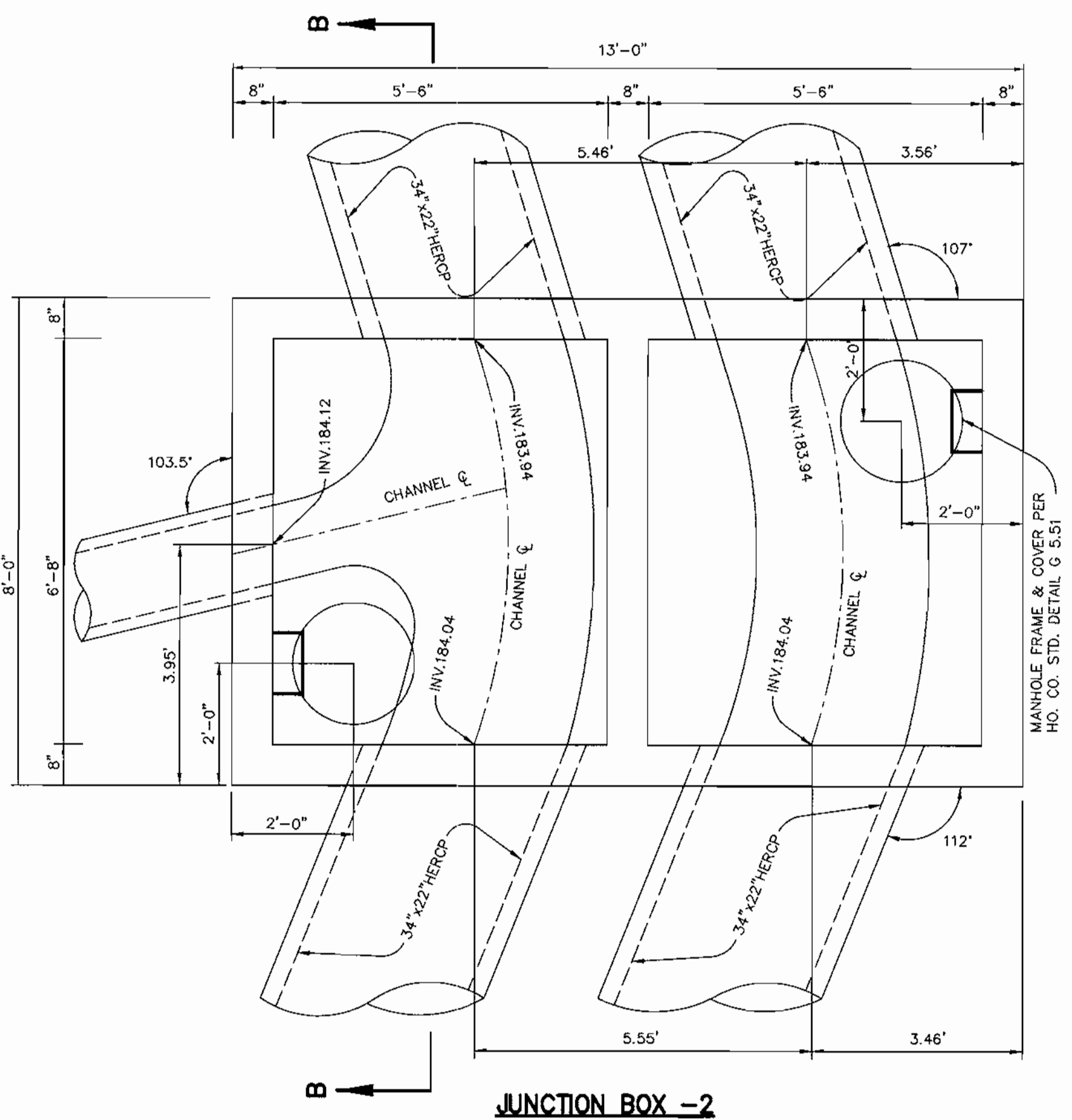
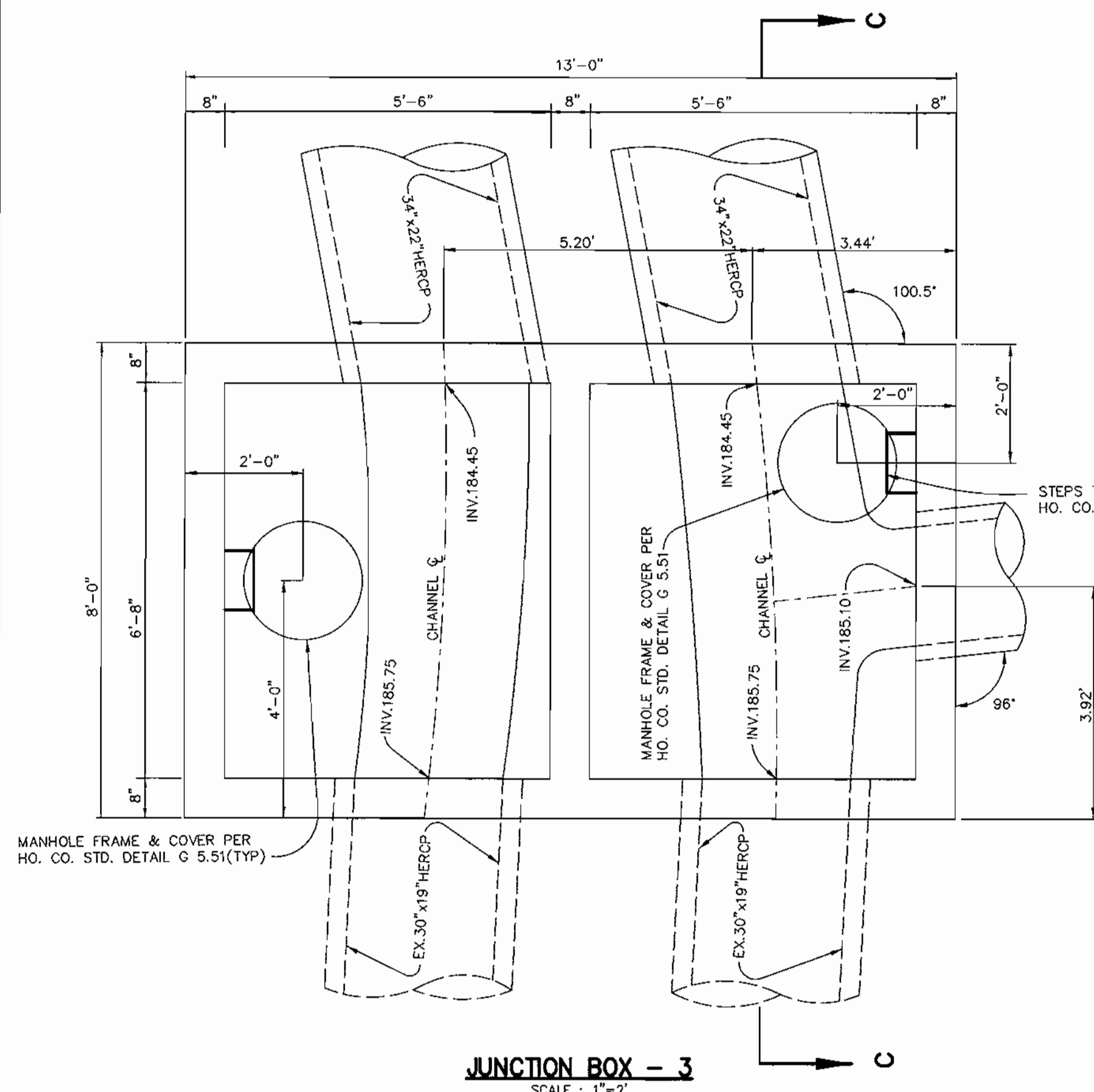
PROJECT NO: 0036/SDP7.DWG

DATE: SEPTEMBER 21, 2001

SCALE: AS SHOWN

DRAWING NO. 7 OF 11

Chris J. Reid
CHRISTOPHER J. REID #19949



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

David R. Smith 11/2/01
DIRECTOR DATE

Allen Dammann 10/26/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Conrad Harwitz 10/31/01
CHIEF, DIVISION OF LAND DEVELOPMENT 1A DATE

DATE	NO.	REVISION

OWNER/DEVELOPER

SDC, INC.
8480 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21043
410-465-4244

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL R-1
A WAREHOUSE BUILDING

AREA ZONED M-1 PARCEL R-1
TAX MAP 37, BLOCK 23 & TAX MAP 43, BLOCK 4 & 5
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE **DETAILS**

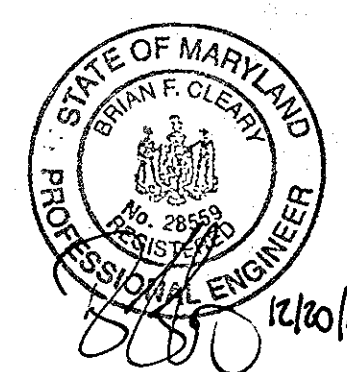
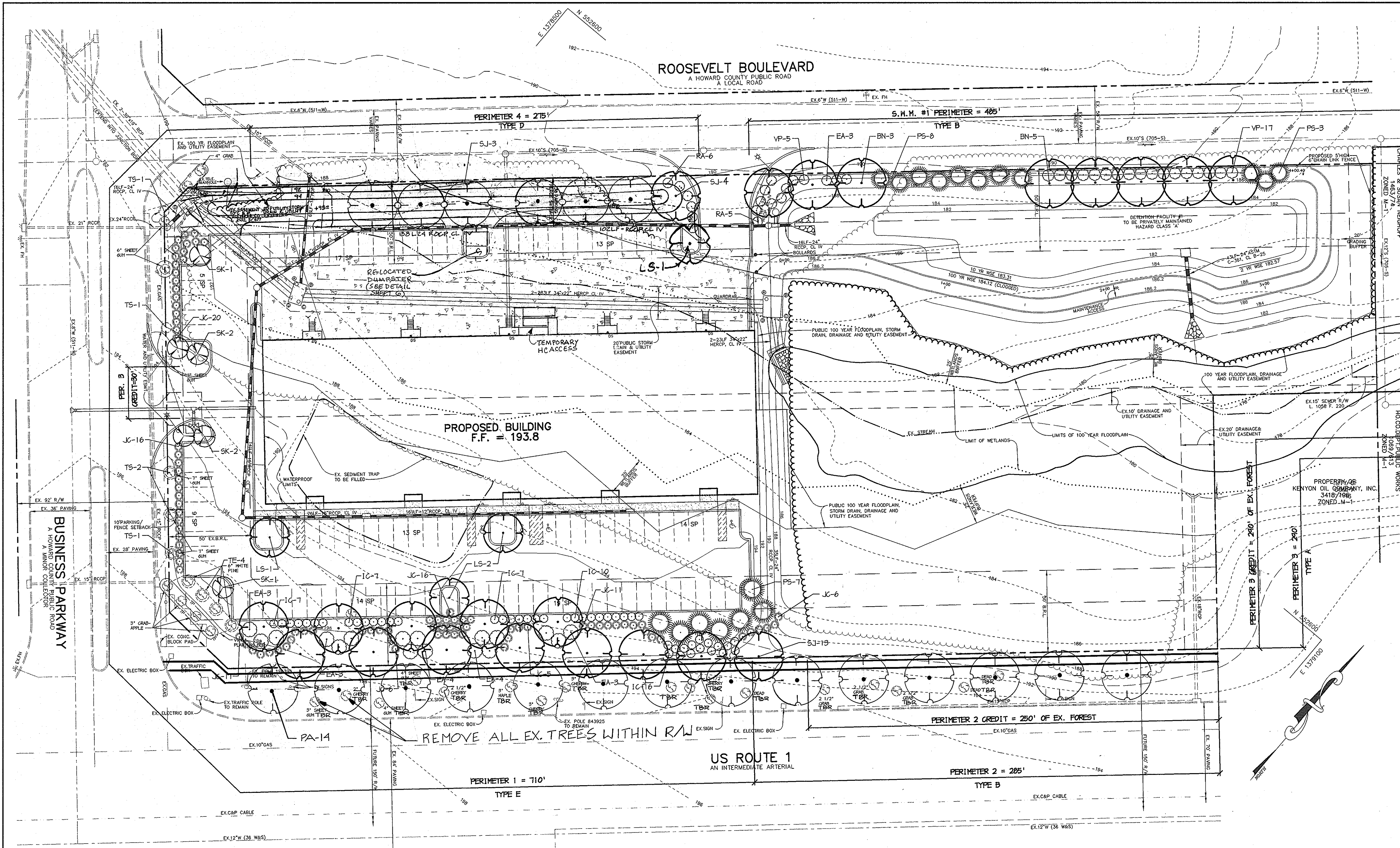
RIEMER MUEGGE & ASSOCIATES INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21045
tel 410.997.8900 fax 410.997.9282

DATE 10-9-01

DESIGNED BY: CJR
DRAWN BY: DAM/K.E.V.
PROJECT NO: 00036/
SDP8.DWG
DATE: SEPTEMBER 21, 2001
SCALE: AS SHOWN
DRAWING NO. 8 OF 11

Christopher J. Reid
CHRISTOPHER J. REID #19949

P:\project\00036\SDP8.DWG Mod Sep 19 13:29:29 2001 RIEMER MUEGGE & ASSOCIATES A DIVISION OF PHSA



Professional Certification. I hereby certify that these documents were prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Maryland.
 License No. 28559, Expiration Date: 7-22-13
 FOR REVISIONS BY BENCHMARK ENGINEERING INC. ONLY

PLANTING LEGEND	
PROP. SHADE TREE	
PROP. ORNAMENTAL TREE	
PROP. EVERGREEN TREE	
PROP. CONIFEROUS SHRUB	
PROP. BROADLEAF SHRUB	
PROP. TREELINE	
EXISTING PLANTS	
EXISTING TREELINE	
TRANSPLANTED TREE	
TREE PROTECTION FENCE	

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
 DIRECTOR: *[Signature]* 11/2/12 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* 10/26/12 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* 10/31/12 DATE
 11/7/12 2 ADD TEMP. HC ACCESS FOR SUITE 6
 DATE NO. REVISION

OWNER/DEVELOPER
 SDC, INC.
 8480 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21043
 410-465-4244
 PROJECT MEADOWRIDGE BUSINESS PARK
 PARCEL R-1
 A WAREHOUSE BUILDING
 AREA ZONED M-1 PARCEL R-1
 TAX MAP 37, BLOCK 23 & TAX MAP 43, BLOCK 4 & 5
 1st ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 TITLE LANDSCAPE PLAN

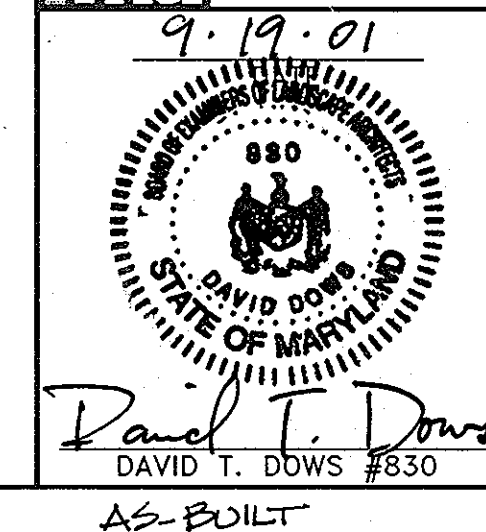
RIEMER MUEGGE & ASSOCIATES INC.
 ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
 8818 Centre Park Drive, Columbia, MD 21045
 tel 410.997.8900 fax 410.997.9282
 9-19-01
 DESIGNED BY: RAF
 DRAWN BY: GTH
 PROJECT NO: 00036/
 LSCSP1.DWG
 DATE: SEPTEMBER 21, 2001
 SCALE: 1" = 30'
 DRAWING NO. 9 OF 11

PLANT LIST					
SYMBOL	QTY.	SCIENTIFIC / COMMON NAME	SIZE	ROOT	REMARKS
TS	5	TRANSPLANT SHADETREE	7" CAL.		
TE	4	TRANSPLANT EVERGREEN	6" CAL.		
BN	8	BETULA NIGRA / RIVER BIRCH	2.5" - 3" CAL.	B & B	
LS	4	LIQUIDAMBAR STYRACIFLUA / SWEET GUM	2.5" - 3" CAL.	B & B	
SJ	20	SOPHORA JAPONICA 'RECENT' / REGENT SCHOLAR TREE	2.5" - 3" CAL.	B & B	
PS	18	PINUS STROBUS / WHITE PINE	6 - 7'	B & B	
SK	6	STEWARTIA KOREANA / KOREAN STEWARTIA	5 - 6'	B & B	
EA	20	EUONYMUS ALATUS 'COMPACTUS' / COMPACT WINGED EUONYMUS	24" - 30" HT.	CONT.	
IC	47	ILEX CRENATA 'GREEN LUSTER' / GREEN LUSTER JAPANESE HOLLY	24" - 30" HT.	CONT.	
JC	91	JUNIPERUS CHINENSIS 'PFITZERIANA COMPACTA' / COMPACT PFITZER JUNIPER	24" - 30" HT.	CONT.	
RA	11	RHODODENDRON 'AGLO' / AGLO RHODODENDRON	24" - 30" HT.	CONT.	
VP	22	VIBURNUM PLICATUM TOMENTOSUM 'SHASTA' / SHASTA DOUBLEFILE VIBURNUM	24" - 30" HT.	B & B	

- GENERAL NOTES:**
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE.
 - FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$23,120.
 - THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY.
 - CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
 - ALL "TRANSPLANTED TREES" SHALL BE REMOVED, BALLED, & BURLAPPED, AND STORED AND REPLANTED AFTER SITE GRADING HAS BEEN COMPLETED AT THE PROPOSED PLANTING LOCATION. TAKE CARE TO MAINTAIN THE TRANSPLANTED TREES ROOTBALL IN A MOIST & COMPACT CONDITION UNTIL REPLANTING.
 - THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.

AS-BUILT CERTIFICATION
 AMIEE C. REMINGTON #2923
 10-12-05
 DATE

DEVELOPER'S/BUILDER'S CERTIFICATE:
 I/WE CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.
[Signature] 10-17-01
 NAME DATE



DAVID T. DOWS #880
 AS-BUILT
 SDP-00-144

PLANTING SPECIFICATIONS

- Plants, related material, and operations shall meet the detailed description as given on the plans and as described herein.
- All plant material, unless otherwise specified, shall be nursery grown, uniformly branched, have a vigorous root system, and shall conform to American Association of Nurserymen (AAN) Standards. Plant material shall be healthy, vigorous, free from defects, decay, disfiguring roots, sunscald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable disfigurements. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will not be accepted. All plants shall be freshly dug; no healed-in plants or plants from cold storage will be accepted.
- Unless otherwise specified, all general conditions, planting operations, details and planting specification shall conform to "Landscape Specification Guidelines for Baltimore-Washington Metropolitan Areas", (hereinafter "Landscape Guidelines") approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architect, latest edition, including all agenda.
- Contractor shall be required to guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section of the Landscape Guidelines. Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.
- Contractor shall be responsible for notifying utility companies, utility contractors and "Miss Utility" a minimum of 48 hours prior to beginning any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.
- Protection of existing vegetation to remain shall be accomplished by the temporary installation of 4 foot high snow fence at the drip line.
- Contractor is responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within growing season of completion of site construction.
- Bid shall be based on actual site conditions. No extra payment shall be made for work arising from site conditions differing from those indicated on drawings and specifications.
- Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence.
- All shrubs and groundcover areas shall be planted in continuous prepared planting beds mulched with composted hardwood mulch as detailed and specified except where noted on plans.
- Positive drainage shall be maintained in planting beds (minimum 2 percent slope).
- Planting mix shall be as follows: Deciduous Plants - Two parts topsoil, one part well-rotted cow or horse manure. Add 3 lbs of standard fertilizer per cubic yard of planting mix. Evergreen Plants - two parts topsoil, one part humus or other approved organic material. Add 3 lbs. of evergreen (acidic) fertilizer per cubic yard of planting mix. Topsoil shall conform to the Landscape Guidelines.
- Weed Control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. Caution: Be sure to carefully check the chemical used to assure its adaptability to the specific groundcover to be treated.
- Mulch: Groundcover beds should be mulched with minimum 2 inches of shredded composted hardwood, or as specified on the details, whichever is greater.
- All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded and seeded.
- This plan is intended for landscape use only. See other plan sheets for more information on grading, sediment control, layout, etc

PERIMETER	ADJACENT TO ROADWAYS			ADJACENT TO PERIM. PROPERTIES	
	1	2	4	3	
LANDSCAPE TYPE	E	B	D	A	
LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER	710'±	285'±	275'±	290'±	
CREDIT FOR EXISTING VEGETATION (YES/NO/ LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	FOREST 250'	NO	FOREST 290'	
CREDIT FOR WALL, FENCE, BERM OR DRIVE AISLE (YES/NO/LINEAR FEET)	AIISLE 30'	NO	NO	NO	
LINEAR FEET REMAINING	680'±	35'±	275'±	290'±	
NUMBER OF PLANTS REQUIRED					
SHADE TREES	17	1	5	-	
EVERGREEN TREES	-	1	20	-	
SHRUBS	170	-	-	-	
NUMBER OF PLANTS PROVIDED					
SHADE TREES	12	1	5	-	
EVERGREEN TREES	8*	1	4*	-	
SMALL FLOWERING TREES	4**	-	-	-	
SHRUBS	160	-	150*	-	

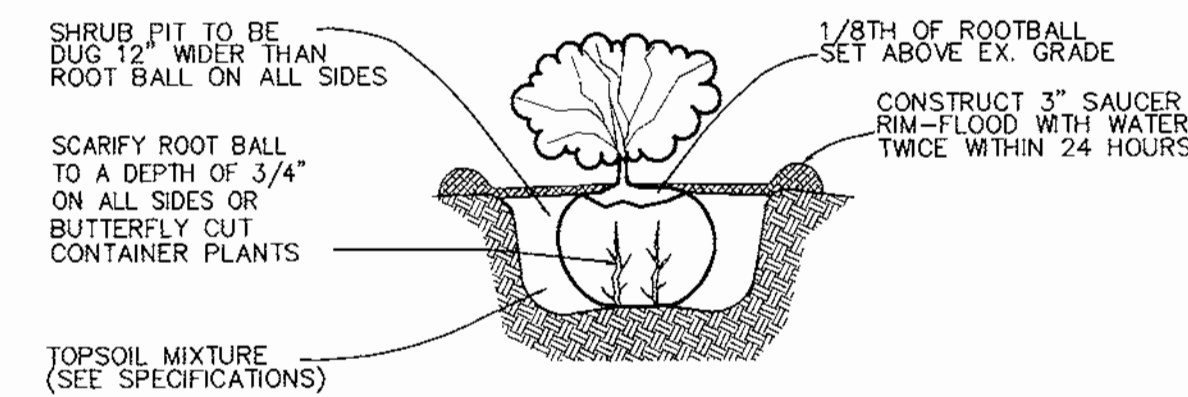
- (150) SHRUBS SUBSTITUTED FOR (15) EVERGREEN TREES TO PROVIDE ENTRANCE ENHANCEMENT. THE REMAINING REQUIREMENT OF (4) EVERGREEN TREES IS TRANSFERRED TO PERIMETER 4 TO ASSIST IN SCREENING THE STORM WATER MANAGEMENT POND.
- (4) ORNAMENTAL TREES SUBSTITUTED FOR (2) SHADE TREES TO ACCENT THE PARKING LOT 4 TO AVOID OVERCRONDING OF SHADE TREES.
- (2) EVERGREEN TREES SUBSTITUTED FOR (10) SHRUBS TO COMPLETE SCREEN PLANTING AT WEST PROPERTY CORNER.
- (6) EVERGREEN TREES SUBSTITUTED FOR (3) SHADE TREES TO SCREEN CORNER OF PARKING LOT.

SCHEDULE B - PARKING LOT INTERNAL LANDSCAPING	
PARKING LOT	1
NUMBER OF PARKING SPACES	104
NUMBER OF SHADE TREES / ISLANDS REQUIRED (1/20 SP.)	5
NUMBER OF TREES PROVIDED	
SHADE TREES	4
OTHER TREES (2:1 SUBSTITUTION)	2*
NUMBER OF ISLANDS PROVIDED	4

- (2) ORNAMENTAL TREES SUBSTITUTED FOR (1) SHADE TREE BECAUSE (2) EXISTING SHADE TREES ARE CLOSE TO THE LANDSCAPE ISLANDS.

SCHEDULE D - STORMWATER MANAGEMENT AREA LANDSCAPING	
S.W.M. POND PERIMETER	1
LANDSCAPE TYPE	B
LINEAR FEET OF TOTAL PERIMETER	485'
CREDIT FOR LINEAR FEET SHARED ALONG PERIMETER EDGE	105'*
LINEAR FEET OF REMAINING PERIMETER	380'
CREDIT FOR EX. VEGETATION (NO OR YES & %)	NO
CREDIT FOR OTHER LANDSCAPING (NO OR YES & %)	NO
NUMBER OF TREES REQUIRED:	
SHADE TREES	8
EVERGREEN TREES	10
NUMBER OF PLANTS PROVIDED	
SHADE TREES	8
EVERGREEN TREES (2:1 SUBSTITUTION, 50% MAX.)	11**
OTHER TREES (2:1 SUBSTITUTION, 50% MAX.)	-
SHRUBS (10:1 SUBSTITUTION, 25% MAX.)	30**

- NO LANDSCAPE REQUIREMENT BETWEEN S.W.M. POND & ADJACENT NON-RESIDENTIAL PROPERTIES IN AN M-1 ZONE.
- (4) EVERGREEN TREES FROM PERIMETER 4 CONVERTED TO (1) EVERGREEN AND (30) SHRUBS TO SCREEN POND.



NOTE: ALL CONTAINERS OR BURLAP SHALL BE REMOVED BEFORE INSTALLATION.

SHRUB PLANTING DETAIL
NOT TO SCALE

NOTE: CONTRACTOR TO REGRADE, SOD OR HYDROSEED AND STRAW MULCH ALL AREAS DISTURBED AS A RESULT OF THEIR WORK.

SPRAY WITH WILT-PROOF ACCORDING TO MANUFACTURERS STANDARD

PRUNE ONLY TO CORRECT OR IMPROVE FORM OR TO REMOVE DEAD, CONFLICTING OR DAMAGED BRANCHES.

2 PIECES OF REINFORCED RUBBER HOSE
DOUBLE #12 GALVANIZED WIRE GUYS TWISTED

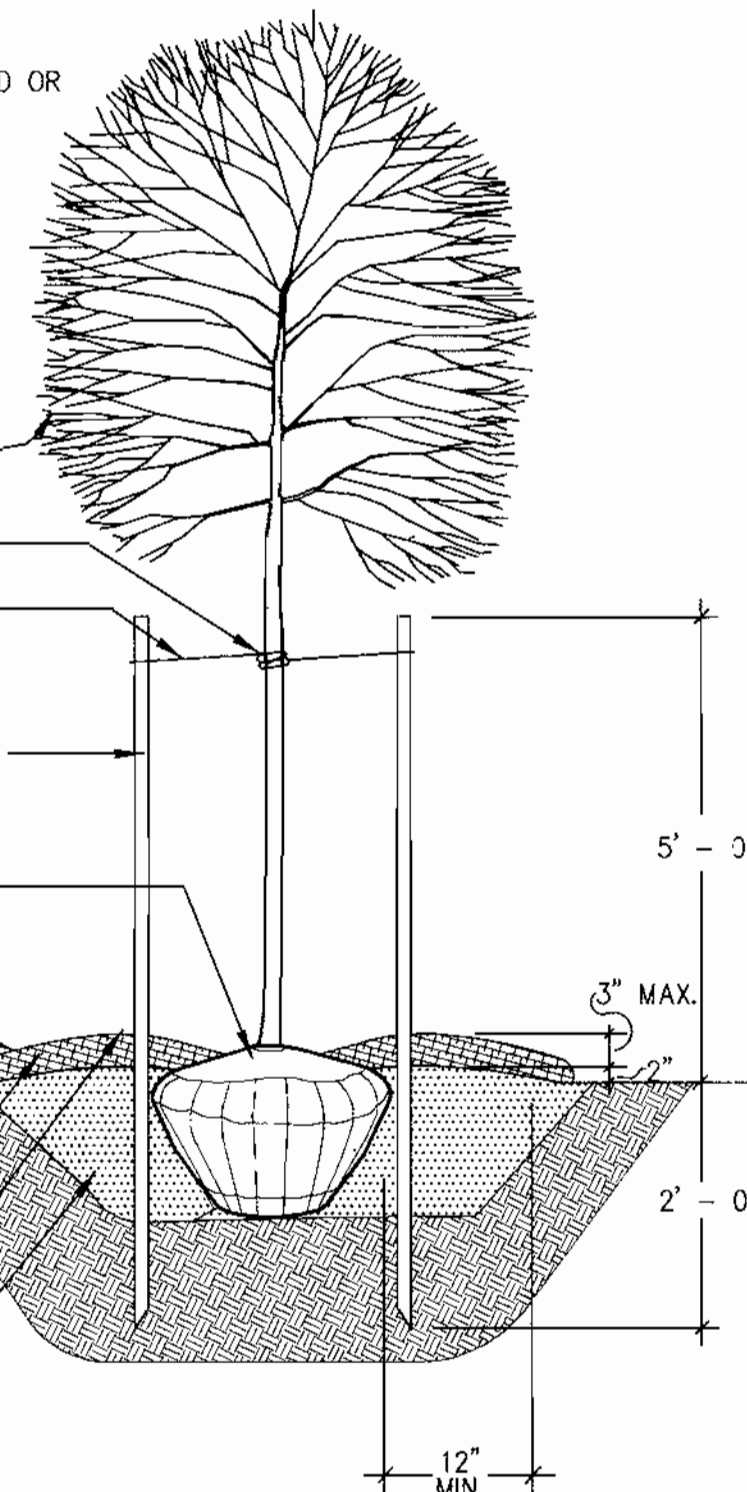
3 - 2" x 2" OAK STAKES, NOTCH STAKES TO HOLD WIRE

REMOVE 1/2 OF ANY COVERING FROM TOP OF ROOT CROWN. REMOVE WIRE BASKET OR CLIP TOP RINGS AND BEND WIRE DOWN TO BOTTOM OF ROOT BALL

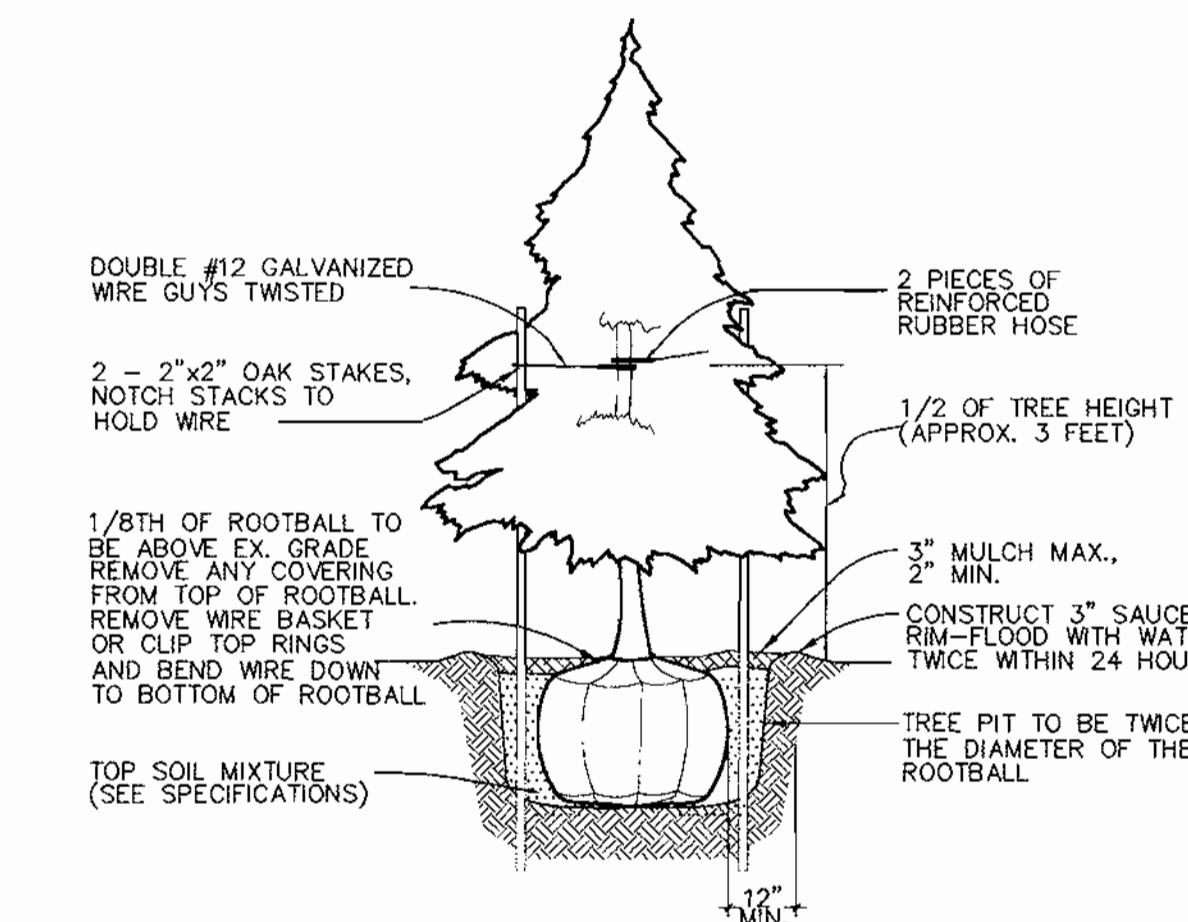
3" MULCH MAX., 2" MIN.
1/8TH OF ROOTBALL TO BE ABOVE EX. GRADE

CONSTRUCT 3" SAUCER RIM ALL AROUND. FLOOD WITH WATER TWICE WITHIN 24 HOURS

TOP SOIL MIXTURE



B&B TREE PLANTING DETAIL
NOT TO SCALE



EVERGREEN PLANTING DETAIL
NOT TO SCALE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR: *[Signature]* 11/2/01 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* 10/26/01 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* 10/21/01 DATE

OWNER/DEVELOPER: SDC, INC. 8480 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21043 410-465-4244

PROJECT: MEADOWRIDGE BUSINESS PARK PARCEL R-1 A WAREHOUSE BUILDING

AREA: ZONED M-1 PARCEL R-1 TAX MAP 37, BLOCK 23 & TAX MAP 43, BLOCK 4 & 5 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: **LANDSCAPE SCHEDULES & DETAILS**

RIEMER MUEGGE & ASSOCIATES INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21045
tel 410.967.8800 fax 410.967.9282

DESIGNED BY : RAF

DRAWN BY: GTH

PROJECT NO : 00036/ LSCP2.DWG

DATE : SEPTEMBER 21, 2001

SCALE :

DRAWING NO. 10 OF 11

9.19.01

DAVID T. DOWS #830

MEADOWRIDGE ROAD

WASHINGTON BLVD.

DORSEY ROAD

MEADOWRIDGE ROAD

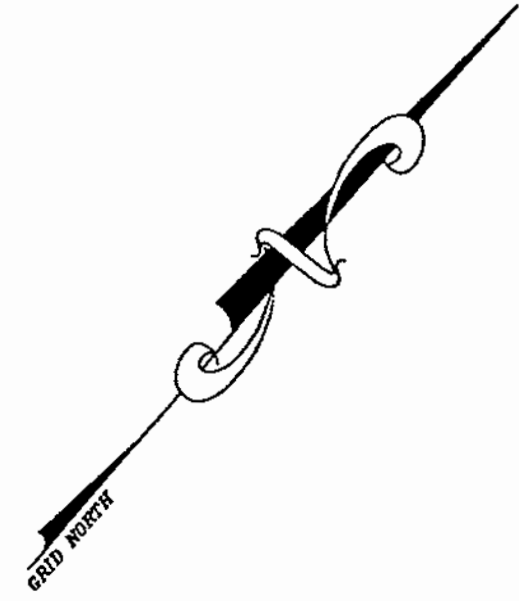
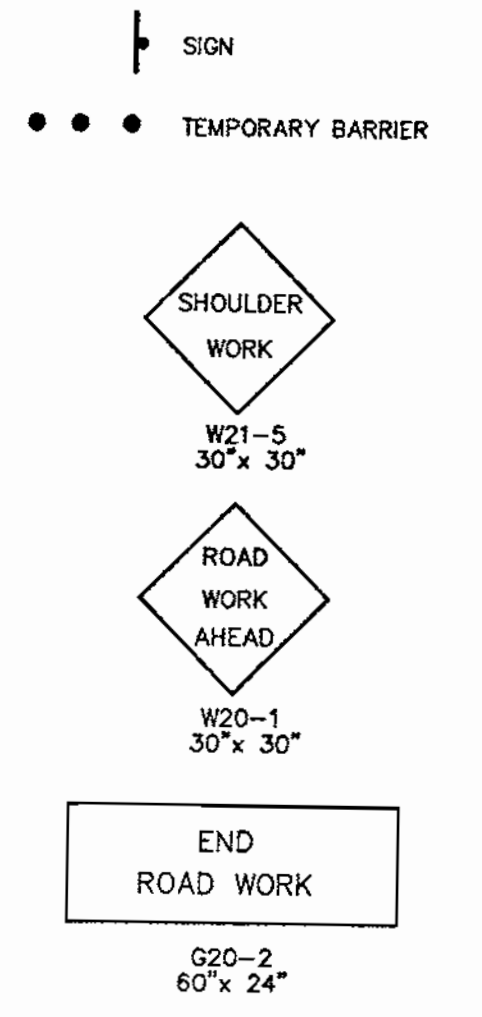
WASHINGTON BLVD.

