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SITE DEVELOPMENT PLAN

FAIRFAX RECYCLING INC.

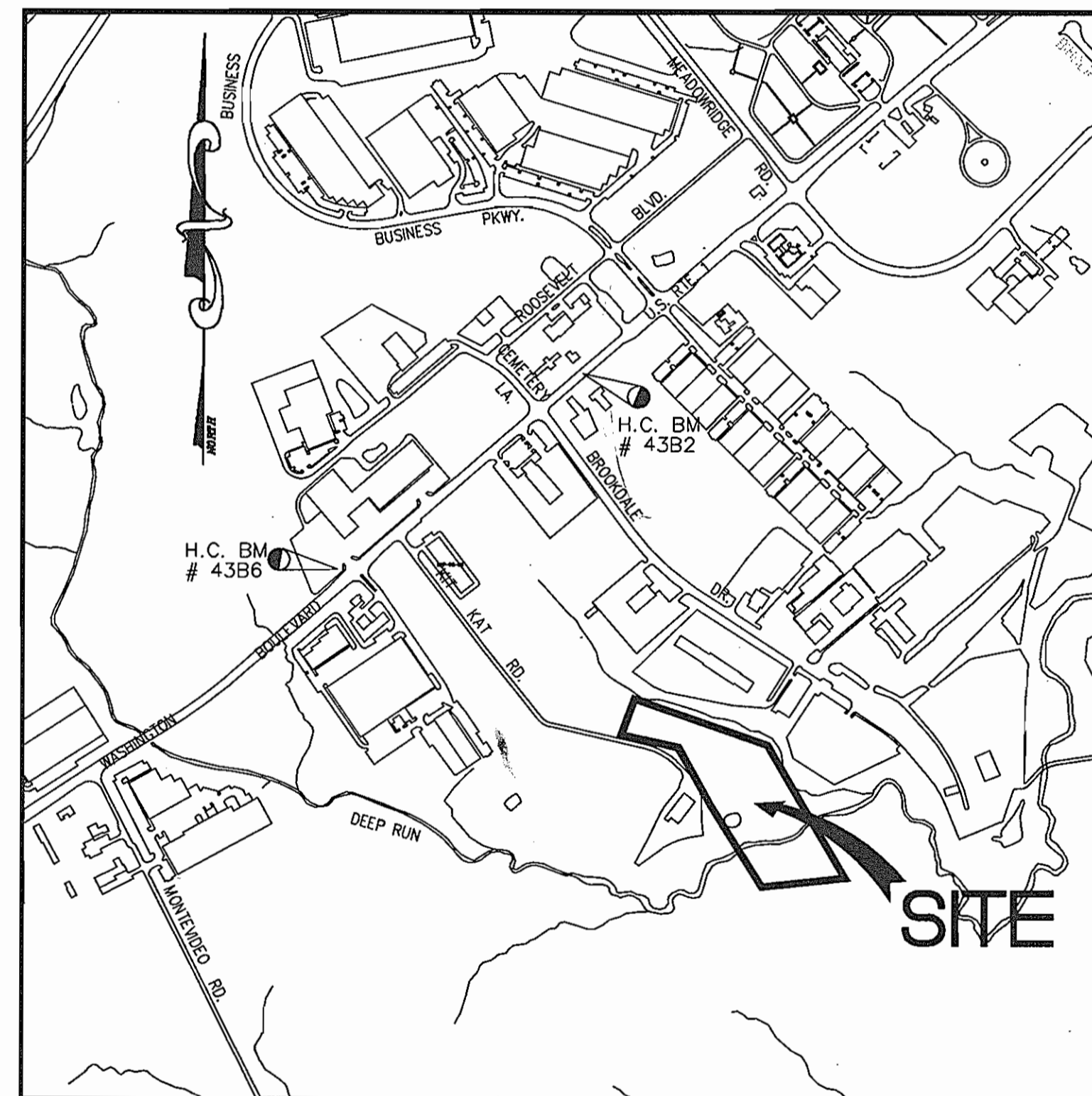
1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS M.S.H.A. STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE LOCATIONS OF THE UTILITIES SHOWN IS APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE EXISTENCE, LOCATION AND DEPTH OF ANY UTILITIES AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO BEGINNING WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE ENGINEERING OFFICE, PHOENIX ENGINEERING, INC. AT (410) 247-8833 IN THE EVENT OF ANY DISCREPANCIES IN THE PLANS OR IN THE RELATIONSHIP OF FINISHED GRADES TO EXISTING GRADES, PRIOR TO BEGINNING ANY WORK.
- THE CONTRACTOR SHALL NOTE THAT IN THE CASE OF DISCREPANCY BETWEEN THE SCALED AND FIGURED DIMENSIONS SHOWN ON THESE PLANS, THE FIGURED DIMENSIONS SHALL GOVERN.
- IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY WORK WHICH NORMALLY BE REQUIRED TO COMPLETE THE PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PERFORM SUCH WORK.
- CONTRACTOR TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK ON THESE DRAWINGS:

"MISS UTILITY.....1 (800) 257-7777
BALTIMORE GAS & ELECTRIC COMPANY.....(410) 685-0123
VERIZON TELEPHONE.....(410) 725-9976
AT&T CABLE LOCATION DIVISION.....(410) 393-3553
HOWARD COUNTY BUREAU OF UTILITIES.....(410) 313-4900
HOWARD COUNTY CONSTRUCTION/INSPECTION SURVEY DIVISION
(24 HOURS NOTICE PRIOR TO COMMENCEMENT OF WORK).....(410) 313-1880

- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- NO PIPE SHALL BE LAID UNTIL LINE OF EXCAVATION HAS BEEN BROUGHT TO SUBGRADE.
- ALL SPOT ELEVATIONS SHOWN ARE TOP OF PROPOSED PAVING OR CONCRETE. WHEN ADJACENT TO CURB, ELEVATION SHOWN IS BOTTOM OF CURB FLOWLINE.
- STORM WATER QUANTITY AND QUALITY MANAGEMENT IS BEING PROVIDED ON SITE IN THE FORM OF A DETENTION FACILITY. THIS FACILITY WILL BE PRIVATELY OWNED AND MAINTAINED.
- HANDICAP RAMPS SHALL MEET ADA REQUIREMENTS.
- THE CONTRACTOR SHALL OBTAIN THE NECESSARY BUILDING PERMITS FOR CONSTRUCTION.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM A FIELD SURVEY WITH 2' CONTOUR INTERVALS PREPARED BY GUTSCHICK, LITTLE AND WEBER P.A., DATED MAY, 1993, AND A FIELD RUN UPDATE SURVEY BY ERIK MARKS, INC. IN NOVEMBER, 2003.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE GRID COORDINATES, NAD 83. ALL VERTICAL CONTROLS ARE BASED ON NGVD 29 DATUM.
- CONTRACTOR SHALL USE DIMENSIONS SHOWN. SCALING OF THESE PLANS IS DISCOURAGED UNLESS DIRECTED BY THE CIVIL ENGINEER.
- ANY DAMAGE TO COUNTY RIGHT-OF-WAY, EXISTING UTILITIES AND PAVING OF PUBLIC ROADS SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTORS EXPENSE IN ACCORDANCE WITH THE HOWARD COUNTY SPECIFICATIONS AND STANDARDS.
- THERE ARE NO KNOWN CEMETERIES LOCATED ON THIS SITE.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF 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 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. 43B2 AND 43B6 WERE USED FOR THIS PROJECT.
- WATER AND SEWER ARE (PUBLIC) AND ARE IN THE LITTLE PATUXENT DRAINAGE AREA AND ARE DESIGNATED AS CONTRACT NO. 14-3306-D, 579-S AND CAPITAL PROJECT W-8148.
- THE FLOODPLAIN STUDY FOR THIS PROJECT WAS PREPARED BY GUTSCHICK, LITTLE AND WEBER P.A. IN AUGUST, 1993 AND WAS APPROVED BY HOWARD COUNTY, SEE PLAT NO. 11226.
- THE WETLANDS DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY EXPLORATION RESEARCH, INC. OCTOBER, 1993.
- A TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT, AND IS INCLUDED WITH THIS SUBMISSION.
- THIS PROPERTY IS ZONED M-2 PER THE 2/2/2004 COMPREHENSIVE ZONING PLAN. THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION REGULATIONS AND THE AMENDED ZONING REGULATIONS PER COUNCIL BILL 75-2003.
- NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE WETLANDS, STREAM(S) OR THEIR REQUIRED BUFFERS AND FOREST CONSERVATION EASEMENT AREAS.
- THIS PLAN IS SUBJECT TO WP 02-18, WP 04-38, SDP 94-18, F 04-81 AND PLAT OF EASEMENT #11226.
- A FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS A PART OF THE DPW DEVELOPERS AGREEMENT IN THE AMOUNT OF \$5,550. THIS SURETY IS BASED ON 14 SHADE TREES AT \$300 PER SHADE TREE AND 9 EVERGREEN TREES AT \$150 PER EVERGREEN TREE.



LOCATION MAP

SCALE: 1" = 1000'

ZONING HISTORY

- WP 02-18 WHICH ASKED FOR A WAIVER TO SECTION 16.155 (a)(1)(i) WHICH REQUIRES SITE DEVELOPMENT PLAN APPROVAL PRIOR TO ISSUANCE OF GRADING OR BUILDING PERMITS FOR NON-RESIDENTIAL DEVELOPMENTS WAS DENIED ON OCTOBER 1, 2001.
- WAIVER PETITION WP 04-38, WHICH ASKS FOR RELIEF FROM PROVIDING ROAD IMPROVEMENTS ON KIT KAT ROAD, WAS DENIED ON OCTOBER 16, 2003.

30. THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL WITH A BREAK-EVEN RETENTION OBLIGATION OF 2.39 ACRES WHICH HAS BEEN MET BY RECORDING 2.30 ACRES OF FOREST CONSERVATION EASEMENT AREA ON FINAL PLAT, F 04-81, PLAT NO. 17219 AND PAYMENT OF FEE-IN-LEIU FOR 0.11 ACRES. THE OWNER SHALL PAY \$2,396.00 FOR FEE-IN-LEIU FOR 0.11 ACRES (4,792 SF X \$0.50/SF).

31. THE OWNER SHALL POST A FOREST RETENTION SURETY OF \$20,023.00 (2.30 ACRES (100,115 SF) X \$0.20/SF) PRIOR TO THE BEGINNING OF THE CONSTRUCTION PHASE.

32. THE FOREST CONSERVATION EASEMENTS INDICATED ON THIS PLAN HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE. NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENTS, HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENTS ARE ALLOWED.

SITE ANALYSIS

- TOTAL AREA OF SITE = 11,747 AC. OR 511,662 SQ. FT.
TOTAL AREA OF THIS SUBMISSION = 11,747 AC. OR 511,662 SQ. FT.
- ZONING M-2
- EXISTING USE = OFFICE/MATERIAL & VEHICLE STORAGE
PROPOSED USE = INDUSTRIAL WAREHOUSE/OFFICE

THE PROPOSED USE IS CATEGORIZED AS A MATERIAL RECOVERY FACILITY-SOURCE SEPARATED. SORTING OF RECYCLABLES IS ALLOWED BUT SORTING OF GENERAL REFUSE OR SOLID WASTE IS NOT.
- THERE ARE EXISTING FLOODPLAINS AND WETLANDS ON THIS SITE AND ARE SHOWN ON THE DRAWINGS. NO WETLANDS, FLOODPLAINS OR THEIR BUFFERS ARE BEING DISTURBED BY THIS DEVELOPMENT.
- EXISTING VEGETATION ON SITE IS IN THE FORM OF LAWN AND WOODLAND.
- OPEN SPACE (GREEN AREA) TO REMAIN ON SITE = 321,735 SQ. FT. OR 64.7% OF GROSS AREA.
- BUILDING COVERAGE OF SITE =
BLDG A 1315 SF
BLDG B 47800 SF
BLDG C 3132 SF (FUTURE)
BLDG D 3132 SF (FUTURE)
BLDG E 6372 SF (FUTURE)
TOTAL 61,751 SF OR 12.1% OF SITE
- TOTAL AREA TO BE DISTURBED = 5.64 AC. OR 245,680 SQ. FT.
- THE SOIL TYPES SHOWN ON THESE PLANS ARE AS SHOWN IN THE "HOWARD COUNTY SOILS SURVEY". THE SITE IS PREDOMINANTLY TYPE B AND C SOILS WITHIN THE DEVELOPED AREA.

PARKING TABULATIONS

A. BUILDING AREA		
EXISTING BUILDING A: OFFICE-1,315 SQ. FT. @ 3.3 SPACES/1,000 SQ. FT.	=	5 SPACES REQUIRED
PROPOSED BUILDING B: MEZZANINE-1,275 SQ. FT. @ 0.5 SPACES/1,000 SQ. FT.	=	1 SPACE REQUIRED
WAREHOUSE-OVER 160' DEEP, 47,800 SQ. FT. @ 0.5 SPACES/1,000 SQ. FT.	=	24 SPACES REQUIRED
OFFICE-2,755 SQ. FT. @ 3.3 SPACES/1,000 SQ. FT.	=	0 SPACES REQUIRED
PROP. BLDG. C (FUTURE)		
WAREHOUSE- 3,132 SQ.FT @ 2.5 SPACES/1000 SQ.FT	=	8 SPACES REQUIRED
PROP. BLDG. D (FUTURE)		
WAREHOUSE- 3,132 SQ.FT @ 2.5 SPACES/1000 SQ.FT	=	8 SPACES REQUIRED
PROP. BLDG. E (FUTURE)		
WAREHOUSE- 6,372 SQ.FT @ 2.5 SPACES/1000 SQ.FT	=	16 SPACES REQUIRED
TOTAL NUMBER OF PARKING SPACES REQUIRED	=	72 SPACES REQUIRED
PHASE I	=	64 SPACES PROVIDED
B. TOTAL NUMBER OF PARKING SPACES PROVIDED (INCL. FUTURE)= 106 SPACES PROVIDED		
C. TOTAL HANDICAP SPACES REQUIRED		
REGULAR HANDICAP SPACES PROVIDED 8'X18' TYPICAL (WITH 5' AISLE)	=	1 SPACE
VAN ACCESSIBLE HANDICAP SPACES PROVIDED 8'X20' TYPICAL (WITH 8' AISLE)	=	6 SPACES
TOTAL HANDICAP SPACES PROVIDED	=	7 SPACES

LEGEND

- 188--- EX. CONTOUR
- 188— PROPOSED CONTOUR
- 52 X 61 SPOT ELEVATION
- — — — — PROP. STORM DRAIN
- — — — — PROPERTY LINE

ADDRESS CHART

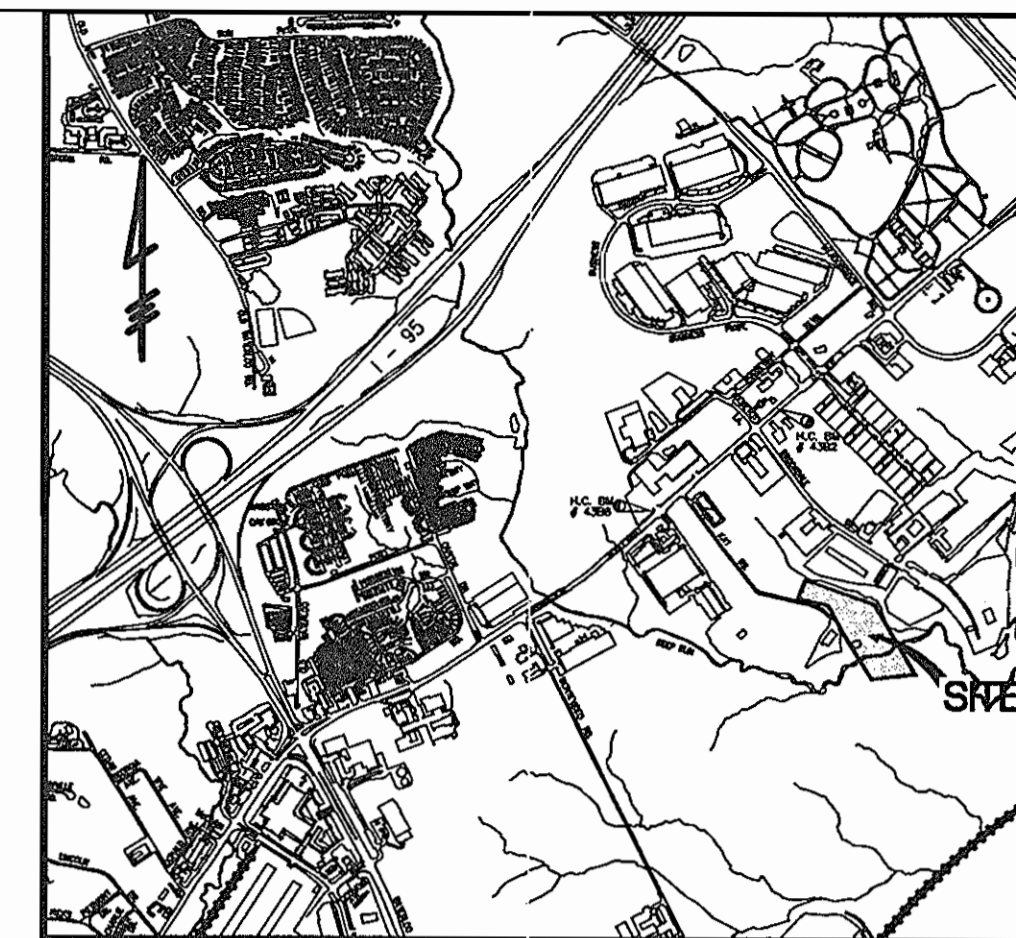
LOT No.	STREET ADDRESS				
PARCEL 49 BLDG A	7167 KIT KAT ROAD PARCEL A				
BLDG B	7175 KIT KAT ROAD PARCEL B				
PERMIT INFORMATION CHART					
SUBDIVISION NAME	SECT./AREA	PARCEL			
KIT KAT CENTER-PARCELS A & B	N/A	A #B			
DEEDS	BLOCK	ZONE	TAX./ZONE	ELEC. DIST.	CENSUS TR.
17219 - 17219	11	M-2	MAP 43	1 ST	6011.01
PLAT	WATER CODE	SEWER CODE			
	B-01	2370000			

9-10-04

Date



JOHN R. HEINRICHS
Professional Engr. No. 14920



VICINITY MAP

SCALE: 1" = 2000'

BM #43B2 ELEV. 209.601
X-CUT IN BRASS DISC IN MEDIAN ISLAND OF US ROUTE 1
46.52' NORTHEAST OF C&P POLE #100

BM #43B6 ELEV. 209.601
BRASS DISC IN MEDIAN ISLAND OF US ROUTE #1, 86.8'
EASTERLY OF BG&E POLE #131860

NORTHING 550601.597
EASTING 1376866.072

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
CHIEF, DEVELOPMENT ENGINEERING DIVISION	2/3/05
CHIEF, DIVISION OF LAND DEVELOPMENT	2/3/05
DIRECTOR	2/11/05

Date	No	Revision Description
1-23-07	1	ADDED MEZZANINE LEVEL FOR STORAGE IN BUILDING 'B'
9-15-05	2	ADDED TRUCK SCALES AND REVISED BLDG 'B'

OWNER:
D. ERIC SELINE
14852 OLD GUNPOWDER ROAD
LAUREL, MD, 20707
(410) 792-2999

DEVELOPER:
CRAIG STUART-PAUL
P.O. BOX 21171
CATONSVILLE, MD 21228
410-340-9387

PROJECT:
FAIRFAX RECYCLING INC.
KIT KAT CENTER PARCELS A AND B
7167 KIT KAT ROAD ELLICOTT CITY, MD.
Tax Map No. 43, Grd 11, Elec. Dist. No. 1, Parcel 49
HOWARD COUNTY, MARYLAND

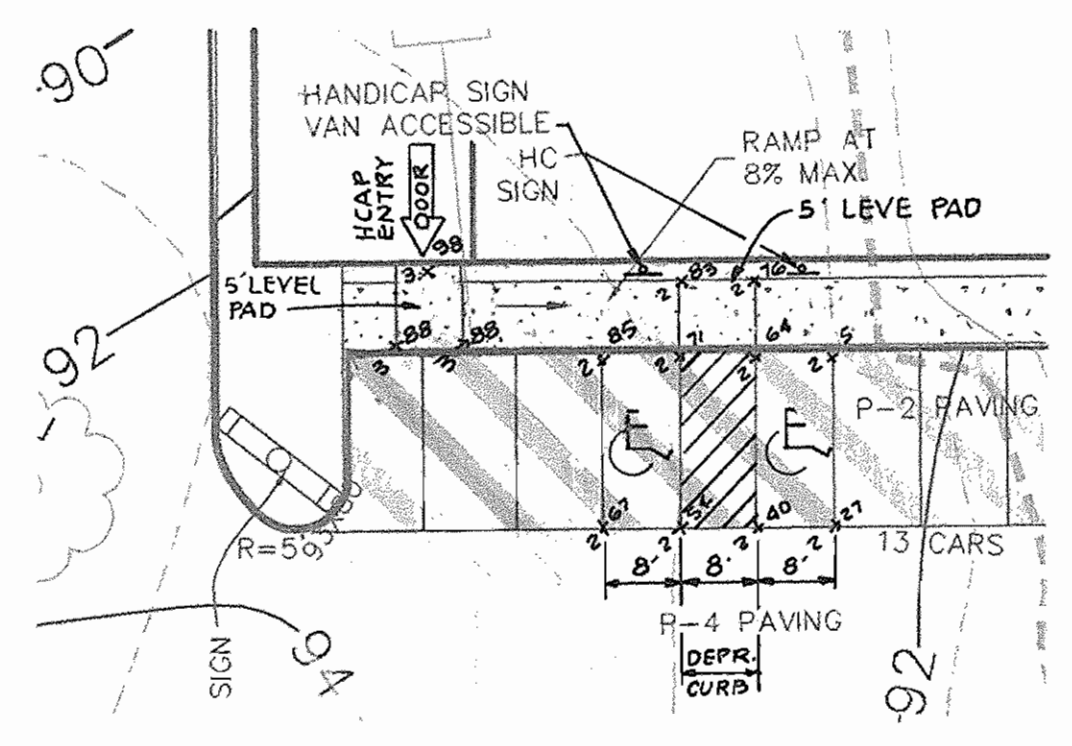
PREPARED BY:
PHOENIX ENGINEERING, INC.
CONSULTING ENGINEERS
1420-A JOH AVE
BALTIMORE, MARYLAND 21227
(410) 247-8833 FAX 247-9387

AREA:
PARCEL: 49 TAX MAP: 43
CENSUS TRACT 6011.01 1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

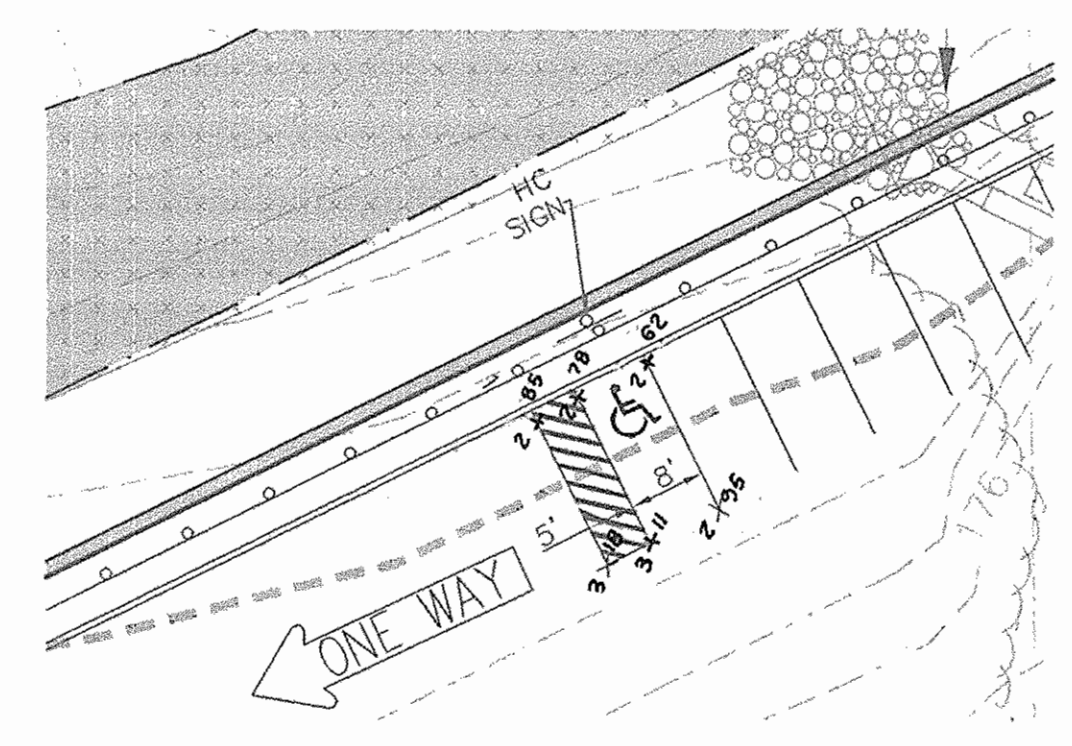
TITLE:
COVER SHEET

SEE SDP 94-18	Des By R.J.W.	Scale AS SHOWN	Proj No 02-021
	Drn By S.E.W.	Date JANUARY, 2004	DRAWING NO 101dwg
	Chk By J.R.H.	SDP 04-024	1 OF 18

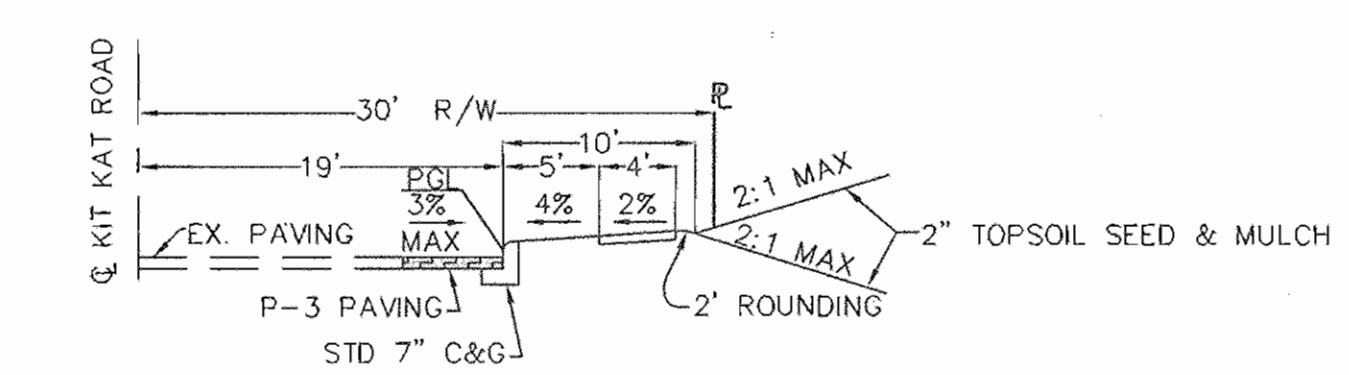
SDP 04-024



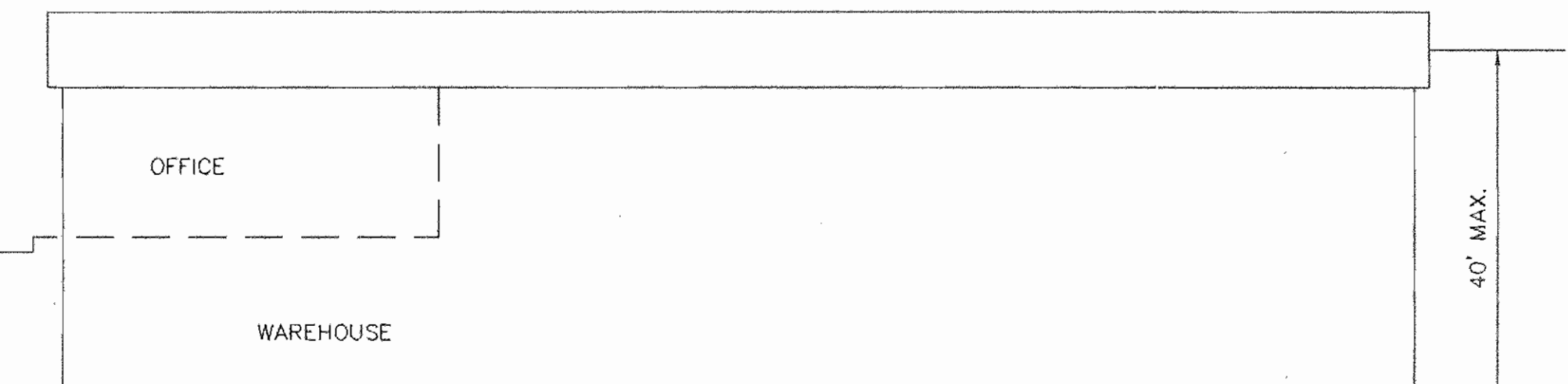
HANDICAP ENTRANCE
SCALE 1"=20'



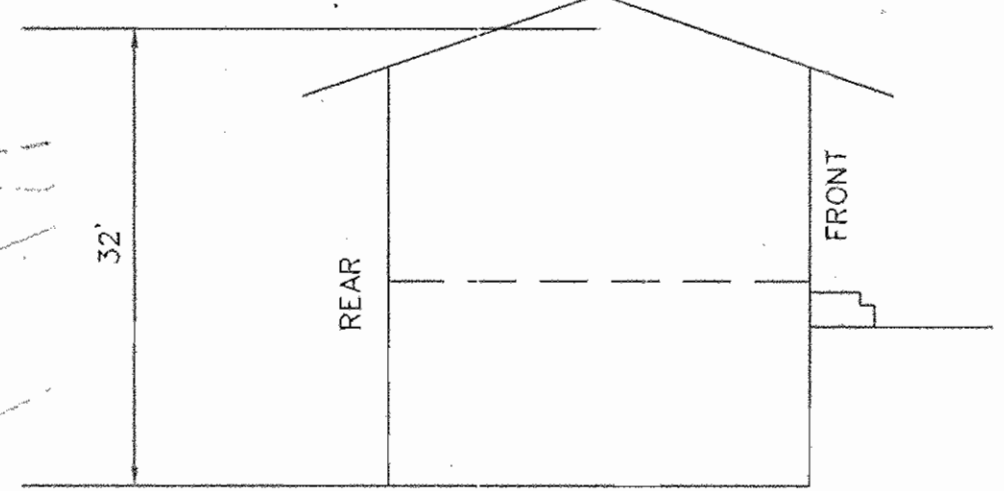
HANDICAP SPACE
SCALE 1"=20'



TYPICAL HALF SECTION-KIT KAT ROAD
NO SCALE

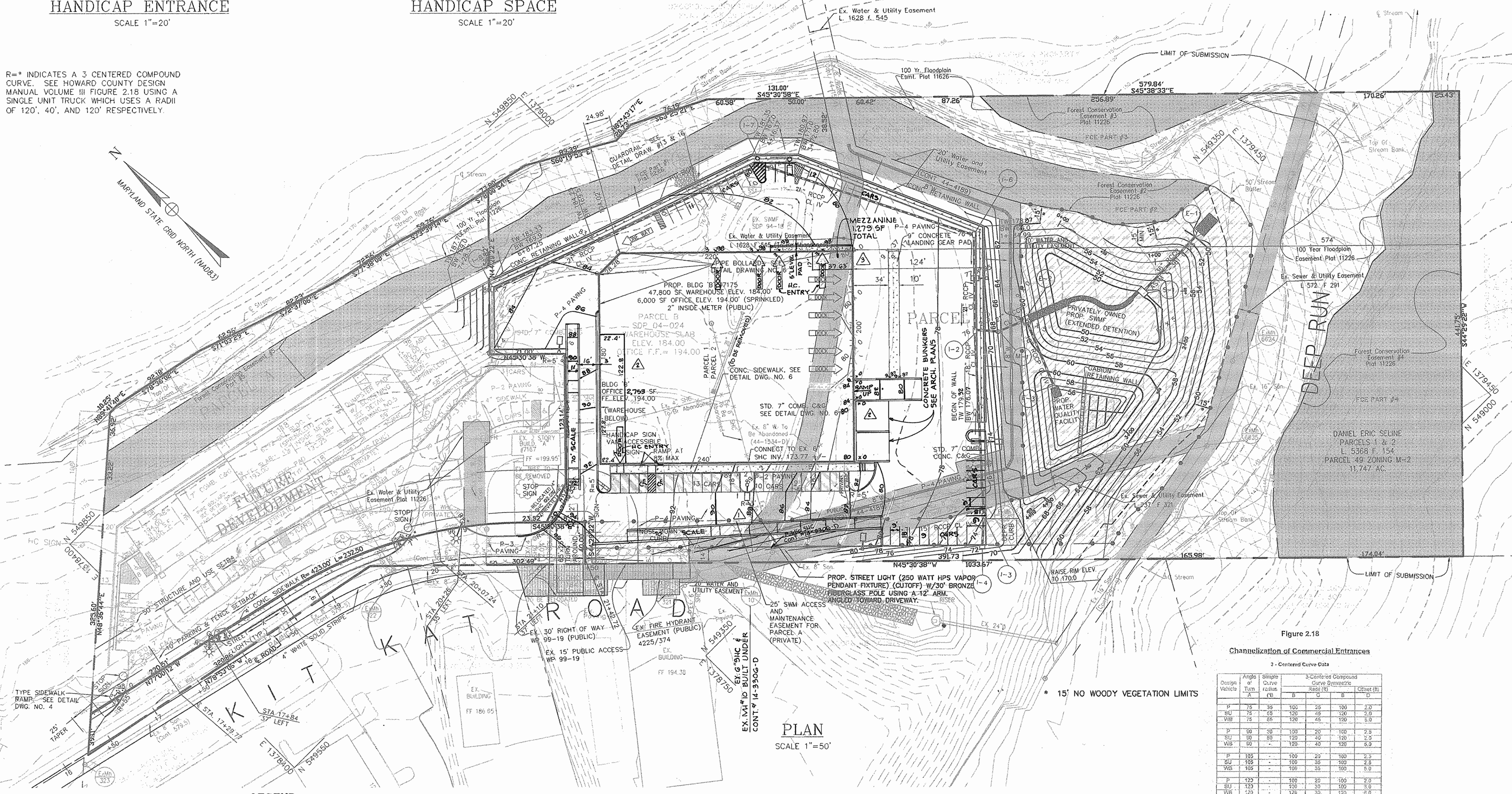
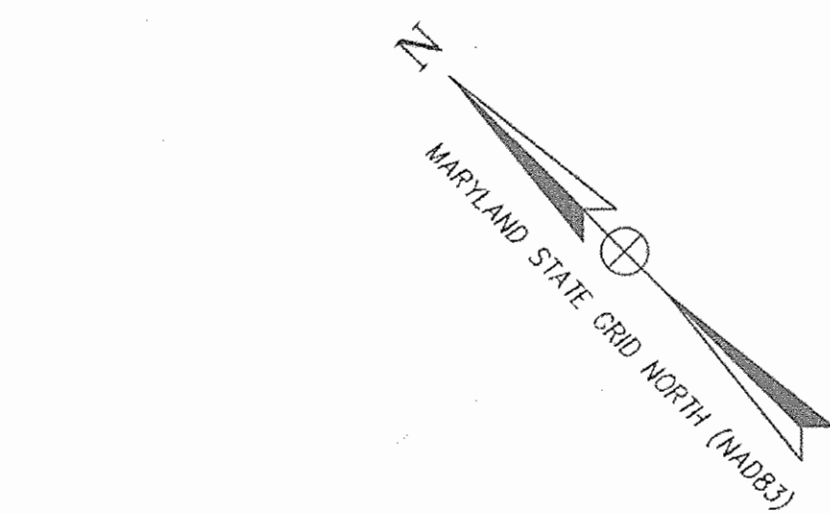


SCHEMATIC OF BUILDING "B"
NO SCALE



EXISTING BLDG. "A"
NO SCALE

R=* INDICATES A 3 CENTERED COMPOUND CURVE. SEE HOWARD COUNTY DESIGN MANUAL VOLUME III FIGURE 2.18 USING A SINGLE UNIT TRUCK WHICH USES A RADI OF 120', 40', AND 120' RESPECTIVELY.



PLAN
SCALE 1"=50'

NO IMPROVEMENTS SHALL BE CONSTRUCTED OR PLACED WITHIN THE PUBLIC WATER, SEWER AND UTILITY EASEMENT THAT WILL IMPEDE OR HINDER ACCESS TO THE WATER OR SEWER MAINS.

LEGEND

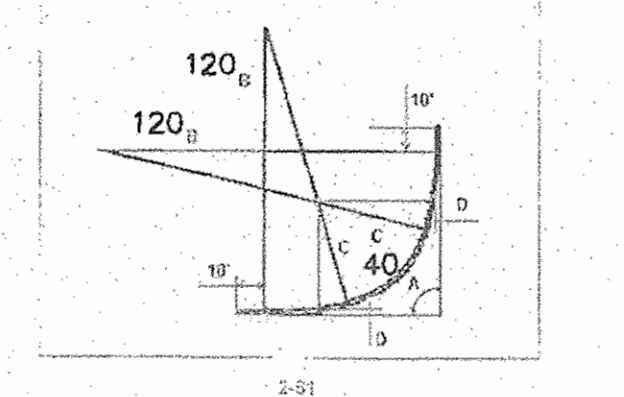
STREET LIGHT-250 WATT HPS VAPOR PENDANT (SAG) FIXTURE MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE WITH A 12' ARM	EX. FENCE	PROP. SD	100 YR. FLOODPLAIN EASEMENT	S.W.M. ACCESS & MAINT. EASEMENT
EX. FENCE	PROP. FENCE	EX. SD	FOREST CONS. EASEMENT	UTILITY EASEMENT
EXISTING CONTOUR	PROPOSED CONTOUR	P-3 PAVING	EX. FH	
LIGHT POLE (PRIVATE ON-SITE)	STOP SIGN (R-12-1)	P-2 PAVING	PROP. SD	
		P-4 PAVING	EX. SD	
			P-3 PAVING	
			P-2 PAVING	
			P-4 PAVING	

Figure 2.18
Channelization of Commercial Entrances

Design Vehicle	Angle of Turn	2-Centered Curve Data		3-Centered Compound Curve Symmetric		Clearance (ft)
		A	B	A	B	
10	35	100	35	100	2.0	
20	35	120	45	120	2.0	
30	35	140	55	140	2.0	
40	35	160	65	160	2.0	
50	35	180	75	180	2.0	
60	35	200	85	200	2.0	
70	35	220	95	220	2.0	
80	35	240	105	240	2.0	
90	35	260	115	260	2.0	
100	35	280	125	280	2.0	
110	35	300	135	300	2.0	
120	35	320	145	320	2.0	
130	35	340	155	340	2.0	
140	35	360	165	360	2.0	
150	35	380	175	380	2.0	
160	35	400	185	400	2.0	
170	35	420	195	420	2.0	
180	35	440	205	440	2.0	
190	35	460	215	460	2.0	
200	35	480	225	480	2.0	

PH Passenger Vehicle
DU Single Unit Trucks and Buses
VUB School/Trailer Combination

*Straight forward vehicles having a taper of about 18 to 1 may be substituted for the longer radius portion of the 3-centered compound curves



9-10-04
Date

JOHN R. HEINRICHS
Professional Engr. No. 14920

APPROVED: DEPARTMENT OF PLANNING AND ZONING

<i>William C. ...</i>	2/3/05
CHEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>... ..</i>	3/8/05
CHEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>... ..</i>	3/14/05
DIRECTOR	DATE

Date	No.	Revision Description
1-23-07	1	ADDED MEZZANINE LEVEL FOR STORAGE IN BUILDING 'B'
9-15-05	2	ADDED TRUCK SCALES AND REVISED BLDG 'B'
6-30-05	3	ADDED CONT. #14-3306-D @ EX. 14#10 @ EX. 6" SHC

OWNER:
D. ERIC SELINE
14852 OLD GUNPOWDER ROAD
LAUREL, MD 20707
410-792-2999

DEVELOPER:
CRAIG STUART-PAUL
P.O. BOX 21171
CATONSVILLE, MD 21228
410-340-9387

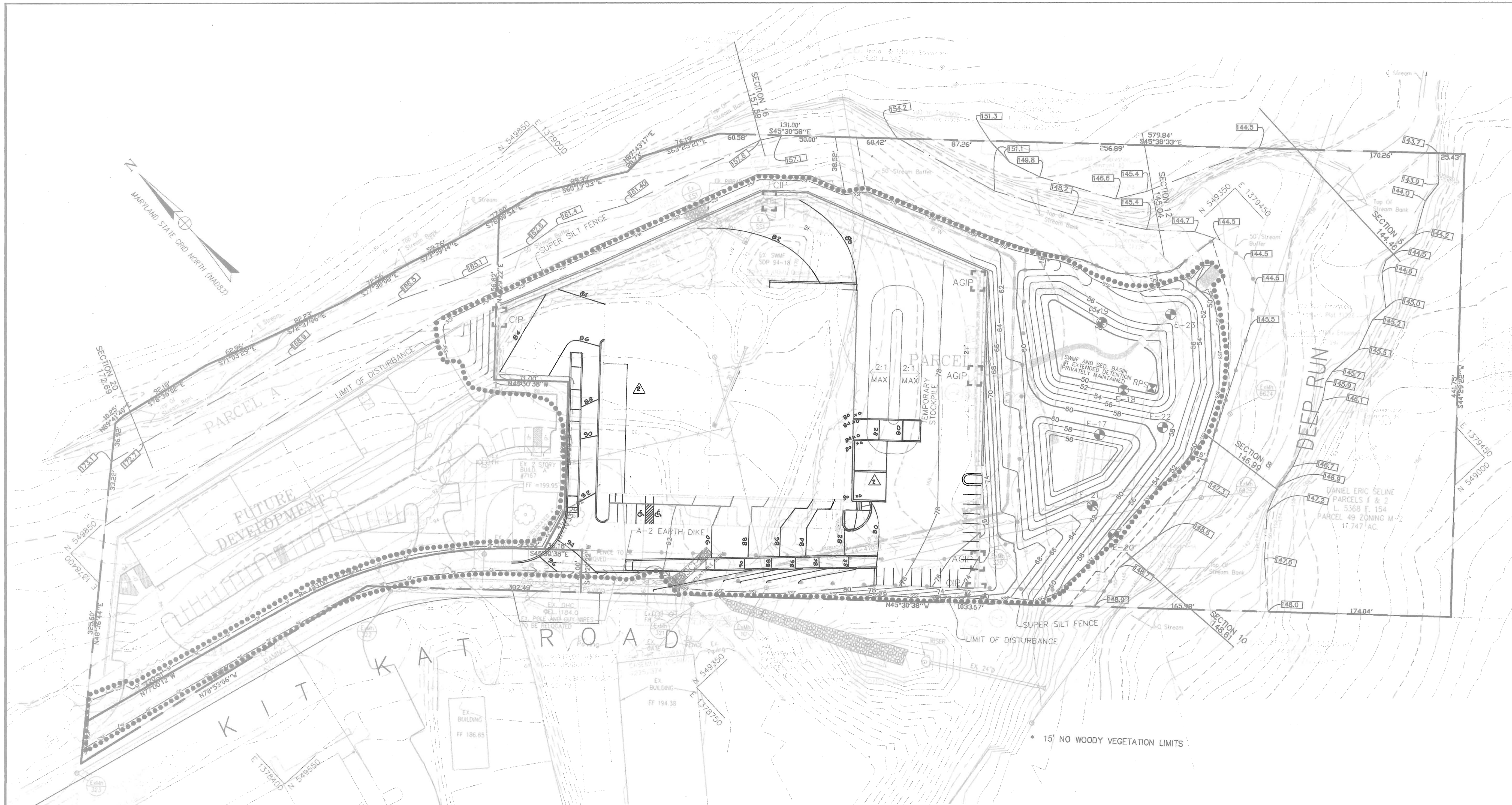
PROJECT:
FAIRFAX RECYCLING INC.
KIT KAT CENTER PARCELS A AND B
7167 KIT KAT ROAD ELLICOTT CITY, MD
Tax Map No. 43, Grid 11, Elec. Dist. No. 1, Parcel 49
HOWARD COUNTY, MARYLAND

PREPARED BY:
PHOENIX ENGINEERING, INC.
CONSULTING ENGINEERS
1420 JOH AVENUE, SUITE A
BALTIMORS, MARYLAND 21227
(410) 247-8333 FAX 247-9387

AREA:
PARCEL: 49 TAX MAP: 43
CENSUS TRACT 6011.01 1 ST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
SITE DEVELOPMENT PLAN

Des By	R.J.W.	Scale	1" = 50'	Proj No	02-021
Dir By	S.E.W.	Date	JANUARY, 2004	DRAWING NO	ps01.dwg
Chk By	J.R.H.		S2P-04-024		2 OF 18



ENGINEER'S CERTIFICATE
 I/WE CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL, REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.
John H. Heinrichs 9-10-04
 ENGINEER: JOHN R. HEINRICHS, VICE PRESIDENT DATE
 PHOENIX ENGINEERING, INC. PE#14920

DEVELOPER'S CERTIFICATE
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.
Craig Stuart-Paul 9-15-04
 DEVELOPER: CRAIG STUART-PAUL DATE
 FAIRFAX RECYCLING, INC. PE#14920

USDA-NATURAL RESOURCES CONSERVATION SERVICES 1/31/05
 THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

HOWARD SOIL CONSERVATION DISTRICT 1/31/05
 APPROVED: DEPARTMENT OF PLANNING AND ZONING DATE
W. J. Williams 2/3/05
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 2/3/05
Brady Stewart 2/3/05
 DATE

DIRECTOR 2/3/05
David L. Gault 2/3/05
 DATE

9-15-04 **ADDED TRUCK SCALES AND REVISED BLOG 'B'**
 Date No Revision Description

OWNER:
 D. ERIC SELINE
 14852 OLD GUNPOWDER ROAD
 LAUREL, MD. 20707
 (410) 792-2999

DEVELOPER:
 CRAIG STUART-PAUL
 P.O. BOX 21171
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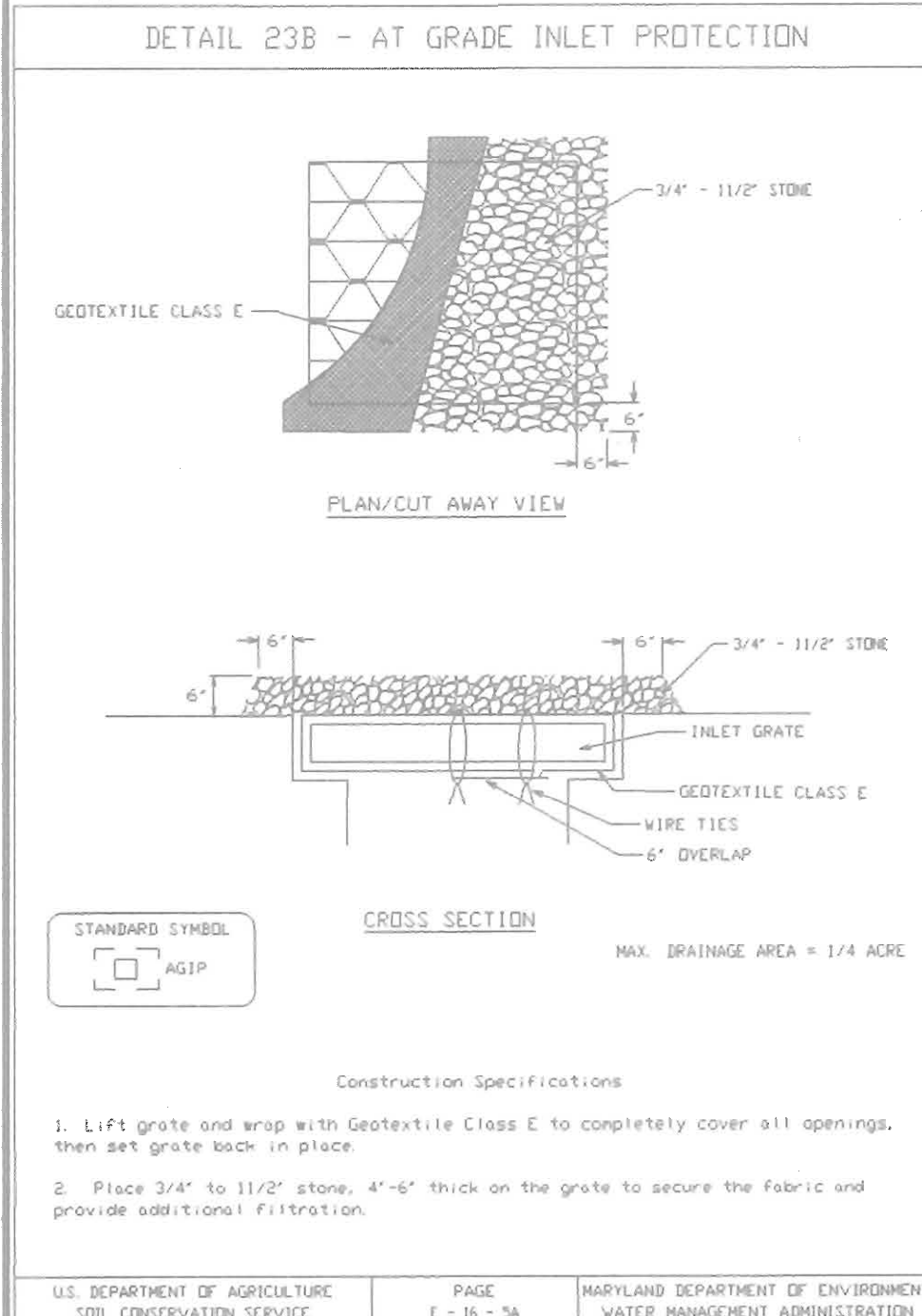
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 PARCELS A AND B
 7167 KIT KAT ROAD ELLICOTT CITY, MD
 Tax Map No. 43, Grid II, Elec. Dist. No. 1, Parcel 49
 HOWARD COUNTY, MARYLAND

PREPARED BY:
PHOENIX ENGINEERING, INC.
 CONSULTING ENGINEERS
 1420-A JOHNS AVENUE
 BALTIMORE, MARYLAND 21227
 (410) 247-8833 FAX 247-9397

AREA:
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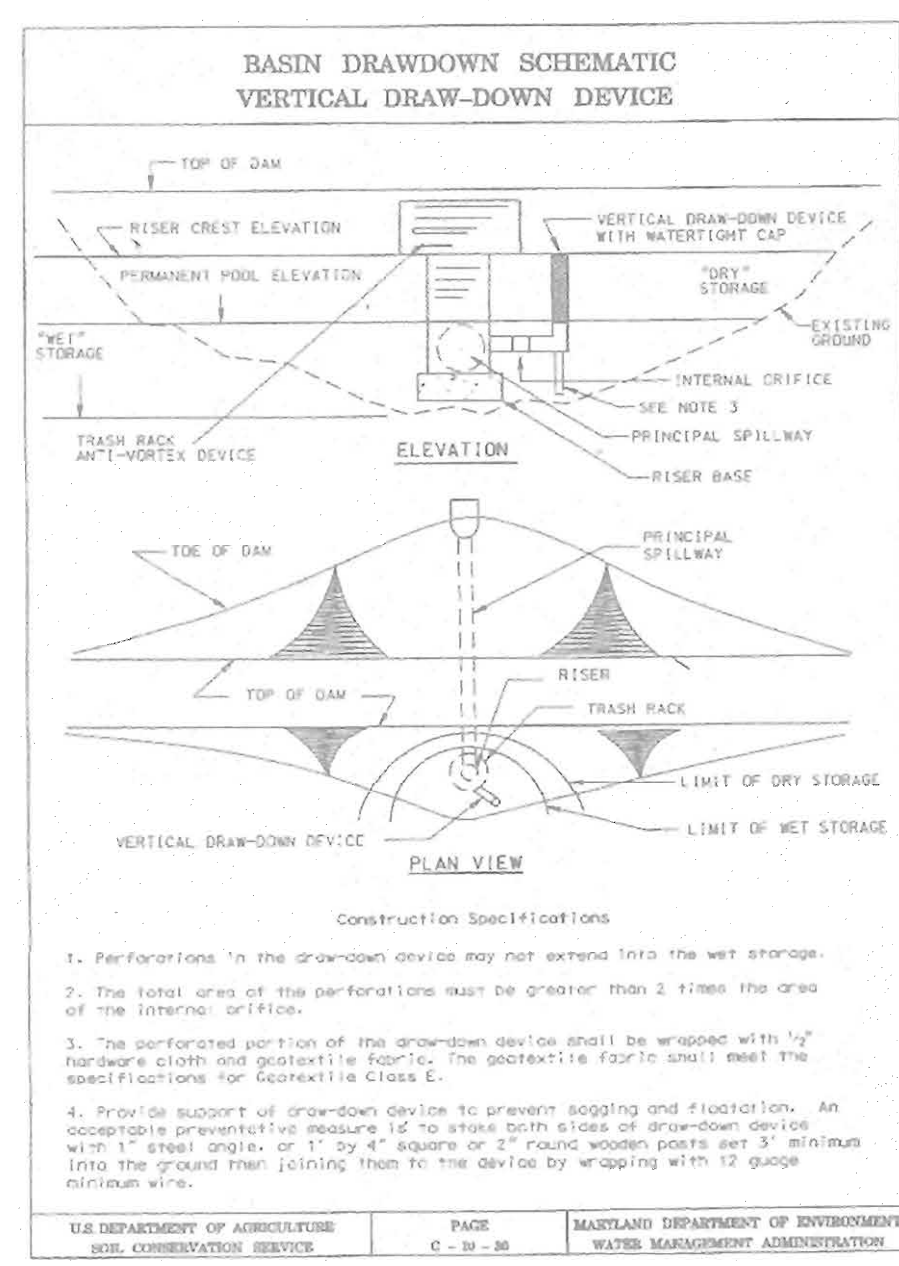
TITLE:
SEDIMENT CONTROL PLAN

Des By: R.J.W. Scale: 1"=50' Proj No: 02-021
 Dwn By: S.E.W. Date: JANUARY, 2004 DRAWING NO: SD01FAIRFOX.DWG
 Ckn By: J.R.H. SDP 04-024 3 OF 18

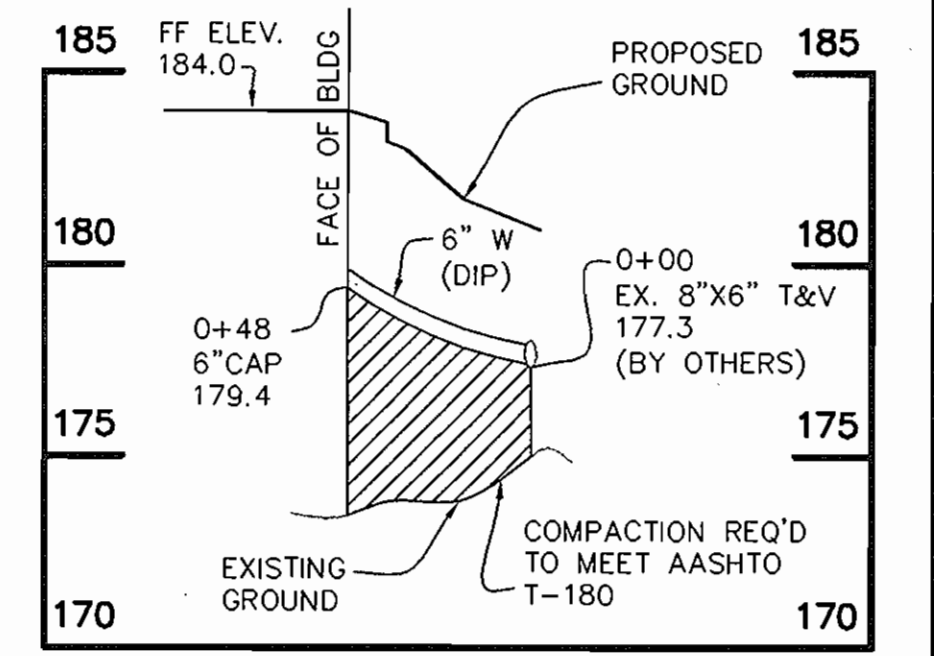
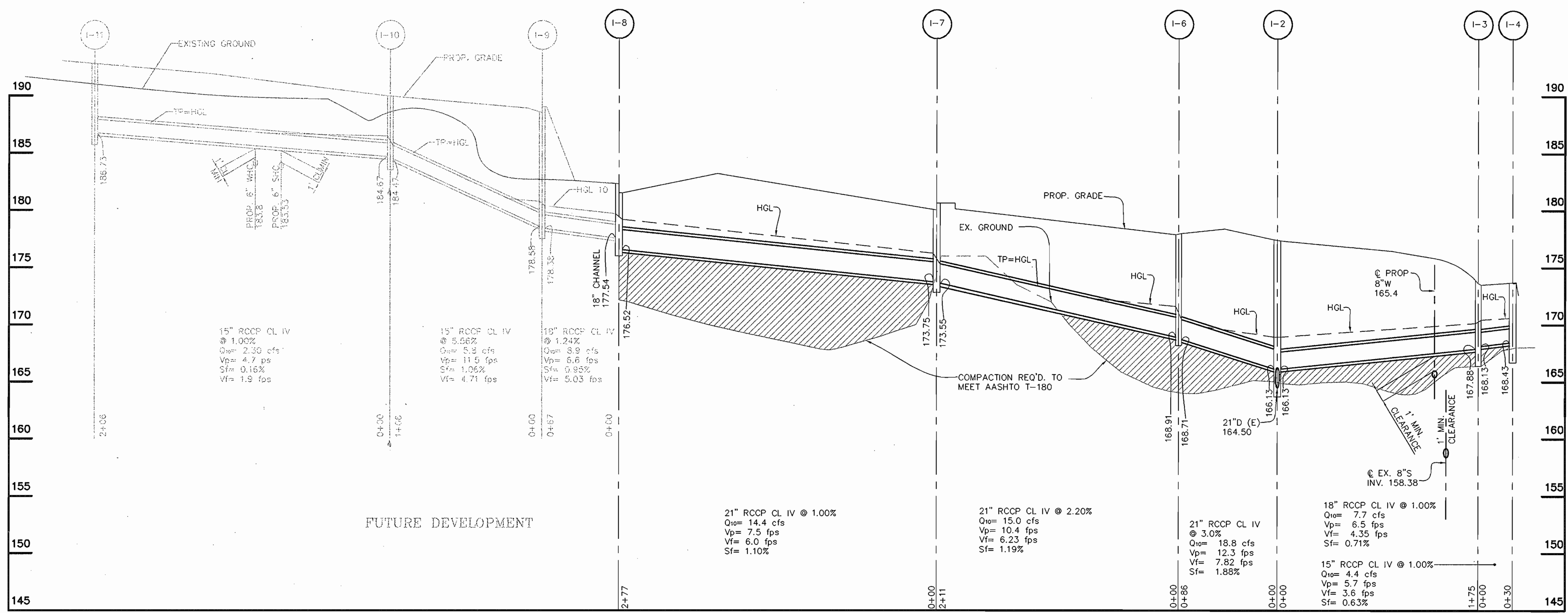


LEGEND

STABILIZED CONSTR. ENTRANCE	MOUNTABLE BERM	SEDIMENT BASIN #1	0.88 AC
SILT FENCE	SF	DRAINAGE AREA (EXIST.)	5.98 AC
SUPER SILT FENCE	SSF	DRAINAGE AREA (PROP.)	5.64 AC
LIMIT OF DISTURBANCE	DRY STORAGE REQ'D	10,764 CF
INLET PROTECTION	CIP	DRY STORAGE PROV. @ EL. 163.00	12,512 CF
A-2 EARTHDIKE	A-2	WET STORAGE REQ'D	10,764 CF
REMOVABLE PUMPING STATION	RPS	WET STORAGE PROV. @ EL. 161.50	12,113 CF
		TOP EMBANKMENT ELEV.	157.0
		WEIR LENGTH	26'
		BOTTOM ELEV.	149.50
		CREST ELEV.	164.06
		CLEANOUT STORAGE REQ'D	5,382 CF
		CLEANOUT ELEV. @ EL. 827 CF @	150.60
		SIDE SLOPES:	
		INSIDE 3:1	
		OUTSIDE 3:1	
		BOTTOM DIMENSIONS-IRREGULAR	x3.0



9-10-04
 State of Maryland
 PROFESSIONAL ENGINEER
John R. Heinrichs
 Professional Engr. No. 14920



ENGINEER'S CERTIFICATE
 I/WE CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.
 JOHN R. HEINRICHS, VICE PRESIDENT
 PHOENIX ENGINEERING, INC. PE#14920
 DATE: 9-10-04

DEVELOPER'S CERTIFICATE
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.
 CRAIG STUART-PAUL
 FAIRFAX RECYCLING, INC.
 DATE: 9-15-04

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 M. J. JONES
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 2/3/05

C. H. HARRIS
 CHIEF, DIVISION LAND DEVELOPMENT
 DATE: 2/3/05

M. J. JONES
 DIRECTOR
 DATE: 3/1/05

Date	No	Revision Description

OWNER:
 D. ERIC SELINE
 14852 OLD GUNPOWDER ROAD
 LAUREL, MD. 20707
 (410) 792-2999

DEVELOPER:
 CRAIG STUART-PAUL
 P.O. BOX 21171
 CATONSVILLE, MD. 21228
 410-340-9387

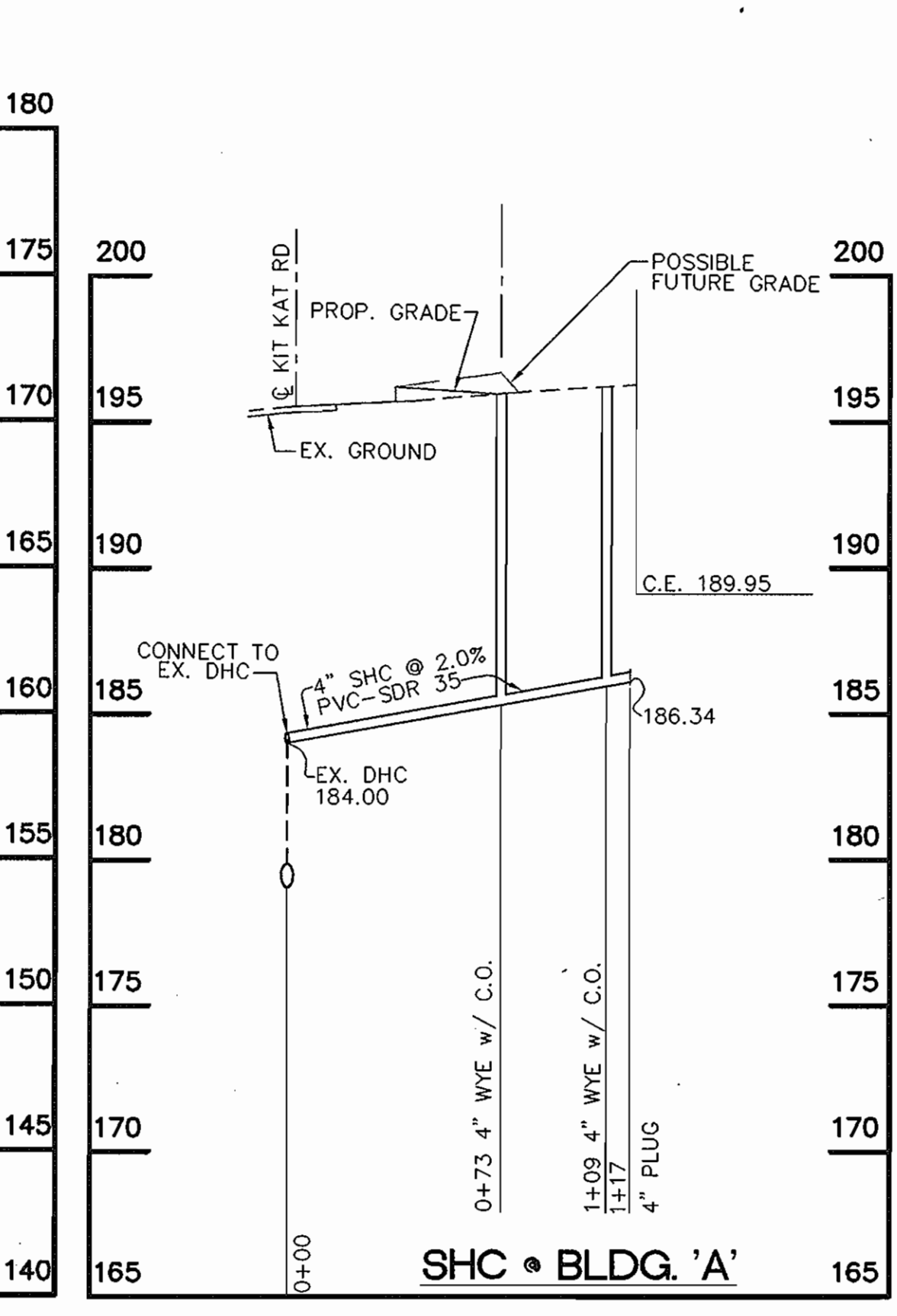
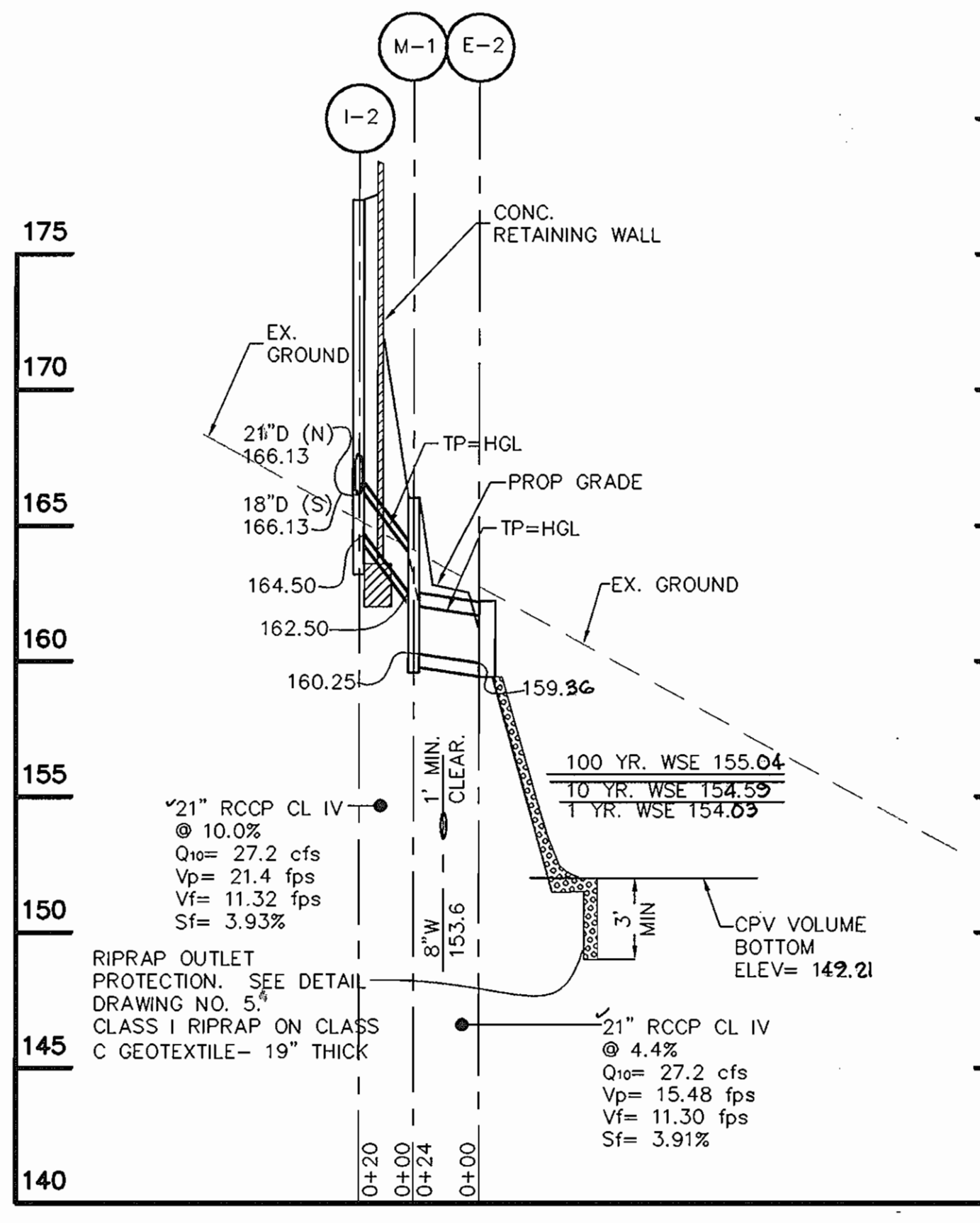
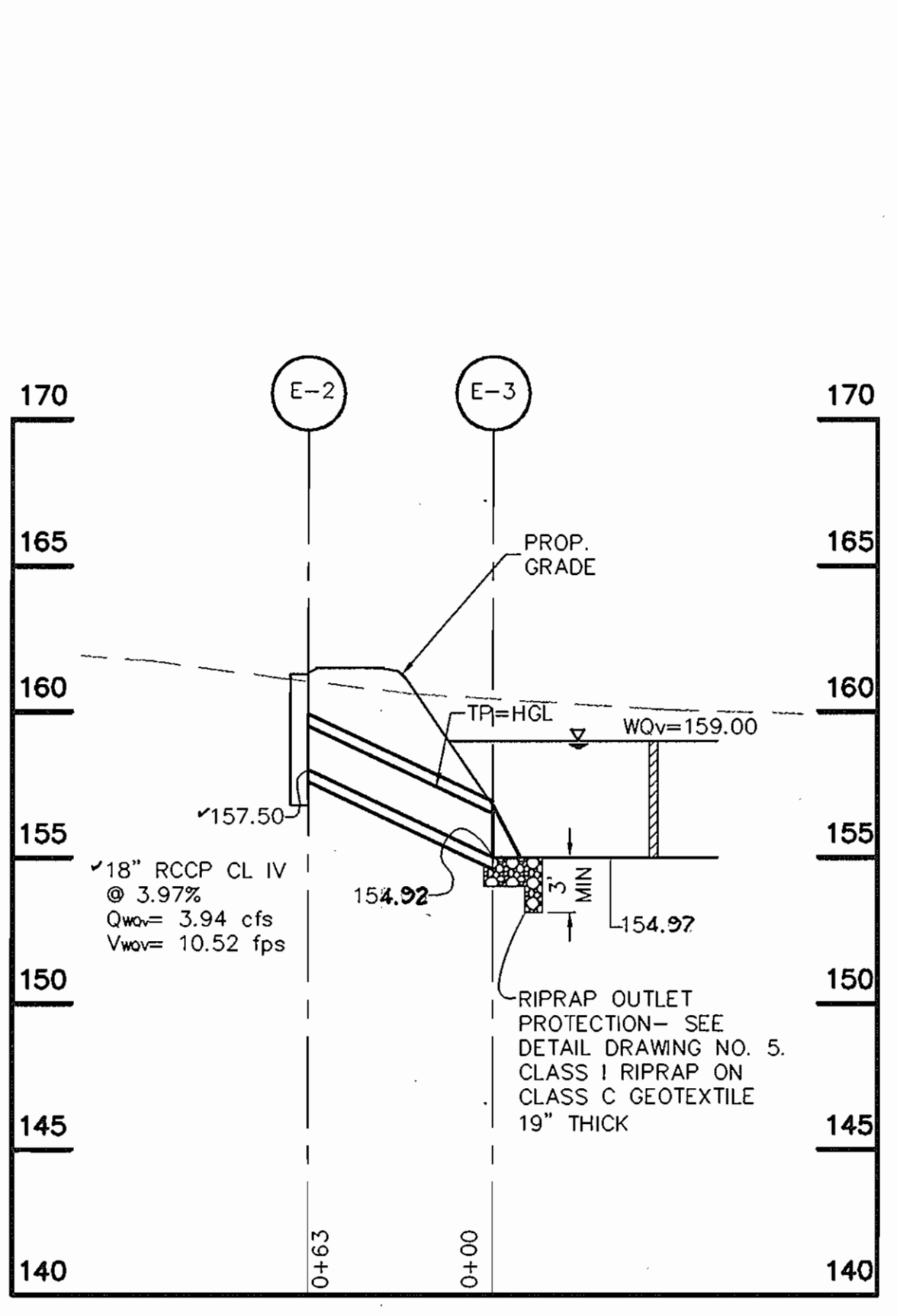
PROJECT:
 FAIRFAX RECYCLING INC.
 KIT KAT CENTER PARCELS A AND B
 7187 KIT KAT ROAD ELLICOTT CITY, MD.
 Tax Map No. 43, Grid 11, Elec. Dist. No. 1, Parcel 49
 HOWARD COUNTY, MARYLAND

PREPARED BY:
 PHOENIX ENGINEERING, INC.
 CONSULTING ENGINEERS
 1420-A JOH AVENUE
 BALTIMORE, MARYLAND 21227
 (410) 247-8833 FAX 247-9397

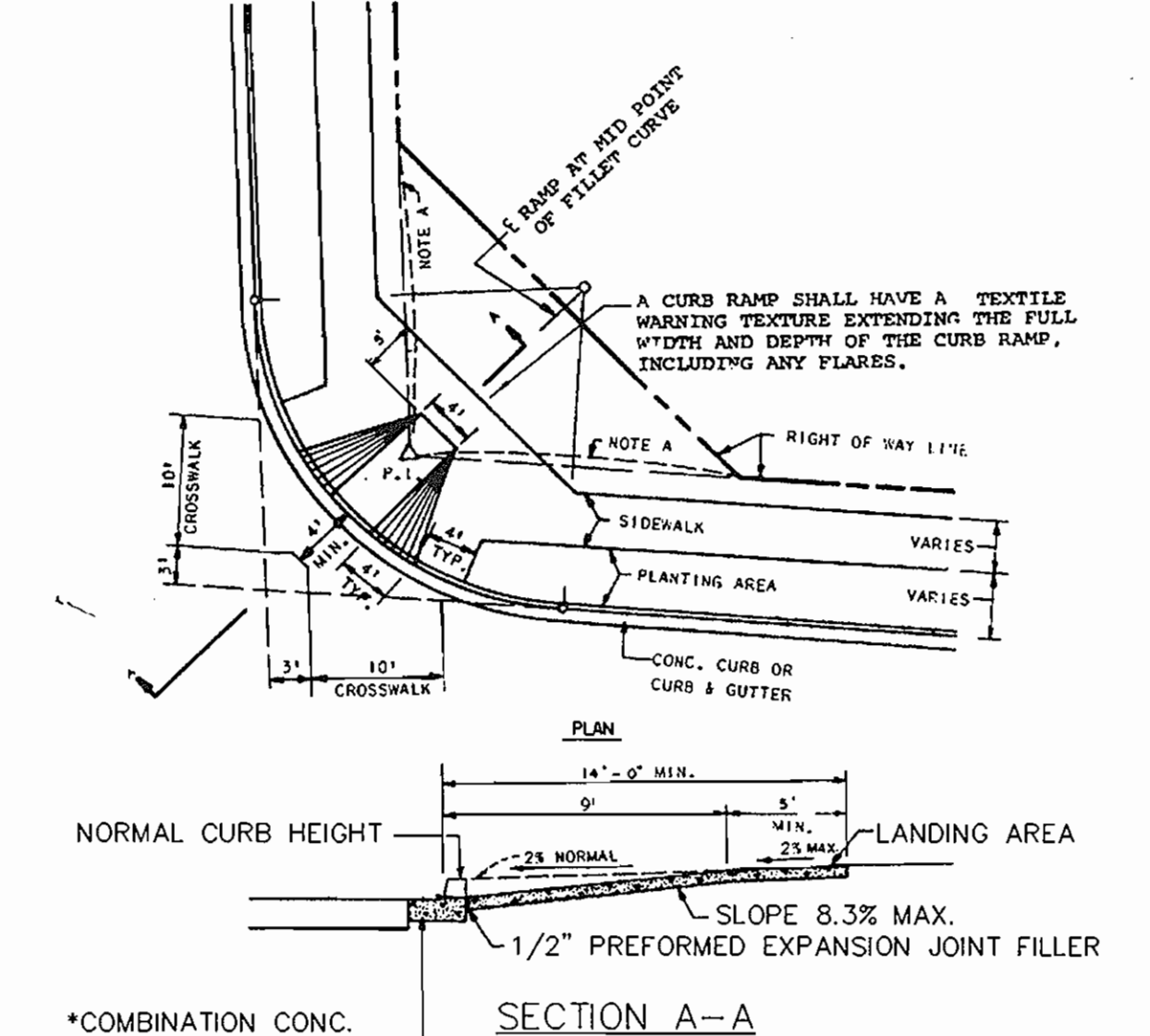
AREA:
 PARCEL: 49 TAX MAP: 43
 CENSUS TRACT 6011.01 1st ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE:
 PIPE PROFILES

Des By: R.J.W. Scale: 1" = 20' Proj No: 02-021
 Dwn By: S.E.W. Date: JANUARY, 2004 DRAWING NO: pp03.dwg
 Ck'd By: J.R.H. SDP 04-024 4 OF 18



NOTES:
 A. RIGHT OF WAY LINE TRUNCATION TO BE SET 25' FROM POINT OF INTERSECTION ALONG EACH OF THE INTERSECTING LINES AS SET FORTH IN SECTION 16-113, PAR. F3 OF SUBDIVISION REGULATIONS. MINIMUM DISTANCE BETWEEN BACK OF SIDEWALK AND RIGHT OF WAY LINE TO BE 1 FT.
 B. TYPE A RAMP TO BE USED FOR ALL NEW CONSTRUCTION WHERE APPLICABLE UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT OF PUBLIC WORKS.
 C. SURFACE TEXTURE OF CONCRETE RAMP SHALL BE COARSE BROOMING OR OTHER NON-SKID TYPE FINISH. *STANDARD 7" COMBINATION CURB AND GUTTER IS SHOWN. DETAILS TO BE SIMILAR FOR MODIFIED CURB AND GUTTER AND BITUMINOUS CURB EXCEPT THAT FLOW LINE LIP IS TO BE OMITTED.



SIDEWALK RAMP DETAIL
 NOT TO SCALE

NOTE: ALL FILL UNDER STORM DRAIN SYSTEM SHALL MEET AASHTO T-180 COMPACTION SPECIFICATIONS.
 Date: 9-10-04
 JOHN R. HEINRICHS
 Professional Engr. No. 14920

SEDIMENT CONTROL NOTES

1. A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION (E.R. 1000).
2. ALL VEGETATION 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.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RESTORATION, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
 - A) 7 CALENDAR DAYS FOR ALL PERMANENT SEDIMENT CONTROL STRUCTURES, DORMS, PERMANENT SLOPES AND ALL SLOPES GREATER THAN 3:1.
 - B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (60 TO 90 LBS/1000 SQ FT) OF UNFROSTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING FOOT OR 2/8 GAL PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES OF 3:1 OR HIGHER, USE 3/8 GAL PER ACRE (6 GAL/1000 SQ FT) FOR ANCHORING.

REFER TO THE 1984 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

STANDARD AND SPECIFICATION FOR TOPSOILING

DEFINITION

PLACEMENT OF TOPSOIL OVER A PREPARED SUBSTRUM PRIOR TO ESTABLISHMENT OF VEGETATION.

PURPOSE

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATION GROWTH ON AREAS WITH LOW MOISTURE, LOW NUTRIENT LEVELS, LOW pH, OR THE PRESENCE OF OTHER MATERIALS TOXIC TO PLANTS.

CONDITIONS WHERE PRACTICE APPLIES

1. THE TEXTURE OF THE EXPOSED SUBSTRUM OR PARENT MATERIAL IS NOT SUITABLE TO PRODUCE DESIRABLE VEGETATIVE GROWTH.
2. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR HERBS CONTAINING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
3. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
4. THE SOIL IS SO ACID THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

SPECIFICATIONS

- SECTION I - SITE PREPARATION (WHILE TOPSOIL IS TO BE ADDED)**
1. WHEN TOPSOILING, MAINTAIN METHOD DISPOSED AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRASS STABILIZATION STRUCTURES, DORMS, DROPS, WATERWAYS AND SEDIMENT BASINS.
 2. GRADING CHANGES ON THE AREAS TO BE TOPSOILED WHICH HAVE BEEN PREVIOUSLY ESTABLISHED SHALL BE MAINTAINED.
 3. LEAKY CLAYS, OTHER HEAVY ACID OR COMPOSED OF LEAKY CLAYS, CROWN LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1000 SQ. FT.). LIME SHALL BE DISTRIBUTED UNIFORMY OVER DISTURBED AREAS WORKED INTO THE SOIL IN CONJUNCTION WITH WEEDING OPERATIONS AS DESCRIBED IN THE FOLLOWING PROVISIONS.
 4. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS SHALL NOT EXCEED 18" DEPTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHEREVER IS SHORTER.

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-VEGETATIVE COVER IS NEEDED.

SEEDING PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING. IF NOT PREVIOUSLY TOPSOILED.

SOIL AMENDMENTS: IN CASE OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

1. PREFERRED - APPLY 2 TONS PER ACRE OF ORGANIC LIMESTONE (12 LBS/1000 SQ FT) AND 600 LBS PER ACRE OF 10-10-10 FERTILIZER (6 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.
2. ACCEPTABLE - APPLY 2 TONS PER ACRE OF ORGANIC LIMESTONE (12 LBS/1000 SQ FT) AND 600 LBS PER ACRE OF 10-10-10 FERTILIZER (6 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 50 LBS PER ACRE (1.4 LBS/1000 SQ FT) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS PER ACRE OF TALL FESCUE PER ACRE AND 2 LBS PER ACRE (0.5 LBS/1000 SQ FT) OF TALKING TONGRASS. DURING THE PERIOD OF OCTOBER 1 THRU FEBRUARY 28, PREPARE SITE BY: OPTION (1) 2 TONS PER ACRE OF WELLS ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOIL. OPTION (3) SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELLS ANCHORED STRAW.

MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (60 TO 90 LBS/1000 SQ FT) OF UNFROSTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING FOOT OR 2/8 GAL PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES OF 3:1 OR HIGHER, USE 3/8 GAL PER ACRE (6 GAL/1000 SQ FT) FOR ANCHORING.

MAINTENANCE: VISIT ALL SEEDING AREAS AND MAKE NECESSARY REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WITH A SHORT-TERM VEGETATIVE COVER IS NEEDED.

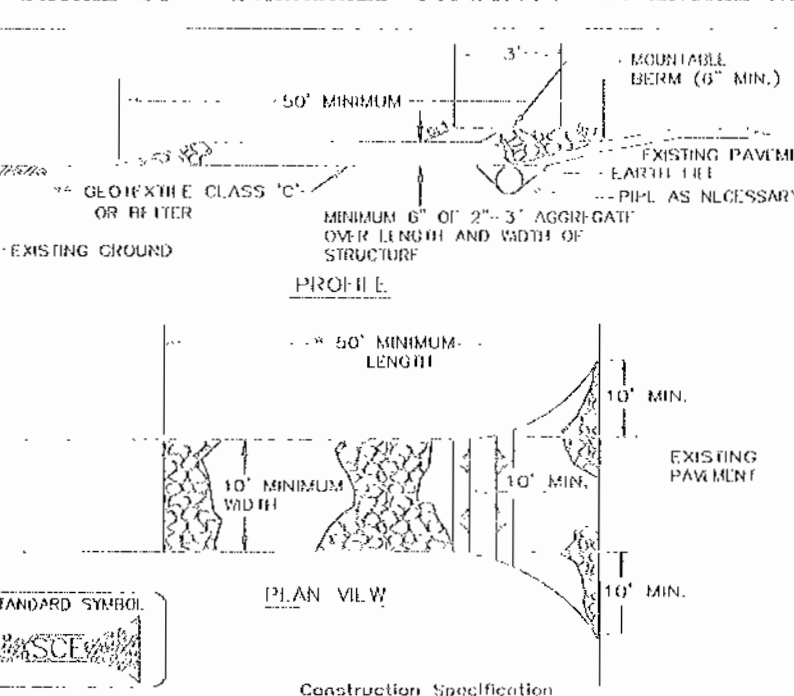
SEEDING PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING. IF NOT PREVIOUSLY TOPSOILED, SOIL AMENDMENTS: APPLY 600 LBS PER ACRE TO 10-10-10 FERTILIZER (6 LBS/1000 SQ FT).

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2 1/2 BUSHES PER ACRE OF ANNUAL RYE. (1.7 LBS/1000 SQ FT). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 1.5 BUSHES OF WHEAT (LOWGRASS) (0.8 LBS/1000 SQ FT). FOR THE PERIOD NOVEMBER 15 THRU FEBRUARY 28, PREPARE SITE BY APPLYING 2 TONS PER ACRE OF WELLS ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOIL.

MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (60 TO 90 LBS/1000 SQ FT) OF UNFROSTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING FOOT OR 2/8 GAL PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES OF 3:1 OR HIGHER, USE 3/8 GAL PER ACRE (6 GAL/1000 SQ FT) FOR ANCHORING.

MAINTENANCE: VISIT ALL SEEDING AREAS AND MAKE NECESSARY REPAIRS, REPLACEMENTS AND RESEEDINGS.

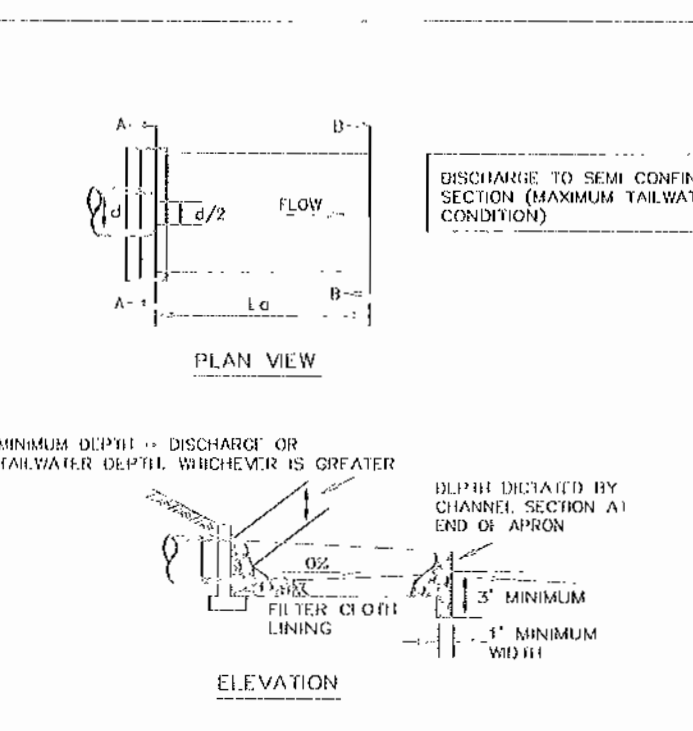
DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



1. Length - minimum of 50' (+30' for single residence lots).
2. Width - 10' minimum, should be forced at the existing road to provide a turning radius.
3. Goatslide fabric (fiter cloth) shall be placed over the existing ground prior to placing stone. The plan approval authority may require single family residences to use goatslide.
4. Stone - washed aggregate (2" to 3") as indicated on 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 entrance shall be spaced through the entrance (retaining) weather drainage. Pipe installed through the stabilized construction entrance shall be protected with a mounable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. This has to be sized according to the drainage, when the soil is located at a high water 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 4" 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 1-16-38 MARYLAND DEPARTMENT OF ENVIRONMENT AND WATER MANAGEMENT ADMINISTRATION

DETAIL 25 - ROCK OUTLET PROTECTION I



1. The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required to the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
2. The rock or gabion shall conform to the specified grading limits when installed respectively in the rip-rap or filter.
3. Goatslide shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of goatslide over the damaged part or by completely replacing the goatslide. All openings whether for repairs or for leaving two pieces of goatslide shall be a minimum of one foot.
4. Signs for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course of drainage in one direction and in such a manner as to avoid displacement of underlying materials. The signs for rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably impermeable with the rip-rap and signs filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter fabric or goatslide. 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 fits into with the existing ground. If the stone is placed high then the flow will be forced out of the channel and scour adjacent to the stone will occur.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 1-16-38 MARYLAND DEPARTMENT OF ENVIRONMENT AND WATER MANAGEMENT ADMINISTRATION

ROCK OUTLET PROTECTION

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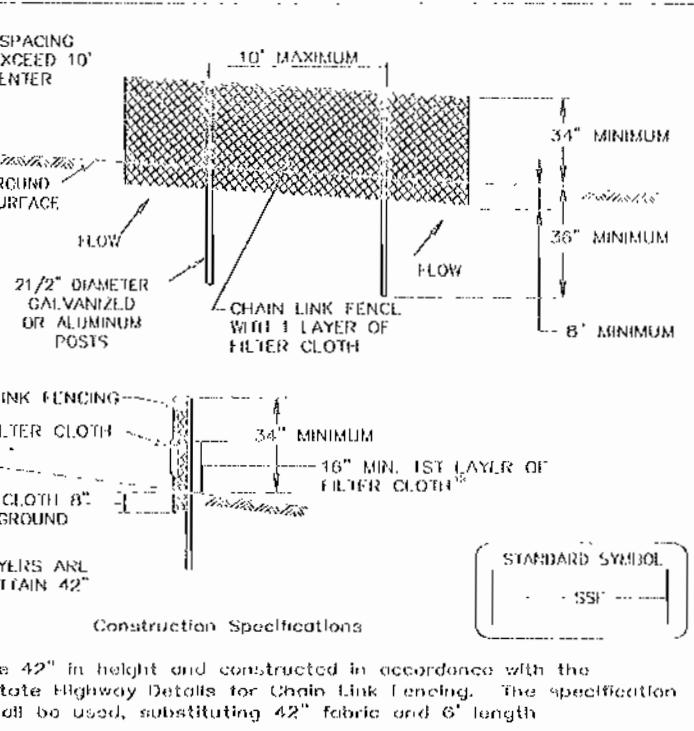
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 1-16-38 MARYLAND DEPARTMENT OF ENVIRONMENT AND WATER MANAGEMENT ADMINISTRATION

SUPER SILT FENCE

Slope Steepness	Slope Length (Maximum)	Silt Fence Length (Minimum)
0 - 10%	0 - 101'	Unlimited
10 - 20%	101 - 51'	200 feet
20 - 30%	51 - 51'	100 feet
30% +	51 - 21'	100 feet
50% +	21 - 1'	50 feet

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 1-16-38 MARYLAND DEPARTMENT OF ENVIRONMENT AND WATER MANAGEMENT ADMINISTRATION

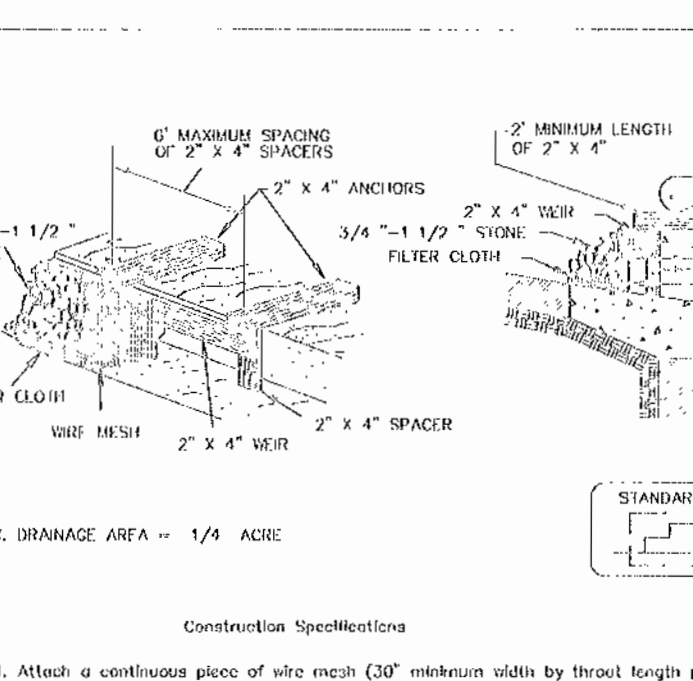
DETAIL 33 - SUPER SILT FENCE



1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 42" fence shall be used, substituting 42" fabric and 4" length posts.
2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, fence and from rods, wire anchors and post caps are not required except on the ends of the fence.
3. When two sections of filter cloth abut each other, they shall be overlapped by 8" and fielded.
4. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Goatslide Class II:
5. Where ends of goatslide fabric come together, they shall be overlapped, fielded and stapled to prevent sediment bypass.
6. Silt Fence shall be inspected after each rainfall event and maintained when damage occurs or when sediment accumulation reached 40% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 1-16-38 MARYLAND DEPARTMENT OF ENVIRONMENT AND WATER MANAGEMENT ADMINISTRATION

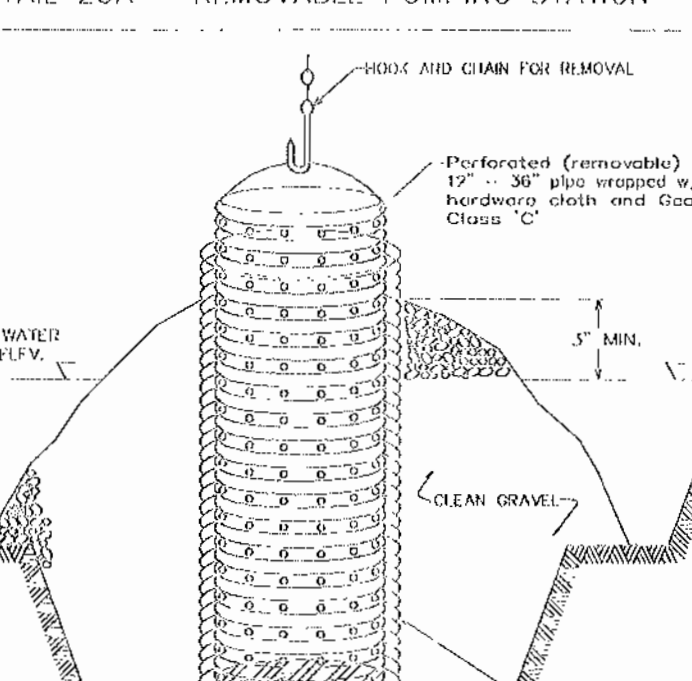
DETAIL 28C - CURB INLET PROTECTION (COG OR COS INLETS)



1. Attach a continuous piece of wire mesh (30" minimum width by three length plus 4") to the 2' x 4" weir (including throat length plus 2") as shown on the standard drawing.
2. Place a continuous piece of Goatslide Class II (two 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" gap).
4. Place the assembly against the inlet throat and nail (minimum 2" lengths of 2" x 4" to the top of the weir support brackets). These 2" x 4" anchors shall extend across the inlet face and be held in place by concrete or alternate weight.
5. The assembly shall be placed so that the mesh spacers are a minimum 1" beyond both ends of the throat opening.
6. Form the 1/2" x 1/2" wire mesh and goatslide fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place down 3/4" x 1/2" stone over the wire mesh and goatslide to form a surface to prevent water flow entering the inlet under or around the goatslide.
7. This type of protection must be inspected regularly and the filter cloth and stone replaced when damaged with replacement.
8. Assess that stone flow does not bypass the inlet by installing a temporary curb or asphalt also to direct the flow to the inlet.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 1-16-38 MARYLAND DEPARTMENT OF ENVIRONMENT AND WATER MANAGEMENT ADMINISTRATION

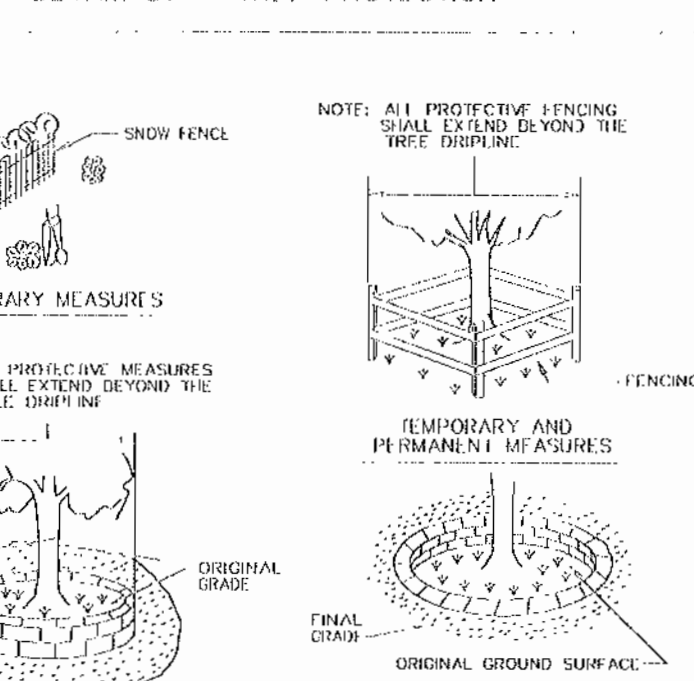
DETAIL 20A - REMOVABLE PUMPING STATION



1. The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.
2. After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean crushed stone.
3. The inside stand pipe (center pipe) should be constructed by perforating a 48" dia. or 3" diameter pipe at 12" intervals. The center pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.
4. The center pipe should extend 12" to 18" above the anticipated water surface elevation or raise curb elevation when that elevation is higher.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 1-16-38 MARYLAND DEPARTMENT OF ENVIRONMENT AND WATER MANAGEMENT ADMINISTRATION

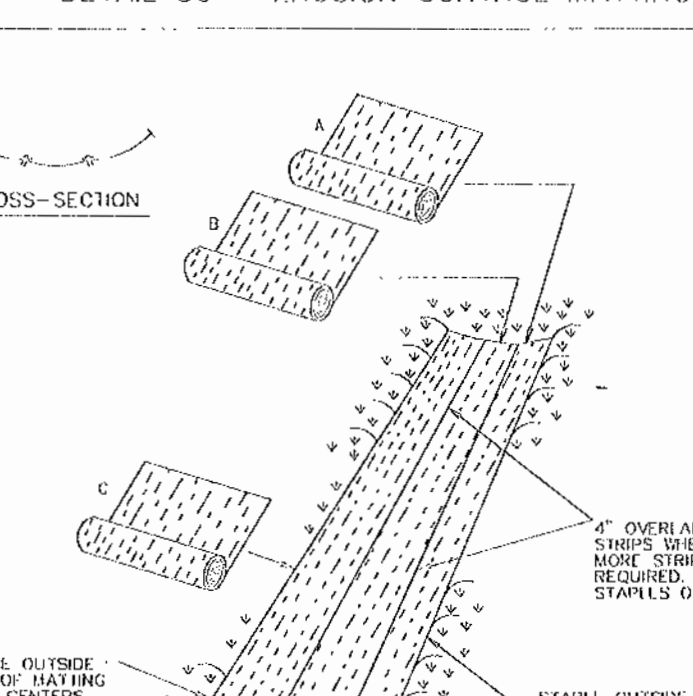
DETAIL 31 - TREE PROTECTION



1. The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.
2. After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean crushed stone.
3. The inside stand pipe (center pipe) should be constructed by perforating a 48" dia. or 3" diameter pipe at 12" intervals. The center pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.
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U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 1-16-38 MARYLAND DEPARTMENT OF ENVIRONMENT AND WATER MANAGEMENT ADMINISTRATION

DETAIL 30 - EROSION CONTROL MATTING



1. Key in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and backfill the trench to conform to the channel cross-section. Secure with a row of staples about 4" deep slope from the trench. Spacing between staples is 6".
2. Staple the 4" overlap in the channel corner using an 18" spacing between staples.
3. Before stepping the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.
4. Staples shall be placed 2' apart with 4 rows for each strip, 2 outer rows, and 2 alternating rows down the center.
5. Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4". Staple together. Before the overlap, the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.
6. The discharge end of the matting there should be similarly secured with 2 double rows of staples.

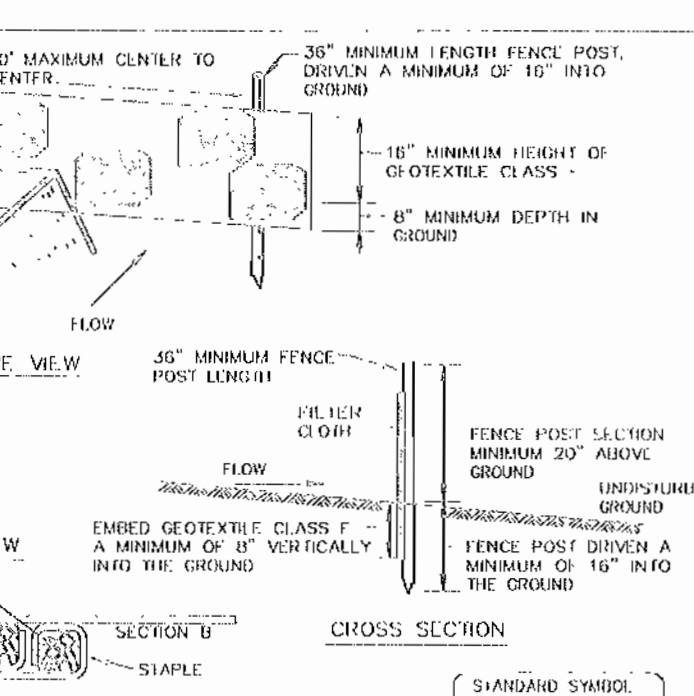
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 1-16-38 MARYLAND DEPARTMENT OF ENVIRONMENT AND WATER MANAGEMENT ADMINISTRATION

EROSION CONTROL MATTING

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5. Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4". Staple together. Before the overlap, the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.
6. The discharge end of the matting there should be similarly secured with 2 double rows of staples.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 1-16-38 MARYLAND DEPARTMENT OF ENVIRONMENT AND WATER MANAGEMENT ADMINISTRATION

DETAIL 22 - SILT FENCE



1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Post posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 1/2" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 3.00 pound per linear foot.
2. Goatslide 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 Goatslide Class II:
3. Where ends of goatslide fabric come together, they shall be overlapped, fielded and stapled to prevent sediment bypass.
4. Silt Fence shall be inspected after each rainfall event and maintained when damage occurs or when sediment accumulation reached 40% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 1-16-38 MARYLAND DEPARTMENT OF ENVIRONMENT AND WATER MANAGEMENT ADMINISTRATION

SEQUENCE OF CONSTRUCTION

(1 DAY)	DAY 1	OBTAIN A GRADING PERMIT
(2 DAYS) <td>DAY 2-3</td> <td>CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE WITH A MOUNTABLE BERM (SCE)</td>	DAY 2-3	CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE WITH A MOUNTABLE BERM (SCE)
(3 DAYS) <td>DAY 4-8</td> <td>CLEAR AND GRUB AREA 1.0A, AND INSTALL REMAINING SEDIMENT CONTROL DEVICES, AND GRABE DRAINAGE FENCE ALONG FOREST CONSERVATION EASEMENT AREA, AND E.P. PERMITSION FOR SEDIMENT CONTROL STRUCTURE REPAIRS.</td>	DAY 4-8	CLEAR AND GRUB AREA 1.0A, AND INSTALL REMAINING SEDIMENT CONTROL DEVICES, AND GRABE DRAINAGE FENCE ALONG FOREST CONSERVATION EASEMENT AREA, AND E.P. PERMITSION FOR SEDIMENT CONTROL STRUCTURE REPAIRS.
(15 DAYS) <td>DAY 9-23</td> <td>ROUGH GRADE SITE, INCLUDING SWM AND STABILIZE AS PER TEMPORARY SEEDING NOTES. HIGHLY ERODIBLE AREAS SHALL BE STABILIZED WITH SWM CONTROL STRUCTURE S-1 IMMEDIATELY AFTER INSTALLATION.</td>	DAY 9-23	ROUGH GRADE SITE, INCLUDING SWM AND STABILIZE AS PER TEMPORARY SEEDING NOTES. HIGHLY ERODIBLE AREAS SHALL BE STABILIZED WITH SWM CONTROL STRUCTURE S-1 IMMEDIATELY AFTER INSTALLATION.
(60 DAYS) <td>DAY 24-84</td> <td>CONSTRUCT BUILDING AND CONCRETE RETAINING WALLS.</td>	DAY 24-84	CONSTRUCT BUILDING AND CONCRETE RETAINING WALLS.
(21 DAYS) <td>DAY 85-106</td> <td>INSTALL ALL UTILITIES, I.L., WATER CONNECTION, STORM DRAINS, ETC.</td>	DAY 85-106	INSTALL ALL UTILITIES, I.L., WATER CONNECTION, STORM DRAINS, ETC.
(15 DAYS) <td>DAY 107-122</td> <td>CONSTRUCT CURBS, PAVING AND SIDEWALKS.</td>	DAY 107-122	CONSTRUCT CURBS, PAVING AND SIDEWALKS.
(5 DAYS) <td>DAY 123-128</td> <td>STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES.</td>	DAY 123-128	STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES.
(3 DAYS) <td>DAY 129-131</td> <td>LINE GRADE SITE AND SWM AND SEED DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES.</td>	DAY 129-131	LINE GRADE SITE AND SWM AND SEED DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES.
(5 DAYS) <td>DAY 132-137</td> <td>WHEN ALL DISTURBED AREAS HAVE BEEN STABILIZED AND UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SWM CONTROL DEVICES AND STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES. UNBLOCK CURBS IN SWM CONTROL STRUCTURE S-1 AND CONVERT TO A SWM CONTROL STRUCTURE BY INSTALLING PERFORATED RISER.</td>	DAY 132-137	WHEN ALL DISTURBED AREAS HAVE BEEN STABILIZED AND UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SWM CONTROL DEVICES AND STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES. UNBLOCK CURBS IN SWM CONTROL STRUCTURE S-1 AND CONVERT TO A SWM CONTROL STRUCTURE BY INSTALLING PERFORATED RISER.

ENGINEER'S CERTIFICATE

I, JAMES JOHN HERRICKS, VICE PRESIDENT OF JOHN HERRICKS ENGINEERING, INC. DO HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL IS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD COUNTY CONSERVATION DISTRICT WITH AN "AS BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO ADVISE THE DEVELOPER THAT HE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD COUNTY CONSERVATION DISTRICT WITH AN "AS BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

John H. Herricks 9.10.04
DATE

DEVELOPER'S CERTIFICATE

I, CRAIG STUART-PAUL, DO HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD COUNTY CONSERVATION DISTRICT WITH AN "AS BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO ADVISE THE DEVELOPER THAT HE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD COUNTY CONSERVATION DISTRICT WITH AN "AS BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

Craig Stuart - Paul 9.15.04
DATE

HOWARD COUNTY CONSERVATION DISTRICT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

John H. Herricks 10/1/05
DATE

John H. Herricks 2/3/05
DATE

Craig Stuart - Paul 3/4/05
DATE

John H. Herricks 3/14/05
DATE

FAIRFAX RECYCLING INC.

KIT KAT CENTER PARCELS A AND B
7167 KIT KAT ROAD BELLCOTT CITY, MD
Tax Map No. 43, Grid 11, Elec. Dist. No. 1, Parcel 49
HOWARD COUNTY, MARYLAND

PHOENIX ENGINEERING, INC.

CONSULTING ENGINEERS

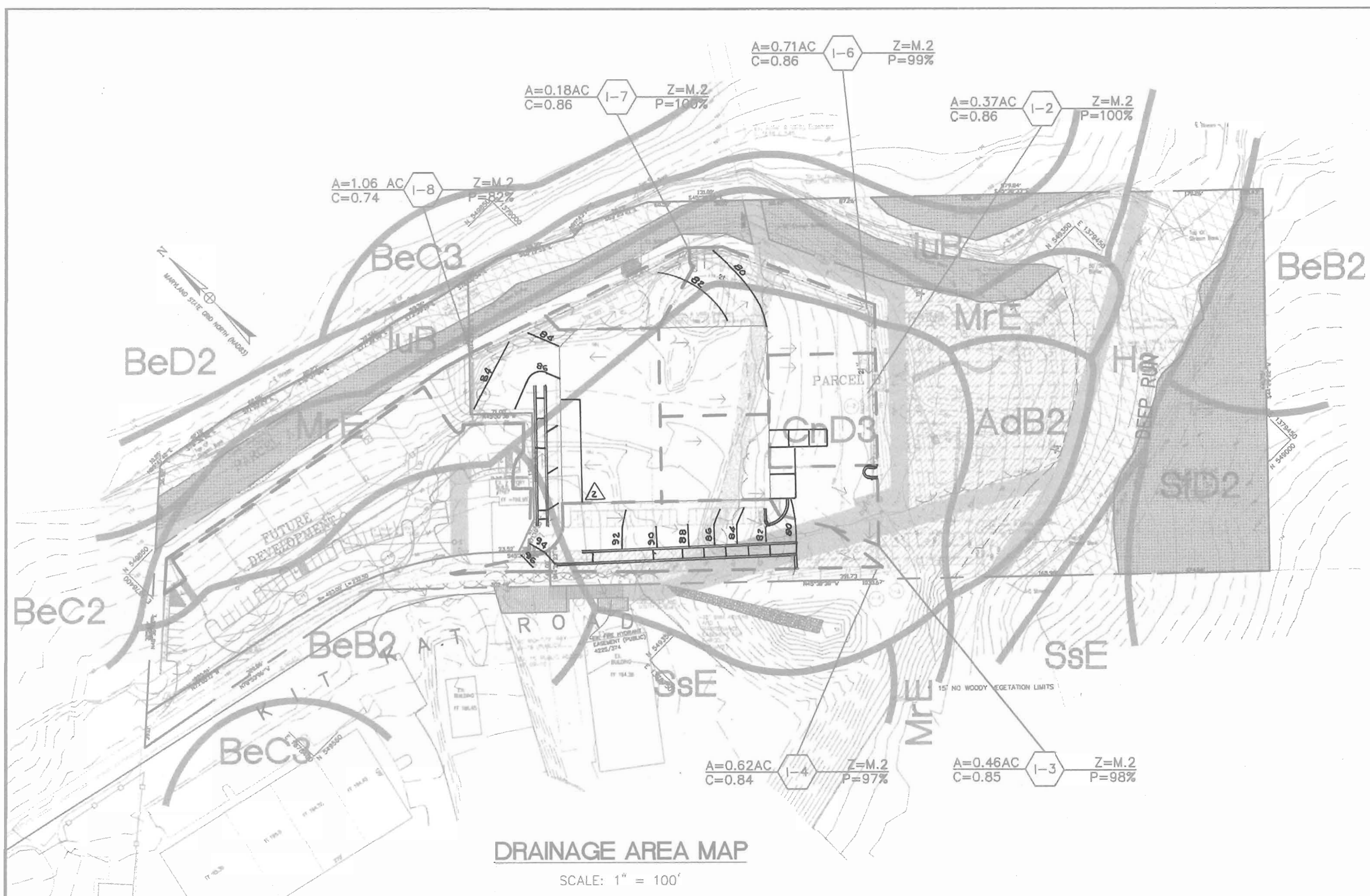
1420-A JOH ANNOR
BALTIMORE, MARYLAND 21227
(410) 247-0833 FAX 247-0397

PARCEL: 49 TAX MAP: 43
CENSUS TRACT 6011.01 1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

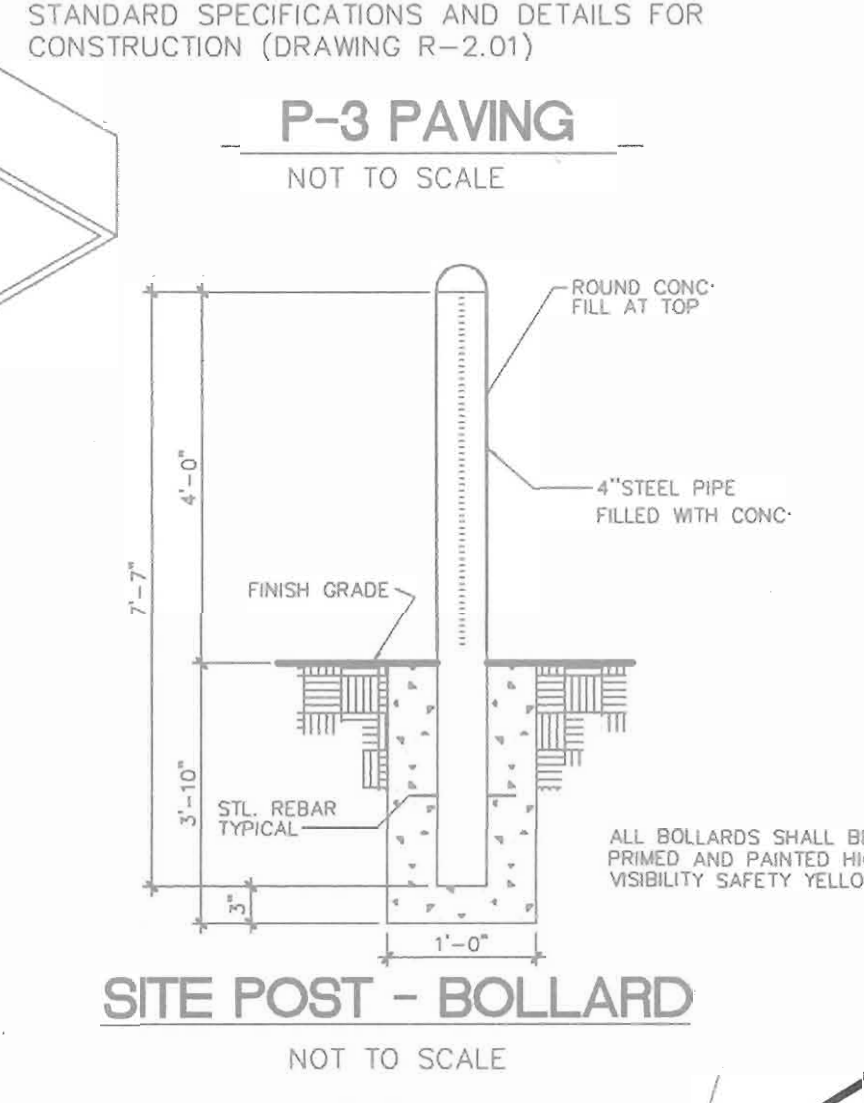
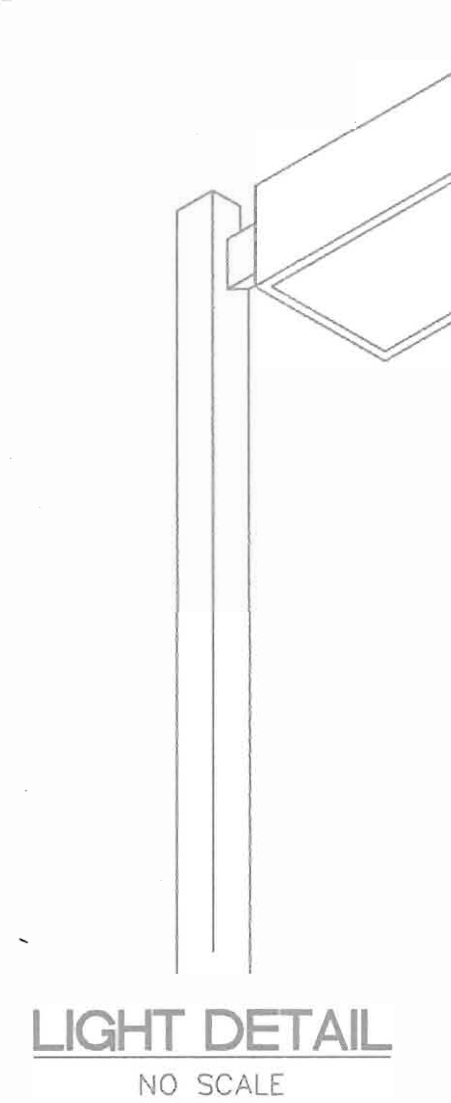
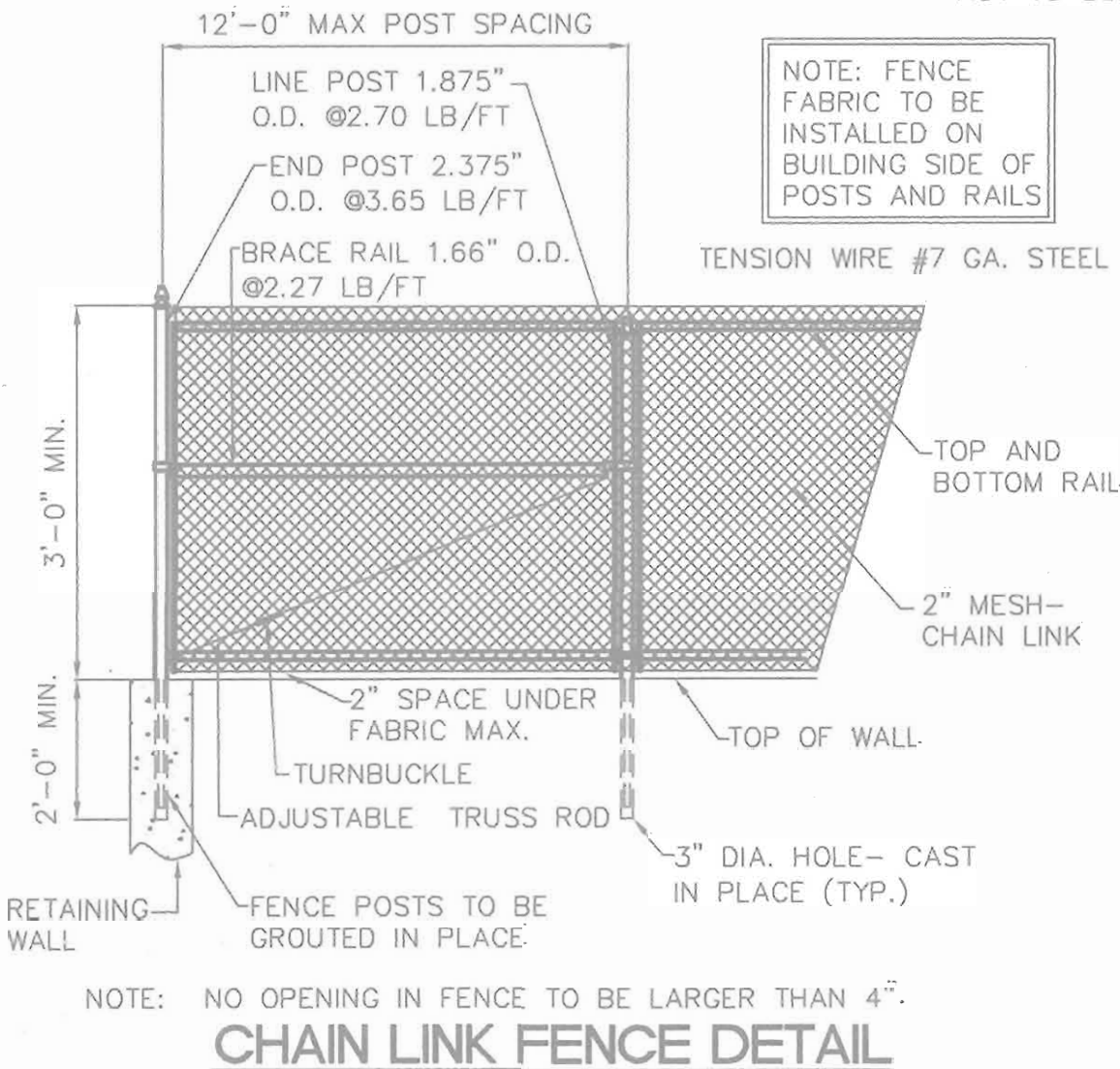
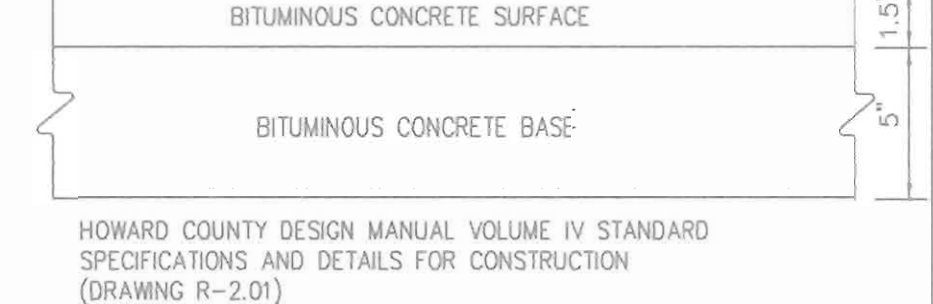
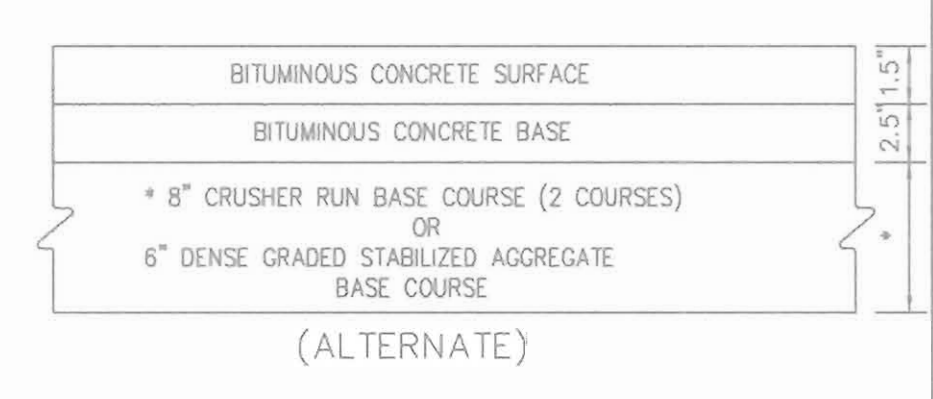
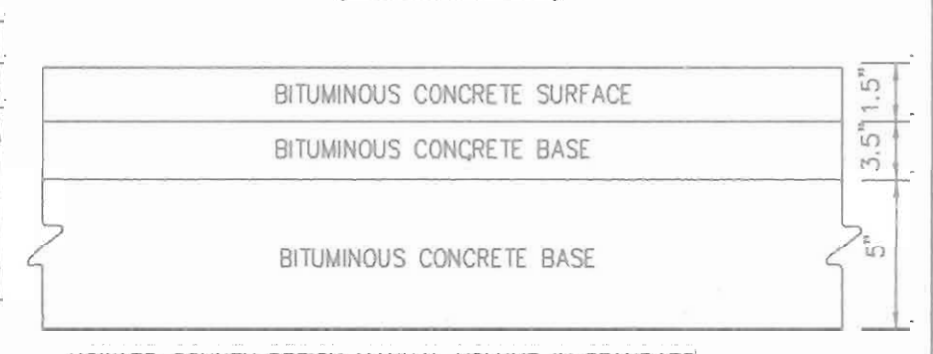
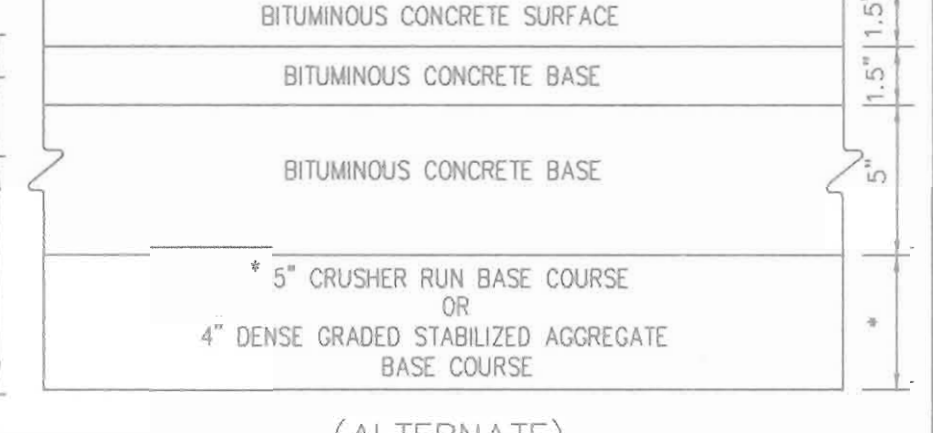
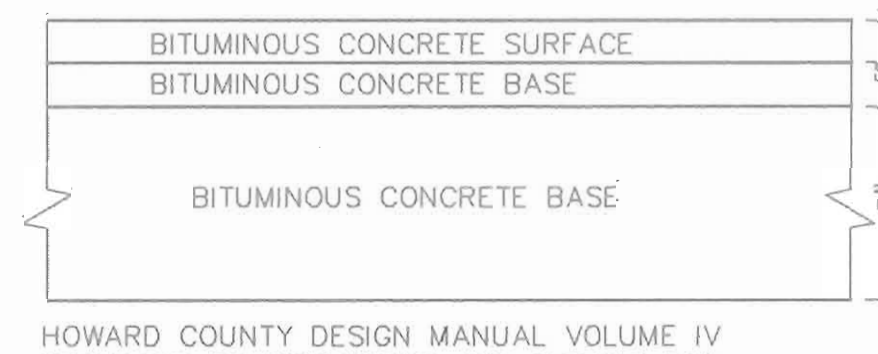
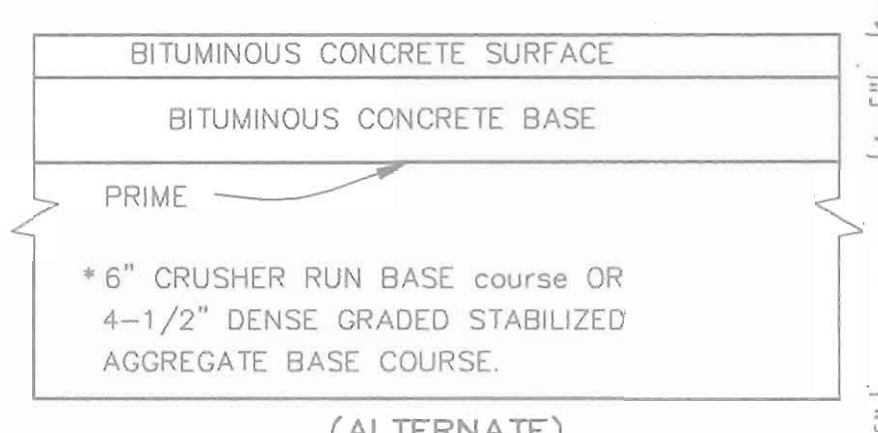
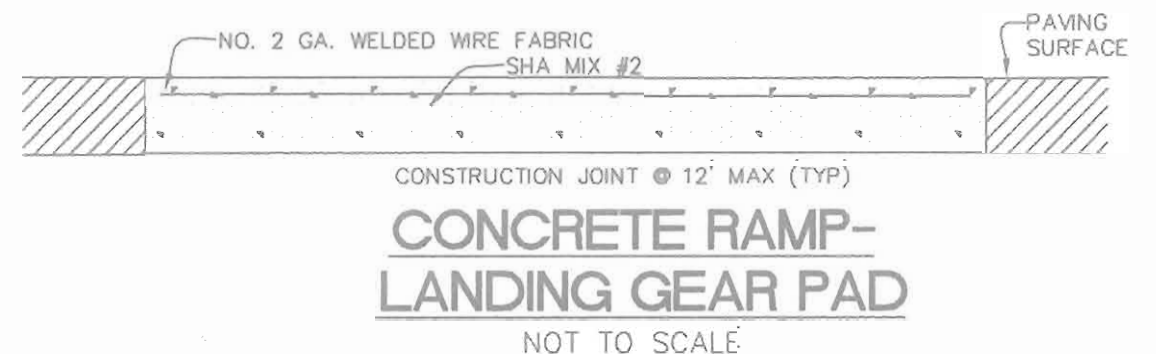
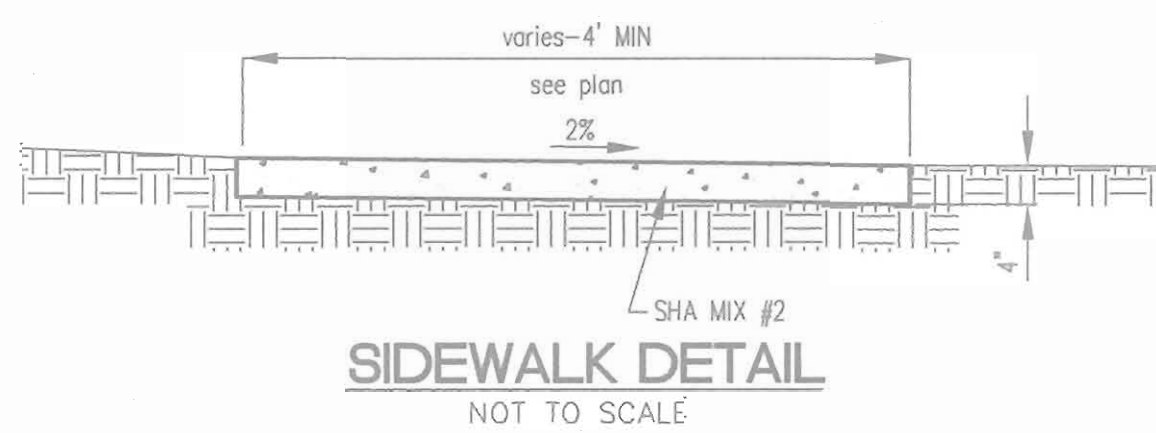
SEDIMENT CONTROL NOTES AND DETAILS

Drawn by: R.J.W. Scale: AS SHOWN Date: APRIL, 2004
Checked by: S.E.W. Date: APRIL, 2004
Designed by: J.H.H. Date: APRIL, 2004

JOHN H. HERRICKS
Professional Engineer, No. 14920



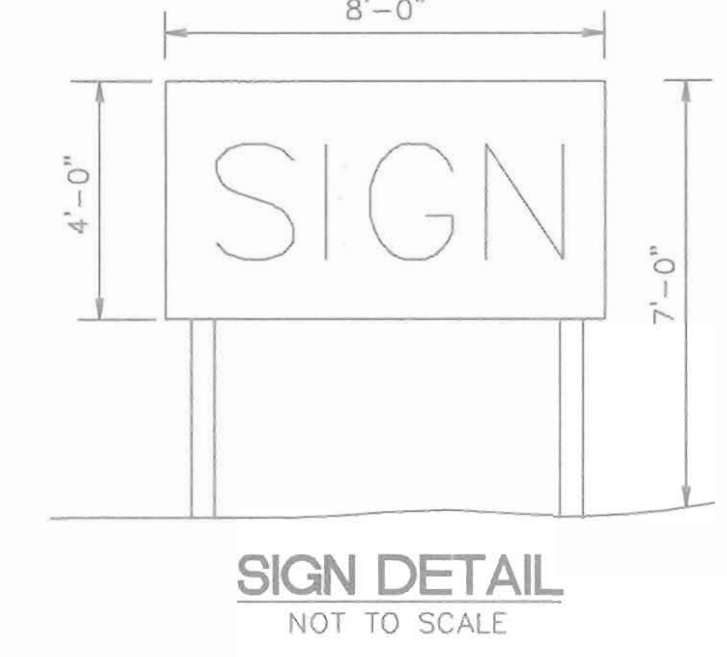
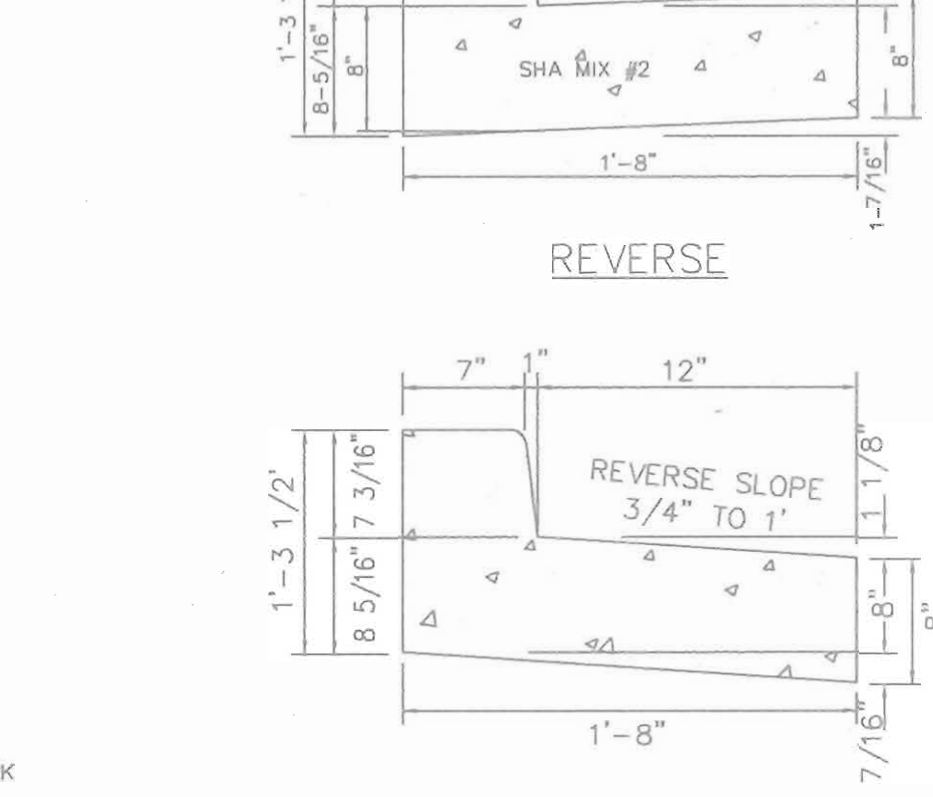
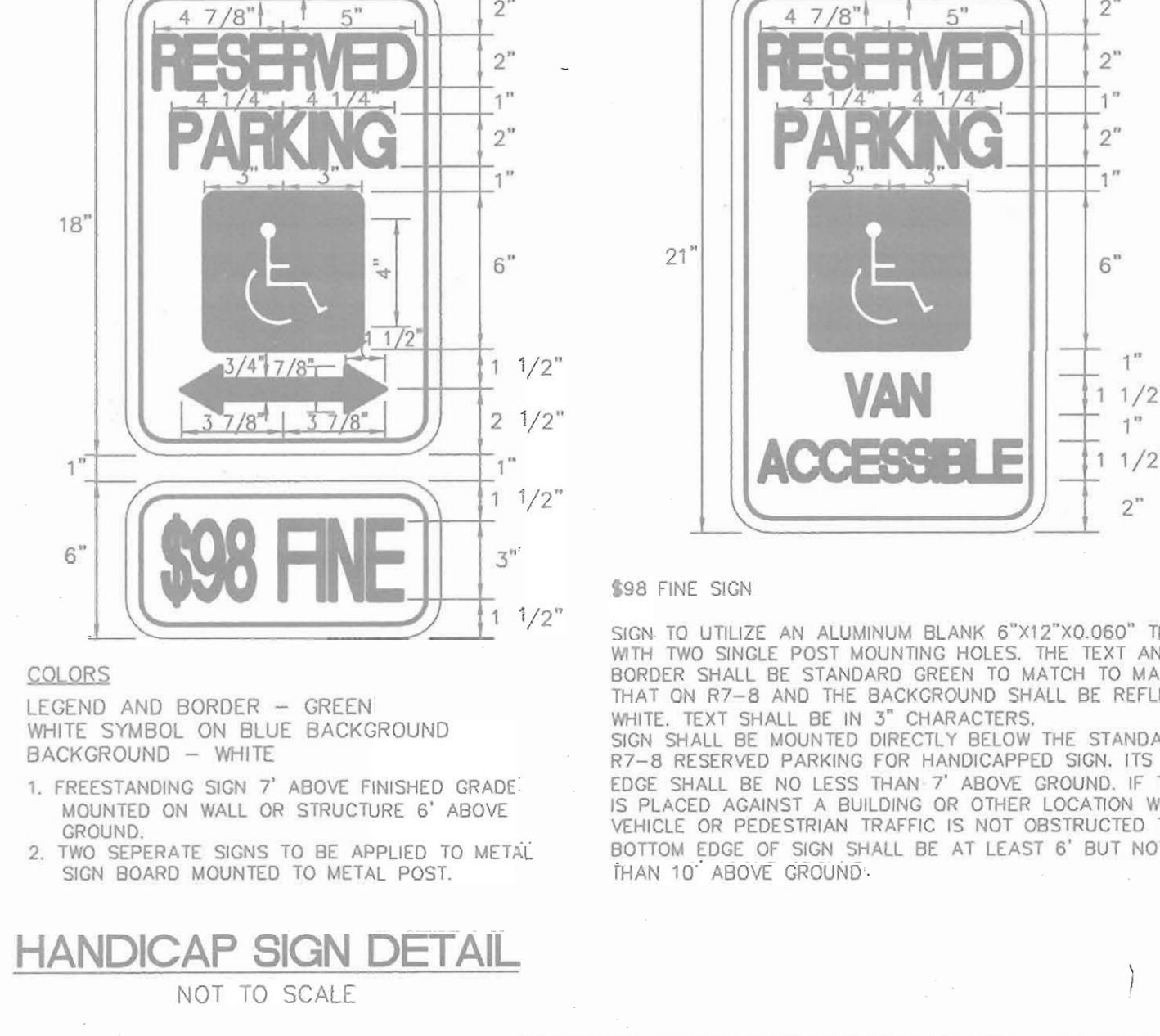
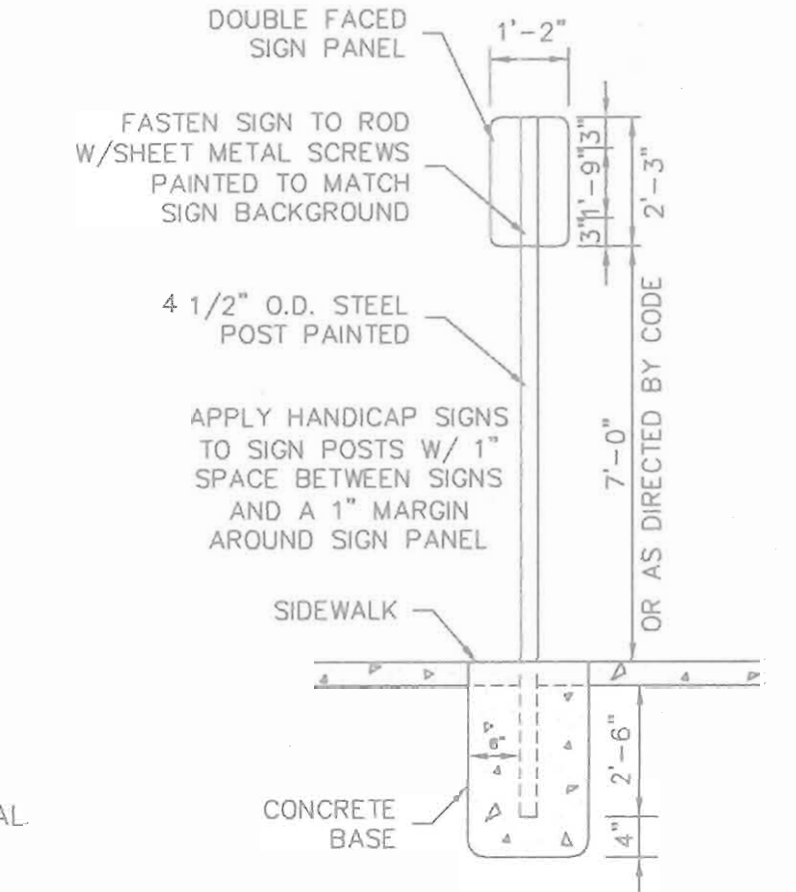
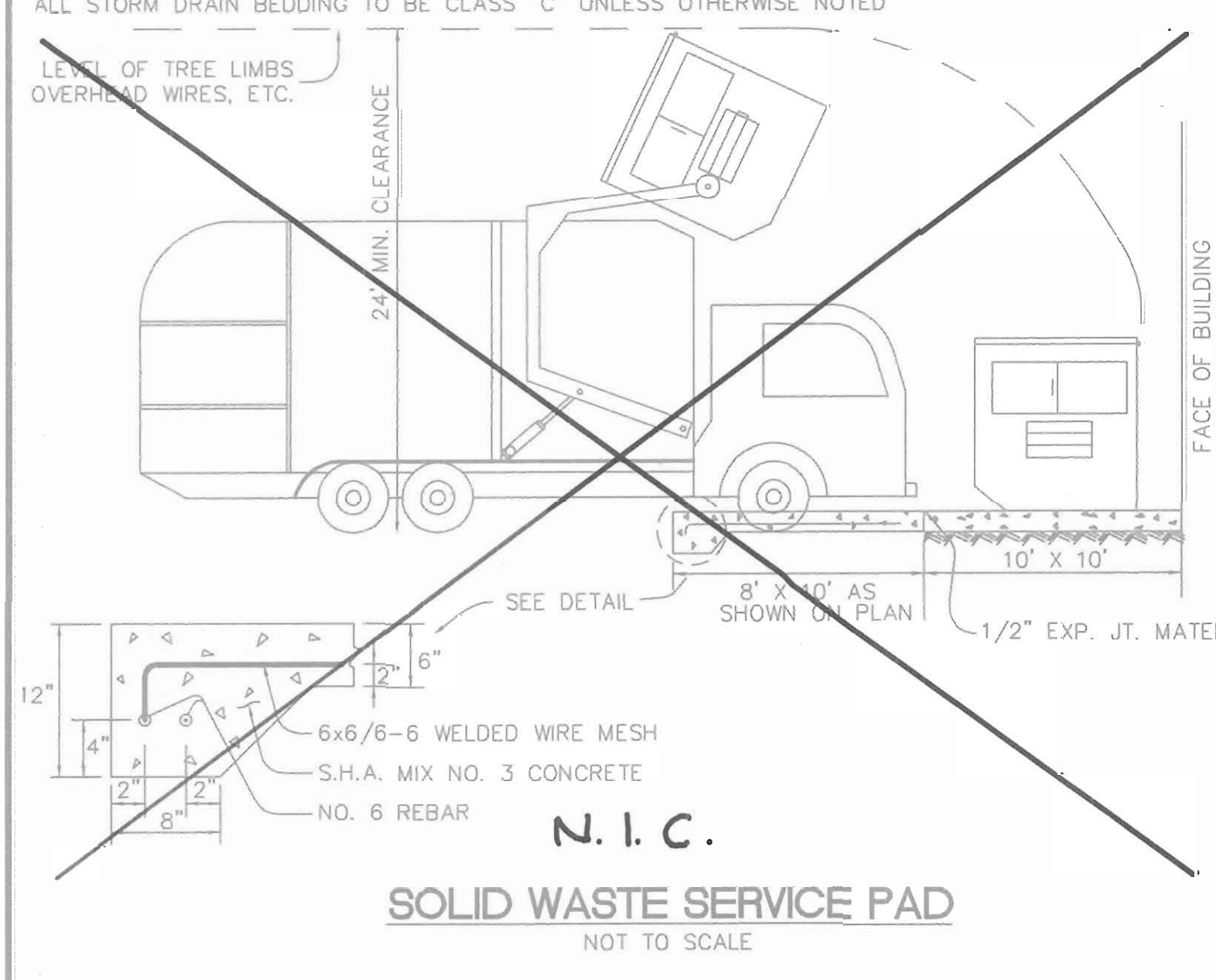
DRAINAGE AREA MAP
SCALE: 1" = 100'



STRUCTURE SCHEDULE						
NO.	TYPE	LOCATION	INV. IN.	INV. OUT	THROAT ELEV	REMARKS
I-2	DOUBLE 'S' INLET	SEE PLAN	166.13 166.13	164.50	176.20	H.C. STD. SD 4.22 WARP PAVING AS NECESSARY TO RECEIVE FLOW
I-3	'S' INLET	SEE PLAN	168.13	167.88	174.00	H.C. STD. SD 4.22
I-4	A-5 INLET W/DEFLECTORS	SEE PLAN	--	168.43	173.50	H.C. STD. SD 4.01 & SD 4.83
I-6	DOUBLE 'S' INLET	SEE PLAN	168.91	168.71	176.70	H.C. STD. SD 4.23
I-7	A-5 INLET	SEE PLAN	173.75	173.55	180.00	H.C. STD. SD 4.01
I-8	A-5 INLET	SEE PLAN	CHANNEL 177.54	176.52	180.70	H.C. STD. SD 4.01
E-1	36\"/>					

PIPE SCHEDULE			FUTURE PIPE SCHEDULE		
LENGTH	SIZE	TYPE	LENGTH	SIZE	TYPE
67	36"	RCCP ASTM C-361	63	18"	RCCP CL IV
624	21"	RCCP CL IV	308	15"	RCCP CL IV
175	18"	RCCP CL IV			
30	15"	RCCP CL IV			

SOIL CLASSIFICATION		DESCRIPTION
SYMBOL	TYPE	
AdB2	C	ALDINO SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
BeB2	C	BELTSVILLE SILT LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED
BeC2	C	BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, MODERATELY ERODED
BeC3	C	BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, SEVERELY ERODED
BeD2	C	BELTSVILLE SILT LOAM, 10 TO 15 PERCENT SLOPES, MODERATELY ERODED
ChD3	C	CHILLUM-FAIRFAX LOAM, 5 TO 15 PERCENT, SEVERELY ERODED
DeB2	D	DELENGO SILT LOAM, 3 TO 8 PERCENT, MODERATELY ERODED
Ho	D	HATBORO SILT LOAM
IuB	C	IUKA LOAM LOCAL ALLUVIUM, 1 TO 5 PERCENT SLOPES
MrE	C	MONTALTO AND RELAY SOILS, 15 TO 45 PERCENT SLOPES
SD2	B	SASSAFRAS GRAVELLY SANDY LOAM, 10 TO 15 PERCENT SLOPES, MODERATELY ERODED
SsE	B	SASSAFRAS SOILS, 15 TO 40 PERCENT SLOPES



9.10.04
JOHN R. HENRICHS
Professional Engr. No. 14920

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 CHIEF, DIVISION OF LAND DEVELOPMENT

2/3/05
3/3/05

9-16-06
ADDED TRUCK SCALES AND REVISED BLOC 'D'

OWNER: D. ERIC SELINE
14852 OLD GUNPOWDER ROAD
LAUREL, MD 20707
410-792-2999

DEVELOPER: CRAIG STUART-PAUL
P.O. BOX 21171
CATONSVILLE, MD 21228
410-340-9387

PROJECT: FAIRFAX RECYCLING INC.
KIT KAT CENTER PARCELS A AND B
7187 KIT KAT ROAD ELLICOTT CITY, MD
Tax Map No. 43, Grid 11, Elec. Dist. No. 1, Parcel 49
HOWARD COUNTY, MARYLAND

PREPARED BY: PHOENIX ENGINEERING, INC.
CONSULTING ENGINEERS
1420-A JOH AVENUE
BALTIMORE, MARYLAND 21227
(410) 247-8833 FAX 247-9397

AREA: PARCEL: 49 TAX MAP: 43
CENSUS TRACT 6011.01 1 ST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: DRAINAGE AREA MAP AND DETAILS

Des By: R.J.W. Scale: AS SHOWN Proj No: 02-021
 Dwn By: S.E.W. Date: JANUARY, 2004 DRAWING NO: d001.dwg
 Ck By: J.R.H. SDP 04-024 6 OF 18

SDP 04-024

Schedule A - Perimeter Landscape Edge

Category	Non-Res/Non-Res	Non-Res/Non-Res	Non-Res/Non-Res	Non-Res/Non-Res	Non-Res/Non-Res	Loading/Non-Res	Non-Res/Non-Res	Non-Res/Roadway	Non-Res/Roadway	TOTAL
Perimeter Label	P-1	P-2	P-3	P-4	P-5	P-6	P-7	P-8	P-9	
Landscape Type	A	A	A	A	A	C	A	B	B	
Linear Feet of Roadway Frontage/Perimeter	301	644	711	442	451	124	155	115	391	
Credit for Existing Vegetation (Yes, No, Linear Feet)	Yes 301	Yes 644	Yes 711	Yes 442	Yes 280	N/A	N/A	N/A	Yes 391	
Credit for Wall, Fence, or Berm (Yes, No, Linear Feet)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Number of Plants Required										
Shade Trees	0	0	0	0	3	3	3	2	0	11
Evergreen Trees	0	0	0	0	0	6	0	3	0	9
Shrubs	0	0	0	0	0	0	0	0	0	0
Number of Plants Provided										
Shade Trees	0	0	0	0	3	3	3	2	0	11
Evergreen Trees	0	0	0	0	0	6	0	3	0	9
Shrubs	0	0	0	0	0	0	0	0	0	0
Other Trees (2:1 Sub.)	0	0	0	0	0	0	0	0	0	0

Schedule B - Parking Lot Internal Landscaping

Number of Parking Spaces	50
Number of Trees Required	3
Number of Trees Provided	3
Shade Trees	3
Other Trees (2:1 Sub.)	0

Street Tree Calculations

Total Frontage along Kit Kat Road	616'
Total Exclusions for Proposed and Future Entrances	211'
Total Number of Street Trees Required	405 / 140 = 10
Total Number of Street Trees Provided	10

Schedule D - Stormwater Management Area Landscaping

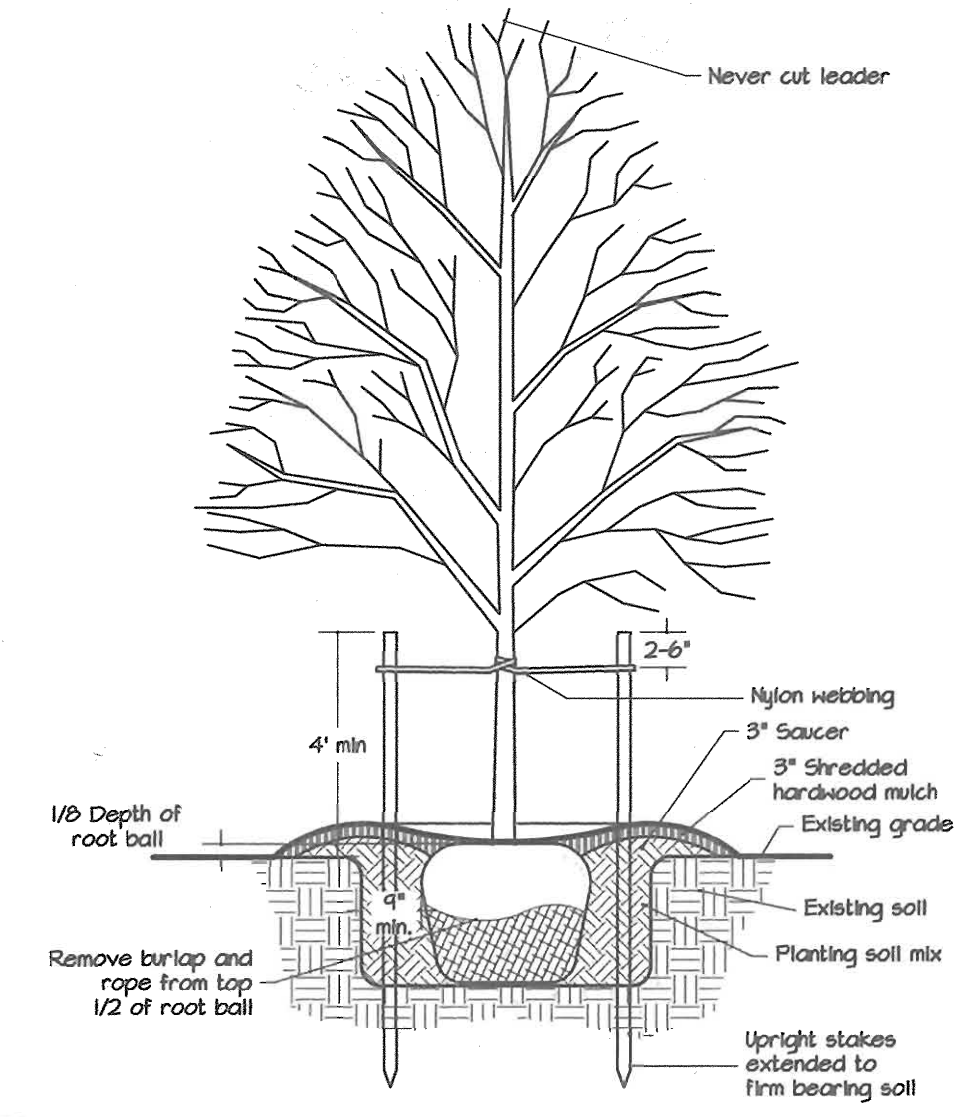
This property is zoned M-2 and the stormwater management facility is not visible from any public right-of-way, therefore the stormwater management landscape requirements do not apply.