DORSEY ROAD

EXISTING STRIPING PLAN
SCALE : 1" = 50'

PROPOSED STRIPING PLAN
SCALE : 1" = 50'

TRAFFIC CONTROL SIGNAGE LEGEND



APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Leah Bantz 11/2/01
DIRECTOR DATE

Michael Sumner 10/26/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy Hammett 10/21/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE NO. REVISION

OWNER/DEVELOPER
SDC, INC.
8480 BALTIMORE NATIONAL PIKE
ELLCOTT CITY, MARYLAND 21043
410-465-4244

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL R-1
A WAREHOUSE BUILDING

AREA ZONED M-1 PARCEL R-1
TAX MAP 37, BLOCK 23 & TAX MAP 43, BLOCK 4 & 5
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

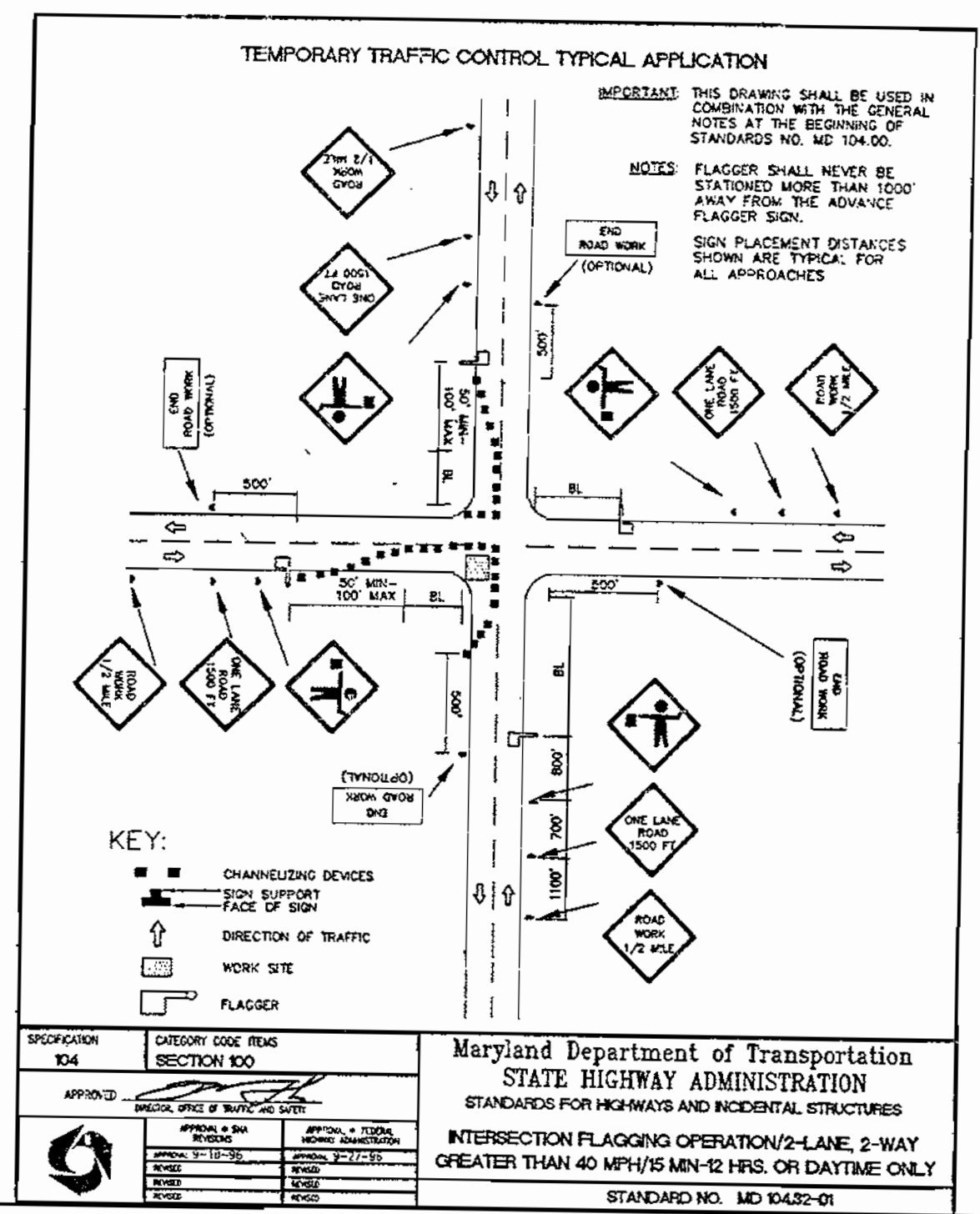
TITLE
STRIPING PLAN

RIEMER MUEGGE & ASSOCIATES INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21046
tel 410.997.8900 fax 410.997.9282

10.9.01
DATE

DESIGNED BY : CJR
DRAWN BY: DAM
PROJECT NO : 00036/
TRAFCONT.DWG
DATE : SEPTEMBER 21, 2001
SCALE : 1" = 50'
DRAWING NO. 11 OF 11

Christopher J. Reid
CHRISTOPHER J. REID #19949



Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
INTERSECTION FLAGGING OPERATION/2-LANE, 2-WAY
GREATER THAN 40 MPH/15 MIN-12 HRS. OR DAYTIME ONLY
STANDARD NO. MD 10432-01

SHEET INDEX	
NO	DESCRIPTION
1	TITLE SHEET
2	SITE DEVELOPMENT PLAN
3	GRADING, SEDIMENT CONTROL PLAN AND DRAINAGE AREA MAP
4	SEDIMENT CONTROL NOTES AND DETAILS
5	DETAILS AND PROFILES
6	STORMWATER MANAGEMENT DETAILS
7	WATER QUALITY NOTES AND DETAILS
8	DETAILS
9	LANDSCAPE PLAN
10	LANDSCAPE SCHEDULES AND DETAILS
11	STRIPING PLAN

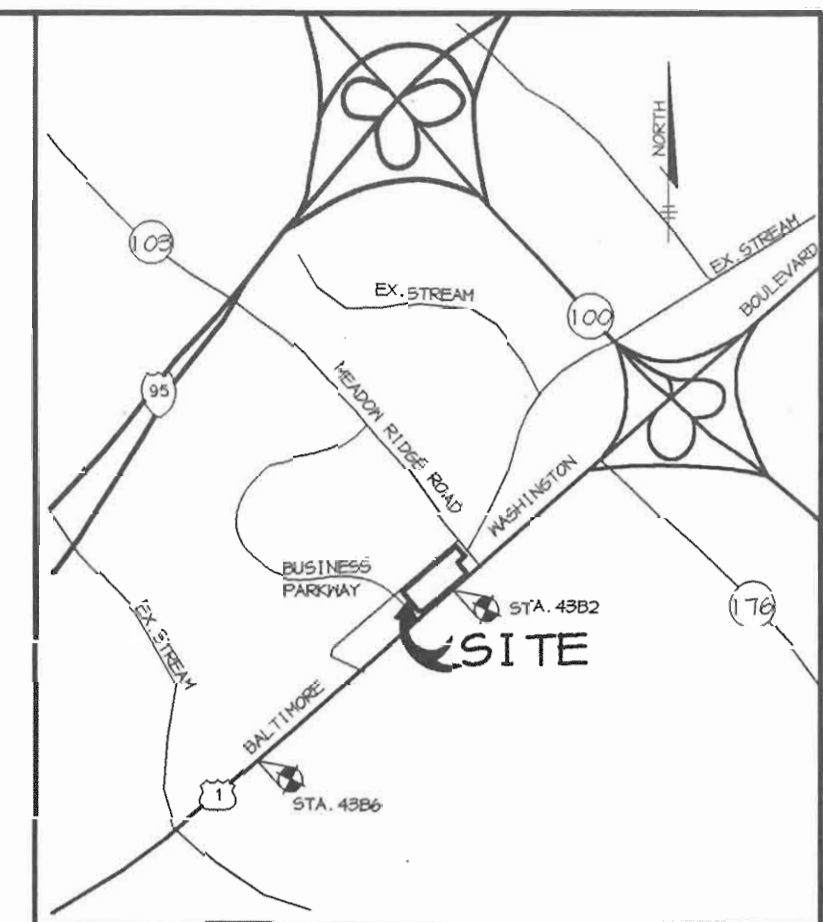
SITE DEVELOPMENT PLAN

MEADOWRIDGE BUSINESS PARK

PARCEL R-1

1st ELECTION DISTRICT

HOWARD COUNTY, MARYLAND



BENCHMARKS

HO. CO. SURVEY CONTROL STATION 43B6
N 550,601.59 E 1,376,866.05
ELEV. 210.61

HO. CO. SURVEY CONTROL STATION 43B2
N 551,655.01 E 1,378,176.94
ELEV. 209.67

VICINITY MAP

SCALE: 1" = 2000'

GENERAL NOTES

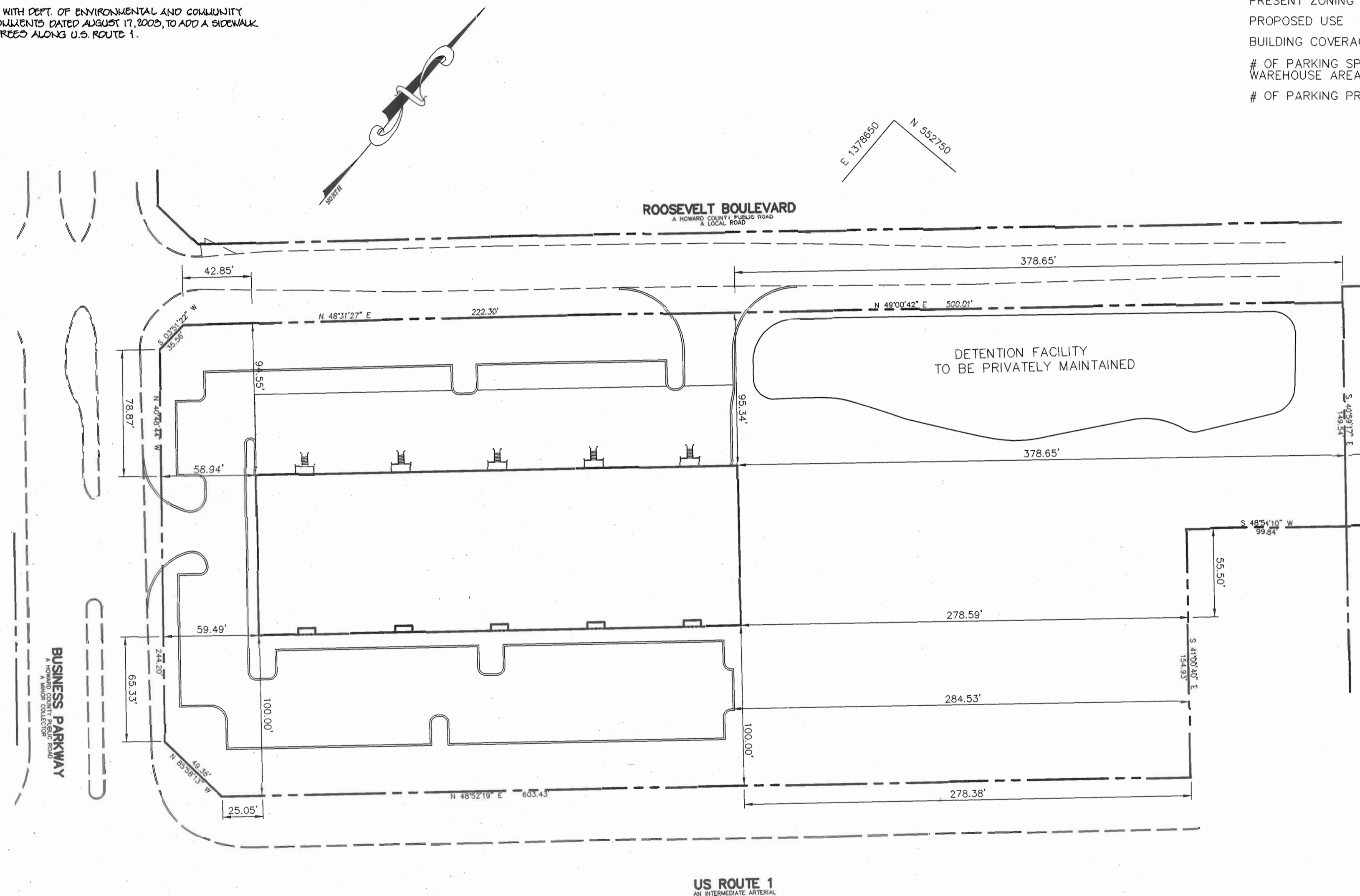
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- ALL PLAN DIMENSIONS ARE TO FACE OF CURB AND FACE OF BUILDING UNLESS OTHERWISE NOTED.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 43B6 AND 43B2 WERE USED FOR THIS PROJECT.
- WATER IS PUBLIC. CONTRACT NO. 511-W. NEW WATER SERVICE TO BE UNDER ADO AGREEMENT.
- SEWER IS PUBLIC. SEWER DRAINAGE AREA: PATAPSCO CONTRACT NO. 705-S. NEW SEWER SERVICE TO BE UNDER ADO AGREEMENT.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
- A 100-YEAR FLOODPLAIN STUDY WAS PREPARED BY RIEMER MUEGGE & ASSOCIATES DATED AUGUST 2000.
- THE WETLANDS DELINEATION FOR THIS PROJECT IS FROM RECORDED PLAT 9047.
- AN APFO TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY LEE CUNNINGHAM & ASSOCIATES DATED MAY, 2001. ACCORDING TO THE TRAFFIC STUDY A RIGHT TURN LANE NEEDS TO BE PROVIDED AT ROUTE 1/ROUTE 103 INTERSECTION. LANE CONSTRUCTION WILL COMMENCE PRIOR TO BUILDING CONSTRUCTION.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- THE BOUNDARY SURVEY FOR THIS PROJECT IS BASED ON PREVIOUSLY RECORDED PLAT NO. 9047 AND 14861.
- SUBJECT PROPERTY ZONED M-1 PER 10-18-93 COMPREHENSIVE ZONING PLAN.
- ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
- SEE DEPARTMENT OF PLANNING AND ZONING FILE NOS WP-00-33, WP-01-115, F-01-74, WP-04-17.
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
- ALL STORM DRAIN PIPE BEDDING SHALL BE CLASS "C" AS SHOWN IN FIG. 11.4, VOLUME 1 OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- STORM DRAIN TRENCHES WITHIN ROAD RIGHT OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, I.E., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, LATEST AMENDMENTS.
- PROFILES STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T180.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY RIEMER MUEGGE & ASSOCIATES, INC. DATED MARCH 2000.
- A GEOTECHNICAL STUDY WAS PREPARED BY GTA, INC. DATED JAN. 1998.
- STORMWATER QUALITY AND QUANTITY MANAGEMENT IS PROVIDED VIA A BAYSAVER AND A DETENTION POND.
- WP-00-33 IS A WAIVER PETITION REQUESTING PERMISSION TO WAIVE SECTION 16.116(a)(1) AND TO PERMIT GRADING WITHIN WETLAND BUFFERS AND STREAM BUFFERS AND WAS APPROVED ON FEBRUARY 14, 2000.
- ARMY COE/MDE PERMIT TO FILL WETLANDS EXPIRES SEPTEMBER 2, 2002. PERMIT NUMBER IS #CENAB-OP-RW 90-1204-4.
- THIS PARCEL IS PART OF A PLANNED BUSINESS PARK GREATER THAN 75 ACRES THAT WAS RECORDED PRIOR TO DECEMBER 31, 1992 AND IS THEREFORE EXEMPT FROM THE FOREST CONSERVATION ORDINANCE.
- THERE ARE NO CEMETARIES OR BURIAL GROUNDS ON THE SITE TO THE BEST OF OUR KNOWLEDGE.
- WP-01-115 IS A WAIVER PETITION REQUESTING PERMISSION TO WAIVE SECTION 16.156(k) TO REACTIVATE A SITE DEVELOPMENT PLAN WHICH WAS DENIED FOR FAILURE TO SUBMIT ORIGINALS (BY 3-27-01) WITHIN 180 DAYS OF THE TECHNICALLY COMPLETE LETTER DATED SEPTEMBER 28, 2000. WAIVER WAS APPROVED MAY 10, 2001, SUBJECT TO THE FOLLOWING CONDITIONS:
 - WITH REACTIVATION OF THIS SITE DEVELOPMENT PLAN, WP-00-33 IS ALSO REACTIVATED, SUBJECT TO THE THREE CONDITIONS STIPULATED IN THE APPROVAL LETTER DATED 2-14-00.
 - UPDATE THE APFO STUDY AS REQUIRED BY THE ATTACHED COMMENTS FROM DEVELOPMENT ENGINEERING DIVISION (DED).
 - SUBMIT A REVISED SDP WITHIN 45 DAYS OF THIS APPROVAL (BY JUNE 24, 2001) ADDRESSING ALL OUTSTANDING COMMENTS FROM DED. FOUR COMPLETE SETS OF THE SDP SHOULD BE SUBMITTED (2 FOR THE DIVISION OF LAND DEVELOPMENT, 2 FOR DED). TWO COMPLETE SETS OF ANY SUPPLEMENTAL INFORMATION REQUIRED BY DED SHOULD ALSO BE SUBMITTED IN THE PACKAGE FOR THAT DIVISION.
- LANDSCAPE SURETY WILL BE POSTED WITH DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$21,600.00.

△ WP-04-17 - A WAIVER OF SECTION 16.156 (k)(1) WAS APPROVED BY THE DIRECTOR OF PLANNING AND ZONING ON SEPTEMBER 8, 2000. THE APPROVAL IS SUBJECT TO TWO CONDITIONS:

- SDP-00-144 IS HEREBY REACTIVATED FOR A ONE YEAR PERIOD TO APPLY FOR BUILDING PERMITS TO INITIATE CONSTRUCTION OF THE APPROVED BUILDING(S) FOR THE SUBJECT PROPERTY. THE APPLICANT SHALL COMPLY WITH ALL BUILDING PERMIT APPLICATION REQUIREMENTS OF DLP.
- COMPLIANCE WITH DEPT. OF ENVIRONMENTAL AND COMMUNITY PLANNING COMMENTS DATED AUGUST 17, 2000, TO ADD A SIDEWALK AND STREET TREES ALONG U.S. ROUTE 1.

SITE ANALYSIS

AREA OF PARCEL	4.62 ACRES 201,444 SF
DISTURBED AREA	3.59 ACRES 156,164 SF
PRESENT ZONING	M-1
PROPOSED USE	1 OFFICE/WAREHOUSE FACILITY (ONE STORY)
BUILDING COVERAGE	30,000 SF (15% COVERAGE)
# OF PARKING SPACES REQ'D @ 2.5 SP/1000 SF	75 SPACES
WAREHOUSE AREA < 160' DEEP	
# OF PARKING PROVIDED	104 SPACES (INCLUDING 5 HC)



BUILDING ELEVATION

SCALE: 1" = 30'

ADDRESS CHART

PARCEL	STREET ADDRESS
R-1	6785 BUSINESS PARKWAY

SUBDIVISION NAME	MEADOWRIDGE BUSINESS PARK	SECT./AREA		PARCEL	R-1
PLAT #	14861	BLOCK #	23	CONDS	M-1
TAX MAP NO.	4 & 5	TAX MAP SEC.	3/4	ELECT. DIST.	1st
SEWER TRAIL		SEWER CODE	43	CENSUS TRAIL	6012
WATER CODE	B01	SEWER CODE	2153000		

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>Joseph J. Smith</i>	11/26/01
DIRECTOR	DATE
<i>William J. Williams</i>	10/26/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Candy Hamstra</i>	10/31/01
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE

1-10-04	ADDED WP-04-17 NOTE #17 WHICH STATES THAT SDP-00-144 HAS BEEN REACTIVATED AS OF 9-8-00.	
DATE	NO.	REVISION

OWNER/DEVELOPER	SDC, INC. 8480 BALTIMORE NATIONAL PIKE ELLCOTT CITY, MARYLAND 21043 410-465-4244
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PROJECT	MEADOWRIDGE BUSINESS PARK PARCEL R-1 A WAREHOUSE BUILDING
---------	---

AREA	ZONED M-1 PARCEL R-1 TAX MAP 37, BLOCK 23 & TAX MAP 43, BLOCK 4 & 5 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND
------	--

TITLE	TITLE SHEET
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RIEMER MUEGGE & ASSOCIATES INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21045
tel 410.997.8900 fax 410.997.8982

DATE	10-9-01	DESIGNED BY :	CJR
		DRAWN BY :	K.E.V.
		PROJECT NO :	00036 / SDP1.DWG
		DATE :	SEPTEMBER 21, 2001
		SCALE :	1"=50'
		DRAWING NO. :	1 OF 11

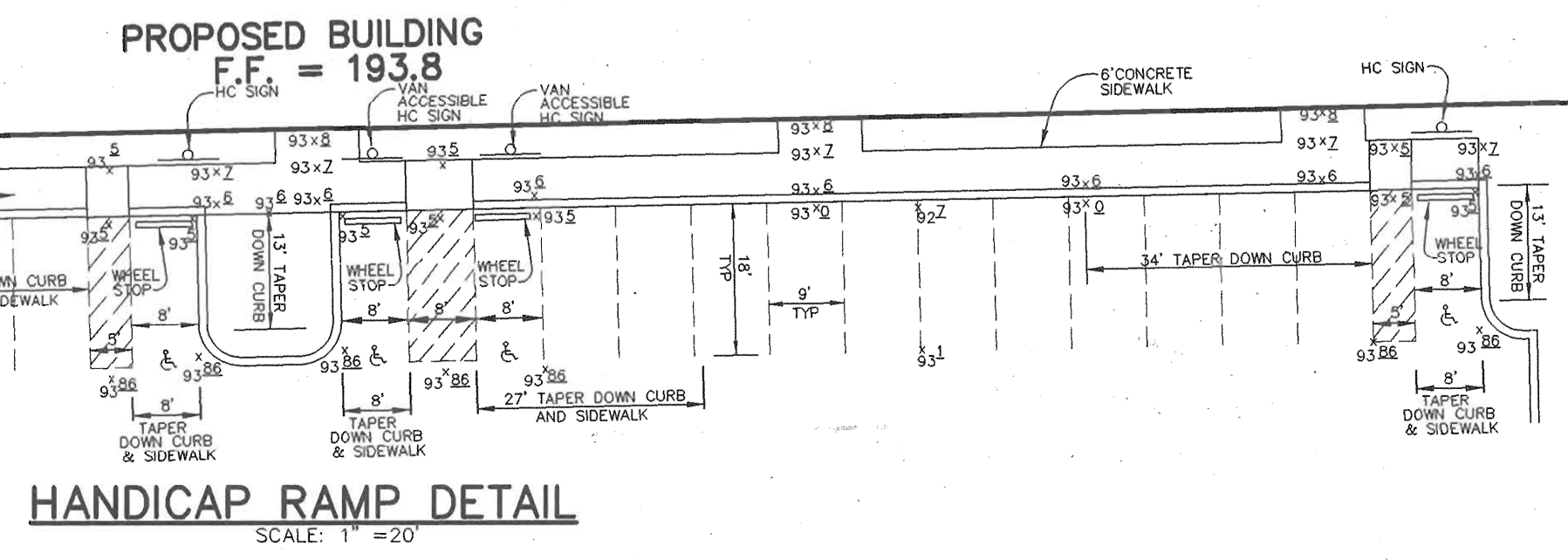
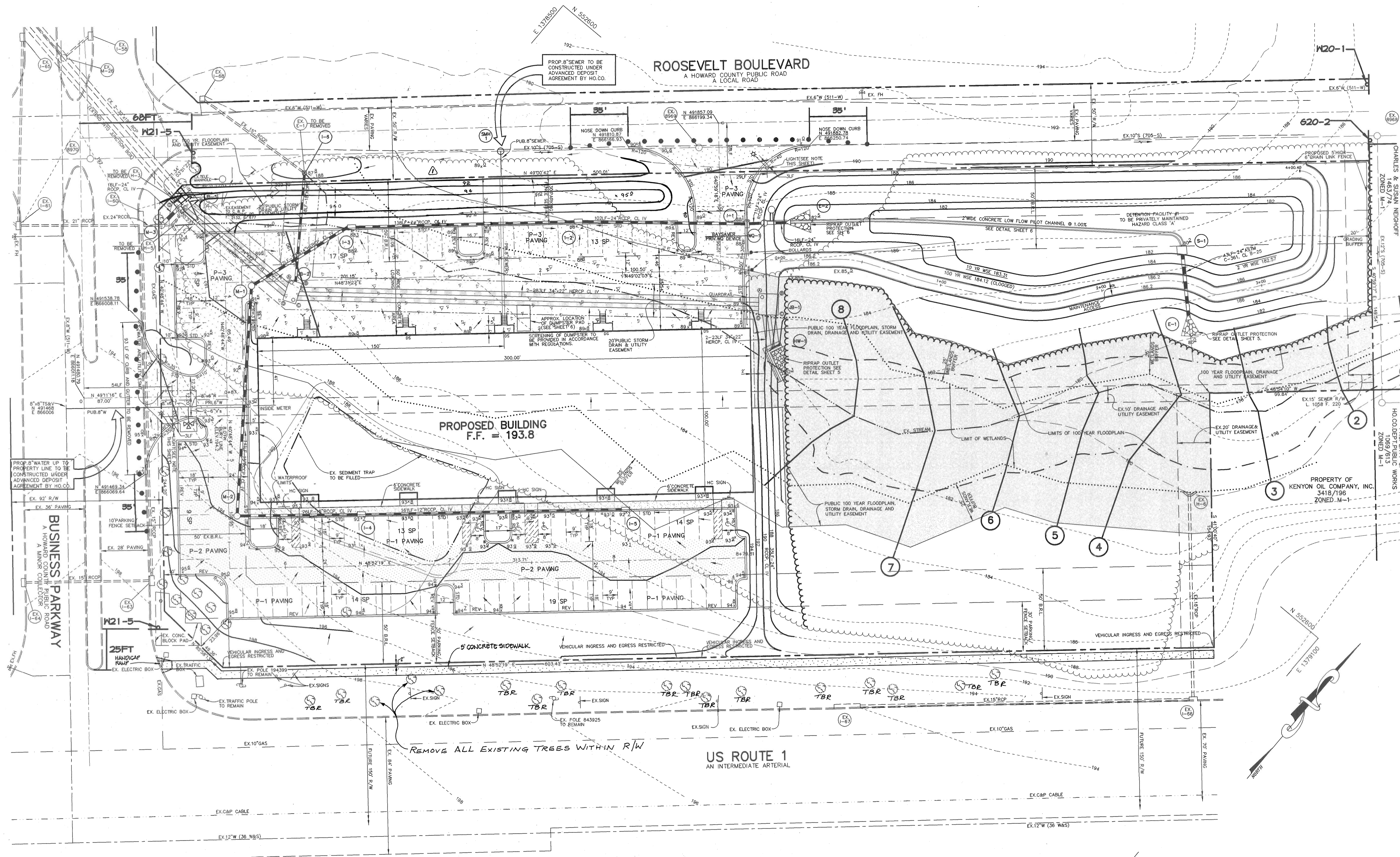
CHRISTOPHER J. REID #19949
SDP-00-144

LEGEND

- CONCRETE
- P-1 PAVING
- P-2 PAVING
- P-3 PAVING
- STD-REV STANDARD CURB - REVERSE CURB
- STREET LIGHT (SINGLE)-SEE NOTE 1

TRAFFIC CONTROL SIGNAGE LEGEND

- SIGN
- TEMPORARY BARRIER
- SHOULDER WORK
W21-5
30" x 30"
- ROAD WORK AHEAD
W20-1
30" x 30"
- END ROAD WORK
G20-2
60" x 24"



FLOODPLAIN CHART

X-SECT	Q ₁₀₀ (CFS)	N.S.E.L. (FT)
1	154.64	174.21
2	154.64	174.04
3	154.64	174.02
4	134.60	174.50
5	134.60	180.48
6	134.60	181.12
7	134.60	182.02
8	134.60	182.60

SNMF #1

SUMMARY CHART DA TO DESIGN POINT			
STORM ALLOWABLE RELEASE RATE (CFS)	2 YR.	10 YR.	100 YR.
DISCHARGE (CFS)	60.48	106.69	-
ELEVATION (FEET)	182.57	183.31	184.12*
STORAGE (ACRE-FEET)	0.287	0.464	0.664

* CLOSED CONDITIONS

- NOTES:**
- STREET LIGHTS TO BE 250 WATT HPS VAPOR PENDANT FIXTURE (CUTOFF) MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE USING 12' ARM, ARM RADIAL TO FILLET. STREET LIGHT ON ROOSEVELT BLVD. IS TO BE LOCATED AT STATION 0+27.85, 29LF TO THE LEFT. STREET LIGHT ON BUSINESS PARKWAY IS TO BE LOCATED AT STATION 0+53.75, 24LF TO THE RIGHT.
 - ALL EXTERIOR LIGHTING SHALL CONFORM TO ZONING REGULATIONS SECTION 134.
 - ALL CURB RADII ARE 5' UNLESS OTHERWISE LABELED.
 - ALL DIMENSIONS ARE TO FACE OF CURB OR BUILDING UNLESS OTHERWISE LABELED.
 - * LIMITS OF STD/REV CURB AND GUTTER.
 - FOR BUILDING LOCATION DIMENSIONS SEE SHEET 1.
 - NO TRUCK LOADING AREA MAY EXTEND INTO THE 50' STRUCTURE AND USE SETBACK
 - TBR = TO BE REMOVED**

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[Signature] DIRECTOR 11/26/01 DATE

[Signature] CHIEF, DEVELOPMENT ENGINEERING DIVISION 10/26/01 DATE

[Signature] CHIEF, DIVISION OF LAND DEVELOPMENT 10/31/01 DATE

5-08-04 **ADDED SIDEWALK ON RTE 1, BERM GRADING** S.E.L.

DATE NO. REVISION

OWNER/DEVELOPER

SDC, INC.
8480 BALTIMORE NATIONAL PIKE
ELLCOTT CITY, MARYLAND 21043
410-465-4244

PROJECT **MEADOWRIDGE BUSINESS PARK PARCEL R-1**
A WAREHOUSE BUILDING

AREA ZONED M-1 PARCEL R-1
TAX MAP 37, BLOCK 23 & TAX MAP 43, BLOCK 4 & 5
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE SITE DEVELOPMENT PLAN

RIEMER MUEGGE & ASSOCIATES INC
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8816 Centre Park Drive, Columbia, MD 21046
tel 410.997.8900 fax 410.997.9282

DATE 10.9.01

DESIGNED BY: CJR

DRAWN BY: DAM/K.E.V.

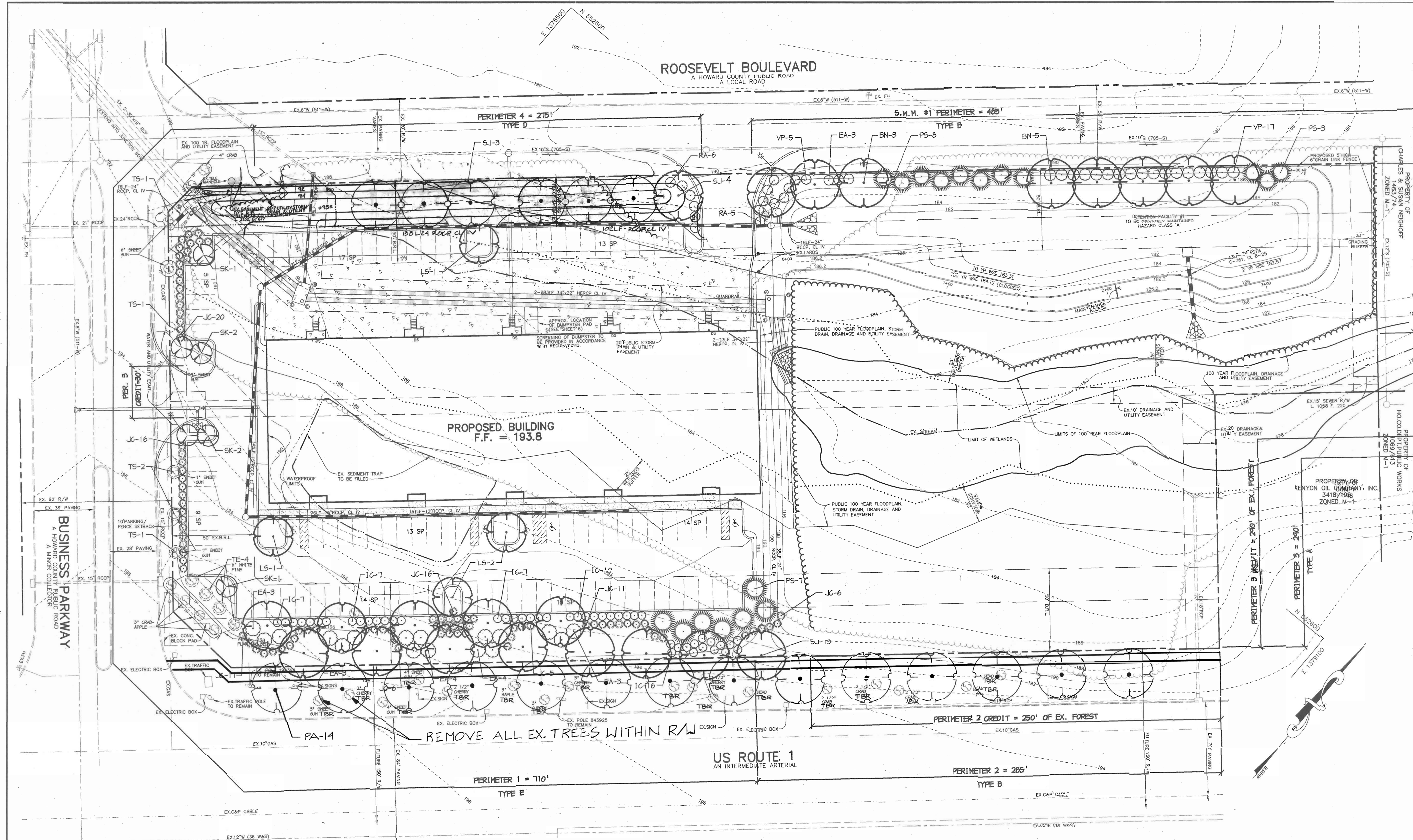
PROJECT NO: 00036/SDP2.DWG

DATE: SEPTEMBER 21, 2001

SCALE: 1" = 30'

DRAWING NO. 2 OF 11

CHRISTOPHER J. REID #19949



PLANTING LEGEND

PROP. SHADE TREE	
PROP. ORNAMENTAL TREE	
PROP. EVERGREEN TREE	
PROP. CONIFEROUS SHRUB	
PROP. BROADLEAF SHRUB	
PROP. TREELINE	
EXISTING PLANTS	
EXISTING TREELINE	
TRANSPLANTED TREE	
TREE PROTECTION FENCE	

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR 11/2/01 DATE

 CHIEF, DEVELOPMENT ENGINEERING DIVISION 10/20/01 DATE

 CHIEF, DIVISION OF LAND DEVELOPMENT 10/31/01 DATE

11/7/03 | ADDED BERM ALONG ROOSEVELT, ADDED RT 1 TREES
 DATE NO. REVISION

OWNER/DEVELOPER
 SDG, INC.
 8480 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21043
 410-465-4244

PROJECT MEADOWRIDGE BUSINESS PARK
 PARCEL R-1
 A WAREHOUSE BUILDING

AREA ZONED M-1 PARCEL R-1
 TAX MAP 37, BLOCK 23 & TAX MAP 43, BLOCK 4 & 5
 1st ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE
LANDSCAPE PLAN

RIEMER MUEGGE & ASSOCIATES INC.
 ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
 8818 Centre Park Drive, Columbia, MD 21045
 tel 410.997.9800 fax 410.997.9282

9.19.01

 DESIGNED BY: RAF
 DRAWN BY: GTH
 PROJECT NO: 40036/LSCP1HWG
 DATE: SEPTEMBER 21, 2001
 SCALE: 1" = 30'
 DRAWING NO. 9 OF 11

PLANT LIST

SYMBOL	QTY.	SCIENTIFIC/ COMMON NAME	SIZE	ROOT	REMARKS
TS	5	TRANSPLANT SHADE TREE	7" CAL.		
TE	4	TRANSPLANT EVERGREEN	6" CAL.		
BN	8	BETULA NIGRA / RIVER BIRCH	2.5" - 3" CAL.	B & B	
LS	4	LIQUIDAMBAR STYRACIFLUA / SWEET GUM	2.5" - 3" CAL.	B & B	
SJ	10	SOPHORA JAPONICA 'REGENT' / REGENT SCHOLAR TREE	2.5" - 3" CAL.	B & B	
PS	18	PINUS STROBUS / WHITE PINE	6 - 7'	B & B	
SK	6	STEWARTIA KOREANA / KOREAN STEWARTIA	5 - 6'	B & B	
EA	20	EUNYMIUS ALATUS 'COMPACTUS' / COMPACT WINGED EUNYMIUS	24" - 30" HT.	CONT.	
IC	21	ILEX CRENATA 'GREEN LUSTER' / GREEN LUSTER JAPANESE HOLLY	24" - 30" HT.	CONT.	
JC	91	JUNIPERUS CHINENSIS 'PFITZERRIANA COMPACTA' / COMPACT PFITZER JUNIPER	24" - 30" HT.	CONT.	
RA	11	RHODODENDRON 'AGLO' / AGLO RHODODENDRON	24" - 30" HT.	CONT.	
VP	22	VIBURNUM Plicatum TOMENTOSUM 'SHASTA' / SHASTA DOUBLEFILE VIBURNUM	24" - 30" HT.	B & B	

DEVELOPER'S/BUILDER'S CERTIFICATE:

I/WE CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

NAME
 10-17-01
 DATE

- GENERAL NOTES:**
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE.
 - FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$23,120.
 - THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY.
 - CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
 - ALL "TRANSPLANTED TREES" SHALL BE REMOVED, BALLED, & BURLAPPED, AND STORED AND REPLANTED AFTER SITE GRADING HAS BEEN COMPLETED AT THE PROPOSED PLANTING LOCATION. TAKE CARE TO MAINTAIN THE TRANSPLANTED TREES ROOTBALL IN A MOIST & COMPACT CONDITION UNTIL REPLANTING.
 - THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.

PLANTING SPECIFICATIONS

- Plants, related material, and operations shall meet the detailed description as given on the plans and as described herein.
- All plant material, unless otherwise specified, shall be nursery grown, uniformly branched, have a vigorous root system, and shall conform to American Association of Nurserymen (AAN) Standards. Plant material shall be healthy, vigorous, free from defects, decay, disfiguring roots, sunscald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable disfigurements. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will not be accepted. All plants shall be freshly dug; no healed-in plants or plants from cold storage will be accepted.
- Unless otherwise specified, all general conditions, planting operations, details and planting specification shall conform to "Landscape Specification Guidelines for Baltimore-Washington Metropolitan Areas", (hereinafter "Landscape Guidelines") approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architect, latest edition, including all agenda.
- Contractor shall be required to guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section of the Landscape Guidelines. Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.
- Contractor shall be responsible for notifying utility companies, utility contractors and "Miss Utility" a minimum of 48 hours prior to beginning any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.
- Protection of existing vegetation to remain shall be accomplished by the temporary installation of 4 foot high snow fence at the drip line.
- Contractor is responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within growing season of completion of site construction.
- Bid shall be based on actual site conditions. No extra payment shall be made for work arising from site conditions differing from those indicated on drawings and specifications.
- Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence.
- All shrubs and groundcover areas shall be planted in continuous prepared planting beds mulched with composted hardwood mulch as detailed and specified except where noted on plans.
- Positive drainage shall be maintained in planting beds (minimum 2 percent slope).
- Planting mix shall be as follows: Deciduous Plants - Two parts topsoil, one part well-rotted cow or horse manure. Add 3 lbs of standard fertilizer per cubic yard of planting mix. Evergreen Plants - two parts topsoil, one part humus or other approved organic material. Add 3 lbs. of evergreen (acidic) fertilizer per cubic yard of planting mix. Topsoil shall conform to the Landscape Guidelines.
- Weed Control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. Caution: Be sure to carefully check the chemical used to assure its adaptability to the specific groundcover to be treated.
- Mulch: Groundcover beds should be mulched with minimum 2 inches of shredded composted hardwood, or as specified on the details, whichever is greater.
- All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded and seeded.
- This plan is intended for landscape use only. See other plan sheets for more information on grading, sediment control, layout, etc.

PERIMETER	ADJACENT TO ROADWAYS			ADJACENT TO PERIM. PROPERTIES
	1	2	4	3
LANDSCAPE TYPE	E	B	D	A
LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER	710'±	285'±	275'±	290'±
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	FOREST 250'	NO	FOREST 240'
CREDIT FOR WALL, FENCE, BERM OR DRIVE AISLE (YES/NO/LINEAR FEET)	AISLE 30'	NO	BERM 275'±	NO
LINEAR FEET REMAINING	680'±	35'±	0'±	290'±
NUMBER OF PLANTS REQUIRED				
SHADE TREES	17	1		-
EVERGREEN TREES	-	1		-
SHRUBS	170	-		-
NUMBER OF PLANTS PROVIDED				
SHADE TREES	12	1	7	-
EVERGREEN TREES	8*	-	-	-
SMALL FLOWERING TREES	4**	-	6	-
SHRUBS	160	-	-	-

** (4) ORNAMENTAL TREES SUBSTITUTED FOR (2) SHADE TREES TO ACCENT THE PARKING LOT & TO AVOID OVERGROWING OF SHADE TREES.
 * (2) EVERGREEN TREES SUBSTITUTED FOR (10) SHRUBS TO COMPLETE SCREEN PLANTING AT WEST PROPERTY CORNER.
 (6) EVERGREEN TREES SUBSTITUTED FOR (3) SHADE TREES TO SCREEN CORNER OF PARKING LOT.

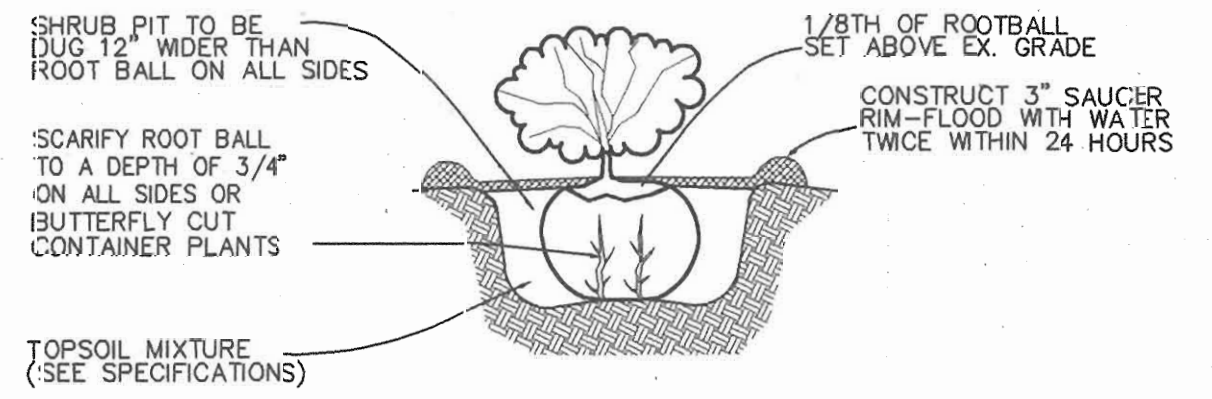
STREET TREE PLANT LIST					
KEY	QTY.	SCIENTIFIC/COMMON NAME	SIZE	ROOT	SPACING
PA	14	PLATANUS XACERIFOLIA LONDON PLANETREE	2.5'-3" CAL.	B&B	PLANT AS SHOWN

SCHEDULE B - PARKING LOT INTERNAL LANDSCAPING	
PARKING LOT	1
NUMBER OF PARKING SPACES	104
NUMBER OF SHADE TREES / ISLANDS REQUIRED (1/20 SP.)	5
NUMBER OF TREES PROVIDED	
SHADE TREES	4
OTHER TREES (2:1 SUBSTITUTION)	2*
NUMBER OF ISLANDS PROVIDED	4

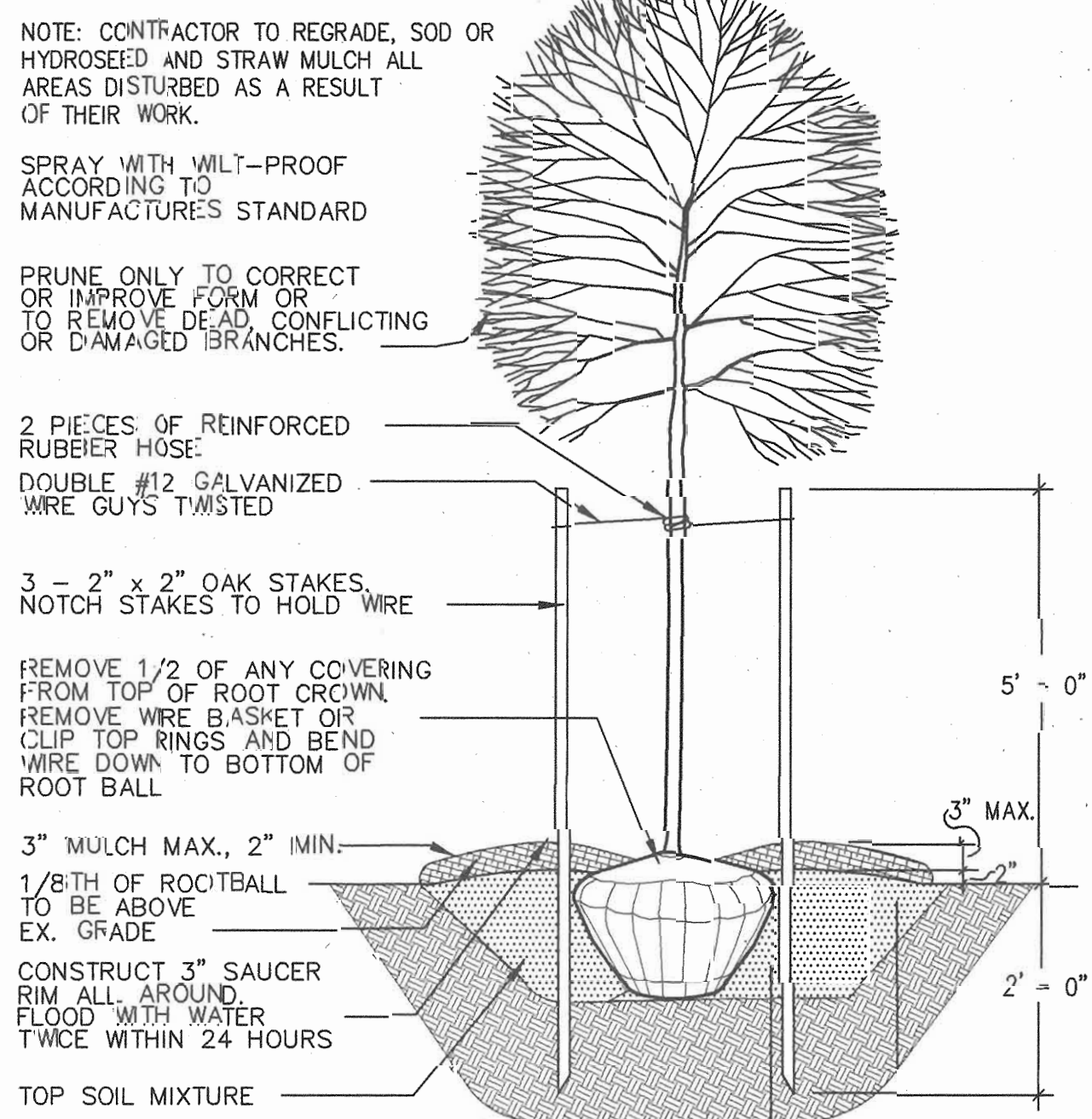
* (2) ORNAMENTAL TREES SUBSTITUTED FOR (1) SHADE TREE BECAUSE (2) EXISTING SHADE TREES ARE CLOSE TO THE LANDSCAPE ISLANDS.

SCHEDULE D - STORMWATER MANAGEMENT AREA LANDSCAPING	
S.W.M. POND PERIMETER	1
LANDSCAPE TYPE	B
LINEAR FEET OF TOTAL PERIMETER	485'
CREDIT FOR LINEAR FEET SHARED ALONG PERIMETER EDGE	105'
LINEAR FEET OF REMAINING PERIMETER	380'
CREDIT FOR EX. VEGETATION (NO OR YES & %)	NO
CREDIT FOR OTHER LANDSCAPING (NO OR YES & %)	NO
NUMBER OF TREES REQUIRED:	
SHADE TREES	8
EVERGREEN TREES	10
NUMBER OF PLANTS PROVIDED	
SHADE TREES	8
EVERGREEN TREES (2:1 SUBSTITUTION, 50% MAX.)	11**
OTHER TREES (2:1 SUBSTITUTION, 50% MAX.)	
SHRUBS (10:1 SUBSTITUTION, 25% MAX.)	30**

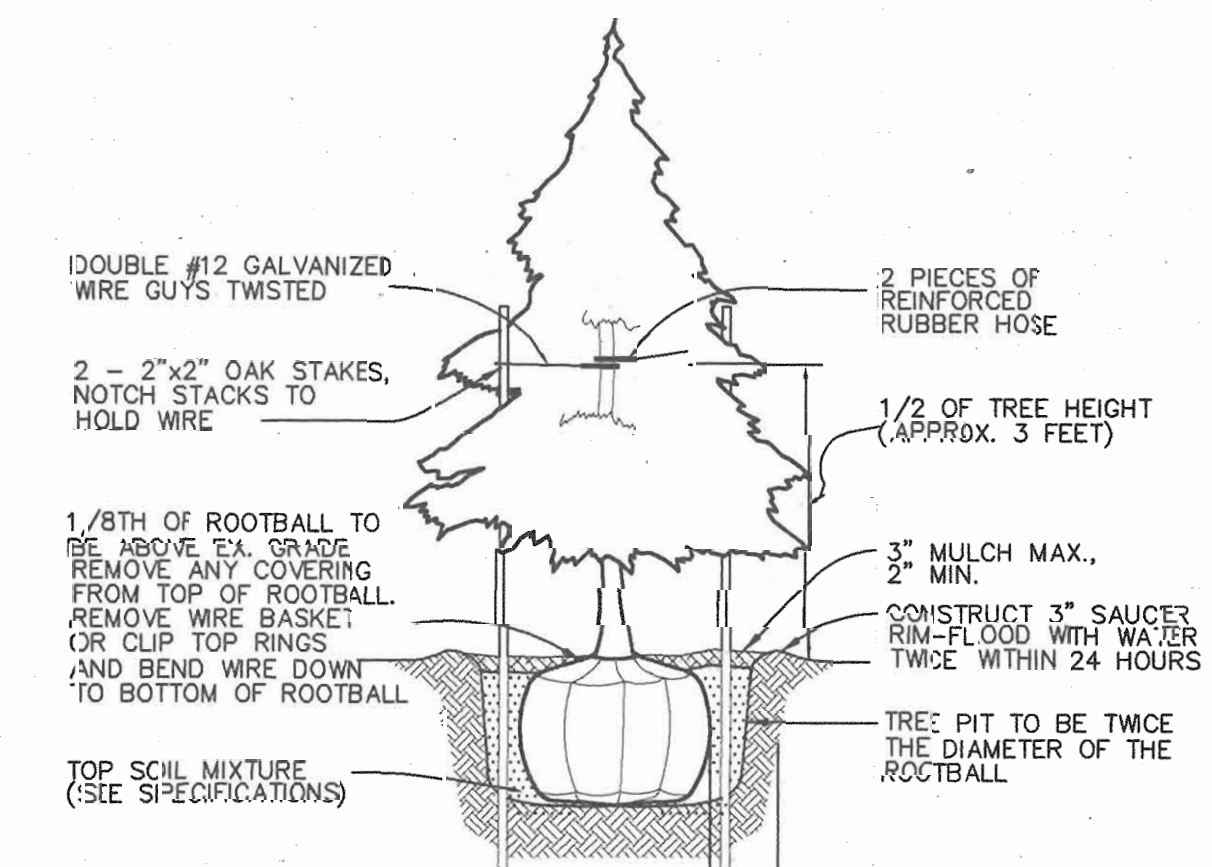
** NO LANDSCAPE REQUIREMENT BETWEEN S.W.M. POND & ADJACENT NON-RESIDENTIAL PROPERTIES IN AN M-1 ZONE.



SHRUB PLANTING DETAIL NOT TO SCALE



B&B TREE PLANTING DETAIL NOT TO SCALE



EVERGREEN PLANTING DETAIL NOT TO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR: *[Signature]* 11/2/01 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* 11/2/01 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* 11/2/01 DATE

REVISION: 1/16/01 MODIFIED SCHEDULES, ADDED STREET TREE LIST

OWNER/DEVELOPER: SDG, INC. 6430 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21043 410-465-4244

PROJECT: MEADOWRIDGE BUSINESS PARK PARCEL R-1 A WAREHOUSE BUILDING

AREA: ZONE M-1 PARCEL R-1 TAX MAP 37, BLOCK 23 & TAX MAP 43, BLOCK 4 & 5 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: LANDSCAPE SCHEDULES & DETAILS

RIEMER MUEGGE & ASSOCIATES INC. ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING 8818 Centre Park Drive, Columbia, MD 21045 tel 410.997.8900 fax 410.997.9282

DESIGNED BY: RAF

DRAWN BY: GTH

PROJECT NO: 00036/LSCP2.DWG

DATE: SEPTEMBER 21, 2001

SCALE:

DRAWING NO. 10 OF 11

DAVID T. DOWS #830

P:\PROJECT\00036\SDP2.DWG Wed Sep 19 12:01:23 2001 RIEMER MUEGGE & ASSOCIATES A DIVISION OF PHRBA

MEADOWRIDGE ROAD

DORSEY ROAD

WASHINGTON BLVD.

MEADOWRIDGE ROAD

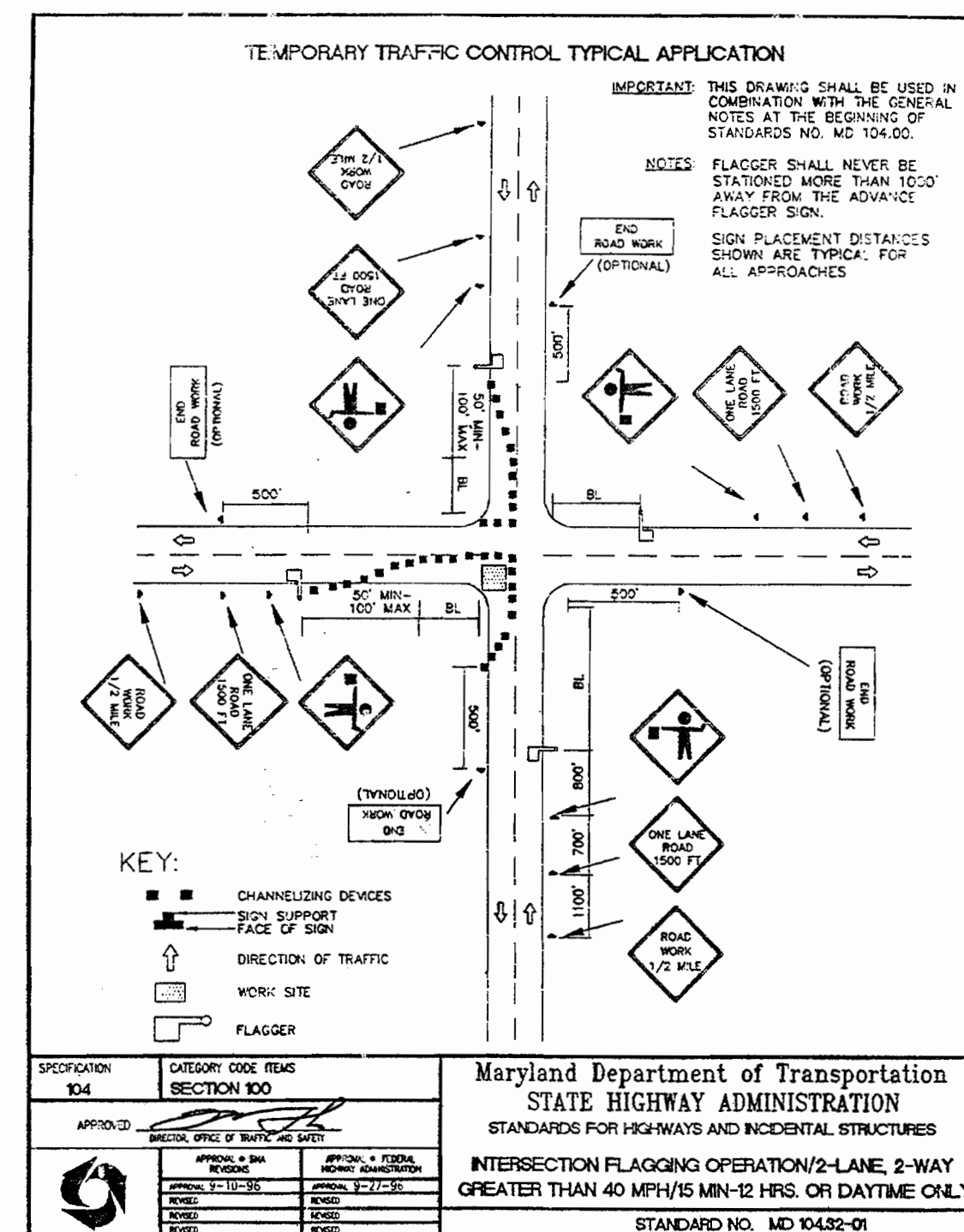
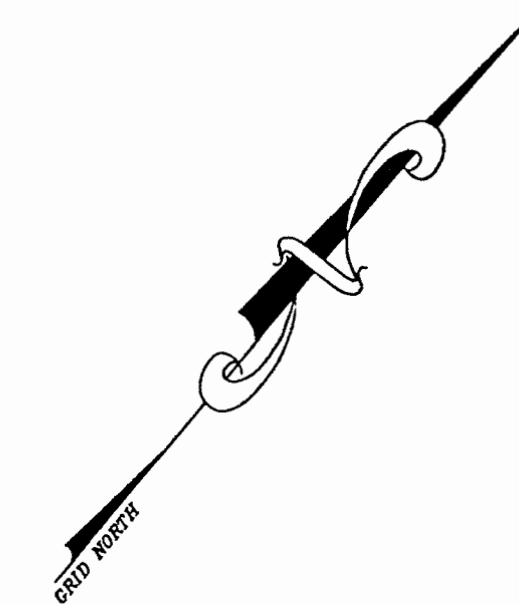
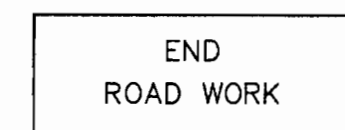
WASHINGTON BLVD.

EXISTING STRIPING PLAN
SCALE : 1" = 50'

PROPOSED STRIPING PLAN
SCALE : 1" = 50'

TRAFFIC CONTROL
SIGNAGE LEGEND

SIGN
TEMPORARY BARRIER



APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

John B. Bantz 11/2/01
DIRECTOR DATE

Michael J. ... 10/20/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy ... 10/31/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE NO. REVISION

OWNER/DEVELOPER

SDC, INC.
8480 BALTIMORE NATIONAL PIKE
ELLCOTT CITY, MARYLAND 21043
410-465-4244

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL R-1
A WAREHOUSE BUILDING

AREA ZONED M-1 PARCEL MAP R-1
TAX MAP 37, BLOCK 23 & TAX MAP 43, BLOCK 4 & 5
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE STRIPING PLAN

RIEMER MUEGGE & ASSOCIATES INC
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21045
tel 410.997.8800 fax 410.997.8282

10.9.01
DATE

DESIGNED BY : CJR

DRAWN BY: DAM

PROJECT NO : 00036/
TRAFCONT.DWG

DATE : SEPTEMBER 21, 2001

SCALE : 1" = 50'

DRAWING NO. 11 OF 11

AS-BUILT
Amiee Chenier
AIMEE C. REMINGTON #29923
10.12.01
DATE
CHRISTOPHER J. REID #19949
AS-BUILT

PLANTING SPECIFICATIONS

- Plants, related material, and operations shall meet the detailed description as given on the plans and as described herein.
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- Mulch: Groundcover beds should be mulched with minimum 2 inches of shredded composted hardwood, or as specified on the details, whichever is greater.
- All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded and seeded.
- This plan is intended for landscape use only. See other plan sheets for more information on grading, sediment control, layout, etc.

SCHEDULE A - PERIMETER LANDSCAPE EDGE					
PERIMETER	ADJACENT TO ROADWAYS			ADJACENT TO PERIM. PROPERTIES	
	1	2	4	3	
LANDSCAPE TYPE	E	B	D	A	
LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER	710'±	285'±	275'±	290'±	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	FOREST 250'	NO	FOREST 290'	
CREDIT FOR WALL, FENCE, BERM OR DRIVE AISLE (YES/NO/LINEAR FEET)	AISLE 30'	NO	BERM 275'±	NO	
LINEAR FEET REMAINING	680'±	35'±	0'±	290'±	
NUMBER OF PLANTS REQUIRED					
SHADE TREES	17	1			
EVERGREEN TREES	-	1			
SHRUBS	170	-			
NUMBER OF PLANTS PROVIDED					
SHADE TREES	12	1			
EVERGREEN TREES	8**	1	7		
SMALL FLOWERING TREES	4**	-			
SHRUBS	160	-	6		

** (4) ORNAMENTAL TREES SUBSTITUTED FOR (2) SHADE TREES TO ACCENT THE PARKING LOT & TO AVOID OVERGROWING OF SHADE TREES.
 * (2) EVERGREEN TREES SUBSTITUTED FOR (10) SHRUBS TO COMPLETE SCREEN PLANTING AT WEST PROPERTY CORNER.
 (6) EVERGREEN TREES SUBSTITUTED FOR (3) SHADE TREES TO SCREEN CORNER OF PARKING LOT.

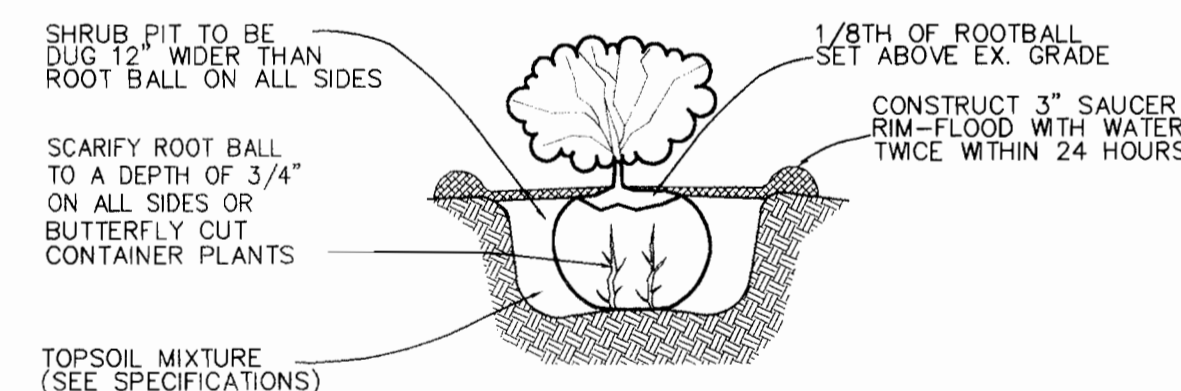
STREET TREE PLANT LIST					
KEY	QTY.	SCIENTIFIC/COMMON NAME	SIZE	ROOT	SPACING
PA	14	PLATANUS XACERIFOLIA LONDON PLANE TREE	2.5"-3" CAL.	B&B	PLANT AS SHOWN

SCHEDULE B - PARKING LOT INTERNAL LANDSCAPING	
PARKING LOT	1
NUMBER OF PARKING SPACES	104
NUMBER OF SHADE TREES / ISLANDS REQUIRED (1/20 SP.)	5
NUMBER OF TREES PROVIDED	
SHADE TREES	4
OTHER TREES (2:1 SUBSTITUTION)	2*
NUMBER OF ISLANDS PROVIDED	4

* (2) ORNAMENTAL TREES SUBSTITUTED FOR (1) SHADE TREE BECAUSE (2) EXISTING SHADE TREES ARE CLOSE TO THE LANDSCAPE ISLANDS.

SCHEDULE D - STORMWATER MANAGEMENT AREA LANDSCAPING	
S.W.M. POND PERIMETER	1
LANDSCAPE TYPE	B
LINEAR FEET OF TOTAL PERIMETER	485'
CREDIT FOR LINEAR FEET SHARED ALONG PERIMETER EDGE	105'*
LINEAR FEET OF REMAINING PERIMETER	380'
CREDIT FOR EX. VEGETATION (NO OR YES & %)	NO
CREDIT FOR OTHER LANDSCAPING (NO OR YES & %)	NO
NUMBER OF TREES REQUIRED	
SHADE TREES	8
EVERGREEN TREES	10
NUMBER OF PLANTS PROVIDED	
SHADE TREES	8
EVERGREEN TREES (2:1 SUBSTITUTION, 50% MAX.)	11**
OTHER TREES (2:1 SUBSTITUTION, 50% MAX.)	
SHRUBS (10:1 SUBSTITUTION, 25% MAX.)	30**

* NO LANDSCAPE REQUIREMENT BETWEEN S.W.M. POND & ADJACENT NON-RESIDENTIAL PROPERTIES IN AN M-1 ZONE.



NOTE: ALL CONTAINERS OR BURLAP SHALL BE REMOVED BEFORE INSTALLATION.
SHRUB PLANTING DETAIL
 NOT TO SCALE

NOTE: CONTRACTOR TO REGRADE, SOD OR HYDROSEED AND STRAW MULCH ALL AREAS DISTURBED AS A RESULT OF THEIR WORK.

SPRAY WITH WILT-PROOF ACCORDING TO MANUFACTURER'S STANDARD

PRUNE ONLY TO CORRECT OR IMPROVE FORM OR TO REMOVE DEAD, CONFLICTING OR DAMAGED BRANCHES.

2 PIECES OF REINFORCED RUBBER HOSE
 DOUBLE #12 GALVANIZED WIRE GUYS TWISTED

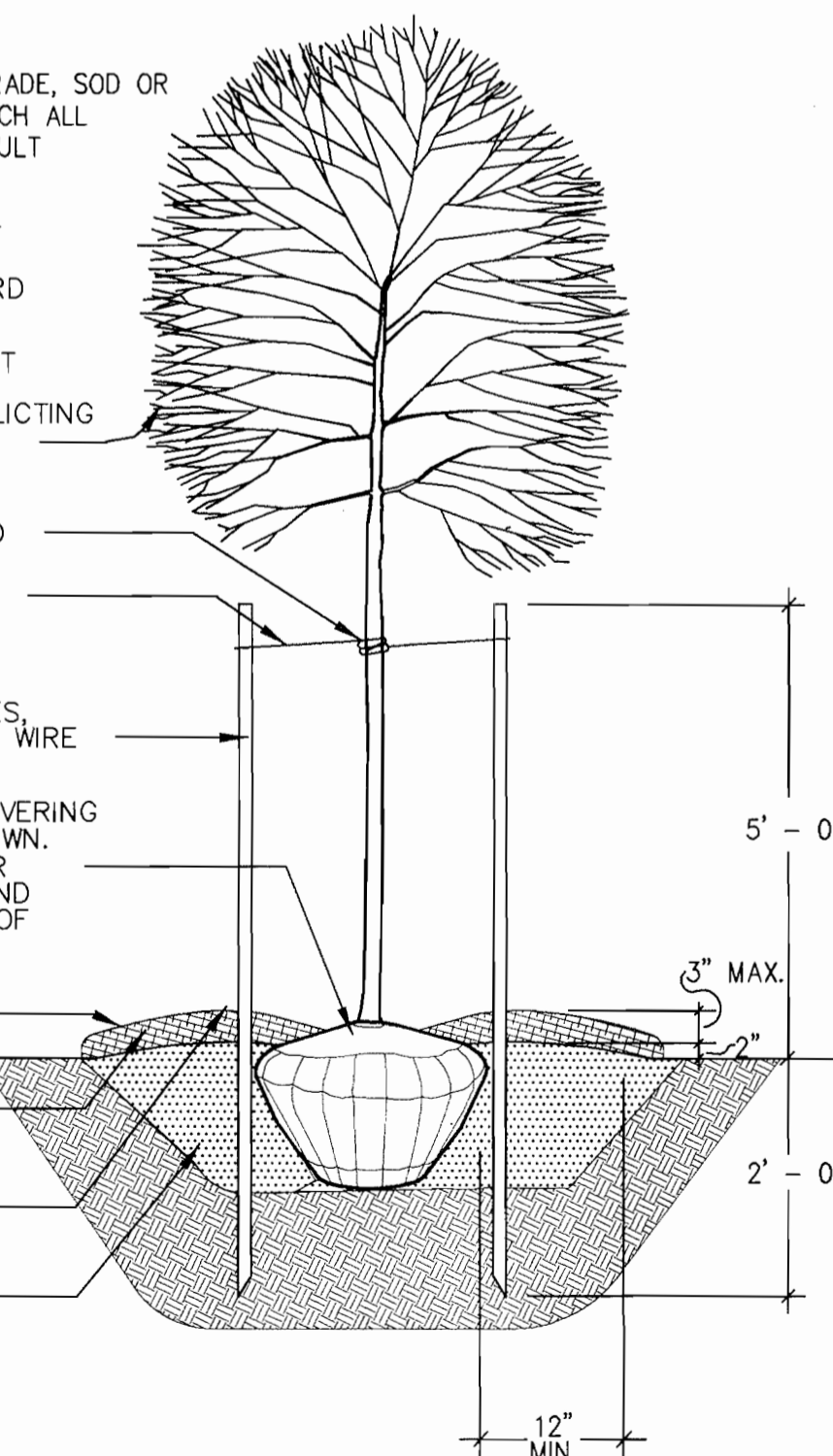
3 - 2" x 2" OAK STAKES, NOTCH STAKES TO HOLD WIRE

REMOVE 1/2 OF ANY COVERING FROM TOP OF ROOT CROWN. REMOVE WIRE BASKET OR CLIP TOP RINGS AND BEND WIRE DOWN TO BOTTOM OF ROOT BALL

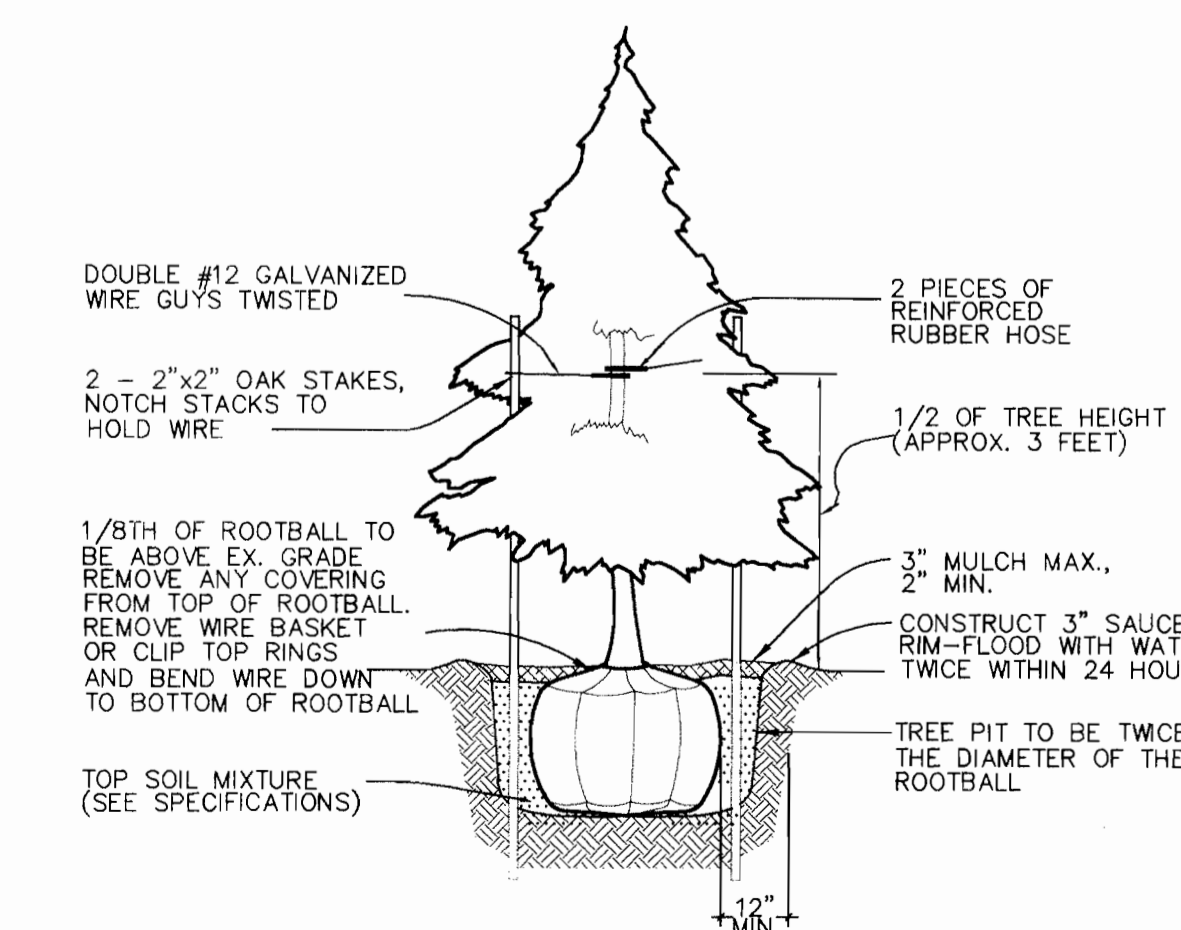
3" MULCH MAX., 2" MIN.
 1/8TH OF ROOTBALL TO BE ABOVE EX. GRADE

CONSTRUCT 3" SAUCER RIM ALL AROUND FLOOD WITH WATER TWICE WITHIN 24 HOURS

TOP SOIL MIXTURE



B&B TREE PLANTING DETAIL
 NOT TO SCALE



EVERGREEN PLANTING DETAIL
 NOT TO SCALE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>Logan Burt</i> DIRECTOR	11/2/01 DATE
<i>Chris DeCunzio</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	10/26/01 DATE
<i>Cindy Hamilton</i> CHIEF, DIVISION OF LAND DEVELOPMENT	10/21/01 DATE

11/1/03 | MODIFIED SCHEDULES, ADDED STREET TREE LIST
 DATE NO. REVISION

OWNER/DEVELOPER
 SDC, INC.
 8480 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21043
 410-465-4244

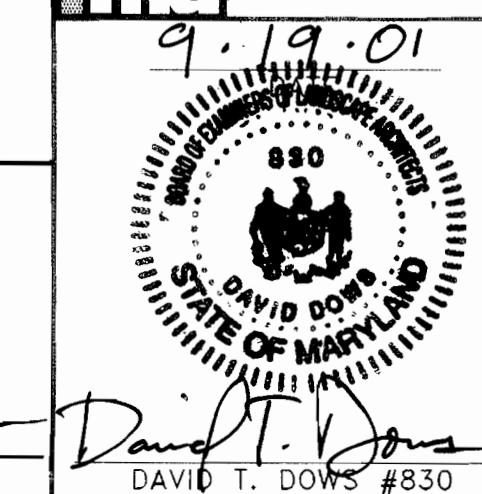
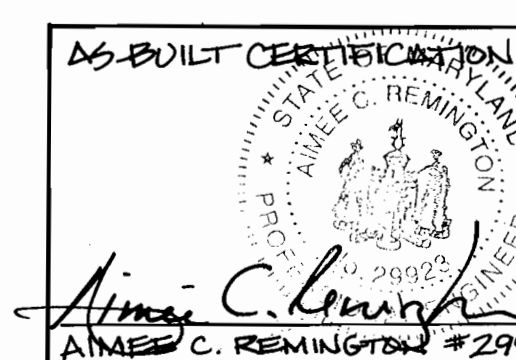
PROJECT MEADOWRIDGE BUSINESS PARK
 PARCEL R-1
 A WAREHOUSE BUILDING