Plant List

Quan.	Key	Botanical Name	Common Name	Size	Remarks
Trees					
6	MS	Fraxinus pennsylvanica 'Marshall's Seedless'	Marshall's Seedless Ash	2 1/2-3" cal.	B&B or cont.
9	NS	Ilex x 'Nellie R. Stevens'	Nellie Stevens Holly	6-8' ht.	B&B or cont.
8	RM	Acer rubrum 'October Glory'	Red Maple	2 1/2-3" cal.	B&B or cont.

Street Tree Plant List

Quan.	Key	Botanical Name	Common Name	Size	Remarks
Trees					
10	LP	Platanus x acerifolia 'Bloodgood'	Bloodgood Londonplane Tree	2 1/2-3" cal.	B&B or cont.



1 Tree Planting Detail
N.T.S.

- Landscape Notes**
- Contractor shall be responsible for making himself familiar with all existing on-site conditions prior to submission of bid. The contractor is responsible for the location of all underground utilities, pipes, and structures. Contractor shall take sole responsibility for any cost incurred due to damage of said utilities. Call Miss Utility, 48 hours, prior to digging. (1-800-257-7777)
 - Size and standards of plant materials shall conform to latest edition of "USA Standards For Nursery Stock", by the American Association of Nurserymen, Inc. (AAN).
 - All planting procedures and specifications shall conform to "Landscape Guidelines for Baltimore-Washington Metropolitan Area" latest edition.
 - Contractor shall guarantee all plant material for one (1) year from planting approval/acceptance.
 - Contractor shall confirm quantity of plant materials by plan count.
 - Plant pit backfill shall be a uniform mixture of one (1) part topsoil, two (2) parts existing soil and one (1) part Leafgrow® or approved alternative organic compost.
 - All mulch to be shredded hardwood mulch.
 - All plants shall be thoroughly watered by the contractor immediately following installation.
 - Contractor to adjust plant locations in field as necessary.
 - All plants shall be placed as not to obstruct drainage.
 - No plant substitutes without prior approval.
 - Where field conditions exist which would adversely affect plant performance, or interfere with proper planting procedures, the contractor shall notify the Engineer prior to installation of plant material.
 - All areas not otherwise indicated are to be seeded or sodded as per plan project specifications and in accordance with the Maryland Standards and Specifications for Soil Erosion and Sediment Control.
 - A financial surety for the required landscaping has been posted as a part of the DPW Developers Agreement in the amount of \$5,500. This surety is based on 14 shade trees at \$300 per shade tree and 9 evergreen trees at \$150 per evergreen tree.
 - The owner, tenant, and their respective agents, if any, shall jointly and severally be responsible for the maintenance of the required landscaping. All required plantings shall be maintained in good growing condition and, whenever necessary, replaced with new plant materials to ensure continued compliance with applicable regulations.

- LEGEND**
- PROPERTY LINE
 - - - EXISTING EASEMENT
 - - - EXISTING CONTOURS (2')
 - - - EXISTING TREELINE
 - - - EXISTING STREAM TOP OF BANK
 - - - 50' STREAM BUFFER
 - [Hatched Box] FOREST CONSERVATION EASEMENT
 - [Circle with X] PROPOSED SHADE TREE
 - [Circle with Star] PROPOSED EVERGREEN TREE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

John Dammann 2/3/05
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

David Hamilton 3/6/05
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Frank S. Wyle 3/1/05
 DIRECTOR DATE

Date	No	Revision Description
9-15-05	1	ADDED TRUCK 9CALES AND REVISED BLOG 'B'

OWNER:
D. ERIC SELINE
 14852 OLD GUNPOWDER ROAD
 LAUREL, MD 20707
 410-792-2999

DEVELOPER:
CRAIG STUART-PAUL
 P.O. BOX 21171
 CATONSVILLE, MD 21228
 410-340-9387

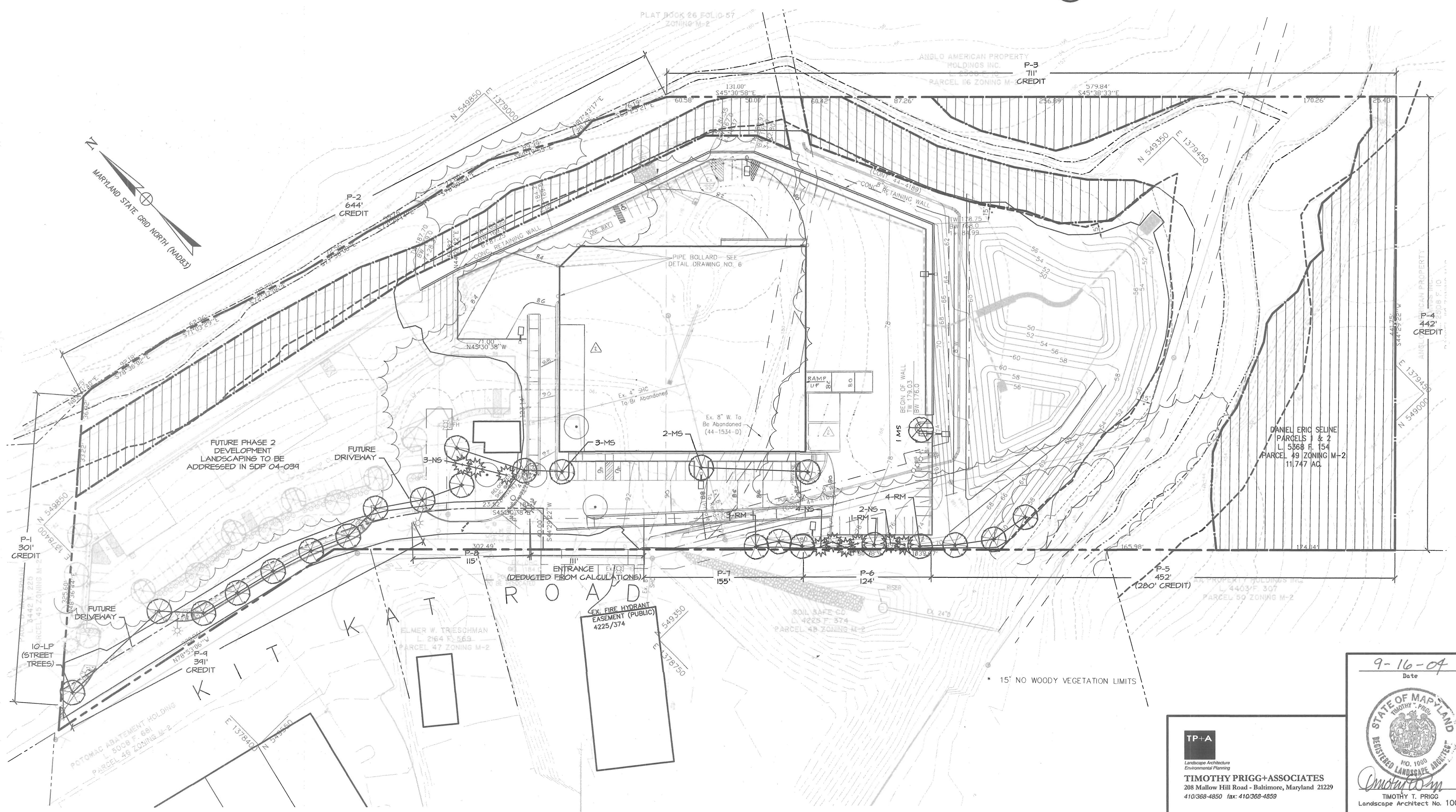
PROJECT:
FAIRFAX RECYCLING INC.
 KIT KAT CENTER PARCELS A AND B
 7167 KIT KAT ROAD ELLICOTT CITY, MD.
 Tax Map No. 43, Grid 11, Elec. Dist. No. 1, Parcel 49
 HOWARD COUNTY, MARYLAND

PREPARED BY:
PHOENIX ENGINEERING, INC.
 CONSULTING ENGINEERS
 1420-A JOH AVENUE
 BALTIMORE, MARYLAND 21227
 (410) 247-8833 FAX 247-9397

AREA:
 PARCEL: 49 TAX MAP: 43
 CENSUS TRACT 8011.01 1 ST ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE:
LANDSCAPE PLAN AND DETAILS

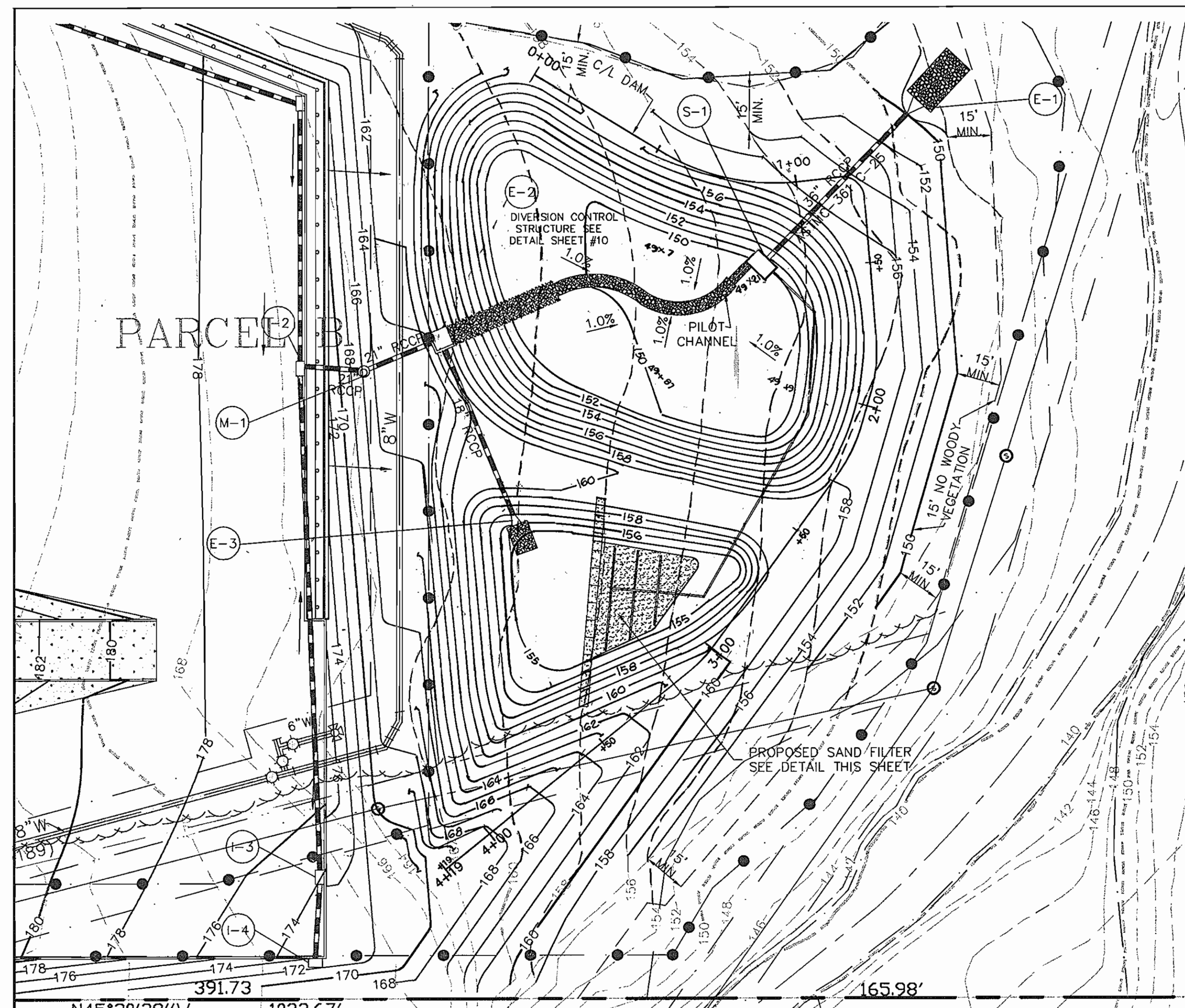
Des By	TTP	Scale	1" = 50'	Proj No	02-033
Des By	DJM	Date	SEPTEMBER 2004	DRAWING NO	fsd base.dwg
Chk By	TTP	SDP	04-024		7 OF 18



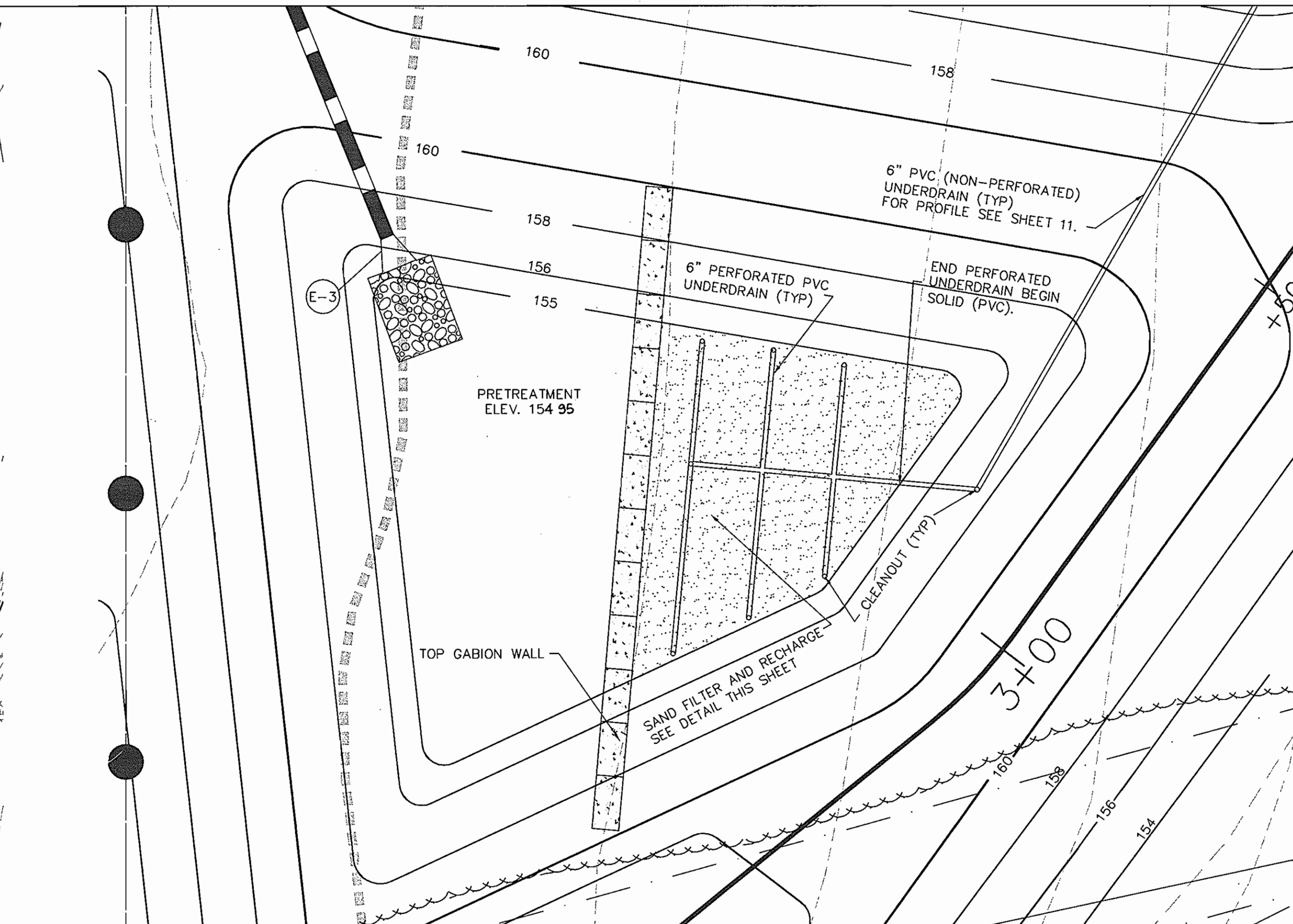
TP+A
 Landscape Architecture
 Environmental Planning
TIMOTHY PRIGG+ASSOCIATES
 208 Mallow Hill Road - Baltimore, Maryland 21229
 410-368-4850 fax: 410-368-4859

9-16-04
 Date

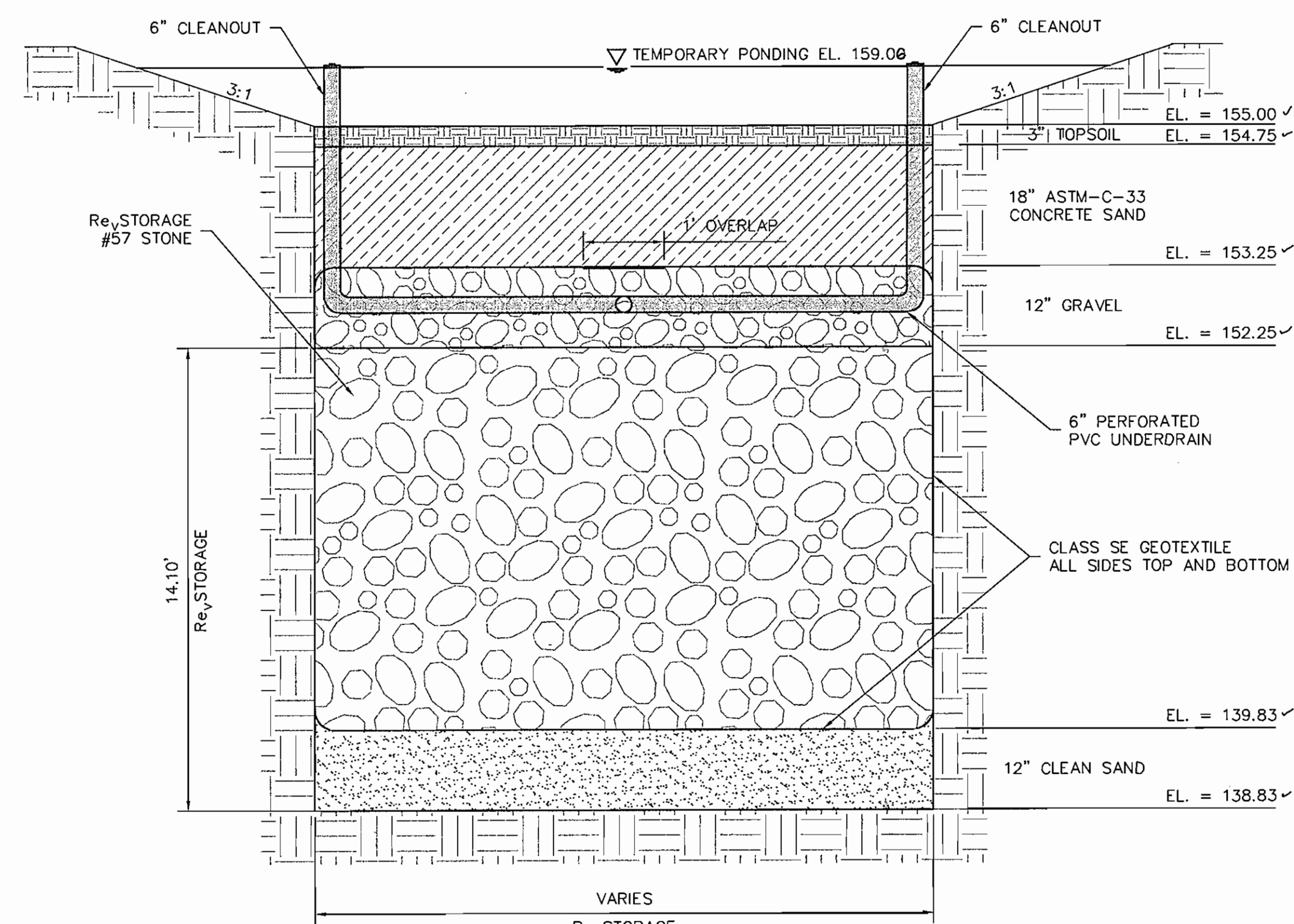
TIMOTHY T. PRIGG
 Landscape Architect No. 1000



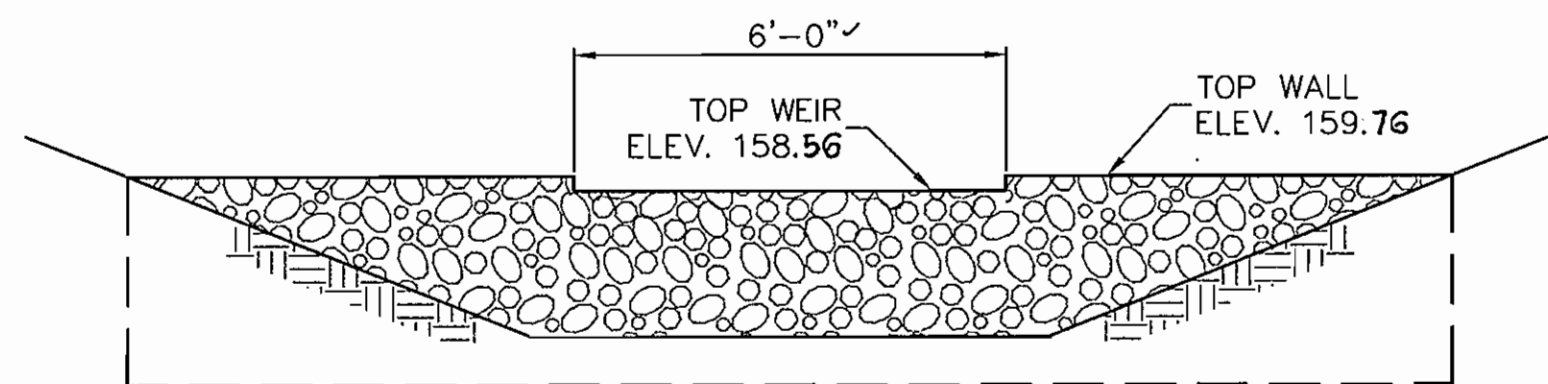
PLAN SWM
SCALE: 1" = 30'-0"



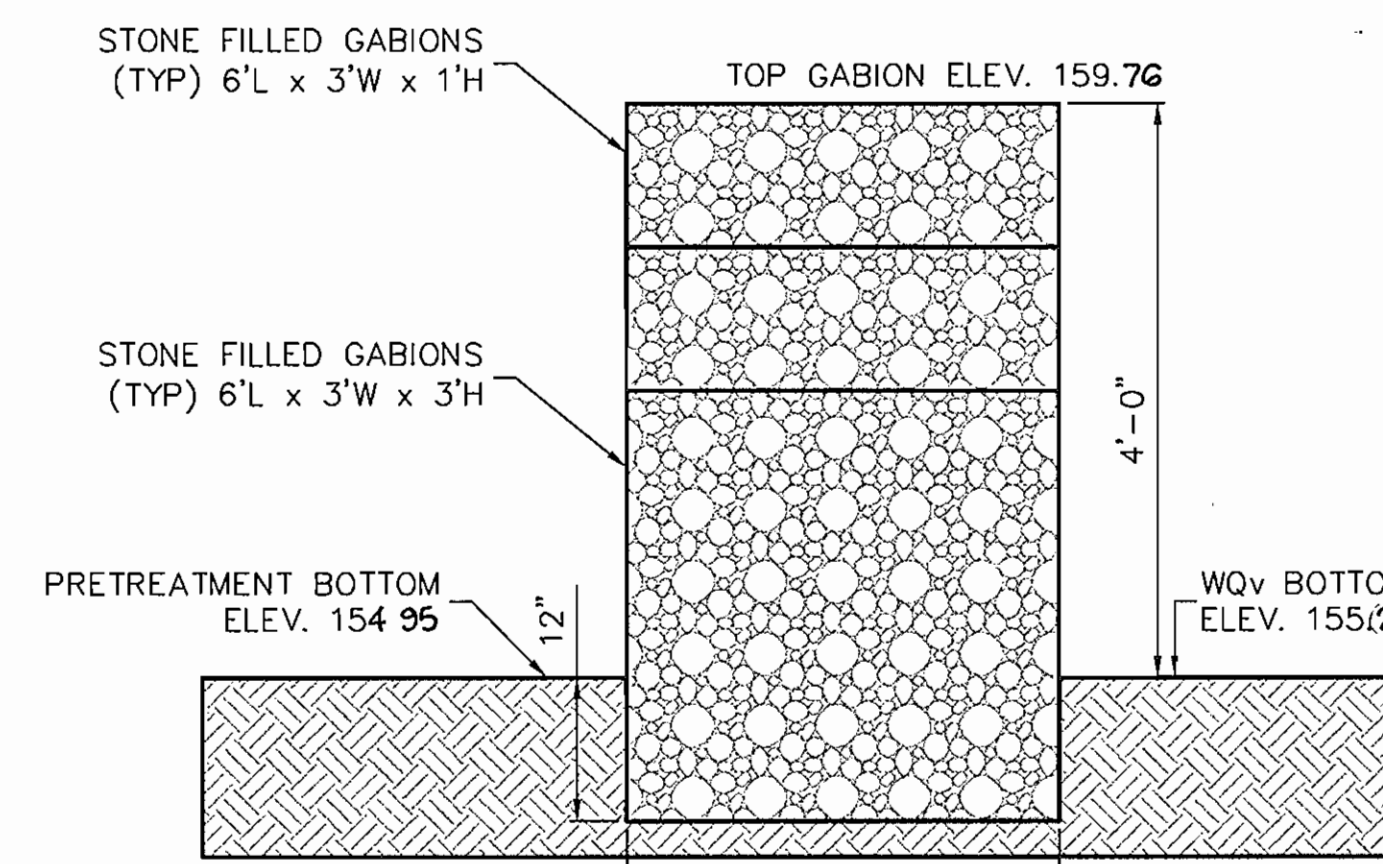
SAND FILTER DETAIL
SCALE: 1" = 10'-0"



SAND FILTER SECTION
SCALE: 3/4" = 1'-0"



GABION WALL ELEVATION
SCALE: 3/8" = 1'-0"

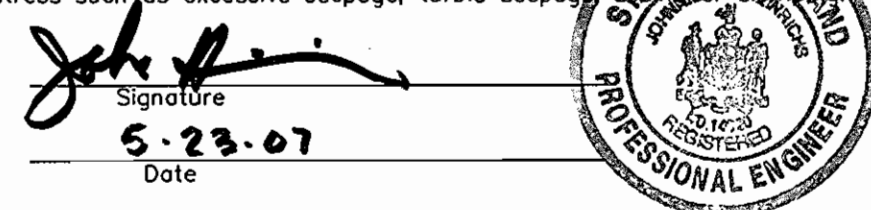


GABION WALL DETAIL
SCALE: 3/4" = 1'-0"

OPERATION, MAINTENANCE AND INSPECTION

Inspection of the pond(s) shown herein shall be performed at least annually, in accordance with the checklist and requirements contained within USDA, SCS "Standards and Specifications For Ponds" (MD-387). The pond owner(s) and any heirs, successors, or assigns shall be responsible for the safety of the pond and the continued operation, surveillance, inspection, and maintenance thereof. The pond owner(s) shall promptly notify the Soil Conservation District of any problems or conditions that may be indications of distress such as excessive seepage, turbid seepage, or other conditions.

John R. Heinrichs
Signature
MD Reg. P.E.# 14920
Date



OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED SURFACE STORMWATER FILTRATION SYSTEMS (F-1, F-4, & F-5)

- The stormwater wetland facility shall be inspected annually and after major storms. Inspections shall be performed during wet weather to determine if the facility is functioning properly.
- The top and side slopes of the embankment shall be mowed a minimum of once per year, when vegetation reaches 18" in height, or as needed.
- Filters that have a gross cover shall be mowed a minimum of three (3) times per growing season to maintain a maximum grass height of less than 12 inches.
- Debris and litter shall be removed during regular mowing operations and as needed.
- Visible signs of erosion in the facility shall be repaired as soon as it is noticed.
- Remove silt when it exceeds four (4) inches deep in the forebay.
- When water ponds on the surface of the filter bed for more than 72 hours, the top few inches of discolored material shall be replaced with fresh material. Proper cleaning and disposal of the removed materials and liquid must be followed by the owner.
- A log book shall be maintained to determine the rate at which the facility drains.
- The maintenance log book shall be available to Howard County for inspection to insure compliance with operation and maintenance criteria.
- Once the performance characteristics of the infiltration system have been verified, the monitoring schedule can be reduced to an annual basis unless the performance data indicated that a more frequent schedule is required.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER PONDS (P-1 THROUGH P-5)

- Routine Maintenance:**
- Facility shall be inspected annually and after major storms. Inspections shall be performed during wet weather to determine if the pond is functioning properly.
 - Top and side slopes of the embankment shall be mowed a minimum of two (2) times per year, once in June and once in September. Other side slopes and maintenance access shall be mowed as needed.
 - Debris and litter shall be removed during regular mowing operations and as needed.
 - Visible signs of erosion in the facility shall be repaired as soon as it is noticed.
- Non-Routine Maintenance:**
- Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the detection of any damage. The components shall be inspected during routine maintenance operations.
 - Sediment shall be removed from the pond, and forebay, no later than when the capacity of the pond, or forebay, is half full of sediment, or when deemed necessary for aesthetic reasons, upon approval from the Department of Public Works.

9.10.04
Date
Signature
JOHN R. HEINRICHS
Professional Engr. No. 14920

DESIGN CERTIFICATION

I hereby certify that this plan has been designed in accordance with the 1994 Standards and Specifications for Soil Erosion and Sediment Control, the 2000 Maryland Storm Water Design Manual, Volumes I & II and the Maryland Department of the Environment Storm Water Management Regulations.

John R. Heinrichs
Signature
9.10.04
Date
MD Reg. P.E.# 14920

AS BUILT CERTIFICATION

I hereby certify that the facility shown on this plan was constructed as shown on the approved plans and meets the approved plans and specifications.

John R. Heinrichs
Signature
5.23.07
Date
MD Reg. P.E.# 14920

ENGINEER'S CERTIFICATE

I/WE CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

John R. Heinrichs
Signature
9.10.04
Date
ENGINEER: JOHN R. HEINRICHS, VICE PRESIDENT
PHOENIX ENGINEERING, INC. PE#14920

DEVELOPER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Craig Stuart-Paul
Signature
9.15.04
Date
DEVELOPER: CRAIG STUART-PAUL
FAIRFAX RECYCLING, INC.

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

Jim Ryan
Signature
1/31/05
Date
USDA-NATURAL RESOURCES CONSERVATION SERVICES

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

John R. Heinrichs
Signature
1/31/05
Date
HOWARD SOIL CONSERVATION DISTRICT

APPROVED: DEPARTMENT OF PLANNING AND ZONING
2/3/05
Date
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Chris Hendon
Signature
2/16/05
Date
CHIEF, DIVISION OF LAND DEVELOPMENT

David A. Lopez
Signature
3/14/05
Date
DIRECTOR

Date	No	Revision Description

OWNER:
D. ERIC SELINE
14852 OLD GUNPOWDER ROAD
LAUREL, MD. 20707
(410) 792-2999

DEVELOPER:
CRAIG STUART-PAUL
P.O. BOX 21171
CATONVILLE, MD. 21228
410-340-9387

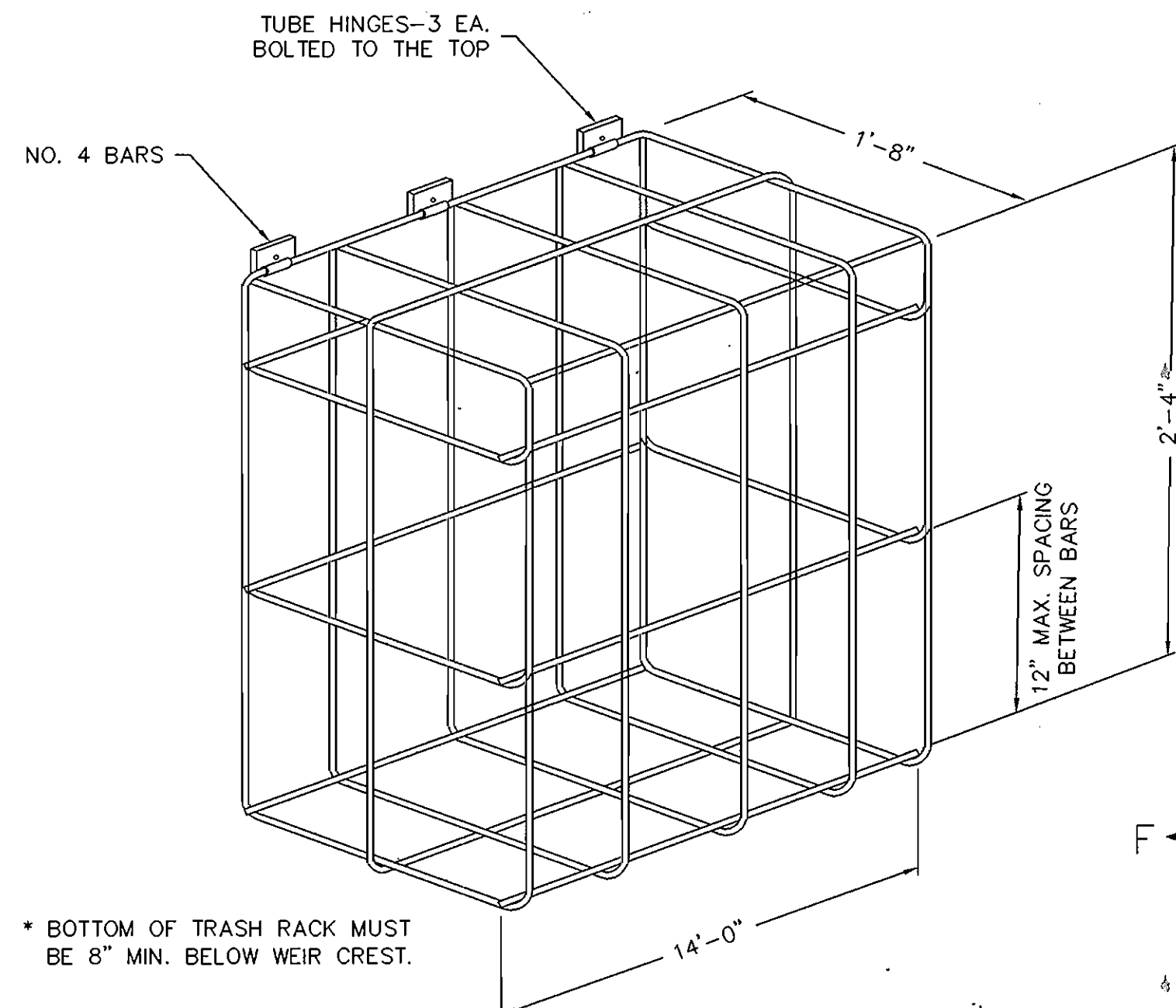
PROJECT:
FAIRFAX RECYCLING INC.
KIT KAT CENTER PARCELS A AND B
7167 KIT KAT ROAD ELIJACOTT CITY, MD.
Tax Map No. 43, Grid 11, Elec. Dist. No. 1, Parcel 49
HOWARD COUNTY, MARYLAND

PREPARED BY:
PHOENIX ENGINEERING, INC.
CONSULTING ENGINEERS
1420-A JOH AVENUE
BALTIMORE, MARYLAND 21227
(410) 247-8833 FAX 247-9397

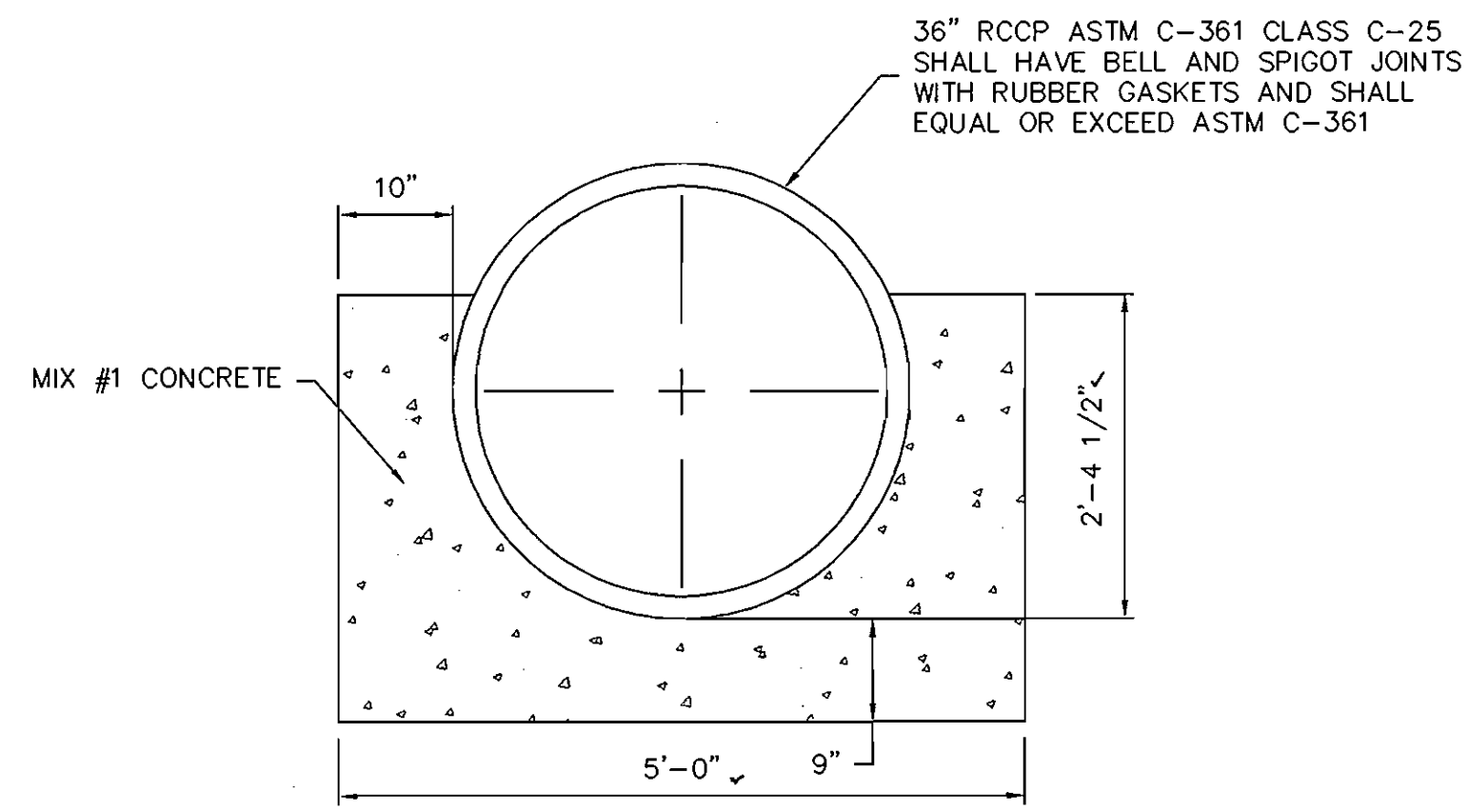
AREA:
PARCEL: 49 TAX MAP: 43
CENSUS TRACT 6011.01 1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
S.W.M. PLAN AND DETAILS

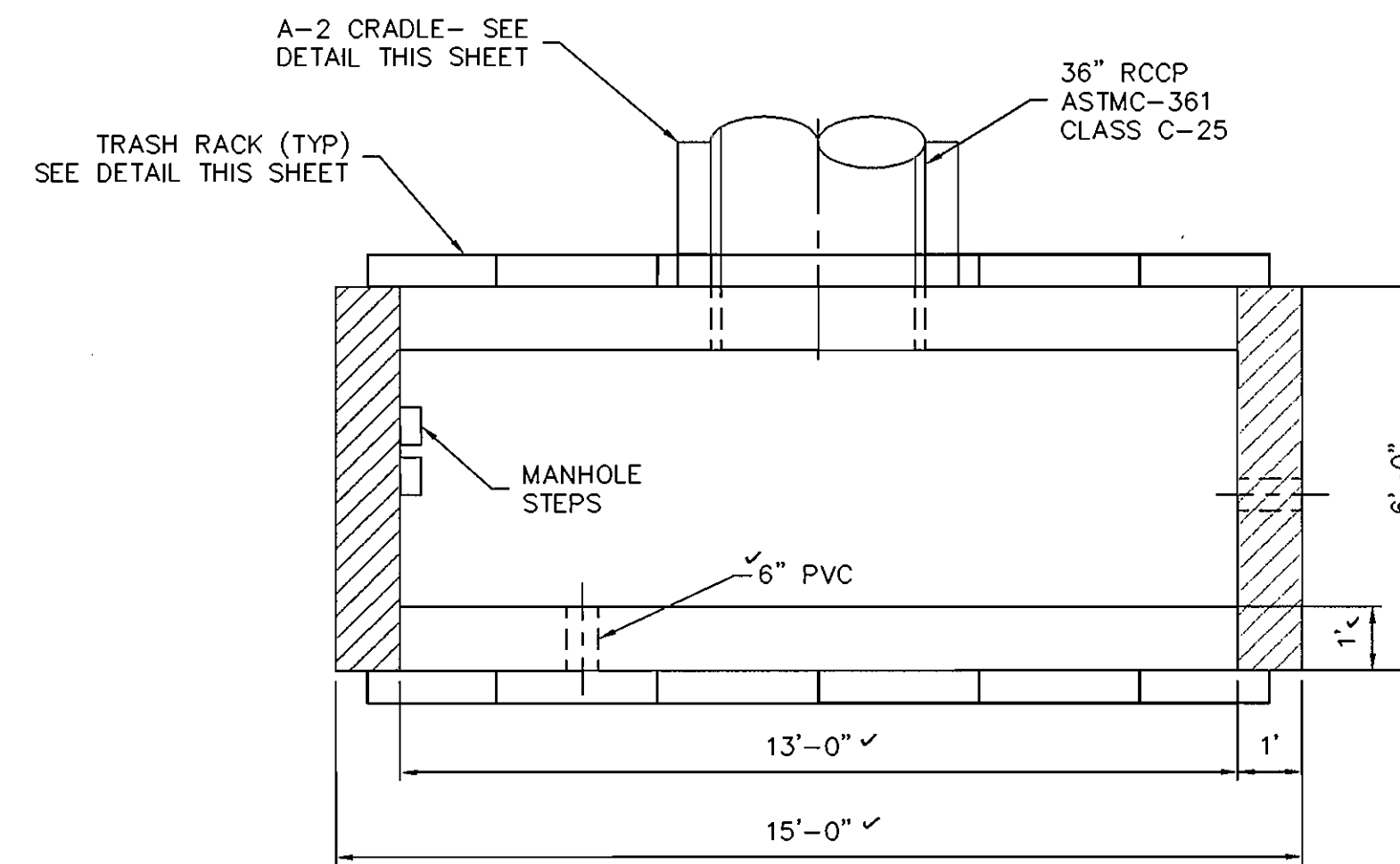
Des By	D.B.	Scale	AS SHOWN	Proj No	02-021
Des By	S.E.W.	Date	JANUARY, 2004	DRAWING NO	sw01.dwg
Chk By	J.R.H.	SDP	04-024		8 OF 18



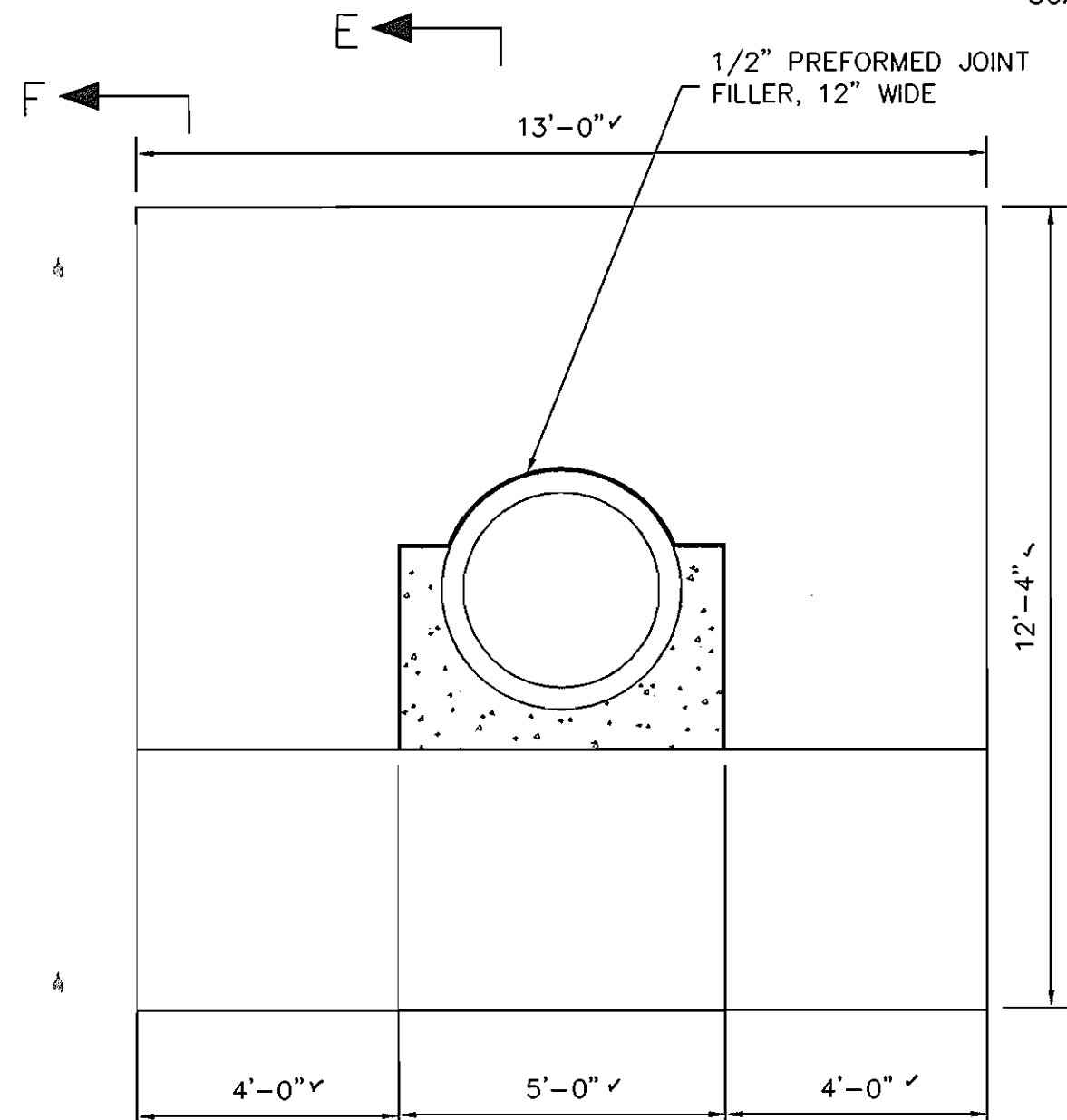
TRASH RACK DETAIL
SCALE: 1-1/2" = 1'-0"



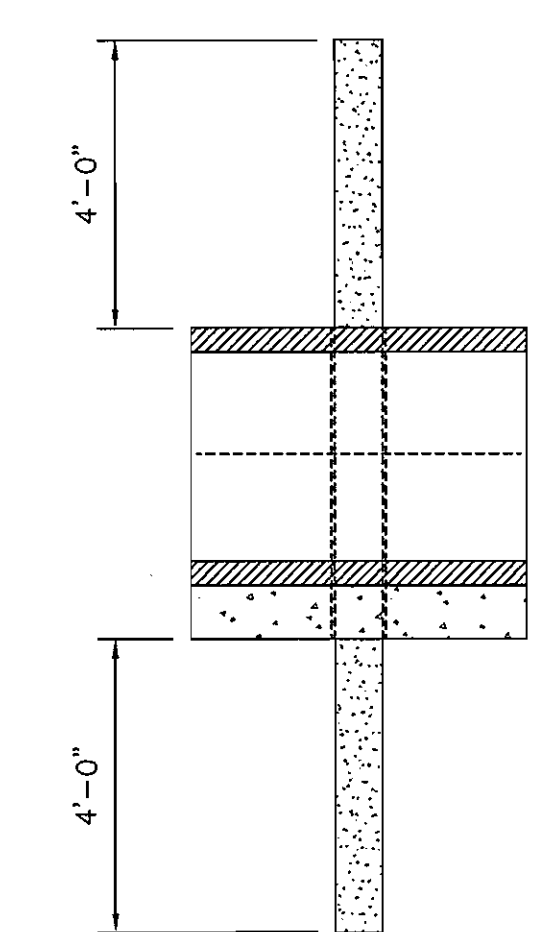
SCS TR-46 A-2 CRADLE DETAIL
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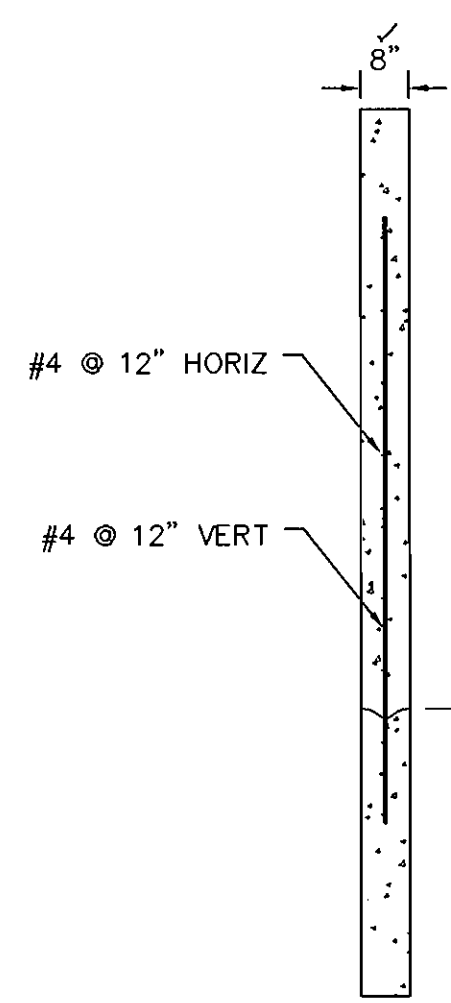
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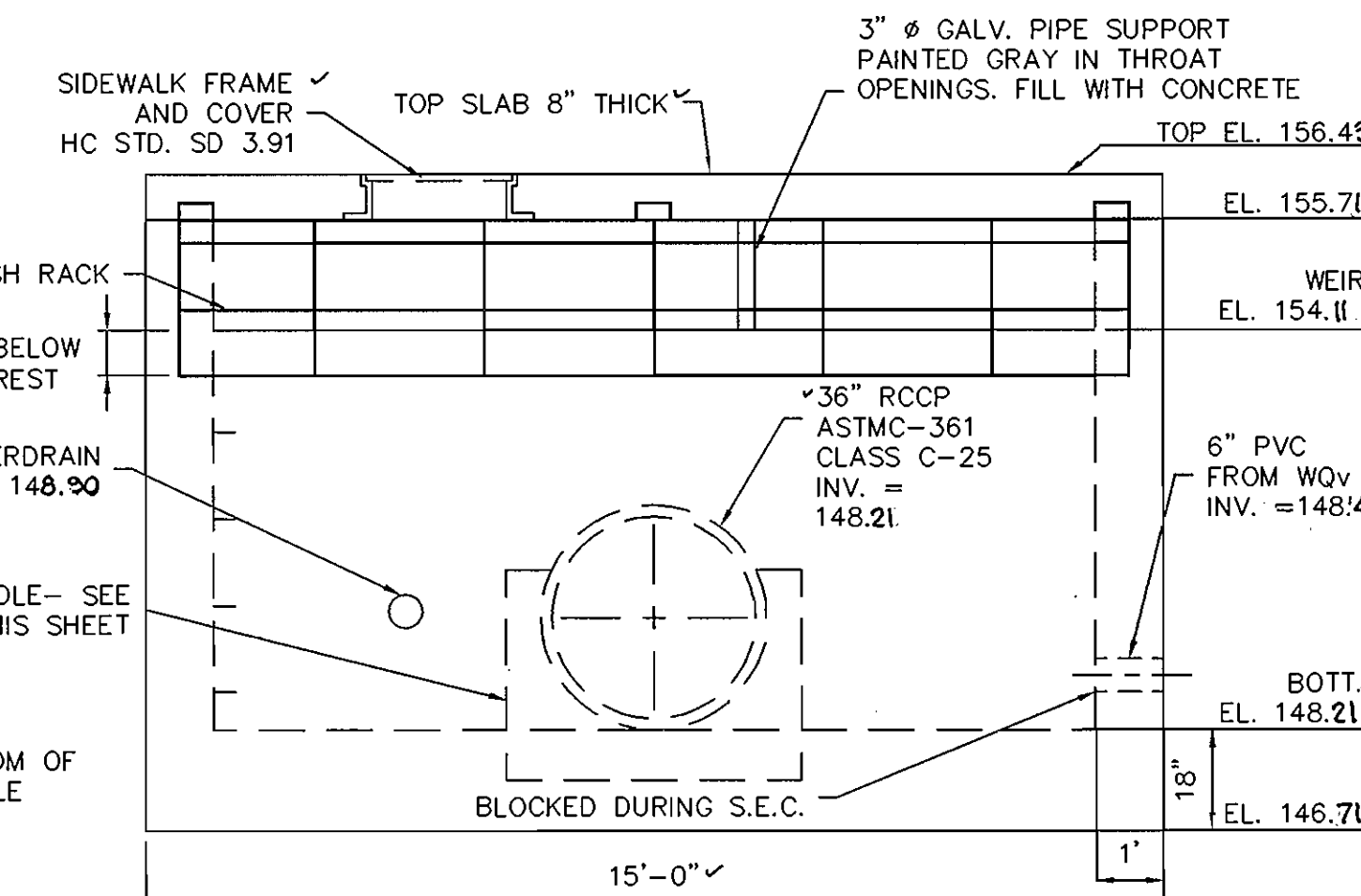
ANTI-SEEP COLLAR DETAIL
SCALE: 3/8" = 1'-0"



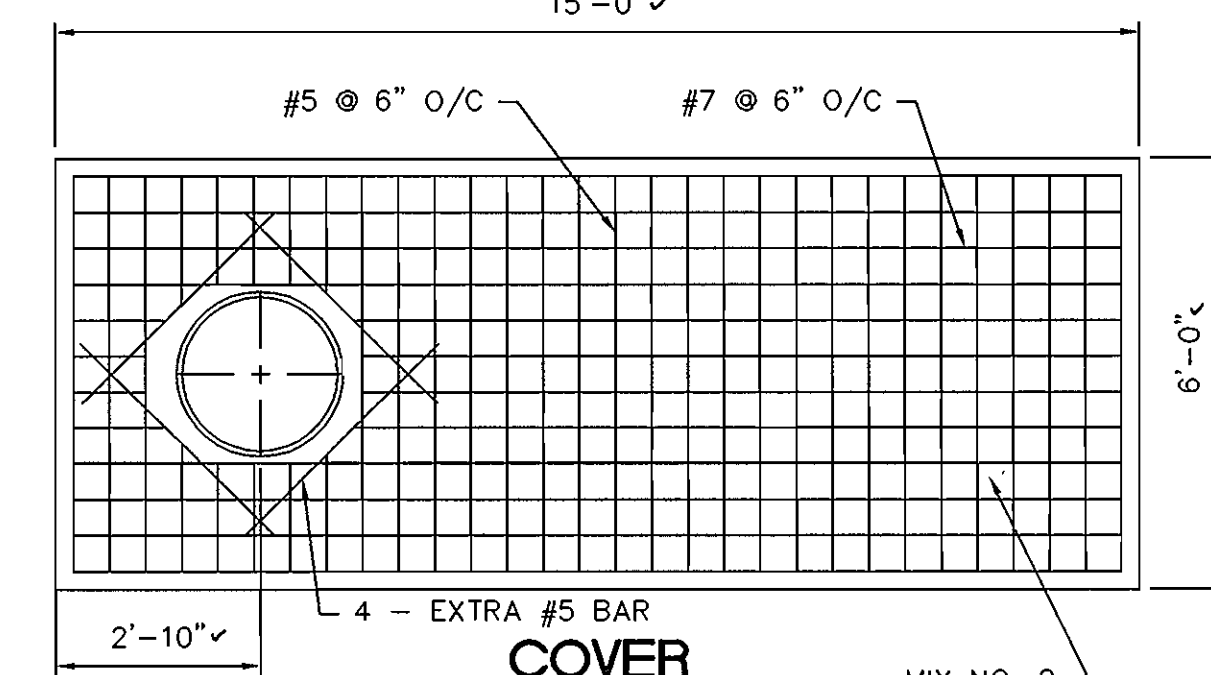
SECTION E-E
SCALE: 3/8" = 1'-0"



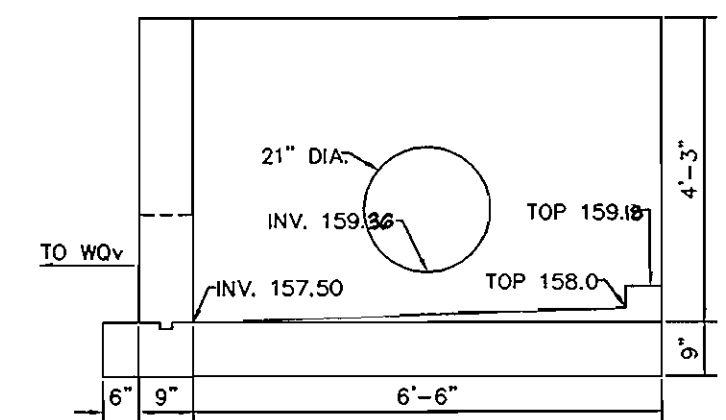
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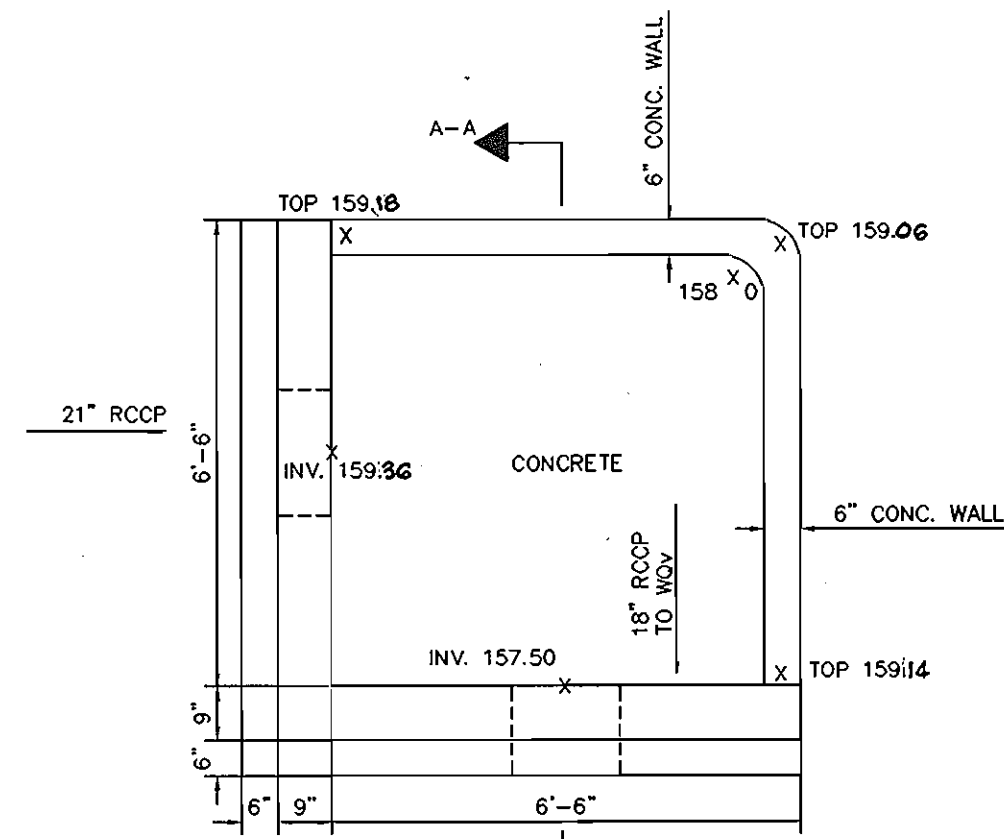
ELEVATION



COVER S-1 DETAIL
SCALE: 3/8" = 1'-0"

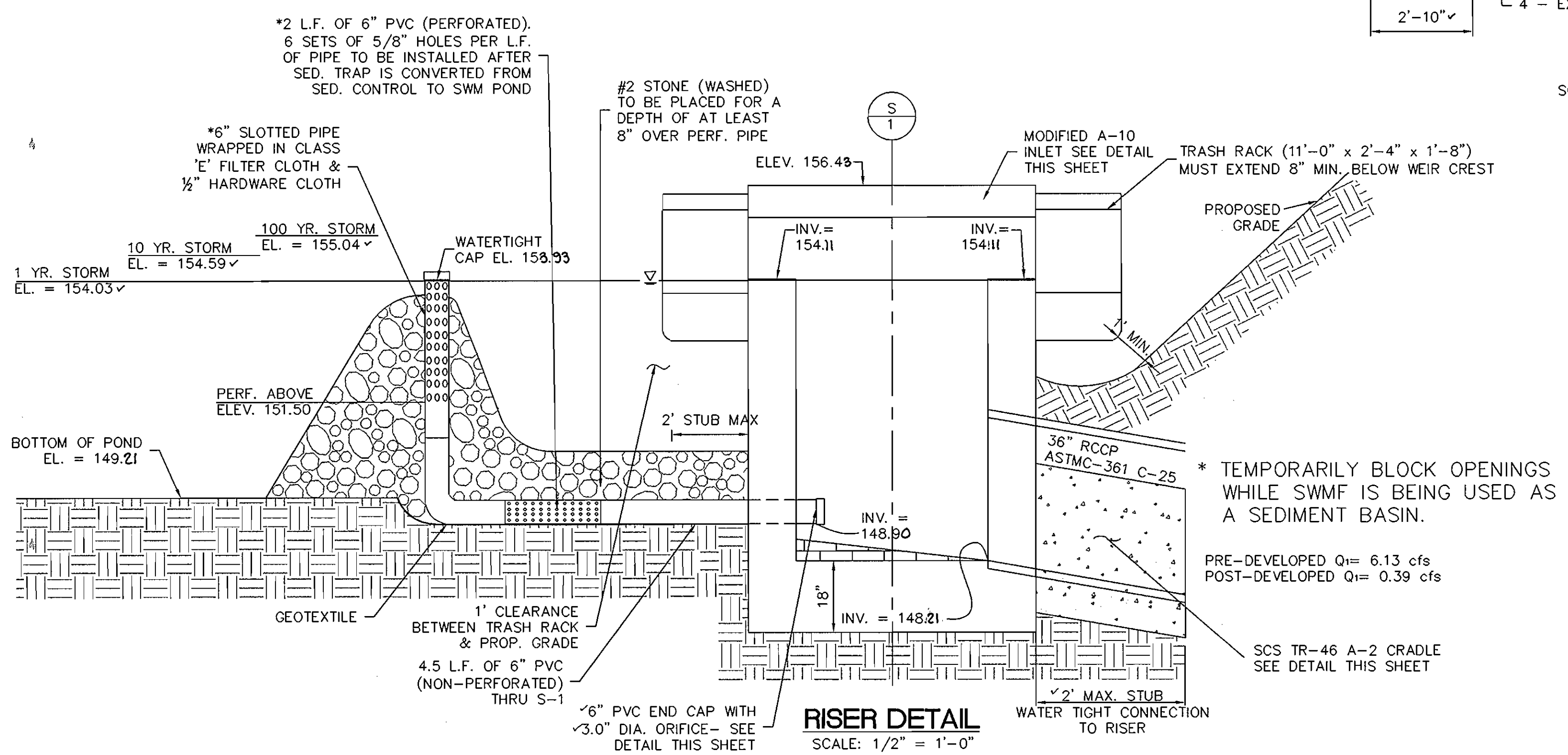


SECTION A-A
SCALE: 3/8" = 1'-0"

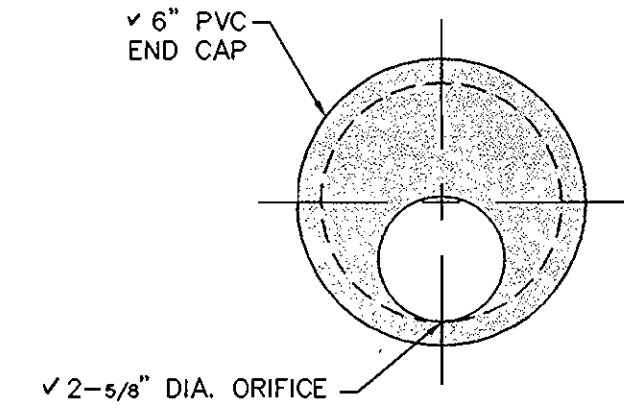


PLAN
SCALE: 3/8" = 1'-0"

**E-2 DIVERSION CONTROL STRUCTURE
MODIFIED TYPE 'E' HEADWALL
HO. CO. STD SD-5.31**



RISER DETAIL
SCALE: 1/2" = 1'-0"



ORIFICE DETAIL
SCALE: 3" = 1'-0"

9-15-04
Date
JOHN R. HEINRICHS
Professional Engr. No. 14920

ENGINEER'S CERTIFICATE
I, WE CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.
John A. ... 9-15-04
ENGINEER: JOHN R. HEINRICHS, VICE PRESIDENT DATE
PHOENIX ENGINEERING, INC. PE#14920

DEVELOPER'S CERTIFICATE
I, WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.
Craig Stuart-Paul 9-15-04
DEVELOPER: CRAIG STUART-PAUL DATE
FAIRFAX RECYCLING, INC. PE#14920

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
Jim ... 1/31/05
USDA-NATURAL RESOURCES CONSERVATION SERVICES DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
... 1/31/05
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
... 2/3/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
... 3/1/05
CHIEF, DIVISION OF LAND DEVELOPMENT DATE
... 3/1/05
DIRECTOR DATE

Date	No	Revision Description

OWNER:
D. ERIC SELINE
14852 OLD GUNPOWDER ROAD
LAUREL, MD. 20707
(410) 792-2999

DEVELOPER:
CRAIG STUART-PAUL
P.O. BOX 21171
CATONSVILLE, MD. 21228
410-340-9387

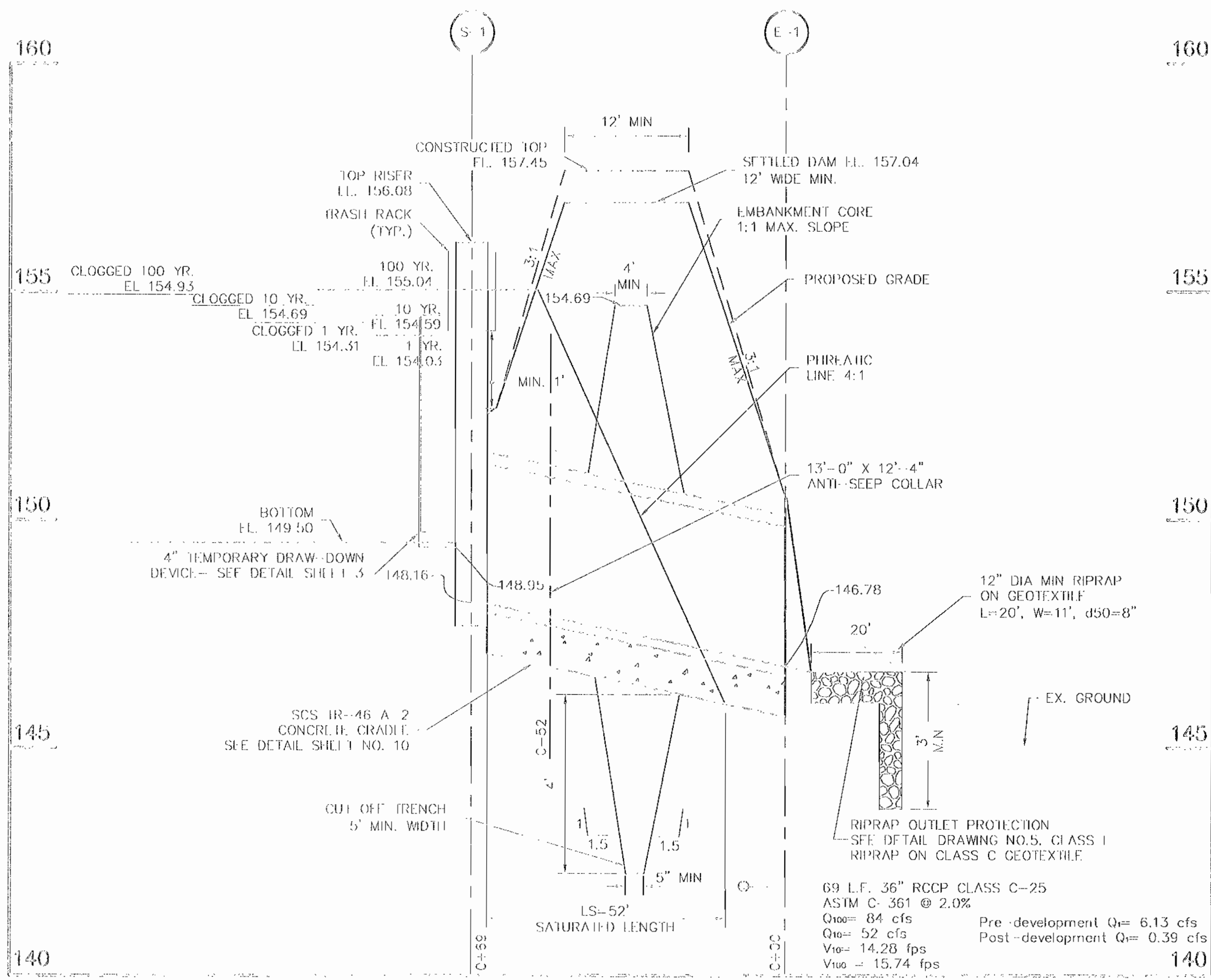
PROJECT:
FAIRFAX RECYCLING INC.
KIT KAT CENTER PARCELS A AND B
7187 KIT KAT ROAD ELLICOTT CITY, MD.
Tax Map No. 43, Grid 11, Elec. Dist. No. 1, Parcel 49
HOWARD COUNTY, MARYLAND

PREPARED BY:
PHOENIX ENGINEERING, INC.
CONSULTING ENGINEERS
1420-A JOH AVENUE
BALTIMORE, MARYLAND 21227
(410) 247-8833 FAX 247-9387

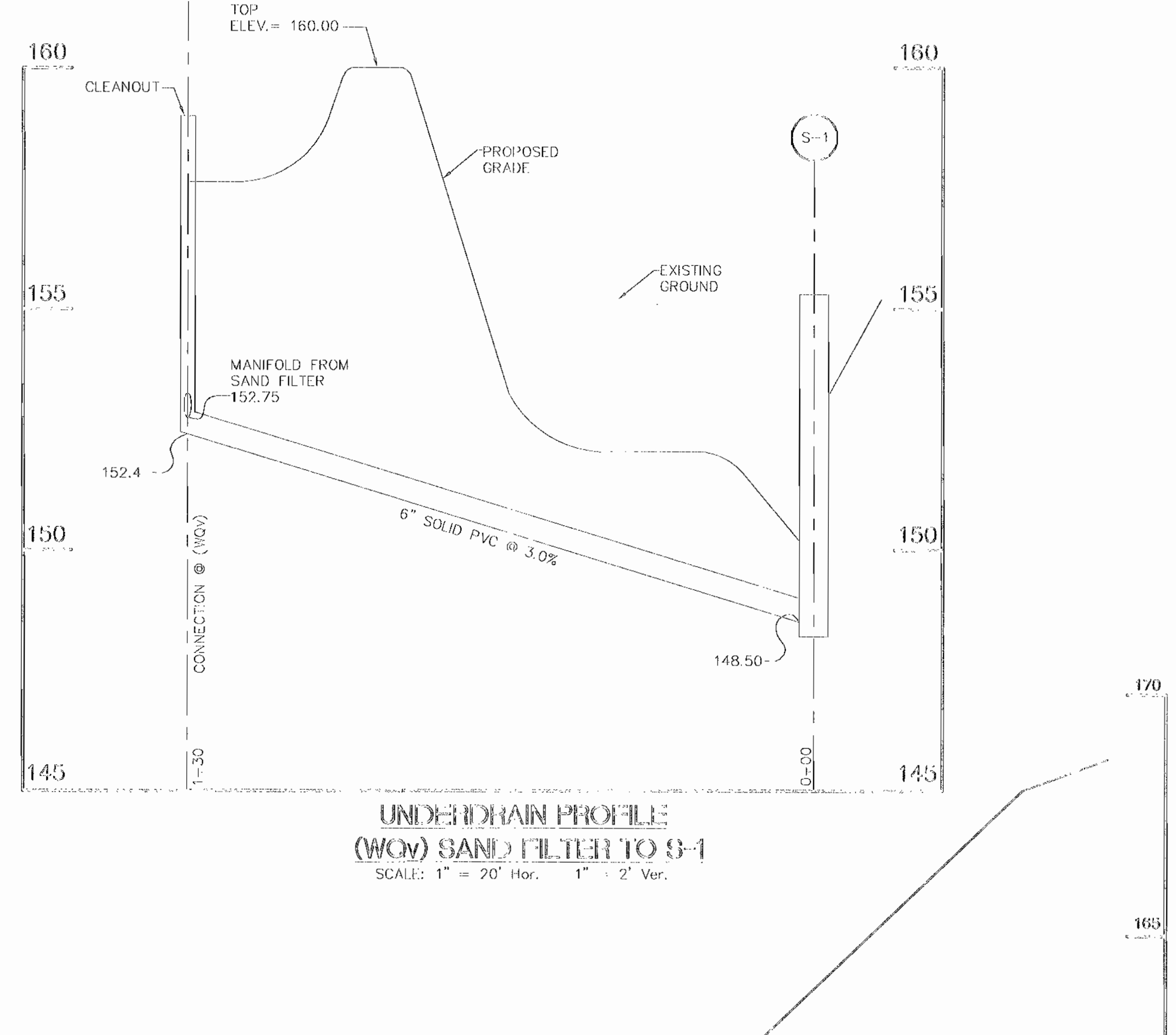
AREA:
PARCEL: 49 TAX MAP: 43
CENSUS TRACT 6011.01 1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
S.W.M. DETAILS

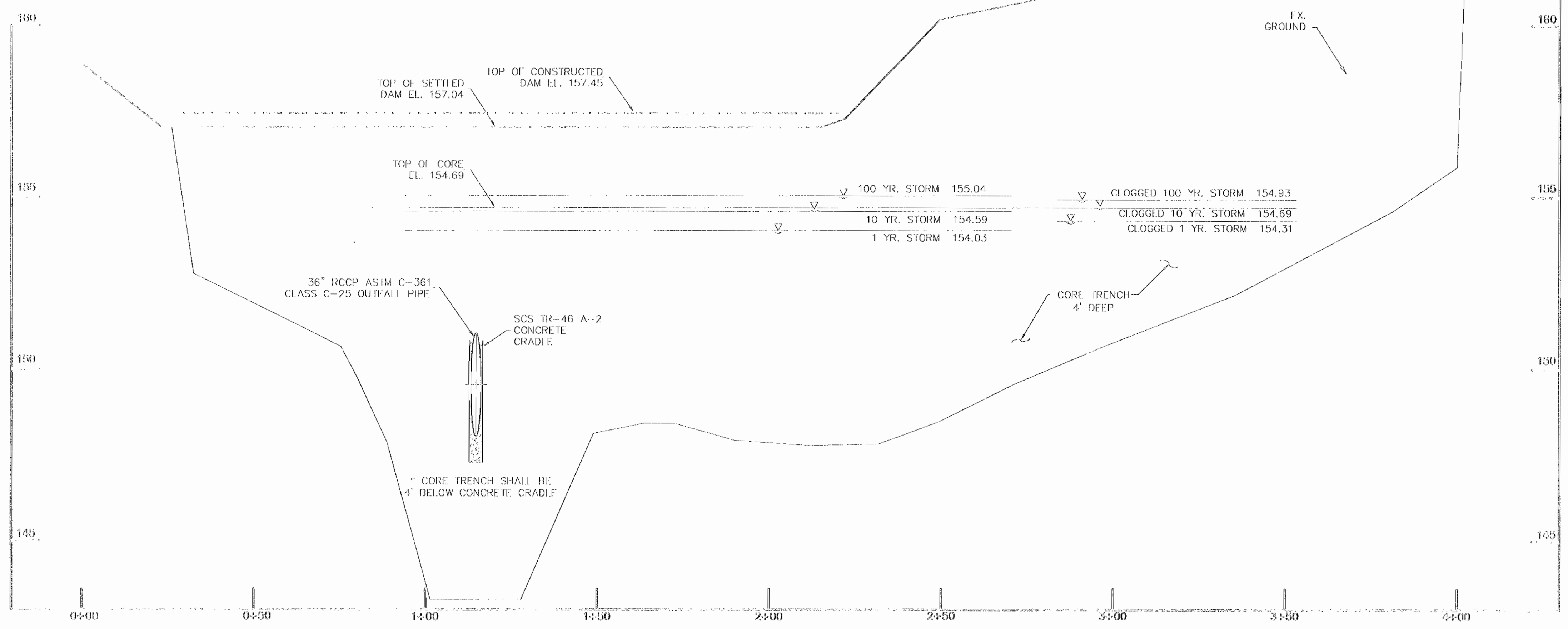
Des By DRB	Scale AS SHOWN	Proj No 02-021
Drn By SEW	Date JANUARY, 2004	DRAWING NO sw03.dwg
Chk By DRB	SDP 04-024	10 OF 18



PRINCIPAL SULLWAY PROFILE
SCALE: 1" = 20' Hor. 1" = 2' Ver.



UNDERCHAIN PROFILE (WQV) SAND FILTER TO S-1
SCALE: 1" = 20' Hor. 1" = 2' Ver.



CENTERLINE ALONG DAM CROSS PROFILE
SCALE: 1" = 20' Hor. 1" = 2' Ver.

ENGINEER'S CERTIFICATE

I/WE CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

John H. ... 9-10-04
 ENGINEER: JOHN R. THORNTON, VICE PRESIDENT
 THORNTON ENGINEERING, INC. PE#14920 DATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO ALLOW FOR PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Craig Stuart-Paul 9-10-04
 DEVELOPER: CRAIG STUART-PAUL
 FAIRFAX RECYCLING, INC. DATE

USDA-NATURAL RESOURCES CONSERVATION SERVICES 1/31/05
 APPROVED: DEPARTMENT OF PLANNING AND ZONING DATE

HOWARD SOIL CONSERVATION DISTRICT 1/31/05
 APPROVED: DEPARTMENT OF PLANNING AND ZONING DATE

John D. ... 2/2/05
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy ... 7/1/05
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

James ... 2/1/05
 DIRECTOR DATE

Date	No.	Revision Description

OWNER: D. ERIC SELINE
 14852 OLD GUNPOWDER ROAD
 LAURIE, MD. 20707
 (410) 797-2999

DEVELOPER: CRAIG STUART-PAUL
 P.O. BOX 21171
 CATONSVILLE, MD 21228
 410-340-9387

PROJECT: FAIRFAX RECYCLING INC.
 KIT KAT CENTER PARCELS A AND B
 7167 KIT KAT ROAD ELICOTT CITY, MD.
 Tax Map No. 43, Grid II, Elec. Dist. No. 1, Parcel 49
 HOWARD COUNTY, MARYLAND

PREPARED BY: THORNTON ENGINEERING, INC.
 CONSULTING ENGINEERS
 1420-A JOLI AVENUE
 BALTIMORE, MARYLAND 21227
 (410) 247-8833 FAX 247-8397

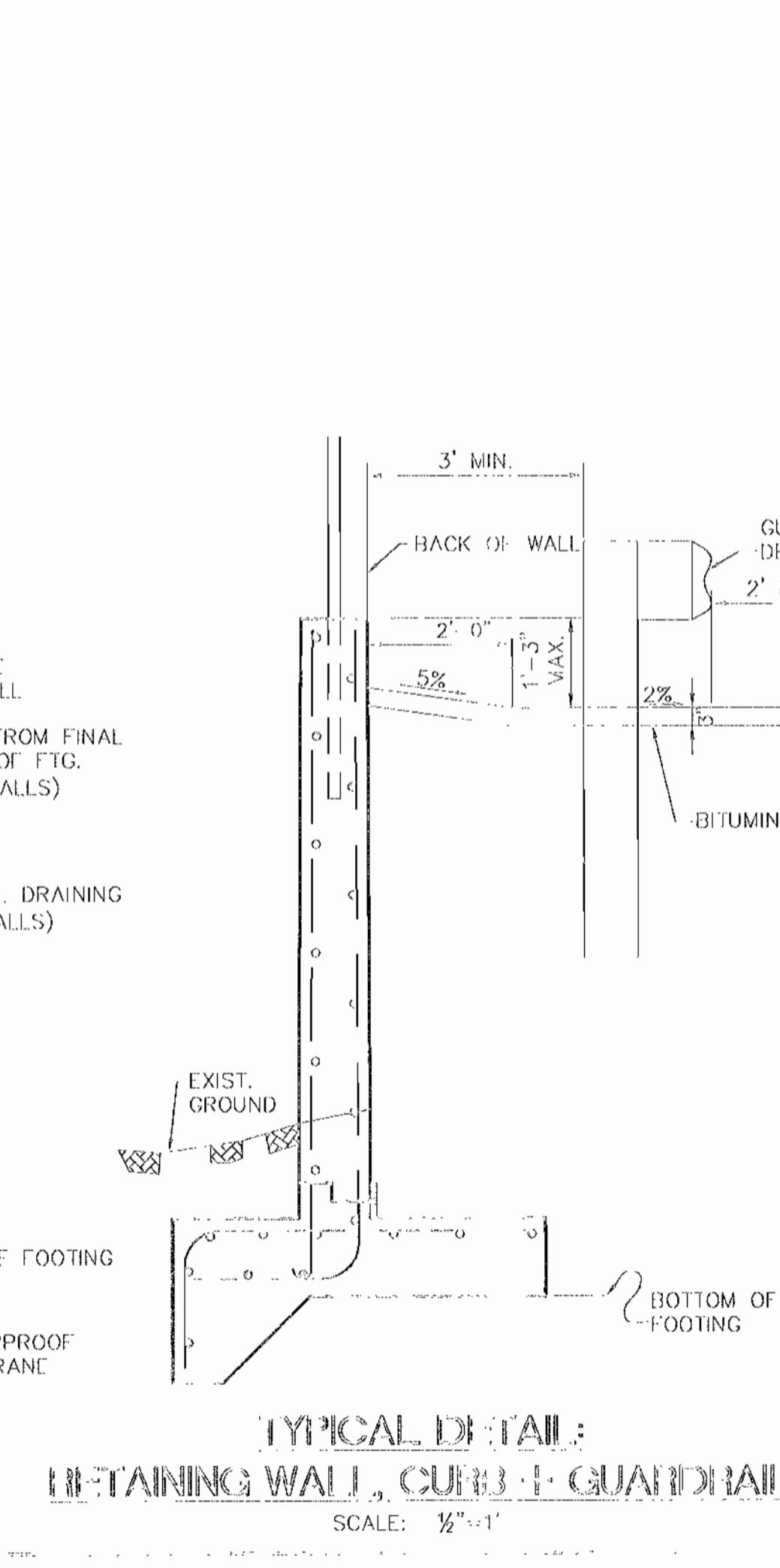
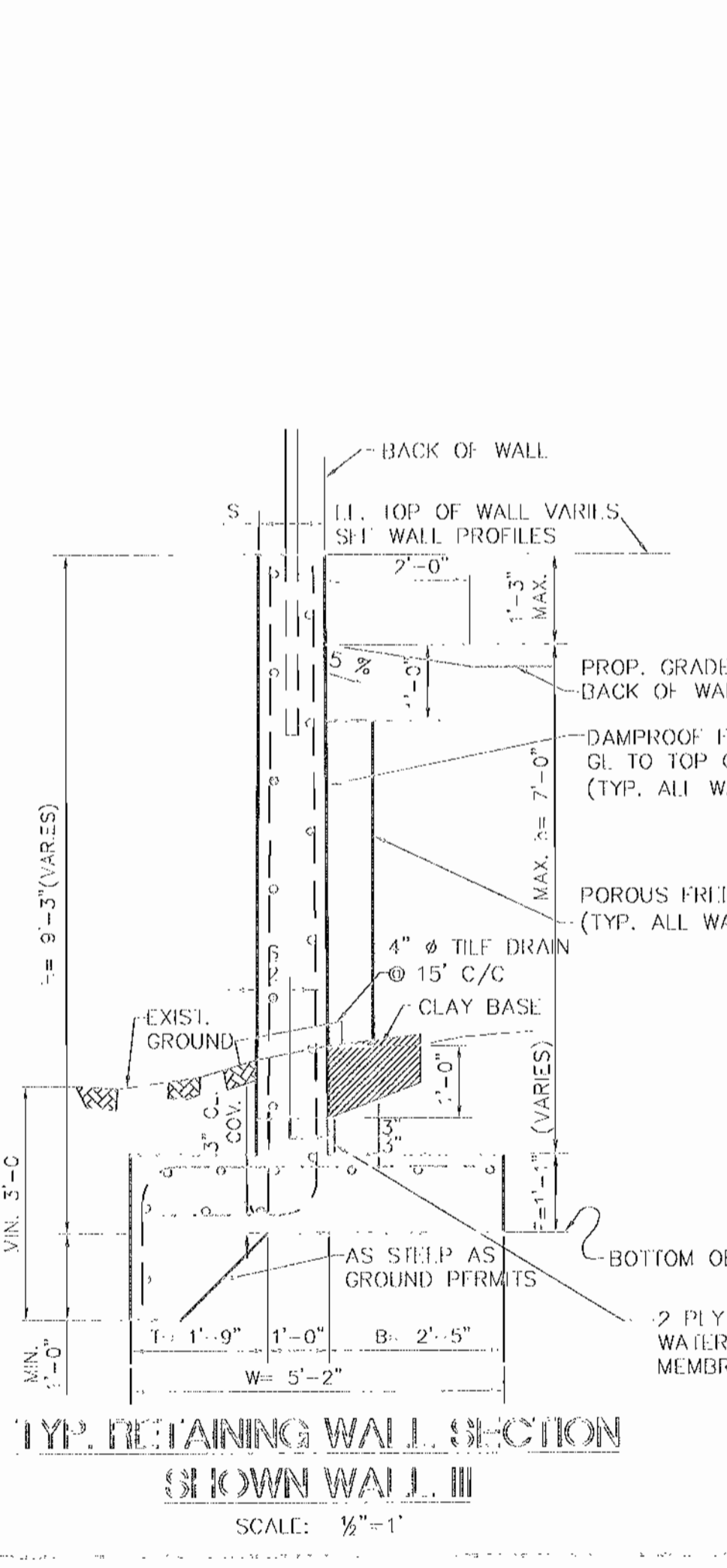
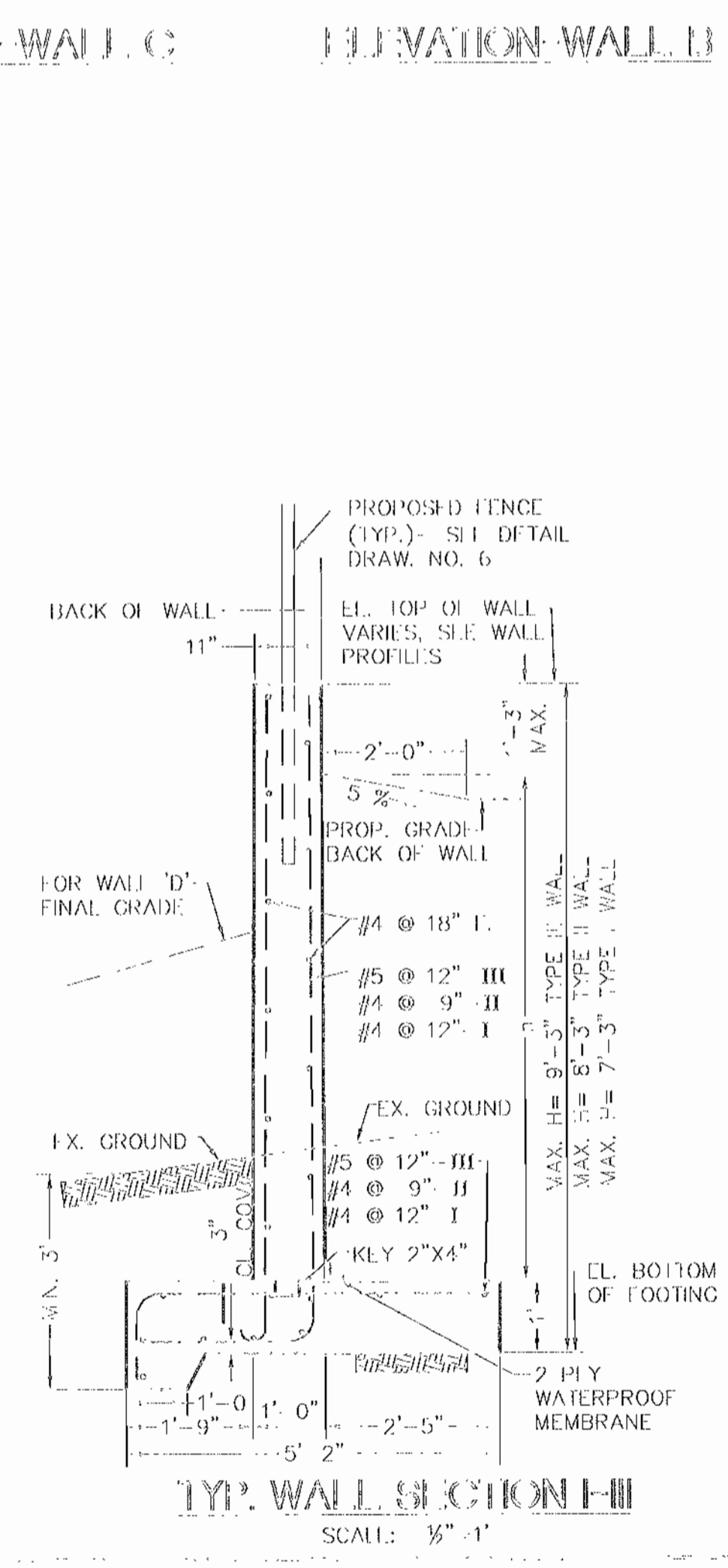
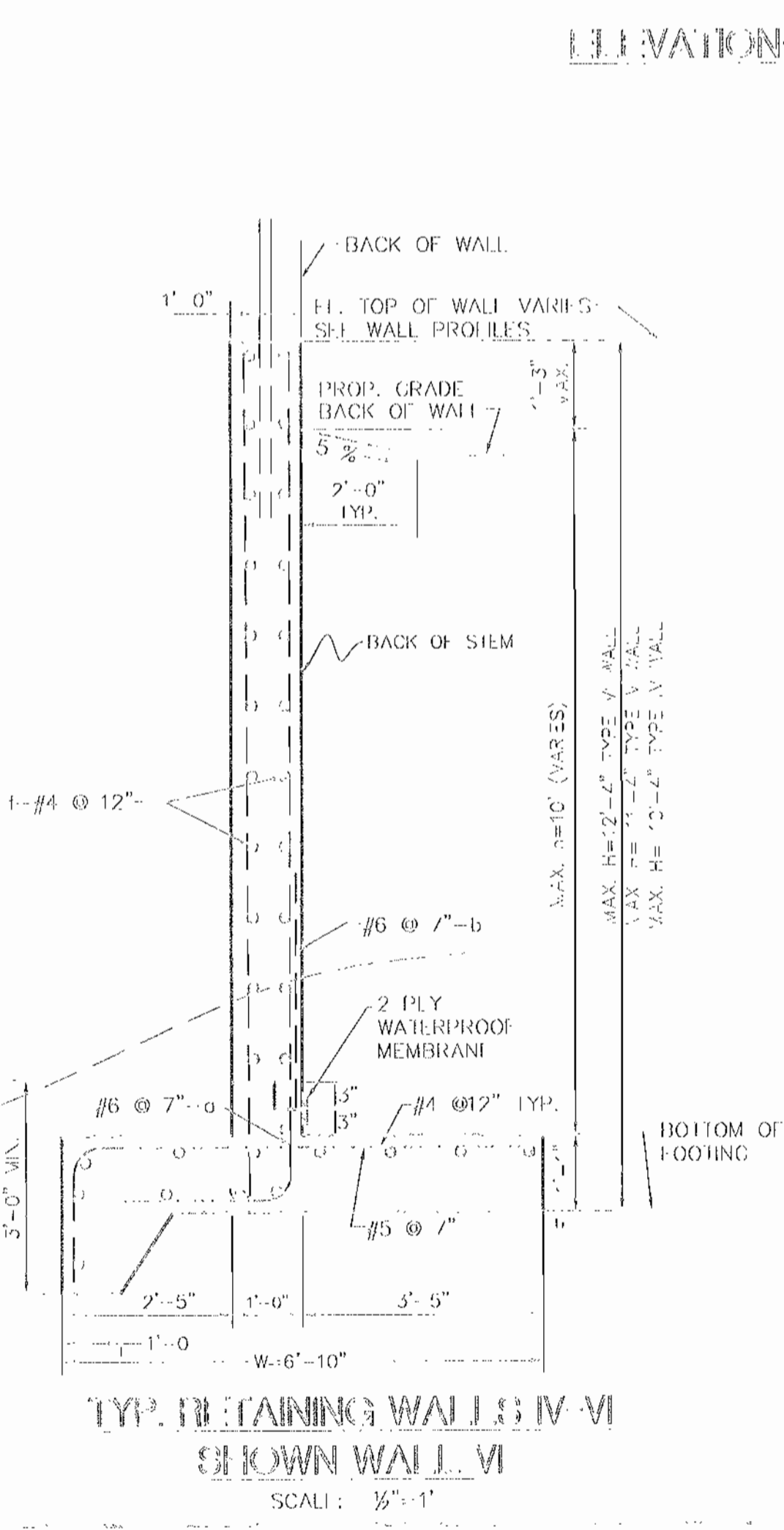
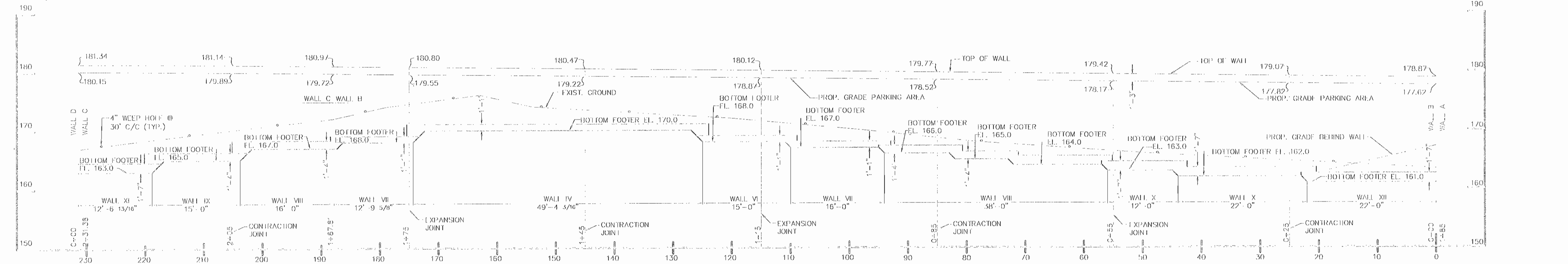
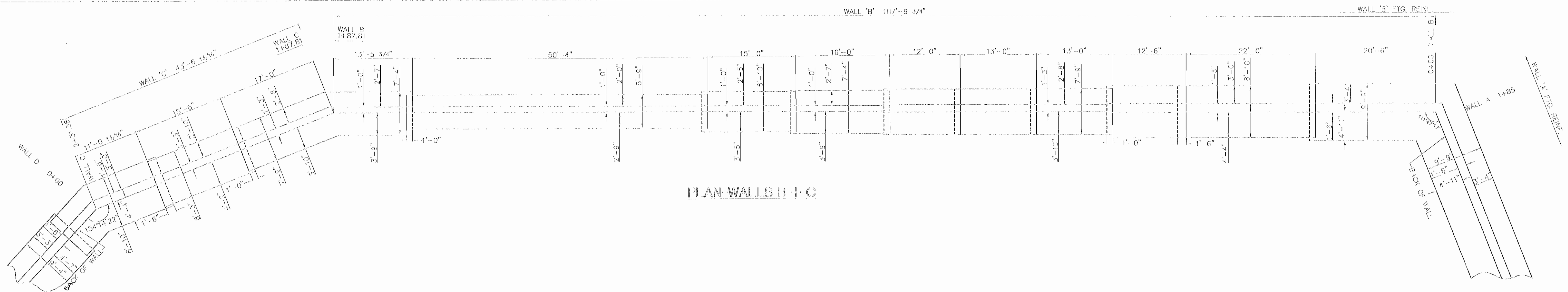
ART. A: PARCEL: 49 TAX MAP: 43
 CENSUS TRACT 6011.01 1st ELECTION DISTRICT 1
 HOWARD COUNTY, MARYLAND

TITLE: S.W.M. PROFILES

Date: 9-10-04

John H. ...
 JOHN R. THORNTON
 Professional Eng. No. 14920

Drawn by D.R.H. Scale: AS SHOWN Proj. No. 02-021
 Date: JANUARY, 2004 DRAWING NO. 0204.dwg
 SHEET 04 OF 04



NOTES:

- FOR GENERAL NOTES SEE DRAWING NO. 1.
- FOR RETAINING WALL NOTES SEE DRAWING NO. 11.
- FOR RETAINING WALL AND REINFORCING DETAILS SEE DRAWING NO. 11.
- FOR TYPICAL WALL SECTIONS VII-XIII SEE DRAWING NO. 11.
- FOR TYPICAL FOUNDATION SLIPS SEE DRAWING NO. 13.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

John R. Ehrlich
DIRECTOR

Wade Curran
CHIEF, DEPARTMENT ENGINEERING DIVISION

Cindy Kamolita
CHIEF, DIVISION OF LAND DEVELOPMENT

Paul J. Laughton
DIRECTOR

DATE: 2/3/05

DATE: 3/2/05

DATE: 4/1/05

9.10.04

Date

John R. Ehrlich

Professional Eng. No. 14970

Date	No.	Revision Description

OWNER:

D. ERIC SKLINE
14852 OLD GUNPOWDER ROAD
LAUREL, MD 20707
410 792-2899

DEVELOPER:

CRAIG STUART-PAUL
P.O. BOX 21171
CATONSVILLE, MD 21228
410 340-9307

PROJECT:

FAIRFAX RECYCLING INC.
KIT KAT CENTER PARCELS A AND B
7167 KIT KAT ROAD ELICOTT CITY, MD.
Tax Map No. 43, Grid II, Elec. Dist. No. 1, Parcel 49
HOWARD COUNTY, MARYLAND

PREPARED BY:

PHOENIX ENGINEERING, INC.
CONSULTING ENGINEERS
1420 301 AVENUE, SUITE A
BALTIMORE, MARYLAND 21227
(410) 247-8853 FAX 247-9397

AREA:

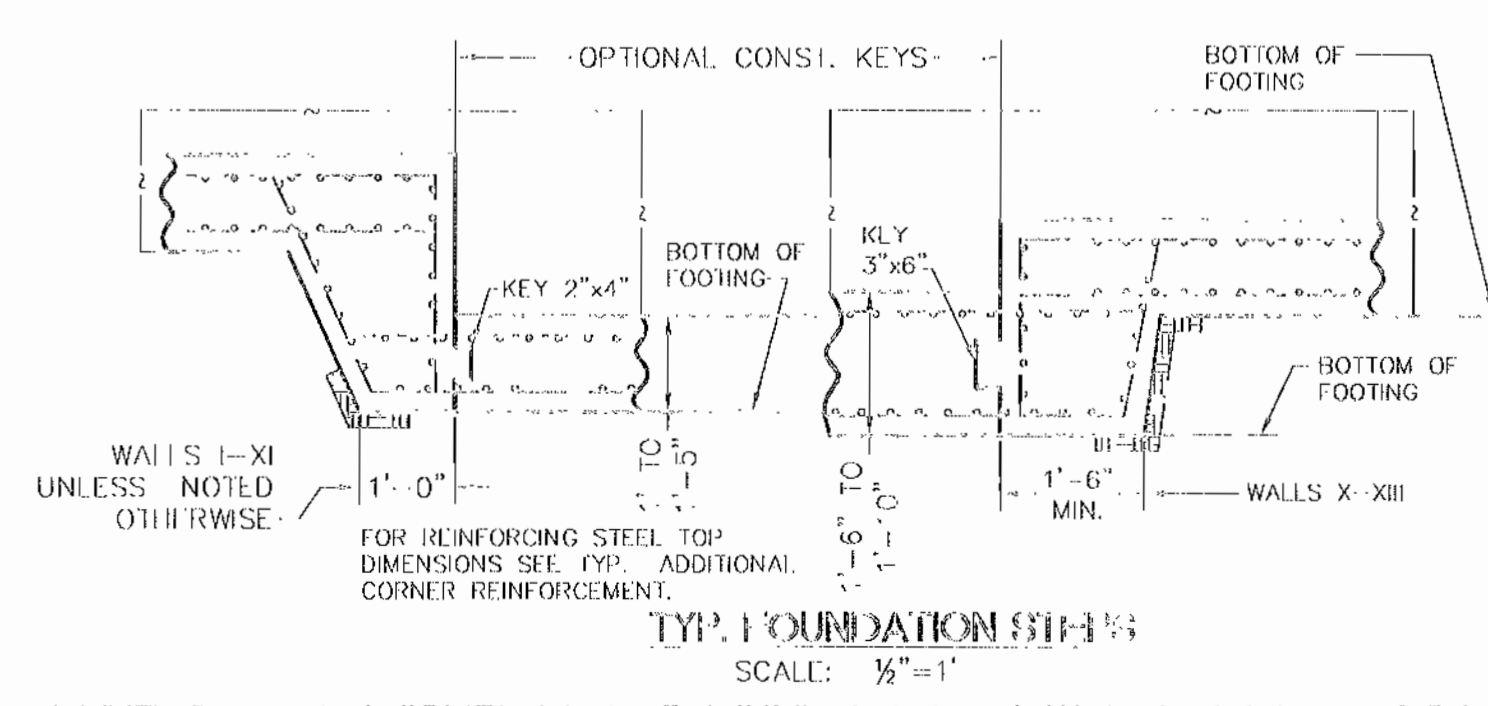
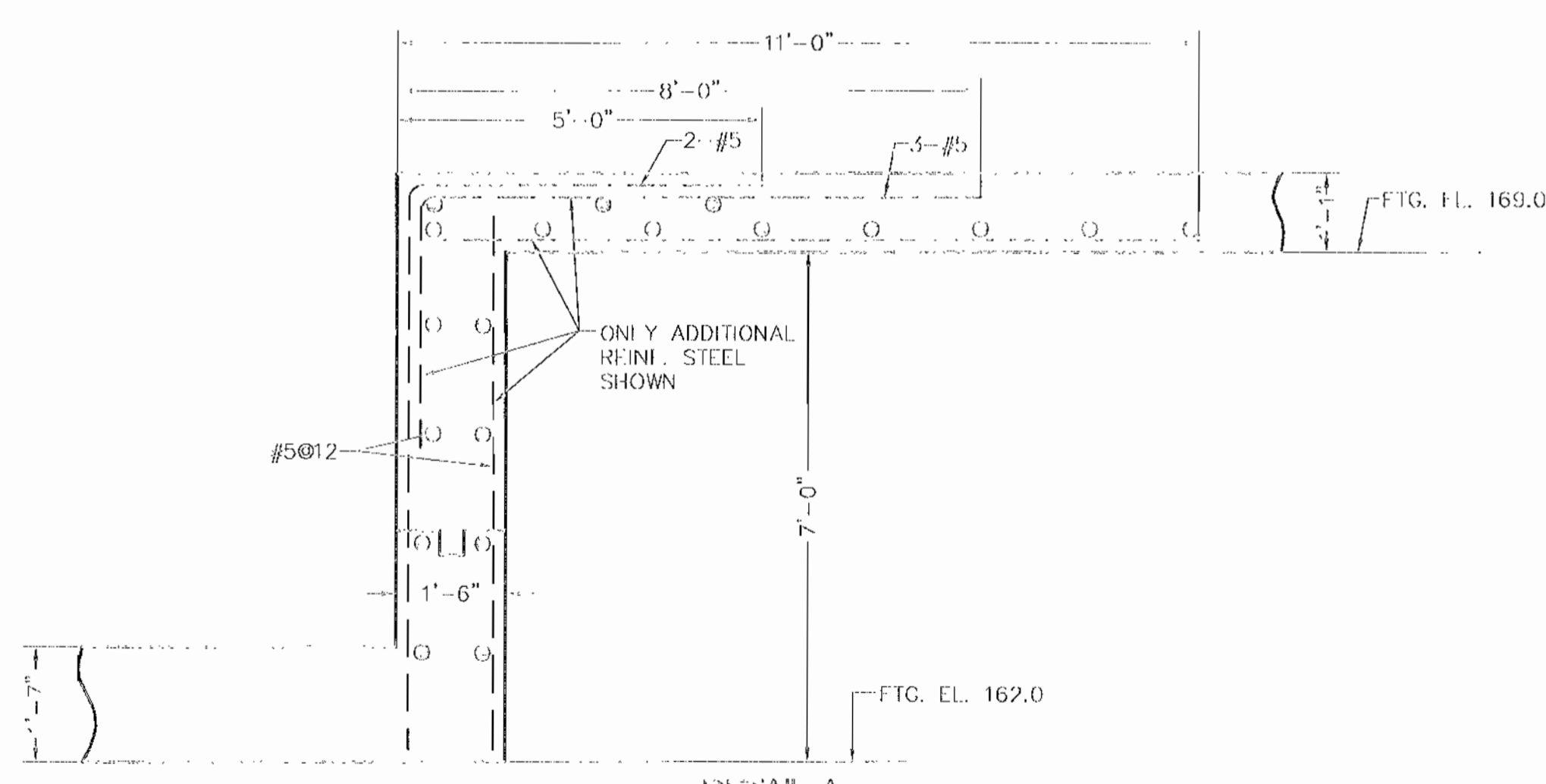
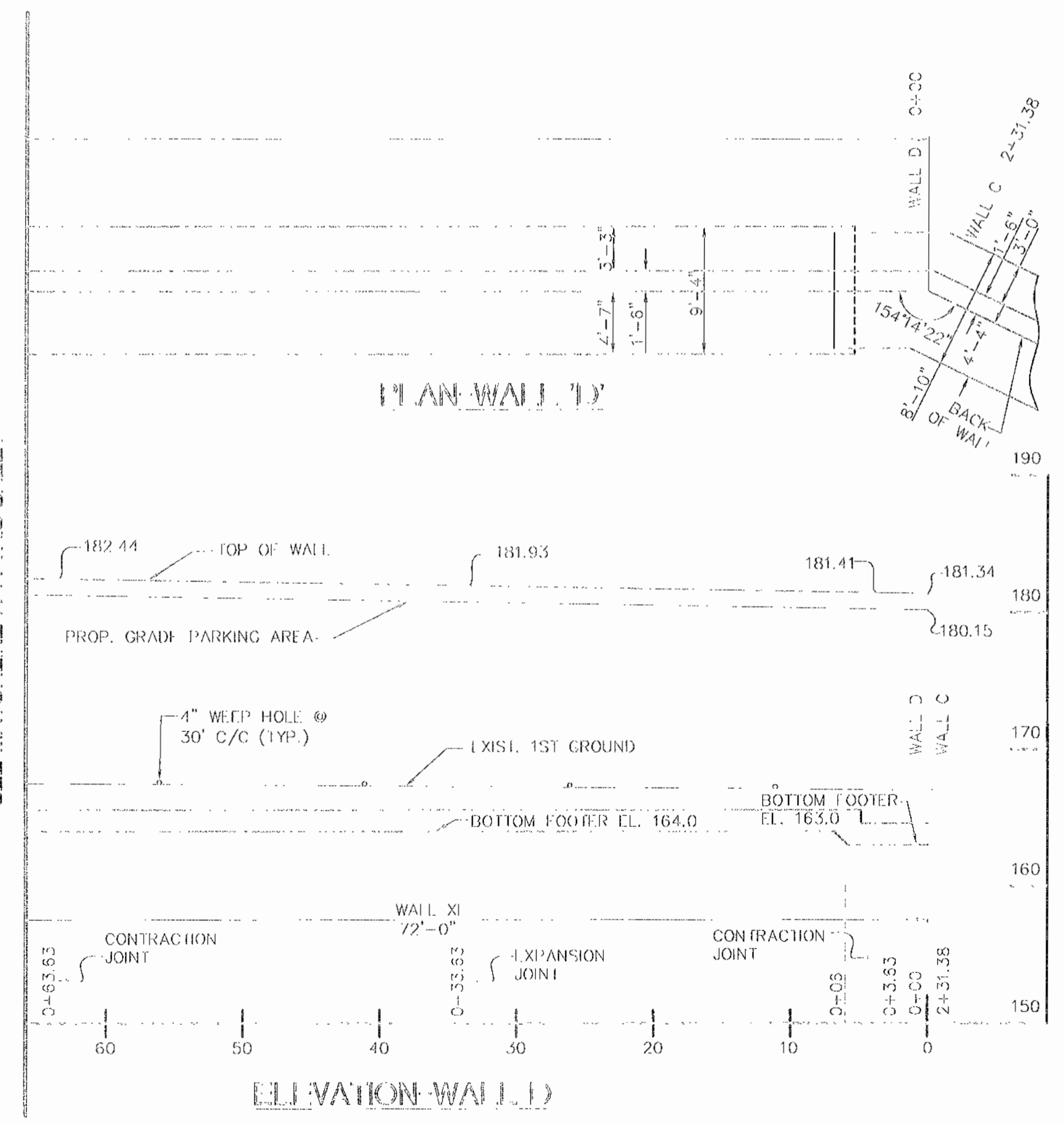
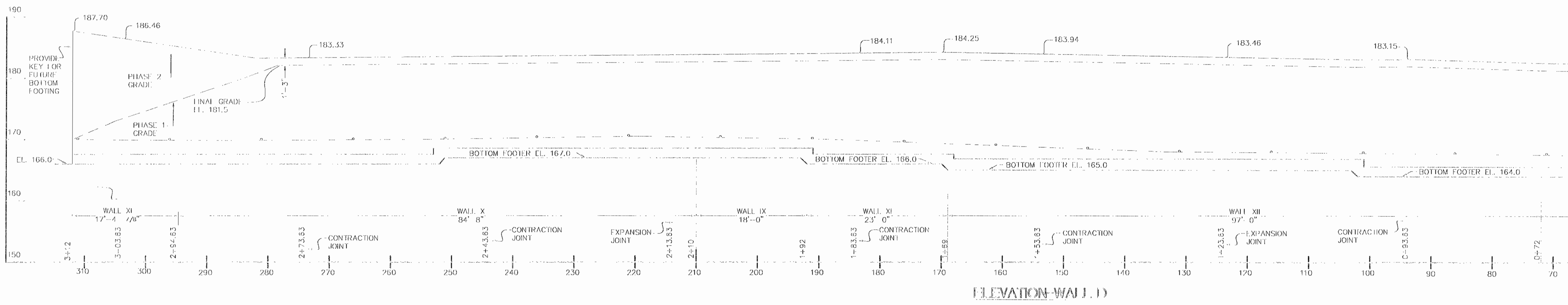
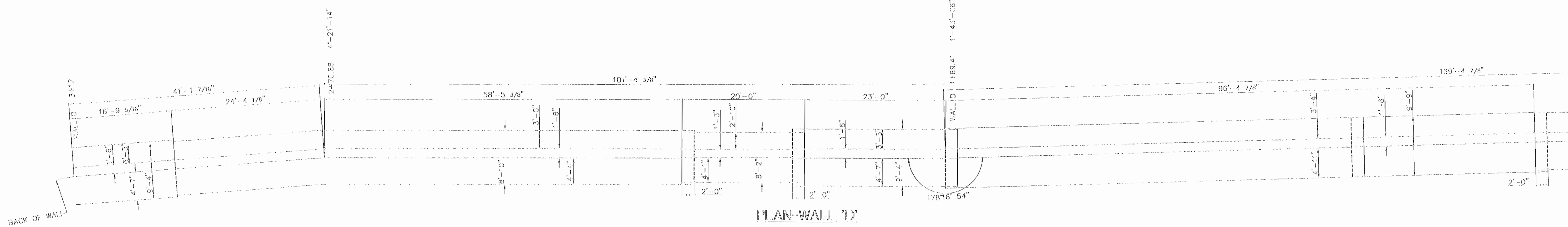
PARCEL: 49 (TAX MAP: 43)
CENSUS TRACT 6011.01 1 ST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

DATE:

RETAINING WALLS
'B' AND 'C'

Drawn by: R.J.W.	Scale: 1/8" = 1'-0"	Plot No: 02-021
Drawn by: S.E.W.	Date: JANUARY, 2004	ISSUING MD ENGINEERING
Drawn by: J.H.H.	SEP 04-024	13 OF 18

SDP 04 024



NOTES:

- FOR GENERAL NOTES SEE DRAWING NO. 1.
- FOR RETAINING WALL NOTES SEE DRAWING NO. 11.
- FOR RETAINING WALL AND REINFORCING DETAILS SEE DRAWING NO. 11.
- FOR TYPICAL WALL SECTIONS VII-XIII SEE DRAWING NO. 11.
- FOR TYPICAL FOUNDATION STRIPS SEE DRAWING NO. 15.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

John R. Heinrichs 2/2/05
 CHIEF, DIVISION OF PLANNING AND ZONING

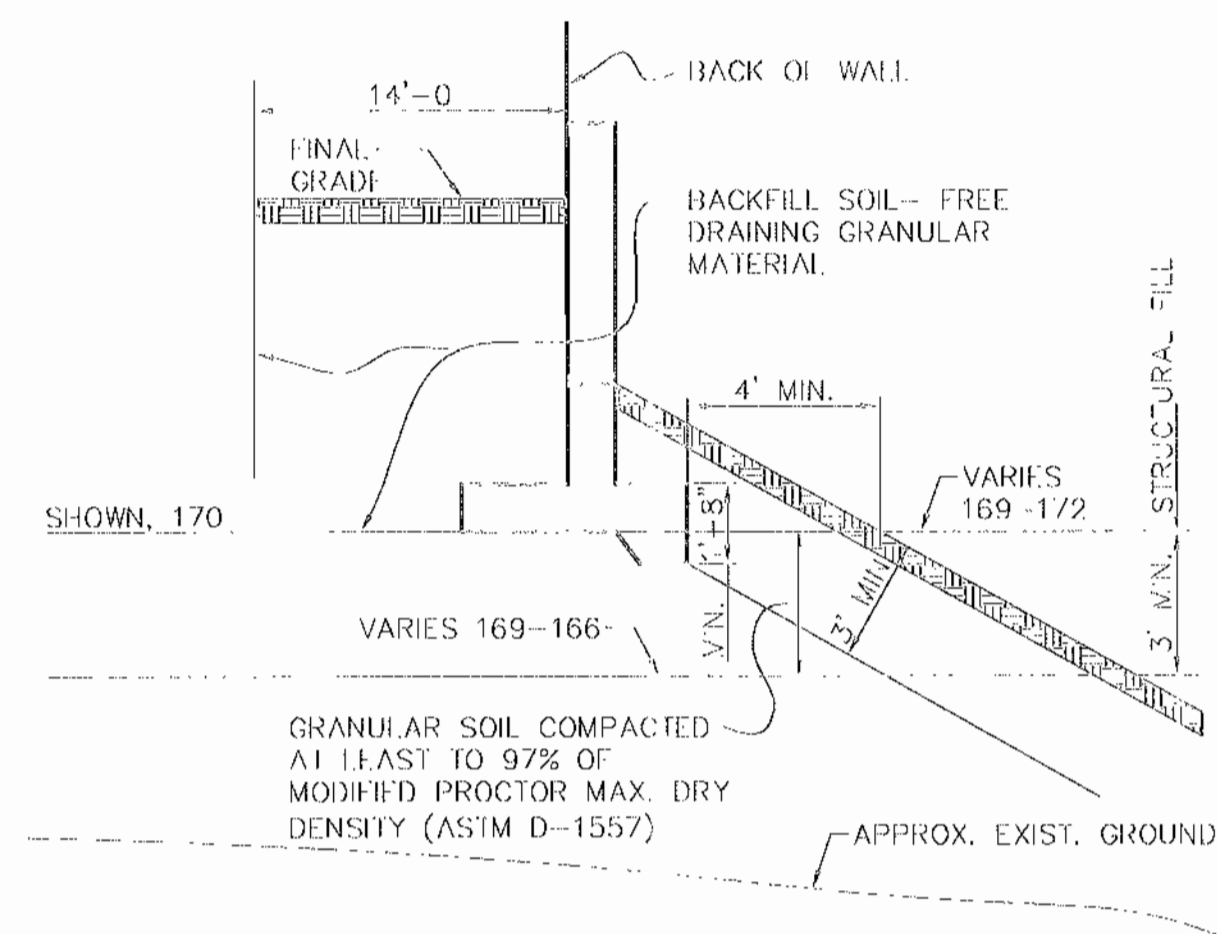
John R. Heinrichs 2/1/05
 CHIEF, DIVISION OF PLANNING AND ZONING

John R. Heinrichs 2/1/05
 CHIEF, DIVISION OF PLANNING AND ZONING

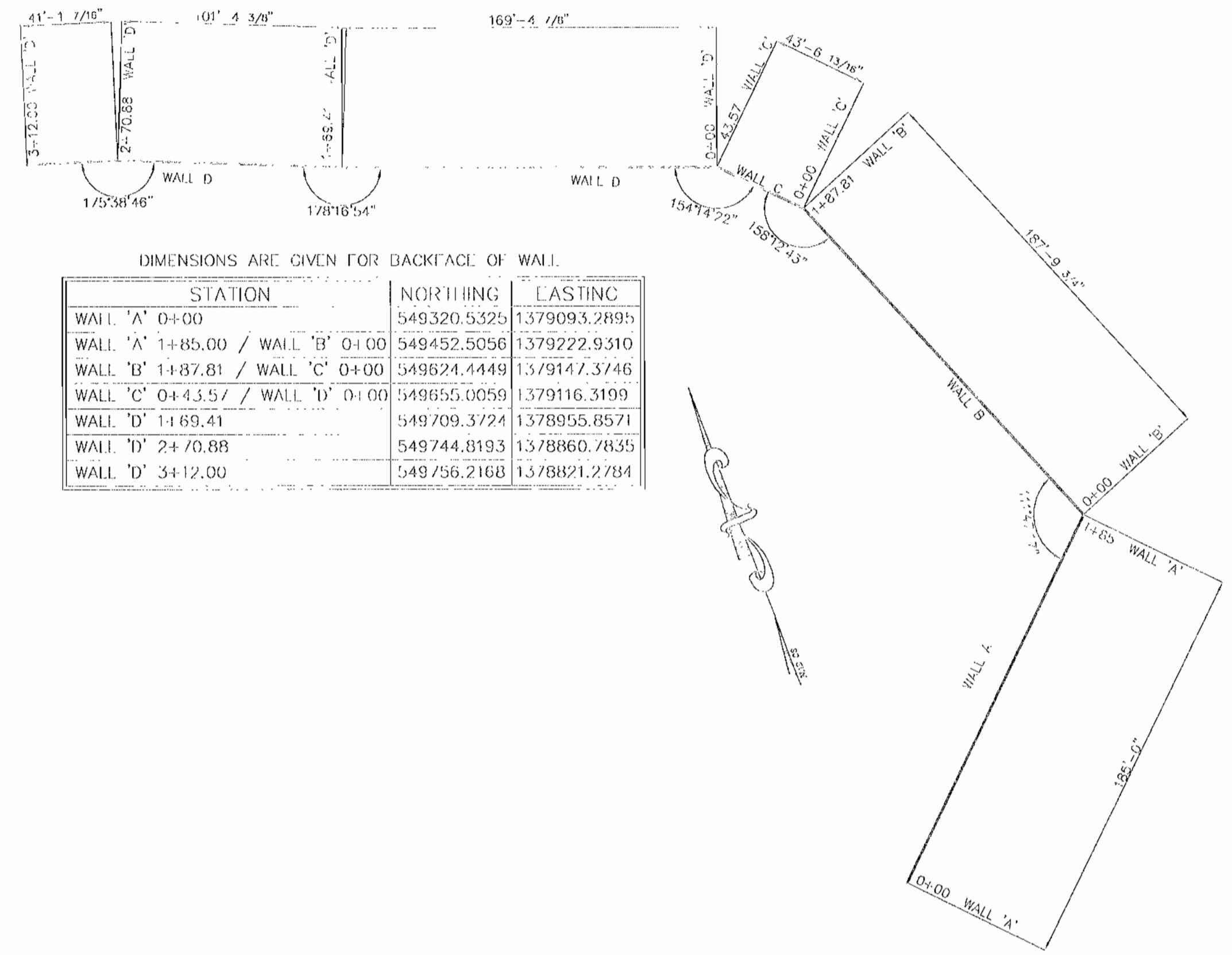
John R. Heinrichs 2/1/05
 CHIEF, DIVISION OF PLANNING AND ZONING

9-10-04

Date	No	Revision Description
OWNER:		
D. ERIC SEELINE 14052 OLD GUNPOWDER ROAD LAUREL, MD 20707 410-792-2990		
DEVELOPER:		
CRAIG STUART-PAUL P.O. BOX 21171 CATONSVILLE, MD 21228 410-340-9387		
PROJECT:		
FAIRFAX RECYCLING INC. PARCELS A AND B 7167 RY KAY ROAD ELLICOTT CITY, MD. Tax Map No. 43, Grid II, Elec. Dist. No. 1, Parcel 49 HOWARD COUNTY, MARYLAND		
PREPARED BY:		
PROBONIX ENGINEERING, INC. CONSULTING ENGINEERS 1420 JOH AVE. SUITE A BETHESDA, MARYLAND 20814 (410) 247-8833 FAX 247-8837		
SITE:		
PARCEL: 49 TAX MAP: 43 GENSLIC TRACT 6011.01 1 ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE:		
RETAINING WALL 'D'		
Drawn by	P.J.W.	Scale 1/8" = 1'-0"
Check by	S.E.W.	Date JANUARY, 2004
Scale	J.R.H.	SDP 04 024
Project No.	02-021	DRAWING NO. UMRP04-024.dwg
14 OF 18		



RETAINING WALL, 4'-5\"/>



DIMENSIONS ARE GIVEN FOR BACKFACE OF WALL.

STATION	NORTHING	EASTING
WALL 'A' 0+00	549320.5325	1379093.2895
WALL 'A' 1+85.00 / WALL 'B' 0+00	549452.5056	1379222.9310
WALL 'B' 1+87.81 / WALL 'C' 0+00	549624.4449	1379147.3746
WALL 'C' 0+43.57 / WALL 'D' 0+00	549655.0059	1379116.3199
WALL 'D' 1+69.41	549709.3724	1378955.8571
WALL 'D' 2+70.88	549744.8193	1378860.7835
WALL 'D' 3+12.00	549756.2168	1378821.2784

WALL SCHEMATIC
SCALE: 1\"/>

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEPARTMENT OF ENGINEERING DIVISION: *[Signature]* 2/3/05
 CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* 2/3/05
 DIRECTOR: *[Signature]* 2/3/05

OWNER:
 D. ERIC SELINE
 14852 OLD CUMPOWDER ROAD
 LAUREL, MD 20707
 410-792-2999

DEVELOPER:
 CRAIG STUART PAUL
 P.O. BOX 21171
 CATONSVILLE, MD 21171
 410-340-9387

PROJECT:
 FAIRFAX RECYCLING INC.
 KIT KAY CENTER PARCELS A AND B
 7167 KIT KAY ROAD BELLCOTT CITY, MD.
 Tax Map No. 43, Grid 11, Elec. Dist. No. 1, Parcel 49
 HOWARD COUNTY, MARYLAND

PREPARED BY:
 THOMAS ENGINEERING, INC.
 CONSULTING ENGINEERS
 1420 BOU AVENUE, SUITE A
 BALTIMORE, MARYLAND 21227
 (410) 247-8833 FAX 247-8387

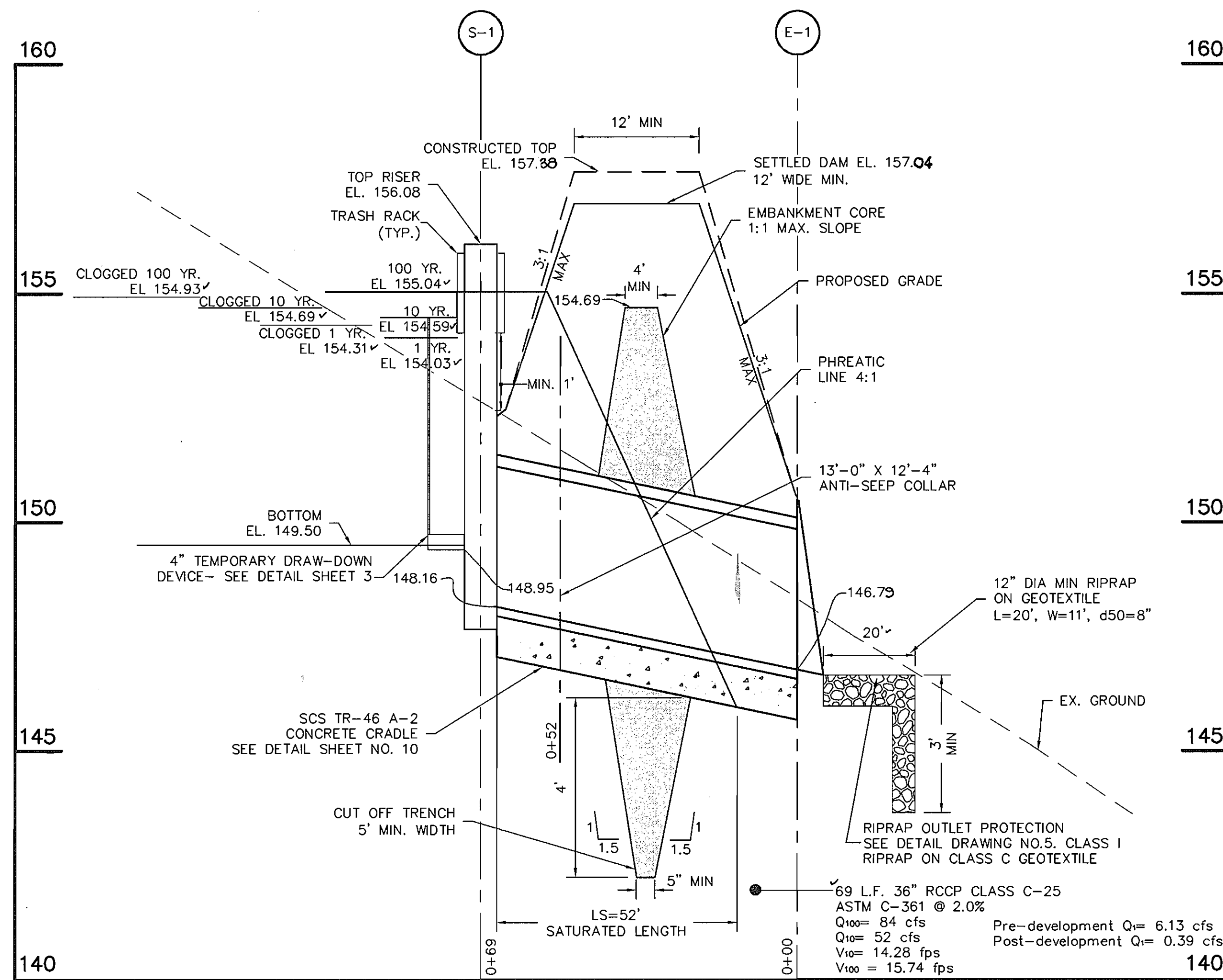
ARCH: 49 TAX MAP: 43
 CENSUS TRACT 6011.01 1 ST ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

DATE: 9.10.04

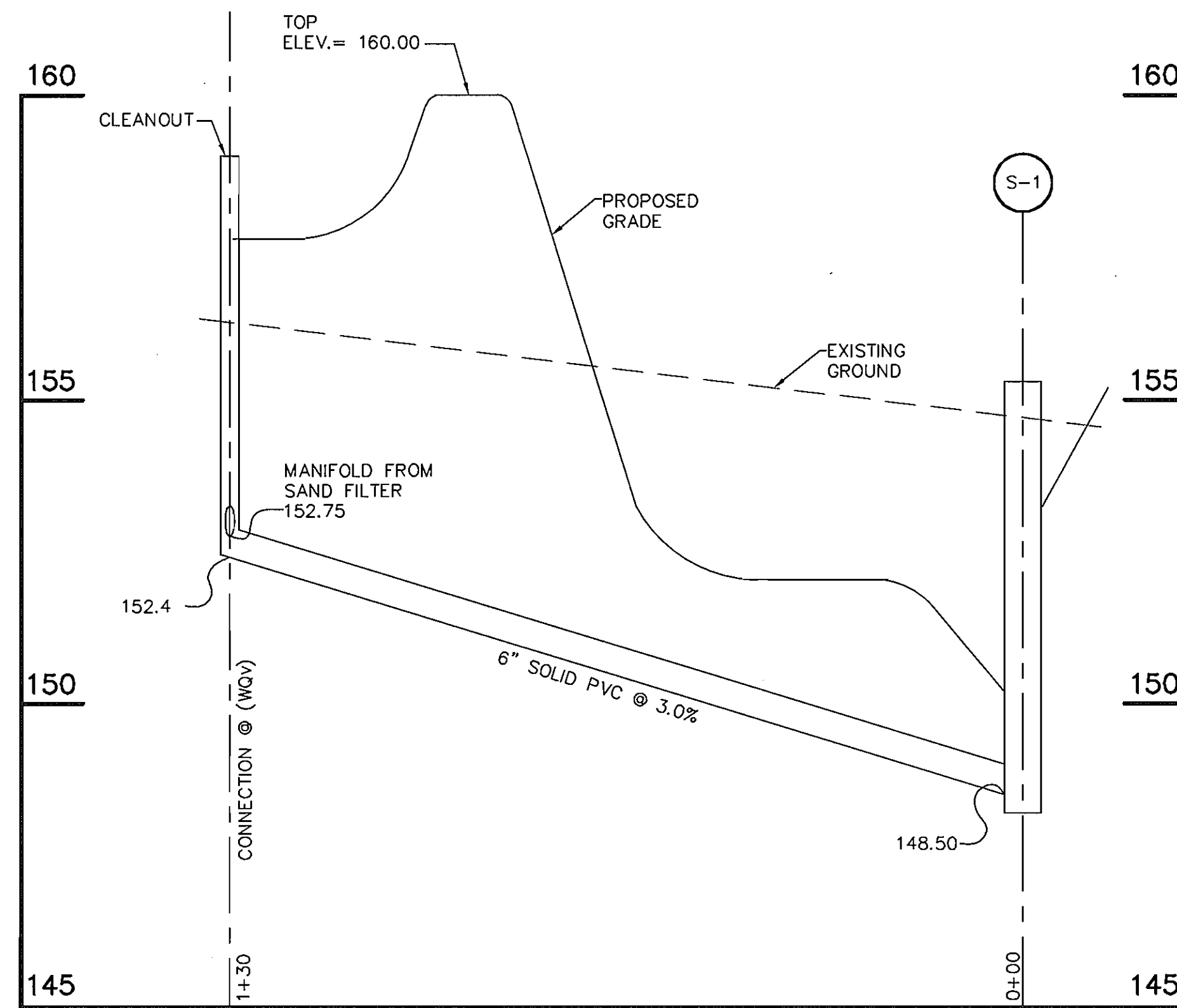
DESIGNED BY: J.R.H.
 DRAWN BY: J.R.H.
 CHECKED BY: J.R.H.

Scale: AS SHOWN
 Date: JANUARY, 2004
 SDP 04-024
 Proj No: 02-021
 DRAWING NO: DE02.dwg
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 SDD 04-024

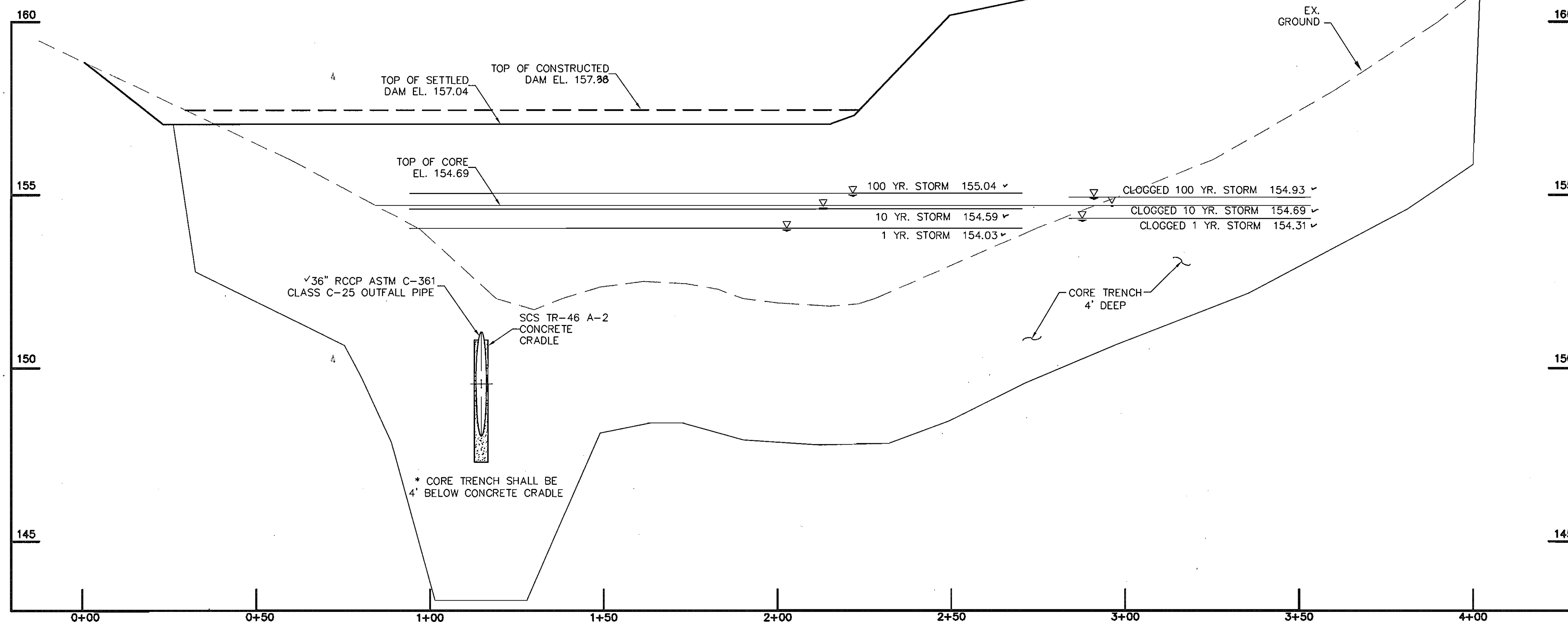
[Signature]
 JOHN B. HENRICHS
 PROFESSIONAL ENGINEER, No. 14920



PRINCIPAL SPILLWAY PROFILE
SCALE: 1" = 20' Hor. 1" = 2' Ver.



UNDERDRAIN PROFILE (WQV) SAND FILTER TO S-1
SCALE: 1" = 20' Hor. 1" = 2' Ver.



CENTERLINE ALONG DAM CROSS PROFILE
SCALE: 1" = 20' Hor. 1" = 2' Ver.

ENGINEER'S CERTIFICATE
I/WE CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

9-10-04
DATE

ENGINEER: JOHN R. HEINRICHS, VICE PRESIDENT
PHOENIX ENGINEERING, INC. PE#14920

DEVELOPER'S CERTIFICATE
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

9-10-04
DATE

DEVELOPER: CRAIG STUART-PAUL
FAIRFAX RECYCLING, INC.

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

USDA-NATURAL RESOURCES CONSERVATION SERVICES 1/3/05
DATE

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

1/3/05
DATE

HOWARD SOIL CONSERVATION DISTRICT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

1/3/05
DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION

1/3/05
DATE

CHIEF, DIVISION OF LAND DEVELOPMENT

3/4/05
DATE

DIRECTOR

Date	No	Revision Description

OWNER:
D. ERIC SELINE
14852 OLD GUNPOWDER ROAD
LAUREL, MD. 20707
(410) 792-2999

DEVELOPER:
CRAIG STUART-PAUL
P.O. BOX 21171
CATONSVILLE, MD 21228
410-340-9387

PROJECT:
FAIRFAX RECYCLING INC.
KIT KAT CENTER PARCELS A AND B
7167 KIT KAT ROAD ELLICOTT CITY, MD.
Tax Map No. 43, Grid 11, Elec. Dist. No. 1, Parcel 49
HOWARD COUNTY, MARYLAND

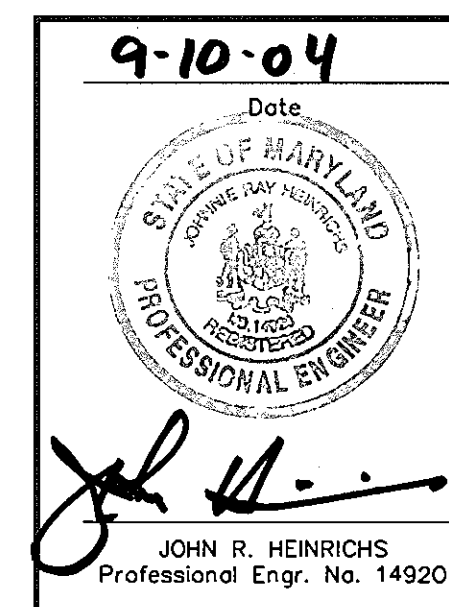
PREPARED BY:
PHOENIX ENGINEERING, INC.
CONSULTING ENGINEERS
1420-A JOH AVENUE
BALTIMORE, MARYLAND 21227
(410) 247-8833 FAX 247-9397

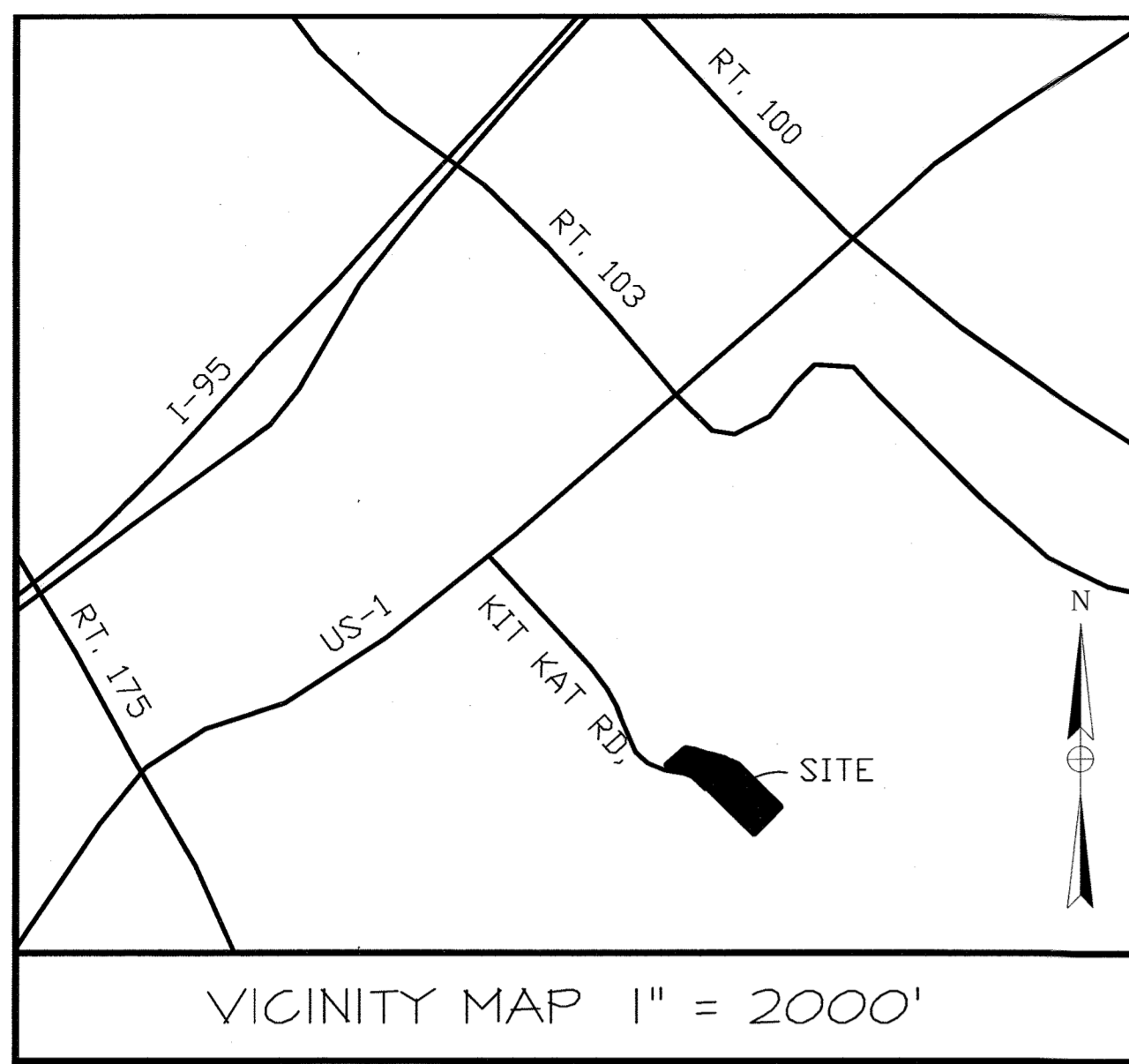
AREA:
PARCEL: 49 TAX MAP: 43
CENSUS TRACT 6011.01 1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
**S. W. M
PROFILES**

Des By D.R.B. Scale AS SHOWN Proj No 02-021
Dwn By V.M.S. Date JANUARY, 2004 DRAWING NO sw04.dwg
Ck'd By D.R.B. SDP 04-024 11 OF 18

SDP 04-024





Soil Descriptions

AdB2 - ALDINO SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
 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
 BeD2 - BELTSVILLE SILT LOAM, 10 TO 15 PERCENT SLOPES, MODERATELY ERODED
 CdD3 - CHILLUM-FAIRFAX LOAMS, 5 TO 15 PERCENT SLOPES, SEVERELY ERODED
 DeB2 - DELANCO SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
 Ha - HATBORO SILT LOAM
 IuB - IUKA LOAM LOCAL ALLUVIUM, 1 TO 5 PERCENT SLOPES
 M+E - MONTALTO AND RELAY SOILS, 15 TO 45 PERCENT SLOPES
 SFD2 - SASSAFRAS GRAVELLY SANDY LOAM 10 TO 15 PERCENT SLOPES, MODERATELY ERODED
 SsE - SASSAFRAS SOILS, 15 TO 40 PERCENT SLOPES

PHASE 2 SPECIMEN TREE CHART

TREE	DA	SPECIES	CONDITION
A	34"	POPLAR	GOOD - TO BE REMOVED
B	37"	MARLE	POOR - TO BE REMOVED

J. Chris Ogles
 QUALIFIED PROFESSIONAL
 J. CHRIS OGLES

Site Data

Total area = 11.75 ac
 Floodplain area = 1.98 ac
 Net tract area = 9.77 ac
 Existing forest on net tract = 6.04 ac
 Existing forest to be cleared = 3.78 ac
 Existing zoning = M-2
 % Woodland conservation threshold = 15% OR 1.41 AC
 % Woodland afforestation threshold = 15% OR 1.41 AC

Forest Conservation Notes

Total Obligation = 2.34 ac
 Total Retention = 2.30 ac
 Total Fee-in-lieu = 0.11 ac

Forest Conservation Easements

FCE #3 = 0.18 AC
 FCE #4 = 1.14 AC
 FCE #5 = 0.64 AC
 FCE #6 = 0.34 AC

TOTAL FCE = 2.30 AC

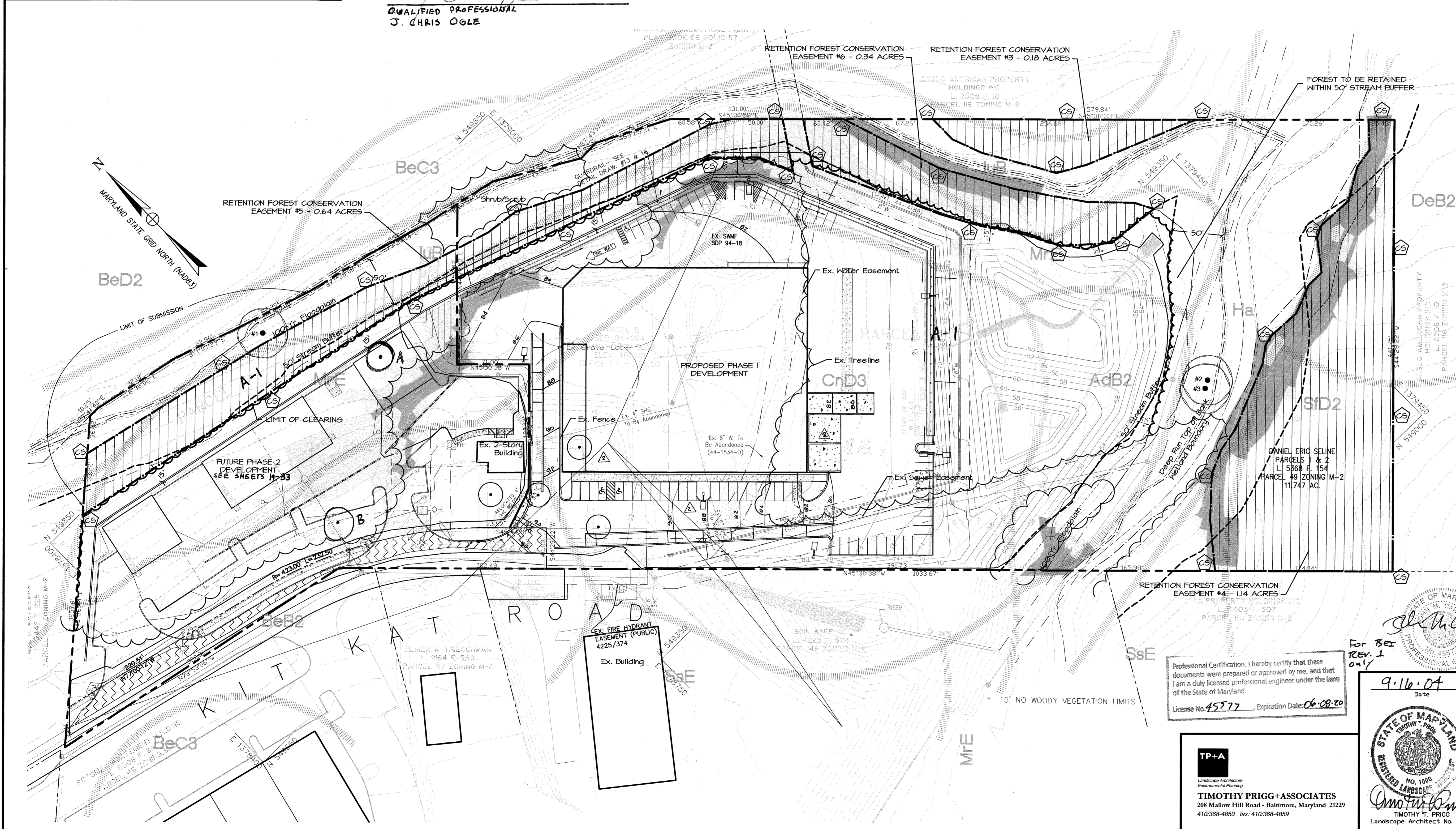
Specimen Size Trees

1. Red Maple, 32" DBH
2. American Sycamore, 35" DBH
3. American Sycamore, 35" DBH

Notes

1. This plan depicts existing environmental features and the existing development currently on the site.
2. Existing soil information provided by the Soil Survey of Howard County 1968. These soils were mapped before the development of the site.
3. The limits of non-tidal wetlands are directly associated with the stream banks. Small areas beyond the banks are noted on the plan.
4. Three specimen size trees were located in the field and are shown on the plan.
5. There are no known critical habitats on the site.
6. There are no known historic sites on the site.
7. Blaze orange fencing shall be erected along the limit of disturbance where adjacent to forests to remain. Where applicable, and with Howard County approval, the super silt fence may provide the necessary protection of the forest retention areas.
8. This project complies with the requirements of Section 16.1200 of the Howard County Code and Forest Conservation Manual with a break-even retention obligation of 2.34 acres which has been met by recording 2.31 acres of forest conservation easement area on final plat, F-04-81, Plat No. and payment of Fee-in-Lieu for 0.11 acres.
9. The Owner shall post a forest retention surety of \$20,023.00 (2.30 acres (100,115 SF) x \$0.20/SF) prior to the beginning of the construction phase.
10. The Owner shall pay \$2,396.00 for Fee-in-lieu for 0.11 ac (4,742 SF x \$0.50/SF).
11. The forest conservation easements indicated on this plan have been established to fulfill the requirements of Section 16.1200 of the Howard County Code. No clearing, grading, or construction is permitted within the forest conservation easements, however, forest management practices as defined in the Deed of Forest Conservation Easements are allowed.