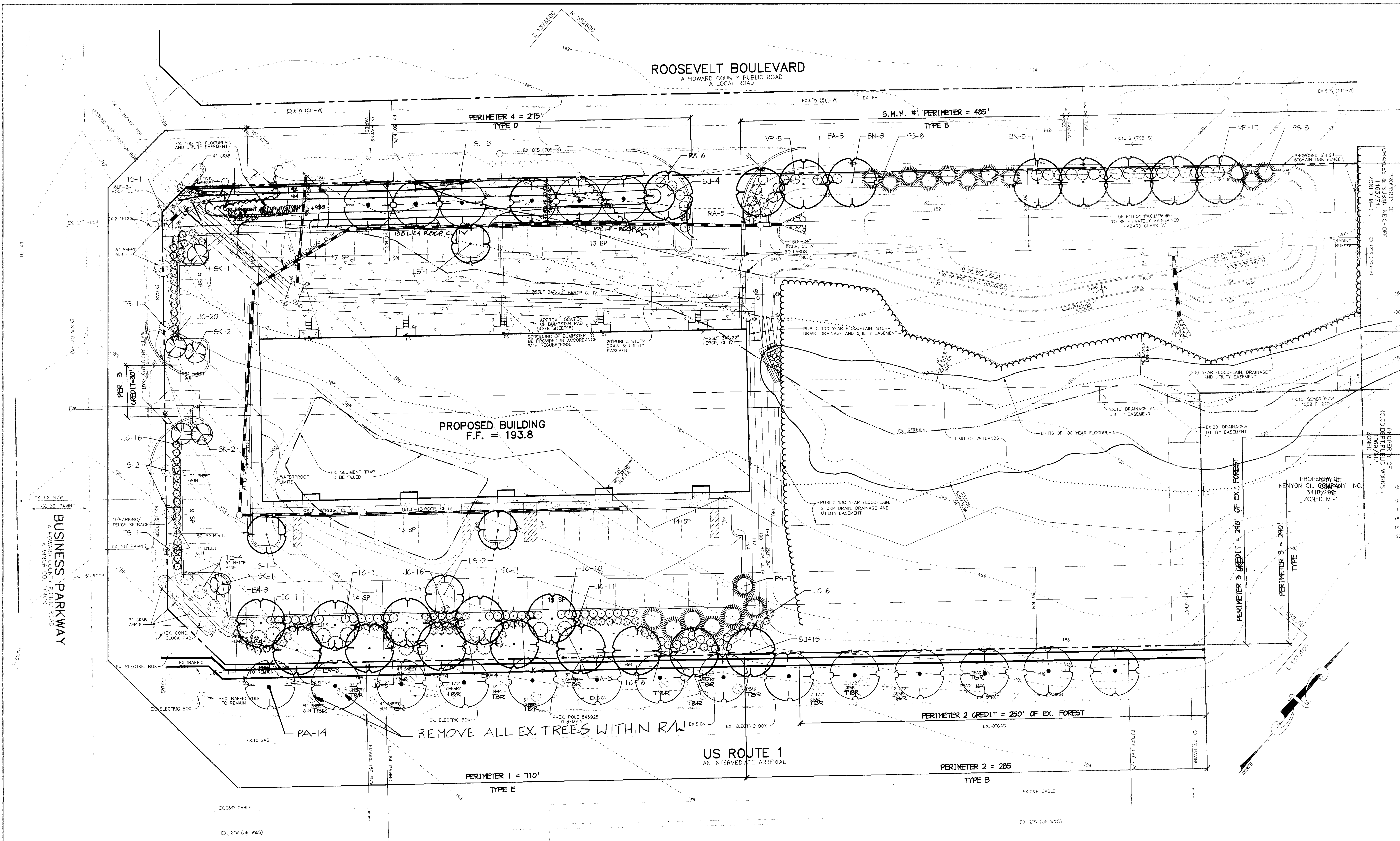
AREA ZONED M-1 PARCEL R-1
 TAX MAP 37, BLOCK 23 & TAX MAP 43, BLOCK 4 & 5
 1st ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE **LANDSCAPE SCHEDULES & DETAILS**

RIEMER MUEGGE & ASSOCIATES INC.
 ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
 8816 Centre Park Drive, Columbia, MD 21045
 tel 410.997.8900 fax 410.997.9282

DESIGNED BY : RAF
DRAWN BY: GTH
PROJECT NO : 00036/ LSCP2.DWG
DATE : SEPTEMBER 21, 2001
SCALE :
DRAWING NO. 10 OF 11





PLANTING LEGEND

PROP. SHADE TREE	
PROP. ORNAMENTAL TREE	
PROP. EVERGREEN TREE	
PROP. CONIFEROUS SHRUB	
PROP. BROADLEAF SHRUB	
PROP. TREELINE	
EXISTING PLANTS	
EXISTING TREELINE	
TRANSPLANTED TREE	
TREE PROTECTION FENCE	

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Paul A. Smith 11/2/01
DIRECTOR DATE

Chris Deane 10/26/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Andy Kanaris 10/31/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

11/7/03 | ADDED BERM ALONG ROOSEVELT, ADDED RT 1 TREES
DATE NO. REVISION

OWNER/DEVELOPER
SDC, INC.
8480 BALTIMORE NATIONAL PIKE
ELLCOTT CITY, MARYLAND 21043
410-465-4244

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL R-1
A WAREHOUSE BUILDING

AREA ZONED M-1 PARCEL R-1
TAX MAP 37, BLOCK 23 & TAX MAP 43, BLOCK 4 & 5
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE LANDSCAPE PLAN

RIEMER MUEGGE & ASSOCIATES INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21045
tel 410.997.8900 fax 410.997.9282

DESIGNED BY: RAF
DRAWN BY: GTH
PROJECT NO: 00036/
LSCP1.DWG
DATE: SEPTEMBER 21, 2001
SCALE: 1" = 30'
DRAWING NO. 9 OF 11

Paul T. Dows
DAVID T. DOWS #830

PLANT LIST

SYMBOL	QTY.	SCIENTIFIC/COMMON NAME	SIZE	ROOT	REMARKS
TS	5	TRANSPLANT SHADE TREE	7" CAL.		
TE	4	TRANSPLANT EVERGREEN	6" CAL.		
BN	8	BETULA NIGRA / RIVER BIRCH	2.5" - 3" CAL.	B & B	
LS	4	LIQUIDAMBAR STYRACIFLUA / SWEET GUM	2.5" - 3" CAL.	B & B	
SJ	20	SOPHORA JAPONICA 'REGEN' / REGENT SCHOLAR TREE	2.5" - 3" CAL.	B & B	
PS	18	PINUS STROBUS / WHITE PINE	6 - 7'	B & B	
SK	6	STEWARTIA KOREANA / KOREAN STEWARTIA	5 - 6'	B & B	
EA	20	EUONYMUS ALATUS 'COMPACTUS' / COMPACT WINGED EUONYMUS	24" - 30" HT.	CONT.	
IC	47	ILEX CRENATA 'GREEN LUSTER' / GREEN LUSTER JAPANESE HOLLY	24" - 30" HT.	CONT.	
JC	91	JUNIPERUS CHINENSIS 'PFITZERIANA COMPACTA' / COMPACT PFITZER JUNIPER	24" - 30" HT.	CONT.	
RA	11	RHOODODENDRON 'AGLO' / AGLO RHOODODENDRON	24" - 30" HT.	CONT.	
VP	22	TOMENTOSUM 'SHASTA' / SHASTA DOUBLEFILE VIBURNUM	24" - 30" HT.	B & B	

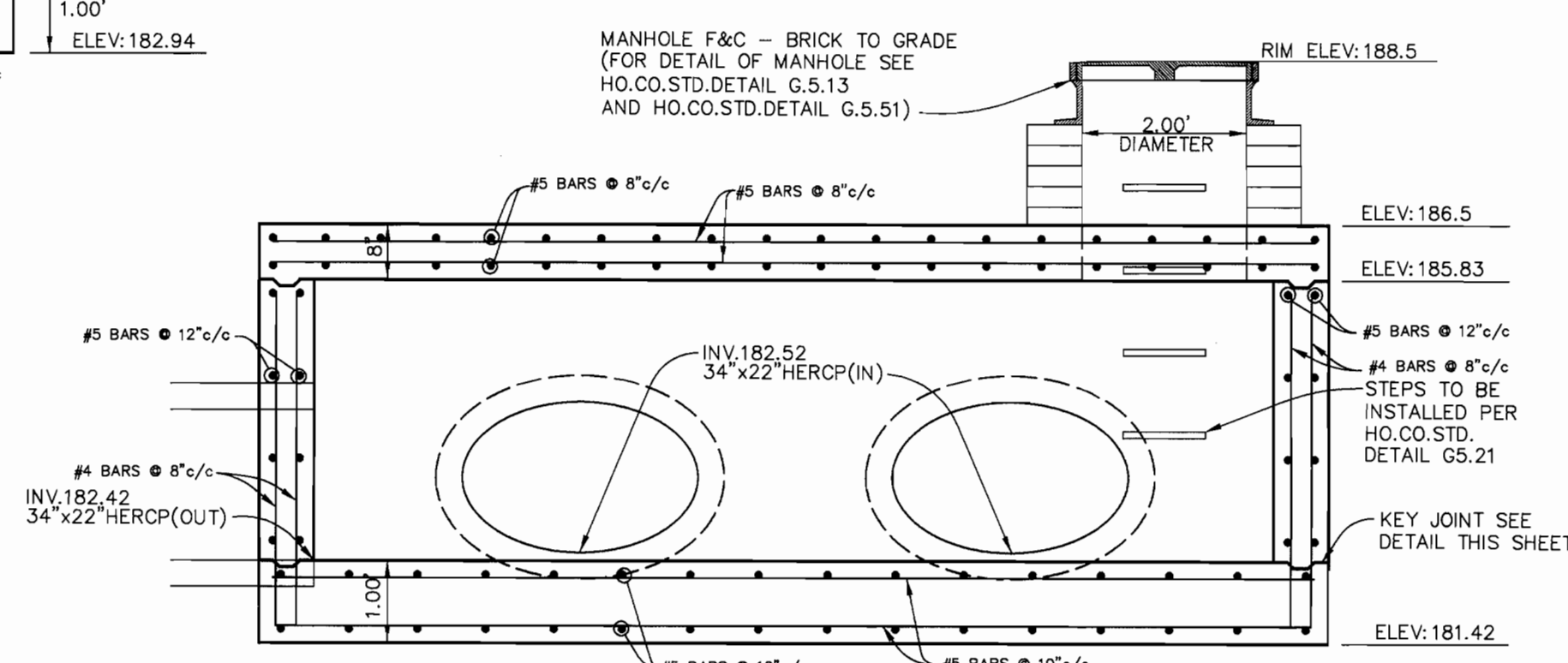
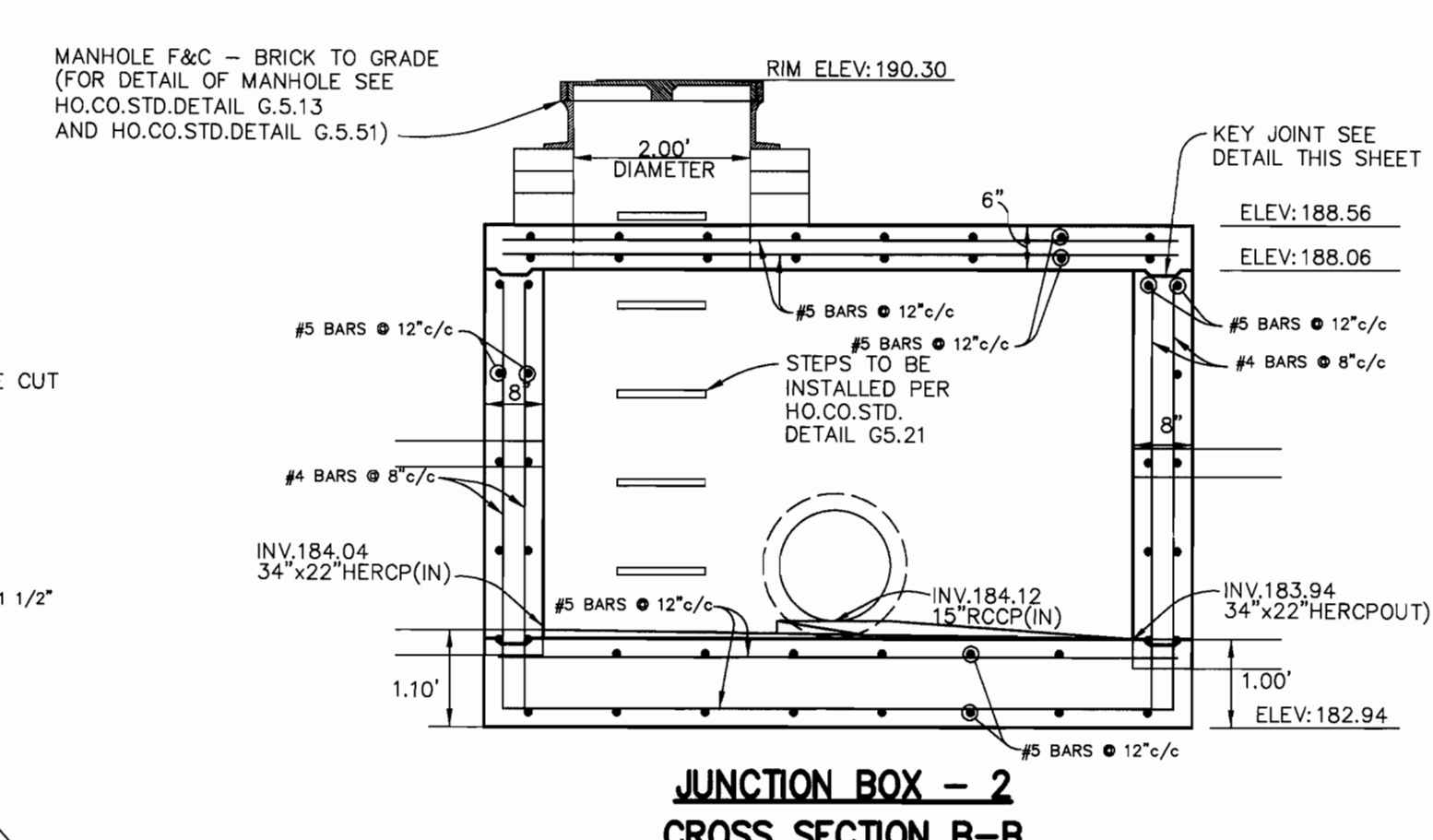
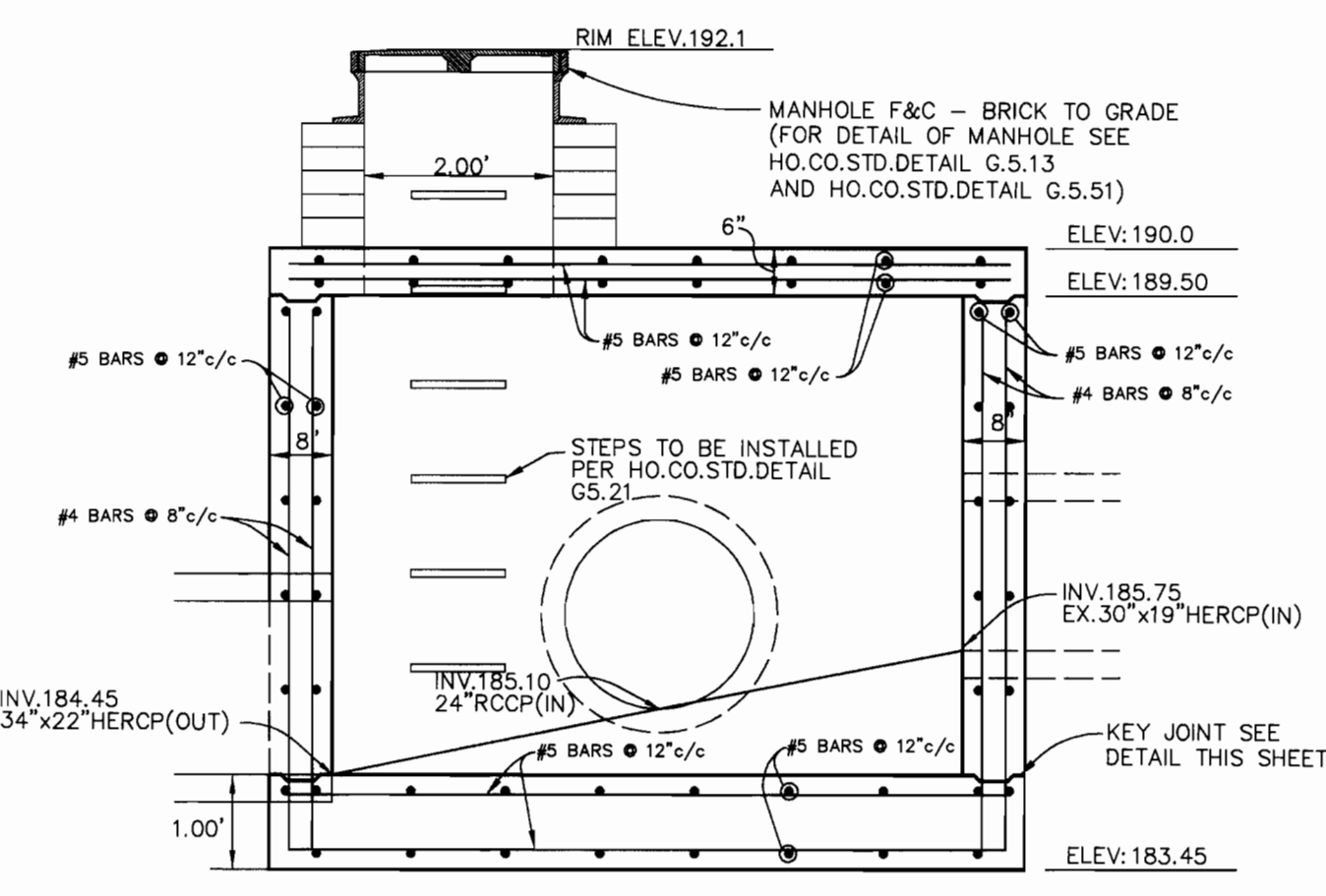
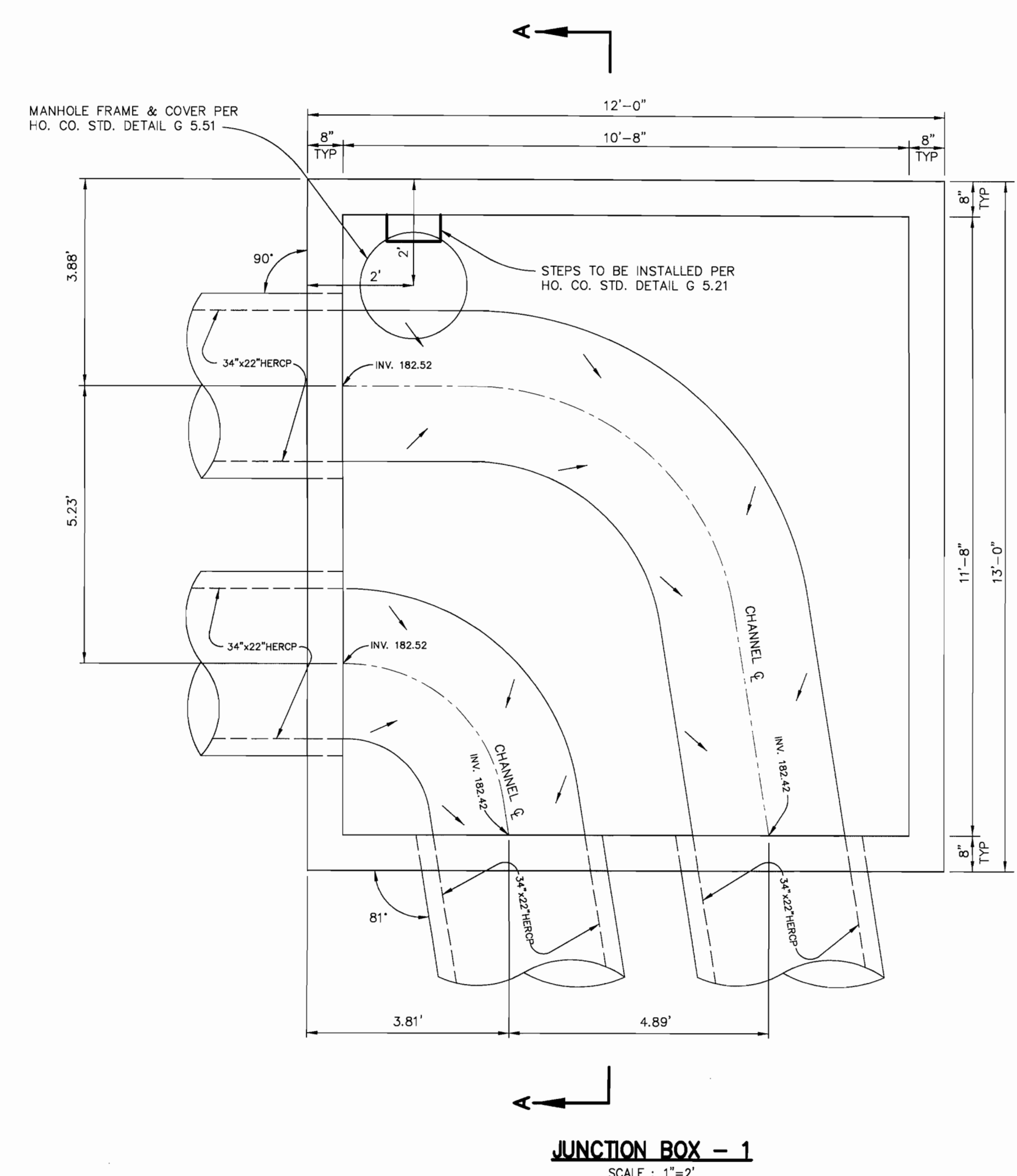
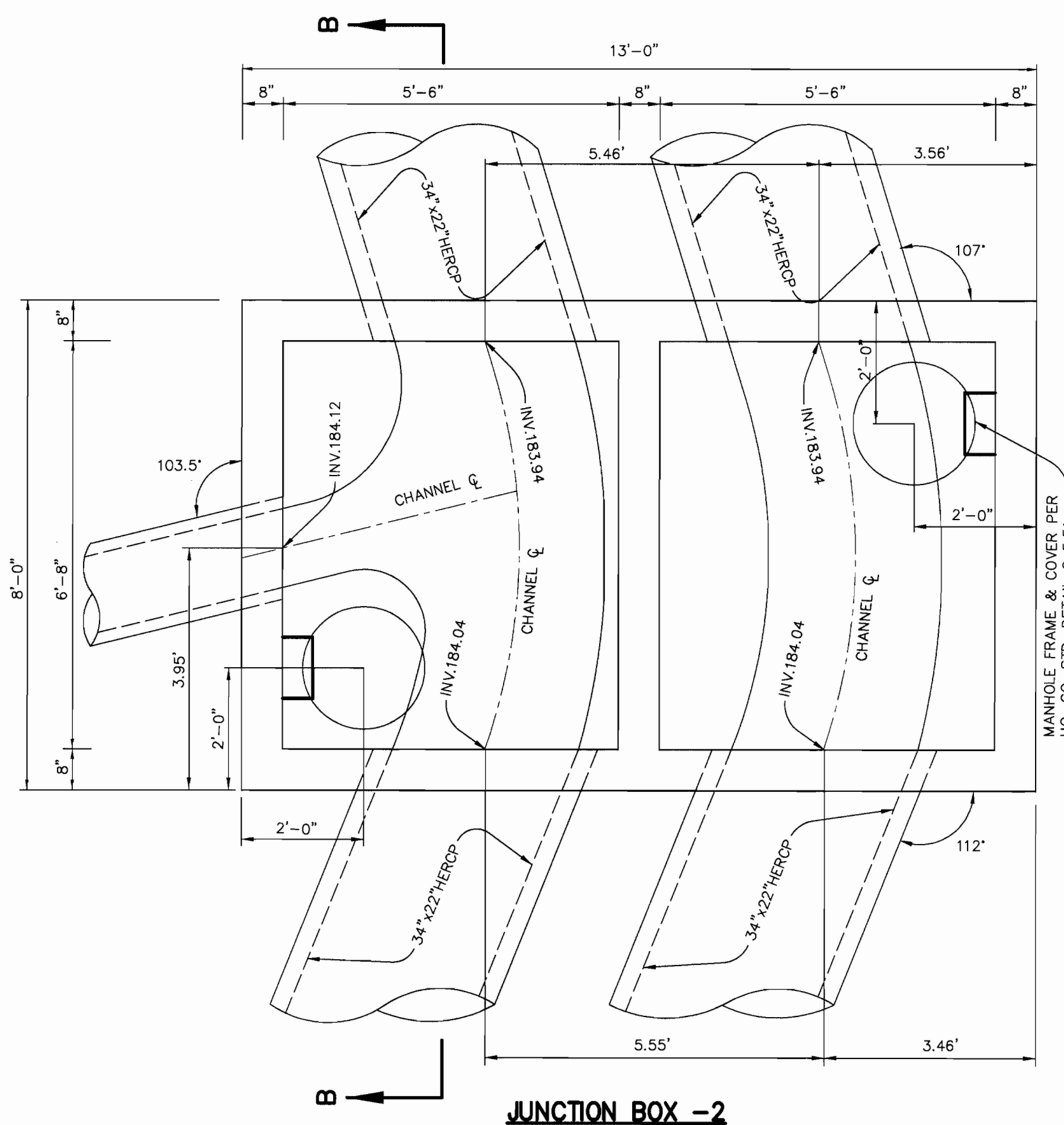
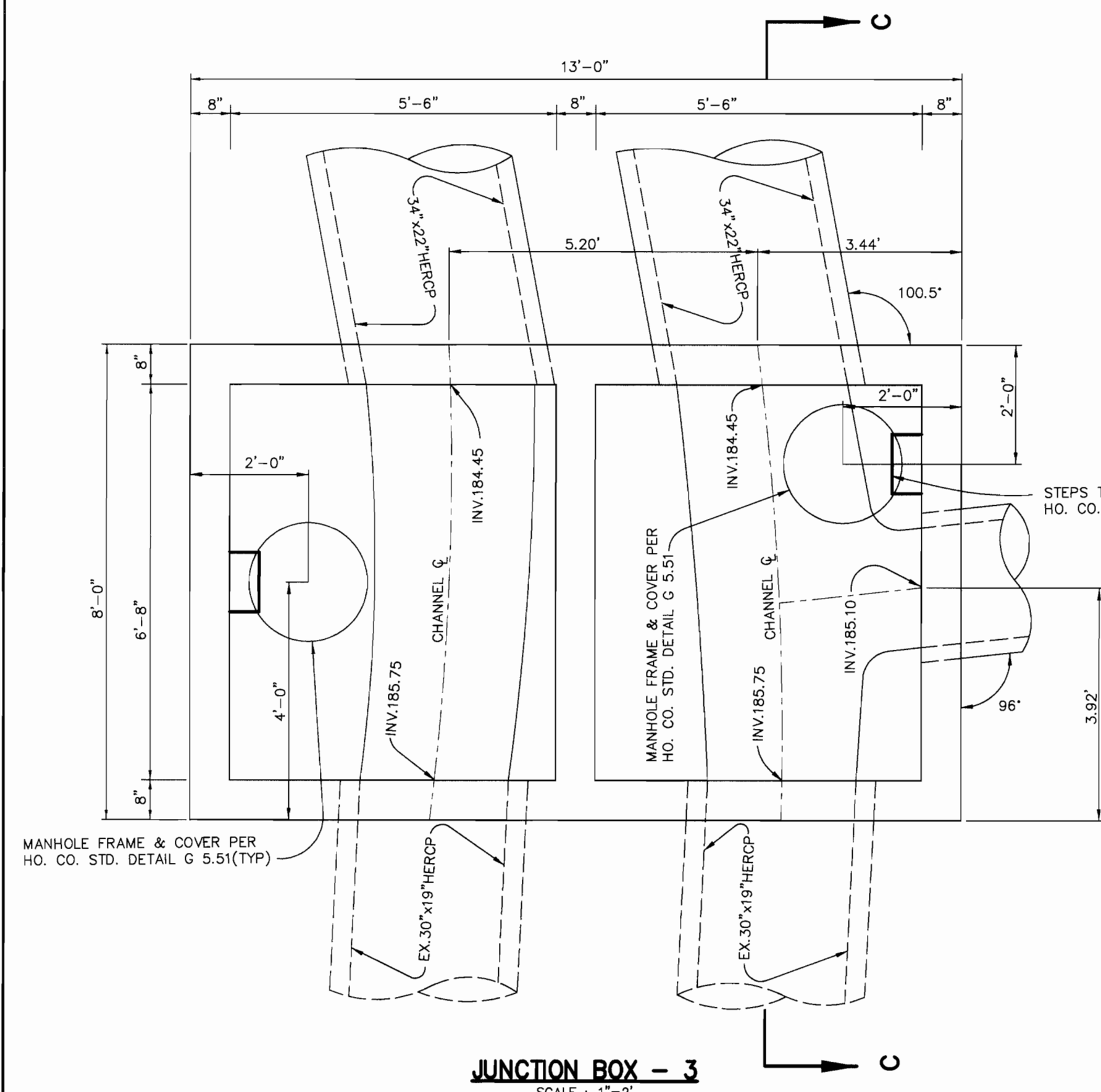
AS-BUILT CERTIFICATION
STATE OF MARYLAND
DAVID T. DOWS #830
10-12-05
DATE

DEVELOPER'S/BUILDER'S CERTIFICATE
I/WE CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

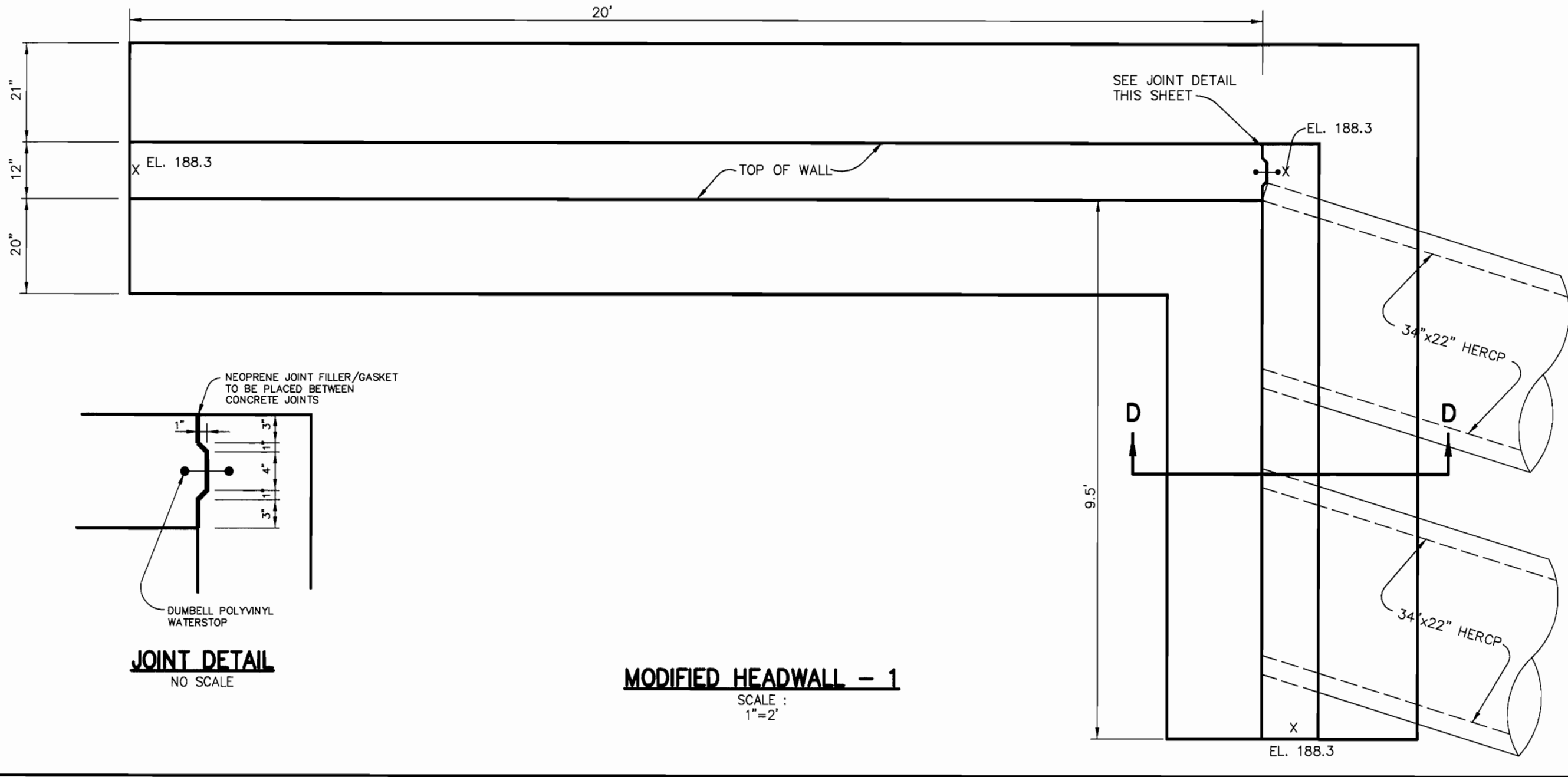
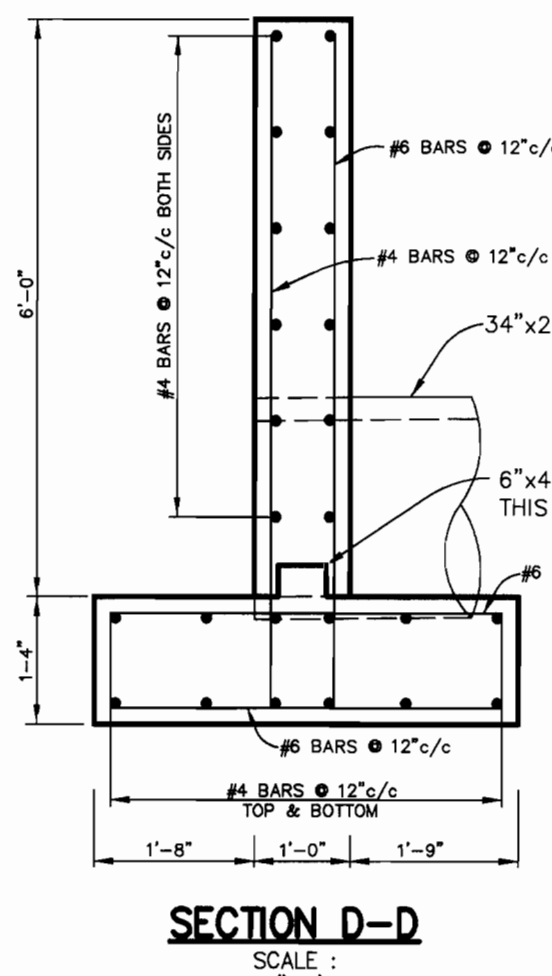
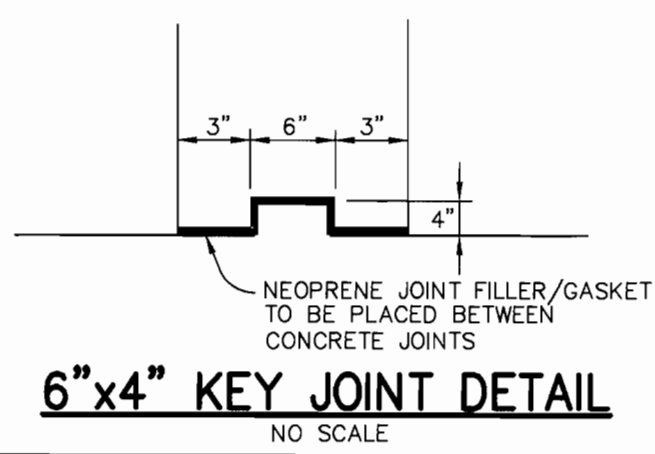
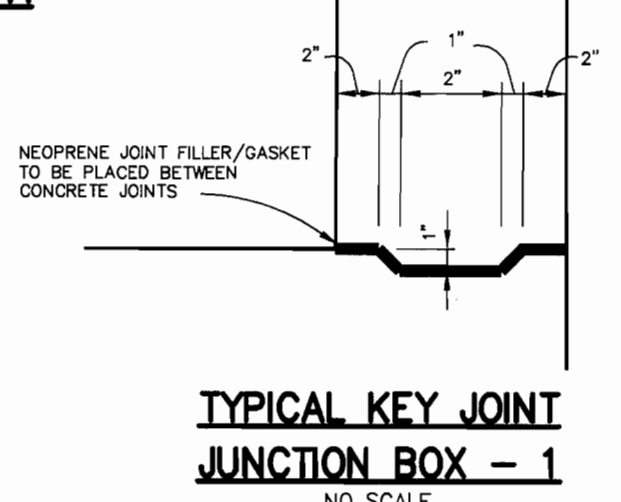
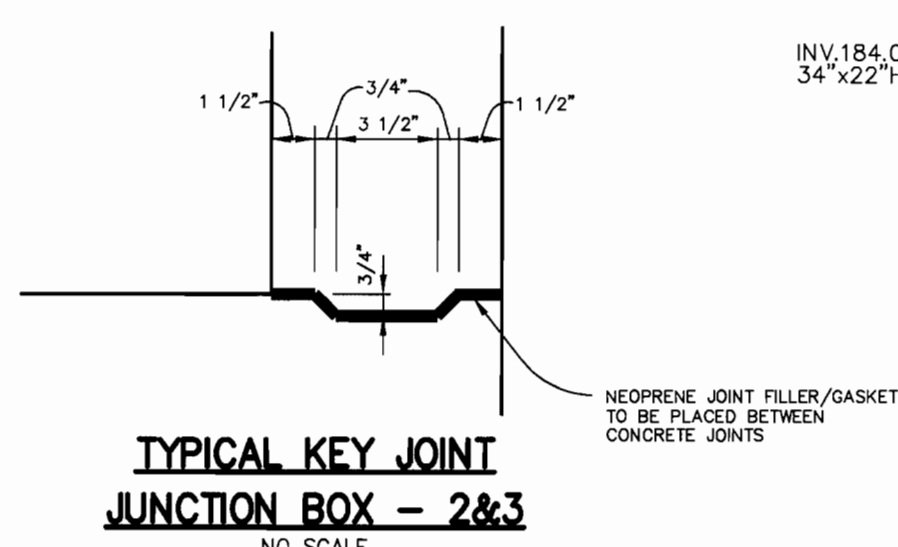
Shirley D. [Signature] 10-17-01
NAME DATE

- GENERAL NOTES:**
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE.
 - FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$23,120.
 - THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY.
 - CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
 - ALL "TRANSPLANTED TREES" SHALL BE REMOVED, BALLED, & BURLAPPED, AND STORED AND REPLANTED AFTER SITE GRADING HAS BEEN COMPLETED AT THE PROPOSED PLANTING LOCATION. TAKE CARE TO MAINTAIN THE TRANSPLANTED TREES ROOTBALL IN A MOIST & COMPACT CONDITION UNTIL REPLANTING.
 - THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.