- LEGEND**
- PROPERTY LINE
 - EXISTING EASEMENT
 - EXISTING CONTOURS (2')
 - ▨ SLOPES 15-25%
 - ▨ SLOPES GREATER THAN 25%
 - LIMIT OF SOIL UNIT
 - EXISTING TREELINE
 - EXISTING STREAM TOP OF BANK
 - EXISTING STREAM CENTERLINE
 - 50' STREAM BUFFER
 - 100-YEAR FLOODPLAIN
 - WETLAND LIMITS
 - 25' WETLAND BUFFER
 - SPECIMEN SIZE TREE
 - ▭ FOREST CONSERVATION EASEMENT
 - ⬡ FOREST CONSERVATION SIGN



APPROVED: DEPARTMENT OF PLANNING AND ZONING

<i>Chris Vanaman</i>	2/3/05	DATE
CHEF, DEVELOPMENT ENGINEERING DIVISION		
<i>David Hamilton</i>	3/4/05	DATE
CHEF, DIVISION OF LAND DEVELOPMENT		
<i>David D. Wagle</i>	3/4/05	DATE
DIRECTOR		

Date	No.	Revision Description
4-5-17	1	PHASE 2 DEVELOPMENT
9-16-05	2	ADDED TRUCK SCALES & REVISED BLDG 'B'

OWNER/DEVELOPER:

KIT KAT ROAD PARTNERS II, LLC
 107 FOREST DR.
 CATONSVILLE, MD 21229
 410-340-1587

PROJECT:

FAIRFAX RECYCLING INC.
 KIT KAT CENTER PARCEL A-1
 7187 KIT KAT ROAD ELLICOTT CITY, MD.
 Tax Map No. 43, Grid 11, Elec. Dist. No. 1, Parcel 49
 HOWARD COUNTY, MARYLAND

PREPARED BY:

PHOENIX ENGINEERING, INC.
 CONSULTING ENGINEERS
 1420-A JOH ANNENUE
 BALTIMORE, MARYLAND 21227
 (410) 247-8833 FAX 247-9387

AREA:

PARCEL: 49 TAX MAP: 43
 CENSUS TRACT 6011.01 1ST ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

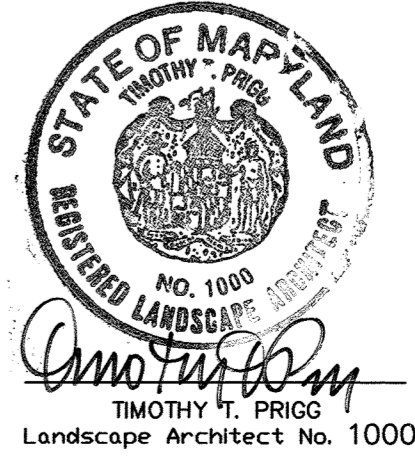
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FOREST CONSERVATION PLAN

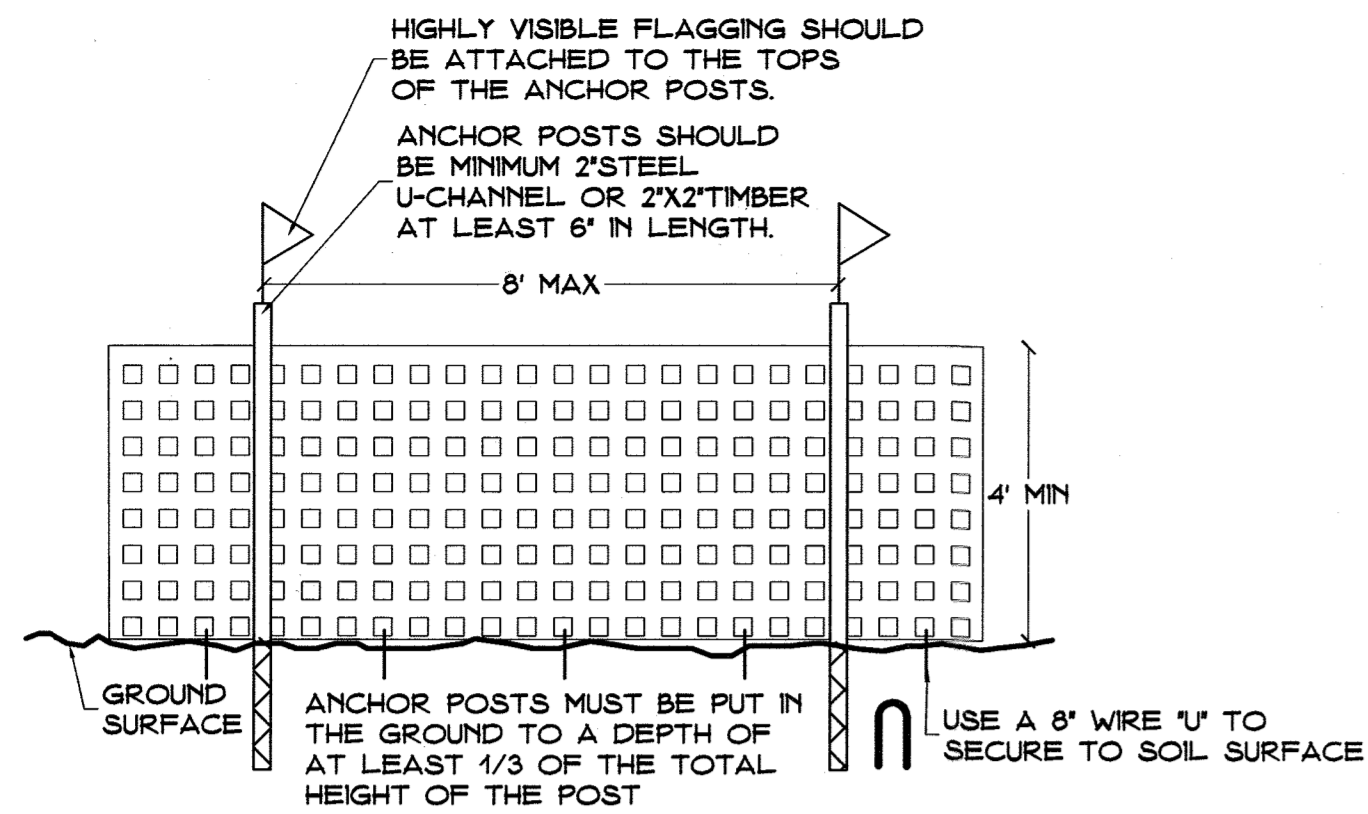
Des By	TTP	Scale	1" = 50'	Proj No	02-033
Drn By	DJM	Date	SEPTEMBER 2004	DRAWING NO	fed base.dwg
Chk By	TTP	SDP	04-024		17 OF 33

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. 45777 Expiration Date: 06-08-20

For Bear Rev. 1 only
 9.116.04
 Date



TP+A
 Landscape Architecture
 Environmental Planning
 TIMOTHY PRIGG+ASSOCIATES
 208 Mallow Hill Road - Baltimore, Maryland 21229
 410-368-4650 fax: 410-368-4659

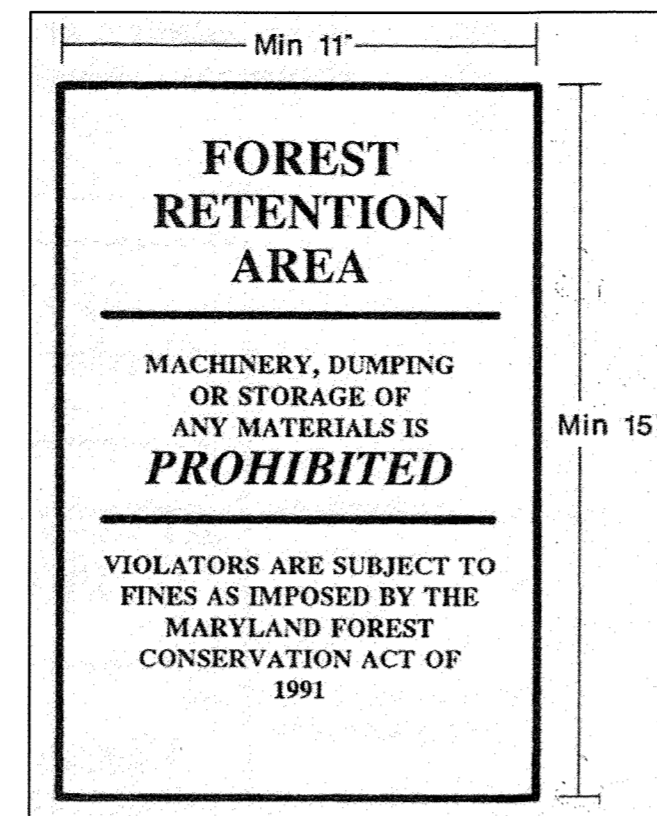


GENERAL NOTES

- LIMITS OF DISTURBANCE WILL BE SET AS PART OF THE REVIEW PROCESS FOR AN APPROVED TCP.
- THE BOUNDARIES OF THE LIMITS OF DISTURBANCE SHOULD BE STAKED AND FLAGGED PRIOR TO ERRECTING THE PROTECTIVE DEVICE.
- ANCHOR POSTS SHOULD BE PLACED TO AVOID SEVERING OR DAMAGING LARGE TREE ROOTS.
- FENCING MATERIAL SHOULD BE FASTENED SECURELY TO THE ANCHOR POSTS, CROSS BRACING, AND GROUND.

1 Blaze Orange Fence Detail

Scale: NTS



NOTES

- Sign shall be mounted 4' above the ground on 3" steel U-channel posts driven to firm bearing.
- Sign locations are shown on the plan with the symbol

2 Sign Detail

Scale: NTS

**Forest Conservation Worksheet
Howard County, Maryland**

Project Name:
Fairfax Recycling Inc.

I. Basic Site Data

	ACRES (1/10 acre)
Gross Site Area	11.75
Area within 100 Year Floodplain	1.98
Area within agricultural use	0.00
Net Tract Area	9.77
Land use category	M-2

II. Information For Calculations

A. Net Tract Area	9.77
B. Reforestation Threshold (15% x A)	1.47
C. Afforestation Minimum (15% x A)	1.47
D. Existing Forest on Net Tract Area	6.09
E. Forest Areas to be Cleared	3.79
F. Forest Areas to be Retained	2.30

III. Determining Requirements: Afforestation or Reforestation

1 Reforestation

TRUE: If existing forests areas equal or exceed the afforestation minimum (if D equals or is more than C) and clearing of existing forest areas is proposed, reforestation requirements may apply.

Go To Section IV

FALSE: If existing forests exceed the afforestation minimum (if D equals or is more than C) and no clearing of existing forest resources is proposed, no reforestation is required. No further calculations are needed.

2 Afforestation

FALSE: If existing forest area is less than the afforestation minimum (if D is less than C), Afforestation requirements apply.

IV Reforestation Calculations

	ACRES (1/10 acre)
A. Net Tract Area	9.77
B. Reforestation Threshold (15% x A)	1.47
D. Existing Forest on Net Tract Area	6.09
E. Forest Areas to be Cleared	3.79
F. Forest Areas to be Retained	2.30
G. Forest Areas to be Cleared Above Reforestation Threshold (D - F, if F equals or is greater than B, alternative 1) (B - D, if F less than B, alternative 2)	3.79
H. Forest Areas Cleared Below Reforestation Threshold (B - F, if applicable)	N/A
I. Forest Areas Retained ABOVE Reforestation Threshold (F - B, Retention Credit, if applicable)	0.83

Select the alternative that applies:

1 If forest areas to be retained equal or are greater then the Reforestation Threshold (if F equals or is greater than B), the following calculations apply.

Reforestation for clearing above Threshold (G x 1/4)	0.95
Credit for Forest Areas retained above Threshold I = Retention Credit	0.83
Total Reforestation Required (G x 1/4) - I	0.11

If the total reforestation requirement is equal to or less than 0, no reforestation is required

2 If the forest areas to be retained are less than the reforestation threshold (if F is less than B), the following calculations apply.

Reforestation for clearing above threshold (G x 1/4)	N/A
Reforestation for clearing below Threshold (H x 2)	N/A
Total Reforestation Required (G x 1/4) + (H x 2)	N/A

Since clearing occurs below the threshold, no forest retention credit is possible.

V. Afforestation Calculations

	ACRES (1/10 acre)
A. Net Tract Area	N/A
C. Afforestation Minimum (15% x A)	N/A
D. Existing Forest on Net Tract Area	N/A
E. Forest Areas to be Cleared	N/A
F. Forest Areas to be Retained	N/A

Select the alternative that applies:

1 No clearing below the minimum

If existing forests are less than the afforestation minimum (if D is less than C) and no clearing is proposed, the following calculations apply.

Total Afforestation Required (C - D)	N/A
--------------------------------------	-----

Afforestation must make total forest area equal the minimum required.

2 Clearing below the minimum

If existing forests are less than the afforestation minimum (if D is less than C) and clearing is proposed, the following calculations apply:

Afforestation for unforested areas below Minimum (C - D)	N/A
Afforestation for clearing below Minimum (E x 2)	N/A
Total Afforestation Required (C - D) + (E x 2)	N/A

Afforestation requires the total forest area to be equal to the minimum and it requires compensation for clearing.

**Forest Conservation Worksheet - Howard County, MD
Break-even Point Calculations**

Project Name:
Fairfax Recycling Inc.

	ACRES (1/10 acre)
A. Net Tract Area	9.77
B. Reforestation Threshold (15% x A)	1.47
D. Existing Forest on Net Tract Area	6.09

B.E.P. = (existing forest equal to reforestation threshold) + (0.2 x existing forest above threshold)

Break-Even Point = 2.39

APPROVED: DEPARTMENT OF PLANNING AND ZONING	DATE
<i>[Signature]</i>	2/3/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION	
<i>[Signature]</i>	2/3/05
CHIEF, DIVISION OF LAND DEVELOPMENT	
<i>[Signature]</i>	2/1/05
DIRECTOR	DATE

Date	No	Revision Description
4.5.17	1	BET PHASE 2 DEVELOPMENT

OWNER/DEVELOPER:
KIT KAT ROAD PARTNERS II, LLC
107 FOREST DR.
CATOWHITES, MD 21228
410-340-9387

PROJECT:
FAIRFAX RECYCLING INC.
KIT KAT CENTER PARCEL A-1
7167 KIT KAT ROAD ELLICOTT CITY, MD.
Tax Map No. 43, Grid 11, Elec. Dist. No. 1, Parcel 49
HOWARD COUNTY, MARYLAND

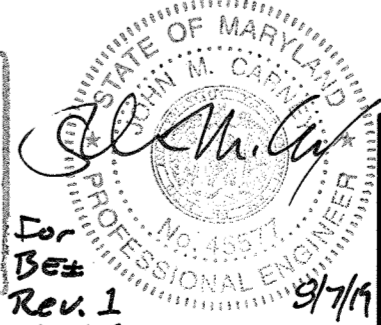
PREPARED BY:
PHOENIX ENGINEERING, INC.
CONSULTING ENGINEERS
1420-A JOH AVENUE
BALTIMORE, MARYLAND 21227
(410) 247-8833 FAX 247-9397

AREA:
PARCEL: 49 TAX MAP: 43
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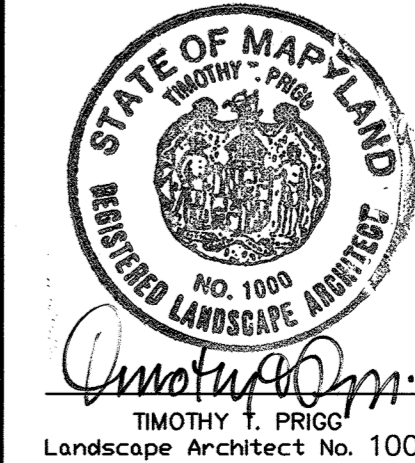
TITLE:
**FOREST
CONSERVATION DETAILS**

Des By	TTP	Scale	1" = 50'	Proj No	02-033
Dwn By	DJM	Date	SEPTEMBER 2004	DRAWING NO	fsd base.dwg
Chk By	TTP	SDP-04-024			18 OF 33

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. 45577 Expiration Date 06/08/20
For Best Rev. 1 Date 9/7/04



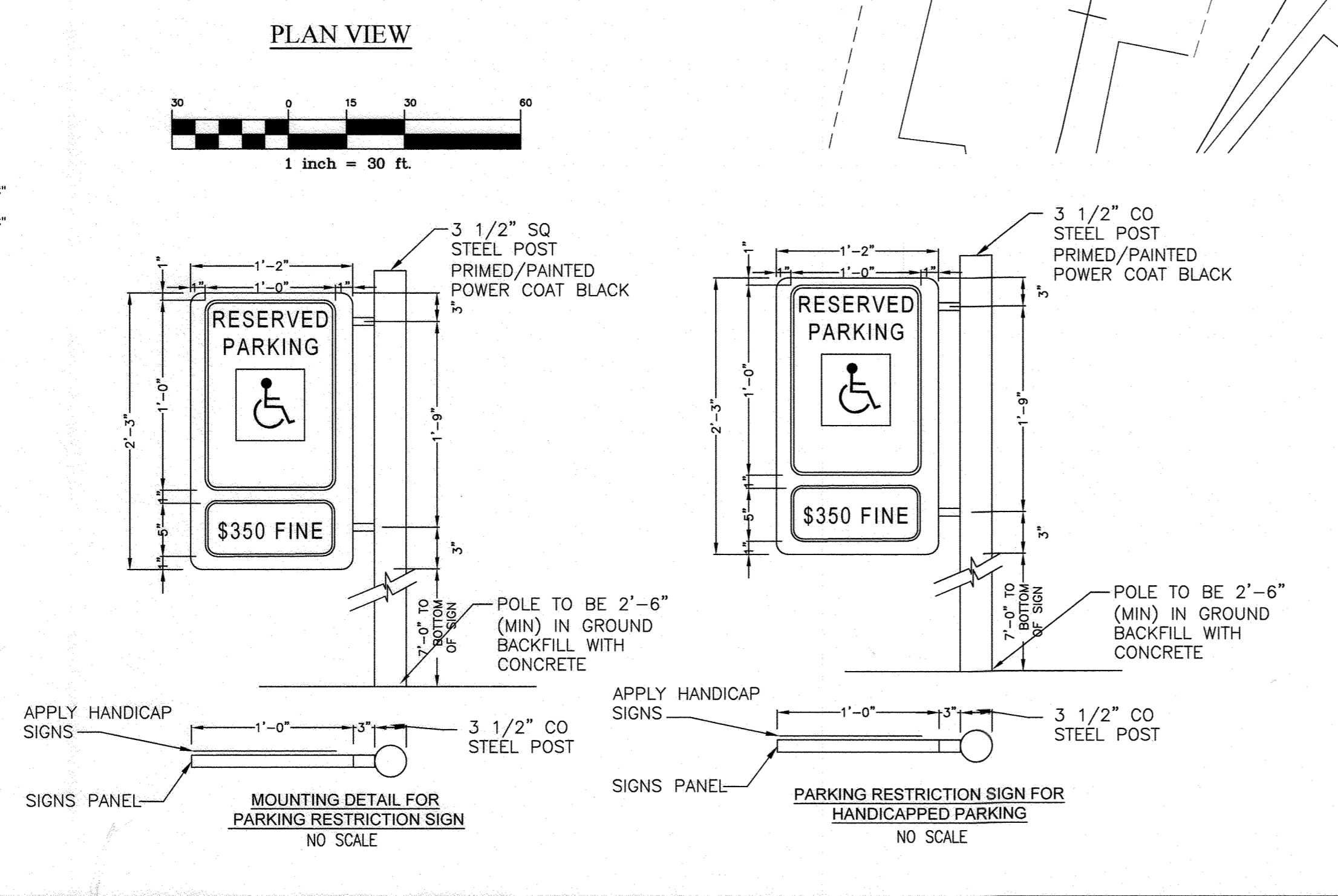
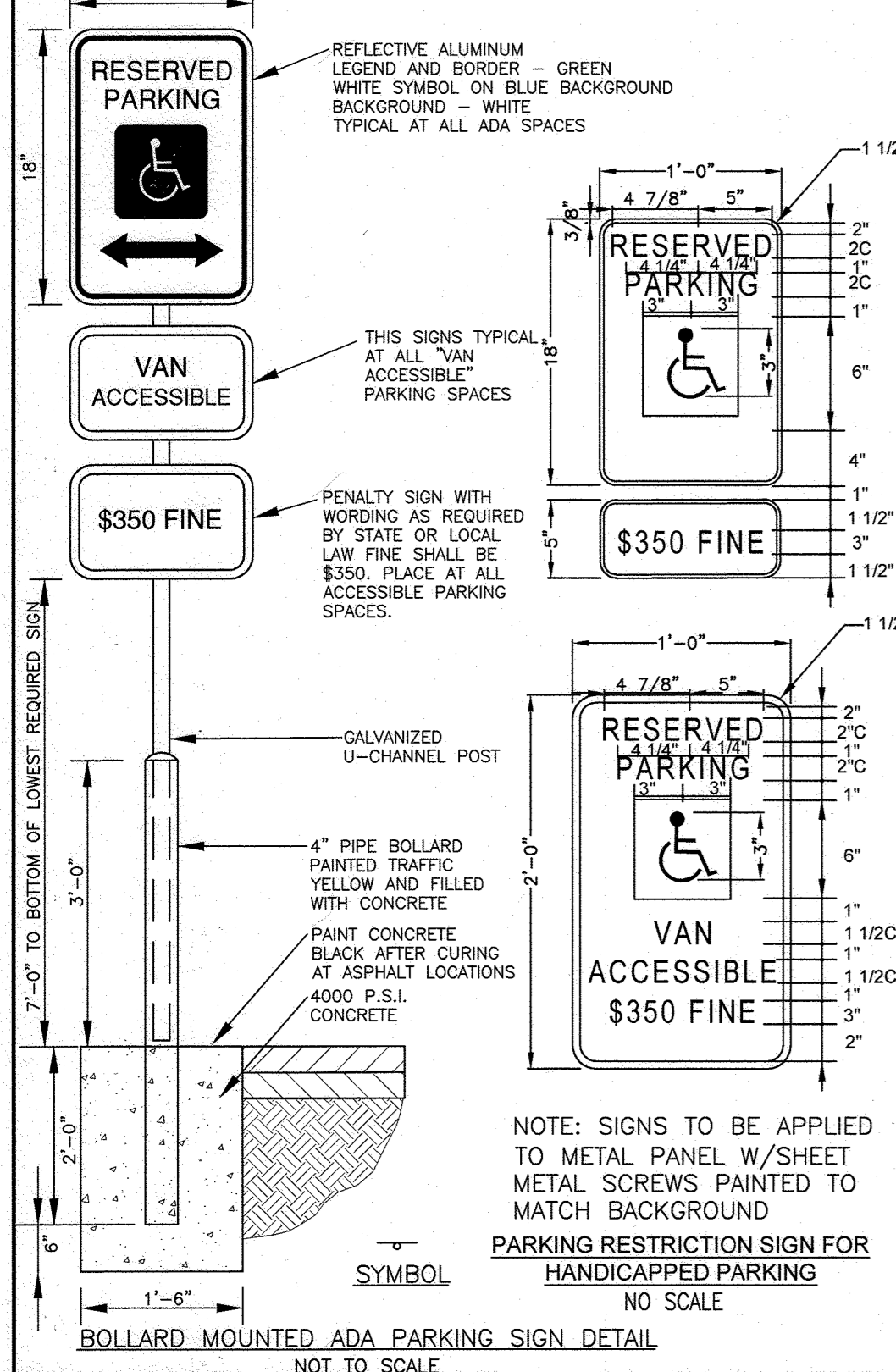
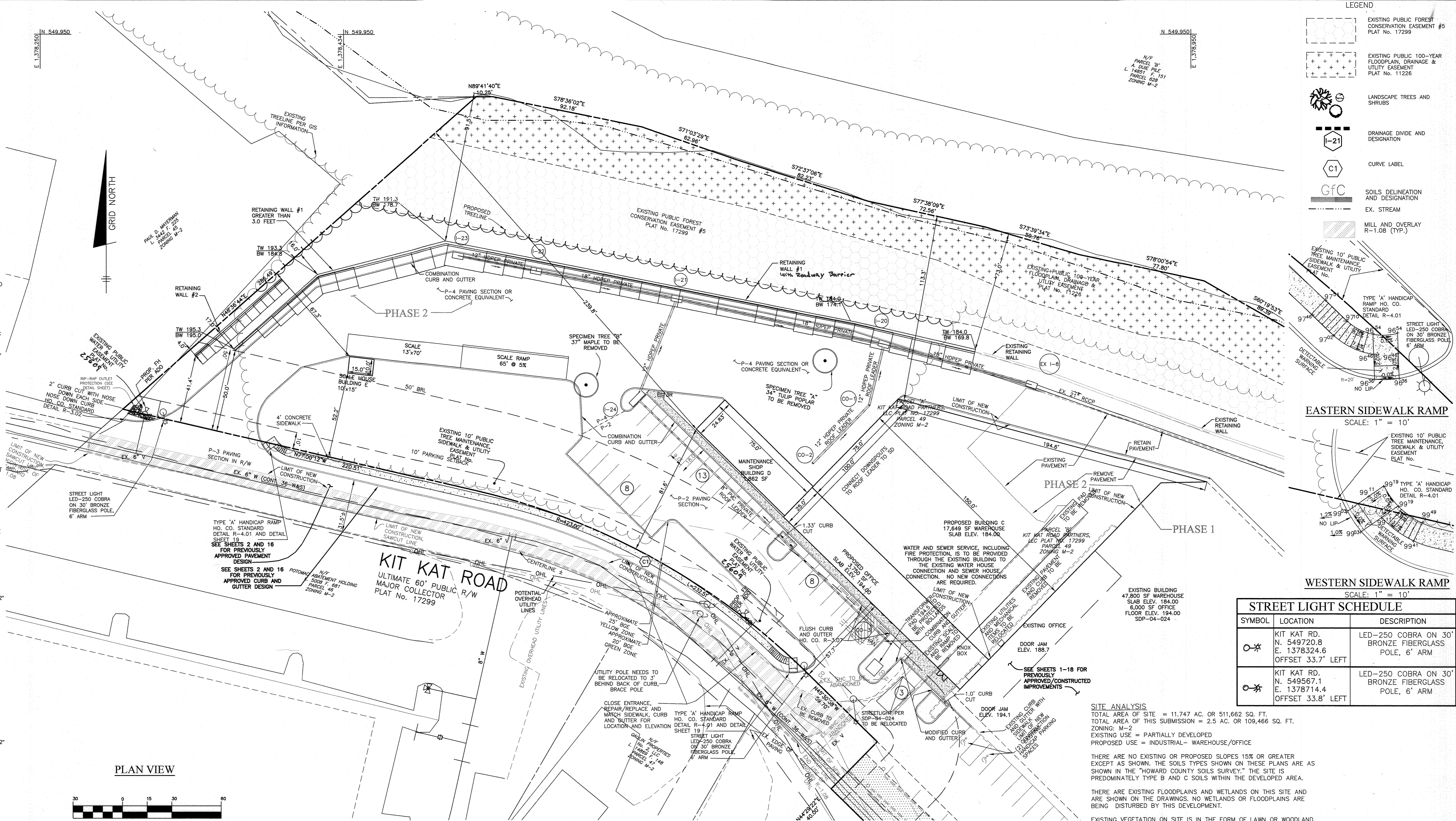
9.16.04
Date



TP-A
Landscape Architecture
Environmental Planning
TIMOTHY PRIGG+ASSOCIATES
208 Mallow Hill Road - Baltimore, Maryland 21229
410-368-4850 fax: 410-368-4859

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS M.S.H.A. STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE LOCATIONS OF THE UTILITIES SHOWN IS APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE EXISTENCE, LOCATION AND DEPTH OF ANY UTILITIES AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO BEGINNING WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE ENGINEERING OFFICE, BENCHMARK ENGINEERING, INC. AT 410-465-6105 IN THE EVENT OF ANY DISCREPANCIES IN THE PLANS OR IN THE RELATIONSHIP OF FINISHED GRADES TO EXISTING GRADES, PRIOR TO BEGINNING ANY WORK.
- THE CONTRACTOR SHALL NOTE THAT IN THE CASE OF DISCREPANCY BETWEEN THE SCALED AND FIGURED DIMENSIONS SHOWN ON THESE PLANS, THE FIGURED DIMENSIONS SHALL GOVERN.
- IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THE PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PERFORM SUCH WORK.
- CONTRACTOR TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK ON THESE DRAWINGS:
 - MISS UTILITY.....1-800-257-7777
 - BALTIMORE GAS & ELECTRIC COMPANY.....410-885-0123
 - VERIZON TELEPHONE.....410-725-9976
 - AT&T CABLE LOCATION DIVISION.....410-393-3553
 - HOWARD COUNTY BUREAU OF UTILITIES.....410-313-4900
 - HOWARD COUNTY CONSTRUCTION/INSPECTION SURVEY DIVISION (24 HOURS NOTICE PRIOR TO COMMENCEMENT OF WORK).....410-313-1880
- ALL PIPE ELEVATIONS SHOWN ARE TOP OF PROPOSED PAVING OR CONCRETE. WHEN ADJACENT TO CURB, ELEVATION SHOWN IS BOTTOM OF CURB FINISH.
- STORM WATER QUANTITY AND MANAGEMENT IS BEING PROVIDED ON SITE IN THE FORM OF A DETENTION FACILITY. THIS FACILITY WILL BE PRIVATELY OWNED AND MAINTAINED.
- HANDICAP RAMP SHALL MEET ADA REQUIREMENTS.
- THE CONTRACTOR SHALL OBTAIN THE NECESSARY BUILDING PERMITS FOR CONSTRUCTION.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE GRID COORDINATES. (NAD 83). ALL VERTICAL CONTROLS ARE BASED ON NAVD83 DATUM.
- CONTRACTOR SHALL USE DIMENSIONS SHOWN. SCALING OF THESE PLANS IS DISCOURAGED UNLESS DIRECTED BY THE CIVIL ENGINEER.
- ANY DAMAGE TO COUNTY RIGHT-OF-WAY AND PAVING OF PUBLIC ROADS SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE IN ACCORDANCE WITH THE HOWARD COUNTY SPECIFICATIONS AND STANDARDS.
- THERE ARE NO KNOWN CEMETERIES LOCATED ON THIS SITE.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF 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 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. 4382 AND 4386 WERE USED FOR THIS PROJECT.
- WATER AND SEWER ARE (PUBLIC) AND ARE IN THE LITTLE PATUXENT DRAINAGE AREA, AND IS DESIGNATED AS CONTRACT NUMBER 14-3306-D, 579-S, AND CAPITAL PROJECT W-8148.
- THE FLOODPLAIN STUDY FOR THIS PROJECT WAS PREPARED BY GUTSCHICK LITTLE AND WEBER P.A. IN AUGUST, 1993 AND WAS APPROVED BY HOWARD COUNTY. SEE PLAT NO. 11226.
- THE WETLANDS DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY EXPLORATION RESEARCH, INC. DATED OCTOBER, 1993.
- A TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT, AND INCLUDED WITH THIS SUBMISSION.
- THIS PROPERTY IS ZONED M-2 PER THE 2000 COMPREHENSIVE ZONING PLAN.
- NO CLEARING GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE REQUIRED WETLANDS, STREAMS(S) OR THEIR BUFFERS AND FOREST CONSERVATION EASEMENT AREAS.
- THIS PLAN IS SUBJECT TO 10-17-11.3.
- THE SUBJECT PROPERTY IS ZONED M-2 IN ACCORDANCE WITH THE 10/06/13 COMPREHENSIVE ZONING PLAN.
- 10-17-11.3 ALTERNATIVE COMPLIANCE REQUEST OF SECTION 16.1205(d)(7) HAS BEEN APPROVED TO ALLOW THE REMOVAL OF TWO TREES 30" IN DIAMETER OR LARGER UNDER THE FOLLOWING CONDITIONS:
 - REMOVAL OF TWO SPECIMEN TREES WILL REQUIRE REPLACEMENT MITIGATION AT A RATIO OF TWO LARGER CALIPER TREES (AT LEAST THREE INCHES DBH) FOR EACH SPECIMEN TREE REMOVED (FOUR TREES TOTAL).
 - COMPLIANCE WITH SRC AGENCY COMMENTS ISSUED FOR THE SDP-04-024 RED-LINE REVISION PLAN.
 - STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURES AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)." A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREETLIGHT AND ANY THERE ARE TWO STREET LIGHTS REQUIRED FOR THIS PROJECT.
 - THIS PLAN COMPLIED WITH THE WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BY THE FOREST CONSERVATION EASEMENTS PROVIDED UNDER THE FINAL PLAT F-04-081, PLAT NO. 17299.

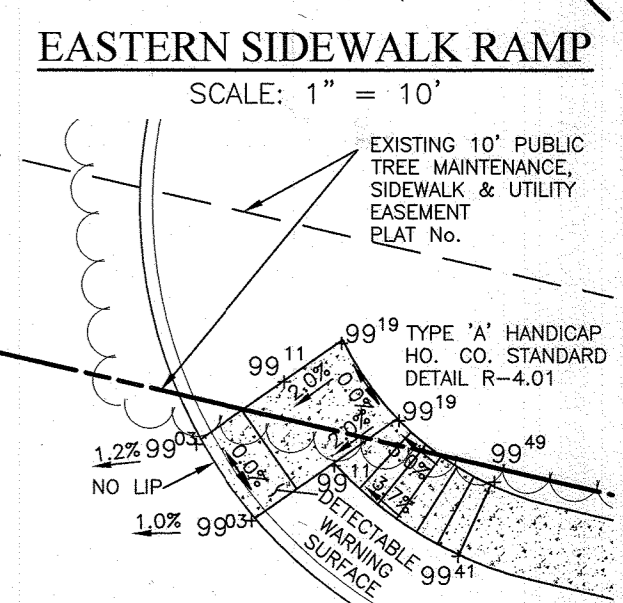
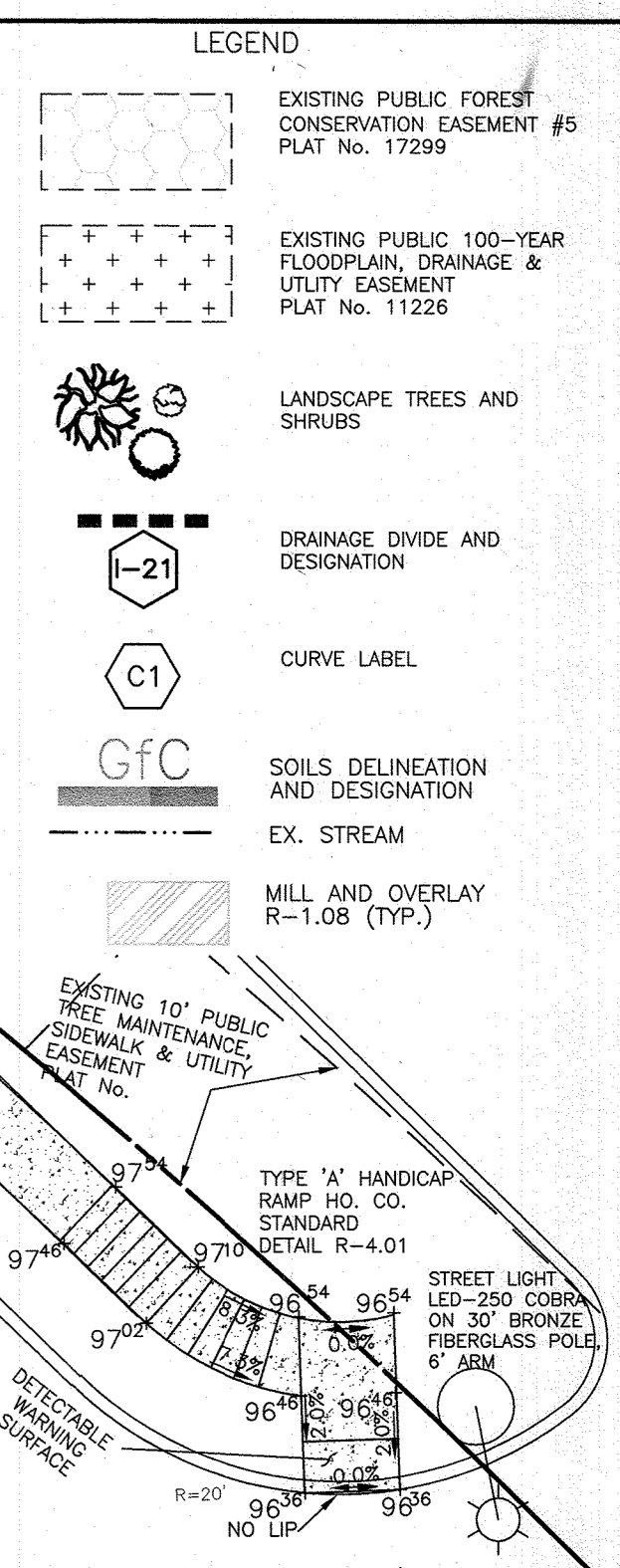


APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DATE: 12-9-20

DATE: 1/27/21

DATE: 1-27-21



WESTERN SIDEWALK RAMP
SCALE: 1" = 10'

STREET LIGHT SCHEDULE		
SYMBOL	LOCATION	DESCRIPTION
⊙	KIT KAT RD. N. 549720.8 E. 1378324.6 OFFSET 33.7' LEFT	LED-250 COBRA ON 30' BRONZE FIBERGLASS POLE, 6' ARM
⊙	KIT KAT RD. N. 549567.1 E. 1378714.4 OFFSET 33.8' LEFT	LED-250 COBRA ON 30' BRONZE FIBERGLASS POLE, 6' ARM

SITE ANALYSIS

TOTAL AREA OF SITE = 11,747 AC. OR 511,662 SQ. FT.
 TOTAL AREA OF THIS SUBMISSION = 2.5 AC. OR 109,466 SQ. FT.

ZONING: M-2
 EXISTING USE = PARTIALLY DEVELOPED
 PROPOSED USE = INDUSTRIAL- WAREHOUSE/OFFICE

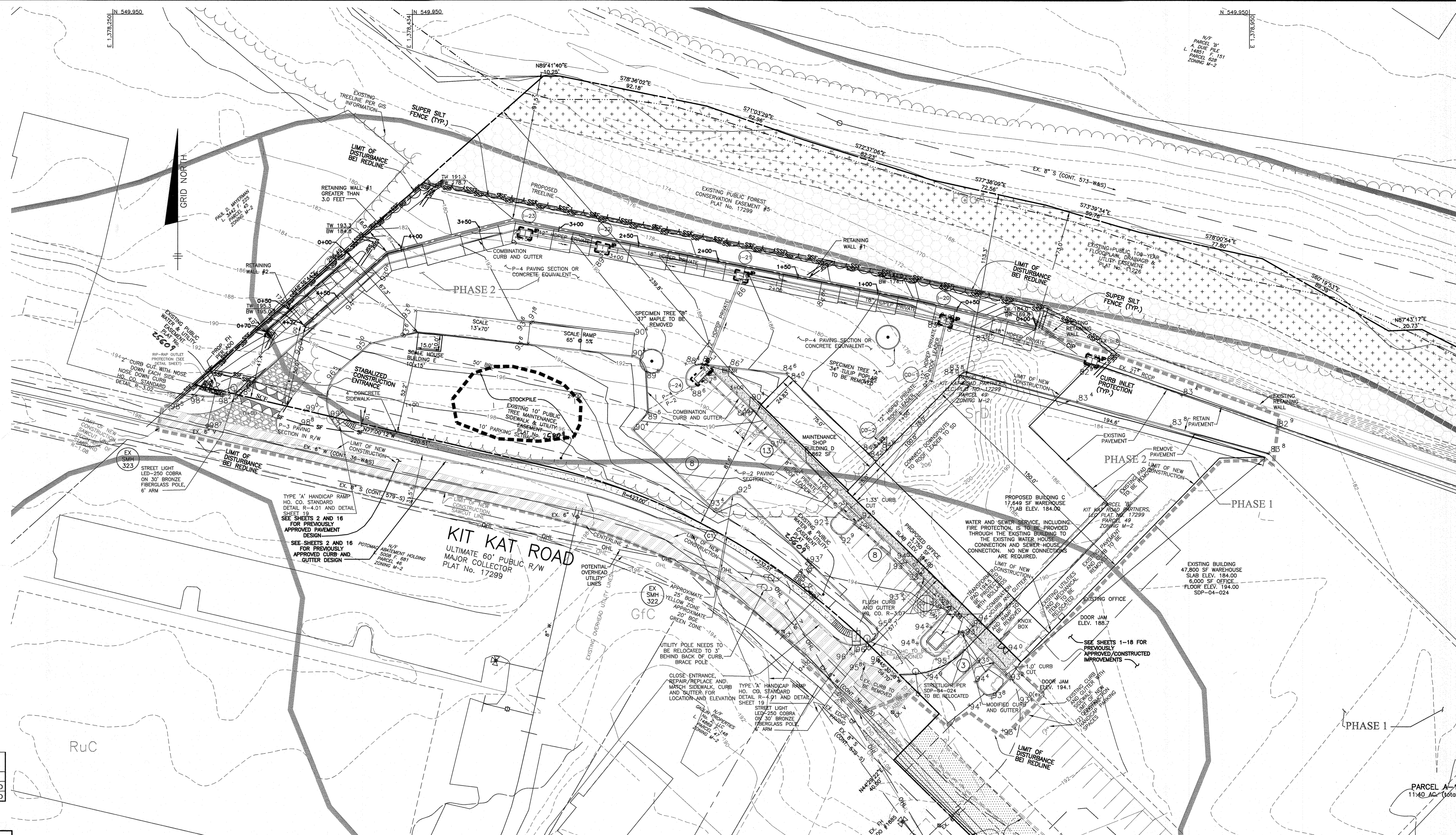
THERE ARE NO EXISTING OR PROPOSED SLOPES 15% OR GREATER EXCEPT AS SHOWN. THE SOILS TYPES SHOWN ON THESE PLANS ARE AS SHOWN IN THE "HOWARD COUNTY SOILS SURVEY." THE SITE IS PREDOMINATELY TYPE B AND C SOILS WITHIN THE DEVELOPED AREA.

THERE ARE EXISTING FLOODPLAINS AND WETLANDS ON THIS SITE AND ARE SHOWN ON THE DRAWINGS. NO WETLANDS OR FLOODPLAINS ARE BEING DISTURBED BY THIS DEVELOPMENT.

EXISTING VEGETATION ON SITE IS IN THE FORM OF LAWN OR WOODLAND.

1 BEI	8/5/2019	PHASE 2 DEVELOPMENT	REVISION
NO.	DATE		
BENCHMARK ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE SUITE 315 ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-8644 WWW.BEI-CIVILENGINEERING.COM			
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. 85571, Expiration Date: 6-5-2022.			
OWNER/DEVELOPER: KIT KAT ROAD PARTNERS II, LLC 107 FOREST DRIVE CATONSVILLE, MD 21228 410-340-9387		PARCEL 'A-1' TAX MAP: 43 - GRID: 11 - PARCEL: P/O 49 ZONED: M-2 (INDUSTRIAL) ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND	
REVISED SITE DEVELOPMENT PLAN GEOMETRY PLAN			
DESIGN: JC	DRAFT: EDD	DATE: JULY, 2019	BEI PROJECT NO. 2781
SCALE: 1" = 30'		SHEET 19 OF 33	

- LEGEND**
- EXISTING PUBLIC FOREST CONSERVATION EASEMENT #5 PLAT No. 17299
 - EXISTING PUBLIC 100-YEAR FLOODPLAIN, DRAINAGE & UTILITY EASEMENT PLAT No. 11226
 - LANDSCAPE TREES AND SHRUBS
 - DRAINAGE DIVIDE AND DESIGNATION
 - CURVE LABEL
 - SOILS DELINEATION AND DESIGNATION
 - EX. STREAM
 - SUPER SILT FENCE (TYP.)
 - LIMIT OF DISTURBANCE
 - CURB INLET PROTECTION (TYP.)
 - STABILIZED CONSTRUCTION ENTRANCE (TYP.)
 - MILL AND OVERLAY R-1.0B (TYP.)



PHASE 2 SPECIMEN TREE CHART

DESIGNATION	DIA.	SPECIES	CONDITION	NOTES
A	34"	TULIP POPLAR	GOOD	TO BE REMOVED
B	37"	MAPLE	POOR	TO BE REMOVED

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

John M. Carney 8/5/19
 ENGINEER: JOHN M. CARNEY, P.E. LICENSE #45577 DATE

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

John R. Rhoton 8/5/19
 DEVELOPER DATE

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

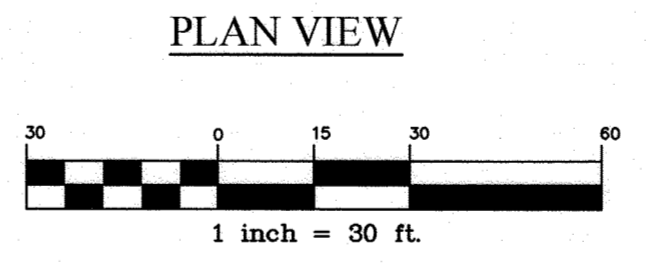
John R. Rhoton 4/24/20
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

1/27/21
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

12-9-20
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

1-27-21
 DIRECTOR DATE



FOR CONTINUATION OF THE STORM DRAIN INTO THE ALREADY CONSTRUCTED PART OF THIS PARCEL SEE SHEET 22 AND SHEETS 1-18.

FRONTAGE IMPROVEMENTS ALONG KIT KAT ROAD IN ACCORDANCE WITH HOWARD COUNTY STANDARD R-1.08

FOR THE PORTION OF KIT KAT ROAD IN THE AREA OF THE ACCESS AISLE TIE IN AND ENTRANCE ABANDONMENT DO A 2" SAW CUT ALONG THE CENTERLINE AND LIMITS OF NEW PAVEMENT, MILL AND OVERLAY TO THE CENTERLINE IN ACCORDANCE WITH HOWARD COUNTY STANDARD R-1.08

1 BEI	8/5/2019	PHASE 2 DEVELOPMENT	REVISION
NO.	DATE		

BENCHMARK ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE SUITE 315 ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-6105 (F) 410-465-6644
 WWW.BEI-CIVILENGINEERING.COM

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. 44577, Expiration Date: 6-8-2022.

John M. Carney 8/5/19
 PROFESSIONAL ENGINEER

FAIRFAX RECYCLING, INC.
 PARCEL 'A-1'

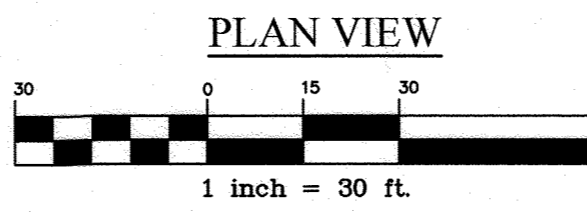
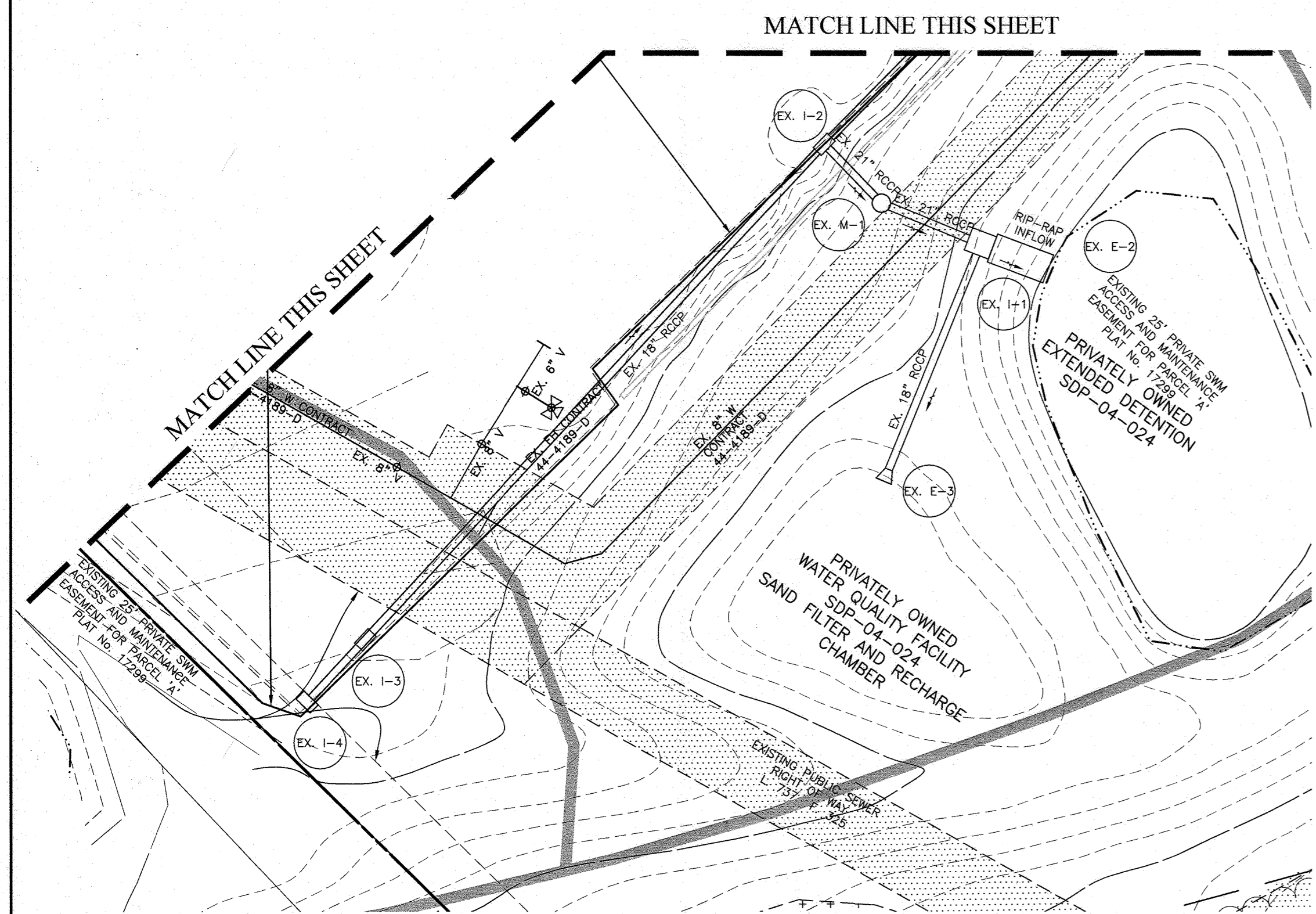
OWNER/DEVELOPER:
 KIT KAT ROAD PARTNERS II, LLC
 107 FOREST DRIVE
 CATONSVILLE, MD 21228
 410-340-9387

TAX MAP: 43 - GRID: 11 - PARCEL: P/O 49
 ZONED: M-2 (INDUSTRIAL)
 ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND

REVISED SITE DEVELOPMENT PLAN GRADING AND SEDIMENT & EROSION CONTROL PLAN

DATE: OCT., 2018 BEI PROJECT NO. 2781
 SCALE: AS SHOWN SHEET 20 OF 33

DESIGN: JC DRAFT: JC



LEGEND

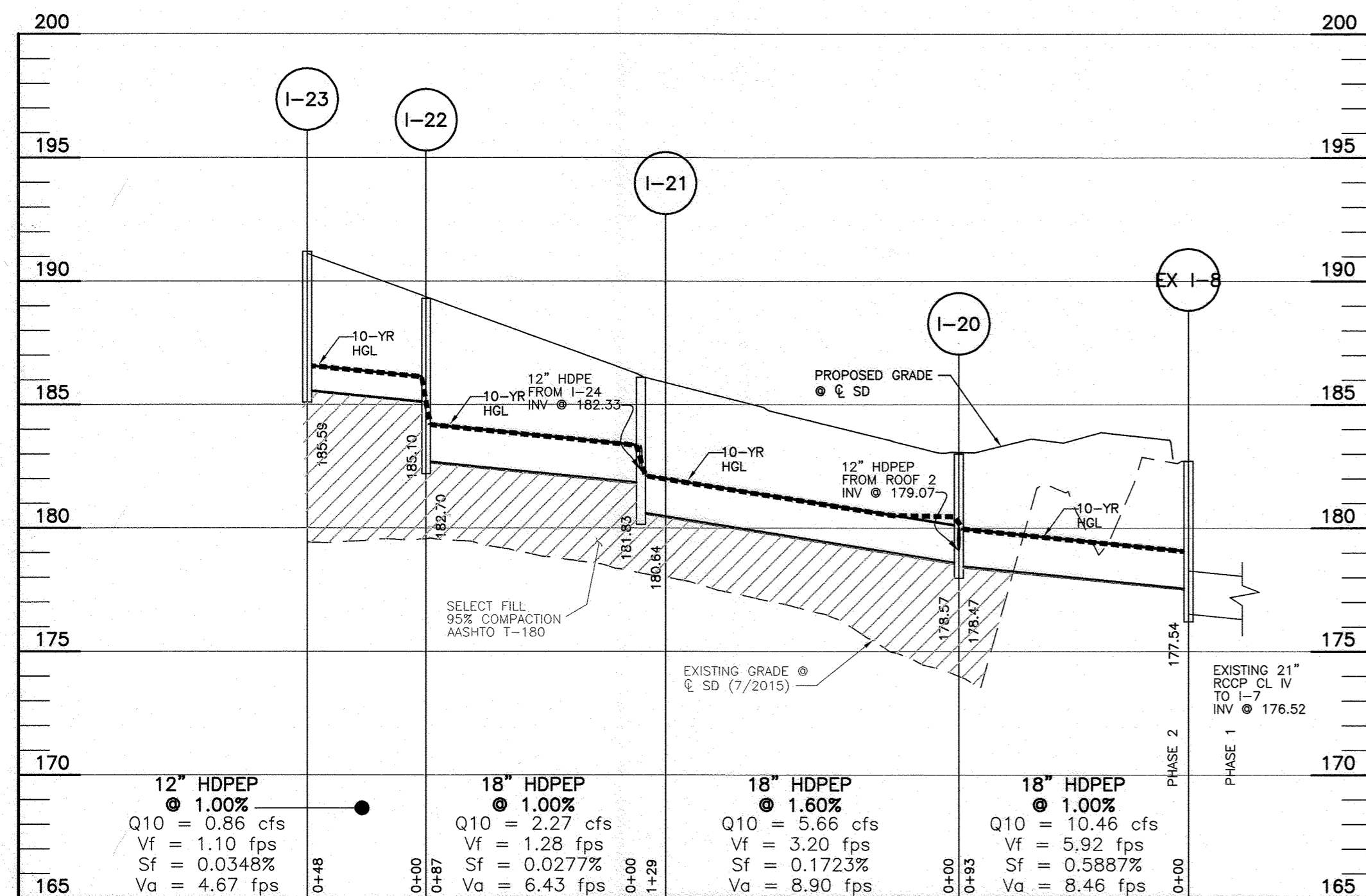
- EXISTING PUBLIC FOREST CONSERVATION EASEMENT #5 PLAT No. 17299
- EXISTING PUBLIC 100-YEAR FLOODPLAIN, DRAINAGE & UTILITY EASEMENT PLAT No. 11226
- LANDSCAPE TREES AND SHRUBS
- DRAINAGE DIVIDE AND DESIGNATION
- CURVE LABEL
- SOILS DELINEATION AND DESIGNATION
- EX. STREAM

AREA AND "C" FACTOR TABULATION

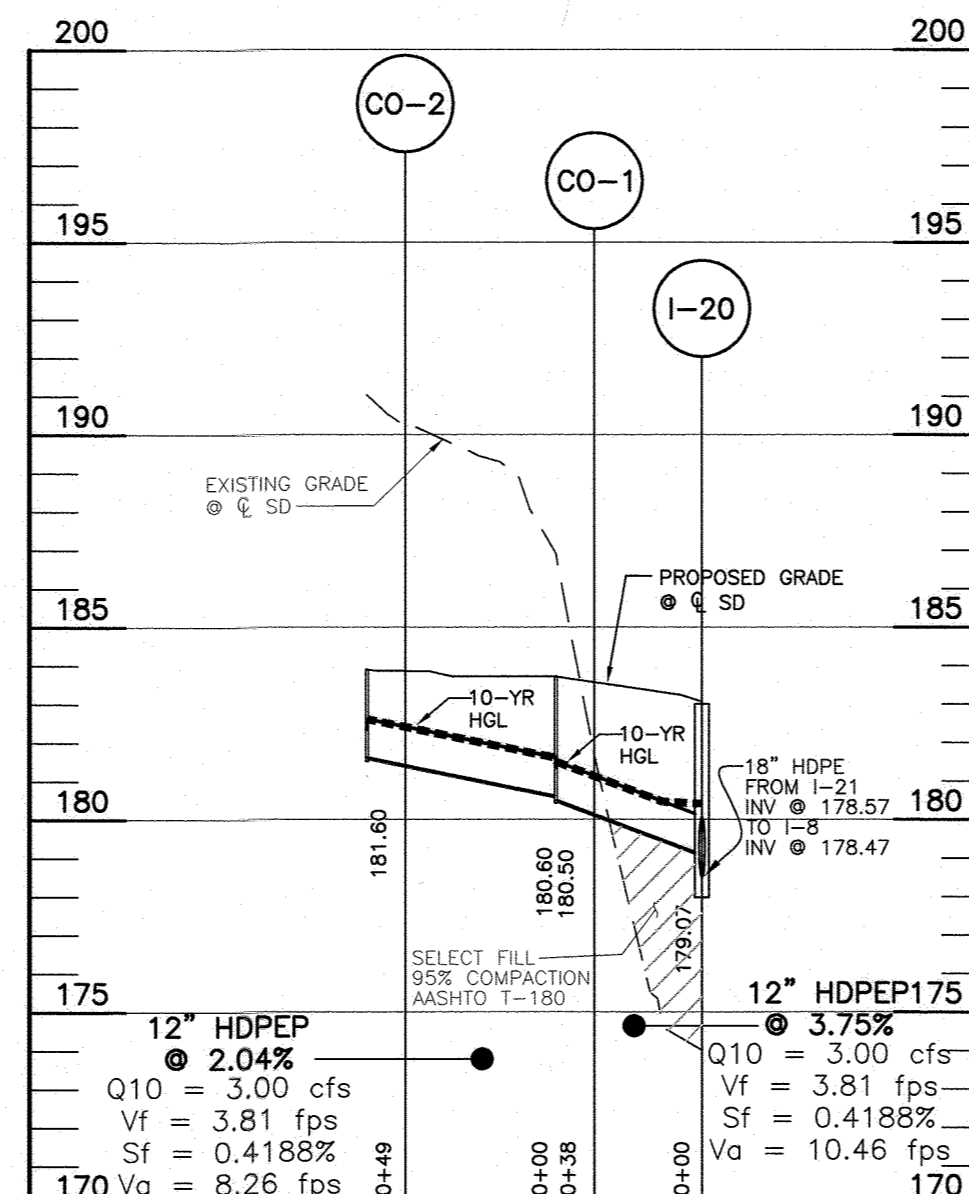
INLET #	ZONING (Z)	SUBAREA (B)	AREA (Ac) (A)	"C" FACTOR (C)-25	"C" FACTOR (C)-25	% IMPERVIOUS
EX I-8	M-2	0.11	0.69	0.86	0.86	72
I-20	M-2	0.46	0.69	0.86	0.86	72
I-21	M-2	0.16	0.69	0.86	0.86	72
I-22	M-2	0.26	0.69	0.86	0.86	72
I-23	M-2	0.15	0.69	0.86	0.86	72
I-24	M-2	0.35	0.69	0.86	0.86	72
CC-1	M-2	0.11	0.87	0.97	0.97	100
Roof 1	M-2	0.13	0.87	0.97	0.97	100
Roof 2	M-2	0.41	0.87	0.97	0.97	100
Contributing Areas of SDP-04-024 not impacted:						
EX I-7	M-2	0.18	0.86	0.96	0.96	100
EX I-6	M-2	0.71	0.86	0.96	0.96	99
EX I-2	M-2	0.37	0.86	0.96	0.96	100

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 12-9-20
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 1-27-21
 DIRECTOR

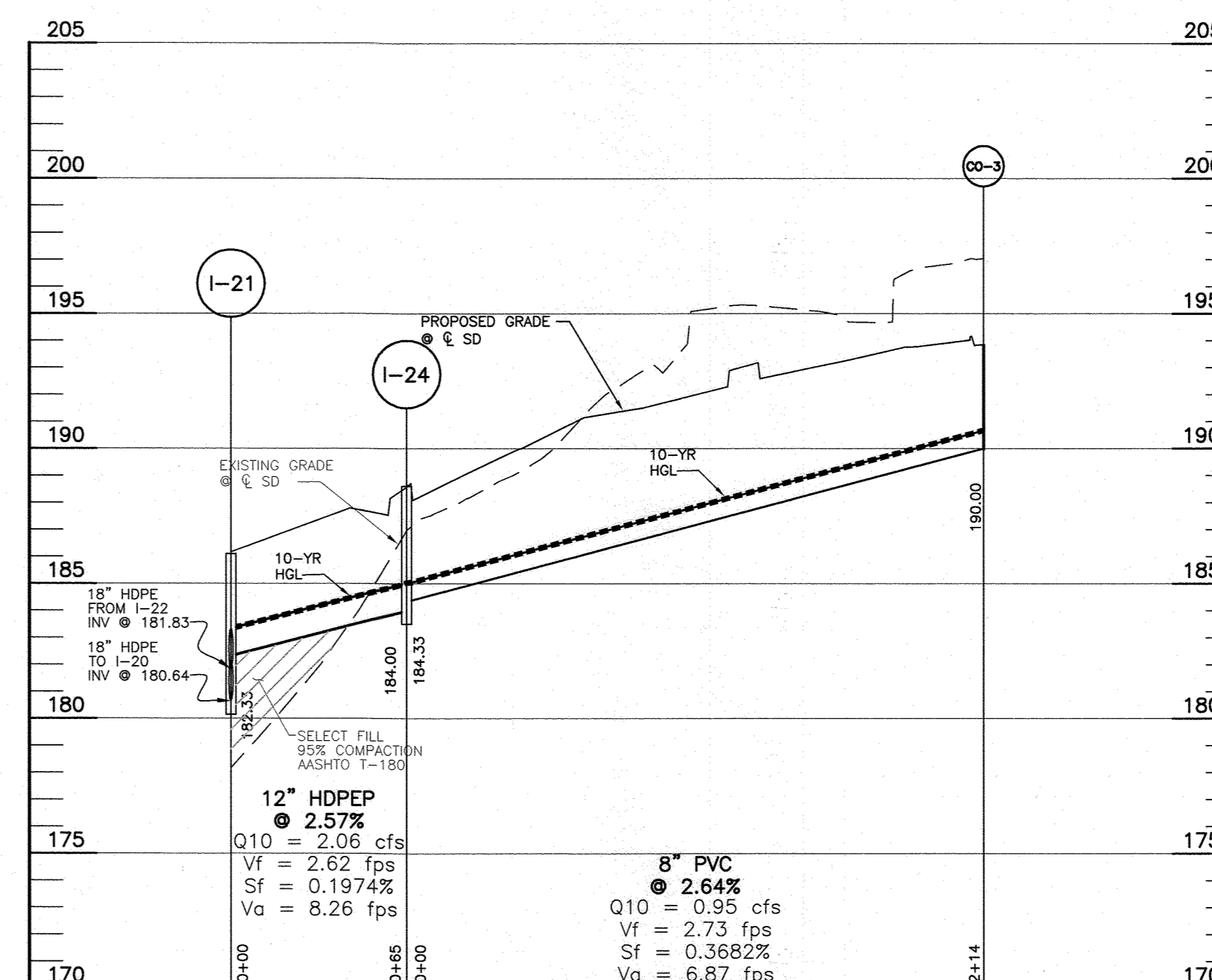
1 BEI	8/5/2019	PHASE 2 DEVELOPMENT	REVISION
NO.	DATE		
 BENCHMARK ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE SUITE 315 ELLICOTT CITY, MARYLAND 21043 (P) 410-465-8105 (F) 410-465-6644 WWW.BEI-CIVILENGINEERING.COM		Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 45178, Expiration Date: 6-30-2024.	
OWNER/DEVELOPER:		FAIRFAX RECYCLING, INC.	
KIT KAT ROAD PARTNERS II, LLC 107 FOREST DRIVE CATONVILLE, MD 21228 410-340-9387		PARCEL 'A-1'	
		TAX MAP: 43 - GRID: 11 - PARCEL: P/O 49 ZONED: M-2 (INDUSTRIAL) ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND	
		REVISED SITE DEVELOPMENT PLAN STORM DRAIN DRAINAGE AREA MAP	
DESIGN: JC	DRAFT: JC	DATE: AUGUST, 2019	BEI PROJECT NO. 2781
		SCALE: AS SHOWN	SHEET 22 OF 33



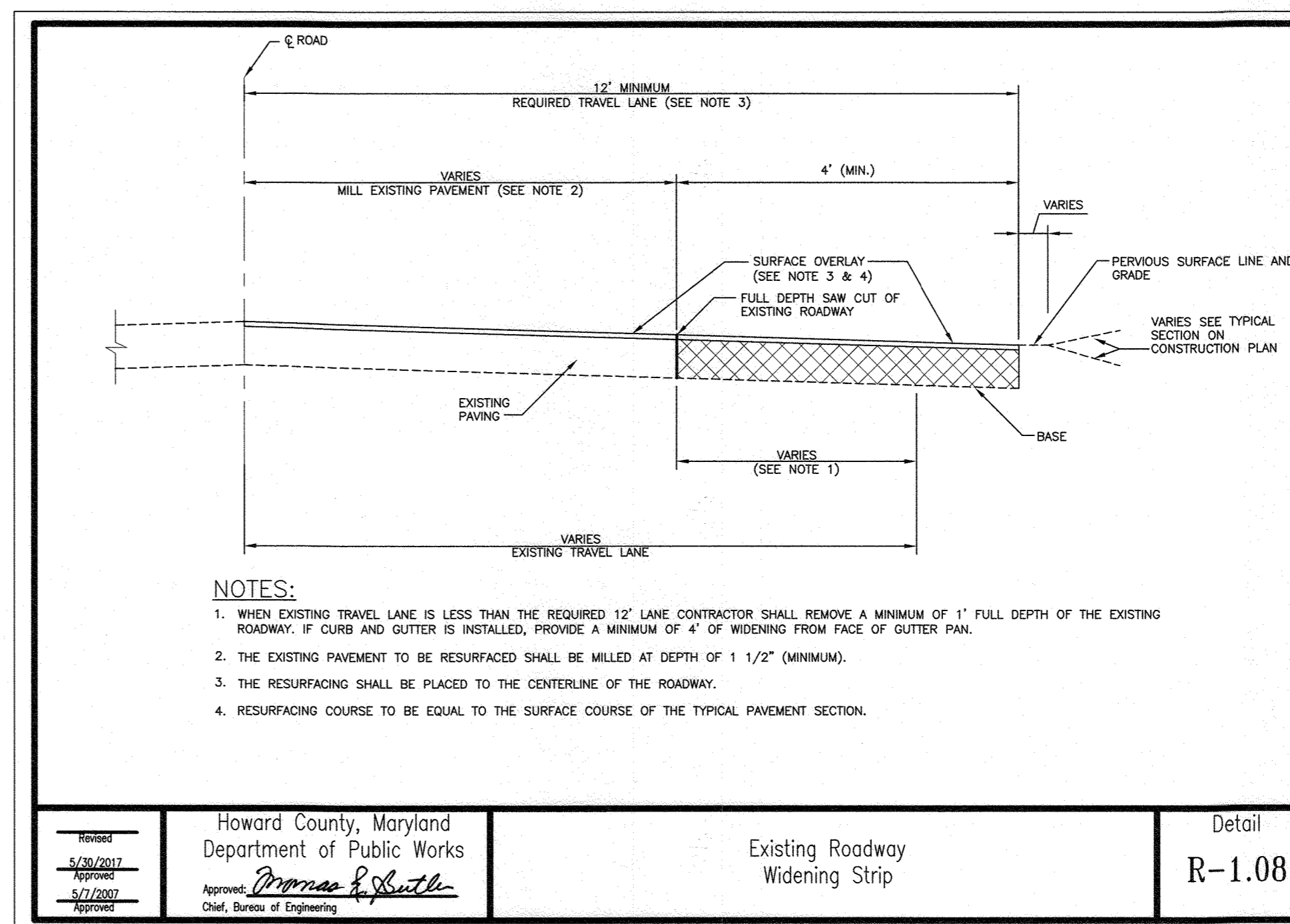
ROOF LEADER I-20 TO ROOF 2
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 3'



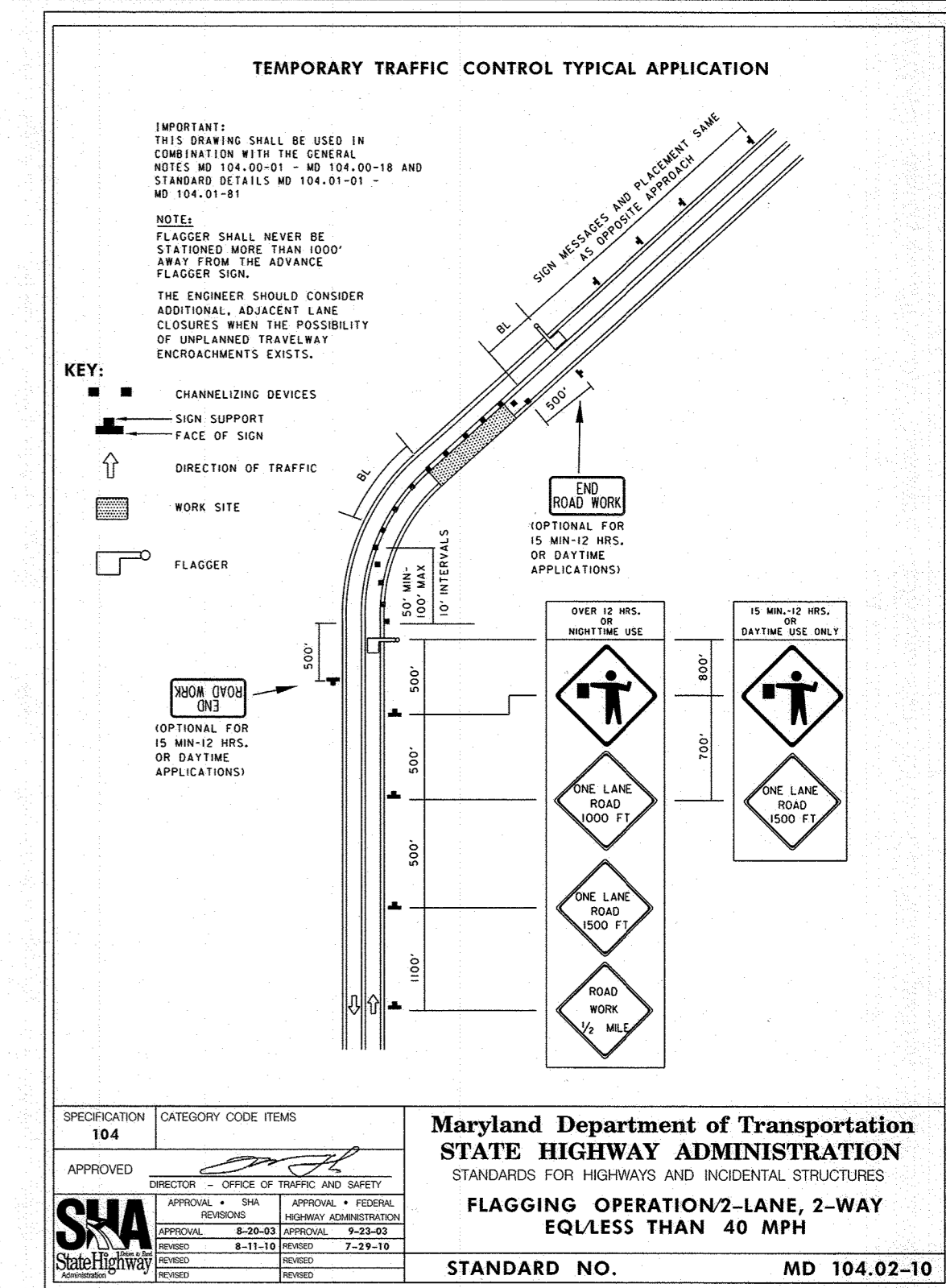
ROOF LEADER I-20 TO ROOF 2
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 3'



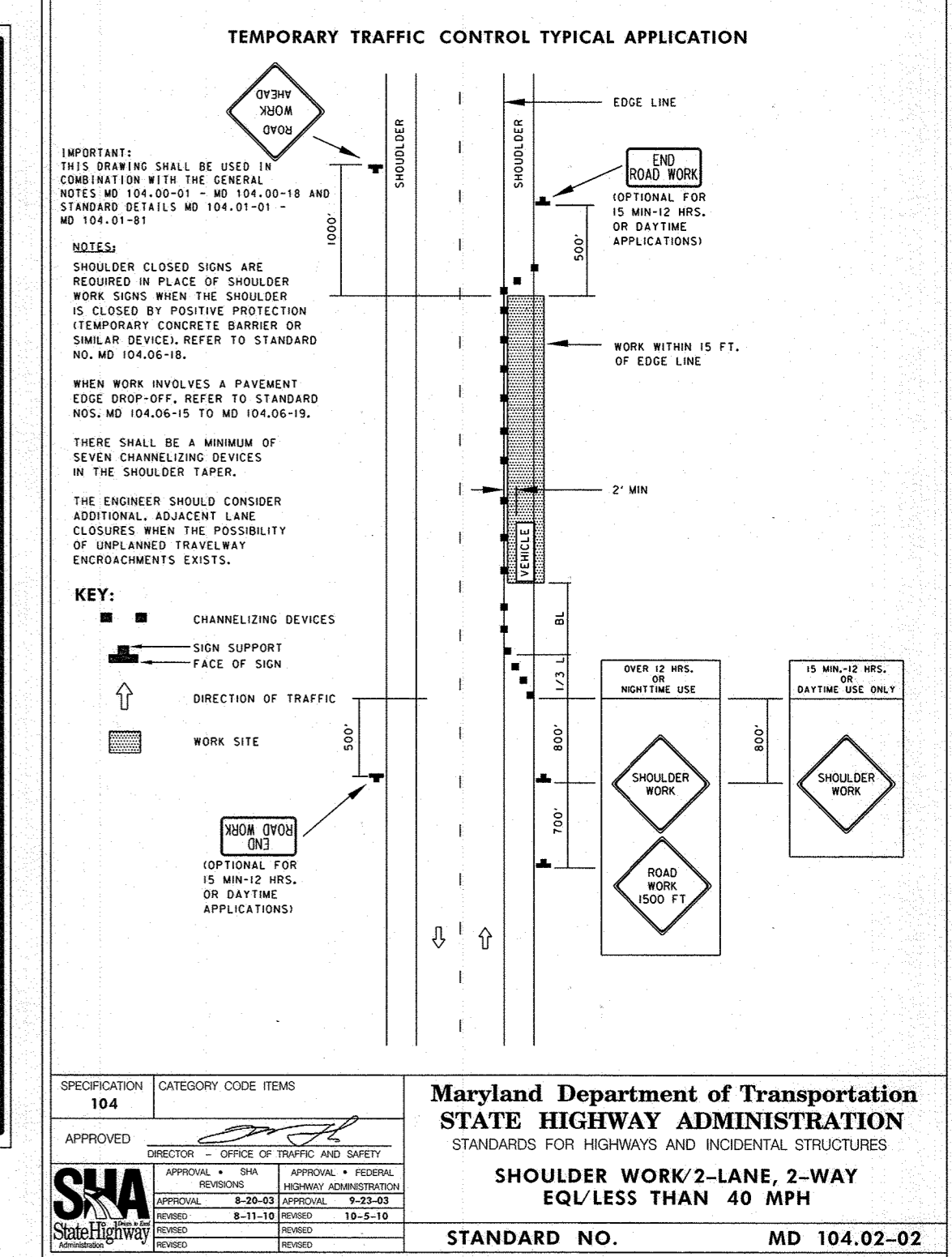
STORM DRAIN I-21 TO I-24 AND
ROOF LEADER TO ROOF 1
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 3'



Howard County, Maryland
Department of Public Works
Existing Roadway
Widening Strip
Detail
R-1.08

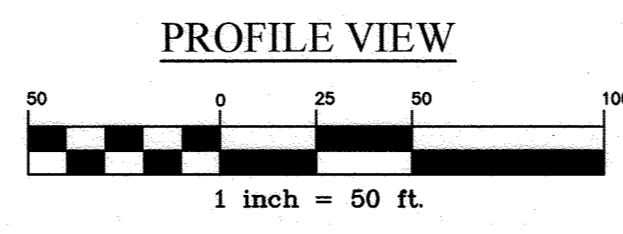


Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
FLAGGING OPERATION/2-LANE, 2-WAY
EQ/L'S LESS THAN 40 MPH
STANDARD NO. MD 104.02-10



Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
SHOULDER WORK/2-LANE, 2-WAY
EQ/L'S LESS THAN 40 MPH
STANDARD NO. MD 104.02-02

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 12/9/20
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] 1/27/21
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature] 1-27-21
 DIRECTOR



1 BEI	8/5/2019	PHASE 2 DEVELOPMENT	REVISION
NO.	DATE		
BENCHMARK ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE, SUITE 315, ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BEI-CIVILENGINEERING.COM		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. 15577, Expired Date: 6-8-2022. [Signature] 3/5/21	
OWNER/DEVELOPER: FAIRFAX RECYCLING, INC. PARCEL 'A-1' KIT KAT ROAD PARTNERS II, LLC 107 FOREST DRIVE CATONSVILLE, MD 21228 410-340-9387		TAX MAP: 43 - GRID: 11 - PARCEL: P/O 49 ZONED: M2 (INDUSTRIAL) ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND REVISED SITE DEVELOPMENT PLAN STORM DRAIN DRAIN PROFILES AND DETAILS MAINTENANCE OF TRAFFIC PLAN DATE: JULY, 2019 BEI PROJECT NO. 2781	
DESIGN: JC	DRAFT: EDD	SCALE: 1" = 30'	SHEET 23 OF 33

LANDSCAPE NOTES:

- STREET TREES TO BE CENTERED BETWEEN THE CURB AND SIDEWALK WHERE THE DISTANCE BETWEEN THE CURB AND SIDEWALK IS 6 FEET OR GREATER. WHEN TREES ARE PLANTED BETWEEN THE SIDEWALK AND CURB, THEY SHALL BE PLACED A MINIMUM OF 30 FEET FROM ALL SIGNS AND INTERSECTIONS. TREES MAY NOT BE PLANTED WITHIN 5 FEET OF A DRAIN INLET, 5 FEET OF AN OPEN SPACE ACCESS STRIP, OR 10 FEET OF A DRIVEWAY.
- SEE TREE PLANTING DETAIL - THIS SHEET.
- HIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL.
- AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATIONS.
- THE OWNER, TENANTS 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.
- FINANCIAL SURETY FOR THE REQUIRED PERIMETER LANDSCAPING HAS BEEN POSTED AS PART OF THE GRADING PERMIT IN THE AMOUNT OF \$12,180.00 (\$10,200.00 FOR THE 34 REQUIRED SHADE TREES, \$1,650.00 FOR THE REQUIRED 11 EVERGREENS, AND \$350.00 FOR THE REQUIRED 11 SHRUBS).
- ON JUNE 20, 2017 THE DIRECTOR CONDITIONALLY APPROVED AN ALTERNATIVE COMPLIANCE REQUEST, WP-17-113, TO WAIVE SECTION 16.1205(A)(7) TO ALLOW THE REMOVAL OF TWO SPECIMEN TREES. THE FIRST CONDITION IS REQUIRING A REPLACEMENT MITIGATION OF TWO LARGER CALIPER TREES (AT LEAST THREE INCHES DBH) FOR EACH SPECIMEN TREE REMOVED (FOUR TREES TOTAL). THE SECOND CONDITION WAS COMPLIANCE WITH SRC AGENCY COMMENTS ISSUED FOR THE SDP-04-024 RED-LINE REVISION PLAN.
- THE REQUIRED FOUR MITIGATION TREES REQUIRED BY WP-17-113 ARE SATISFIED BY PLANTING TWO TREES NEAR BUILDING E AND TWO TREES IN THE NORTHWEST PART OF PERIMETER 1. THE REQUIRED SURETY FOR THESE FOUR SHADE TREES IS INCLUDED IN NOTE 6.

SCHEDULE A PERIMETER LANDSCAPE EDGE						
CATEGORY	ADJACENT TO ROADWAY	ADJACENT TO PERIMETER PROPERTIES	NO YES	YES NO	NO YES	TOTALS
PERIMETER NO. / LANDSCAPE TYPE	1A	2A	3B	4C	5A	
LINEAR FEET OF ROADWAY(FRONTAGE/PERIMETER)	2536'	177'	187'	124'	155'	
CREDIT FOR EXISTING VEGETATION: NO OR YES (DESCRIBE BELOW IF NEEDED)	2197'	NO	NO	NO	NO	
CREDIT FOR WALL, FENCE OR BERM: NO OR YES (LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	YES* 135'	NO	NO	NO	
NUMBER OF PLANTS REQUIRED:						
SHADE TREES	6	1	4	3	3	17
EVERGREEN TREES	-	-	5	6	-	11
OTHER TREES (2:1 SUBSTITUTE)	-	-	11	-	-	11
NUMBER OF PLANTS PROVIDED:						
SHADE TREES	8**	1	8**	3	1**	21
EVERGREEN TREES	-	-	5	6	-	11
OTHER TREES (2:1 SUBSTITUTE)	-	-	11	-	-	11
SHRUBS (10:1 SUBSTITUTE) (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	-	-	-	-	-	-

* CREDIT FOR PERIMETER 2 IS FOR PARKING LOT LOWER THAN ROADWAY BY 3' OR GREATER.
 ** TWO SHADE TREES ARE MOVED FROM PERIMETER 5 TO PERIMETER 3 DUE TO THE LOCATION OF THE SEWER EASEMENT WITHIN PERIMETER 5. AND TWO 3" CALIPER SHADE TREES HAVE BEEN ADDED TO EACH PERIMETER 1 AND PERIMETER 3 A MITIGATION REQUIRED BY WP-17-113 CONDITIONS OF APPROVAL.

STREET TREE CALCULATIONS	
STREET TREES REQUIRED FOR 616 LF OF RIGHT-OF-WAY	EXCLUSION DUE TO ENTRANCES IS 263.4 L.F.
OBLIGATION FOR STREET TREES IS 352.6 L.F./40 = 9	

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING	
NUMBER OF PARKING SPACES	82
NUMBER OF LANDSCAPE ISLANDS REQUIRED	4
NUMBER OF LANDSCAPE ISLANDS PROVIDED	4
NUMBER OF SHADE TREES REQUIRED	4
NUMBER OF SHADE TREES PROVIDED	4
*CREDIT IS TAKEN FOR ONE EXISTING PARKING LOT INTERNAL LANDSCAPING TREE PREVIOUSLY PLANTED UNDER SDP-04-024	

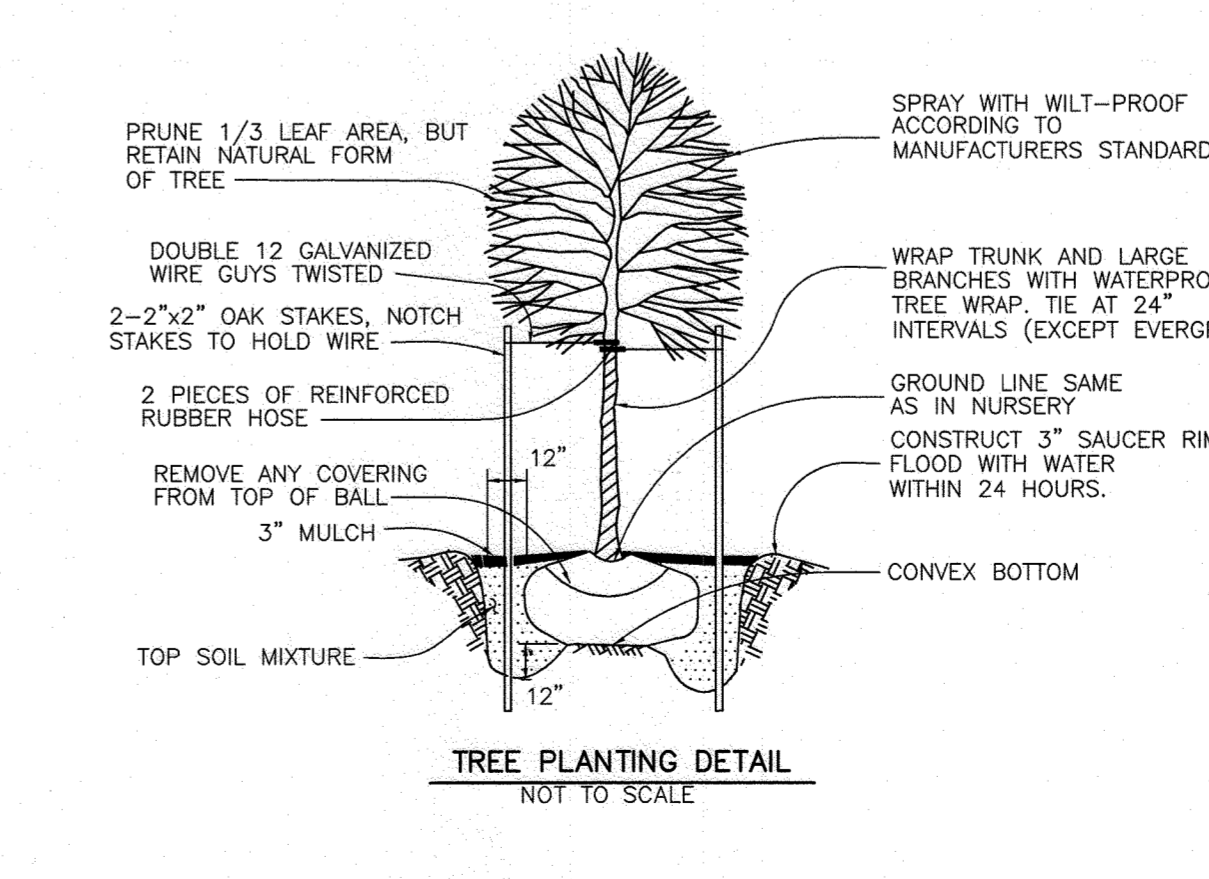
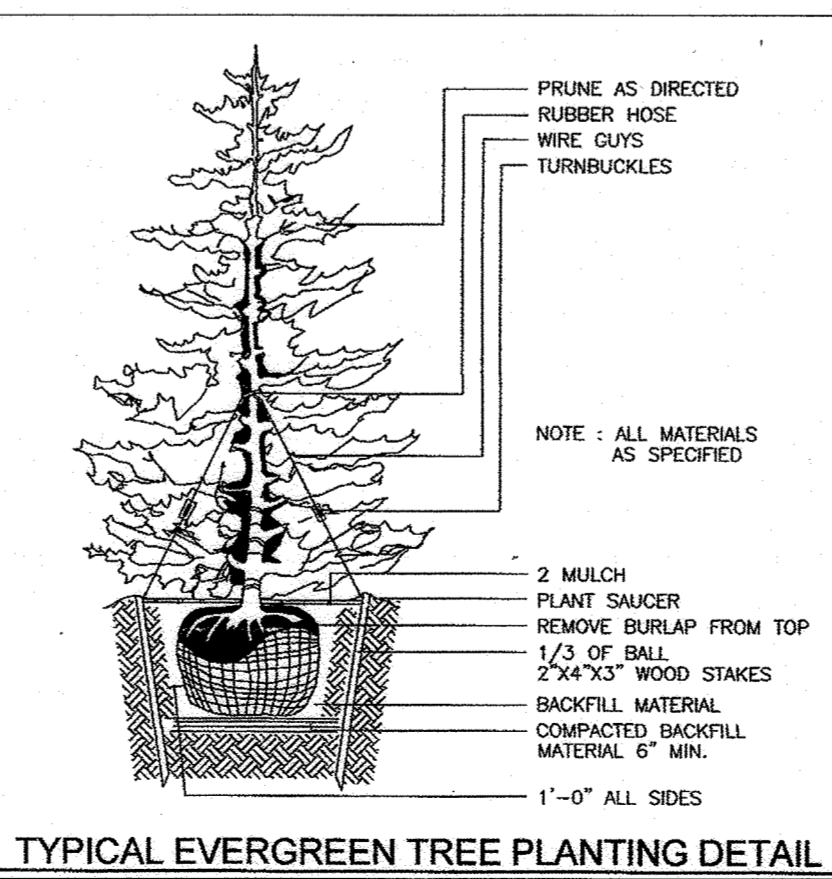
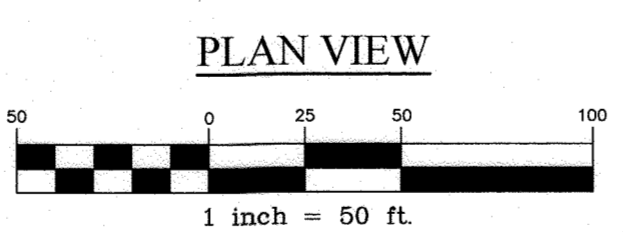
LEGEND

- EXISTING PUBLIC FOREST CONSERVATION EASEMENT #5 PLAT No. 17299
- EXISTING PUBLIC 100-YEAR FLOODPLAIN, DRAINAGE & UTILITY EASEMENT PLAT No. 11226
- LANDSCAPE TREES AND SHRUBS
- DRAINAGE DIVIDE AND DESIGNATION
- CURVE LABEL
- SOILS DELINEATION AND DESIGNATION
- EX. STREAM



LANDSCAPE SCHEDULE A, SCHEDULE B AND MITIGATION PLANTING LIST			
SYMBOL	QUANTITY	NAME	REMARKS
	10	BETULA NIGRA 'HERITAGE' HERITAGE CLUMP RIVER BIRCH	10' - 12' HT.
	9	ACER RUBRUM 'AUTUMN FLAME' AUTUMN FLAME RED MAPLE	2 1/2"-3" MIN. CAL.
	11	ILEX 'NELLIE R. STEVENS' NELLIE R. STEVENS HOLLY	5' - 6' HT.
	11	BUXUS MICROPHYLLA KOREANA 'WINTERGREEN' WINTERGREEN BOXWOOD	2' - 2.5' HT.
	4	TILIA CORDATA 'GREENSPIRE' GREENSPIRE LITTLELEAF LINDEN	3" MIN. CAL.

STREET TREE PLANTING LIST			
SYMBOL	QUANTITY	NAME	REMARKS
	9	Gleditsia triacanthos inermis 'Imperial' IMPERIAL THORNLESS HONEYLOCUST	2 1/2"-3" MIN. CAL. FULL HEAD



DEVELOPER'S/BUILDER'S CERTIFICATE

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

CRAIG STUART - PAUL, MEMBER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 12-9-20

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 1-27-21

DIRECTOR

1	BEI	8/5/2019	PHASE 2 DEVELOPMENT	
NO.	DATE		REVISION	

BENCHMARK ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE SUITE 315 ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-6105 (F) 410-465-6844
 WWW.BEI-CIVILENGINEERING.COM

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. 95770, Expiration Date: 6-8-2022.

S.D. McCoy
 PROFESSIONAL ENGINEER
 No. 95770

FAIRFAX RECYCLING, INC.

OWNER/DEVELOPER: KIT KAT ROAD PARTNERS II, LLC
 107 FOREST DRIVE
 CATONSVILLE, MD 21228
 410-340-9387

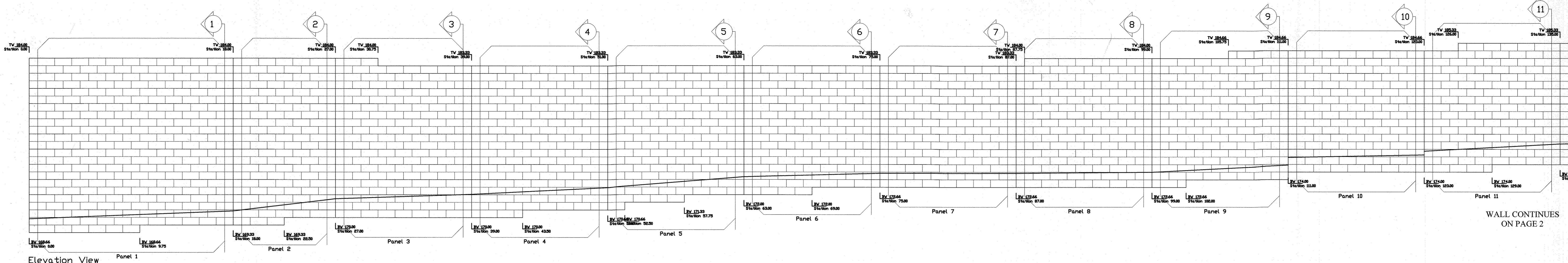
PARCEL 'A-1'

TAX MAP: 43 - GRID: 11 - PARCEL: P/O 49
 ZONED: M-2 (INDUSTRIAL)
 ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND

**REVISED SITE DEVELOPMENT PLAN
 LANDSCAPE PLAN, NOTES & DETAILS**

DATE: March, 2019 BEI PROJECT NO. 2781
 SCALE: AS SHOWN SHEET 24 OF 33

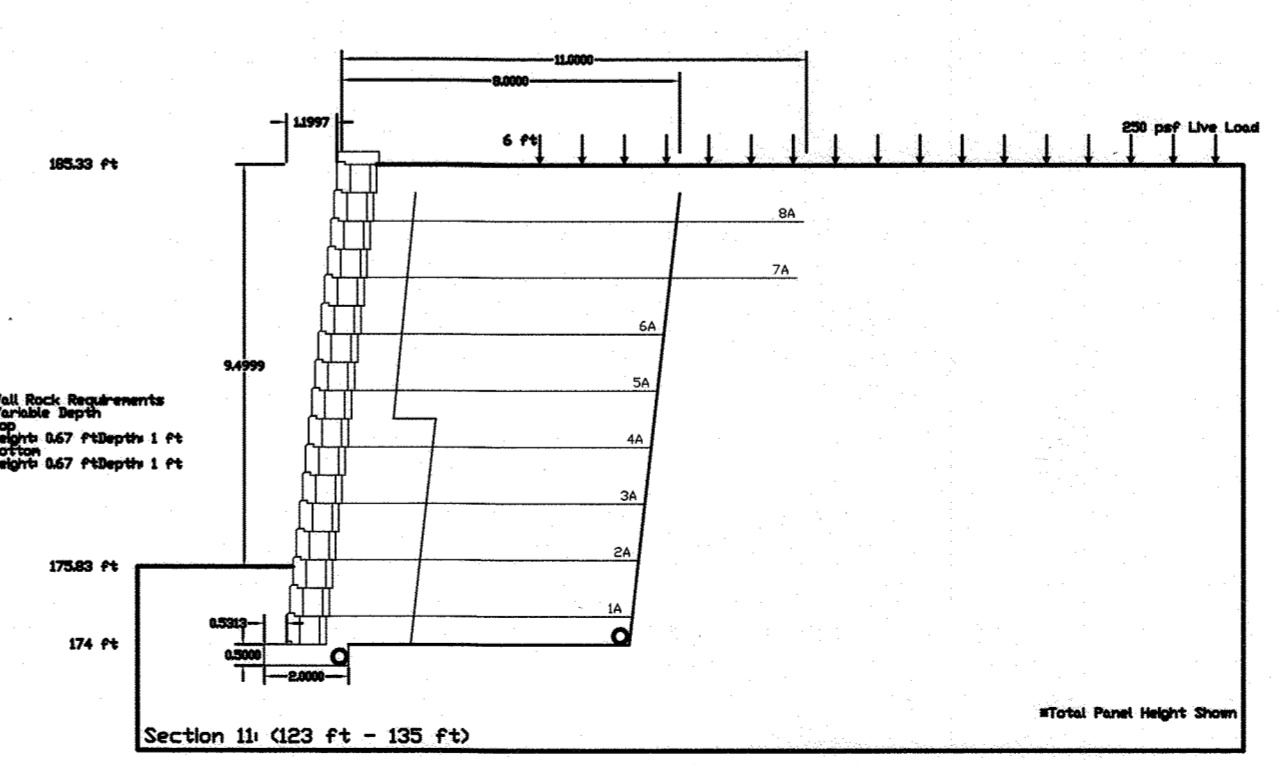
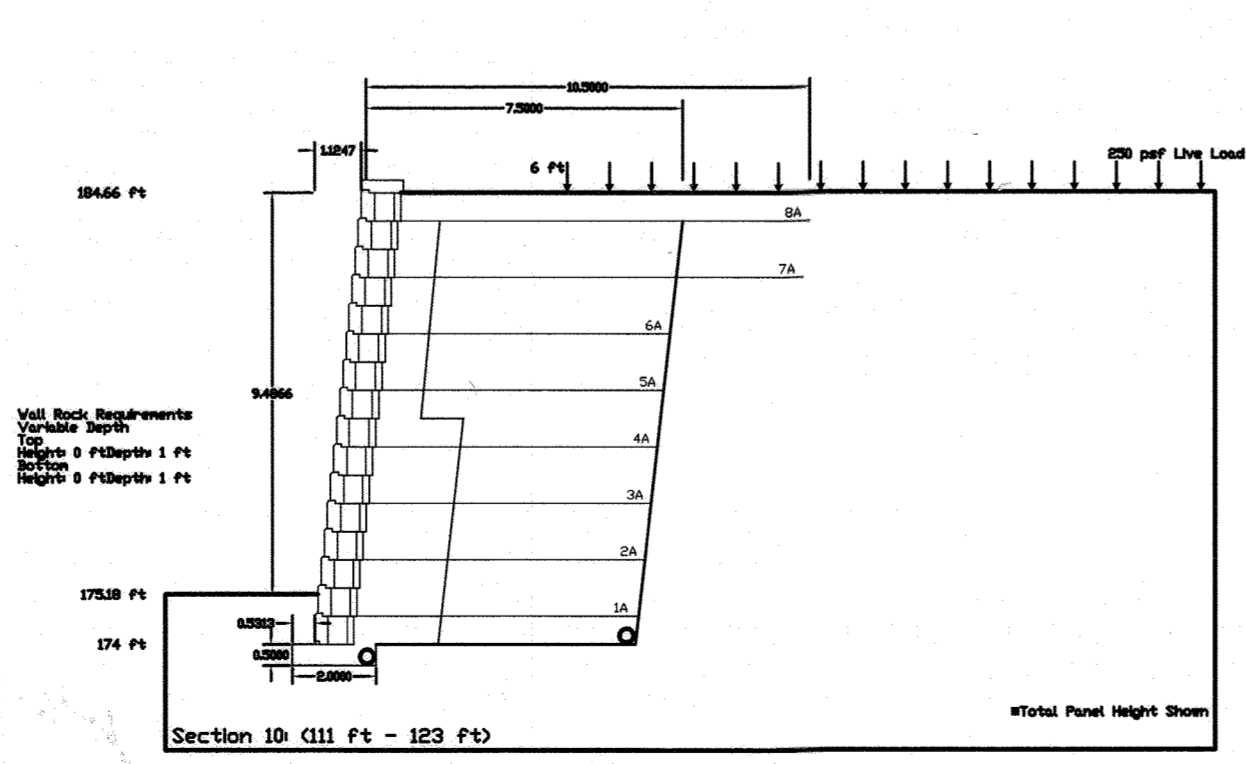
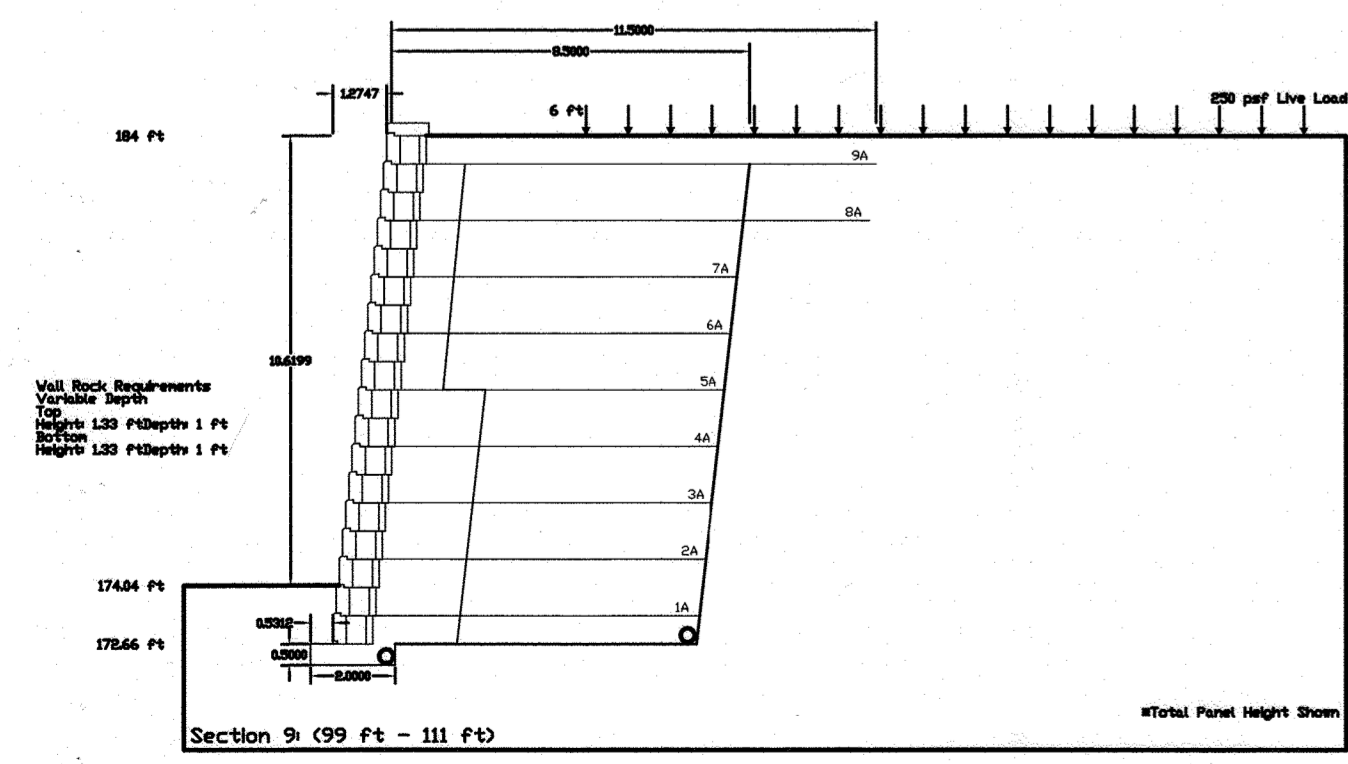
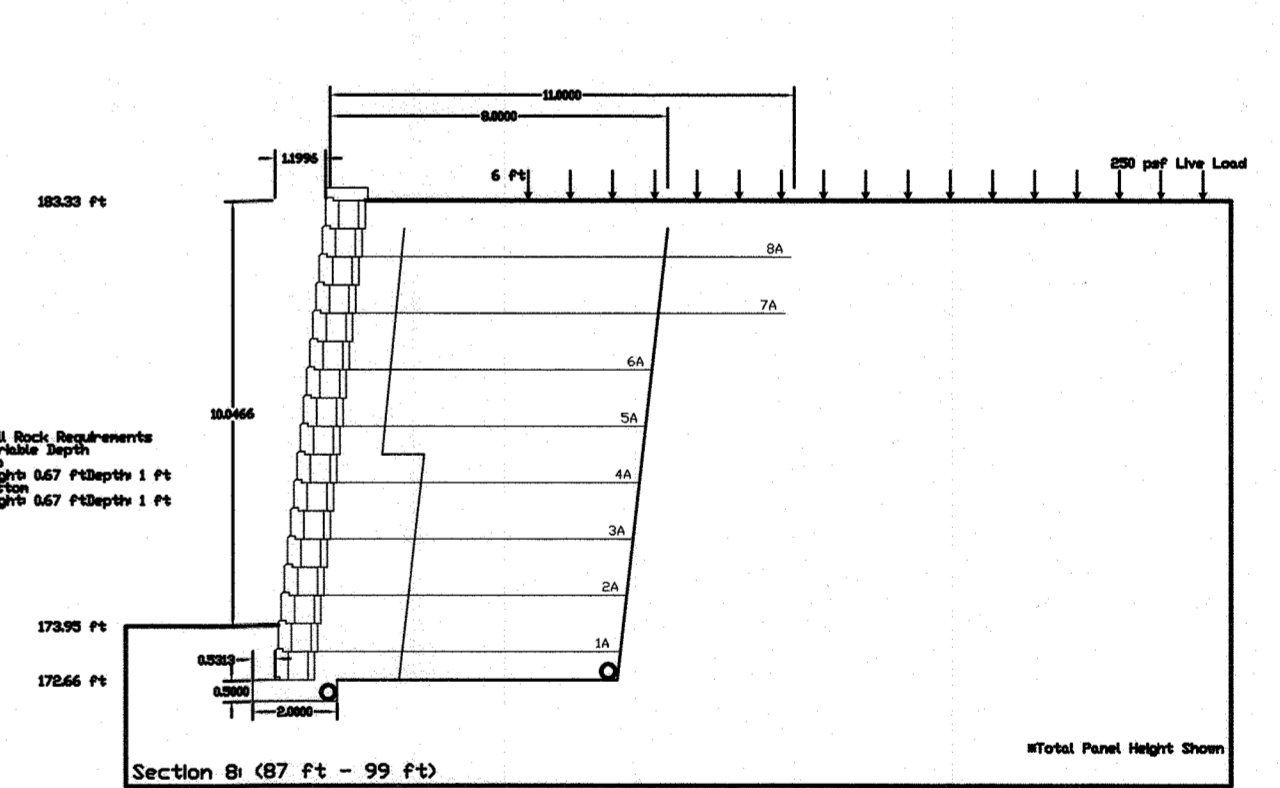
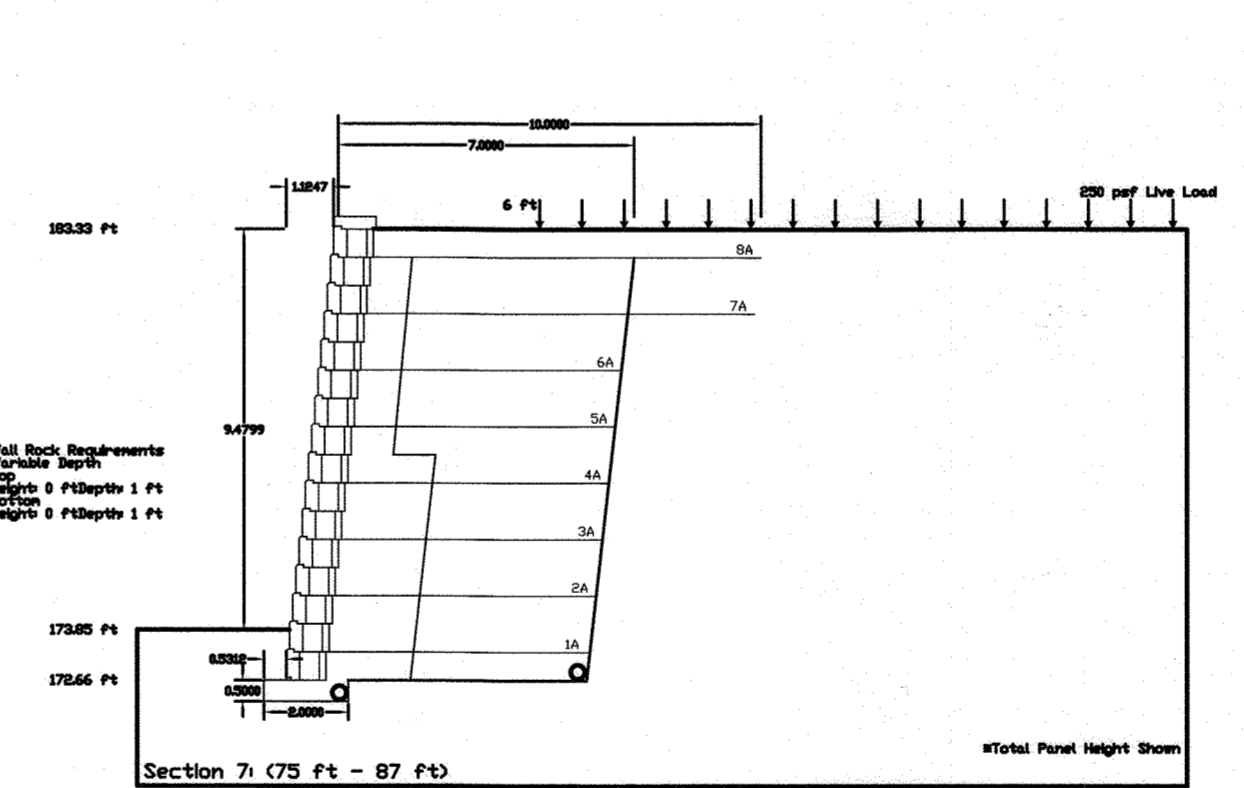
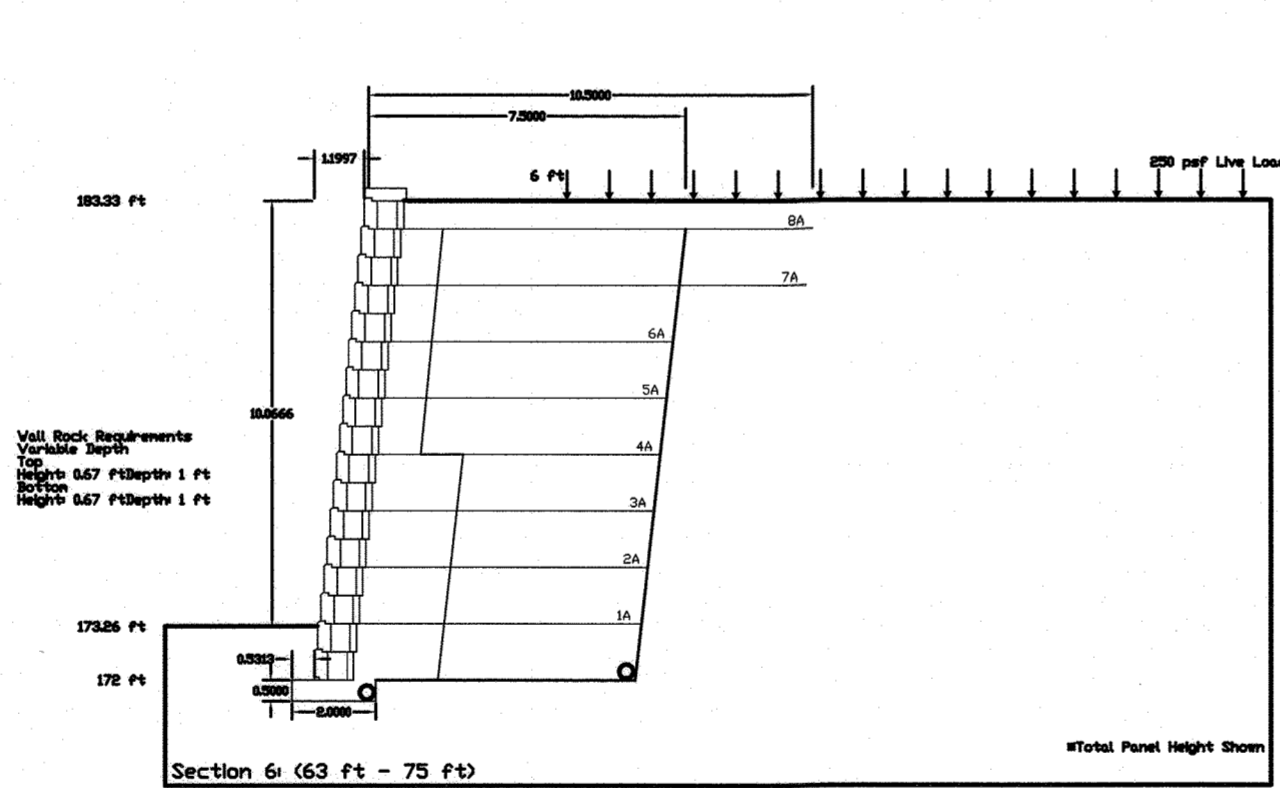
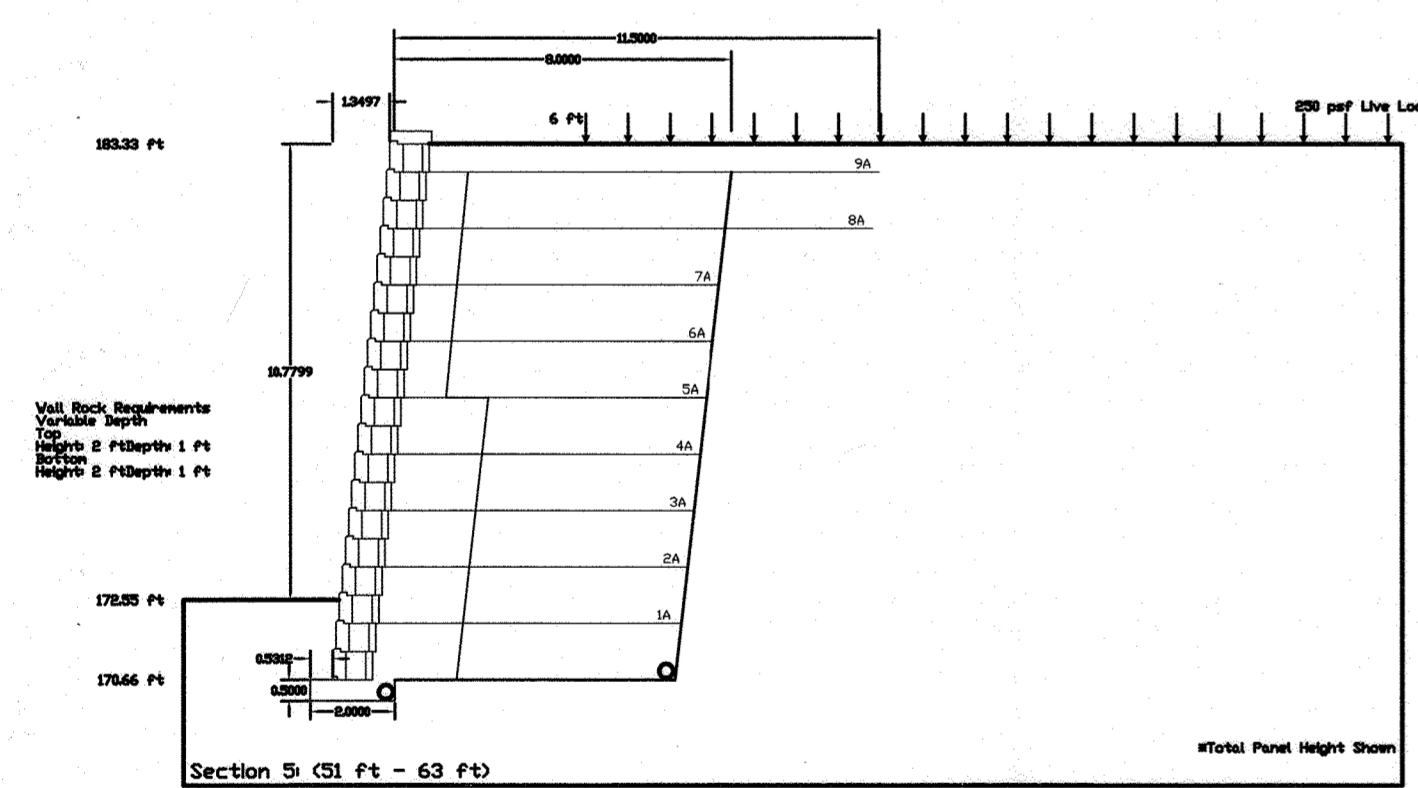
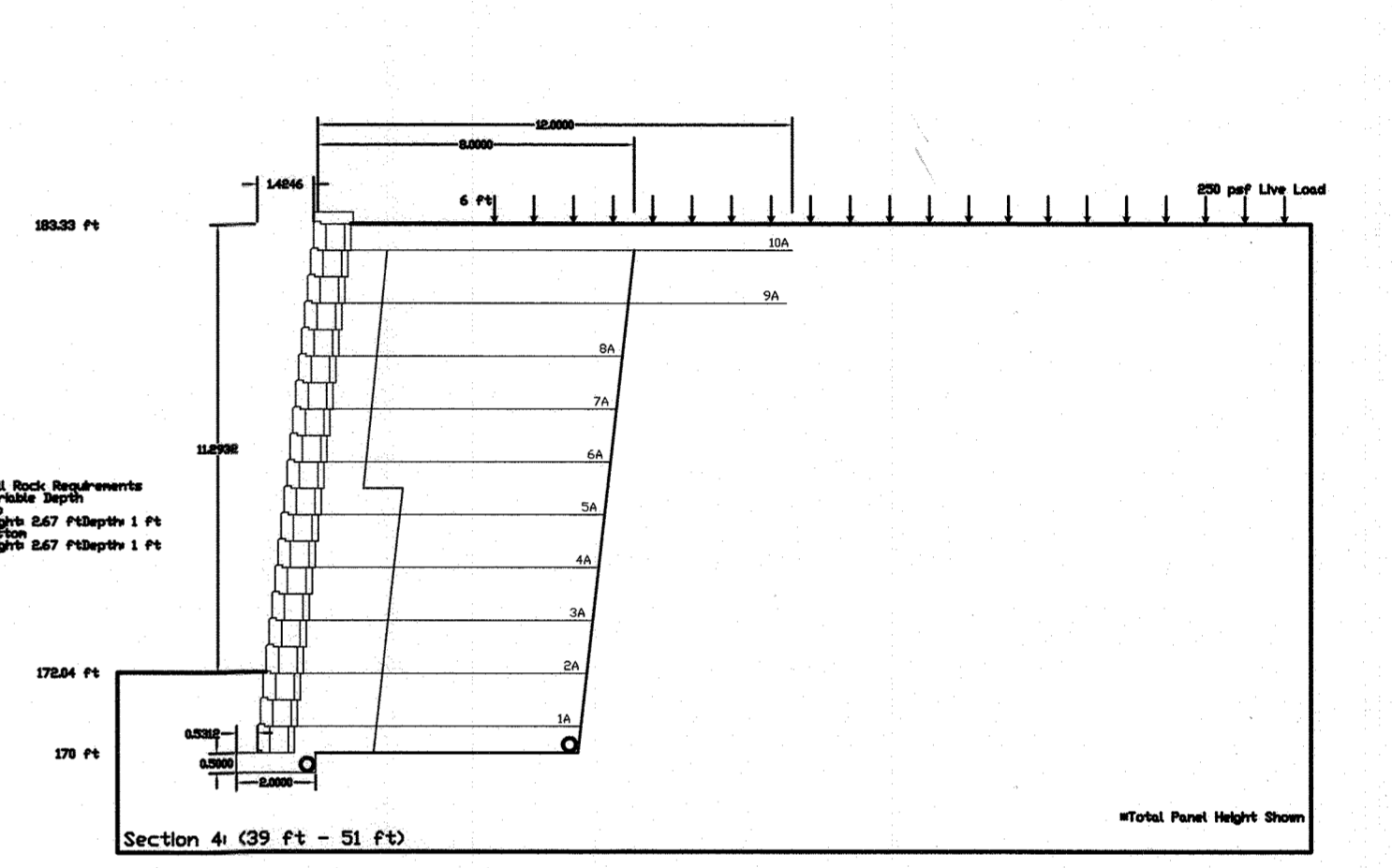
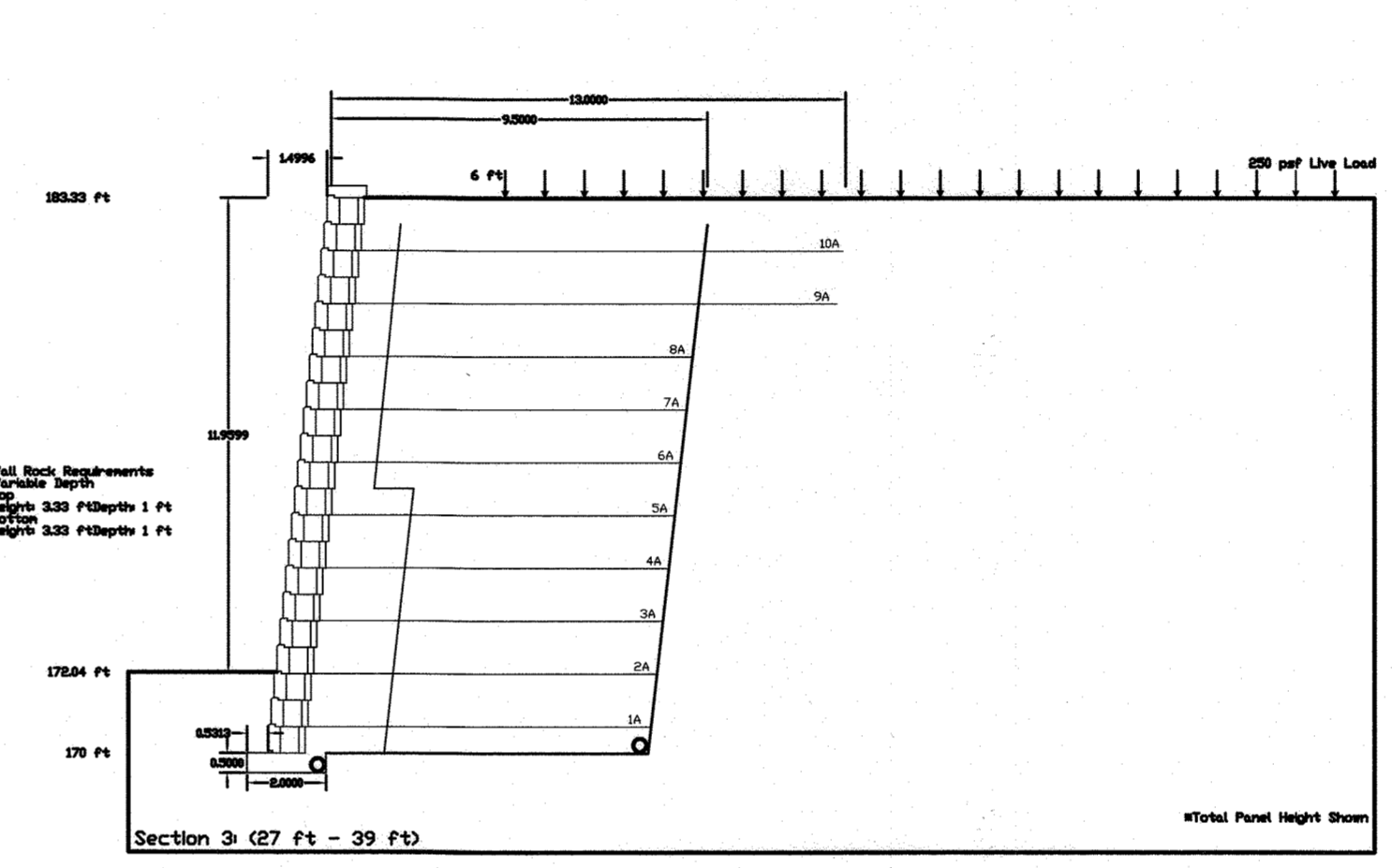
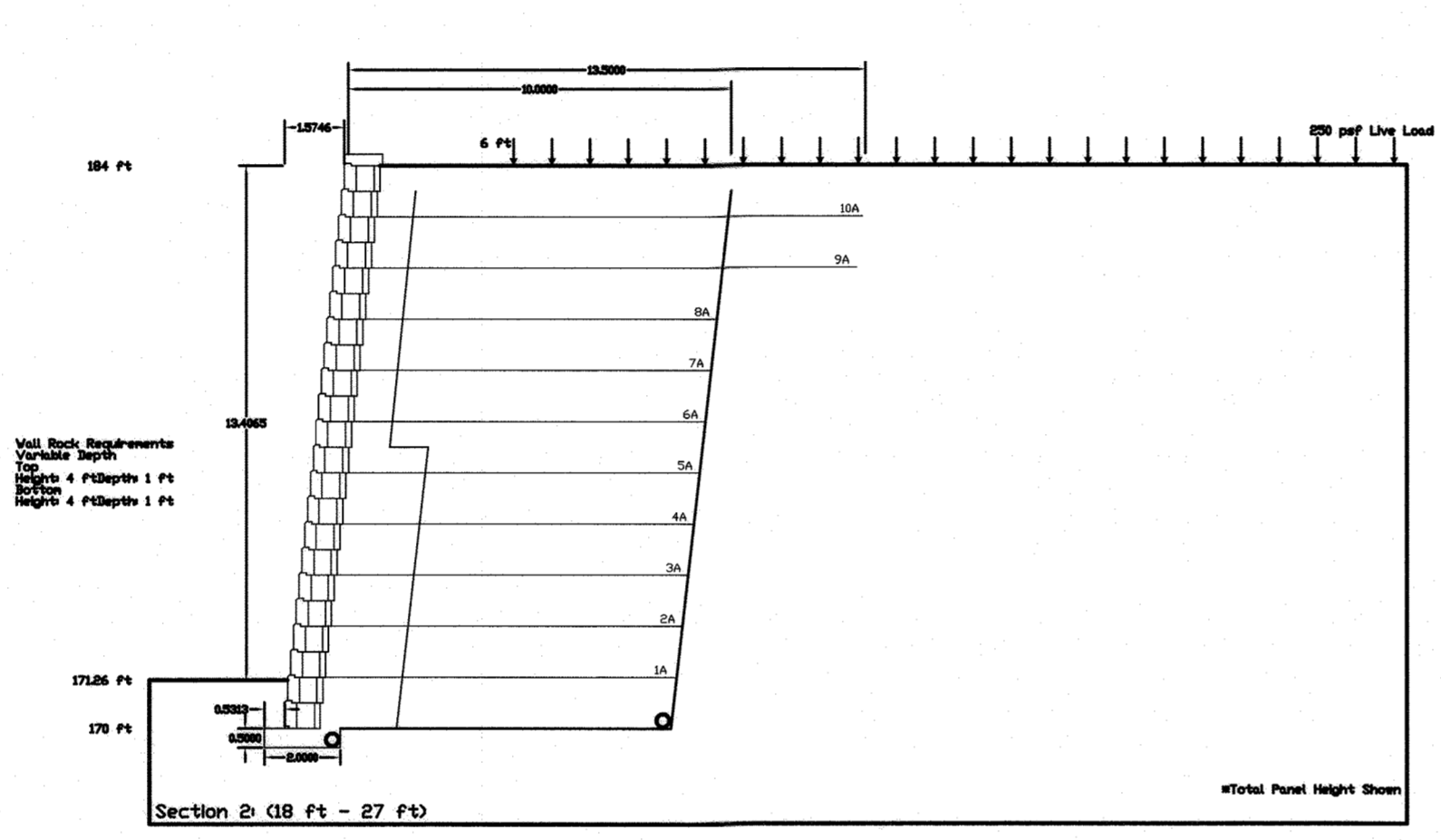
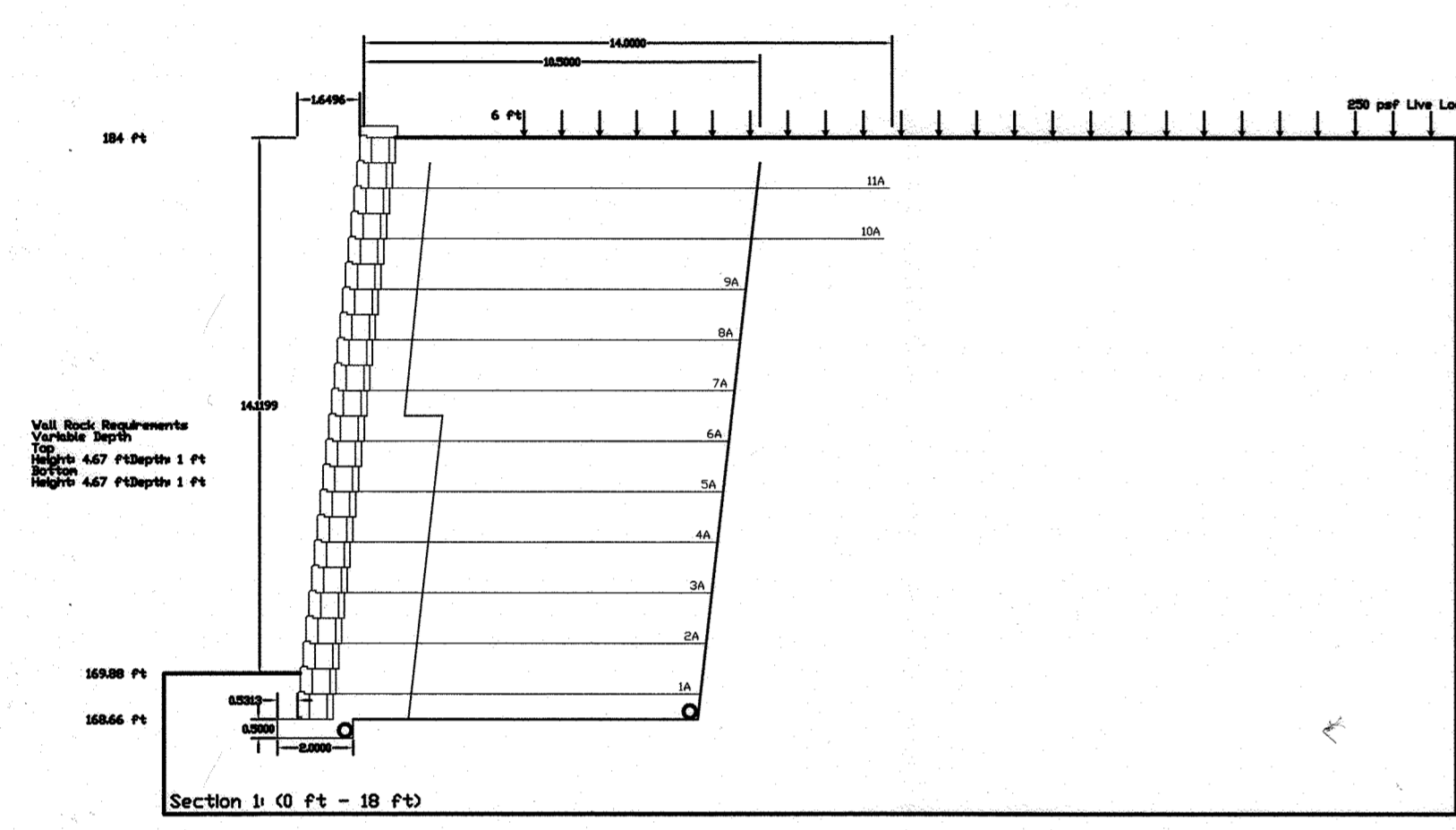
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Elevation View

Note: Panel Sections cover the total over all height of each panel. See individual panel section drawings for geogrid strength and lengths, wall surcharge and slope above information.



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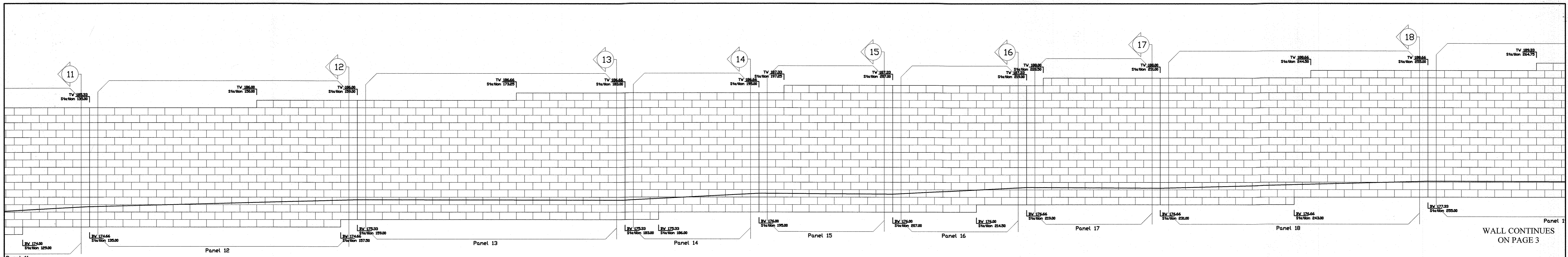
CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 1/27/21

CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 1/29/20

DIRECTOR
 DATE: 1-27-21

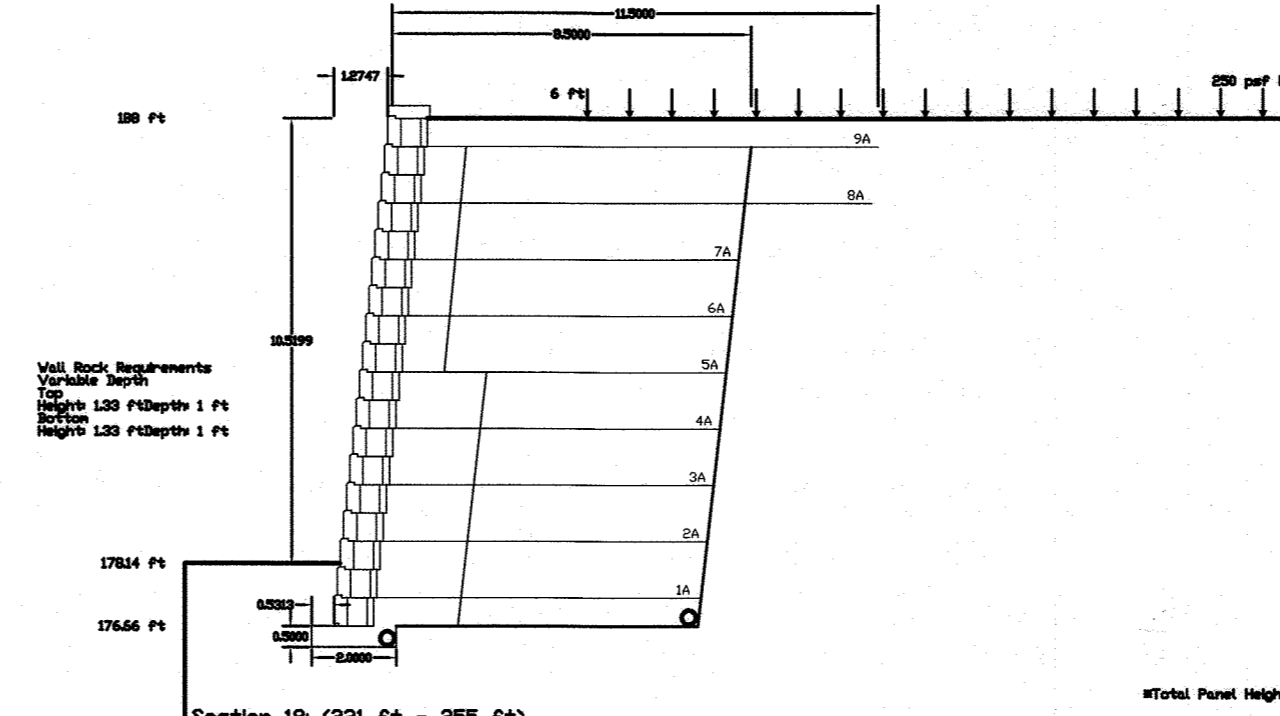
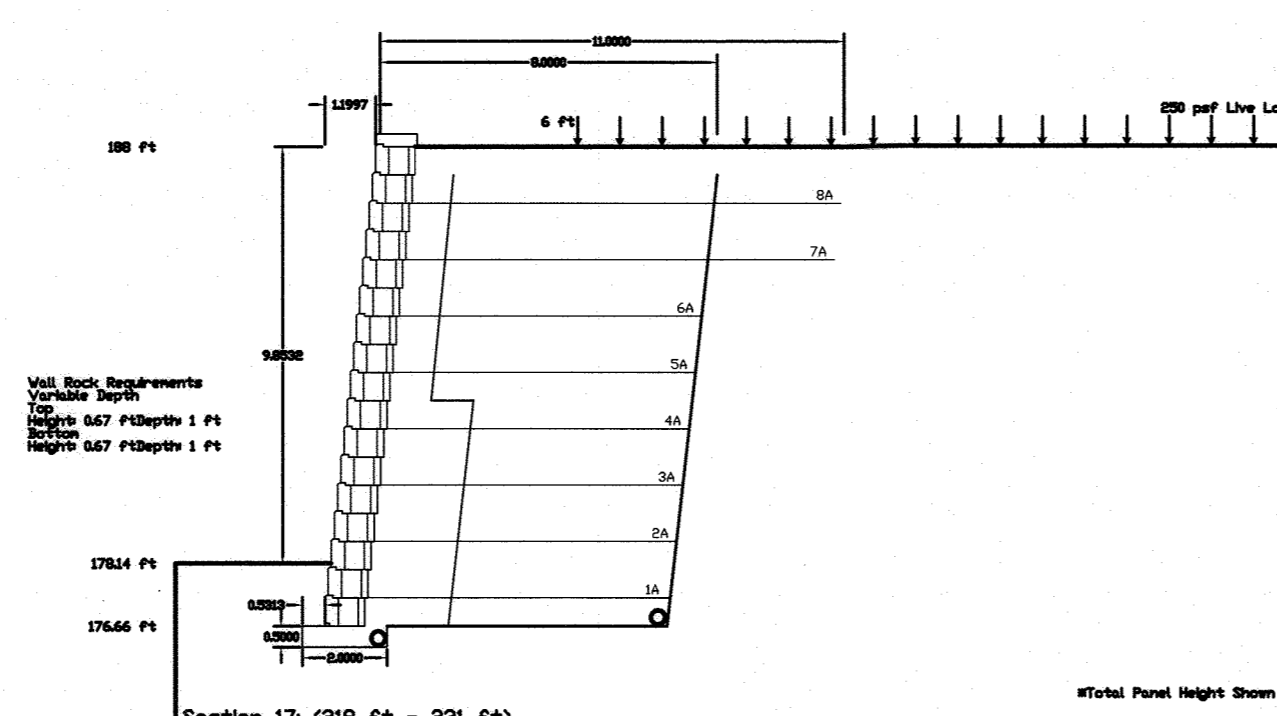
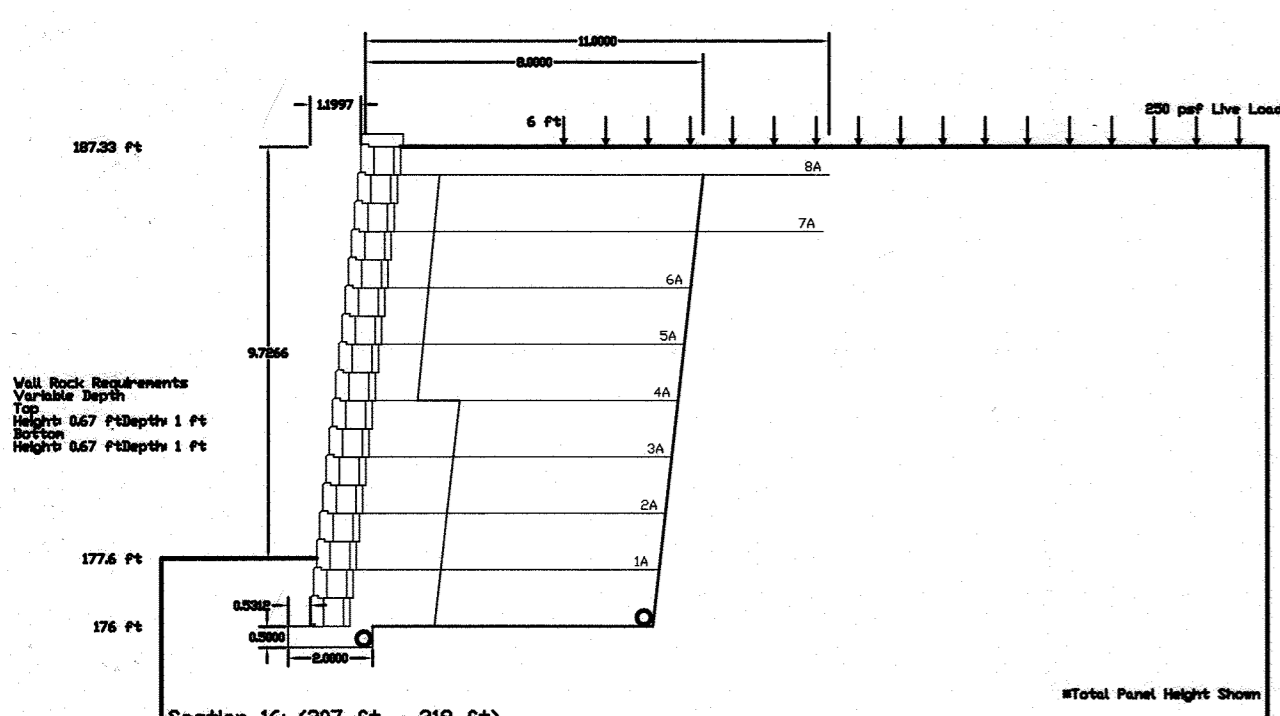
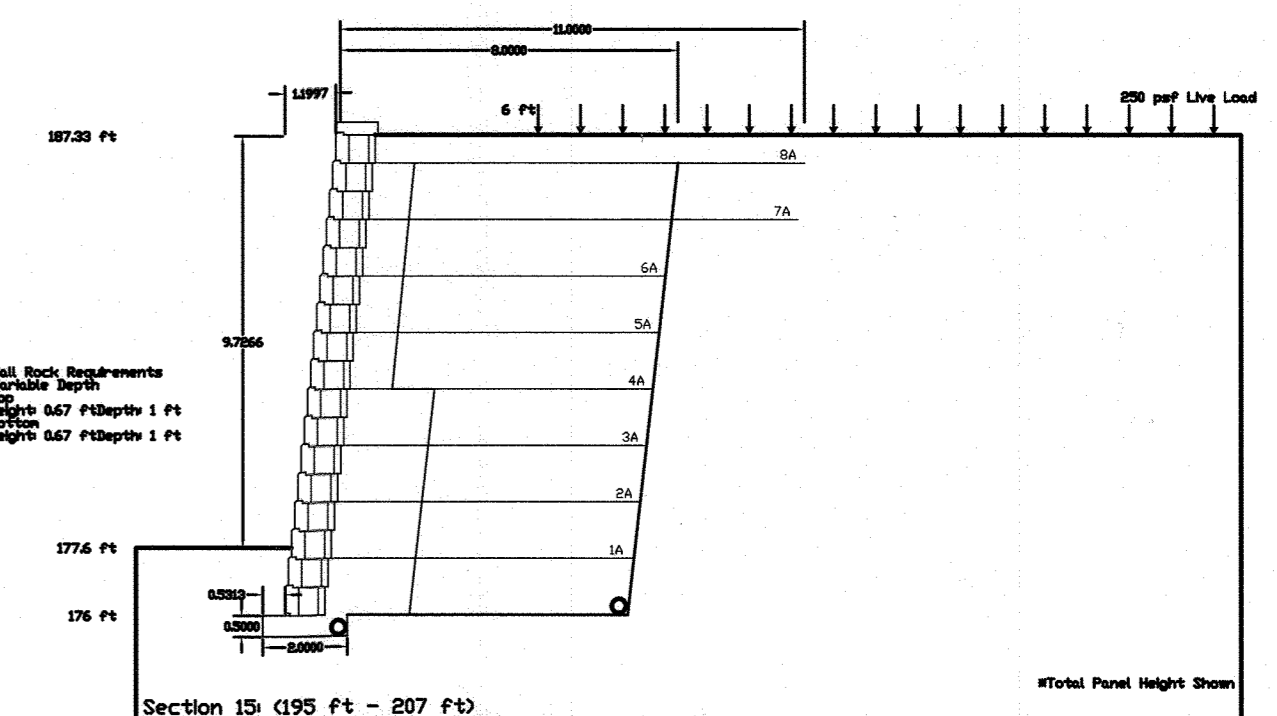
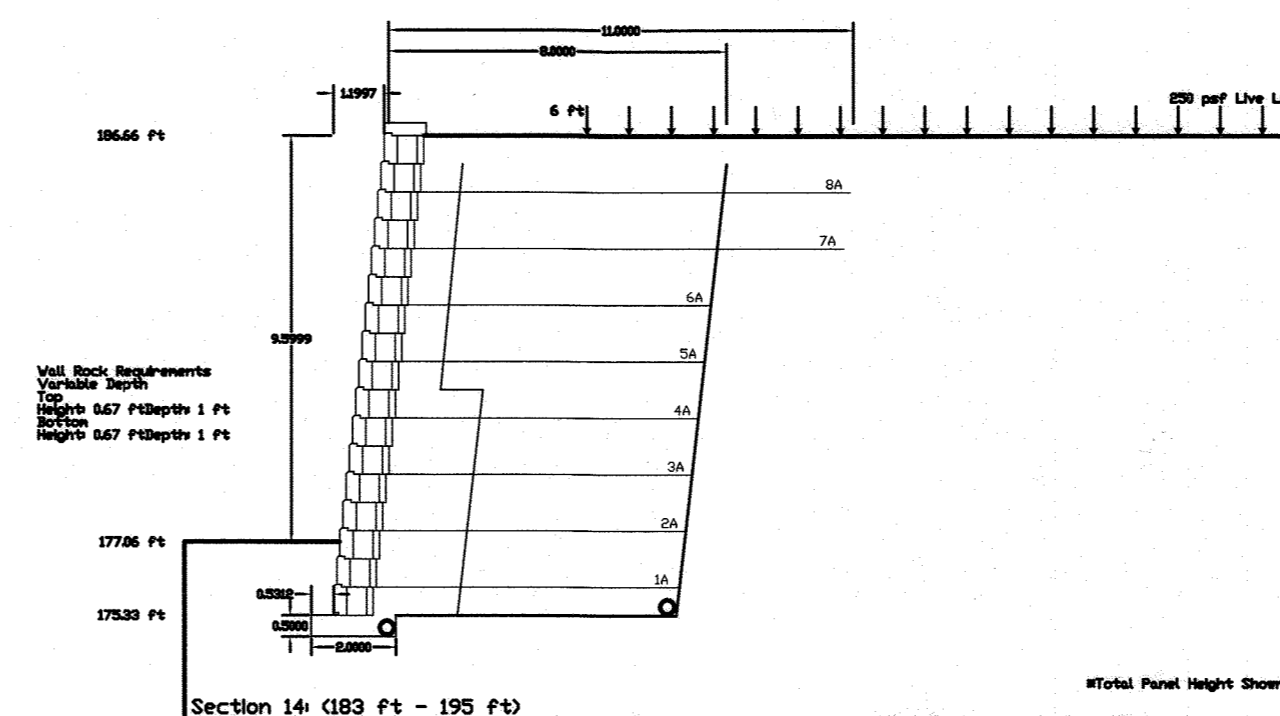
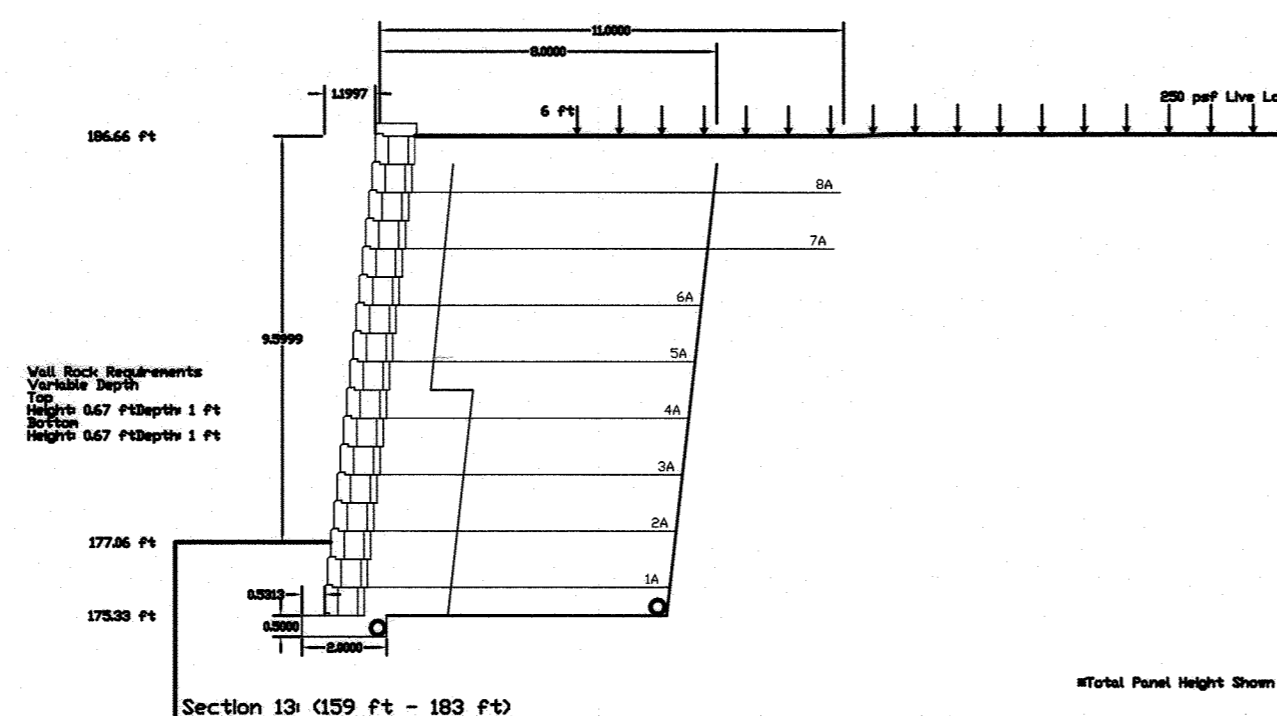
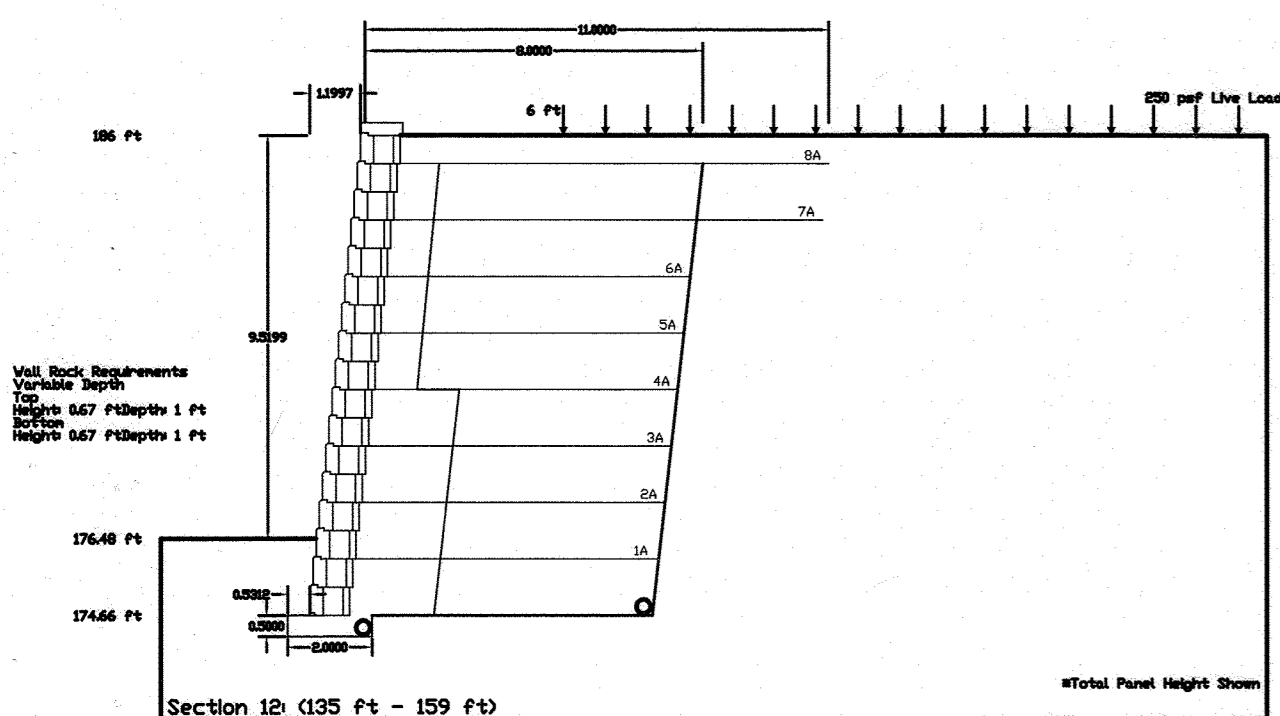
Professional Certification:
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 Expiration Date: 3/12/21

1 BEI	8/5/2019	PHASE 2 DEVELOPMENT	
NO.	DATE	REVISION	
BENCHMARK ENGINEERS - LAND SURVEYORS - PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE, SUITE 315 ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BEI-CIVILENGINEERING.COM		geolab GEOTECHNICAL LABORATORIES, INC. ENGINEERS • GEOLOGISTS • CONSULTANTS 8980 STATE ROUTE 108, SUITE D COLUMBIA, MARYLAND 21045 O: 410-772-2220 F: 410-772-2221 geolab@verizon.net	
OWNER/DEVELOPER:		PARCEL 'A-1'	
KIT KAT ROAD PARTNERS II, LLC 107 FOREST DRIVE CATONSVILLE, MD 21228 410-340-9384		TAX MAP: 43 - GRID: 11 - PARCEL: P/O 49 ZONED: M-2 (INDUSTRIAL) ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND	
DESIGN: BL		DRAFT: DR	
DATE: AUGUST, 2019		SCALE: AS SHOWN	
REVISOR: BL		SHEET 25 OF 33	



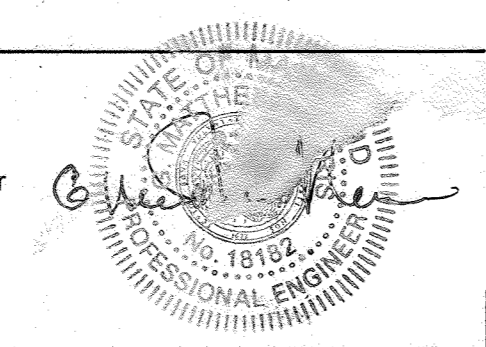
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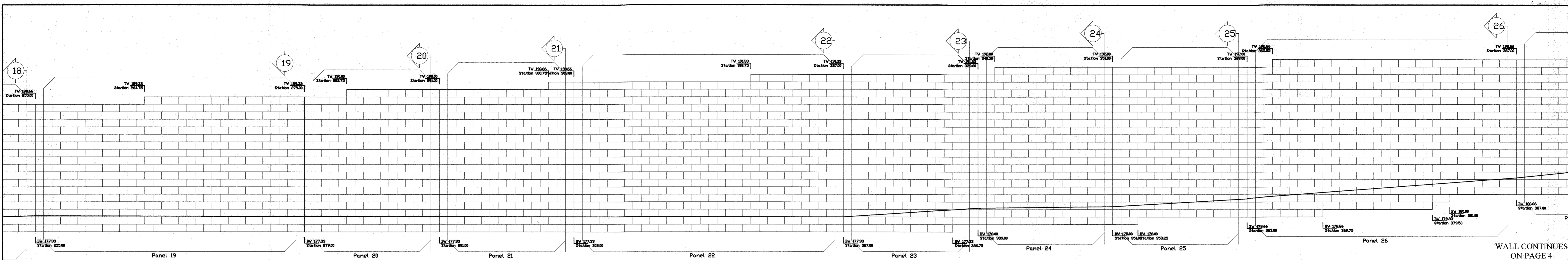


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 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 12/9/20
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 1-27-21
 DIRECTOR