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NOTE: PIPES EXTENDING INTO BOX SHALL BE CUT BACK TO FACE OF STRUCTURE.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
DIRECTOR	11/2/01 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	10/26/01 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	10/31/01 DATE

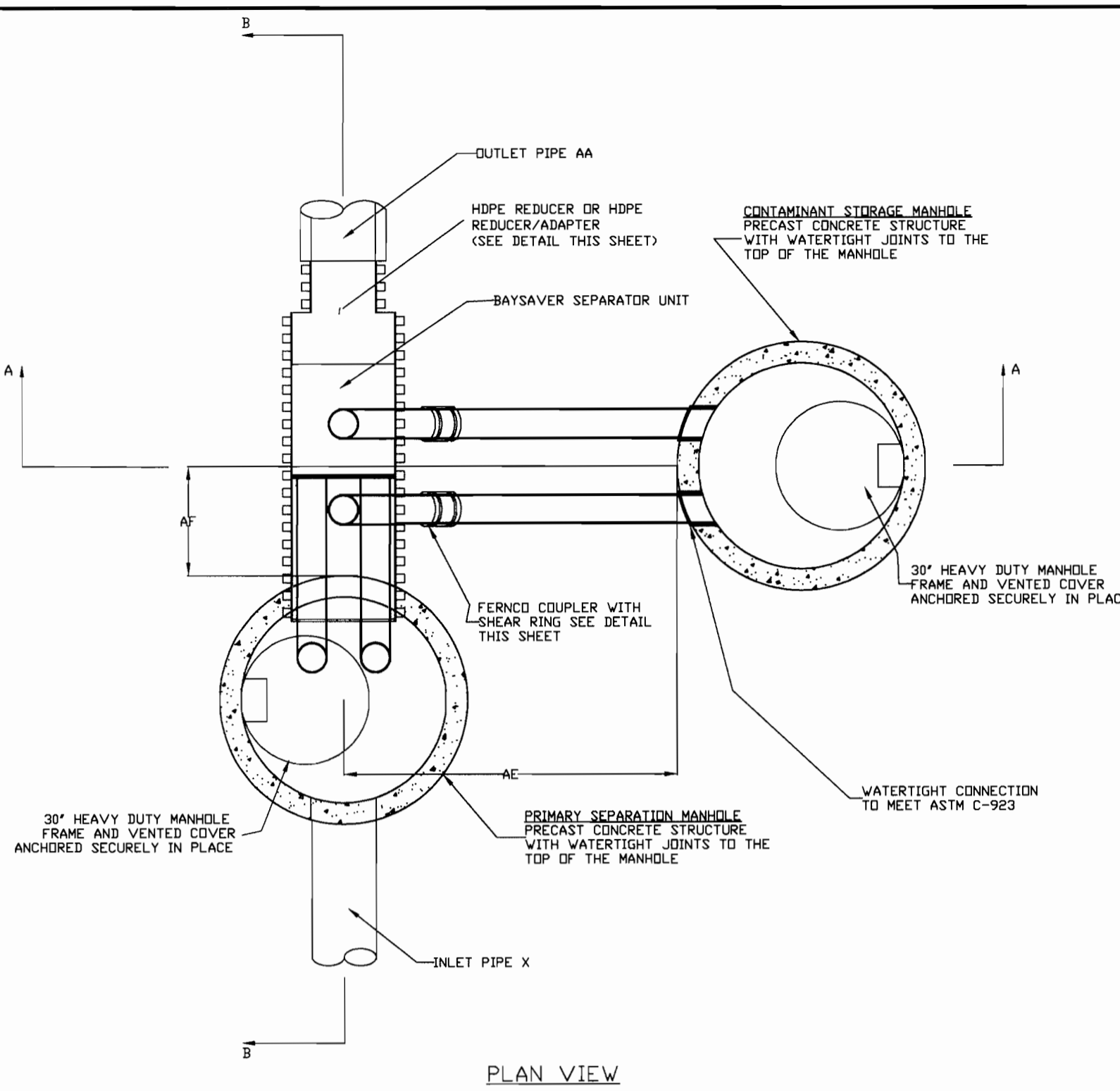
DATE NO.	REVISION
OWNER/DEVELOPER	
SDC, INC. 8480 BALTIMORE NATIONAL PIKE ELLCOTT CITY, MARYLAND 21043 410-465-4244	
PROJECT MEADOWRIDGE BUSINESS PARK PARCEL R-1 A WAREHOUSE BUILDING	
AREA ZONED M-1 PARCEL R-1 TAX MAP 37, BLOCK 23 & TAX MAP 43, BLOCK 4 & 5 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND	

DETAILS

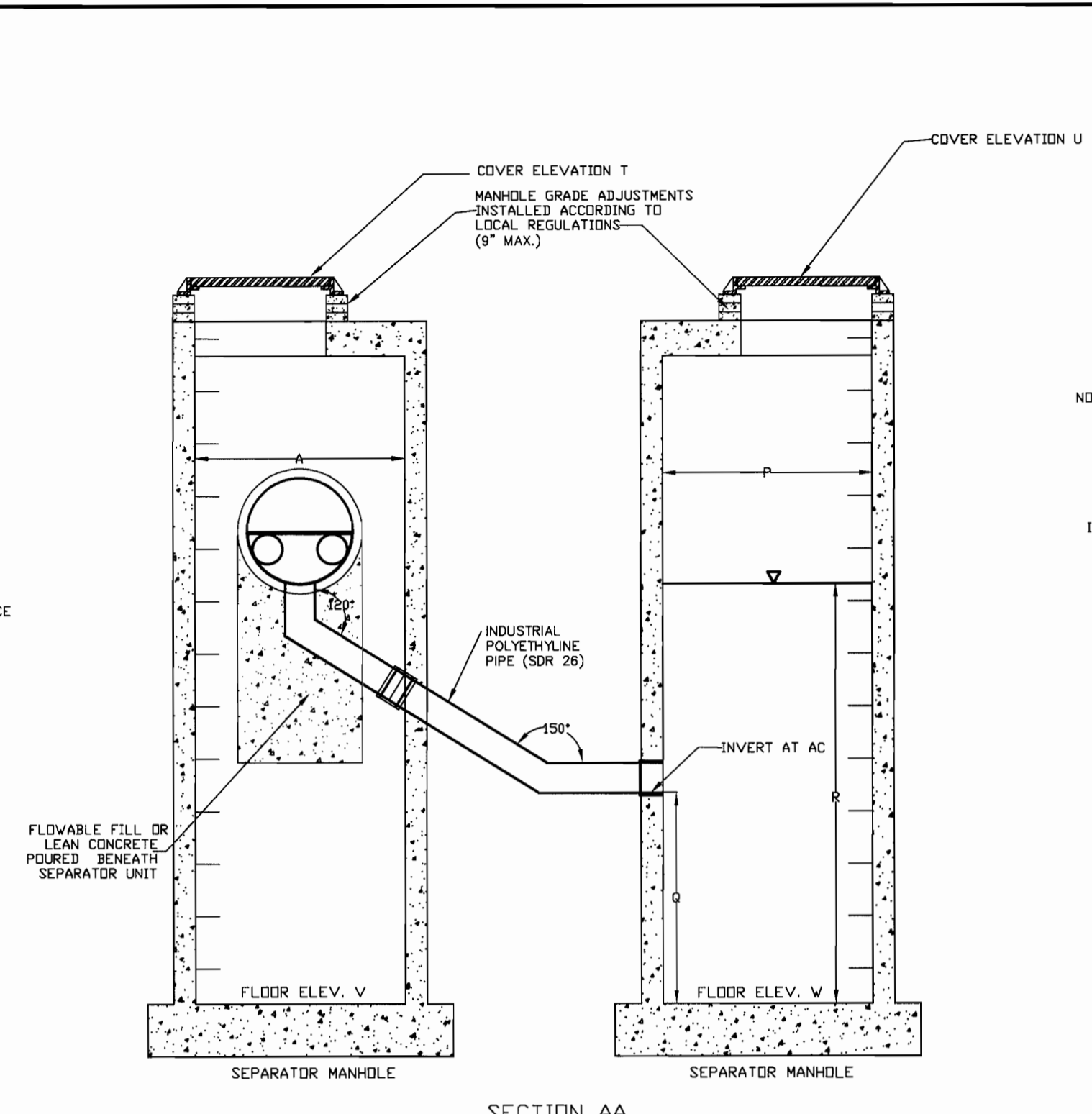
RIEMER MUEGGE & ASSOCIATES INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8618 Centre Park Drive, Columbia, MD 21046
tel 410.997.8900 fax 410.997.9282

DATE	DESIGNED BY: CJR
10-9-01	DRAWN BY: DAM/K.E.V.
	PROJECT NO: 00036/ SDP8.DWG
	DATE: SEPTEMBER 21, 2001
	SCALE: AS SHOWN
	DRAWING NO. 8 OF 11

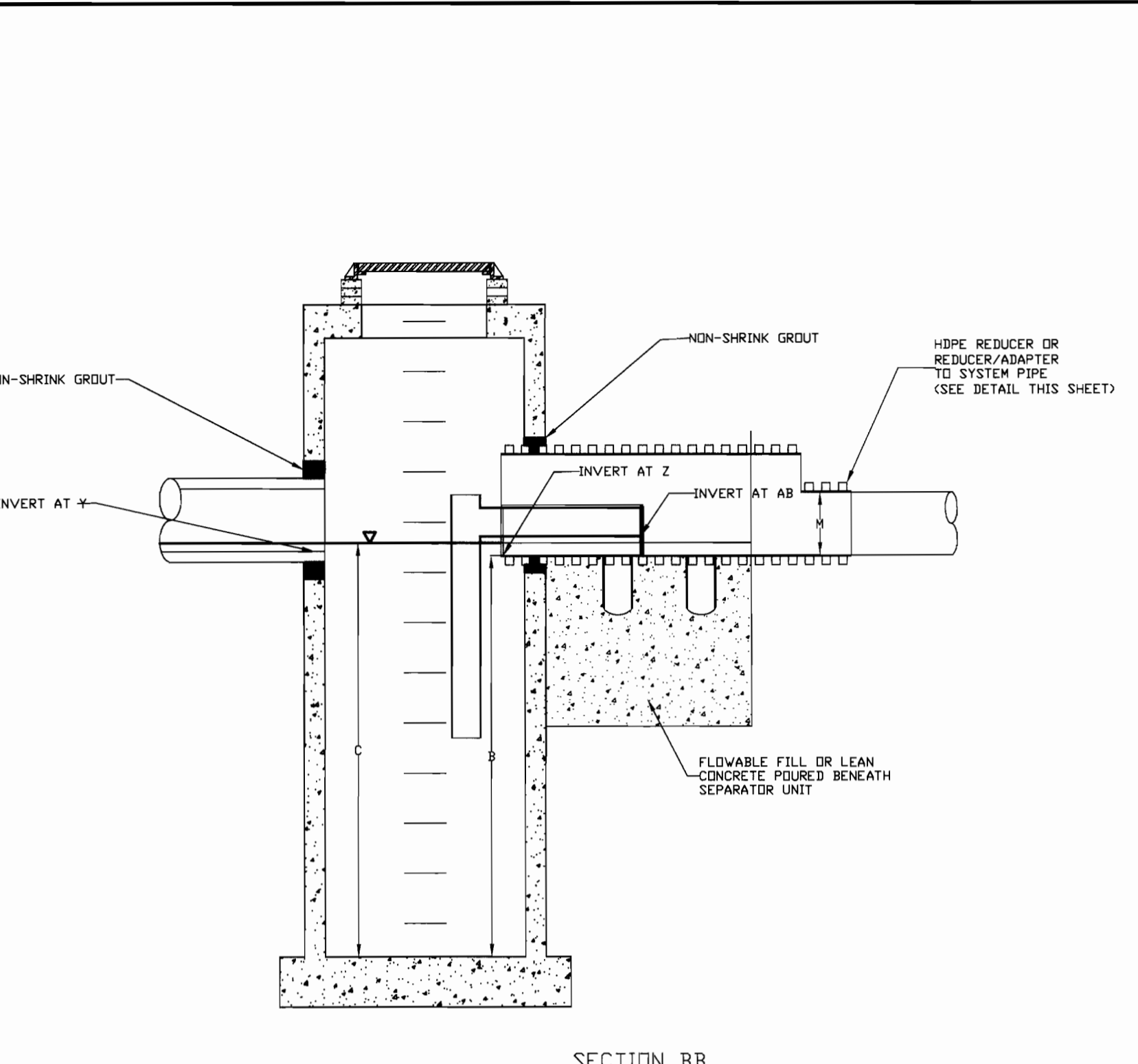
AS-BUILT CERTIFICATION
AIMEE C. REMINGTON #29923
10/20/01 DATE
CHRISTOPHER J. REID #19949



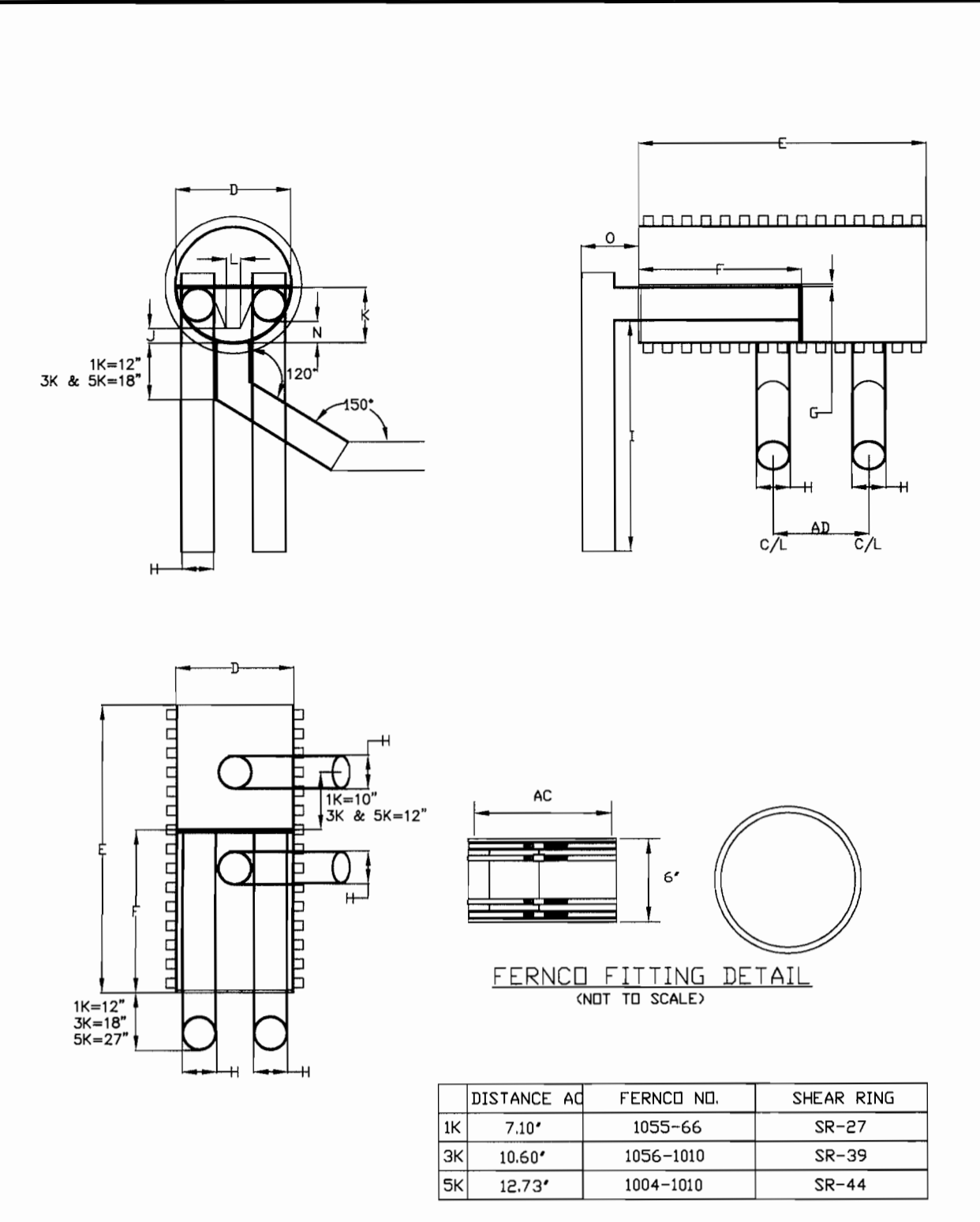
PLAN VIEW



SECTION AA

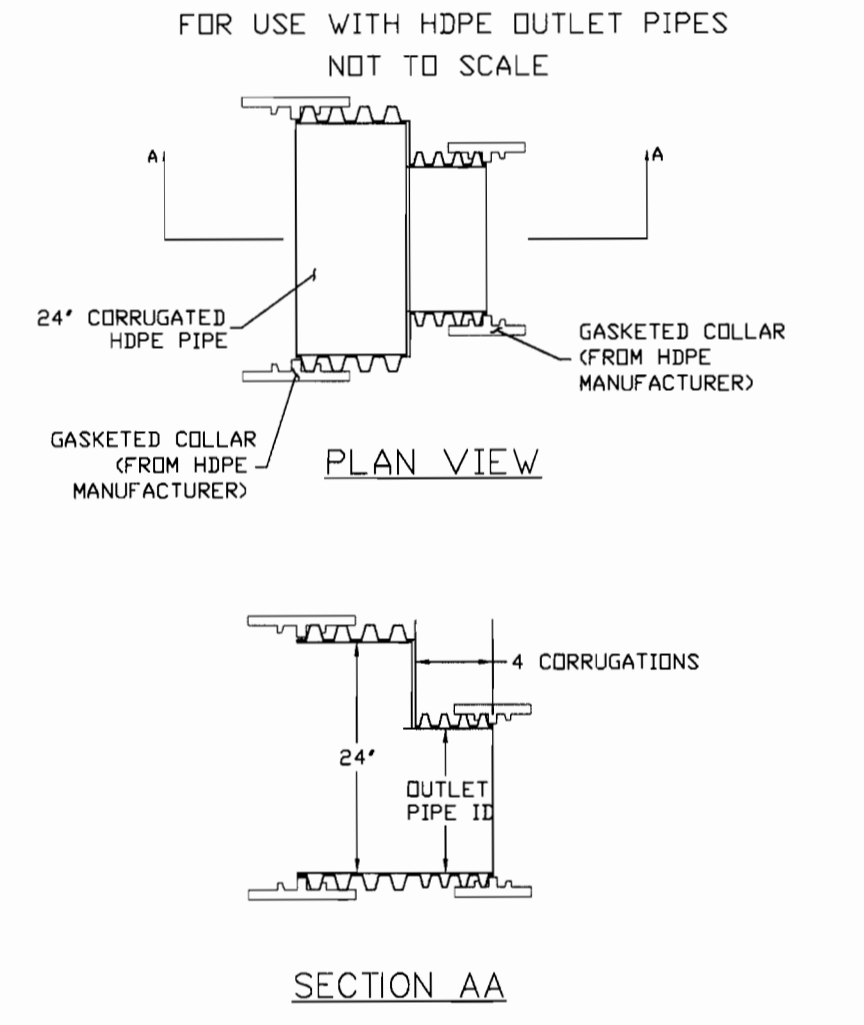


SECTION BB



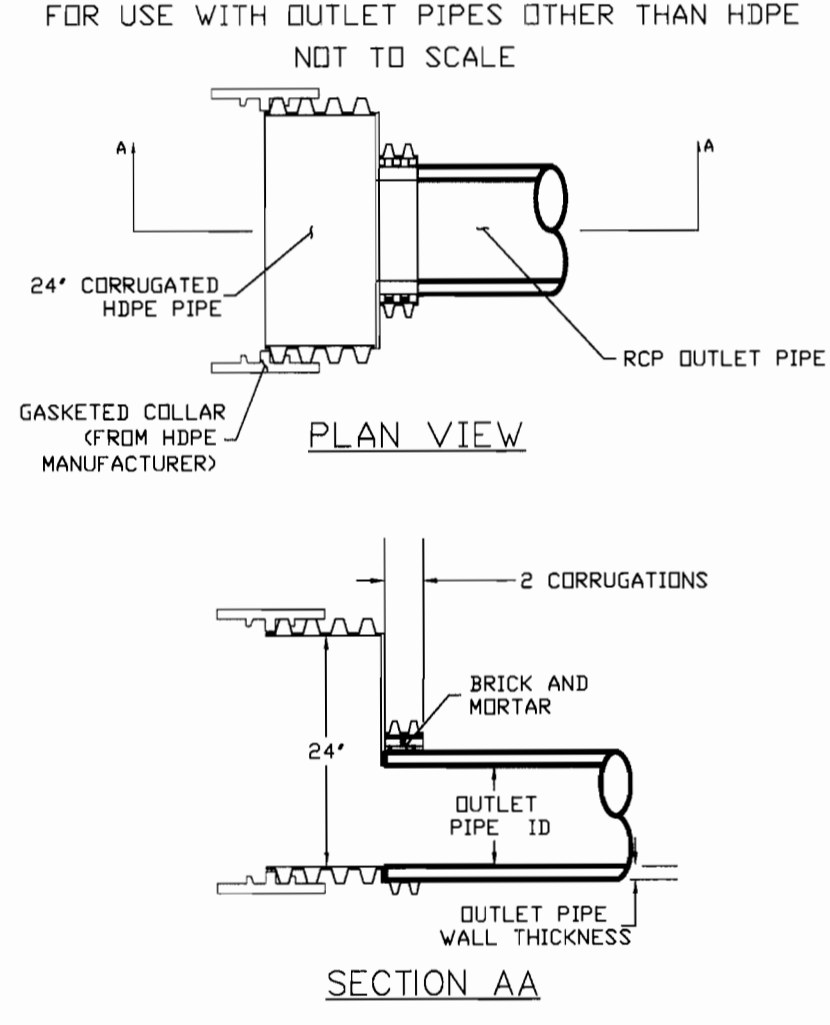
DISTANCE AC	FERNCO NO.	SHEAR RING
1K 7.10'	1055-66	SR-27
3K 10.60'	1056-1010	SR-39
5K 12.73'	1004-1010	SR-44

HDPE-HDPE REDUCER DETAIL



SECTION AA

REDUCER/ADAPTER DETAIL



SECTION AA

SEQUENCE OF CONSTRUCTION AND INSPECTOR'S CHECK-OFF LIST FOR DUAL MANHOLE SEPARATORS

Stage (X = Approval Required)	Developer's/Engineer Approval		Inspector		Geotechnical Engineer	
	Initials	Date	Initials	Date	Initials	Date
1. Pre-Construction Meeting.	X		X		X	
2. Install Manholes and associated storm drainage: a. Obtain approval of subgrade from Geotechnical Engineer. (Subgrade to have a minimum of 95% compaction)					X	
b. Installation of precast base, lower tank and lower piping.	X		X			
c. Backfill and min. 95% compaction around lower tank and lower piping.					X	
d. Installation of precast middle section(s) with separator unit and remaining piping.	X		X			
e. Installation of precast top slab.	X		X			
f. Installation of adjustment rings and frame and cover.	X		X			
g. Installation of flowable fill or concrete backfill.					X	
3. Backfilling operation and compaction.					X	
4. Site is permanently stabilized. Sediment control measures removed and all sediment and debris removed from dual manhole separators.			X			
5. Final inspection.			X			

GENERAL CONSTRUCTION NOTES

- ALL WORK MUST BE DONE WITH REGARD FOR THE SAFETY OF THE CONSTRUCTION CREW.
- ALL WORK AND MATERIALS MUST COMPLY WITH APPLICABLE STATE AND LOCAL REGULATIONS.
- KNOW THE LOCATION AND DEPTH OF ANY UNDERGROUND UTILITIES BEFORE EXCAVATION BEGINS.

NOTE:
BAYSAVERS ARE TO BE INSTALLED WITH THE STORM DRAIN SYSTEM AND WILL FUNCTION AS SECONDARY SEDIMENT CONTROL DEVICES. UPON COMPLETION OF SITE STABILIZATION, EACH BAYSAYER SYSTEM SHALL BE FLUSHED CLEAN & THE MANHOLES CLEANED OUT AND REFILLED WITH CLEAN WATER.

NOTE: DIMENSIONAL SHOP DRAWINGS ARE TO BE APPROVED BY THE DESIGN ENGINEER

BAYSAYER MAINTENANCE

PERIODICALLY, INSPECTION IS MADE BY CHECKING THE DEPTH OF SEDIMENT IN EACH MANHOLE WITH A GRADE STICK OR SIMILAR DEVICE. MAINTENANCE IS REQUIRED WHEN THE SEDIMENT DEPTH IN EITHER MANHOLE EXCEEDS 2 FEET. MINIMUM INSPECTION IS REQUIRED TWICE A YEAR TO MAINTAIN OPERATION AND FUNCTION OF BAYSAYER.

MAINTENANCE CONSISTS OF THE FOLLOWING:

- CONTAMINANT STORAGE MANHOLE**
 - REMOVE THE ENTIRE VOLUME OF THE CONTAMINATED WATER BY VACUUM TRUCK.
 - CLEAN THE MANHOLE WALLS AND FLUSH OUT THE MANHOLE USING A HIGH PRESSURE HOSE AND REMOVE FLUSHING WATER BY VACUUM TRUCK. MAKE CERTAIN MANHOLE IS CLEAN.
- PRIMARY SEPARATION MANHOLE**
 - USING A SUBMERSIBLE PUMP, PUMP THE CLEAN WATER FROM THE CENTER OF THE MANHOLE DIRECTLY INTO THE EMPTY STORAGE MANHOLE UNTIL THE WATER LEVEL FALLS TO 1 FOOT ABOVE THE SEDIMENT LAYER.
 - REMOVE THE SETTLED SEDIMENT AND REMAINING WATER BY VACUUM TRUCK.
 - CLEAN THE MANHOLE WALLS AND FLUSH OUT THE MANHOLE USING A HIGH PRESSURE HOSE AND REMOVE FLUSHING WATER BY VACUUM TRUCK. MAKE CERTAIN MANHOLE IS CLEAN.
 - CONTAMINATED MATERIAL REMOVED FROM THE MANHOLES MUST BE DISPOSED OF RESPONSIBLY AND LEGALLY BY THE OPERATOR OF THE VACUUM TRUCK.

BAYSAYER INSTALLATION INSTRUCTIONS

- EXCAVATION MUST PROVIDE ADEQUATE SPACE TO CONNECT INLET AND OUTLET PIPES TO SEPARATOR MANHOLE AND BAYSAYER UNIT. INSTALL PRECAST DRIP STRUCTURES ON SOLID GRADE AS VERIFIED BY A GEOTECHNICAL ENGINEER.
- VERIFY THE SUBGRADE ELEVATION AGAINST THE MANHOLE DIMENSIONS AND CONNECTING STORM DRAIN INVERTS.
- MAKING SURE THE BASES ARE LEVEL AND THE STORAGE MANHOLE OPENINGS ARE ALIGNED WITH THE SEPARATOR UNIT, INSTALL PRIMARY AND STORAGE MANHOLES. INSTALL RUBBER GASKETS ON BASE UNITS AND COAT WITH LUBRICATING GREASE. INSTALL ADDITIONAL MANHOLE SECTIONS AS REQUIRED. SEAL LIFT HOLES WITH NON-SHRINK GROUT.
- BACKFILL BASE SECTIONS OF MANHOLES TO INVERT OF STORAGE MANHOLE CONNECTING PIPES. USING APPROVED BACKFILL MATERIAL, BACKFILL AND COMPACT IN 8 INCH LIFTS. BACKFILL AND COMPACTION SHOULD BE MONITORED BY A GEOTECHNICAL ENGINEER.
- INSTALL BAYSAYER SEPARATOR UNIT AND CONNECTING PIPES. SEAL ALL CONNECTING JOINTS AND INSTALL SEPARATOR UNIT'S STORM DRAIN INLET COLLAR. CUT EXCESS LENGTH OFF CONNECTING PIPES INSIDE STORAGE MANHOLE.
- BACKFILL SEPARATOR UNIT AND MANHOLES. AREAS NOT ACCESSIBLE TO COMPACTOR EQUIPMENT MUST BE BACKFILLED WITH LEAN CONCRETE OR FLOWABLE FILL.
- INSTALL AND SET MANHOLE COVER GRADE ADJUSTMENT RINGS AS NECESSARY.
- INSTALL AND SET MANHOLE FRAME AND COVER UNITS.

BAYSAYER SYSTEM DIMENSIONS

DESCRIPTION	1K SYSTEM	3K SYSTEM	5K SYSTEM
SEPARATOR MANHOLE DIMENSIONS			
A PRIMARY MANHOLE DIAMETER	48"	60"	96"
B MANHOLE DEPTH BELOW OUTLET	8' - 0"	8' - 0"	8' - 0"
C MINIMUM FLUID DEPTH	8' - 0"	8' - 0"	8' - 0"
STANDARD SEPARATOR UNIT DIMENSIONS			
D SEPARATOR UNIT ID	24"	36"	48"
E SEPARATOR UNIT LENGTH	60"	80.0"	78"
F BYPASS PLATE LENGTH	34"	45"	45"
G WEIR/BYPASS PLATE THICKNESS	3/4"	3/4"	3/4"
H ELBOW AND CONNECTING PIPE ID	7.125"	10.75"	12.75"
I ELBOW LENGTH	48"	48"	48"
J WEIR HEIGHT ABOVE INVERT	3"	4"	6"
K BYPASS PLATE HEIGHT ABOVE INVERT	12"	18"	24"
L WIDTH OF WEIR AT BASE	3"	4 1/2"	6"
M OUTLET PIPE DIAMETER	M	M	M
N ELBOW INVERT HEIGHT ABOVE UNIT INVERT	4 1/2"	7 1/2"	11"
O ELBOW PIPE OVERHANG	18"	18"	24"
STORAGE MANHOLE DIMENSIONS			
P STORAGE MANHOLE DIAMETER	48"	60"	96"
Q MANHOLE DEPTH BELOW INLET/OUTLET	48"	48"	48"
R FLUID DEPTH	8' - 0"	8' - 0"	8' - 0"
S TOTAL STORAGE VOLUME	200 CF	300 CF	450 CF
SYSTEM DIMENSIONS AND ELEVATIONS			
T SEPARATOR MANHOLE COVER ELEVATION	T	T	T
U STORAGE MANHOLE COVER ELEVATION	U	U	U
V SEPARATOR MANHOLE FLOOR ELEVATION	V	V	V
W STORAGE MANHOLE FLOOR ELEVATION	W	W	W
X INLET PIPE ID AND MATERIAL	X1 X2	X1 X2	X1 X2
Y INLET PIPE INVERT	Y1 Y2	Y1 Y2	Y1 Y2
Z SEPARATOR UNIT INVERT	Z	Z	Z
AA OUTLET PIPE ID AND MATERIAL	AA	AA	AA
AB ELBOW INVERT ELEVATION	AB	AB	AB
AC CONNECTING PIPE INVERT ELEVATION	AC	AC	AC
AD CONNECTION PIPE SPACING	20"	24"	24"
AE STORAGE MANHOLE SIDE OFFSET	72 ± 6"	72 ± 6"	72 ± 6"
AF STORAGE MANHOLE DOWNSTREAM OFFSET	23"	31"	25"

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
 DIRECTOR: *[Signature]* DATE: 11/2/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 10/26/01
 CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 10/21/01

DATE	NO.	REVISION

OWNER/DEVELOPER: SDC, INC.
 8480 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21043
 410-465-4244

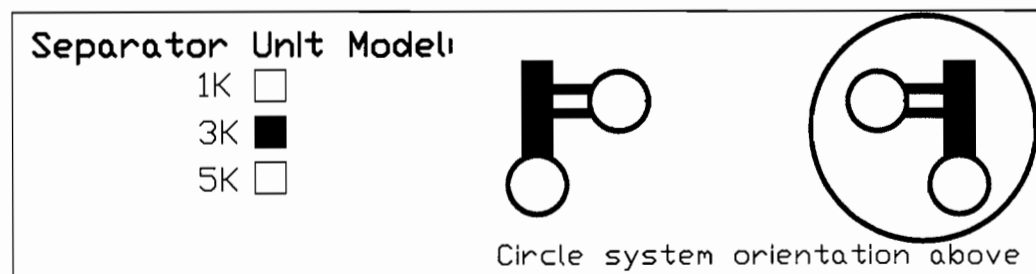
PROJECT: MEADOWRIDGE BUSINESS PARK
 PARCEL R-1
 A WAREHOUSE BUILDING

AREA: ZONED M-1 PARCEL R-1
 TAX MAP 37, BLOCK 23 & TAX MAP 43, BLOCK 4 & 5
 1st ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE: WATER QUALITY NOTES AND DETAILS

Project: MEADOWRIDGE BUS. Designer: RIEMER MUEGGE
 Address: 6785 BUSINESS PARKWAY ELK RIDGE, MD. 21227 Phone: 410-997-8900
 Delivery Date: Fax: 410-997-9282

Owner: SDC, INC. Contractor: STEVE BREEDEN
 Address: ELLICOTT CITY, MD 21043 Contact: Phone: Fax:



Manhole Specifications:

Primary Manhole Diameter: 60 inches
 Storage Manhole Diameter: 60 inches

Floor Elevations:
 Primary Manhole: 174.58
 Storage Manhole: 174.58

Primary Manhole Inverts:
 Separator Unit: 182.91
 Inlet Pipes: 182.91 (IN)
 182.50 (OUT)

Please show orientation (including angle), size and material of inlet pipes above.

Cover Elevations:
 Primary Manhole: 187.0
 Storage Manhole: 187.0

1K/WQ-1A

OPERATION AND MAINTENANCE SCHEDULE FOR BAYSAYER UNITS

- Baysaver structures will require periodic inspection and cleaning to maintain operation and function. Owners will have the Baysaver unit inspected yearly or as required by Howard County, utilizing the Baysaver units Inspection/Monitoring Form. Inspections can be done by using a clear Plexiglas tube ("sludge judge") to extract a water column sample. When sediment depths exceed the specified level (Table 6 of Technical Manual) then cleaning of the unit is required.
- Baysaver structures must be checked and cleaned immediately after petroleum spills. Contact appropriate regulatory agencies.
- Maintenance of Baysaver units should be done by a vacuum truck which will remove the water, sediment, debris, floating hydrocarbons, and other materials in the unit. The proper cleaning and disposal of the removed materials and liquid must be followed.
- Inlet and outlet pipes must be checked for any obstructions and if any obstructions are found they must be removed. Structural parts of the Baysaver will be repaired as needed.
- Owner shall retain and make Baysaver units Inspection/Monitoring Forms available to Howard County officials upon their request.

AS-BUILT CERTIFICATION
 STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 AIMEE O. REMINGTON #29925
 DATE: 10/12/01

Baysaver Separator Unit	Baysaver Manhole Sizes (prim. x stor.)	Maximum Treatment (cfs)*1	Maximum Treatment (gpm)*1	Impervious Area (acres)
1K Baysaver Separator	48x48 48x50 48x72 60x60	2.4 2.4 2.4 2.4	1076 1076 1076 1076	1.2 1.4 1.6 1.5
3K Baysaver Separator	60x60 60x84 72x72	7.2 7.2 7.2	3231 3231 3231	3.8 WQ-1 4.6 4.4
5K Baysaver Separator	72x72 72x84 72x96	11.1 11.1 11.1	4981 4981 4981	5.5 6.5 8.0

RIEMER MUEGGE & ASSOCIATES INC.
 ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
 8818 Centre Park Drive, Columbia, MD 21045
 tel 410.997.8800 fax 410.997.8282

DATE: 10.9.01

DESIGNED BY: CJR
 DRAWN BY: BAYSAYER
 PROJECT NO: 00036/
 SDP7.DWG
 DATE: SEPTEMBER 21, 2001
 SCALE: AS SHOWN
 DRAWING NO. 7 OF 11

CHRISTOPHER J. REID #19949

MD-376 STANDARDS AND SPECIFICATIONS

SPECIFICATIONS
These specifications are appropriate to all ponds within the scope of the Standard for practice MD-376. All references to ASTM and AASHTO specifications apply to the most recent version.

SITE PREPARATION

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped (topsoil). All trees, brush, logs, stumps and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

EARTH FILL

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, frozen stones greater than 6" frozen or other objectionable materials. Fill material for the center of the embankment, and cut-off trench shall conform to Unified Soil Classification SC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8-inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tire or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that, if formed into a ball it will not crumble yet not so wet that water can be squeezed out.

When required by the reviewing agency the minimum required density shall not be less than 98% of maximum dry density with a moisture content within +/- 2% of the optimum. Each layer of fill shall be compacted on necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

Cutoff Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and maximum permeability.

Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to, at least, the 10-year water elevation or as shown on the plans. The side slopes shall be to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and maximum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

STRUCTURE BACKFILL
Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi, 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It may need to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent flooding the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

PIPE CONDUITS

All pipes shall be circular in cross section.

Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe:

- Materials - (Polymer coated steel pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (1.0 mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges.
- Materials - (Aluminum coated steel pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-274 with watertight coupling bands or flanges. Aluminum coated steel pipe, when used in flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-180 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer and two coats of asphalt. Hot dip galvanized bolts and nuts shall be painted with two coats of asphalt.
- Materials - (Aluminum pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-180 or M-211 with watertight coupling bands or flanges. Aluminum pipe, when used in flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-180 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer and two coats of asphalt. Hot dip galvanized bolts and nuts shall be painted with two coats of asphalt.