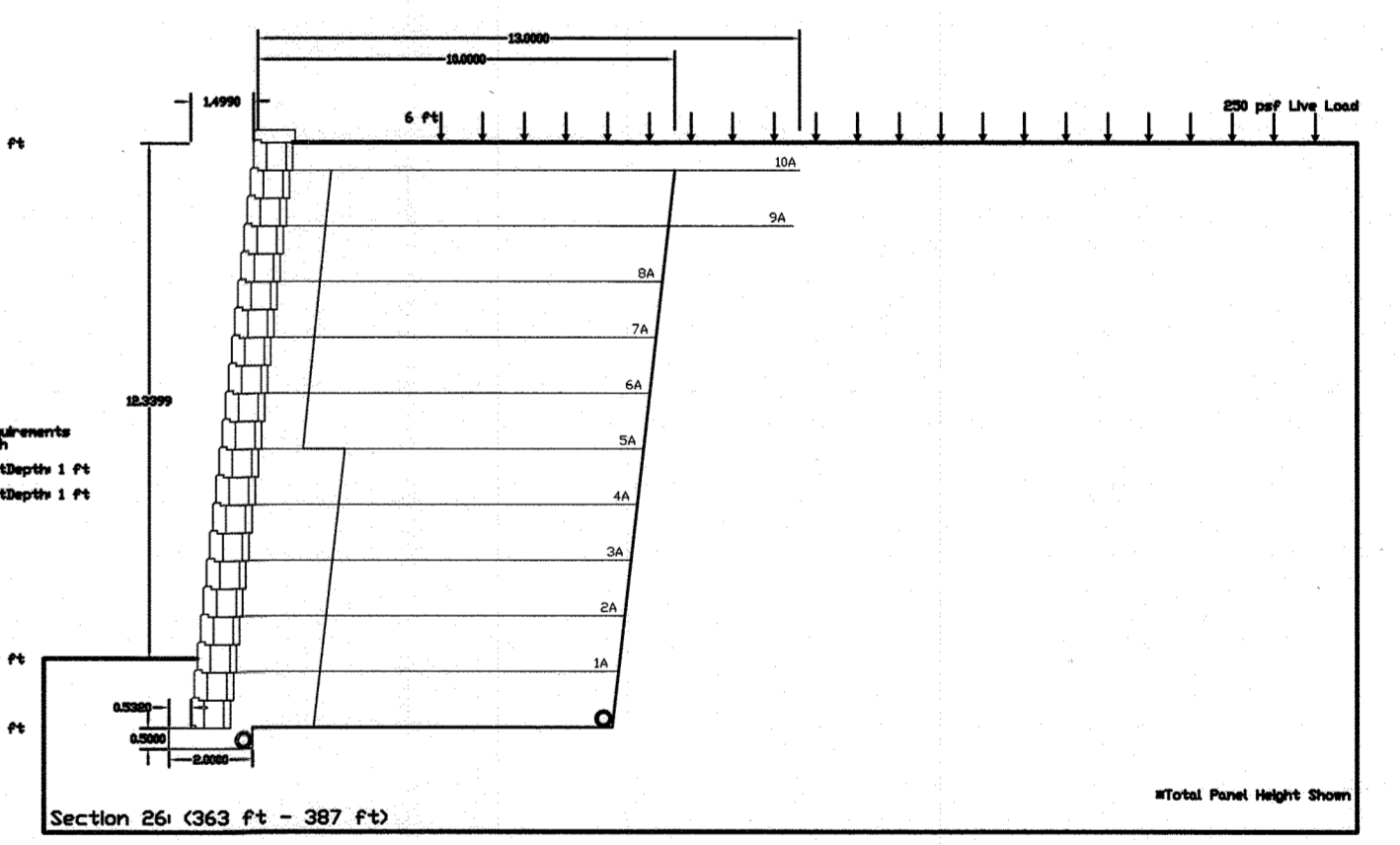
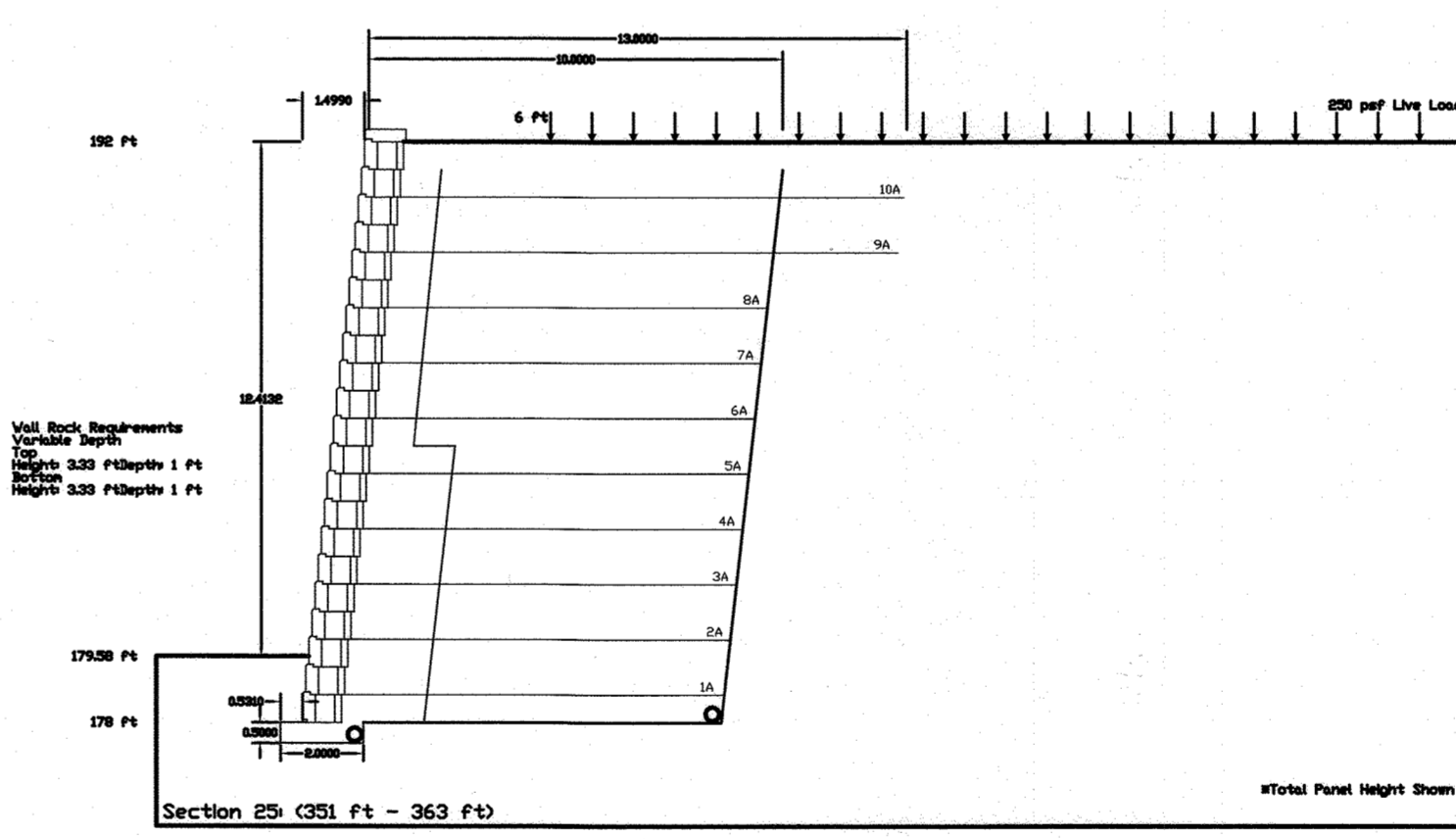
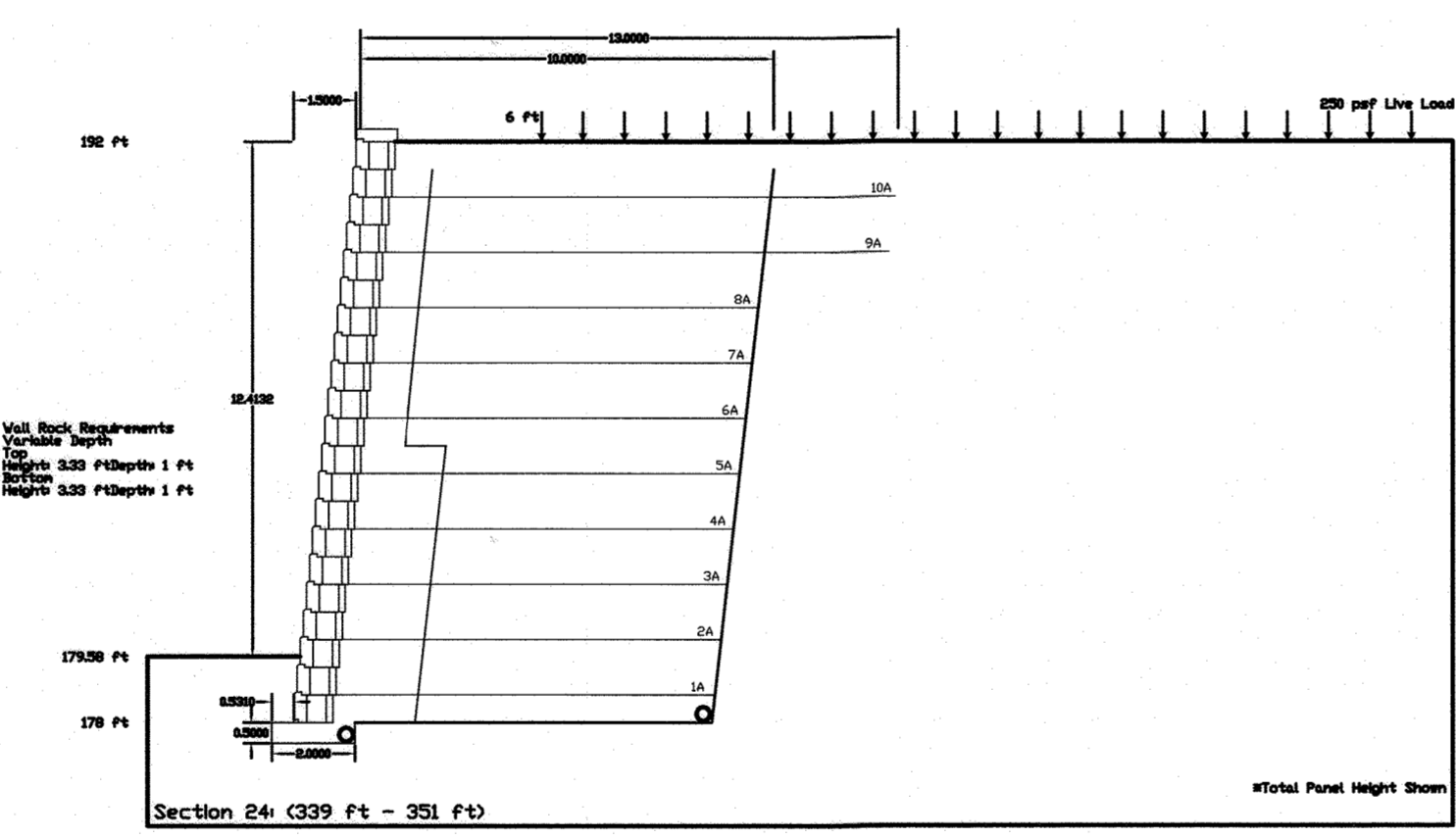
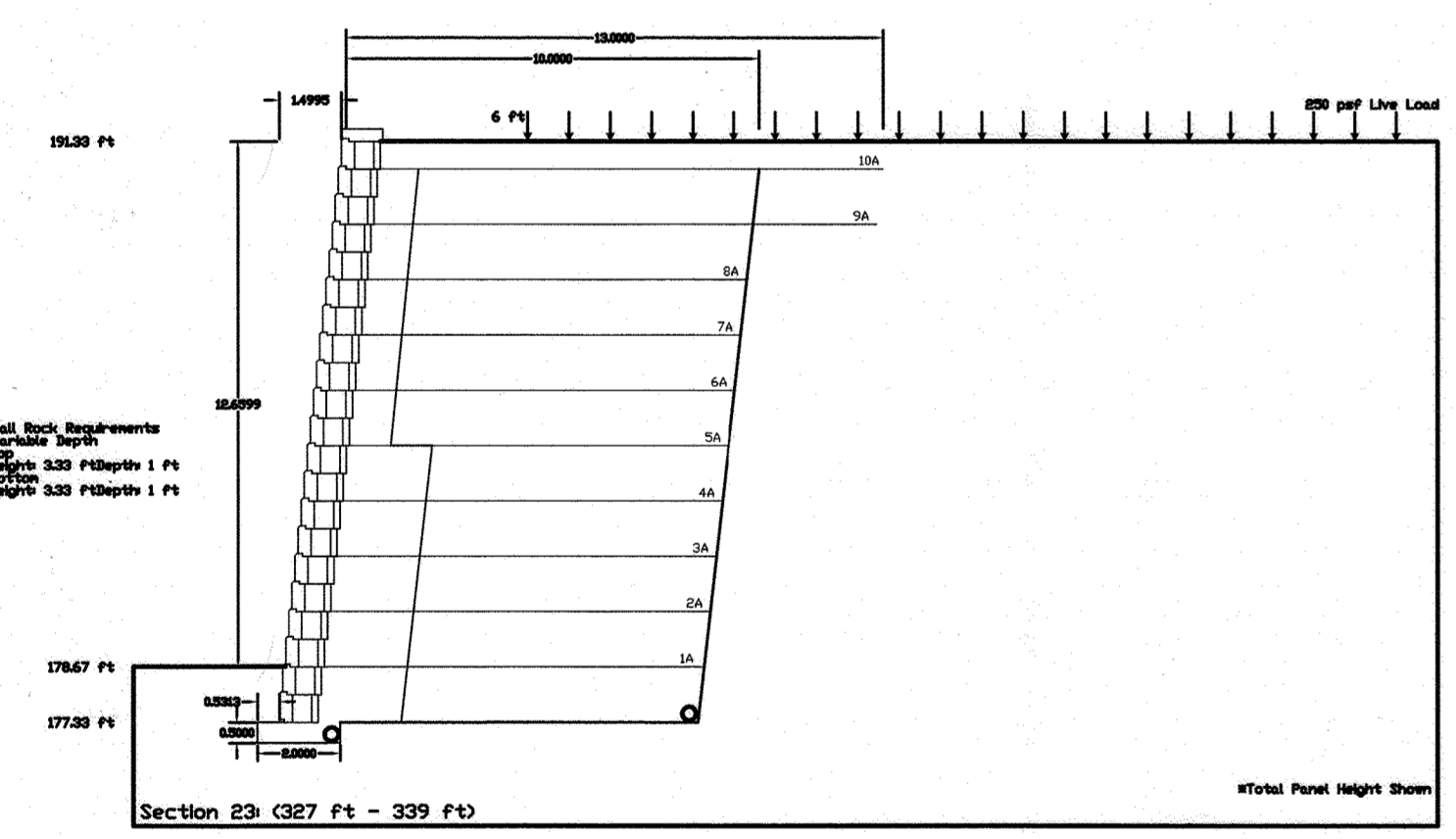
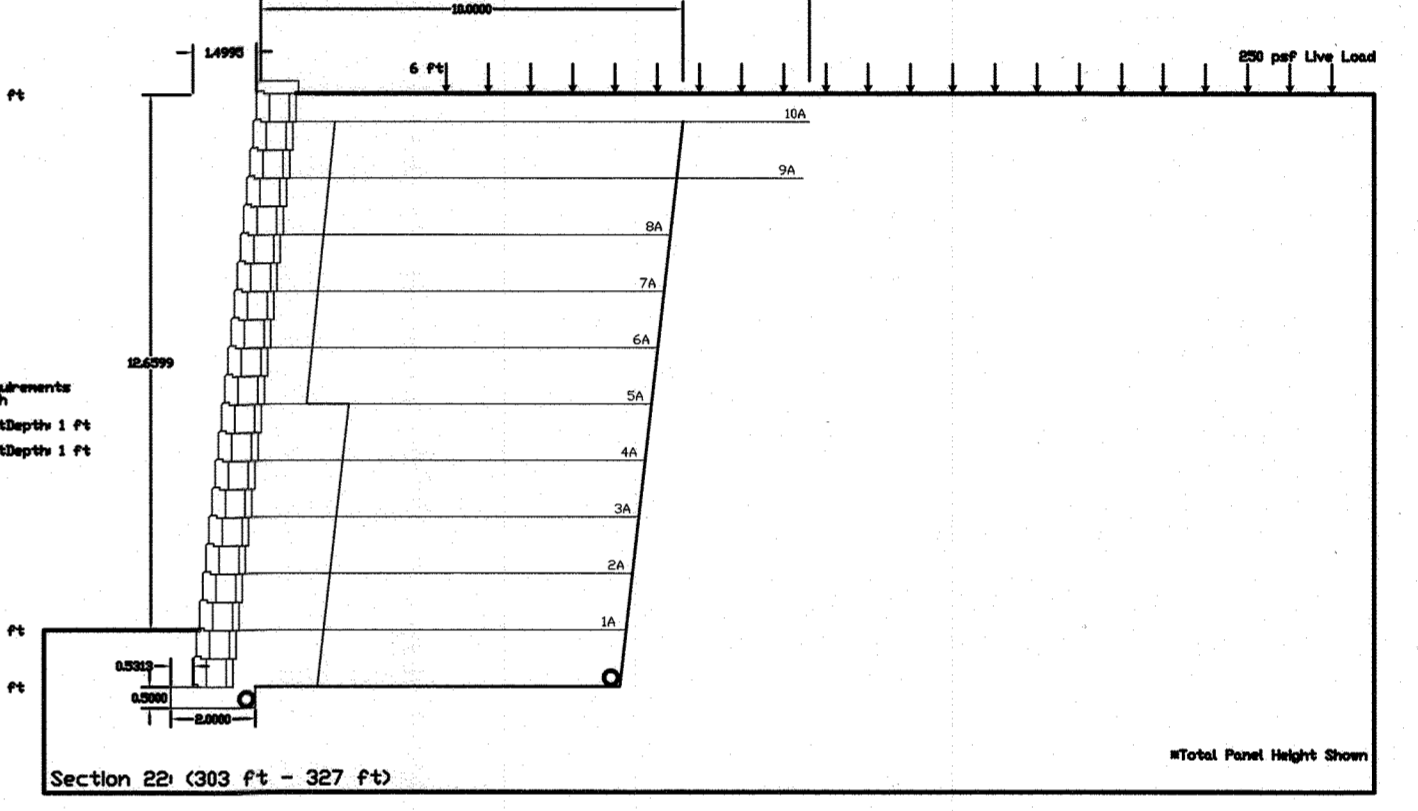
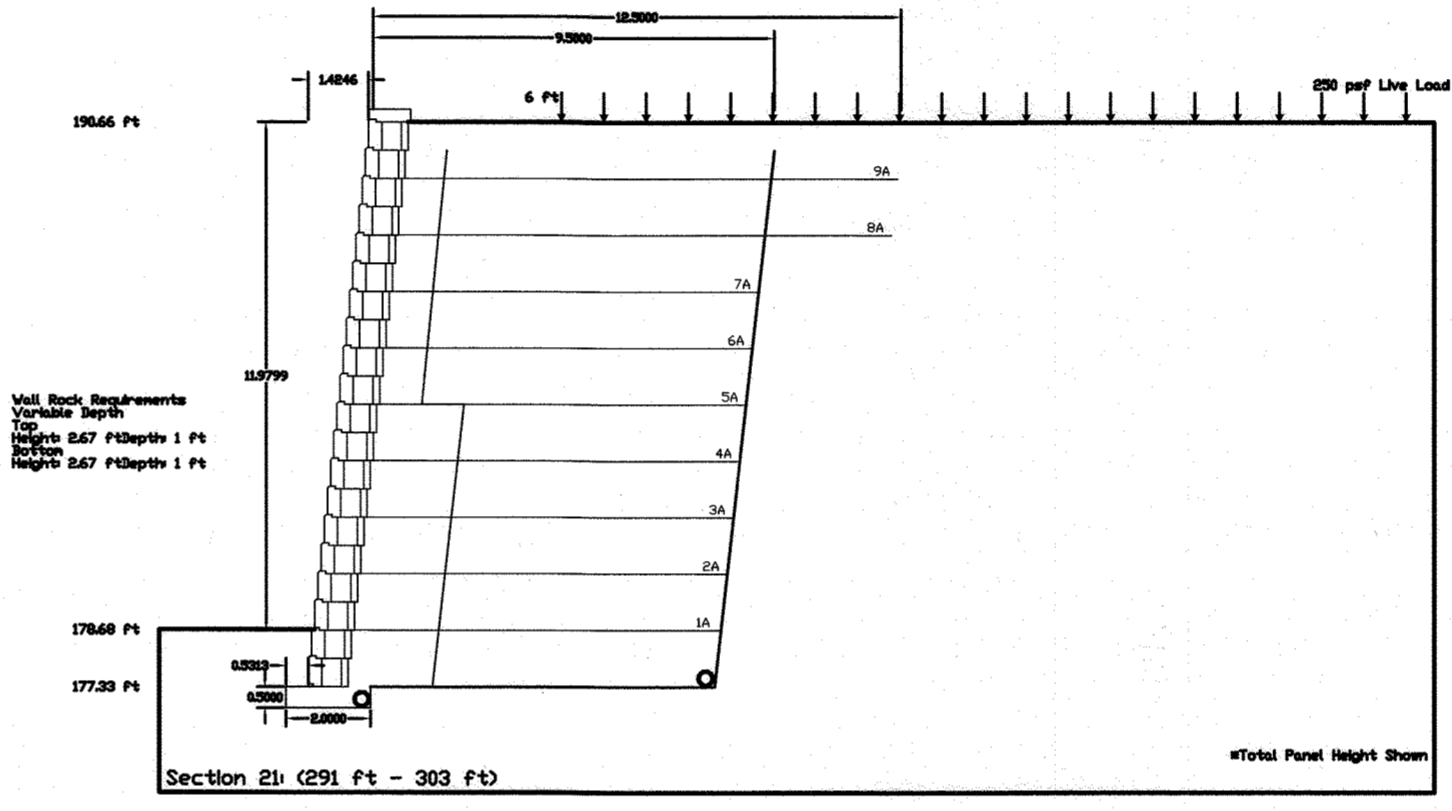
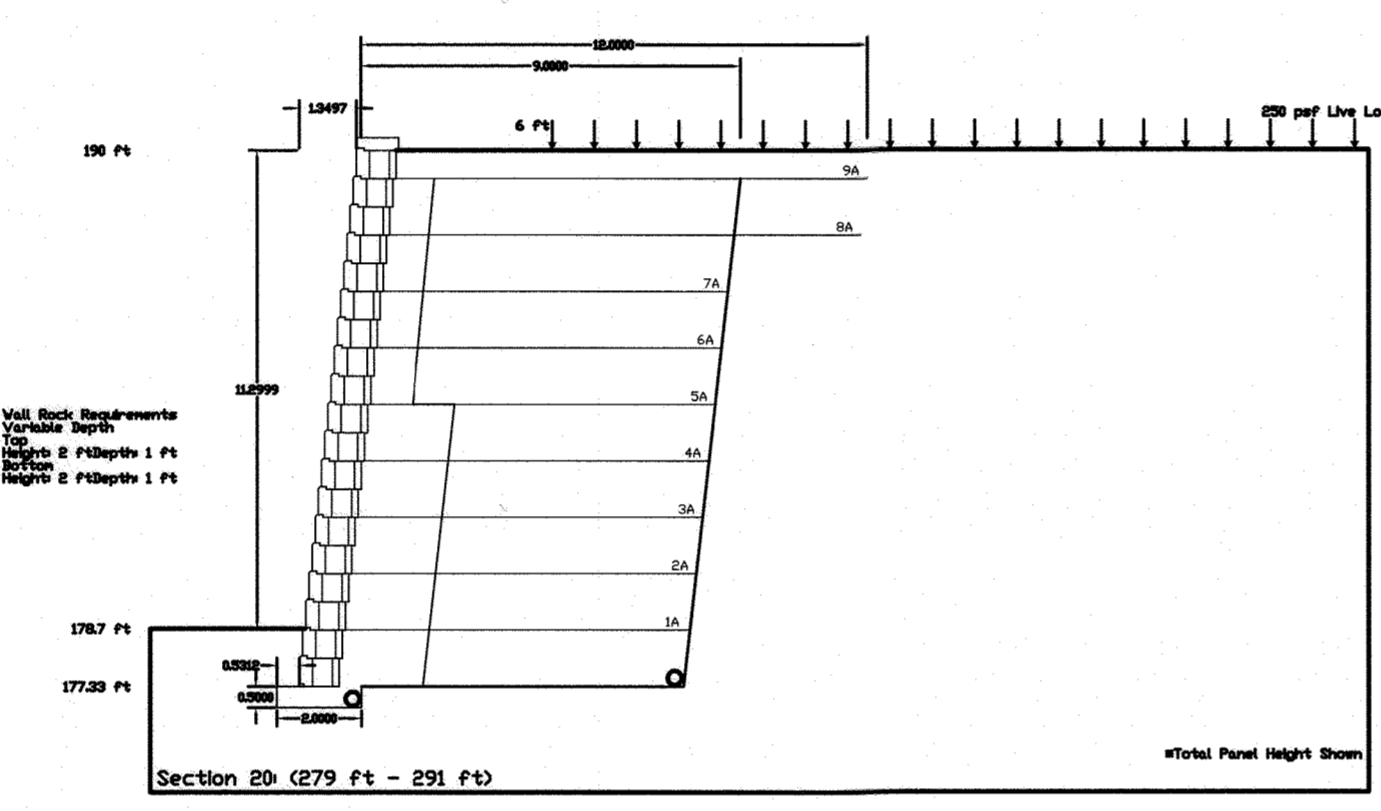
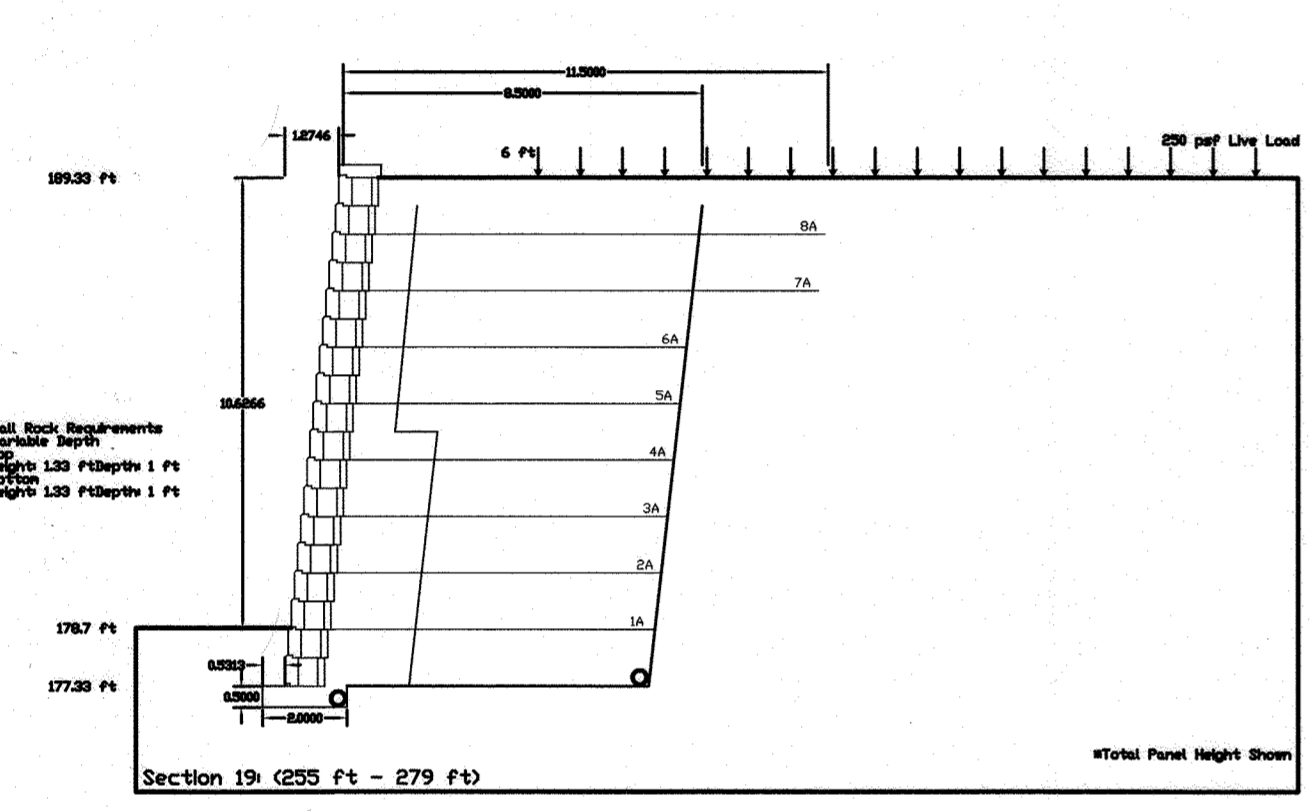
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1 BEI	8/5/2019	PHASE 2 DEVELOPMENT	
NO.	DATE	REVISION	
BENCHMARK <small>ENGINEERS • LAND SURVEYORS • PLANNERS</small> ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE, SUITE 315 ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BEI-CIVILENGINEERING.COM		 <small>GEOTECHNICAL LABORATORIES, INC. ENGINEERS • GEOLOGISTS • CONSULTANTS 8980 STATE ROUTE 108, SUITE D COLUMBIA, MARYLAND 21045 O: 410-772-2220 F: 410-772-2221 geolab@verizon.net</small>	
OWNER/DEVELOPER:		FAIRFAX RECYCLING, INC.	
KIT KAT ROAD PARTNERS II, LLC 107 FOREST DRIVE CATONSVILLE, MD 21228 410-340-9384		PARCEL 'A-1'	
		TAX MAP: 43 - GRID: 11 - PARCEL: P/O 49 ZONED: M-2 (INDUSTRIAL) ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND	
		REVISED SITE DEVELOPMENT ALAN BLOCK SEGMENTAL RETAINING WALL #1	
DESIGN: BL		PROFILE & ELEVATIONS	GEOLAB PROJECT NO. 116-183
DRAFT: DR		DATE: AUGUST, 2019	BEI PROJECT NO. 2781
		SCALE: AS SHOWN	SHEET 26 OF 33

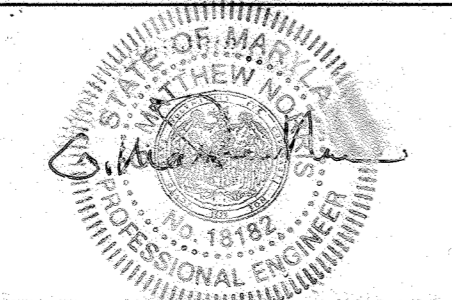


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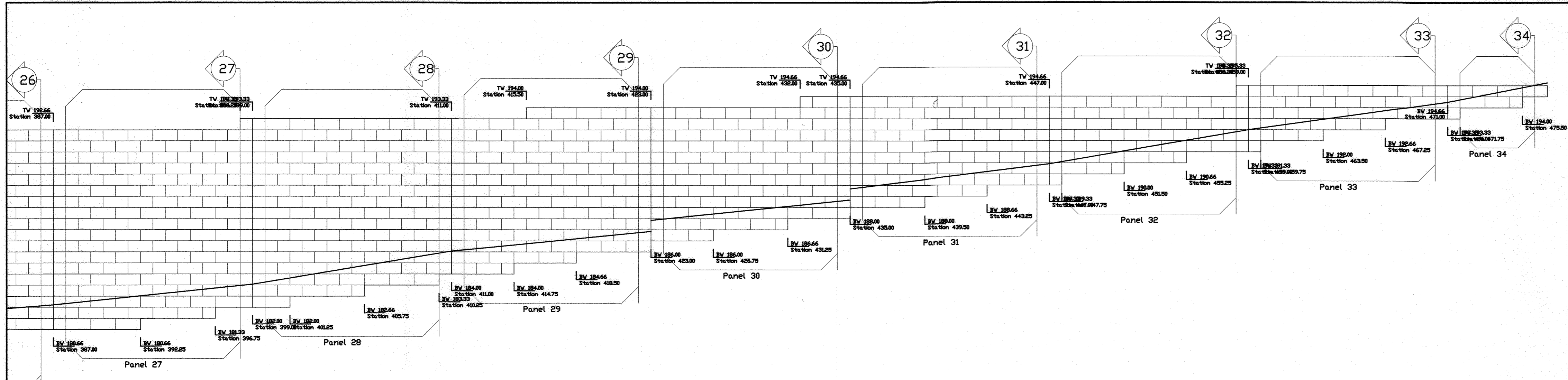


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 CHIEF, DIVISION OF LAND DEVELOPMENT
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DIRECTOR

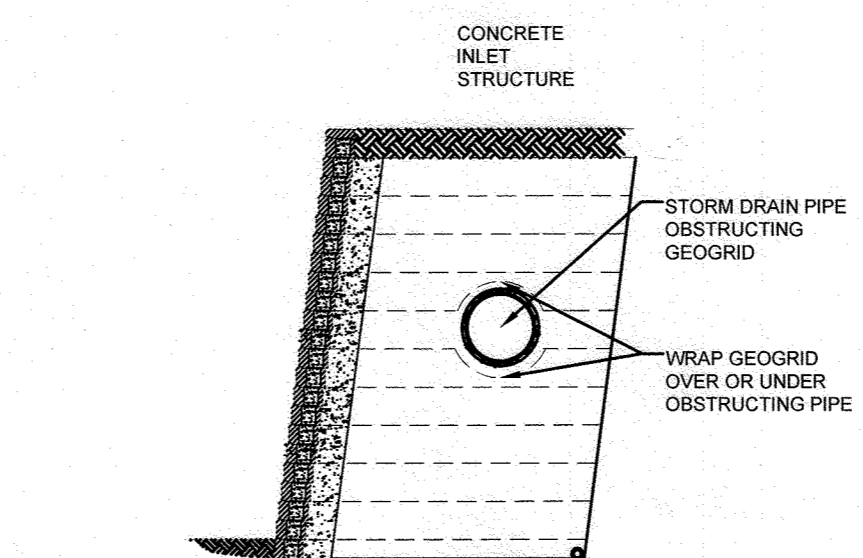
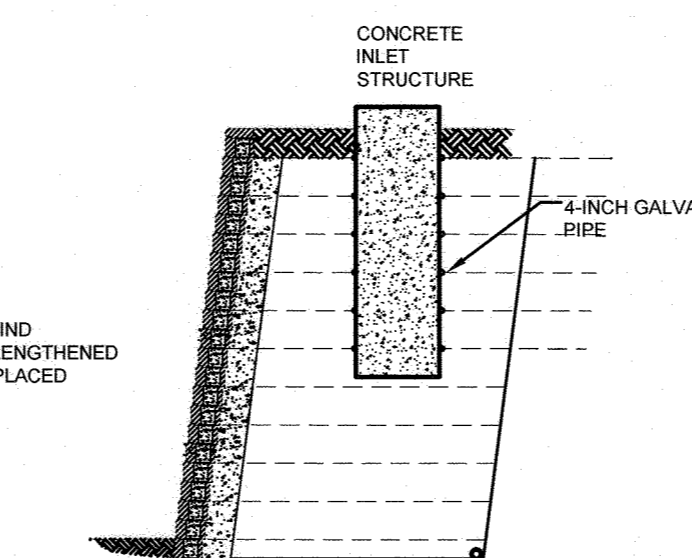
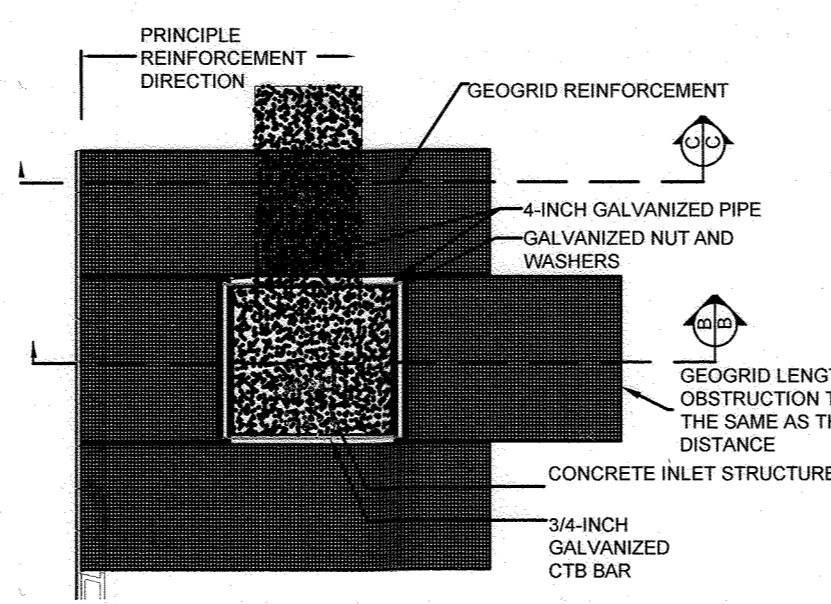
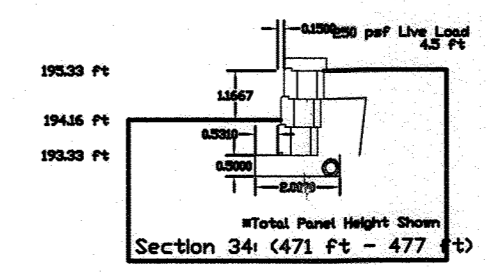
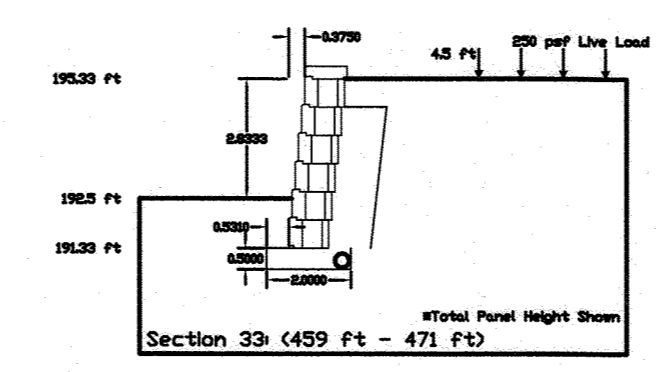
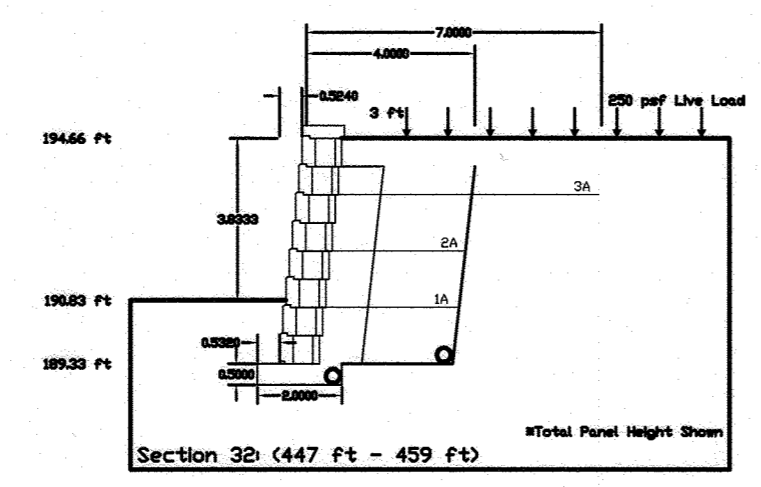
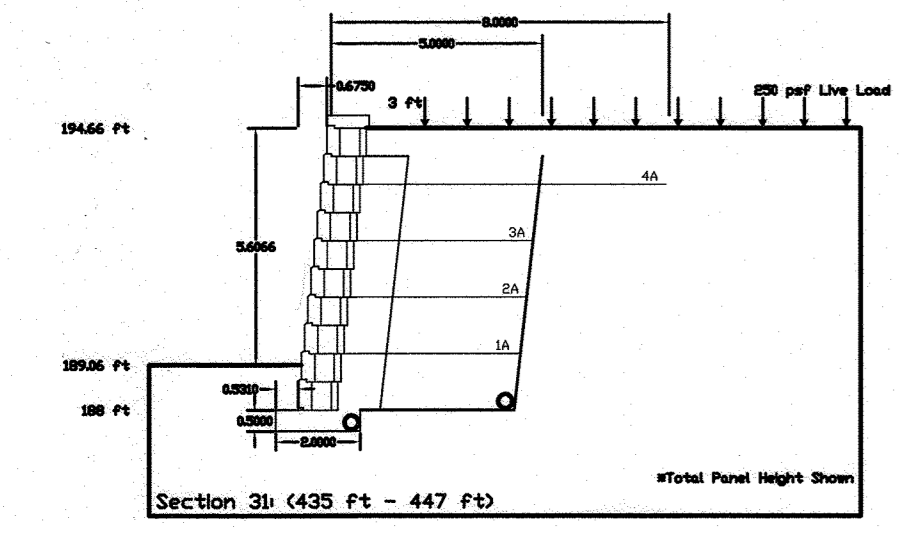
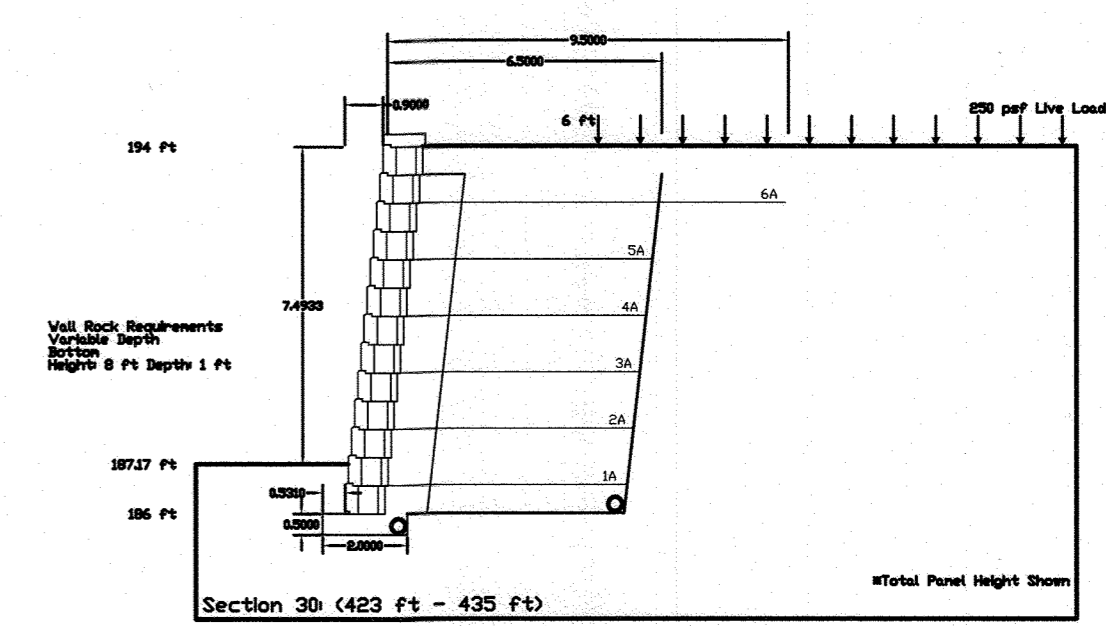
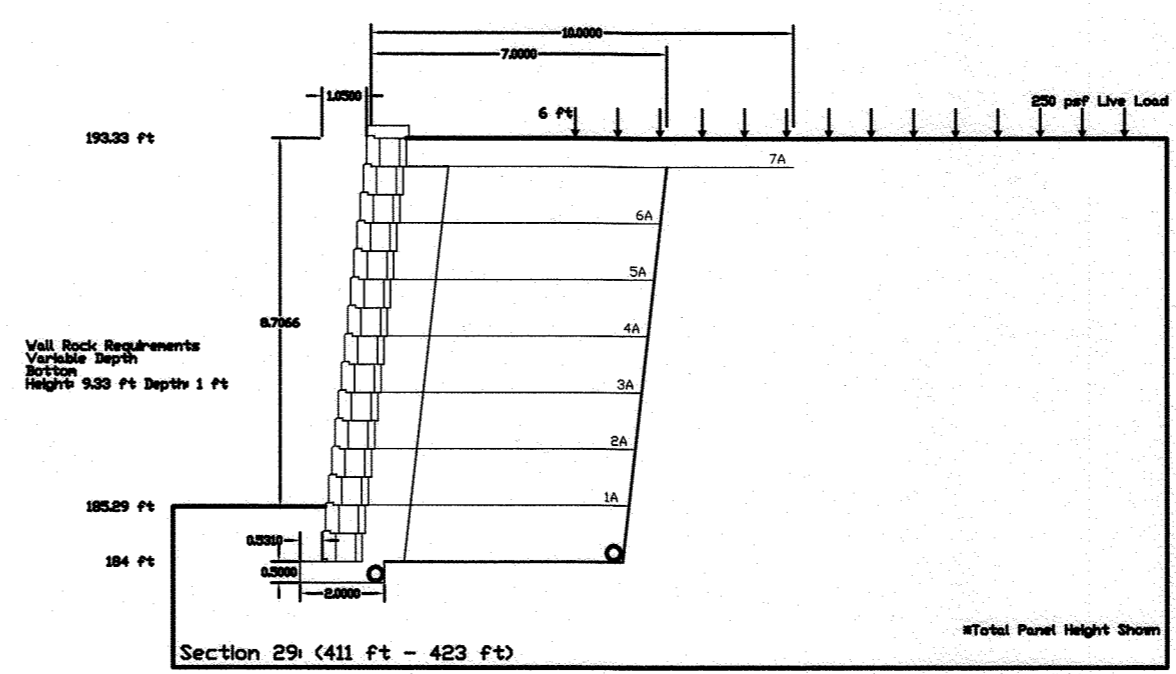
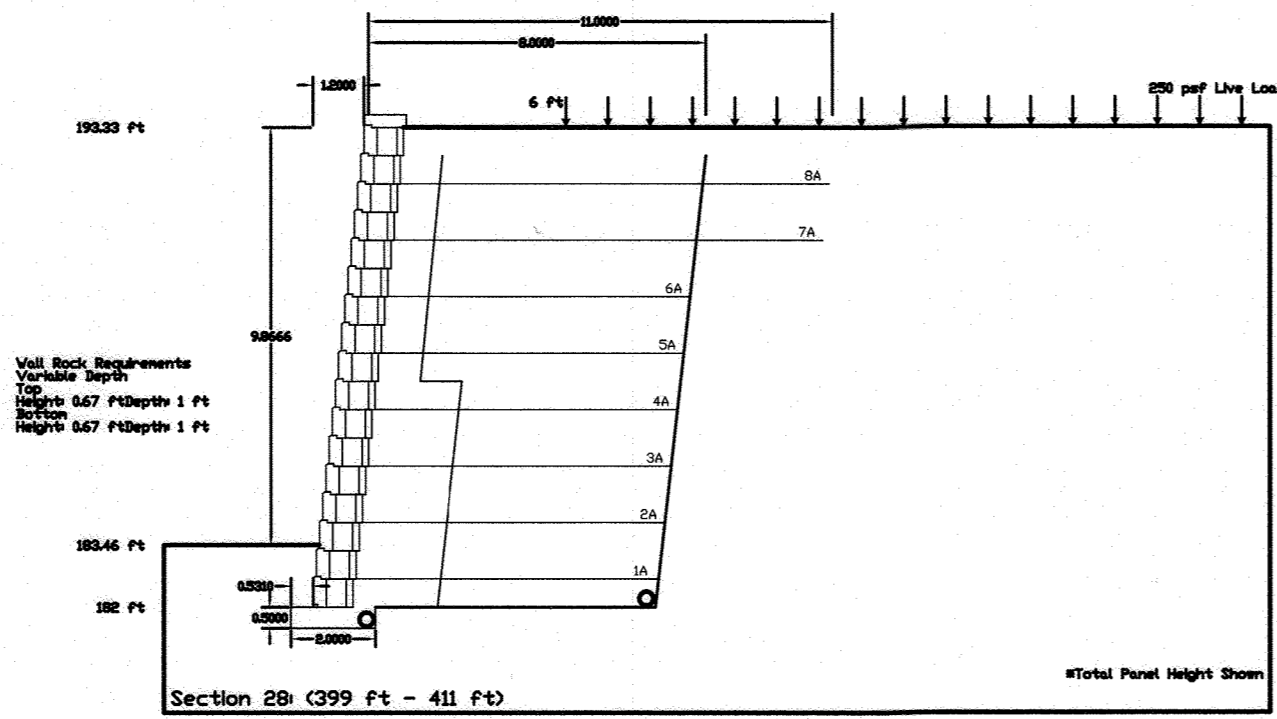
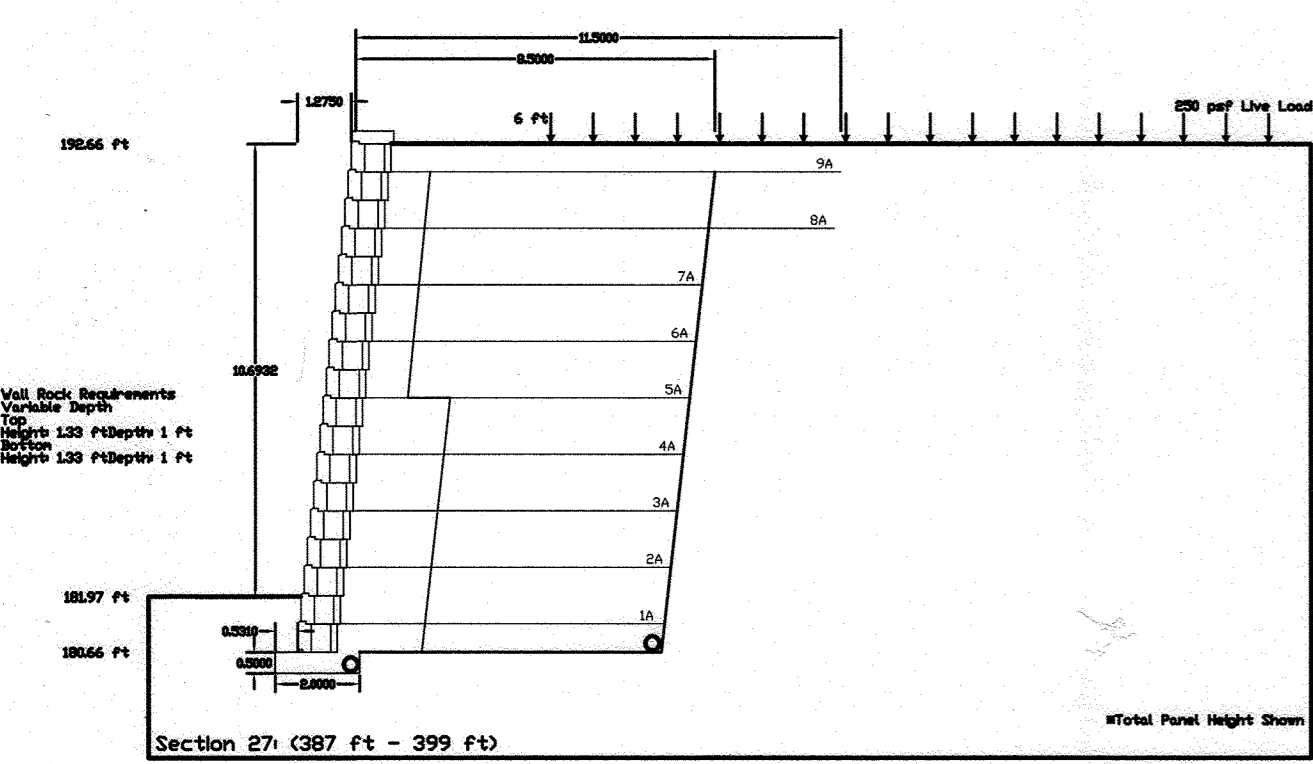
Professional Certification:
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 Expiration Date: 3/12/21



1	8/5/2019	PHASE 2 DEVELOPMENT	REVISION
NO.	DATE		
BENCHMARK ENGINEERING, INC. ENGINEERS • LAND SURVEYORS • PLANNERS 8480 BALTIMORE NATIONAL PIKE SUITE 315 ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BEI-CIVILENGINEERING.COM		 GEOTECHNICAL LABORATORIES, INC. ENGINEERS • GEOLOGISTS • CONSULTANTS 8980 STATE ROUTE 108, SUITE D COLUMBIA, MARYLAND 21045 O: 410-772-2220 F: 410-772-2221 geolab@verizon.net	
OWNER/DEVELOPER: KIT KAT ROAD PARTNERS II, LLC 107 FOREST DRIVE CATONSVILLE, MD 21228 410-340-9384		FAIRFAX RECYCLING, INC. PARCEL 'A-1' TAX MAP: 43 - GRID: 11 - PARCEL: P/O 49 ZONED: M-2 (INDUSTRIAL) ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND	
REVISED SITE DEVELOPMENT ALAN BLOCK SEGMENTAL RETAINING WALL RETAINING WALL #1		GEOLAB PROJECT NO. 116-183	
PROFILE & ELEVATIONS DATE: AUGUST, 2019		BEI PROJECT NO. 2781	
DESIGN: BL	DRAFT: DR	SCALE: AS SHOWN	SHEET 27 OF 33



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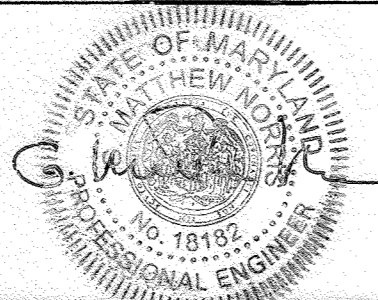


ALLAN BLOCK TYPICAL DETAIL - LARGE GRID OBSTRUCTION
 SCALE: Not To Scale

For use when utility structure or pipe is within the reinforced soil zone behind the retaining wall.

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 1/27/21
 1/27/20
 1-27-21

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NO.	DATE	REVISION	
BENCHMARK ENGINEERING, INC.		geolab	
8480 BALTIMORE NATIONAL PIKE, SUITE 315, ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BEI-CIVILENGINEERING.COM		GEOLOGICAL LABORATORIES, INC. ENGINEERS • GEOLOGISTS • CONSULTANTS 8980 STATE ROUTE 108, SUITE D COLUMBIA, MARYLAND 21045 O: 410-772-2200 F: 410-772-2221 geolab@verizon.net	
OWNER/DEVELOPER: KIT KAT ROAD PARTNERS II, LLC 107 FOREST DRIVE CATONSVILLE, MD 21228 410-340-9384		FAIRFAX RECYCLING, INC. PARCEL 'A-1'	
TAX MAP: 43 - GRID: 11 - PARCEL: P/O 49 ZONED: M-2 (INDUSTRIAL) ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND		REVISED SITE DEVELOPMENT ALAN BLOCK SEGMENTAL RETAINING WALL RETAINING WALL #1	
PROFILE & ELEVATIONS		GEOLOGICAL PROJECT NO. 116-183	
DATE: AUGUST, 2019		BEI PROJECT NO. 2781	
DESIGN: BL	DRAFT: DR	SCALE: AS SHOWN	SHEET 28 OF 33

General Notes

Soil Notes

Soil loading considered in this design and calculations are based on the following parameters:

Table with 4 columns: Soil Type, Internal Friction Angle, Cohesion, Unit WT. Rows include Infill Soil, Retained Soil, and Foundation Soil.

Construction Notes

- 1. Actual soil parameters must meet or exceed these listed conditions to be used in wall construction. In general, granular soils (friction angle greater than 32 degrees) are recommended as infill soil. Fine grained cohesive soils (friction angle less than 32 degrees) with low plasticity (PI less than 20) may be used in wall construction but additional backfilling and compaction efforts are required.

Surface Drainage Notes

- 1. Rainfall and other water sources such as irrigation activities can be defined as surface water. The retaining wall design shall take into consideration the management of this water.

Specification Guidelines: Allan Block Modular Retaining Wall Systems

The following specifications provide Allan Block Corporation's typical requirements and recommendations. At the engineer of record's discretion these specifications may be revised to accommodate site specific design requirements.

SECTION 1: ALLAN BLOCK MODULAR RETAINING WALL SYSTEMS

PART 1: GENERAL

- 1.1 Scope: Work includes furnishing and installing modular concrete block retaining wall units to the lines and grades designated on the construction drawings and as specified herein.

PART 2: MATERIALS

- 2.1 Modular Wall Units: A. Wall units shall be Allan Block Retaining Wall units as produced by a licensed manufacturer.

2.2 Wall Rock

- A. Material must be well-graded compactable aggregate, 0.25 in. to 1.5 in., 6 mm - 38 mm with no more than 10% passing the #20 sieve (ASTM D422).

PART 3: WALL CONSTRUCTION

3.1 Excavation

- A. Contractor shall excavate to the lines and grades shown on the construction drawings. Contractor shall use caution not to over-excavate beyond the lines shown, or to disturb the base elevations beyond those shown.

3.2 Foundation Soil Preparation

- A. Foundation soil shall be defined as any soils located beneath a wall.

3.3 Base

- A. The base material shall be the same as the Wall Rock material (Section 2.2) or a low permeable granular material.

3.4 Unit Installation

- A. Install units in accordance with the manufacturer's instructions and recommendations for the specific concrete retaining wall unit, and as specified herein.

3.5 Additional Construction Notes

- A. When one wall branches into two terraced walls, it is important to note that the soil behind the lower wall is also the foundation soil beneath the upper wall.

Specification Guidelines: Geogrid Reinforcement Systems

The following specifications provide Allan Block Corporation's typical requirements and recommendations. At the engineer of record's discretion these specifications may be revised to accommodate site specific design requirements.

SECTION 2

PART 1: GENERAL

1.1 Scope

Work includes furnishing and installing geogrid reinforcement, wall block, and backfill to the lines and grades designated on the construction drawings and as specified herein.

1.2 Applicable Sections of Related Work

Section 1: Allan Block Modular Retaining Wall Systems

1.3 Reference Standards

- A. ASTM D4955 - Tensile Properties of Geotextiles by the Wide-Width Strip Method

1.4 Delivery, Storage, and Handling

- A. Contractor shall check the geogrid upon delivery to assure that the proper material has been received.

PART 2: MATERIALS

2.1 Definitions

- A. Geogrid products shall be of high density polyethylene or polyester yarns encapsulated in a protective coating specifically fabricated for maximum flow rates and to vent outside of the wall area.

2.2 Products

Geogrid shall be the type as shown on the drawings having the property requirements as described within the manufacturer's specifications.

2.3 Acceptable Manufacturers

A manufacturer's product shall be approved by the wall design engineer.

PART 3: WALL CONSTRUCTION

3.1 Foundation Soil Preparation

- A. Foundation soil shall be excavated to the lines and grades as shown on the construction drawings, or as directed by the on-site soils engineer.

3.2 Wall Construction

Wall construction shall be as specified under Section 1, Part 3, Wall Construction.

3.3 Geogrid Installation

- A. Install Allan Block wall to designated height of first geogrid layer. Backfill and compact the wall rock and infill soil in layers not to exceed 8 in. (200 mm) lifts behind wall to depth equal to designed grid length before grid is installed.

3.4 Fill Placement

- A. Infill soil shall be placed in lifts and compacted as specified under Section 1, Part 3.4, Unit Installation.

3.5 Special Considerations

- A. Geogrid can be interrupted by periodic penetration of a column, pier or footing structure.

Specification Guidelines: Water Management

The following specifications provide Allan Block Corporation's typical requirements and recommendations. At the engineer of record's discretion these specifications may be revised to accommodate site specific design requirements.

SECTION 3

PART 1: GENERAL DRAINAGE

1.1 Surface Drainage

- Rainfall or other water sources such as irrigation activities collected by the ground surface atop the retaining wall can be defined as surface water. Retaining wall design shall take into consideration the management of this water.

1.2 Grading

- The shaping and re-contouring of land in order to prepare it for site development is grading. Site grading shall be designed to route water around the walls.

1.3 Drainage System

- The internal drainage systems of the retaining wall can be described as the means of eliminating the buildup of incidental water which infiltrates the soils behind the wall.

1.4 Toe Drain

- A toe drain pipe should be located at the back of the wall rock behind the wall as close to the bottom of the wall as allowed while still maintaining a positive gradient for drainage to daylight, or a storm water management system. Toe drains are installed for incidental water management not as a primary drainage system.

1.5 Heel Drain

- The purpose of the heel drain is to pick up any water that migrates from behind the retaining wall structure at the cut and route the water away from the reinforced mass during the construction process and for incidental water for the life of the structure.

1.6 Ground Water

- Ground water can be defined as water that occurs within the soil. It may be present because of surface infiltration or water table fluctuation. Ground water movement must not be allowed to come in contact with the retaining wall.

1.7 Manufactured Water Sources

- All collection devices such as roof downspouts, storm sewers, and curb gutters are concentrated water sources. They must be designed to accommodate maximum flow rates and to vent outside of the wall area.

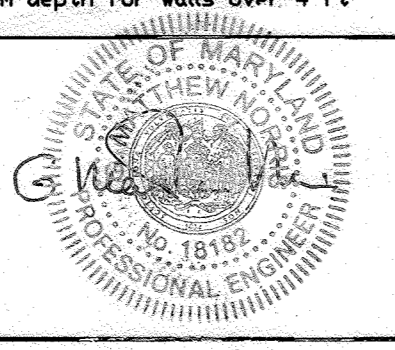
1.8 Water Application

- Retaining walls constructed in conditions that allow standing or moving water to come in contact with the wall face are considered water applications. These walls require specific design and construction steps to ensure performance. Refer to Design Detail 7 and Water Applications, Page 13 of the AB Spec Book.