CONNECTIONS

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of connections to accommodate the gasket width. The following pipe connections are acceptable for pipes less than 24" in diameter: Flanges on both ends of the pipe with a circular 3/8" inch closed cell neoprene gasket, prepacked to the pipe with a 1/2" thick sand wedge between adjacent flanges; a 12 inch wide standard lap type band with 3/8 inch thick closed cell neoprene gasket; and a 12 inch wide huggar type band with or without gaskets having a minimum diameter of 1/2 inch diameter from the contact line depth. Pipes 24 inches in diameter and larger shall be connected by a 24 inch long and/or corrugated band with a minimum diameter of 4 inches and two lugs, 2 on each connecting pipe ends. A 24 inch wide by 3/8 inch thick closed cell circular neoprene gasket will be installed with 12 inch on the end of each pipe. Flanged joints with 3/8 inch closed cell gaskets the full width of the flange is also acceptable.

Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead.

Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

Backfilling shall conform to "Structure Backfill".

Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:

- Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-361.
- Bedding - All reinforced concrete pipe shall be laid in a concrete bedding/cradle for their entire length. This bedding/cradle shall consist of high strength concrete placed under the pipe and on the side of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, the flowable fill may be used as described in the "Structure Backfill" section of this standard. Gravel bedding is not permitted.

- Laying pipe - Bell and spigot pipe shall be placed with the bell and upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.
- Backfilling shall conform to "Structure Backfill".
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Plastic Pipe - The following criteria shall apply for pipe:

- Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" - 10 inch pipe shall meet the requirements of AASHTO M252 Type 5, and 12" through 24" shall meet the requirements of AASHTO M244 Type 5.
- Joints and connections to anti-seep collars shall be completely watertight.
- Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
- Backfilling shall conform to "Structure Backfill".
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

CONCRETE

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

ROCK RIPRAP

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.

Geotextile shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 421.04, Class C.

CARE OF WATER DURING CONSTRUCTION

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from the various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree, whether the flow of water to the spillway on outlet works and so not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom of required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water to sumps from which the water shall be pumped.

STABILIZATION

All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spill and borrow areas, and berms shall be stabilized by seeding, tilling, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

EROSION AND SEDIMENT CONTROL

Construction operations will be carried out in such a manner that erosion will be controlled and soil pollution minimized. State and local laws regarding erosion and sediment control will be followed. Construction plans shall detail erosion and sediment control measures.

Refer to the 2000 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

MAINTENANCE REQUIREMENTS FOR DETENTION PONDS

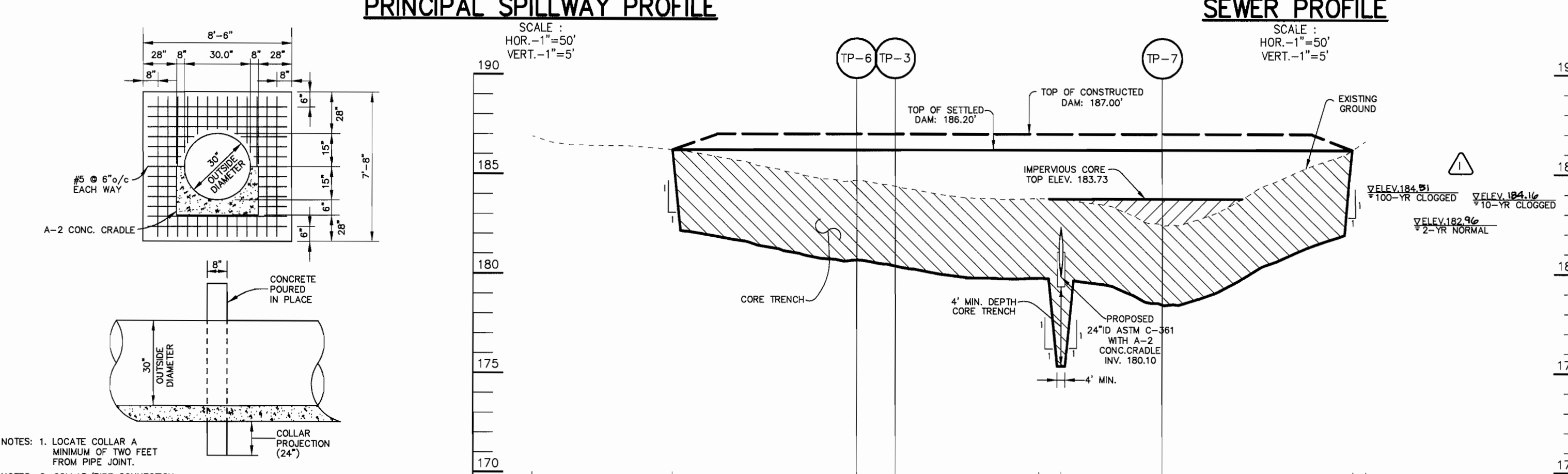
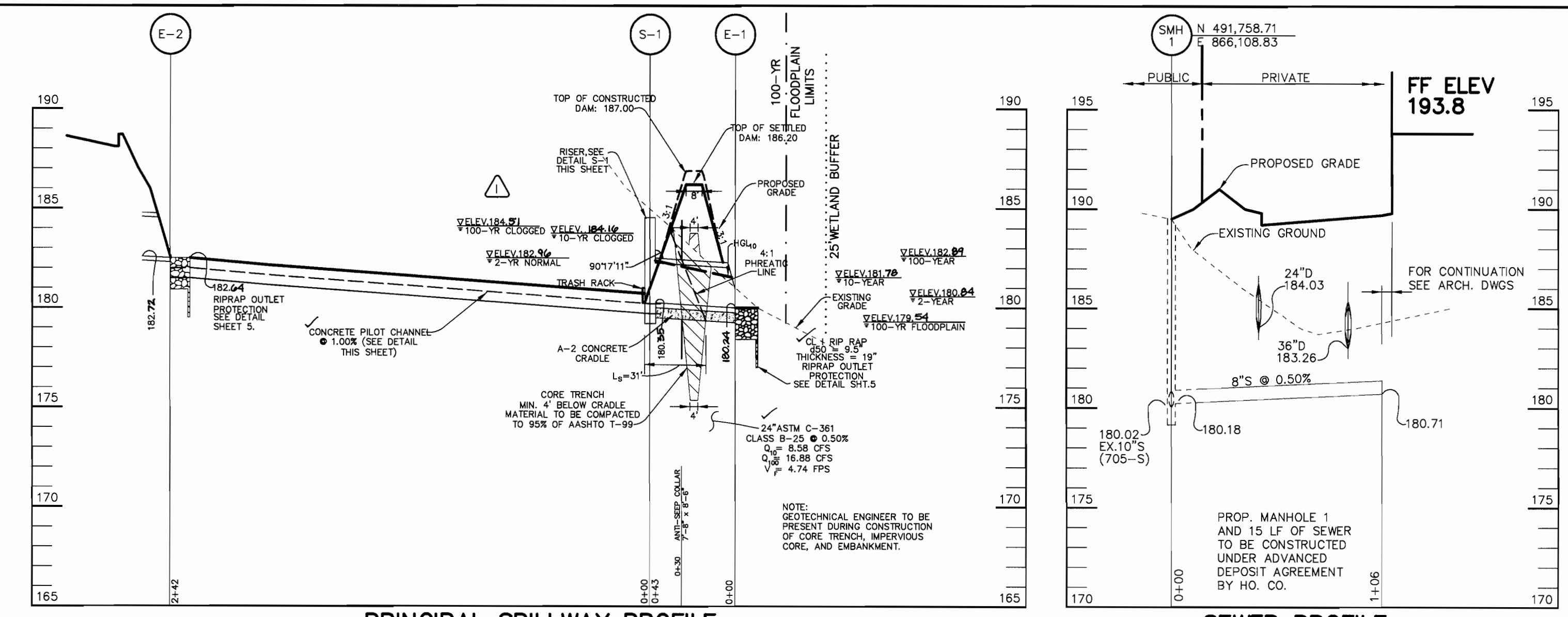
- REMOVAL OF SILT WHEN ACCUMULATION EXCEEDS SIX (6) INCHES IN BASINS WITHOUT FOREBAYS. IN BASINS WITH FOREBAYS, REMOVAL OF SILT SHALL OCCUR WHEN THE ACCUMULATION EXCEEDS FOUR (4) INCHES IN FOREBAY.
- REMOVAL OF ACCUMULATED PAPER, TRASH AND DEBRIS AS NECESSARY.
- VEGETATION GROWN ON THE EMBANKMENT TOP OR FACES IS NOT ALLOWED TO EXCEED 18 INCHES IN HEIGHT AT ANY TIME.
- ANNUAL INSPECTION AND REPAIR OF THE STRUCTURE.

EMBANKMENT AND CUT-OFF TRENCH CONSTRUCTION RECOMMENDATIONS

THE SITE SHOULD BE STRIPPED OF TOPSOIL AND ANY OTHER UNSUITABLE MATERIALS FROM THE EMBANKMENT OR STRUCTURE AREA IN ACCORDANCE WITH SOIL CONSERVATION GUIDELINES. AFTER STRIPPING OPERATIONS HAVE BEEN COMPLETED, THE EXPOSED SUBGRADE MATERIALS SHOULD BE LOADED DUMP TRUCK OR SIMILAR EQUIPMENT IN THE PRESENCE OF A GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE. FOR AREAS THAT ARE NOT ACCESSIBLE TO A DUMP TRUCK, THE EXPOSED MATERIALS SHOULD BE OBSERVED AND TESTED BY A GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE UTILIZING A DYNAMIC CONE PENETROMETER. ANY EXCESSIVELY SOFT OR LOOSE MATERIALS IDENTIFIED BY PROFFLING OR PENETROMETER TESTING SHOULD BE EXCAVATED TO SUITABLY FIRM SOIL, AND THEN GRADES RE-ESTABLISHED BY BACKFILLING WITH

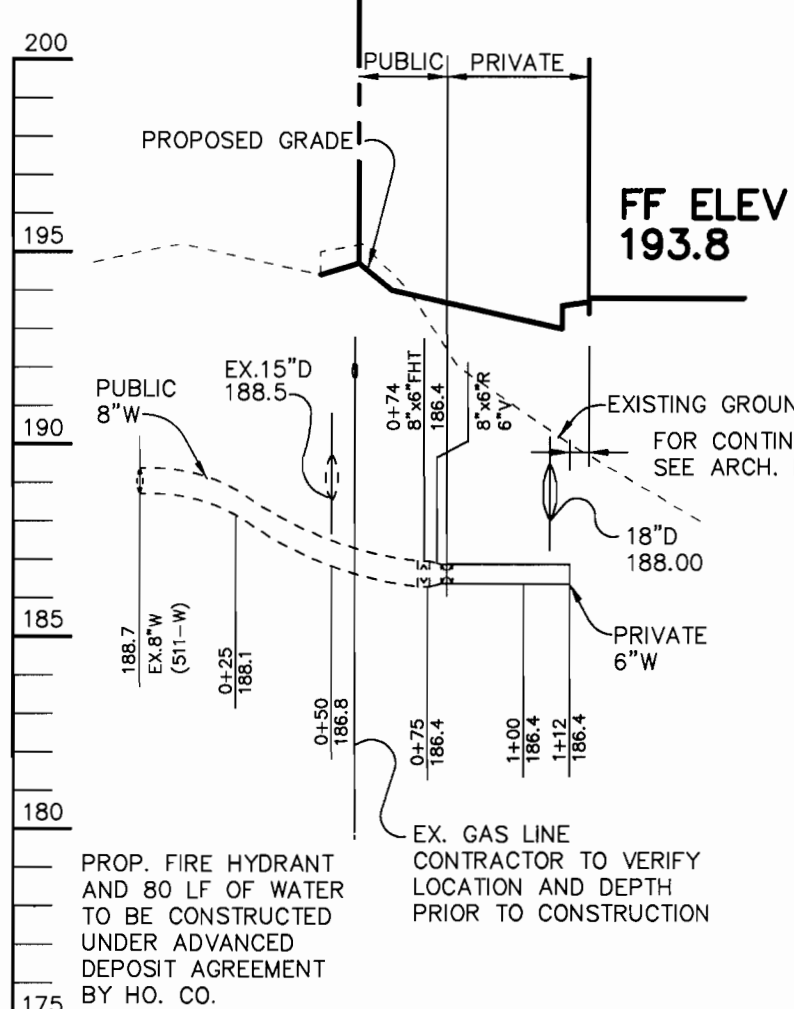
A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER SHOULD BE PRESENT TO MONITOR PLACEMENT AND COMPACTION OF FILL FOR THE EMBANKMENT AND CUT OFF TRENCH. IN ACCORDANCE WITH MARYLAND SOIL CONSERVATION SPECIFICATION 378 SOILS CONSIDERED SUITABLE FOR THE CENTER OF EMBANKMENT AND CUT OFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CH, OR CL PER SCS 378. CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIALS IN THE EMBANKMENT IF DESIGN AND CONSTRUCTION ARE SUPERVISED BY A GEOTECHNICAL ENGINEER.

EXPLORATION WITH TEST PITS AND ADDITIONAL LABORATORY TESTING CAN BE CONDUCTED PRIOR TO CONSTRUCTION TO IDENTIFY AND QUANTIFY POTENTIAL BORROW AREAS. ALL FILL MATERIALS MUST BE PLACED AND COMPACTED IN ACCORDANCE WITH MD SCS 378 SPECIFICATIONS.



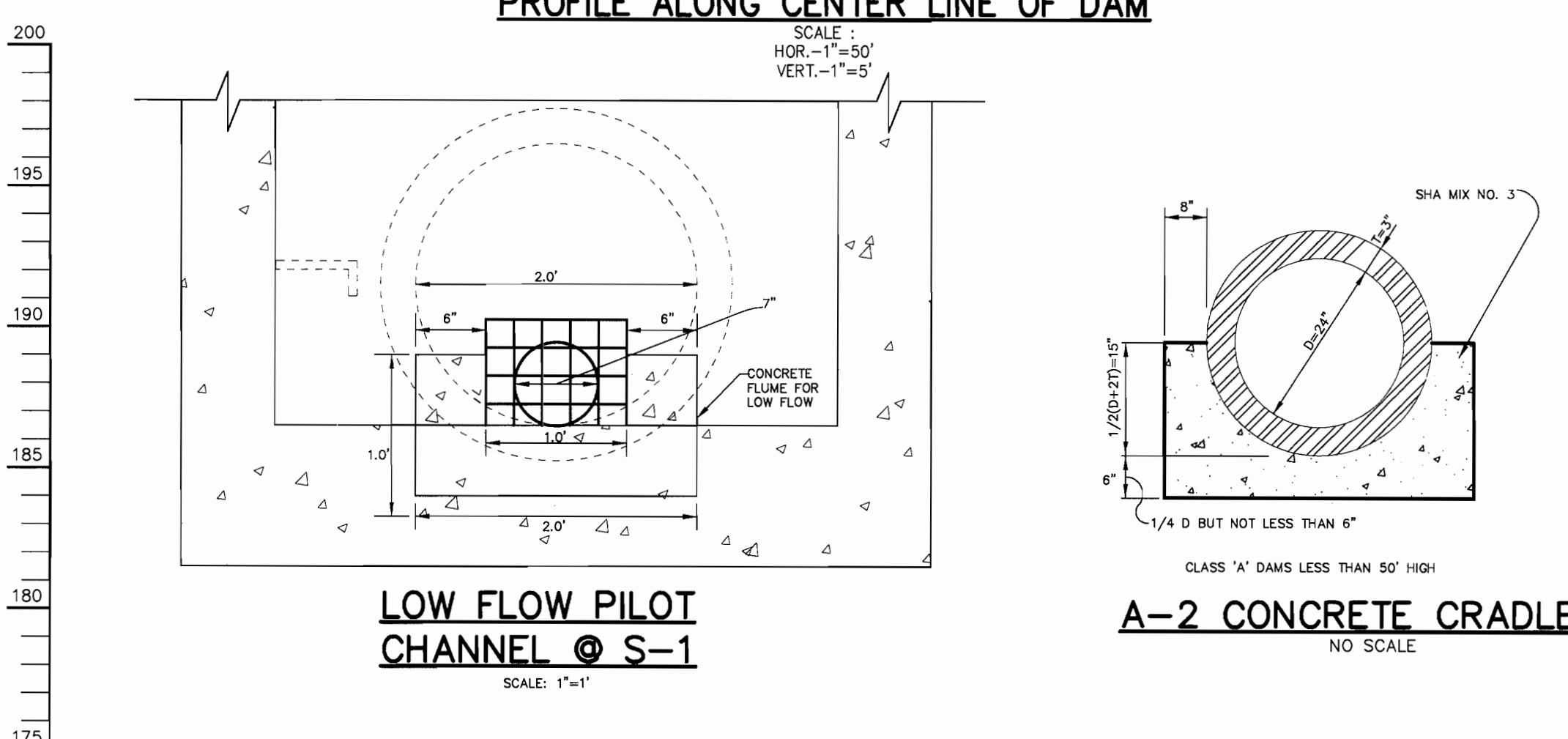
CONCRETE ANTI-SEEP COLLAR SMMF #1

NO SCALE



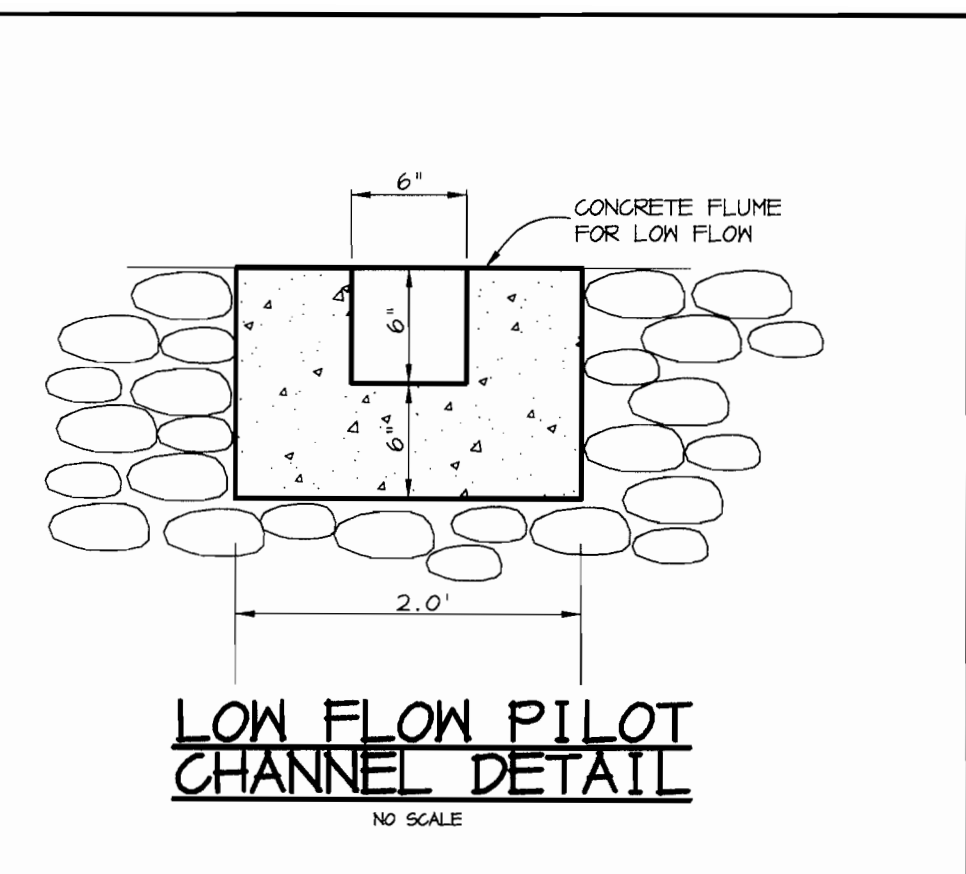
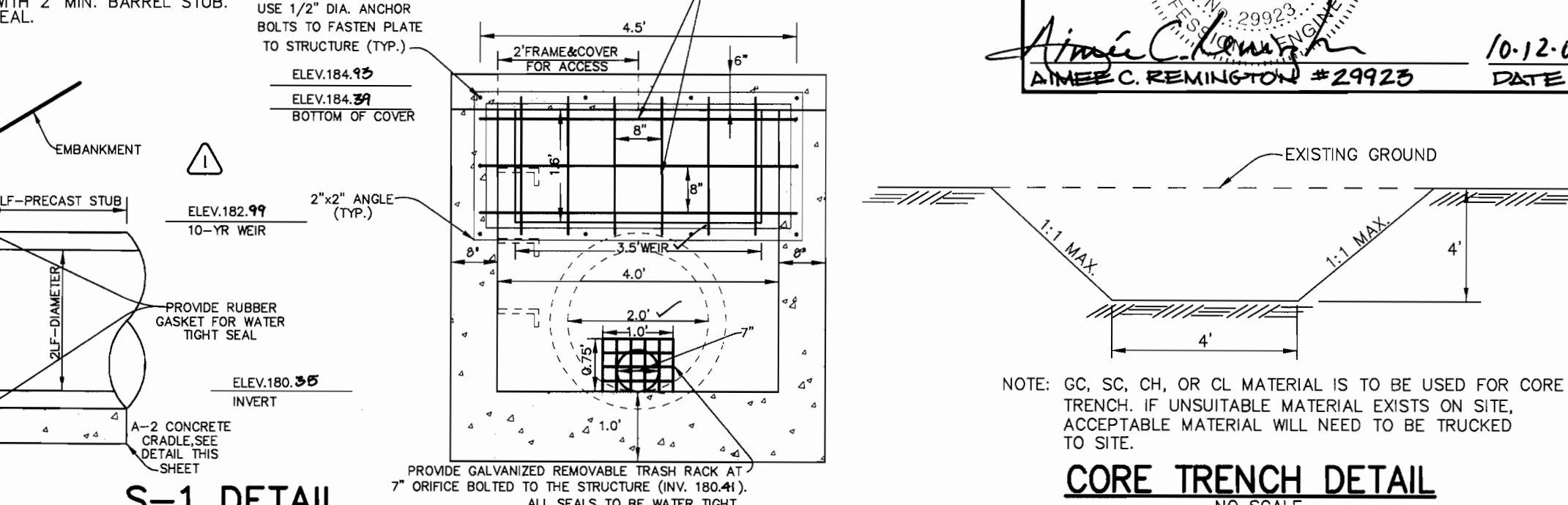
LOW FLOW PILOT CHANNEL @ S-1

SCALE: 1"=1'



WATER PROFILE

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



BY THE DEVELOPER:

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

Shawn D. H... 10-17-01
DEVELOPER DATE

BY THE ENGINEER:

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

Christopher J. Reid 10-9-01
ENGINEER DATE

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

Jim M... 10/24/01
NATURAL RESOURCES CONSERVATION SERVICE DATE

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

John M... 10/24/01
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Director 11/2/01
DATE

Chief, Development Engineering Division 10/26/01
DATE

Chief, Division of Land Development 10/31/01
DATE

REV. PROFILES + S-1 DETAIL PER AS-BUILT SURVEY

OWNER/DEVELOPER: SDG, INC.
8480 BALTIMORE NATIONAL PIKE
ELLCOTT CITY, MARYLAND 21043
410-465-4244

PROJECT: MEADOWRIDGE BUSINESS PARK
PARCEL R-1
A WAREHOUSE BUILDING

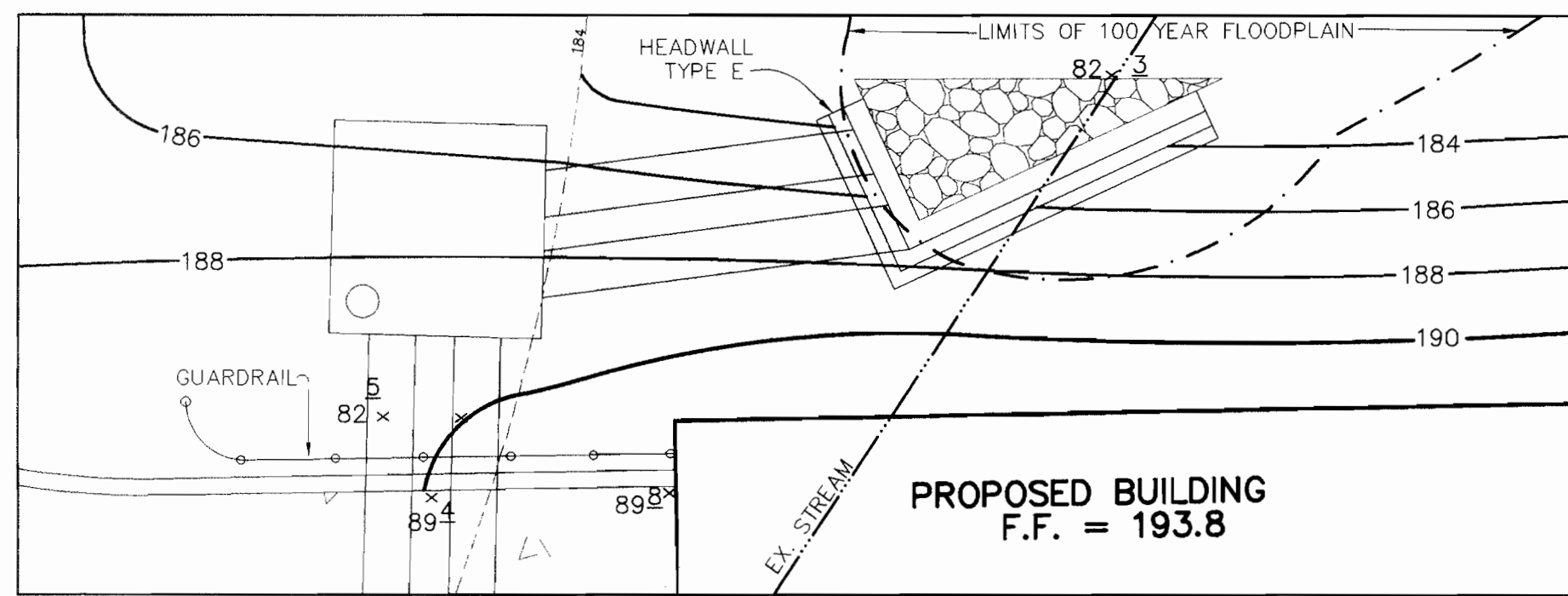
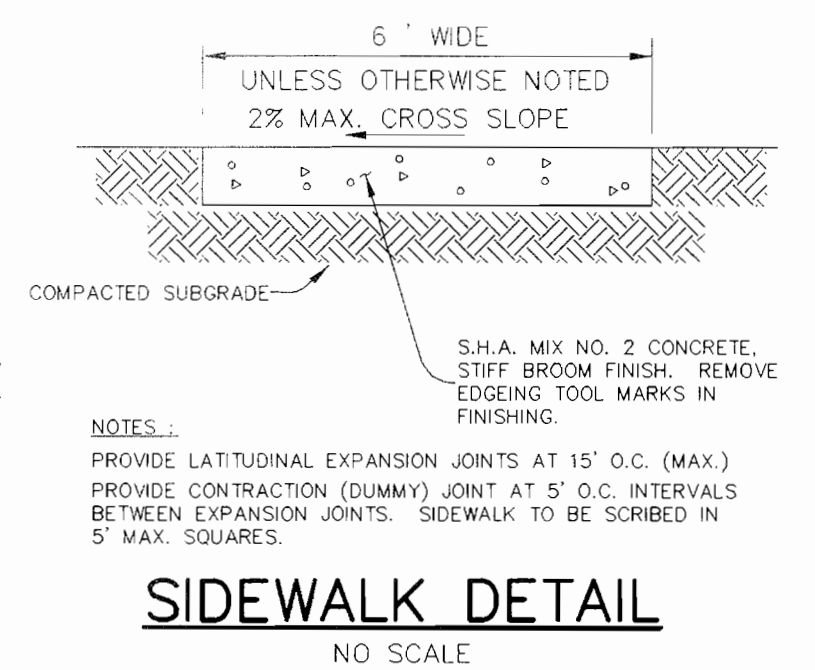
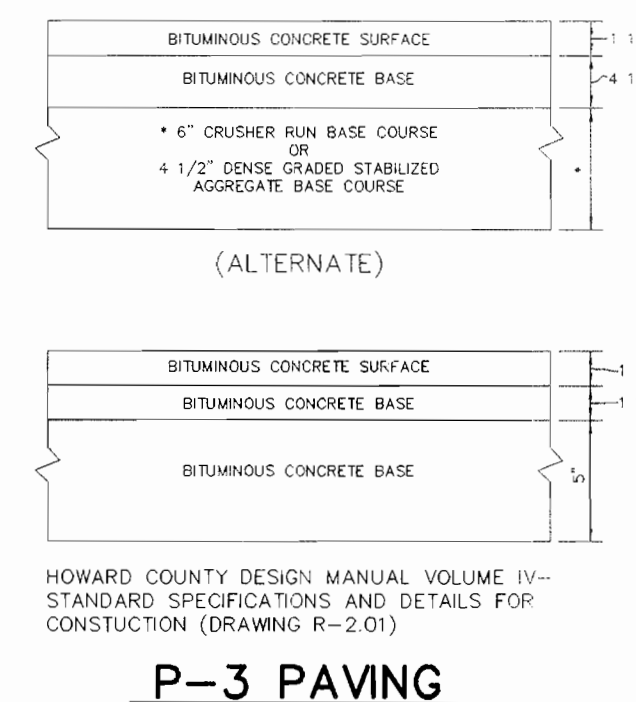
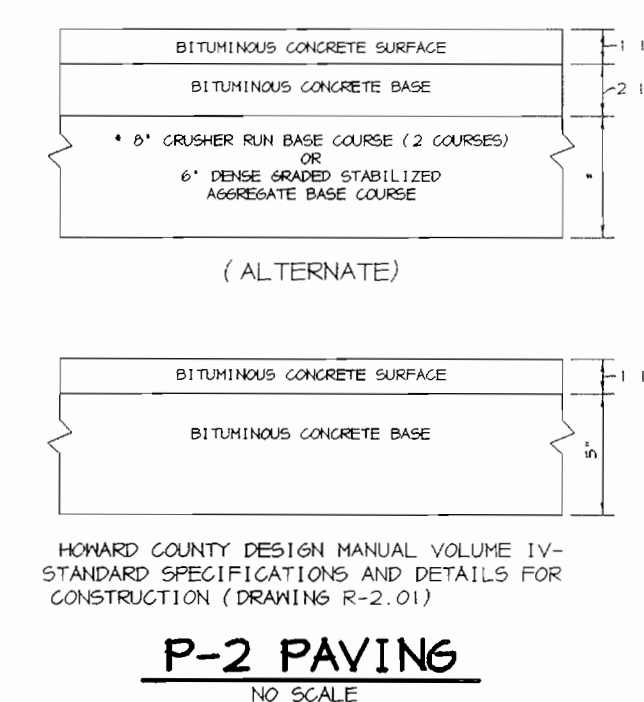
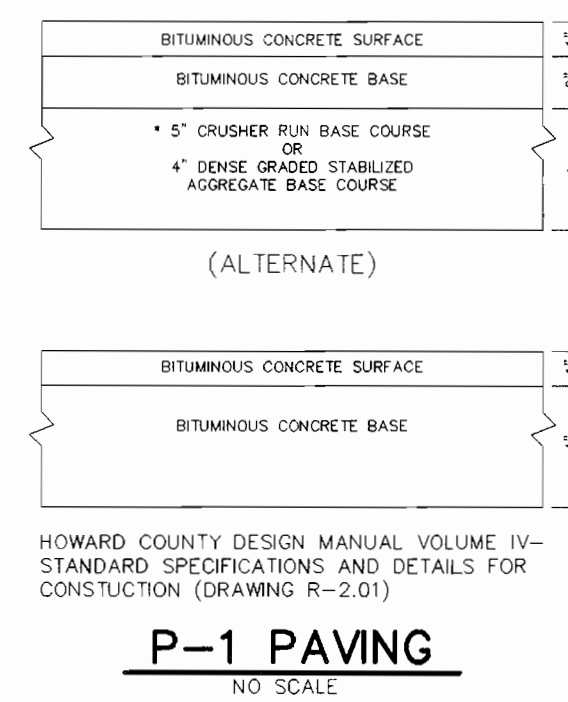
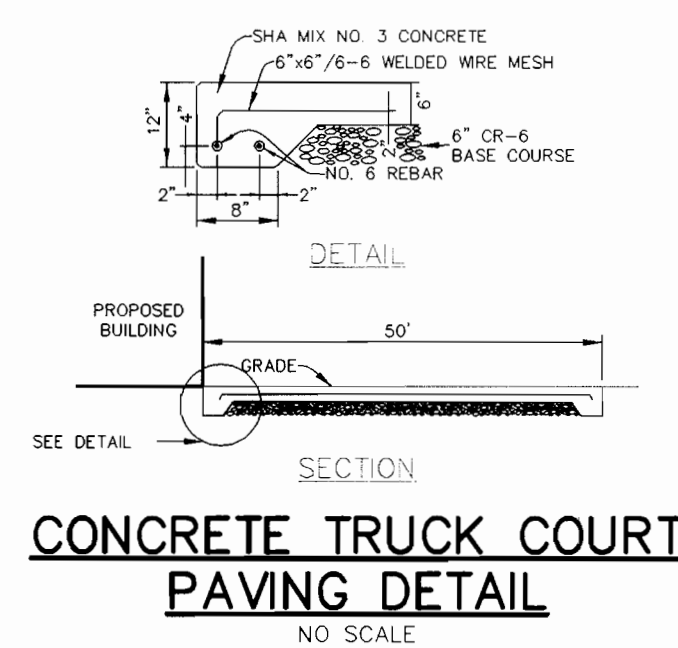
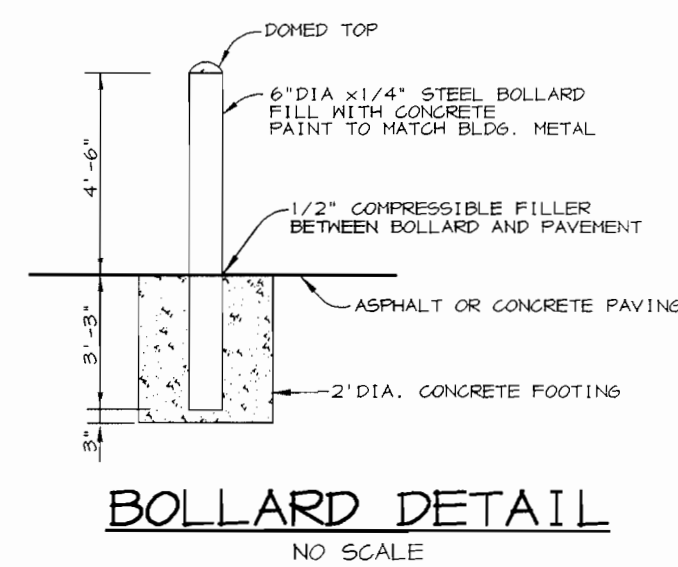
AREA: ZONED M-1 PARCEL R-1
TAX MAP 37, BLOCK 23 & TAX MAP 43, BLOCK 4 & 5
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: STORMWATER MANAGEMENT DETAILS

RIEMER MUEGGE & ASSOCIATES INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21046
tel 410.997.8900 fax 410.997.9282

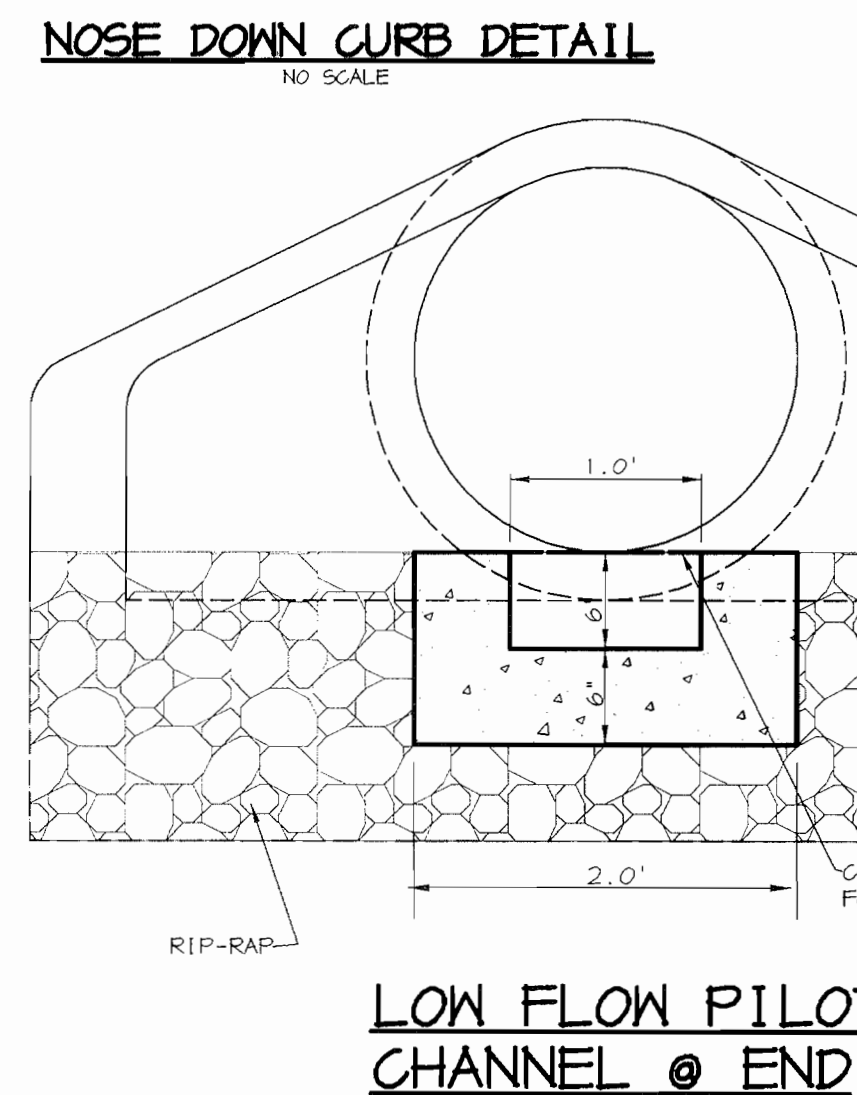
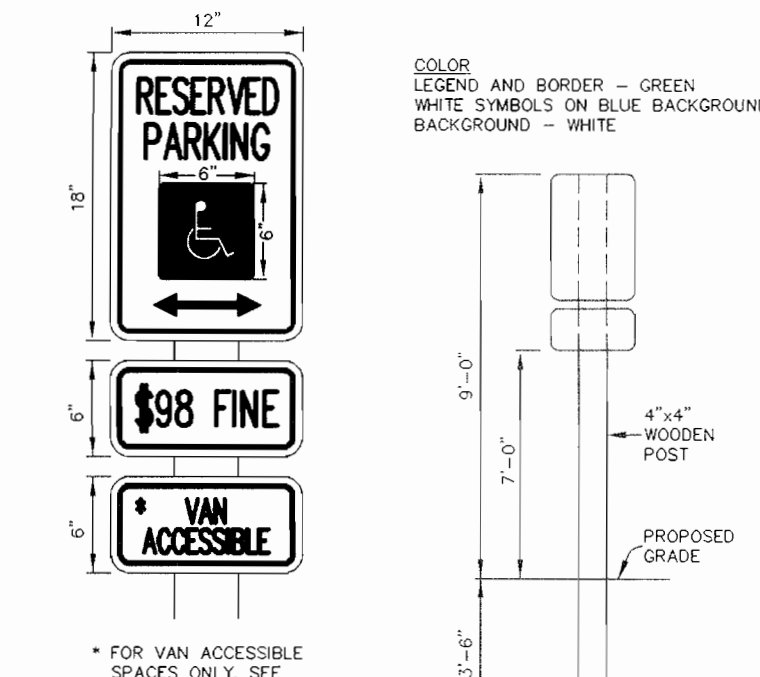
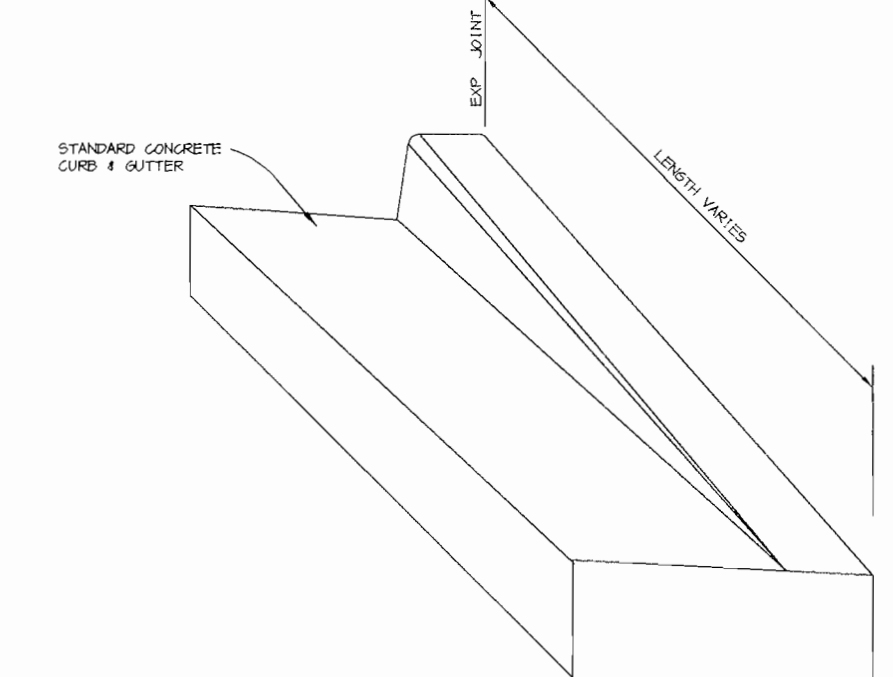
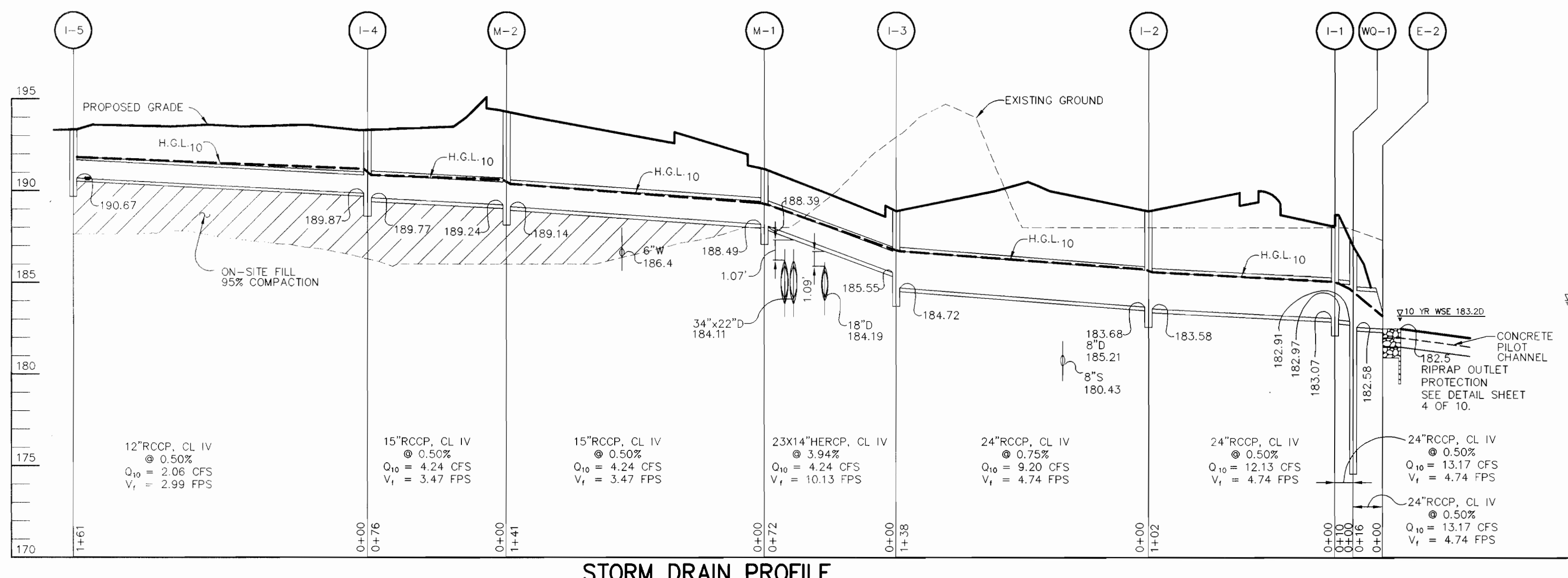
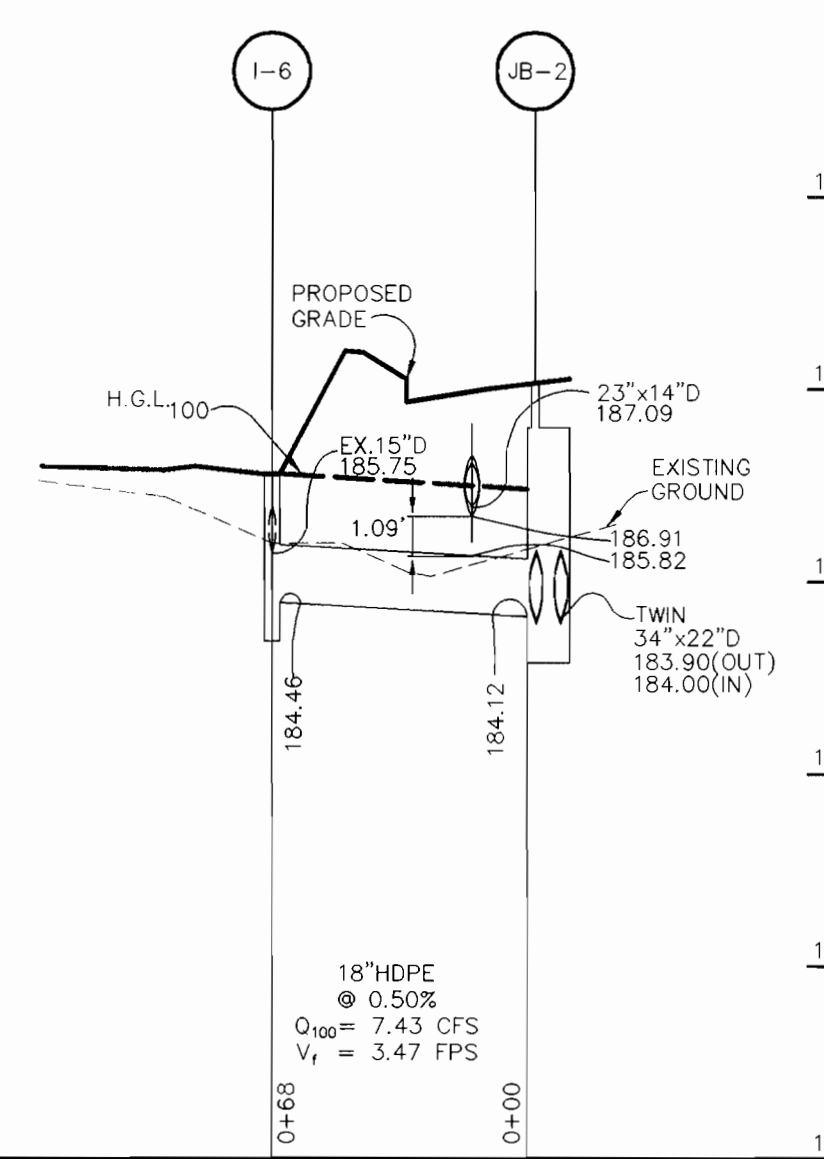
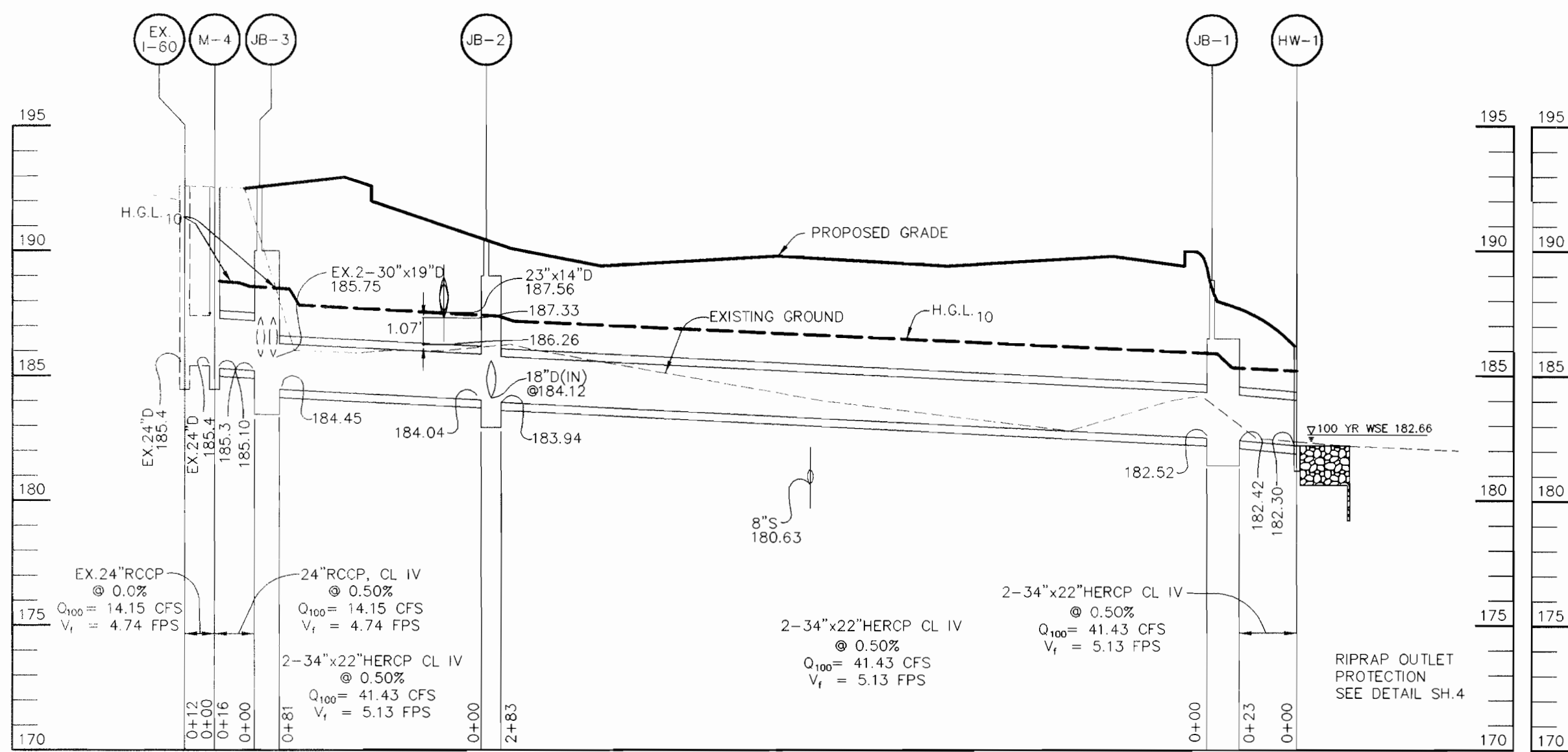
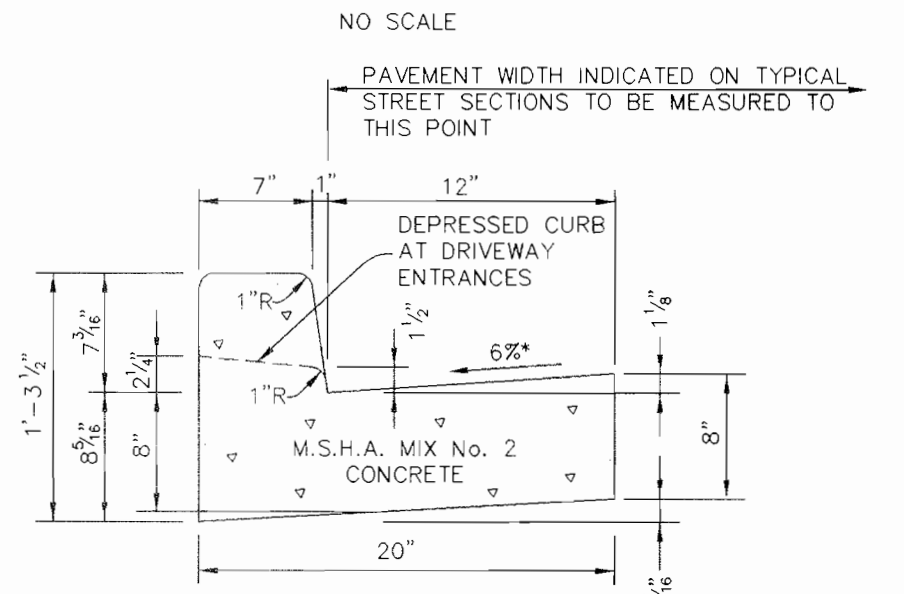
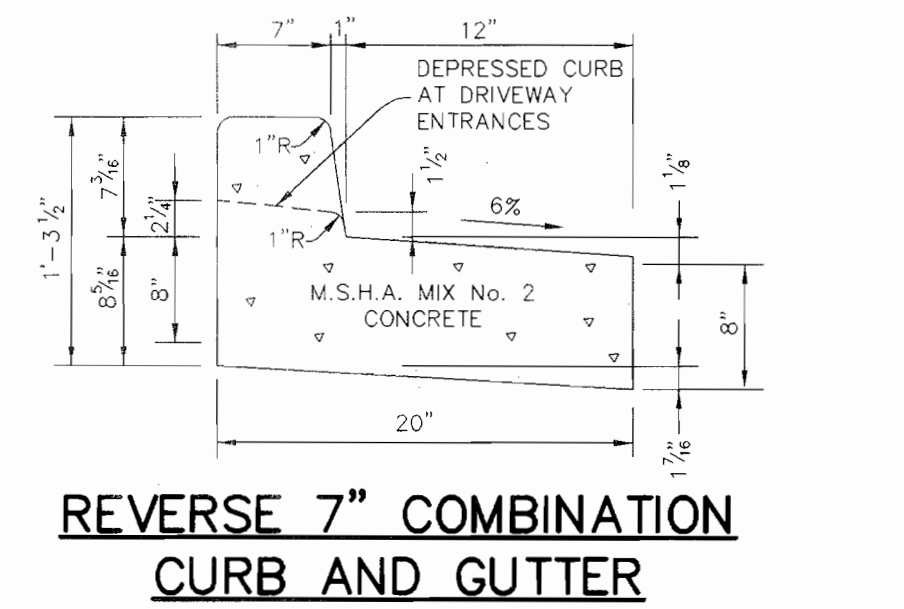
10-9-01
DATE

DESIGNED BY: CJR
DRAWN BY: DAM / KEV
PROJECT NO: 00036/
SDP4/DWG
DATE: SEPTEMBER 21, 2001
SCALE: AS SHOWN
DRAWING NO. 6 OF 11



STRUCTURE SCHEDULE

STRUCTURE	TYPE	LOCATION	INV. IN	INV. OUT	TOP	REMARKS
I-1	A-5 2.5' WIDE	* N 552,569.47 E 1,378,670.32	183.14 (24")	183.11 (24")	188.19	HOGO STD. DETAIL SD 4.40
I-2	A-5 3' WIDE	* N 552,504.22 E 1,378,592.63	183.68 (24")	183.58 (24")	188.9	HOGO STD. DETAIL SD 4.01
I-3	A-5 3' WIDE	* N 552,412.89 E 1,378,489.12	185.55 (23x14")	184.72 (24")	188.9	HOGO STD. DETAIL SD 4.01
I-4	A-5 3' WIDE	* N 552,282.77 E 1,378,606.02	184.87 (15")	184.77 (15")	193.3	HOGO STD. DETAIL SD 4.40
I-5	A-5 2.5' WIDE	* N 552,398.58 E 1,378,727.14	-	190.67 (12")	193.3	HOGO STD. DETAIL SD 4.40
I-6	YARD INLET	* N 552,420.99 E 1,378,444.71	185.75 (15")	184.46 (18")	187.8	HOGO STD. DETAIL SD 4.14
M-1	4' MH	* N 552,347.69 E 1,378,464.29	188.44 (15")	188.39(23x14")	191.5	HOGO STD. DETAIL 6 5.12
M-2	4' MH	* N 552,234.46 E 1,378,547.75	184.24 (15")	184.14 (15")	194.4	HOGO STD. DETAIL 6 5.12
M-3	4' MH	* N 552,340.90 E 1,378,398.63	185.40 (EX. 24")	183.30 (24")	192.5	HOGO STD. DETAIL 6 5.12
S-1	CONTROL STRUCTURE	* N 552,728.00 E 1,378,884.43	180.41 (7")	180.35 (24")	184.95	SEE DETAIL SHEET 6
WG-1	3-K	* N 552,577.28 E 1,378,678.95	183.42 (24")	182.59 (24")	188.19	SEE DETAIL SHEET 7
E-1	24" END SECTION	* N 552,648.17 E 1,378,914.84	180.00 (24")	180.00(RIPRAP)	-	HOGO STD. DETAIL SD 5.51
E-2	24" END SECTION	* N 552,587.99 E 1,378,690.92	182.50 (24")	182.50(RIPRAP)	-	HOGO STD. DETAIL SD 5.51
HW-1	HEADWALL	* N 552,522.82 E 1,378,732.84	182.30 (TWIN SD)	182.30 (RIPRAP)	-	SEE DETAIL SHEET 8
JB-1	JUNCTION BOX	* A N 552,542.38 E 1,378,704.08 * N 552,544.88 E 1,378,713.48 * N 552,544.93 E 1,378,711.27 * N 552,552.23 E 1,378,712.20	182.52 (TWIN SD)	182.42 (TWIN SD)	-	SEE DETAIL SHEET 8
JB-2	JUNCTION BOX	* A N 552,368.47 E 1,378,487.55 * N 552,368.40 E 1,378,491.81 * N 552,365.44 E 1,378,484.37 * N 552,368.28 E 1,378,368.56	184.12 (18")	183.94 (TWIN SD)	-	SEE DETAIL SHEET 8
JB-3	JUNCTION BOX	* A N 552,366.75 E 1,378,406.21 * N 552,365.44 E 1,378,368.56 * N 552,355.81 E 1,378,348.88	185.10 (24")	184.45 (TWIN SD)	-	SEE DETAIL SHEET 8



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Land
DIRECTOR 11/2/01 DATE

Richard
CHIEF, DEVELOPMENT ENGINEERING DIVISION 10/26/01 DATE

Cindy
CHIEF, DIVISION OF LAND DEVELOPMENT 10/21/01 DATE

10-05-05 REV. STRUCTURE SCHEDULE PER AS-BUILT SURVEY

DATE NO. REVISION

OWNER/DEVELOPER
SDC, INC.
8480 BALTIMORE NATIONAL PIKE
ELLCOTT CITY, MARYLAND 21043
410-465-4244

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL R-1
A WAREHOUSE BUILDING

AREA ZONED M-1 PARCEL R-1
TAX MAP 37, BLOCK 23 & TAX MAP 43, BLOCK 4 & 5
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
DETAILS AND PROFILES

RIEMER MUEGGE & ASSOCIATES INC
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centra Park Drive, Columbia, MD 21045
tel 410.997.8900 fax 410.997.9282

10.9.01 DATE

DESIGNED BY: CJR
DRAWN BY: DAM /KEV
PROJECT NO: 00036/
SDP6.DWG
DATE: SEPTEMBER 21, 2001
SCALE: AS SHOWN
DRAWING NO. 5 OF 11

AS-BUILT
SDP-00-144

C:\pwork\00036\SDP6.DWG - 10/25/01 10:13:25 AM 2001 RIEMER MUEGGE & ASSOCIATES, INC.

TEMPORARY SEEDING NOTES

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

Seeded 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. per 1000 sq. ft.).

Seeding: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2-1/2 bushels per acre of annual ryegrass (3.2 lbs. per 1000 sq. ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of creeping lovegrass (0.07 lbs. per 1000 sq. ft.). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 210 gal. per acre (5 gal. per 1000 sq. ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq. ft.) for anchoring.

Refer to the 1985 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

PERMANENT SEEDING NOTES

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

Seeded 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 one of the following schedules:

- Preferred - Apply 2 tons per acre dolomitic limestone (42 lbs. per 1000 sq. ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq. ft.) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (4 lbs. per 1000 sq. ft.).
- Acceptable - Apply 2 tons per acre dolomitic limestone (42 lbs. per 1000 sq. ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs. per 1000 sq. ft.) before seeding. Harrow or disc into upper three inches of soil.

Seeding: For the period March 1 thru April 30 and from August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs. per 1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. Kentucky 31 Tall Fescue and 2 lbs. per acre (0.05 lbs. per 1000 sq. ft.) of creeping lovegrass. During the period October 16 thru February 28, protect site by one of the following options:

- 2 tons per acre of well-anchored mulch and seed as soon as possible in the spring.
- Use sod.
- Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 210 gal. per acre (5 gal. per 1000 sq. ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq. ft.) for anchoring.

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

STANDARD SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).

2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1984 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.

3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) CALENDAR DAY FOR ALL PERIMETER CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3:1; B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.

5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1984 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, TEMPORARY SEEDING, AND MULCHING (SEC. 6.) TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.

6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

7. SITE ANALYSIS:

TOTAL AREA OF SITE	4.62 ACRES
AREA TO BE ROOFED OR PAVED	3.54 ACRES
AREA TO BE VEGETATIVELY STABILIZED	2.5 ACRES
TOTAL CUT	1.09 ACRES
TOTAL FILL	1,200 CU. YARDS
OFFSITE WASTE AREA LOCATION TO HAVE ACTIVE GRADING PERMIT	22,000 CU. YARDS

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR SETTLEMENT 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 INSTALLED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.

11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

12. SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.

13. SEDIMENT WILL BE REMOVED FROM TRAPS WHEN ITS DEPTH REACHES CLEAN OUT ELEVATION SHOWN ON THE PLANS.

14. CUT AND FILL QUANTITIES PROVIDED UNDER SITE ANALYSIS DO NOT REPRESENT BID QUANTITIES. THESE QUANTITIES DO NOT DISTINGUISH BETWEEN TOPSOIL, STRUCTURAL FILL OR EMBANKMENT MATERIAL, NOR DO THEY REFLECT CONSIDERATION OF UNDERCUTTING OR REMOVAL OF UNSUITABLE MATERIAL. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH SITE CONDITIONS WHICH MAY AFFECT THE WORK.

21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

Definition: Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose: To provide a suitable soil medium for vegetative growth. Soils of concern have low nutrient content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies:

- This practice is limited to areas having 2:1 or flatter slopes where:
 - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
 - The original soil to be vegetated contains material toxic to plant growth.
 - The soil is so acidic that treatment with limestone is not feasible.

Construction and Material Specifications:

- Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SS in cooperation with Maryland Agricultural Experiment Station.
- Topsoil Specifications - Soil to be used as topsoil must meet the following:
 - Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Riprap or topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1/2" in diameter.
 - Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutgrass, poison ivy, thistle, or others as specified.
 - Where 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. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following paragraphs.

For sites having disturbed areas under 5 acres:

- Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

For sites having disturbed areas over 5 acres:

- On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
 - pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
 - Organic content of topsoil shall be not less than 1.5 percent by weight.
 - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control, unless sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.

Note: Topsoil substitutes to amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority may be used in lieu of natural topsoil.

- Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

V. Topsoil Application

- When topsoiling, maintain needed erosion and sediment control practices such as diversions, grade stabilization structures, earth dikes, slope silt fence and sediment traps and basins.
- Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 6" higher in elevation.
- Topsoil shall be uniformly distributed in a 4" - 6" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
- 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 seedling preparation.

VI. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below.

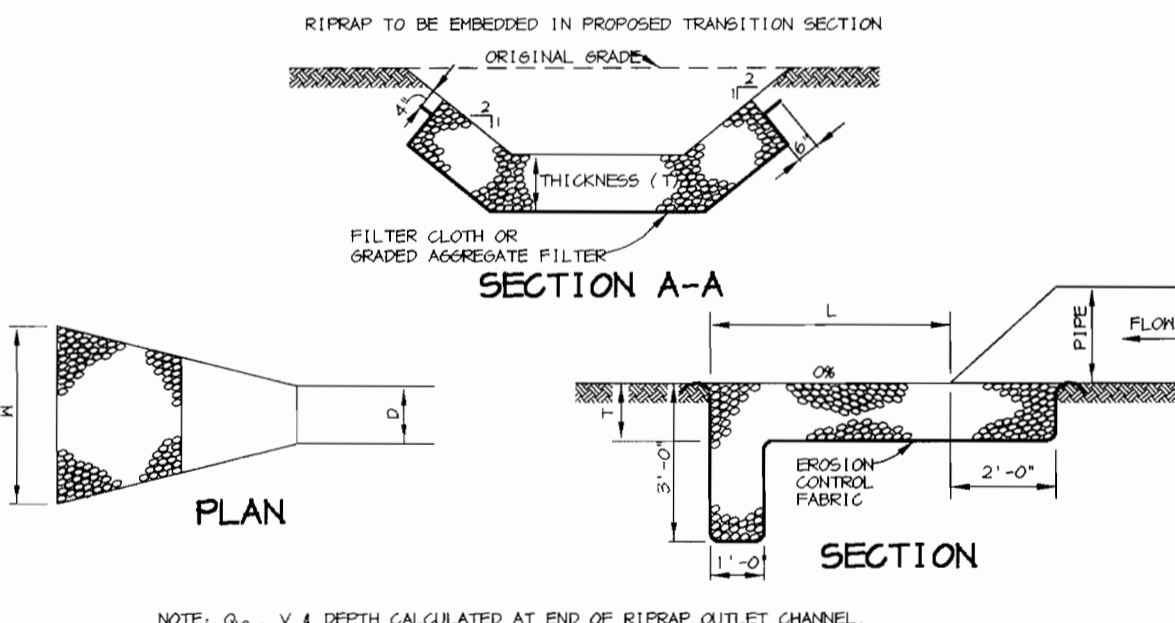
1. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall conform to the following requirements:

- Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
- Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
- Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
- Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Sodding, MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes, Revised 1975.

SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT.
- INSTALL SCE, SUPER SILT FENCE AND SILT FENCE. (3 DAYS)
- CLEAR FOR & INSTALL HW-1 THRU JB-3, THEN JB-3 TO M-4, AND FC-1 TO I-6. (3 WEEKS)
- ROUGH GRADE SITE AND COMMENCE BUILDING CONSTRUCTION.
- CONSTRUCT STORM #1 AND AS SUBGRADES ARE ESTABLISHED, INSTALL STORM DRAINAGE, WATER AND SEWER UTILITIES. (5 WEEKS)
- INSTALL CURB AND GUTTER THEN PAVE. (2 WEEKS)
- APPLY TOPSOIL AND STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES. (3 DAYS)
- INSTALL LIGHTS, LANDSCAPING, SIGNAGE AND SIDEWALKS AND COMPLETE BUILDING CONSTRUCTION. (3 MONTHS)
- UPON PERMISSION OF DILP SEDIMENT CONTROL INSPECTOR, CLEAN STORM DRAIN INLETS AND FLUSH OUT PIPES.
- UPON PERMISSION OF DILP SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES. STABILIZE REMAINING DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (1 DAY)



NOTE: Q₀ = V x 4 DEPTH CALCULATED AT END OF RIPRAP OUTLET CHANNEL.

STRUCTURE	MEDIAN STONE DIA.	LENGTH (L)	WIDTH (W)	THICKNESS (T)	Q ₀ (CFS)	V ₀ (FPS)	PARTIAL DEPTH (FT)
E-1	4.5"	10'	12'	19"	8.58	2.36	1.00
E-2	4.5"	10'	6'	19"	13.17	4.19	1.46
HW-1	4.5"	20'	8'	19"	41.43	4.22	1.87

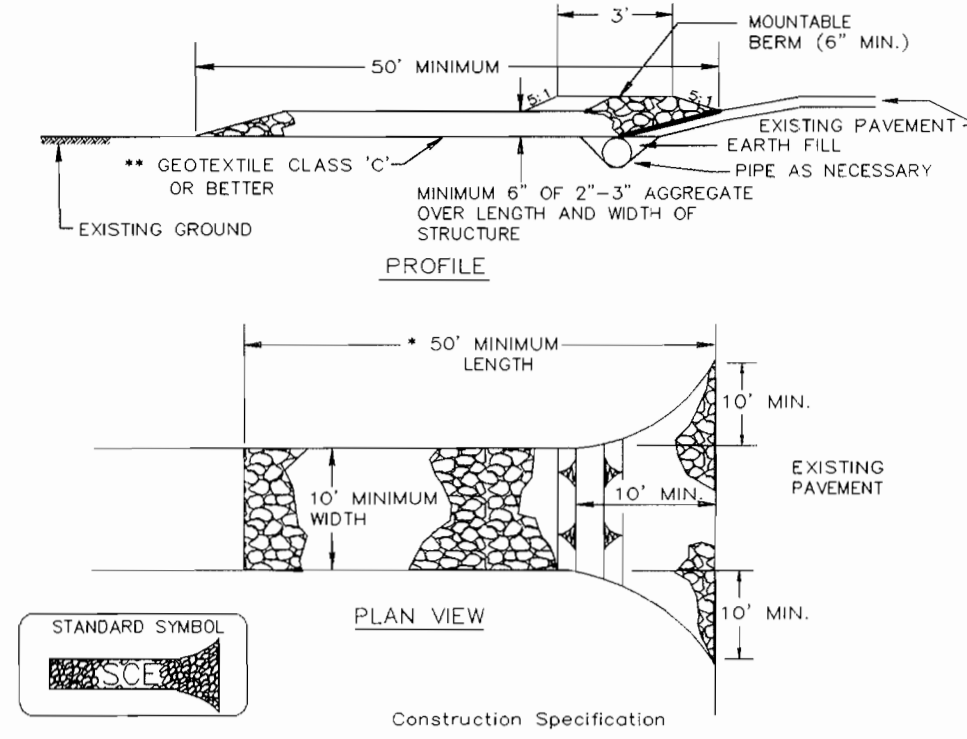
RIPRAP OUTLET PROTECTION DETAIL

NO SCALE

CONSTRUCTION SPECIFICATIONS

- THE SUBGRADE FOR THE FILTER, RIP-RAP, OR GABION SHALL BE PREPARED TO THE REQUIRED LINE AND GRADE. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
- THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIP-RAP OR FILTER.
- GEOTEXTILE CLASS C OR BETTER SHALL BE PROTECTED FROM FUNGUS, CUTTING, OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF GEOTEXTILE FABRIC OVER THE DAMAGED PORTION FOR REPAIR. WHEN JOINING TWO PIECES OF GEOTEXTILE FABRIC SHALL BE A MINIMUM OF ONE FOOT.
- STONE FOR THE RIP-RAP OR GABION OUTLETS MAY BE PLACED BY EQUIPMENT. THEY SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR RIP-RAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. RIP-RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE FABRIC. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.
- THE STONE SHALL BE PLACED SO THAT IT BLENDS IN WITH THE EXISTING GROUND. IF THE STONE IS PLACED TOO HIGH THEN THE FLOW WILL BE FORCED OUT OF THE CHANNEL AND SCOUR ADJACENT TO THE STONE WILL OCCUR.

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



1. Length - minimum of 50' (*30' for single residence lot).

2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.

3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.

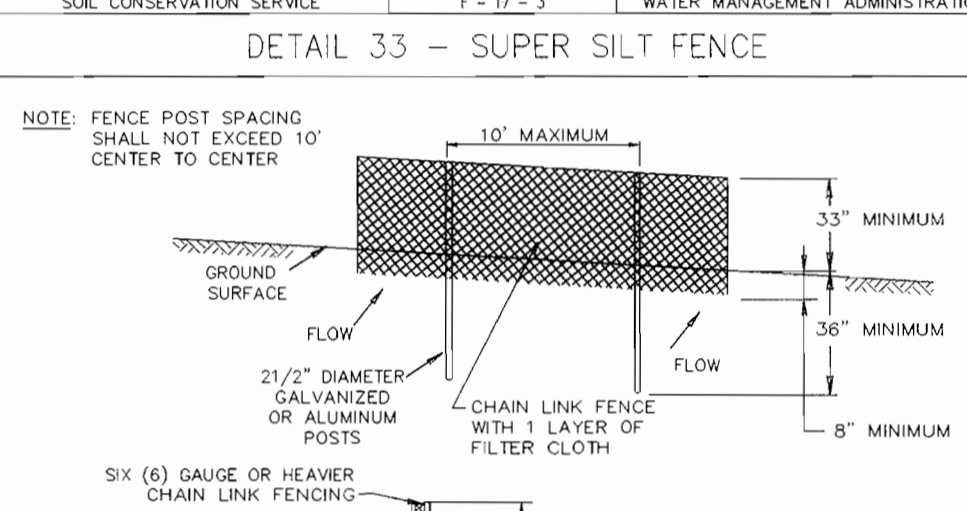
4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.

5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.

6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE F-17-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 23B - AT GRADE INLET PROTECTION

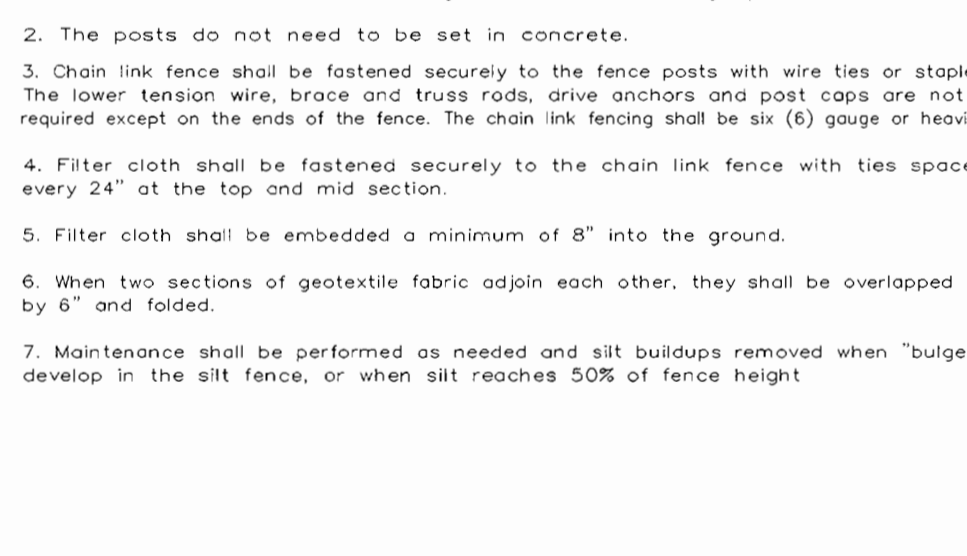


1. Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.

2. Place 3/4" to 1 1/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-18-5A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 23C - CURB INLET PROTECTION



1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway (SHA) Details for Chain Link Fencing. The SHA specifications for a 6' foot fence shall be used, substituting 42" fabric and 6' foot length posts.

2. The posts do not need to be set in concrete.

3. Chain link fence shall be fastened securely to the fence posts with wire ties or staples. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except at the ends of the fence. The chain link fence shall be six (6) gauge or heavier.

4. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.

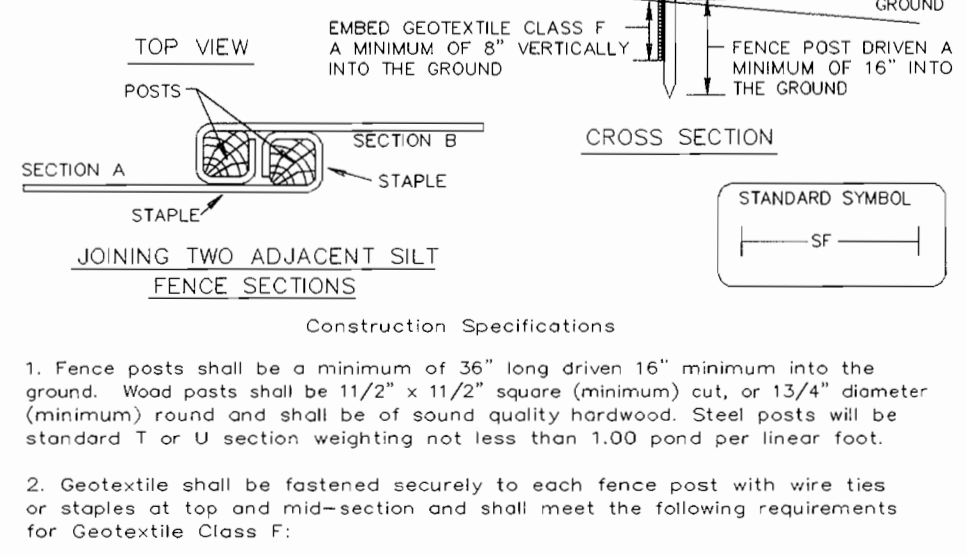
5. Filter cloth shall be embedded a minimum of 8" into the ground.

6. When two sections of geotextile fabric adjoin each other, they shall be overlapped by 6" and folded.

7. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.

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

DETAIL 22 - SILT FENCE



1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighing not less than 1.00 pound per linear foot.

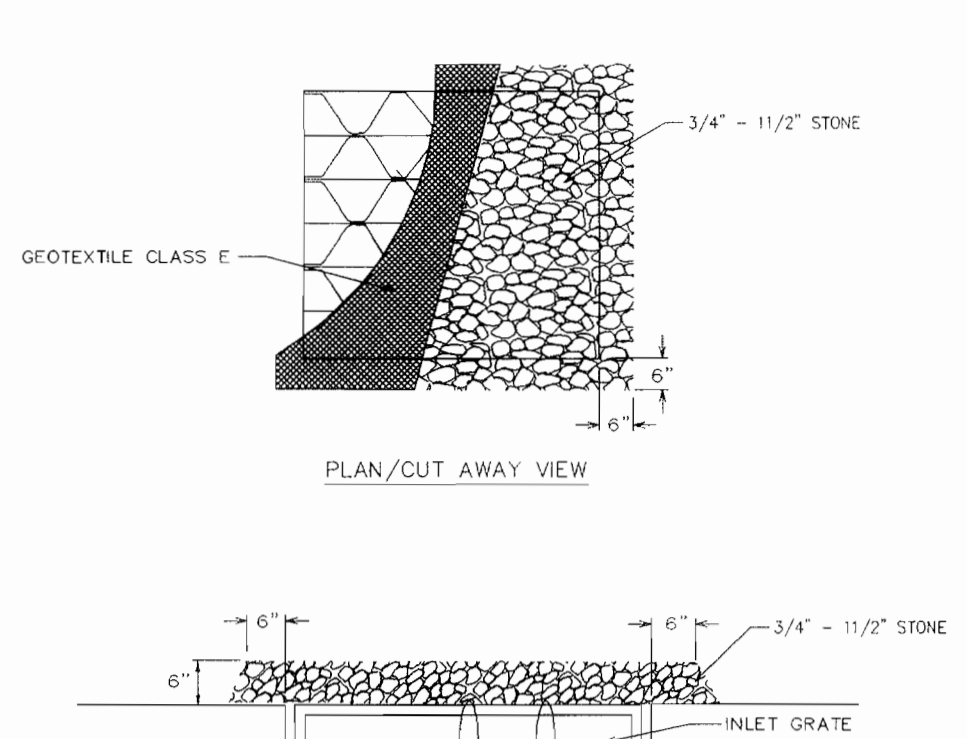
2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.

4. Silt fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

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

DETAIL 23A - AT GRADE INLET PROTECTION



1. Length - minimum of 50' (*30' for single residence lot).

2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.

3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.

4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.

5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.

6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-18-5A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

30.0 - DUST CONTROL

CONTROLLING DUST BLOWING AND MOVEMENT ON CONSTRUCTION SITES AND ROADS.

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

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

TEMPORARY METHODS

1. MULCHES - SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE COVERED OR TACKED TO PREVENT BLOWING.

2. VEGETATIVE COVER - SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER.

3. TILLAGE - TO ROUGHEN SURFACE AND BRING CLOSD TO THE SURFACE THIS IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS, BEGIN FLOWING IN MINIMUM WINDS OF 12 MPH. SPRING-TYPED FLOWS SPACED ABOUT 12" APART, SPRING-TYPED HARBORS, AND SIMILAR FLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.

4. IRRIGATION - THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED. AT NO TIME SHOULD THE SITE BE IRRIGATED TO THE POINT THAT RUNOFF BEGINS TO FLOW.

5. BARRIERS - SOLID BOARD FENCES, SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 100 FEET THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING SOIL BLOWING.

6. CALCIUM CHLORIDE - APPLY AT RATES THAT WILL KEEP SURFACE MOSTLY WET. NEED RETREATMENT.

PERMANENT METHODS

1. PERMANENT VEGETATION - SEE STANDARDS FOR PERMANENT VEGETATIVE COVER, AND PERMANENT STABILIZATION WITH SOIL. EXISTING TREES OR LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.

2. TOPSOILING - COVERING WITH LESS ERODIBLE SOIL MATERIALS. SEE STANDARDS FOR TOPSOILING.

3. STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

REFERENCES

1. AGRICULTURE, HANDBOOK 346, WIND EROSION FORCES IN THE UNITED STATES AND THEIR USE IN PREVENTING SOIL LOSS.

2. AGRICULTURE INFORMATION BULLETIN 354, HOW TO CONTROL WIND EROSION, USDA-ARS.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE H-30-1 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

AS-BUILT CERTIFICATION

10-12-05 DATE

BY THE DEVELOPER:

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

Stewart D. Hoff 10-17-01 DATE

DEVELOPER DATE

BY THE ENGINEER:

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

Christopher J. Reid 10-9-01 DATE

ENGINEER DATE

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

Jim Myers 10/24/01 DATE

NATURAL RESOURCES CONSERVATION SERVICE DATE

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

John Chabot 10/24/01 DATE

HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

David S. Suter 11/2/01 DATE

DIRECTOR DATE

Chief, Development Engineering Division 10/26/01 DATE

Cindy Hamster 10/31/01 DATE

Chief, Division of Land Development DATE

DATE NO. REVISION

OWNER/DEVELOPER

SDC, INC.
8480 BALTIMORE NATIONAL PIKE
ELLCOTT CITY, MARYLAND 21043
410-465-4244

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL R-1
A WAREHOUSE BUILDING

AREA ZONED M-1 PARCEL R-1
TAX MAP 37, BLOCK 23 & TAX MAP 43, BLOCK 4 & 5
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE **SEDIMENT CONTROL NOTES AND DETAILS**

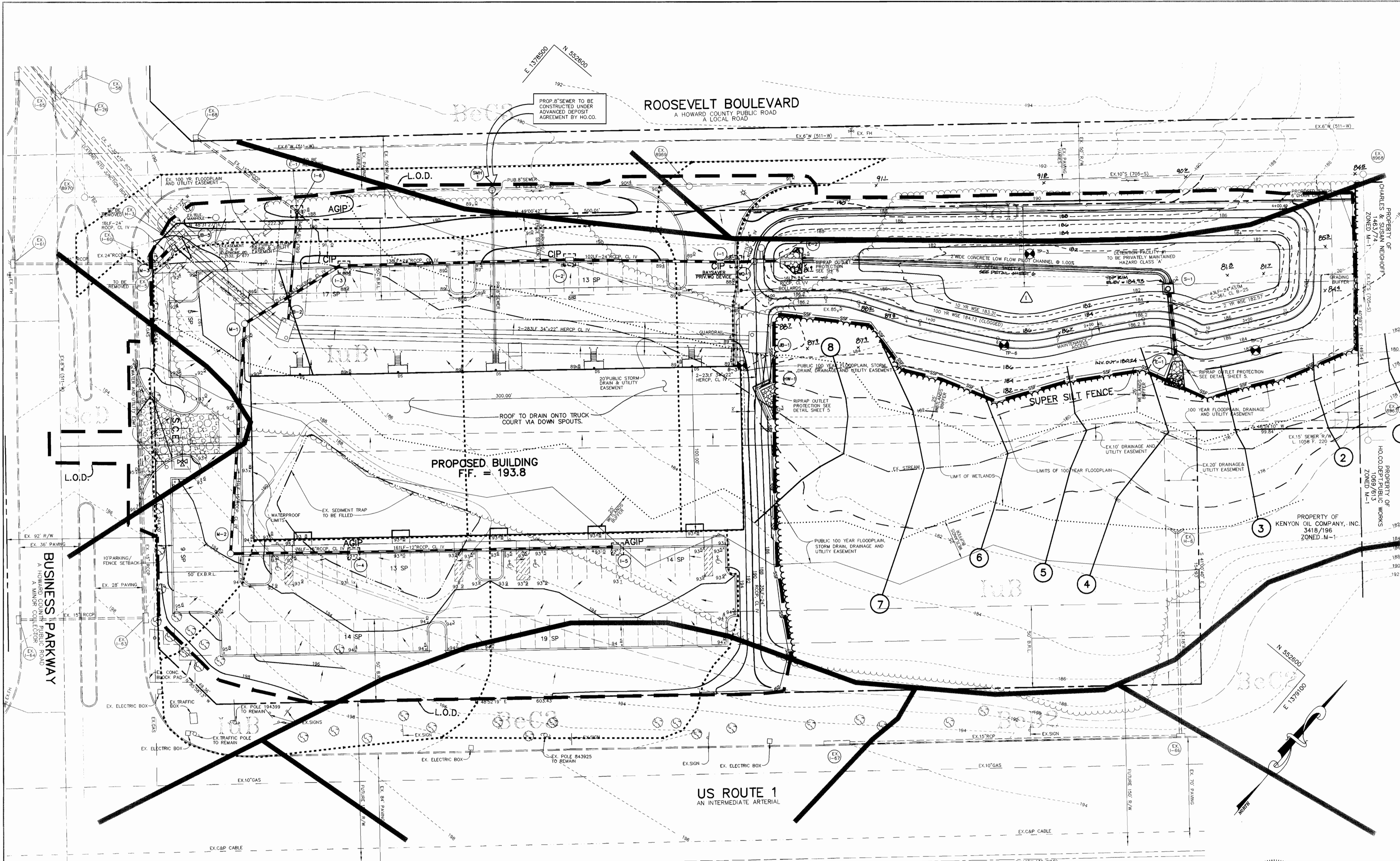
RIEMER MUEGGE & ASSOCIATES INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21045
tel 410.987.8900 fax 410.987.8282

10-9-01 DATE

DESIGNED BY: CJR

DRAWN BY: DAM

PROJECT NO. 00036/SDP



LEGEND

- DRAINAGE AREA DIVIDE
- SF --- SILT FENCE
- SSF --- SUPER SILT FENCE
- L.O.D. --- LIMIT OF DISTURBANCE
- IHP --- INLET PROTECTION
- SOIL LINE --- SOIL LINE
- 100-YR FLOODPLAIN LIMITS --- 100-YR FLOODPLAIN LIMITS
- WETLANDS LIMITS --- WETLANDS LIMITS
- EXISTING STREAM --- EXISTING STREAM
- FILTER BAGS --- FILTER BAGS

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 PROGRAM WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Edward J. Reid 10-17-01
DEVELOPER DATE

BY THE ENGINEER :

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

Christopher J. Reid 10-9-01
ENGINEER DATE

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

Jim M. Jones 10/24/01
NATURAL RESOURCES CONSERVATION SERVICE DATE

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

John Robertson 10/24/01
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Angela Bantz 11/2/01
DIRECTOR DATE

David Cummings 10/26/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Candy Hamilton 10/23/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
10-05-05	1	ADDED AS-BUILT DETENTION FACILITY INFO

OWNER/DEVELOPER

SDC, INC.
8480 BALTIMORE NATIONAL PIKE
ELLCOTT CITY, MARYLAND 21043
410-465-4244

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL R-1
A WAREHOUSE BUILDING

AREA ZONED M-1 PARCEL R-1
TAX MAP 37, BLOCK 23 & TAX MAP 43, BLOCK 4 & 5
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE GRADING, SEDIMENT CONTROL
PLAN AND DRAINAGE AREA MAP

RIEMER MUEGGE & ASSOCIATES INC
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21045
tel 410.997.9900 fax 410.997.9282

10-9-01
DATE

DESIGNED BY : CJR

DRAWN BY: DAM/K.E.V.

PROJECT NO : 00036/
SDP3.DWG

DATE : SEPTEMBER 21, 2001

SCALE : 1" = 30'

DRAWING NO. 3 OF 11

Christopher J. Reid
CHRISTOPHER J. REID #19949

FLOODPLAIN CHART

X-SECT	Q ₁₀₀ (CFS)	M.S.L. (FT)
1	154.64	179.21
2	154.64	179.09
3	154.64	179.02
4	134.60	179.50
5	134.60	180.40
6	134.60	181.12
7	134.60	182.02
8	134.60	182.60

DAM & DATA SWMF #1

STA	CHORD	ANGLE	PERCENT
1	41816.71	E 666282.30	
2	CL STA 0+34.24	1 - 2 N 40°12'56" E	
3	CL STA 0+54.57	2 - 3 R = 60.00'	
4	CL STA 0+85.24	3 - 4 N 67°37'31" E	
5	CL STA 0+84.00	4 - 5 R = 100.00'	
6	CL STA 1+42.78	5 - 6 S 62°36'37" W	
7	CL STA 1+80.01	6 - 7 R = 75.00'	
8	CL STA 2+39.56	7 - 8 R = 358.37'	
9	CL STA 2+66.96	8 - 9 R = 50.00'	
10	CL STA 2+74.25	9 - 10 R = 10.00'	
11	CL STA 3+29.10	10 - 11 R = 545.00'	
12	CL STA 3+46.16	11 - 12 R = 18.00'	
13	CL STA 3+79.67	12 - 13 N 34°02'15" W	
14	CL STA 4+00.40	13 - 14 R = 13.00'	
15	CL STA 4+00.40	N 42001.81 E 666491.15	



SOILS CHART

SOIL	DESCRIPTION
BeB2	BELTSVILLE SILT LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED
BeC2	BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, MODERATELY ERODED
BeC3	BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, SEVERELY ERODED
IuB	IUKA LOAM, LOCAL ALLUVIUM, 1 TO 5 PERCENT SLOPES
SsD	SANDY AND CLAYEY LAND, MODERATELY SLOPING

DRAINAGE DATA

INLET NOS.	AREA IN ACRES	FACTOR	PERCENT IMPERVIOUS
1	0.24	0.78	88
2	0.54	0.76	85
3	0.89	0.76	85
4	0.51	0.49	45
5	0.41	0.52	49
6	0.33	0.45	39

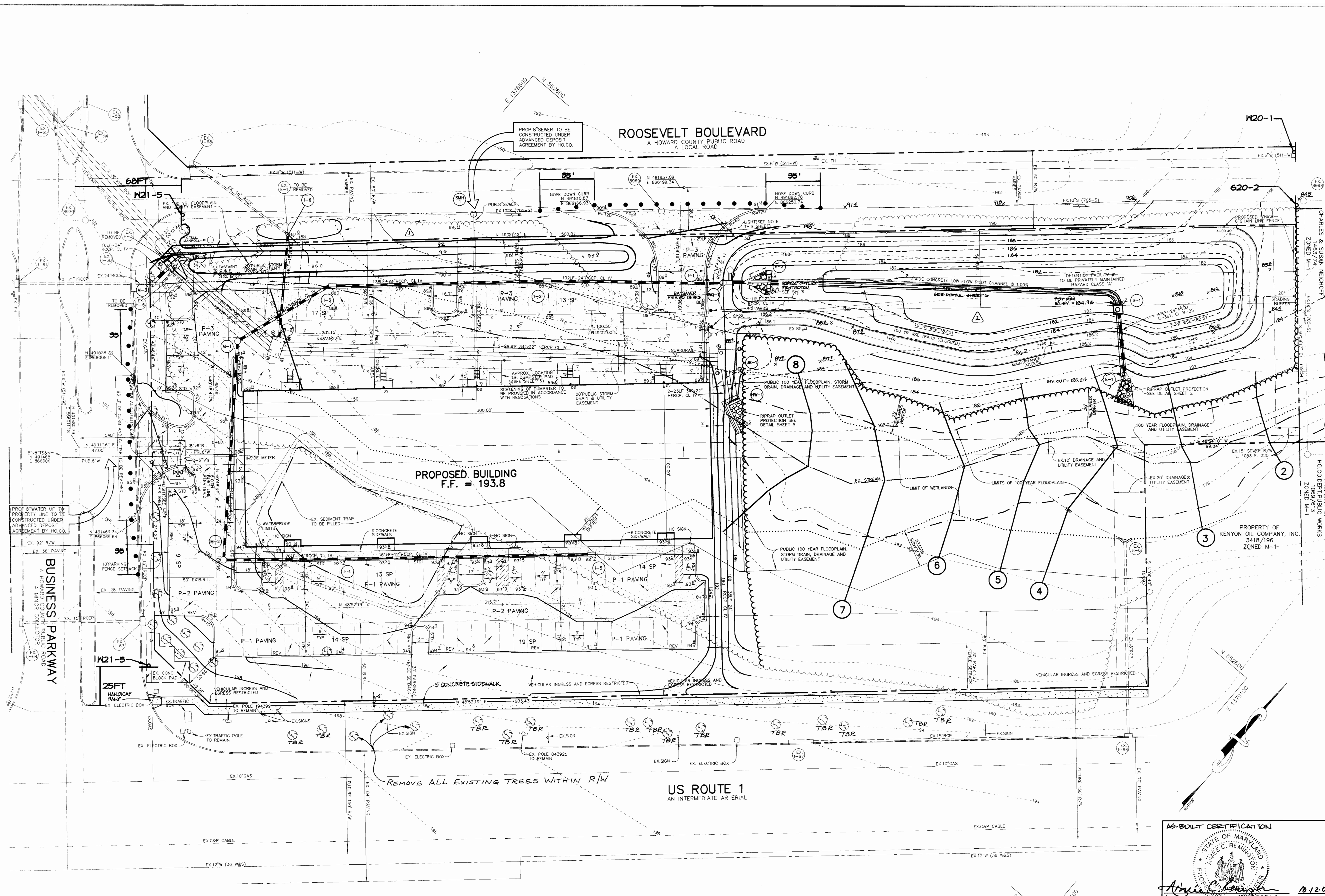
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LEGEND

- CONCRETE
- P-1 PAVING
- P-2 PAVING
- P-3 PAVING
- STD-REV STANDARD CURB - REVERSE CURB
- STREET LIGHT (SINGLE)-SEE NOTE 1

TRAFFIC CONTROL SIGNAGE LEGEND

- ◆ SIGN
- TEMPORARY BARRIER
- ◆ SHOULDER WORK
W21-5
30"x 30"
- ◆ ROAD WORK AHEAD
W20-1
30"x 30"
- ◆ END ROAD WORK
G20-2
60"x 24"



APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[Signature] DIRECTOR 11/2/01 DATE

[Signature] CHIEF, DEVELOPMENT ENGINEERING DIVISION 10/26/01 DATE

[Signature] CHIEF, DIVISION OF LAND DEVELOPMENT 10/31/01 DATE

10-05-05 ADDED AS-BUILT DETENTION FACILITY AND

5-03-04 ADDED SIDEWALK ON RET-1, BERM GRADING

DATE NO. REVISION

OWNER/DEVELOPER

SDC, INC.
8480 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21043
410-465-4244

PROJECT MEADOWRIDGE BUSINESS PARK
PARCEL R-1
A WAREHOUSE BUILDING

AREA ZONED M-1 PARCEL R-1
TAX MAP 37, BLOCK 23 & TAX MAP 43, BLOCK 4 & 5
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE SITE DEVELOPMENT PLAN



FLOODPLAIN CHART

X-SECT	Q ₁₀₀ (CFS)	W.S.E.L. (FT)
1	154.64	174.21
2	154.64	174.04
3	154.64	174.02
4	134.60	174.50
5	134.60	180.48
6	134.60	181.12
7	134.60	182.02
8	134.60	182.60

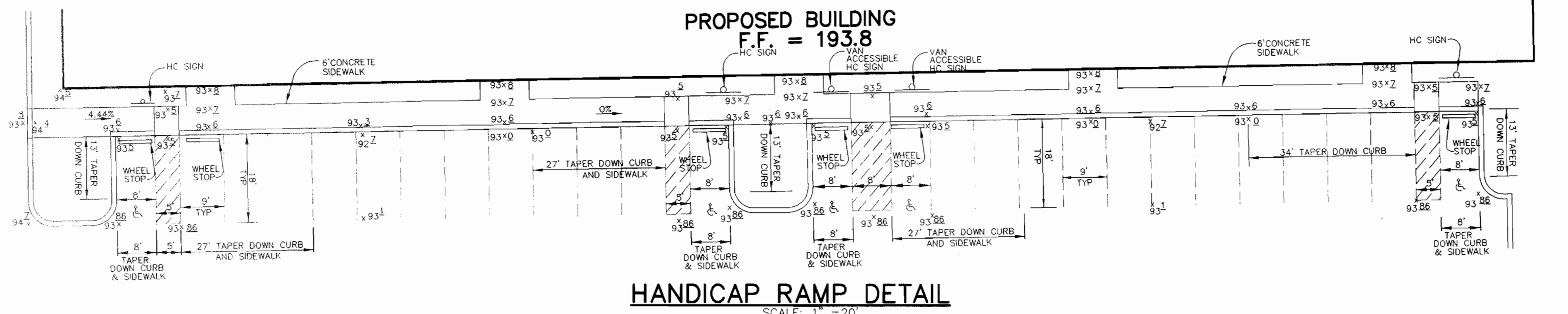
SNMP #1

SUMMARY CHART DA TO DESIGN POINT

STORM ALLOWABLE RELEASE RATE (CFS)	60.48	106.64	100 YR.
DISCHARGE (CFS)	54.17	105.21	-
ELEVATION (FEET)	182.57	183.31	184.12'
STORAGE (ACRE-FEET)	0.281	0.464	0.664

* CLOSED CONDITIONS

- NOTES:
- STREET LIGHTS TO BE 250 WATT HPS VAPOR PENDANT FIXTURE (CUTOFF) MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE USING 12" ARM, ARM RADIAL TO FILLET. STREET LIGHT ON ROOSEVELT BLVD. IS TO BE LOCATED AT STATION 0+27.89, 23.9' TO THE LEFT. STREET LIGHT ON BUSINESS PARKWAY IS TO BE LOCATED AT STATION 0+53.75, 24' TO THE RIGHT.
 - ALL EXTERIOR LIGHTING SHALL CONFORM TO ZONING REGULATIONS SECTION 134.
 - ALL CURB RADII ARE 5' UNLESS OTHERWISE LABELED.
 - ALL DIMENSIONS ARE TO FACE OF CURB OR BUILDING UNLESS OTHERWISE LABELED.
 - * LIMITS OF STD/REV CURB AND GUTTER.
 - FOR BUILDING LOCATION DIMENSIONS SEE SHEET 1.
 - NO TRUCK LOADING AREA MAY EXTEND INTO THE 50' STRUCTURE AND USE SETBACK.
 - 7.8% TO 7.5% REMOVED



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10-9-01

DESIGNED BY : CJR

DRAWN BY: DAM/K.E.V.

PROJECT NO : 00036/
SDP2.DWG

DATE : SEPTEMBER 21, 2001

SCALE : 1" = 30'

CHRISTOPHER J. REID #19949

DRAWING NO. 2 OF 11

SHEET INDEX	
NO	DESCRIPTION
1	TITLE SHEET
2	SITE DEVELOPMENT PLAN
3	GRADING, SEDIMENT CONTROL PLAN AND DRAINAGE AREA MAP
4	SEDIMENT CONTROL NOTES AND DETAILS
5	DETAILS AND PROFILES
6	STORMWATER MANAGEMENT DETAILS
7	WATER QUALITY NOTES AND DETAILS
8	DETAILS
9	LANDSCAPE PLAN
10	LANDSCAPE SCHEDULES AND DETAILS
11	STRIPING PLAN

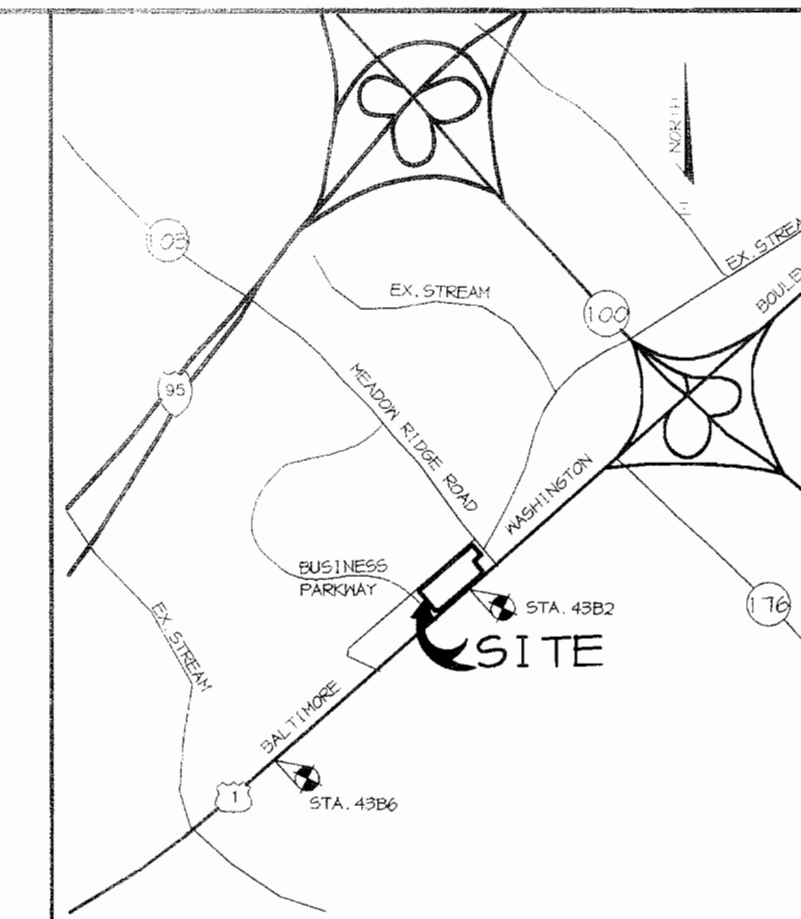
SITE DEVELOPMENT PLAN

MEADOWRIDGE BUSINESS PARK

PARCEL R-1

1st ELECTION DISTRICT

HOWARD COUNTY, MARYLAND



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/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- ALL PLAN DIMENSIONS ARE TO FACE OF CURB AND FACE OF BUILDING UNLESS OTHERWISE NOTED.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM, HOWARD COUNTY MONUMENT NOS. 43B6 AND 43B2 WERE USED FOR THIS PROJECT.
- WATER IS PUBLIC. CONTRACT NO. 511-W. NEW WATER SERVICE TO BE UNDER ADD AGREEMENT.
- SEWER IS PUBLIC. SEWER DRAINAGE AREA: PATAPSCO CONTRACT NO. 705-S. NEW SEWER SERVICE TO BE UNDER ADD AGREEMENT.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
- A 100-YEAR FLOODPLAIN STUDY WAS PREPARED BY RIEMER MUEGGE & ASSOCIATES DATED AUGUST 2000.
- THE WETLANDS DELINEATION FOR THIS PROJECT IS FROM RECORDED PLAT 9047.
- AN APFO TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY LEE CUNNINGHAM & ASSOCIATES DATED MAY, 2001. ACCORDING TO THE TRAFFIC STUDY A RIGHT TURN LANE NEEDS TO BE PROVIDED AT ROUTE 1/ROUTE 103 INTERSECTION. LANE CONSTRUCTION WILL COMMENCE PRIOR TO BUILDING CONSTRUCTION.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- THE BOUNDARY SURVEY FOR THIS PROJECT IS BASED ON PREVIOUSLY RECORDED PLAT NO. 9047 AND 14861.
- SUBJECT PROPERTY ZONED M-1 PER 10-18-93 COMPREHENSIVE ZONING PLAN.
- ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
- SEE DEPARTMENT OF PLANNING AND ZONING FILE NOS WP-00-33, WP-01-115, F-01-74, WP-04-17.
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
- ALL STORM DRAIN PIPE BEDDING SHALL BE CLASS 'C' AS SHOWN IN FIG. 11.4, VOLUME 1 OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- STORM DRAIN TRENCHES WITHIN ROAD RIGHT OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, I.E., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, LATEST AMENDMENTS.
- PROFILES STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T180.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY RIEMER MUEGGE & ASSOCIATES, INC. DATED MARCH 2000.
- A GEOTECHNICAL STUDY WAS PREPARED BY GTA, INC. DATED JAN 1998.
- STORMWATER QUALITY AND QUANTITY MANAGEMENT IS PROVIDED VIA A BAYSAYER AND A DETENTION POND.
- WP-00-33 IS A WAIVER PETITION REQUESTING PERMISSION TO WAIVE SECTION 16.116(a)(1) AND TO PERMIT GRADING WITHIN WETLAND BUFFERS AND STREAM BUFFERS AND WAS APPROVED ON FEBRUARY 14, 2000.
- ARMY O&E/MDE PERMIT TO FILL WETLANDS EXPIRES SEPTEMBER 2, 2002. PERMIT NUMBER IS #CENAB-OP-RW 90-1204-4.
- THIS PARCEL IS PART OF A PLANNED BUSINESS PARK GREATER THAN 75 ACRES THAT WAS RECORDED PRIOR TO DECEMBER 31, 1992 AND IS THEREFORE EXEMPT FROM THE FOREST CONSERVATION ORDINANCE.
- THERE ARE NO CEMETARIES OR BURIAL GROUNDS ON THE SITE TO THE BEST OF OUR KNOWLEDGE.
- WP-01-115 IS A WAIVER PETITION REQUESTING PERMISSION TO WAIVE SECTION 16.156(k) TO REACTIVATE A SITE DEVELOPMENT PLAN WHICH WAS DENIED FOR FAILURE TO SUBMIT ORIGINALS (BY 3-27-01) WITHIN 180 DAYS OF THE TECHNICALLY COMPLETE LETTER DATED SEPTEMBER 28, 2000. WAIVER WAS APPROVED MAY 10, 2001, SUBJECT TO THE FOLLOWING CONDITIONS:
 - WITH REACTIVATION OF THIS SITE DEVELOPMENT PLAN, WP-00-33 IS ALSO REACTIVATED, SUBJECT TO THE THREE CONDITIONS STIPULATED IN THE APPROVAL LETTER DATED 2-14-00.
 - UPDATE THE APFO STUDY STUDY AS REQUIRED BY THE ATTACHED COMMENTS FROM DEVELOPMENT ENGINEERING DIVISION (DED).
 - SUBMIT A REVISED SDP WITHIN 45 DAYS OF THIS APPROVAL (BY JUNE 24, 2001) ADDRESSING ALL OUTSTANDING COMMENTS FROM DED. FOUR COMPLETE SETS OF THE SDP SHOULD BE SUBMITTED (2 FOR THE DIVISION OF LAND DEVELOPMENT, 2 FOR DED). TWO COMPLETE SETS OF ANY SUPPLEMENTAL INFORMATION REQUIRED BY DED SHOULD ALSO BE SUBMITTED IN THE PACKAGE FOR THAT DIVISION.
- LANDSCAPE SURETY WILL BE POSTED WITH DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$21,600.00.

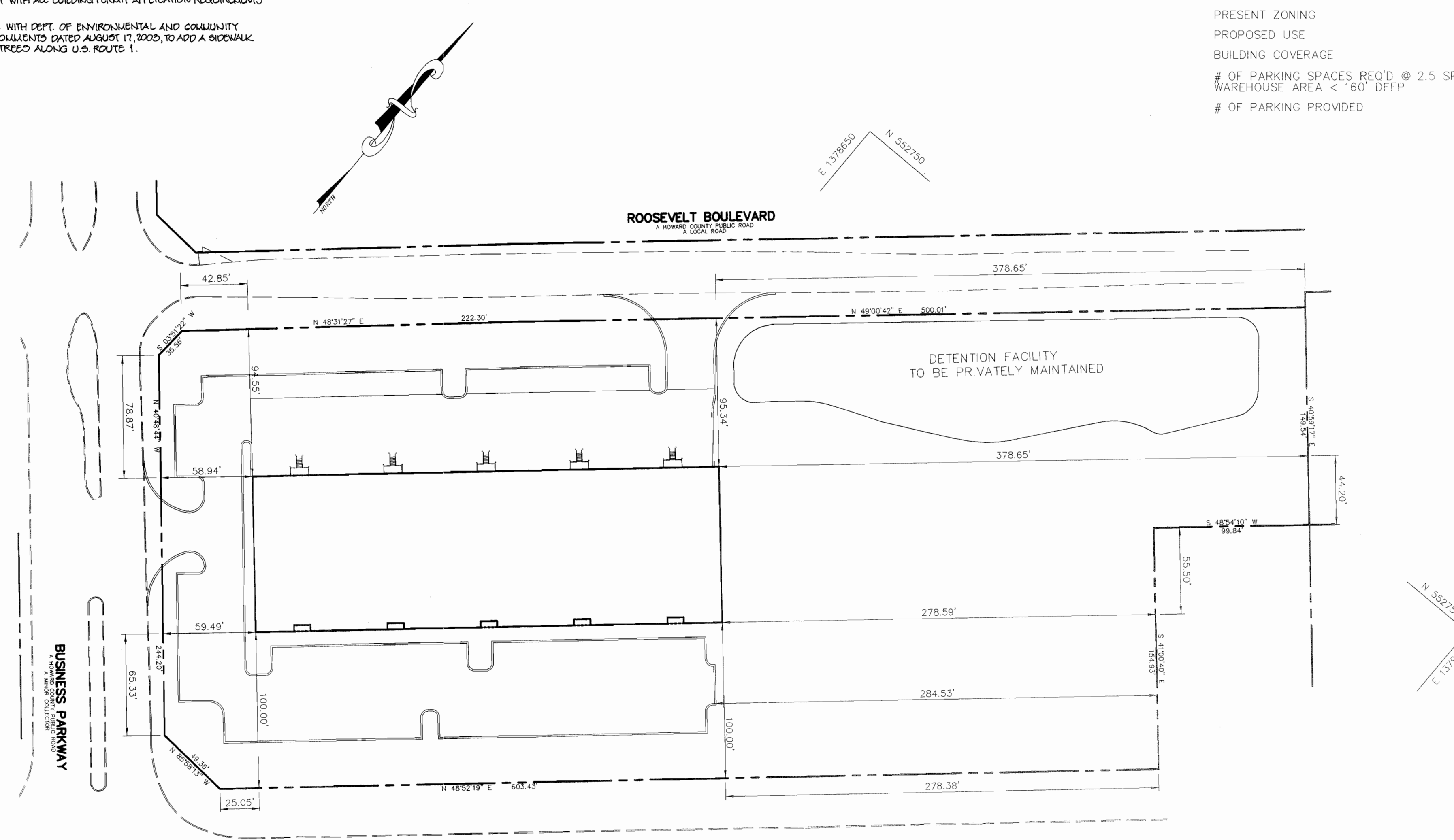
△ WP-04-17: A WAIVER OF SECTION 16.156 (k)(1)(i) WAS APPROVED BY THE DIRECTOR OF PLANNING AND ZONING ON SEPTEMBER 8, 2000. THE APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
 1) SDP-00-144 IS HEREBY REACTIVATED FOR A ONE YEAR PERIOD TO APPLY FOR BUILDING PERMITS TO INITIATE CONSTRUCTION OF THE APPROVED BUILDING(S) FOR THE SUBJECT PROPERTY. THE APPLICANT SHALL COMPLY WITH ALL BUILDING PERMIT APPLICATION REQUIREMENTS OF DCLP.
 2) COMPLIANCE WITH DEPT. OF ENVIRONMENTAL AND COMMUNITY PLANNING COLLECTIVES DATED AUGUST 11, 2000, TO ADD A SIDEWALK AND STREET TREES ALONG U.S. ROUTE 1.

AS-BUILT CONTROL BENCHMARKS

- HO. CO. SURVEY CONTROL STATION 43B6
N 550,601.59 E 1,376,866.05
ELEV. 210.61
- HO. CO. SURVEY CONTROL STATION 43B2
N 551,655.01 E 1,378,176.94
ELEV. 209.67

SITE ANALYSIS

AREA OF PARCEL	4.62 ACRES 201,444 SF
DISTURBED AREA	3.59 ACRES 156,164 SF
PRESENT ZONING	M-1
PROPOSED USE	1 OFFICE/WAREHOUSE FACILITY (ONE STORY)
BUILDING COVERAGE	30,000 SF (15% COVERAGE)
# OF PARKING SPACES REQ'D @ 2.5 SP/1000 SF WAREHOUSE AREA < 160' DEEP	75 SPACES
# OF PARKING PROVIDED	104 SPACES (INCLUDING 5 HC)



APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>Joseph B. Pratt</i> DIRECTOR	11/2/01 DATE
<i>Michael J. ...</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	10/26/01 DATE
<i>Candy ...</i> CHIEF, DIVISION OF LAND DEVELOPMENT	10/31/01 DATE

1-10-01	ADDED WP-04-17 NOTE #91 WHICH STATES THAT SDP-00-144 HAS BEEN REACTIVATED AS OF 2-8-02.
DATE NO.	REVISION
OWNER/DEVELOPER	
SDC, INC. 8480 BALTIMORE NATIONAL PIKE ELLCOTT CITY, MARYLAND 21043 410-465-4244	
PROJECT MEADOWRIDGE BUSINESS PARK PARCEL R-1 A WAREHOUSE BUILDING	
AREA ZONED M-1 PARCEL R-1 TAX MAP 37, BLOCK 23 & TAX MAP 43, BLOCK 4 & 5 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE	
TITLE SHEET	

AS-BUILT CERTIFICATION

STATE OF MARYLAND
JAMES C. REMINGTON, JR.
PROF. 10120
10/2/01
DATE

ADDRESS CHART	
PARCEL	STREET ADDRESS
R-1	6785 BUSINESS PARKWAY

SUBDIVISION NAME - MEADOWRIDGE BUSINESS PARK	SECT./AREA -	PARCEL - R-1
PLAT # - 14861	BLOCK # - 23	TAX MAP NO. - 37
	4 & 5	M-1
		37
		43
		1st
		6012
WATER CODE - B01	SEWER CODE -	2153000

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10-9-01
DATE

DESIGNED BY : CJR
DRAWN BY : K.E.V.
PROJECT NO : 00036/
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DATE : SEPTEMBER 21, 2001
SCALE : 1"=50'
DRAWING NO. 1 OF 11

CHRISTOPHER J. REID #19949
AS-BUILT

BUILDING ELEVATION
SCALE: 1" = 30'