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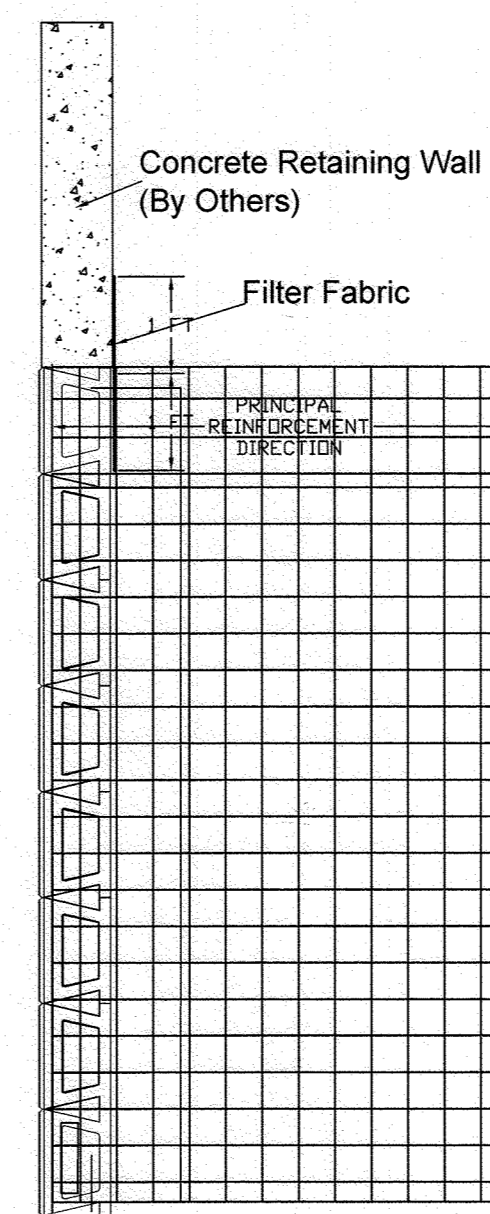
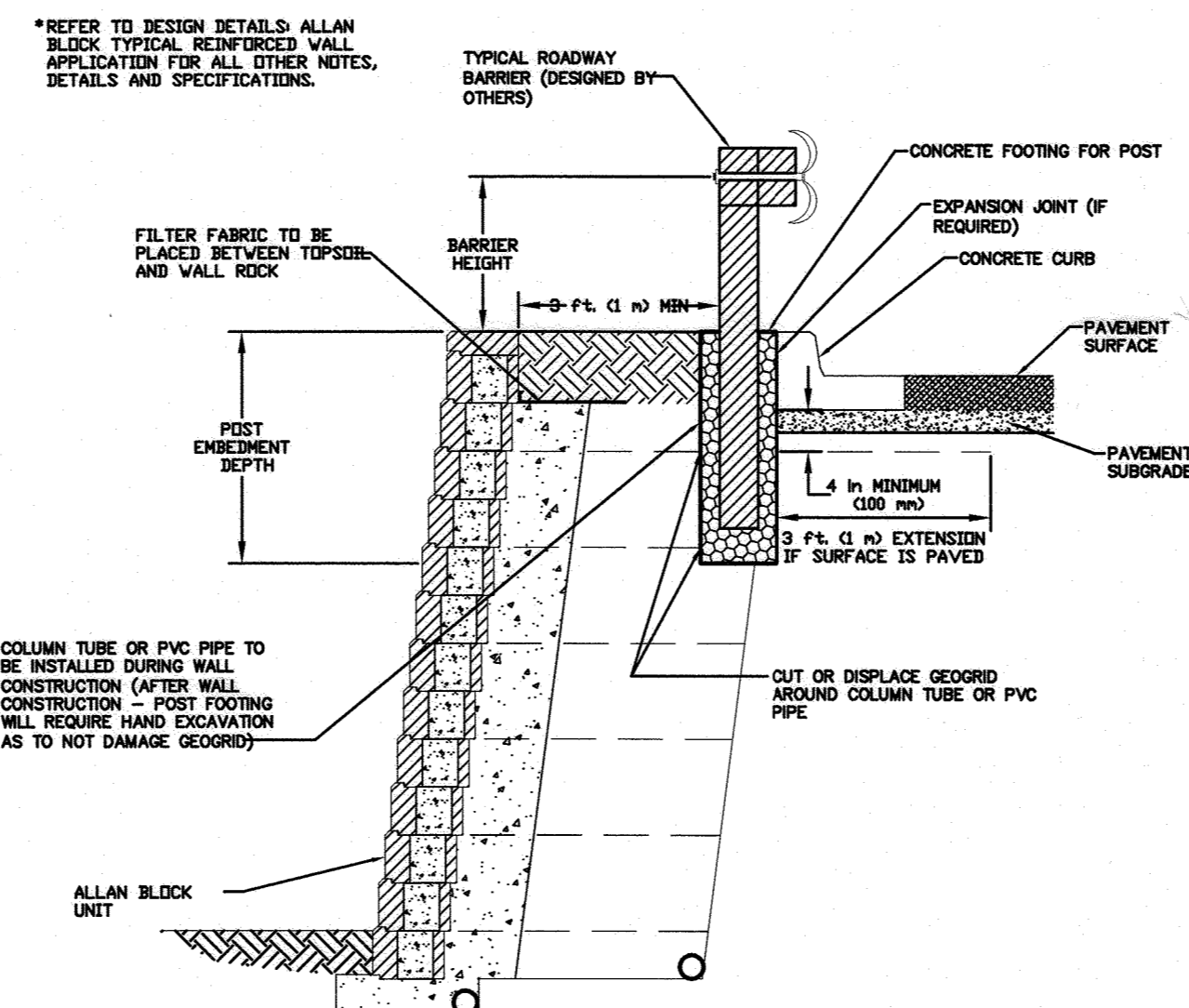
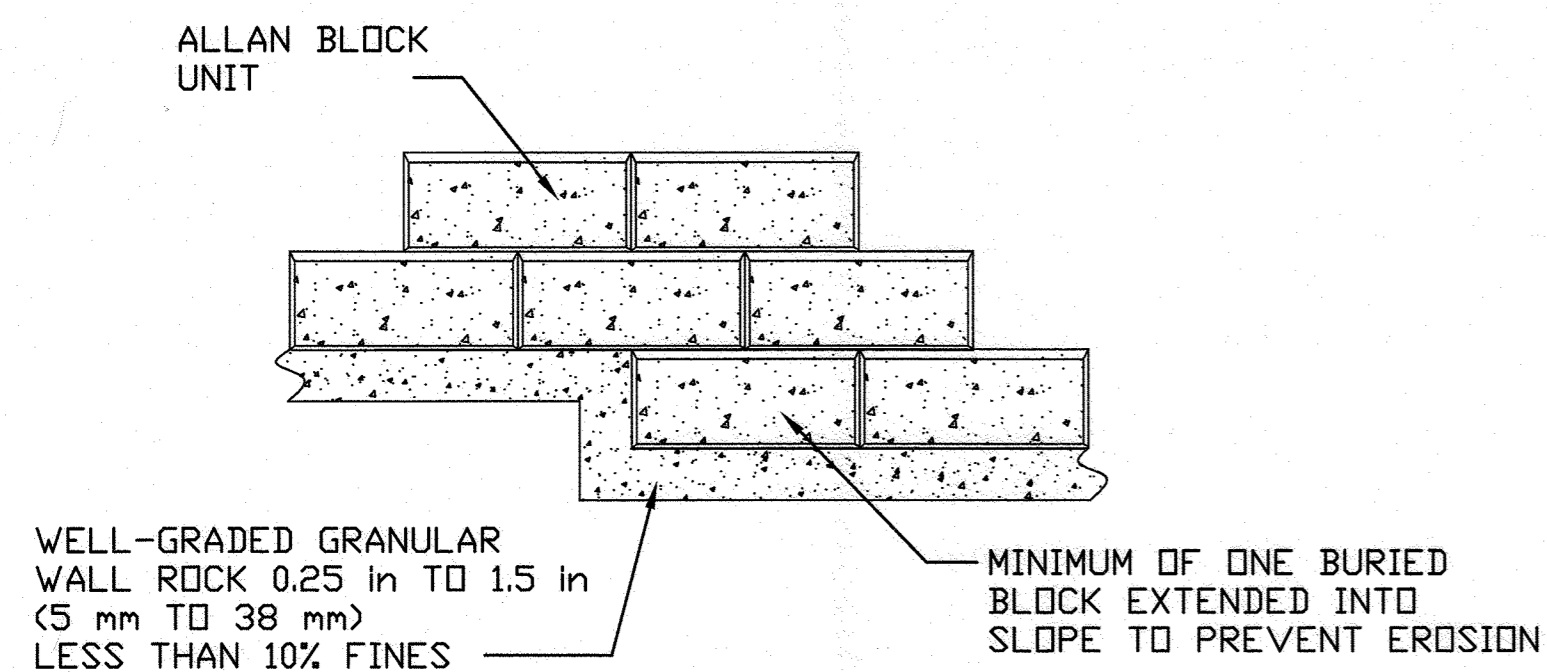
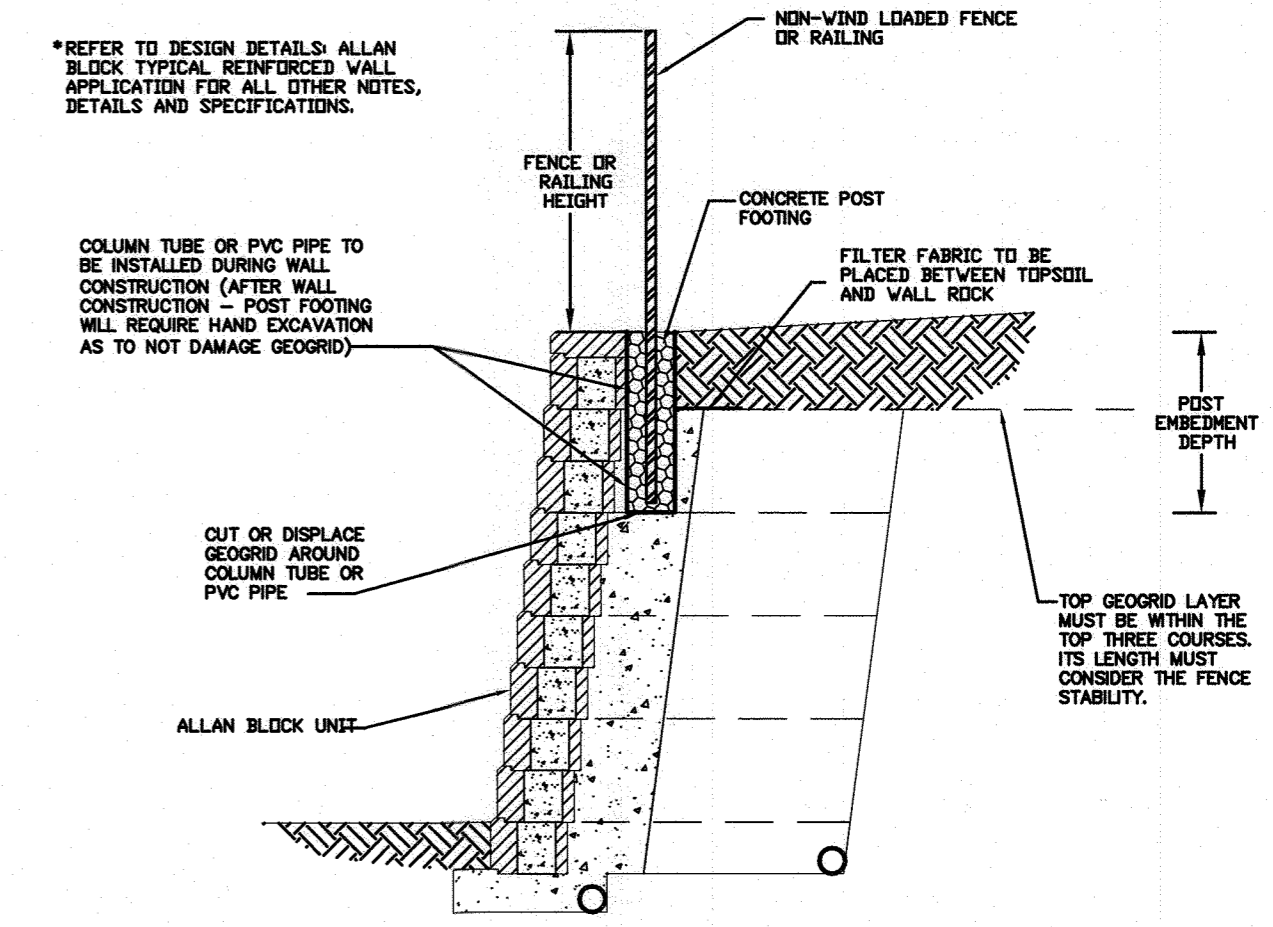
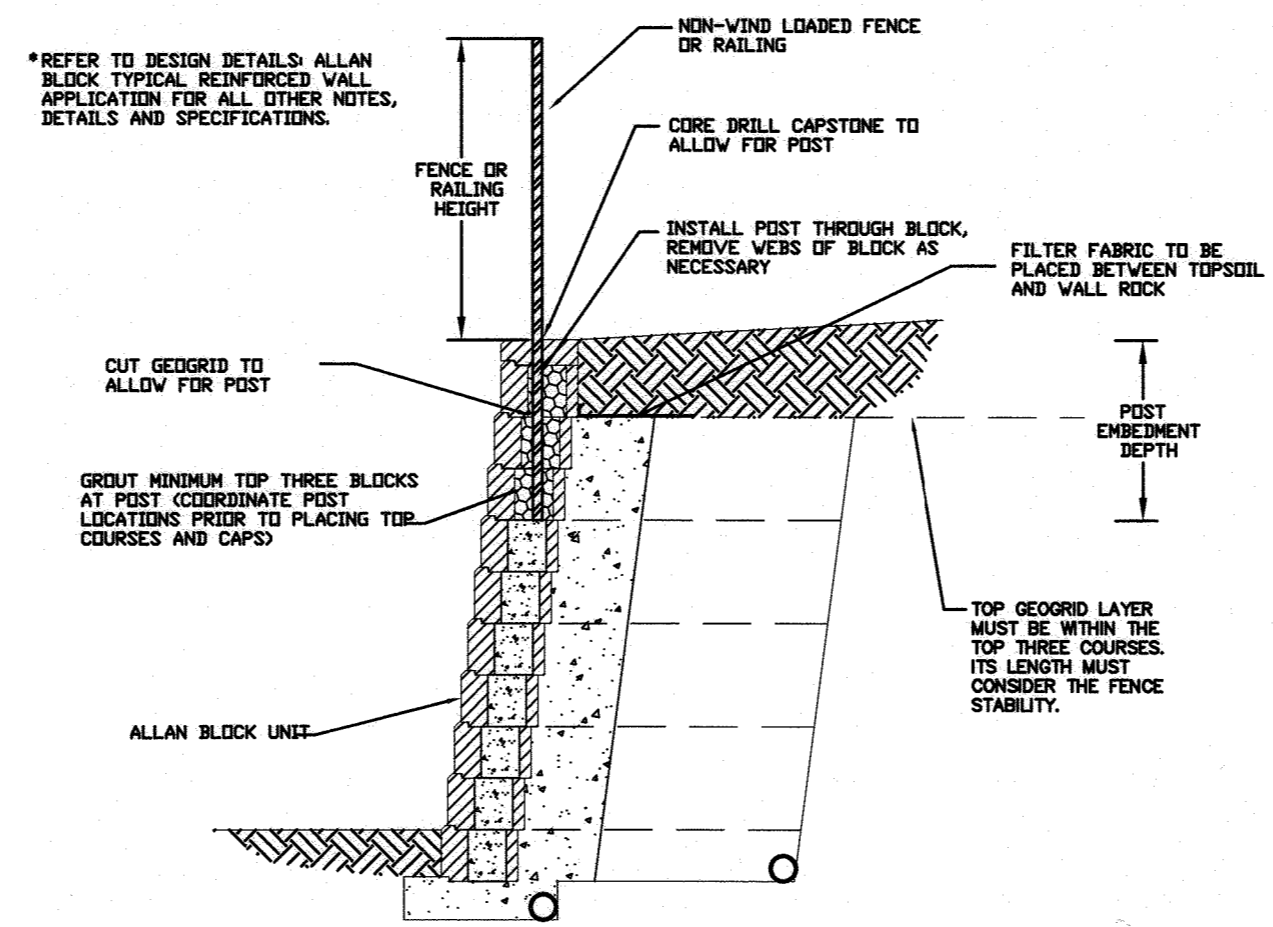
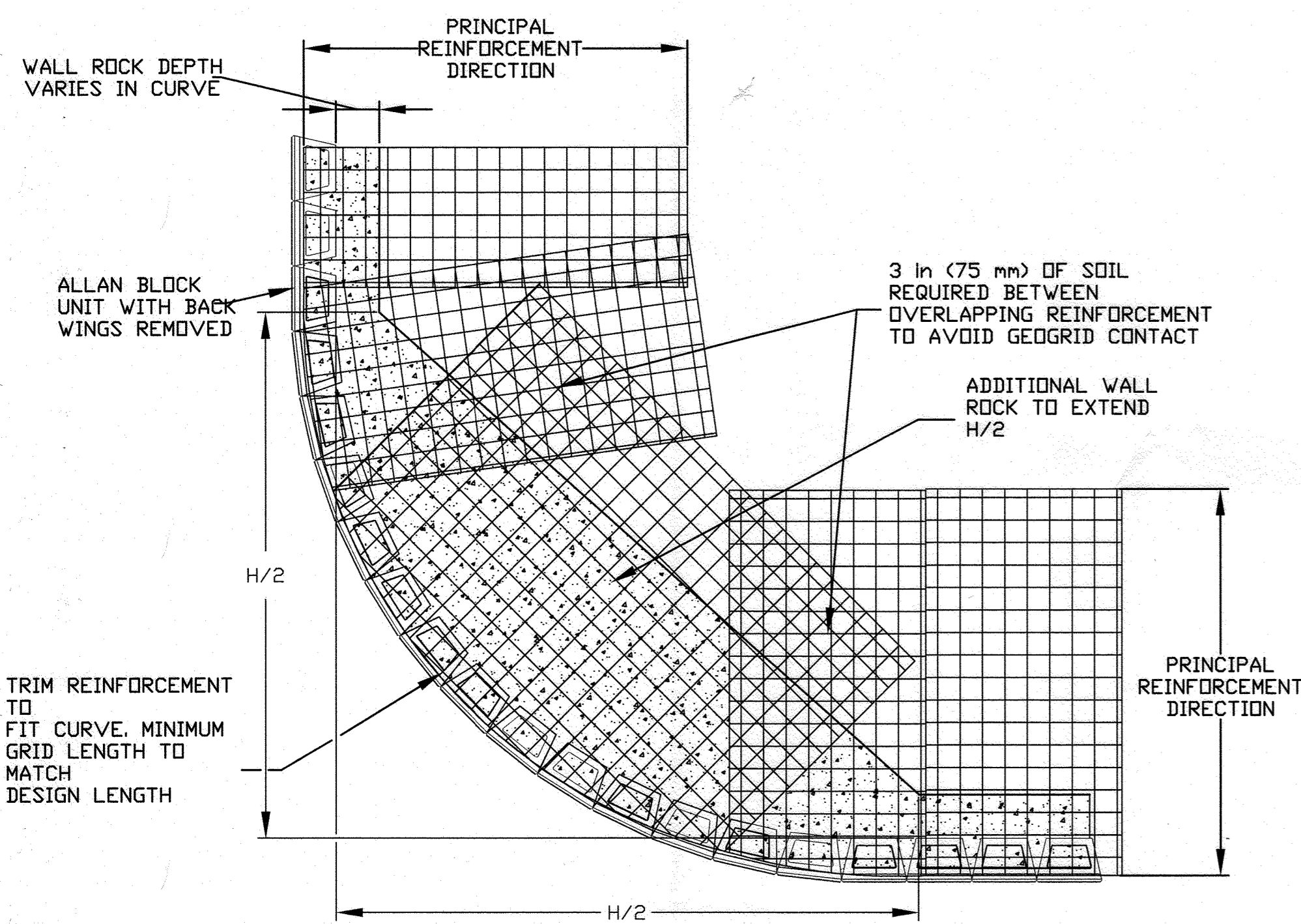
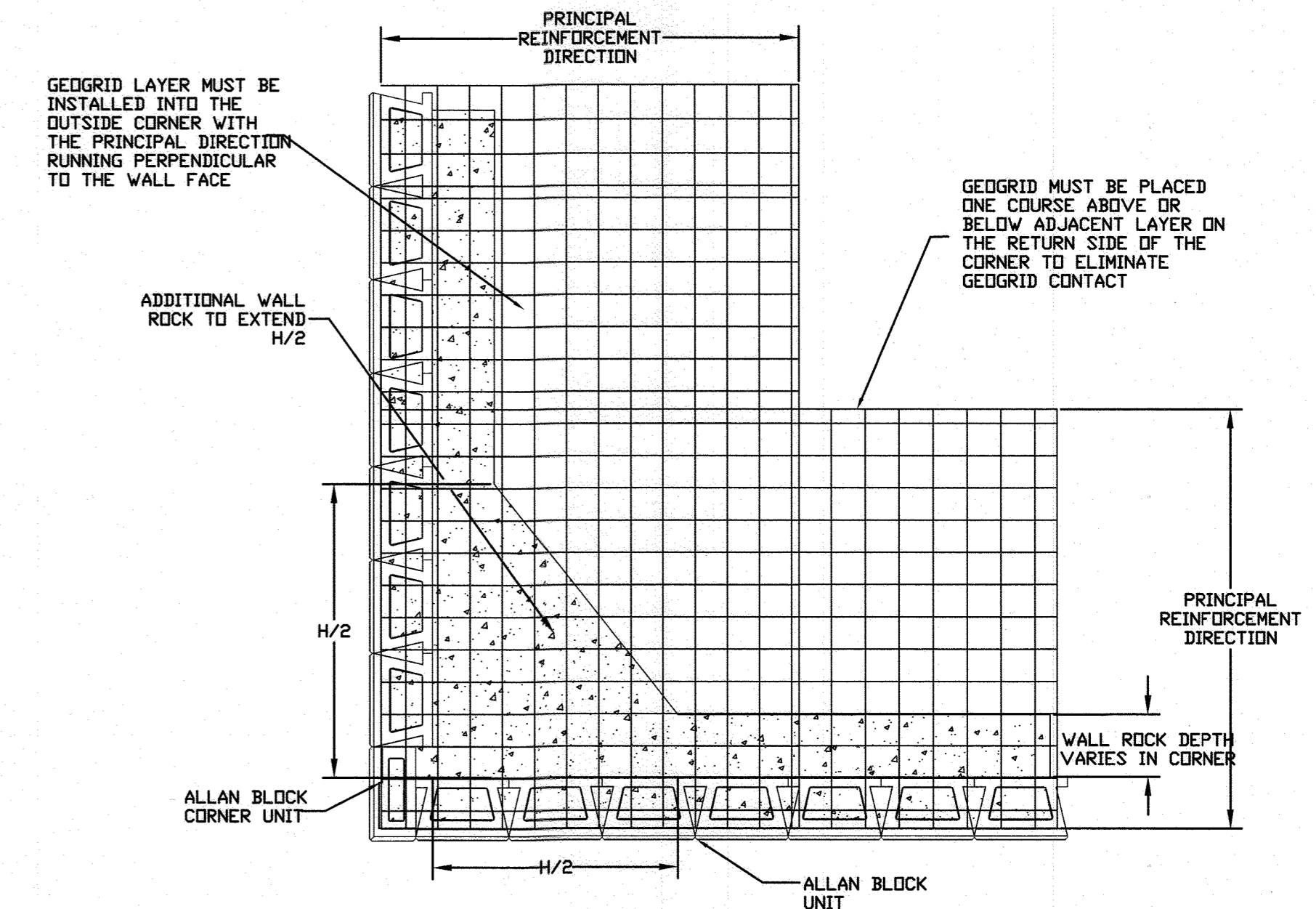
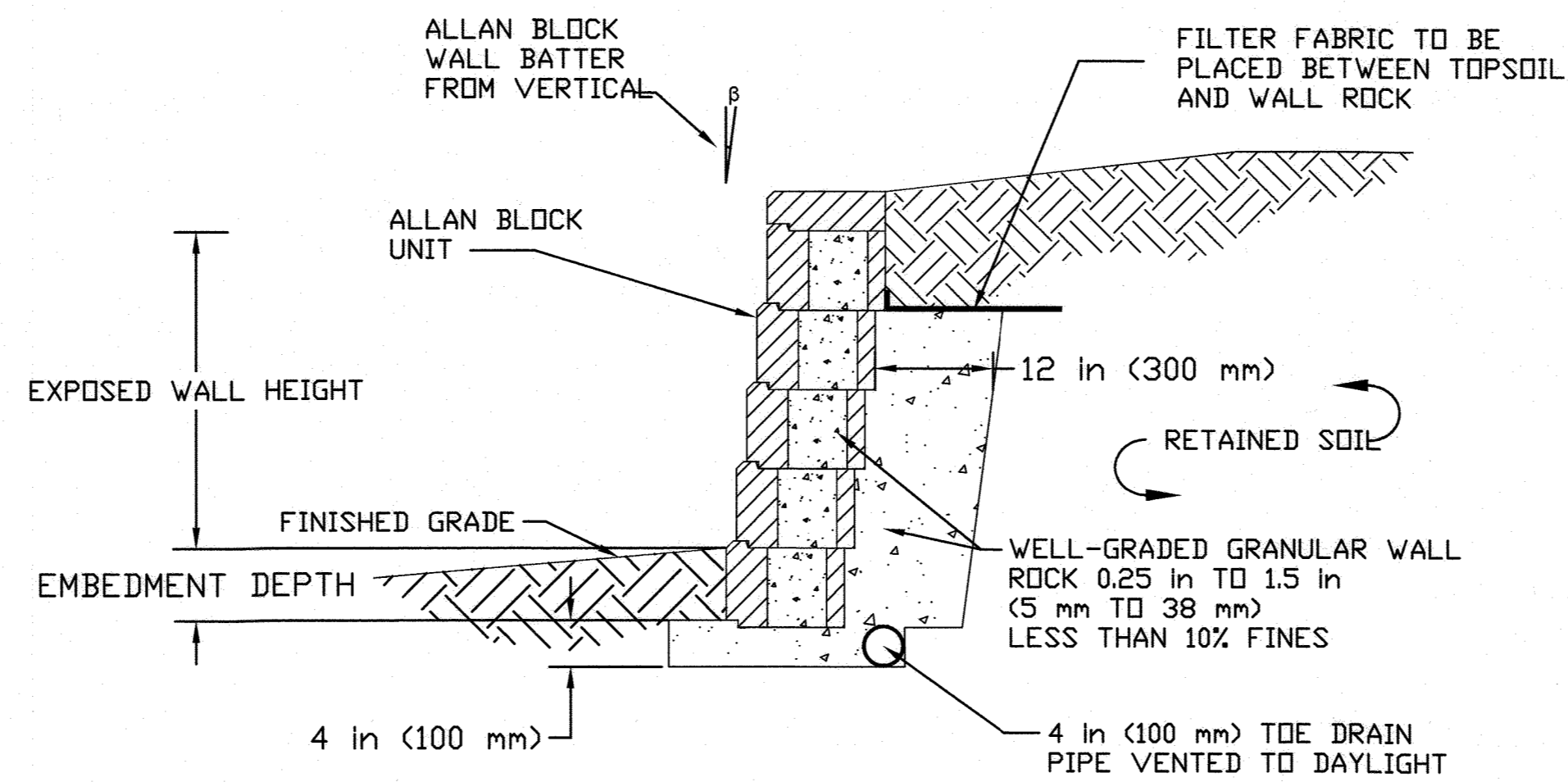
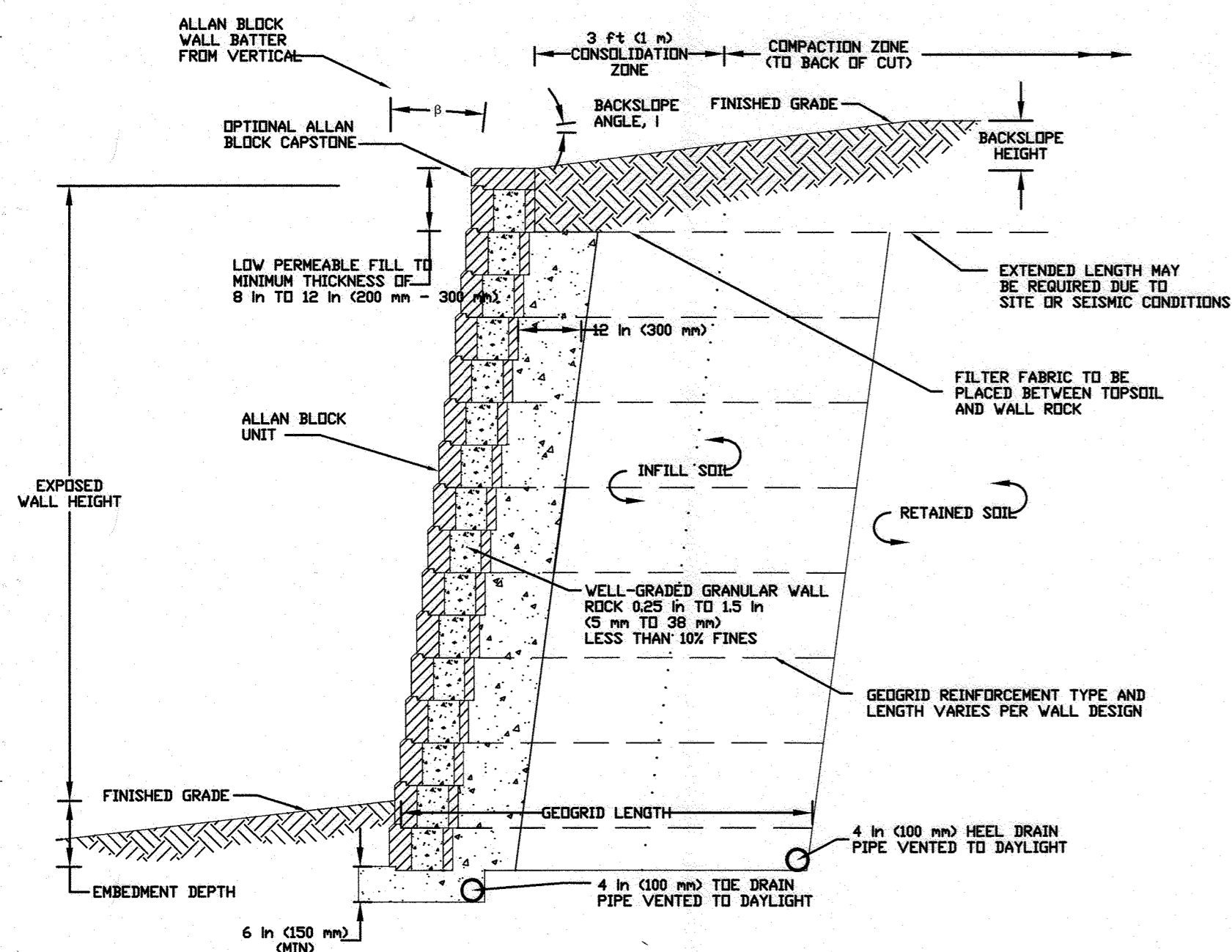
CHIEF, DIVISION OF LAND DEVELOPMENT
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DIRECTOR

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.: 18182 Expiration Date: 3/12/21



REVISION table with columns for NO., DATE, REVISION, and REVISION. Includes BENCHMARK ENGINEERING, INC. logo and contact information.

OWNER/DEVELOPER: KIT KAT ROAD PARTNERS II, LLC. PARCEL 'A'-1'. FAIRFAX RECYCLING, INC. REVISED SITE DEVELOPMENT. ALAN BLOCK SEGMENTAL RETAINING WALL #1. SPECIFICATIONS: GEOLAB PROJECT NO. 116-183. DATE: AUGUST, 2019. BEI PROJECT NO. 2781. DESIGN: BL. DRAFT: DR. SCALE: AS SHOWN. SHEET 29 OF 33. SDP-04-024

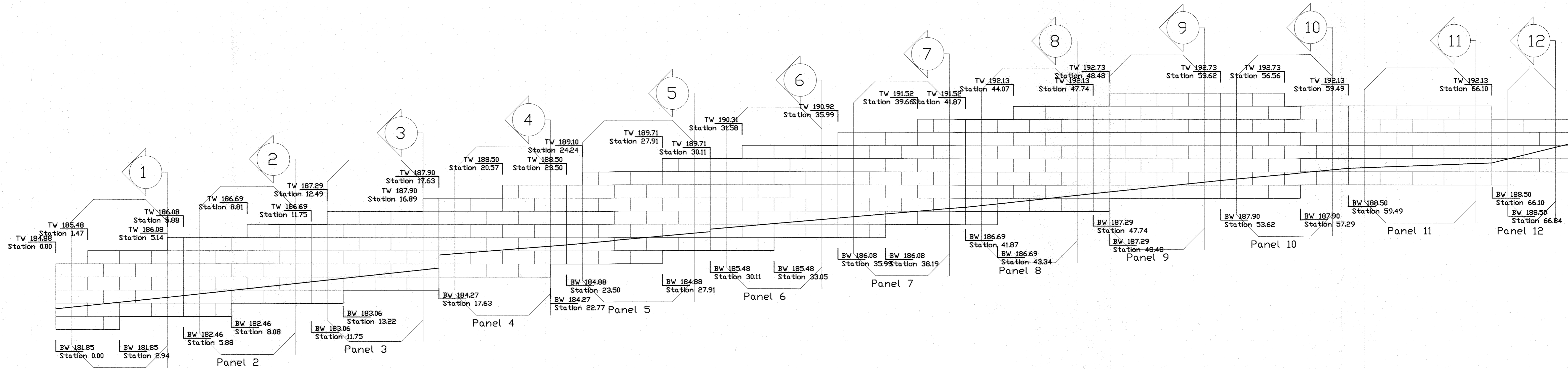


APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 12-9-20
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 1-27-21
 DIRECTOR

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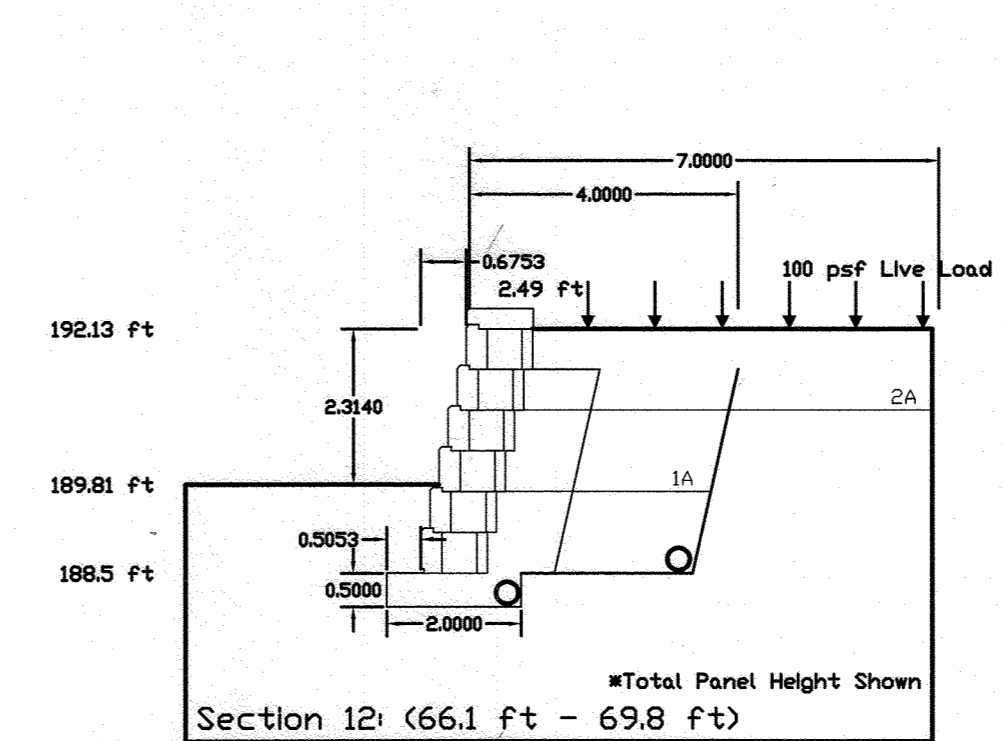
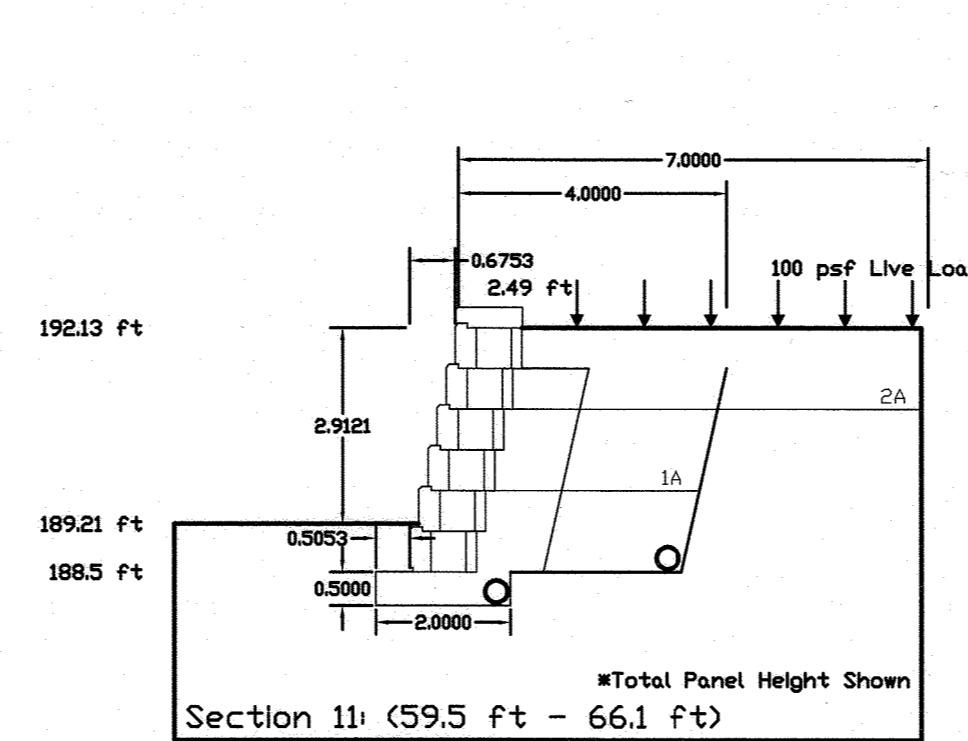
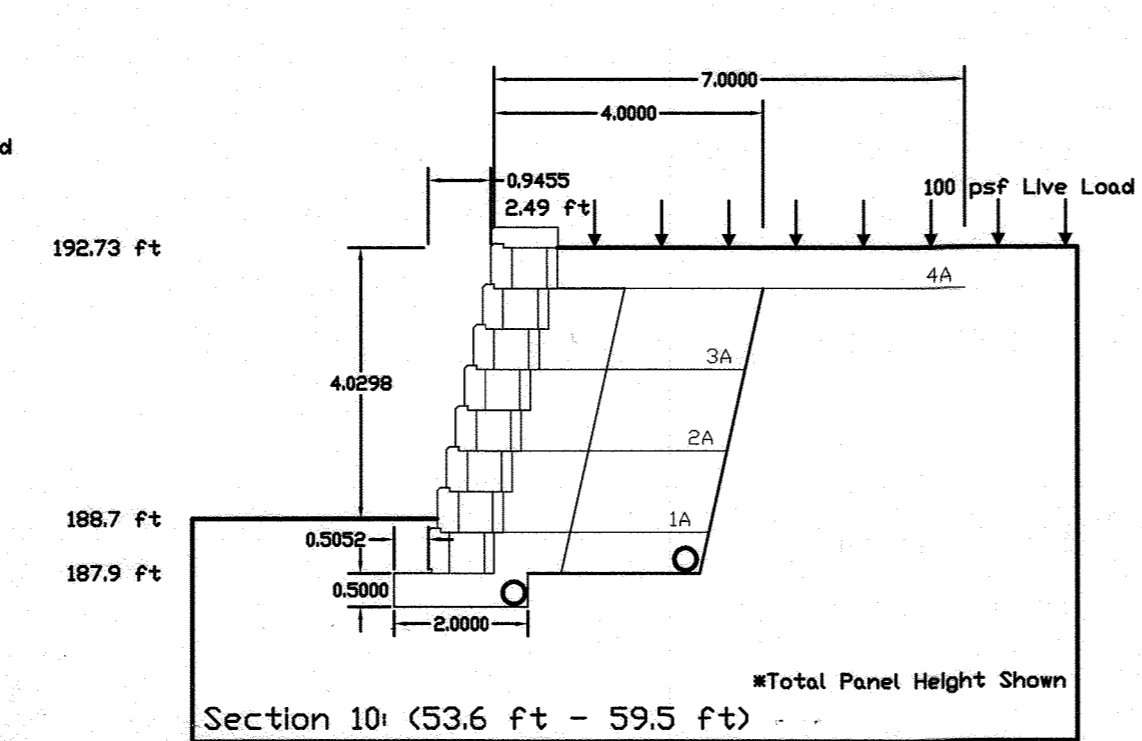
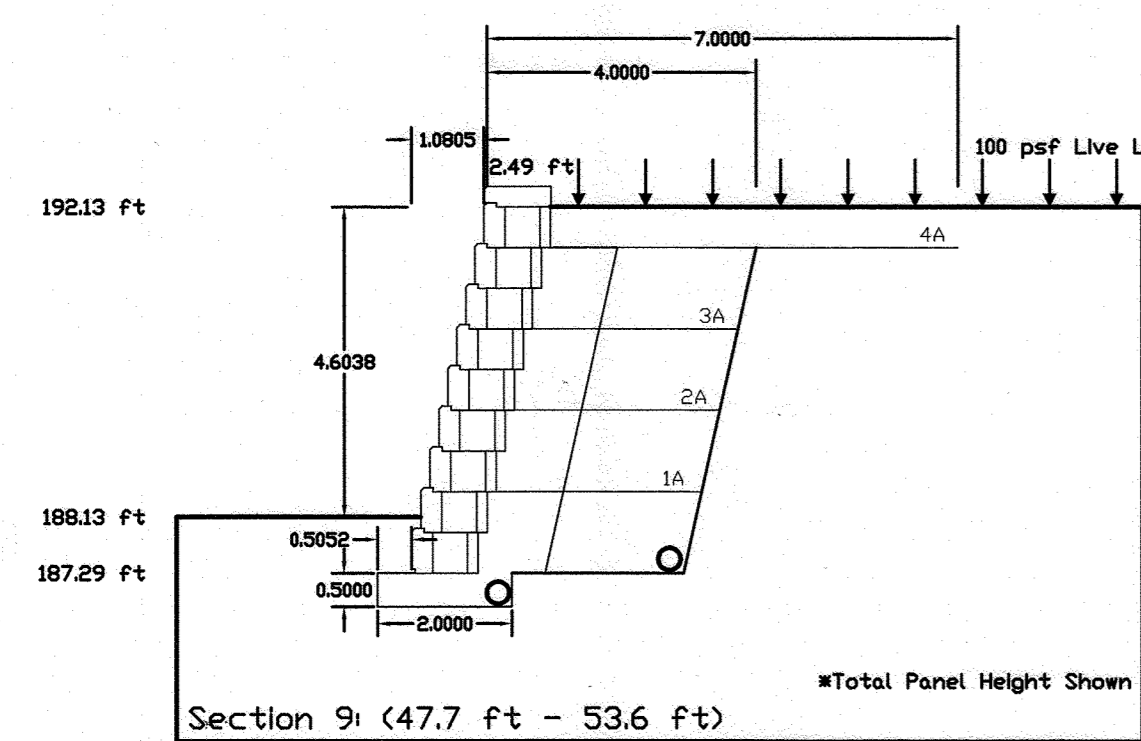
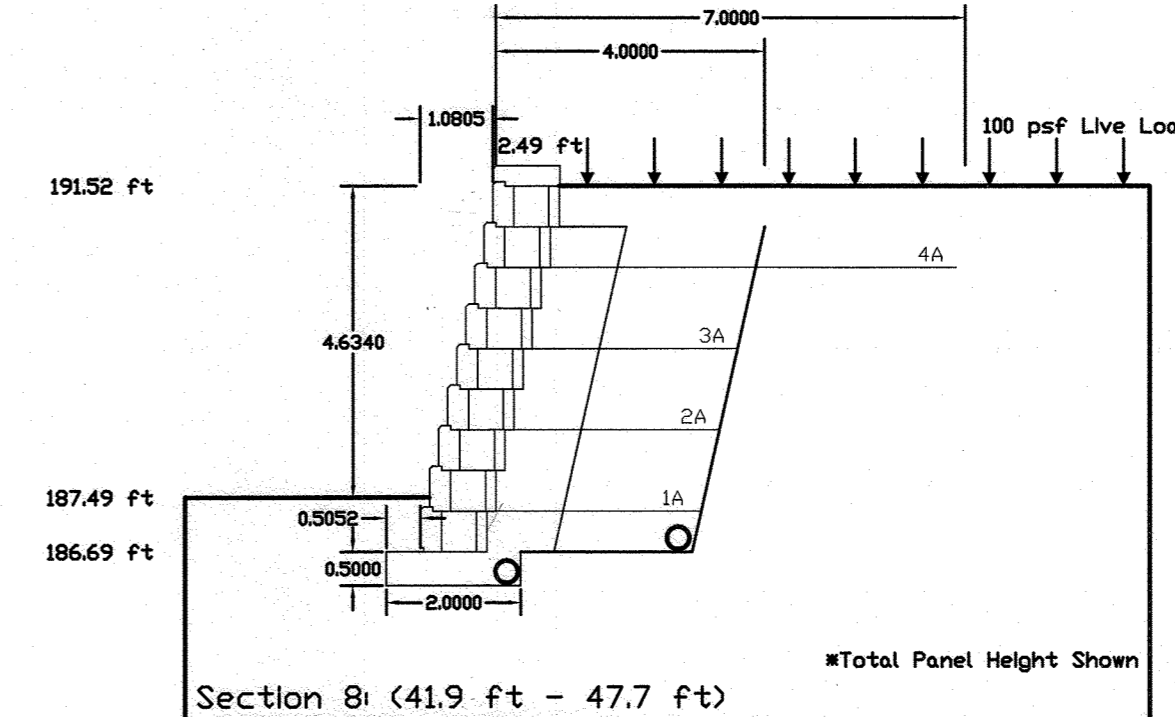
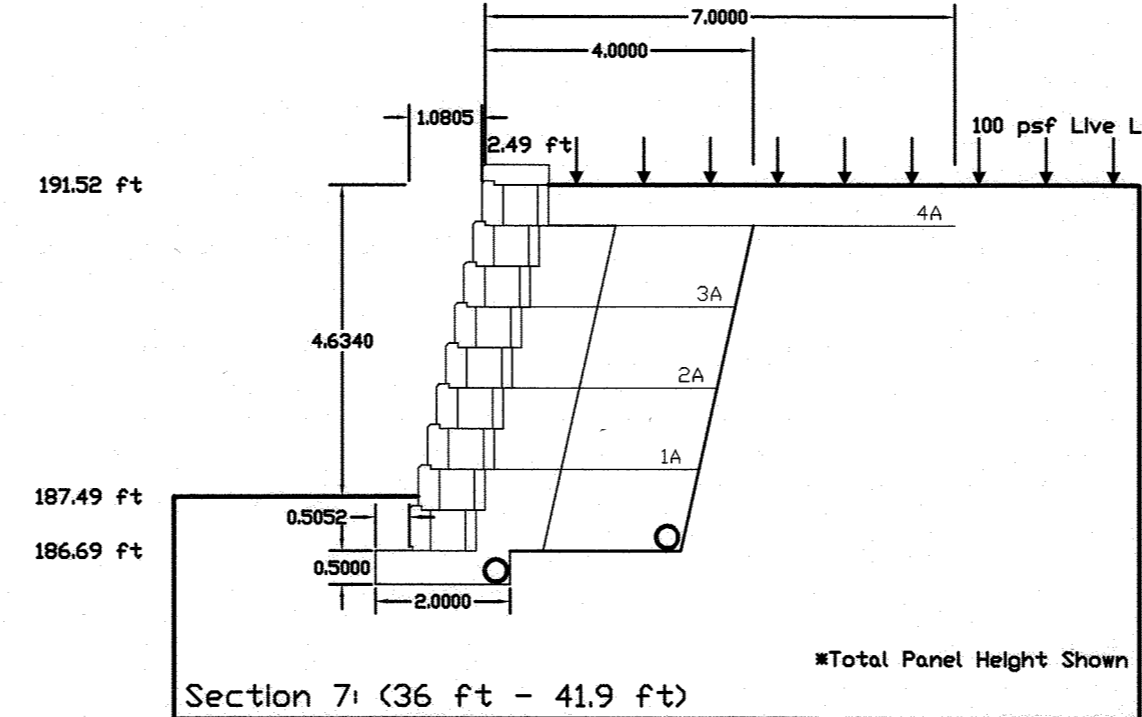
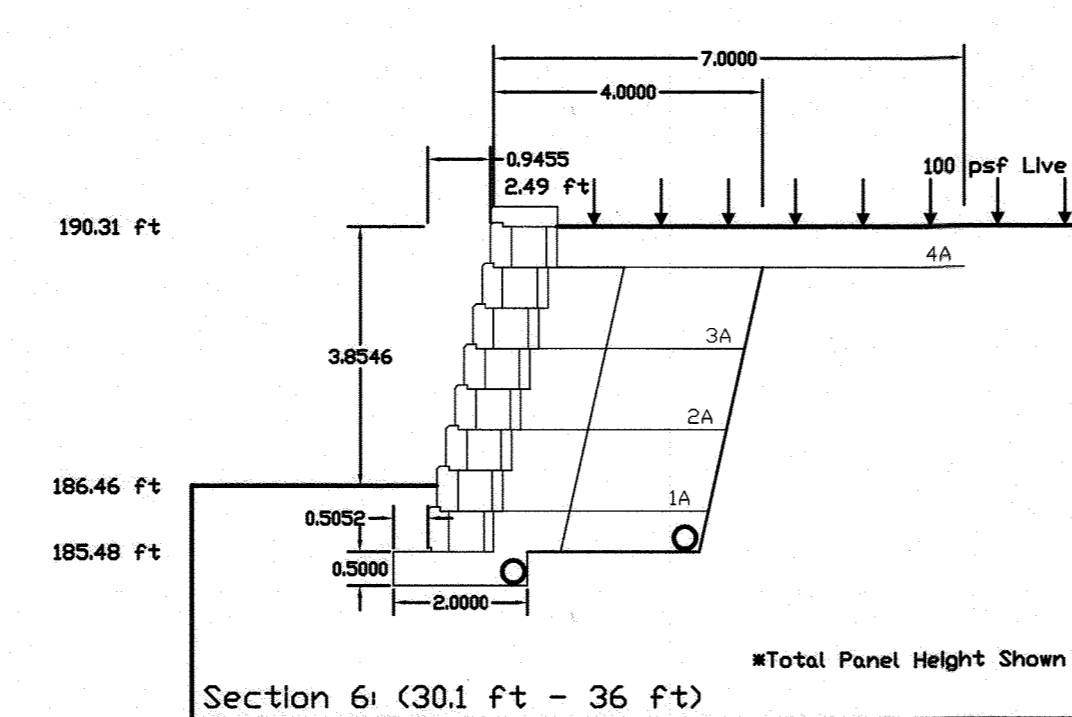
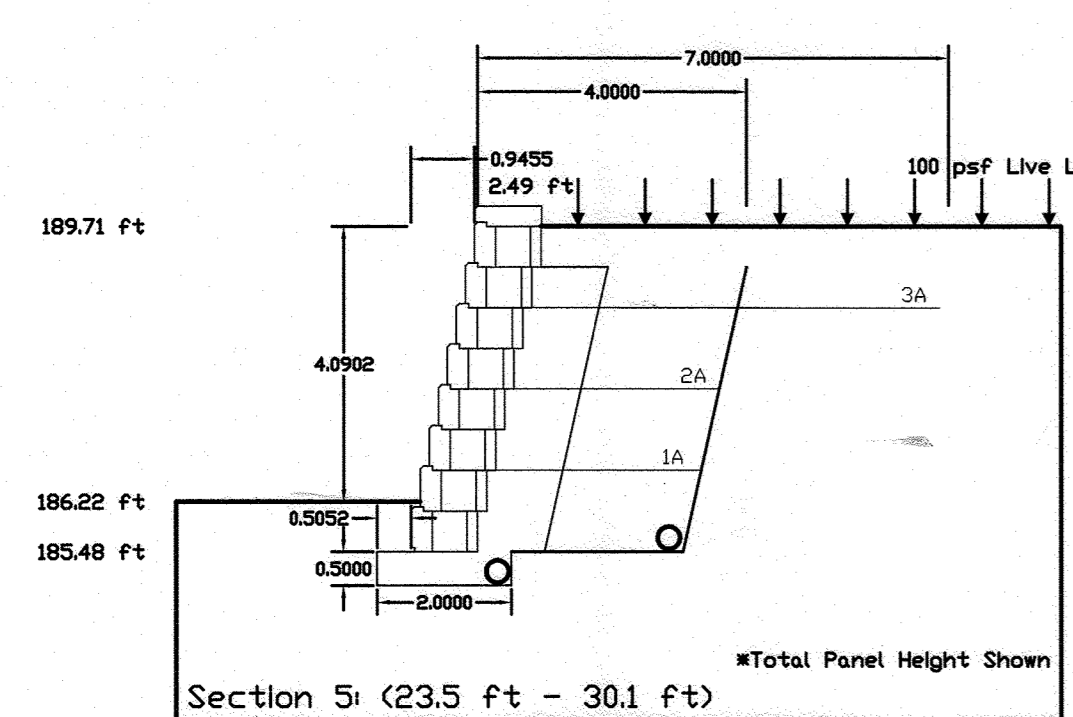
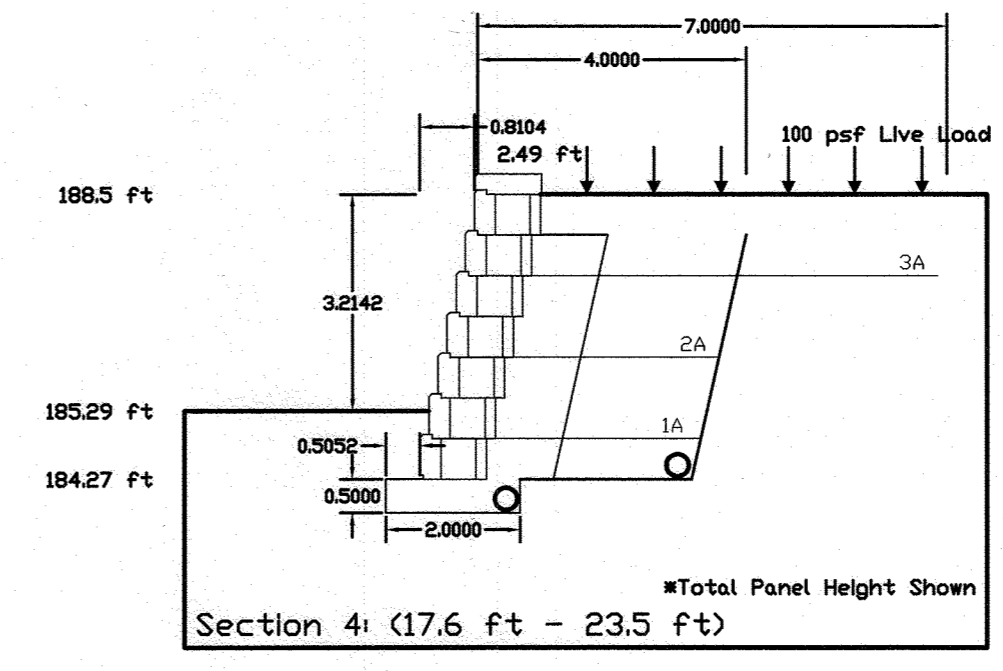
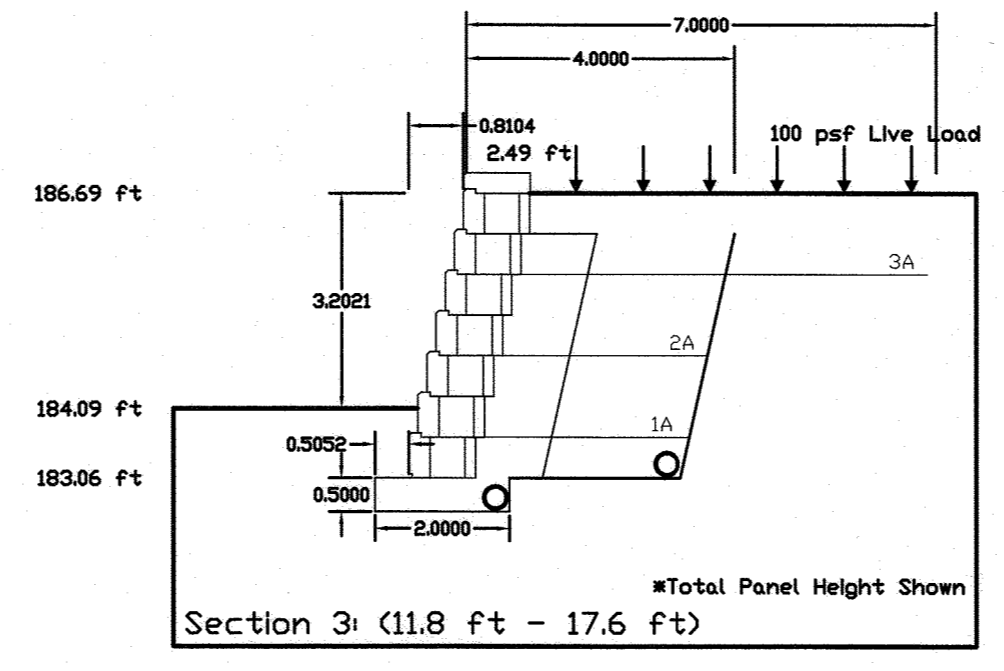
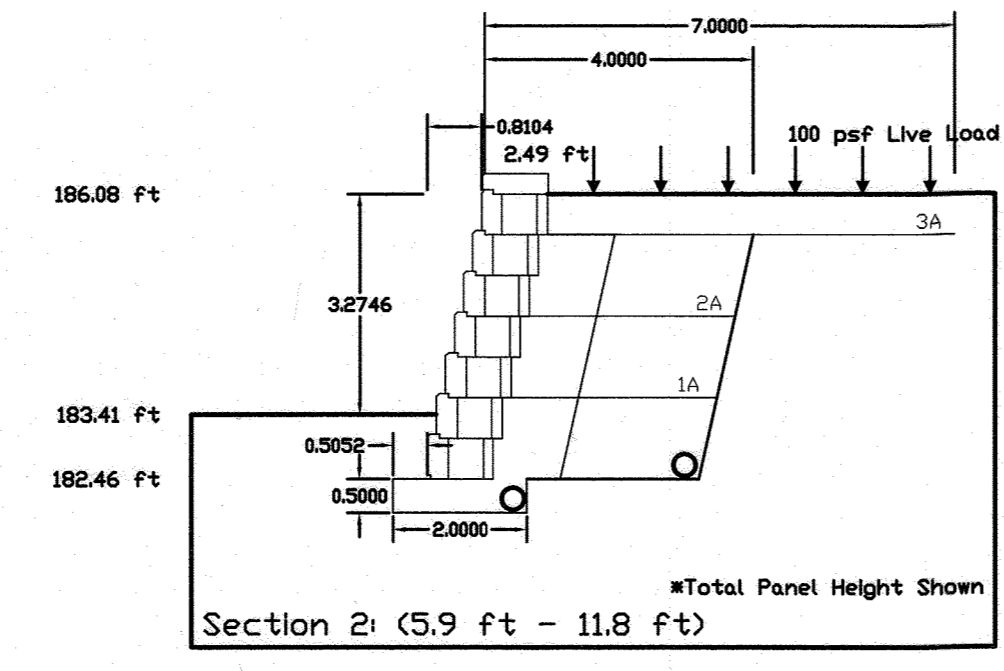
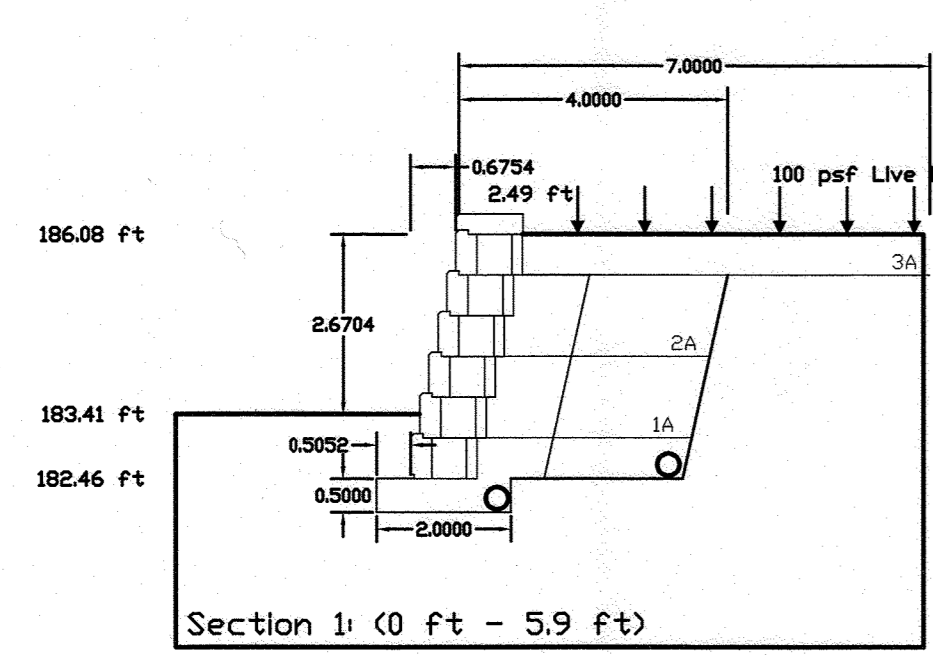


1 BEI	8/5/2019	PHASE 2 DEVELOPMENT	
NO.	DATE	REVISION	
BENCHMARK ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE SUITE 315 ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BEI-CIVILENGINEERING.COM		 GEOTECHNICAL LABORATORIES, INC. ENGINEERS • GEOLOGISTS • CONSULTANTS 8980 STATE ROUTE 108, SUITE D COLUMBIA, MARYLAND 21045 O: 410-772-2220 F: 410-772-2221 geolab@verizon.net	
OWNER/DEVELOPER:		TAX MAP: 43 - GRID: 11 - PARCEL: P/O 49	
KIT KAT ROAD PARTNERS II, LLC 107 FOREST DRIVE CATONSVILLE, MD 21228 410-340-9384		ZONED: M-2 (INDUSTRIAL) ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND	
		REVISED SITE DEVELOPMENT ALAN BLOCK SEGMENTAL RETAINING WALL #1	
		TYPICAL DETAILS	GEOLAB PROJECT NO. 116-183
		DATE: AUGUST, 2019	BEI PROJECT NO. 2781
DESIGN: BL	DRAFT: DR	SCALE: AS SHOWN	SHEET 30 OF 33



Panel 1
Elevation View

Note: Panel Sections cover the total over all height of each panel. See individual panel section drawings for geogrid strength and lengths, wall surcharge and slope above information.



APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 12/21/19
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 1-27-21
 DIRECTOR

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.: 18182
 Expiration Date: 3/12/21



1	8/5/2019	PHASE 2 DEVELOPMENT	
NO.	DATE	REVISION	
BENCHMARK ENGINEERING, INC. 8490 BALTIMORE NATIONAL PIKE SUITE 315 ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BE-CIVILENGINEERING.COM		geolab GEOTECHNICAL LABORATORIES, INC. ENGINEERS • GEOLOGISTS • CONSULTANTS 8990 STATE ROUTE 108, SUITE D COLUMBIA, MARYLAND 21045 O: 410-772-2220 F: 410-772-2221 geolab@verizon.net	
OWNER/DEVELOPER:		FAIRFAX RECYCLING, INC.	
KIT KAT ROAD PARTNERS II, LLC 107 FOREST DRIVE CATONSVILLE, MD 21228 410-340-9387		PARCEL 'A-1'	
TAX MAP: 43 - GRID: 11 - PARCEL: P/O 49 ZONED: M-2 (INDUSTRIAL) ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND		REVISED SITE DEVELOPMENT ALAN BLOCK SEGMENTAL RETAINING WALL RETAINING WALL #2	
DATE: JULY, 2019		GEO LAB PROJECT NO. 116-183	
DESIGN: BL DRAFT: DR		BEI PROJECT NO. 2781	
SCALE: AS SHOWN		SHEET 31 OF 33	

General Notes

Soil Notes

Soil loading considered in this design and calculations are based on the following parameters:

Table with 4 columns: Internal Friction Angle, Cohesion, Unit WT, Soil Type. Rows include Infill Soil, Retained Soil, and Foundation Soil.

Construction Notes

- 1. Actual soil parameters must not exceed these listed conditions...
2. Suggested Quality Assurance Requirements...
3. In this analysis, the effective friction angle without the addition of cohesion is used...
4. Global stability and seismic loading are not considered in this design...
5. Hydrostatic loading is not considered in this analysis...
6. Analysis assumes fill placement in 8 inch (200 mm) lifts...
7. All fill placed above walls shall be placed and compacted in accordance with the requirements for all other reinforced material...
8. Retaining wall units and installation shall conform to the Allan Block Modular Retaining Wall Systems Specification Guidelines...
9. Retaining walls must be installed and constructed according to the contract drawings...
10. Geogrid spacing is determined by structural cross-section design requirements...
11. Suggested Quality Assurance Requirements...
12. This wall was designed for use of AB Stones...
13. The wall must be constructed on soil that has a minimum bearing capacity of 2000 pounds per square foot (PSF).

Surface Drainage Notes

- 1. Rainfall and other water sources such as irrigation activities can be defined as surface water...
2. Site grading shall be designed to route surface water around and away from the wall...
3. The internal drainage system of the retaining wall designed to remove incidental water that infiltrates into the soil behind the wall...
4. Drain piping, toe drain, should be located at the back of the rock drain field behind the wall as close to the bottom of the wall as allowed...
5. A heel drain may be required at back of the cut to route water away from the reinforced soil mass during the construction process...
6. Ground water can be present within the soil due to surface infiltration or water table fluctuation...
7. All water collection devices such as roof downspouts, storm sewers, and curb gutters must be designed to accommodate maximum flow rates and outlet outside the retaining wall area...
8. Retaining walls in contact with standing water to overlap the wall face are considered water applications... These walls require specific design and construction steps to ensure performance.

Specification Guidelines: Allan Block Modular Retaining Wall Systems

The following specifications provide Allan Block Corporation's typical requirements and recommendations. At the engineer of record's discretion these specifications may be revised to accommodate site specific design requirements.

SECTION 1: ALLAN BLOCK MODULAR RETAINING WALL SYSTEMS

PART 1: GENERAL

- 1.1 Scope
1.2 Applicable Sections of Related Work
1.3 Reference Standards
1.4 Delivery, Storage, and Handling
1.5 Contractor Requirements

PART 2: MATERIALS

- 2.1 Modular Wall Units
2.2 Wall Rock
2.3 Infill Soil

PART 3: WALL CONSTRUCTION

- 3.1 Excavation
3.2 Foundation Soil Preparation
3.3 Base

3.4 Unit Installation

- A. Install units in accordance with the manufacturer's instructions and recommendations for the specific concrete retaining wall unit, and as specified herein.
B. Ensure that units are in full contact with base. Proper care shall be taken to develop straight lines and smooth curves on base course as per wall layout.
C. Fill all cores and cavities and a minimum of 12 in. (300 mm) behind the base course with wall rock. Use infill soils behind the wall rock and approved soils in front of the base course to firmly lock in place. Check again for level and alignment. Use a plate compactor to consolidate the area behind the base course. All excess material shall be swept from top of units.
D. Install next course of wall units on top of base course. Position blocks to be offset from seams of blocks below. Perfect running bond is not essential, but a 3 in. (75 mm) minimum offset is recommended. Check each block for proper alignment and level. Fill all cavities in and around wall units and to a minimum of 12 in. (300 mm) depth behind block with wall rock. Block, wall rock and infill soil placed in uniform lifts not exceeding 8 in. (200 mm). Compaction requirements for all soils in areas in, around and behind the reinforced mass shall be compacted to 95% of maximum Standard Proctor dry density (ASTM D698) with a moisture content control of +/- .2% of optimum.
E. For taller wall applications, structural fill should be specified for a minimum bottom 1/3 to 1/2 of the reinforced fill. If structural fill is not utilized in reinforced mass, the depth of wall rock behind the block should be increased. See the Best Practices For SRV Design document for more information.
F. The consolidation zone shall be defined as 3 ft (0.9 m) behind the wall. Compaction within the consolidation zone shall be accomplished by hand operated plate compactor and shall begin by running the plate compactor directly on the block and then compacting in parallel paths from the wall face until the entire consolidation zone has been compacted. A minimum of two passes of the plate compactor are required with a 3 in. (75 mm) offset between passes. A minimum of 20 passes of the plate compactor are required with maximum lifts of 8 in. (200 mm). Compaction requirements for all soils in areas in, around and behind the reinforced mass shall be compacted to 95% of maximum Standard Proctor dry density (ASTM D698) with a moisture content control of +/- .2% of optimum.
G. For taller wall applications, structural fill should be specified for a minimum bottom 1/3 to 1/2 of the reinforced fill. If structural fill is not utilized in reinforced mass, the depth of wall rock behind the block should be increased. See the Best Practices For SRV Design document for more information.
H. As with any construction work, some deviation from construction drawing alignments will occur. Variability in construction of SRVs is approximately equal to that of cast-in-place concrete retaining walls. As opposed to cast-in-place concrete walls, alignment of SRVs can be simply corrected or modified during construction. Based upon examination of numerous completed SRVs, the following recommended minimum tolerances can be achieved with good construction techniques.
Vertical Control +/-1.25 in. (32 mm) max. over 10 ft (3 m) distance
Horizontal Location Control - straight lines +/-1.25 in. (32 mm) over a 10 ft (3 m) distance
Rotation - from established plan wall bottom 2.0 deg
Bearing - 1.25 in. (32 mm) over a 10 ft (3 m) distance

3.5 Additional Construction Notes

- A. When one wall branches into two terraced walls, it is important to note that the soil behind the lower wall is also the Foundation Soil beneath the upper wall. The soil shall be compacted to a minimum of 95% of Standard Proctor (ASTM D698) prior to placement of the base material. In the event that the soil beneath an upper terrace prevents settlement and deformation of the upper wall, one way is to replace the soil with wall rock and compact in 8 in. (200 mm) lifts. When using on-site soils, compact in maximum lifts of 4 in. (100 mm) or as required.
B. Vertical filter fabric use is not suggested for use with cohesive soils. Dogging of such fabric creates unacceptable hydrostatic pressures in soil reinforced structures. Vertical filter fabric may be used to separate the wall rock zone from fine grained, sandy infill soils if the design engineer deems it necessary based on potential water migration from above or below grade, through the reinforced zone into the wall rock on the project. Horizontal filter fabric should be placed above the wall rock column to prevent soils from migrating into the wall rock column.
C. Embankment protection fabric is used to stabilize rip rap and foundation soils in water applications and to separate infill materials from the foundation soils. This fabric should prevent the passage of fines to preclude clogging of the material. Embankment protection fabric shall be a high strength polypropylene nonflotation material designed to meet or exceed typical Corps of Engineers plastic filter fabric specifications (CV-0225) stabilized against ultraviolet (UV) degradation and typically exceeding the values in Table 1, page 7 of the AB Spec Book.
D. Vector management of the wall during construction. Steps must be taken to ensure that drain pipes are properly installed and oriented to daylight or connected to an underground drainage system and a grading plan has been developed that routes water away from the retaining wall location. Site water management is required both during construction of the wall and after completion of construction.

Specification Guidelines: Geogrid Reinforcement Systems

The following specifications provide Allan Block Corporation's typical requirements and recommendations. At the engineer of record's discretion these specifications may be revised to accommodate site specific design requirements.

SECTION 2

PART 1: GENERAL

- 1.1 Scope
1.2 Applicable Sections of Related Work
1.3 Reference Standards
1.4 Delivery, Storage, and Handling

PART 2: MATERIALS

- 2.1 Definitions
2.2 Products
2.3 Acceptable Manufacturers

PART 3: WALL CONSTRUCTION

- 3.1 Foundation Soil Preparation
3.2 Wall Construction
3.3 Geogrid Installation

3.4 Fill Placement

- A. Infill soil shall be placed in lifts and compacted as specified under Section 1, Part 3.4, Unit Installation.
B. Infill soil shall be placed, spread and compacted in such a manner that minimizes the development of slack or movement of the geogrid.
C. Only hand-operated compaction equipment shall be allowed within 3 ft (0.9 m) behind the wall. This area shall be defined as the consolidation zone. Compaction in this zone shall begin by running the plate compactor directly on the block and then compacting in parallel paths to the wall face until the entire consolidation zone has been compacted. A minimum of two passes of the plate compactor are required with maximum lifts of 8 in. (200 mm). Section 1, Part 3.4 F, Page 3 of the AB Spec Book.
D. When fill is placed and compaction cannot be defined in terms of Standard Proctor Density, then compaction shall be performed using ordinary compaction process and compacted so that no deformation is observed from the compaction equipment or to the satisfaction of the engineer of record or the site soils engineer.
E. Tracked construction equipment shall not be operated directly on the geogrid. A minimum fill thickness of 6 in. (150 mm) is required prior to operation of tracked vehicles over the geogrid. Turning of tracked vehicles should be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid.
F. Rubber-tired equipment may pass over the geogrid reinforcement at slow speeds, less than 10 mph (16 km/h). Sudden braking and sharp turning shall be avoided.
G. The infill soil shall be compacted to achieve 95% Standard Proctor (ASTM D698). Soil tests of the infill soil shall be submitted to the on-site soils engineer for review and approval prior to the placement of any material. The contractor is responsible for achieving the specified compaction requirements. The on-site soils engineer may direct the contractor to remove, correct or amend any soil found not in compliance with these written specifications.
H. An independent testing firm should be hired by the owner to provide services.
I. Independent firm to keep inspection log and provide written reports at predetermined intervals to the owner.
J. Testing frequency shall be based on a proper compaction protocol to consistently achieve the minimum compaction requirements set by the design requirements. If full the inspection and testing at 8 inch (200 mm) lifts is not provided, then the following testing frequency should be followed:
a. One test for every 8 inches (200 mm) of vertical fill placed and compacted, for every 25 linear feet (7.6 m) of retaining wall length, starting on the first course of block.
b. Every compaction test locations to cover the entire area of reinforced zone including the area compacted by the hand-operated compaction equipment.
c. Once protocol is deemed acceptable, testing can be conducted randomly at locations and frequencies determined by the on-site soils engineer.
K. Slopes above the wall must be compacted and checked in a similar manner.

3.5 Special Considerations

- A. Geogrid can be interrupted by periodic penetration of a column, pier or footing structure.
B. Allan Block walls with geogrid reinforcing with rear and front retaining walls and ground.
C. If site conditions will not allow geogrid embedment length, consider the following alternatives:
Masonry Reinforced Walls - Nail Nailing - Increased Wall Batter - Earth Anchors - Double Allan Block Wall - Rock Bolts - No-Fines Concrete
See Design Details Page 16 and 17 of the AB Spec Book.
D. Allan Block may be used in a wide variety of water applications as indicated in Section 3, Part 1.8.

Specification Guidelines: Water Management

The following specifications provide Allan Block Corporation's typical requirements and recommendations. At the engineer of record's discretion these specifications may be revised to accommodate site specific design requirements.

SECTION 3

PART 1: GENERAL DRAINAGE

1.1 Surface Drainage

- Rainfall or other water sources such as irrigation activities collected by the ground surface atop the retaining wall can be defined as surface water. Retaining wall design shall take into consideration the management of this water.
A. At the end of each day's construction and at final completion, grade the backfill to avoid water accumulation behind the wall or in the reinforced zone.
B. Surface water must not be allowed to pond or be trapped in the area above the wall or at the toe of the wall.
C. Existing slopes adjacent to retaining wall or slopes created during the grading process shall include drainage details so that surface water will not be allowed to drain over the top of the slope face and/or wall. This may require a combination of berms and surface drainage ditches.
D. Erosion protection of the site shall be done in a controlled and reasonable manner. If an irrigation system is employed, the design engineer or irrigation manufacturer shall provide details and specification for required equipment to ensure against over irrigation which could damage the structural integrity of the retaining wall system.
E. Surface water cannot be diverted from the retaining wall system. Surface water must be collected with surface drainage swales and drained laterally in order to disperse the water around the wall structure. Construction of a typical swale system shall be in accordance with Design Detail 5 Swales, of the AB Spec Book.

1.2 Grading

- The shaping and contouring of land in order to prepare it for site development is grading. Site grading shall be designed to route water around the walls.
A. Establish final grade with a positive gradient away from the wall structure. Concentrations of surface water runoff shall be managed by providing necessary structures, such as paved ditches, drainage swales, catch basins, etc.
B. Grading designs must divert sources of concentrated surface flow, such as parking lots, away from the wall.

1.3 Drainage System

- The internal drainage systems of the retaining wall can be described as the means of eliminating the buildup of incidental water which infiltrates the soils behind the wall. Drainage system design will be a function of the water conditions on the site. Possible drainage facilities include toe and heel drainage collection pipes and blanket or chimney rock drains or others. Design engineer shall determine the required drainage facilities to completely drain the retaining wall structure for each particular site condition.
A. All walls shall be constructed with a minimum of 12 in. (300 mm) of wall rock directly behind the wall facing. The material shall meet or exceed the specification for wall rock outlined in Section 1, 2.2 Wall Rock.
B. The drainage collection pipe, drain pipe, shall be a 4 in. (100 mm) perforated or slotted PVC, or corrugated HDPE pipe as approved by engineer.
C. All walls will be constructed with a 4 in. (100 mm) diameter drain pipe placed at the lowest possible elevation within the 12 in. (300 mm) of wall rock. This drain pipe is referred to as a toe drain, Section 3, 1.4 Toe Drain.
D. Geogrid Reinforced Walls shall be constructed with an additional 4 in. (100 mm) drain pipe at the back bottom of the reinforced soil mass. This drain pipe is referred to as a heel drain, Section 3, 1.5 Heel Drain.

1.4 Toe Drain

- A toe drain pipe should be located at the back of the wall rock behind the wall as close to the bottom of the wall as allowed while still maintaining a positive gradient for drainage to daylight, or a storm water management system. Toe drains are installed for incidental water management not as a primary drainage system.
A. For site configurations with bottoms of the base on a level plane it is recommended that a minimum one percent gradient be maintained on the toe drain pipe. If the toe drain pipe is crowned between the toe and heel drains, the toe drain pipe shall be crowned between the outlets. This would provide for a maximum height above the bottom of the base in a flat configuration of no more than 6 in. (150 mm).
B. For rigid drain pipes with drain holes the pipes should be positioned with the holes located down. Allan Block does not require that toe drain pipes be wrapped when installed into base rock complying with the specified wall rock material.
C. Pipes shall be routed to storm drains where appropriate or through or under the wall at low points when the job site grading and site layout allows for routing. Appropriate details shall be included to prevent pipes from being crushed, plugged, or infested with rodents.
D. In sites where the natural ground grade exceeds the one percent minimum, drain pipes outlets shall be on 100 foot (30 m) centers maximum. This will provide outlets in the event that excessive water flow exceeds the capacity of pipe over long stretches.
E. When the drain pipe must be raised to accommodate outlets through the wall face, refer to the Design Detail 4 Alternate Drain, Page 13 of the AB Spec Book.

1.5 Heel Drain

- The purpose of the heel drain is to pick up any water that migrates from behind the retaining wall structure at the cut and route the water away from the reinforced mass during the construction process and for incidental water for the life of the structure.
A. The piping used at the back of the reinforcement mass shall have a one percent minimum gradient over the length. It is not critical for the pipe to be crowned between the toe and heel drains, but the pipe shall be crowned between the outlets. This would provide for a maximum height above the bottom of the base in a flat configuration of no more than 6 in. (150 mm).
B. For rigid drain pipes with drain holes the pipes should be positioned with the holes located down. Allan Block does not require that toe drain pipes be wrapped when installed into base rock complying with the specified wall rock material.
C. Pipes shall be routed to storm drains where appropriate or through or under the wall at low points when the job site grading and site layout allows for routing. Appropriate details shall be included to prevent pipes from being crushed, plugged, or infested with rodents.
D. In sites where the natural ground grade exceeds the one percent minimum, drain pipes outlets shall be on 100 foot (30 m) centers maximum. This will provide outlets in the event that excessive water flow exceeds the capacity of pipe over long stretches.
E. When the drain pipe must be raised to accommodate outlets through the wall face, refer to the Design Detail 4 Alternate Drain, Page 13 of the AB Spec Book.

1.6 Ground Water

- Ground water can be defined as water that occurs within the soil. It may be present because of surface infiltration or water table fluctuation. Ground water movement must not be allowed to come in contact with the retaining wall.
A. If water is encountered in the area of the wall during excavation or construction, a drainage system (chimney, composite or blanket) must be installed as directed by the wall design engineer.
B. Standard retaining wall designs do not include hydrostatic forces associated with the presence of ground water. If adequate drainage is not provided the retaining wall design must consider the presence of the water.
C. When non-free draining soils (soils with friction angles less than 30 degrees) are used in the reinforced zone, the incorporation of a chimney and blanket drain should be added to minimize the water penetration into the reinforced mass. Refer to Design Detail 6 Chimney and Blanket Drain, Page 13 of the AB Spec Book.
D. Manufactured chimney and blanket drains to be approved by the geotechnical and/or the local engineer of record prior to use.

1.7 Concentrated Water Sources

- All collection devices such as roof downspouts, storm sewers, and curb gutters are concentrated water sources. They must be designed to accommodate maximum flow rates and to vent outside of the wall area.
A. All roof downspouts of nearby structures shall be sized with adequate capacity to carry storm water from the roof away from the wall area. They shall be connected to a drainage system in closed pipe or through the passage of the material. Embankment protection fabric shall be a high strength polypropylene nonflotation material designed to meet or exceed typical NTPPE specifications stabilized against ultraviolet light and UV degradation and typically exceeding the values in Table 1, page 7 of the AB Spec Book.
B. Site layout must take into account locations of retaining wall structures and all site drainage paths. Drainage paths should always be away from retaining wall structures.
C. Storm sewers and catch basins shall be located away from retaining wall structures and designed so as not to introduce any incidental water into the reinforced soil mass.
D. A path to route storm sewer overflow must be incorporated into the site layout to direct water away from the retaining wall structure.

1.8 Water Application

- Retaining walls constructed under conditions that allow standing or moving water to come in contact with the wall face are considered water applications. These walls require specific design and construction steps to ensure performance. Refer to Design Detail 7 and 8 Water Applications, Page 13 of the AB Spec Book.
A. The back rock should be placed to the lifts of the geogrid lengths up to a height equal to 12 inches (30 cm) higher than the determined high water mark. If the high water mark is unknown, the entire infill zone should be constructed with wall rock.
B. The drain pipe should be raised to the low water elevation to aid in the evacuation of water from the reinforced mass as water level fluctuates.
C. Embankment protection fabric is used to stabilize rip rap and foundation soils in water applications and to separate infill materials from the foundation soils. This fabric should prevent the passage of fines to preclude clogging of the material. Embankment protection fabric shall be a high strength polypropylene nonflotation material designed to meet or exceed typical NTPPE specifications stabilized against ultraviolet light and UV degradation and typically exceeding the values in Table 1, page 7 of the AB Spec Book.

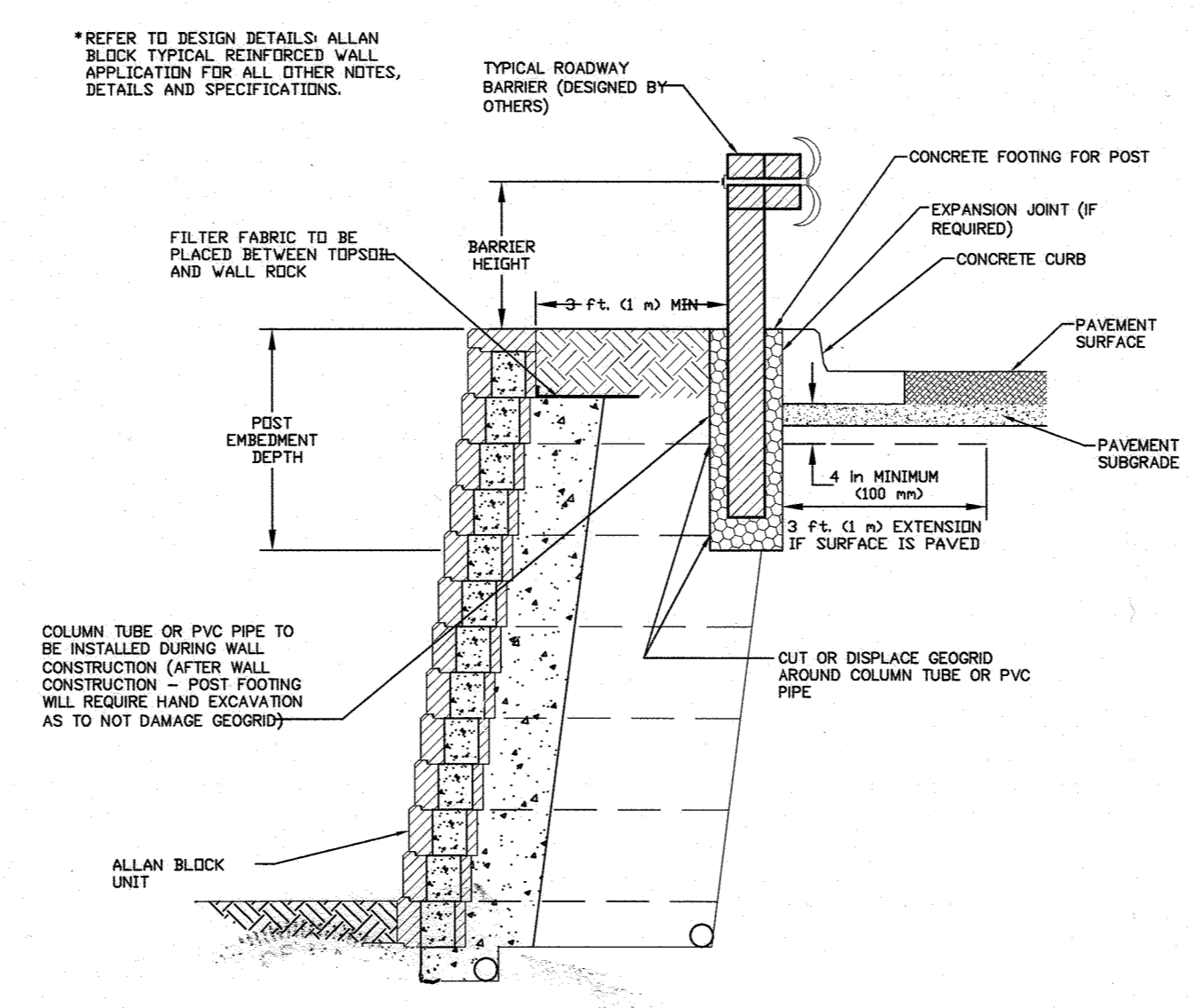
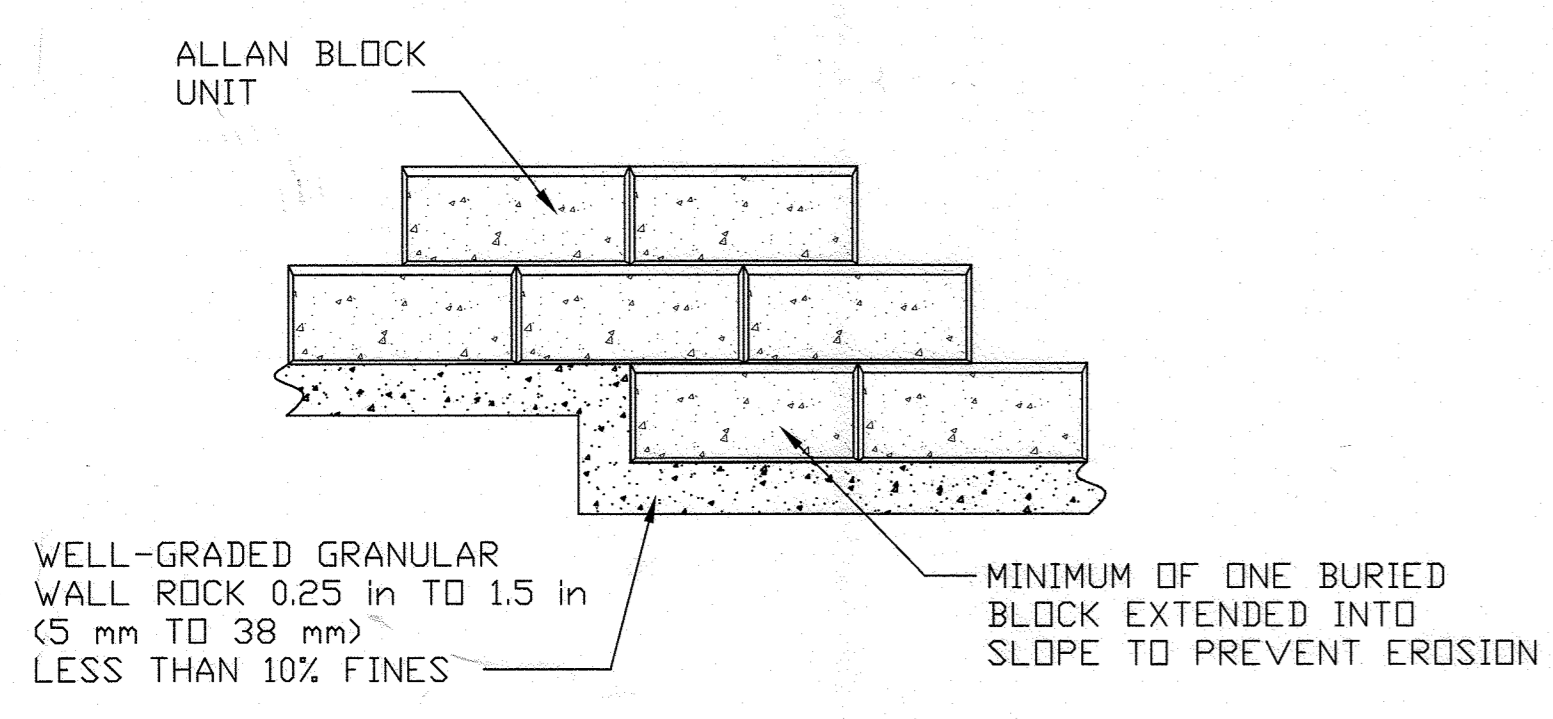
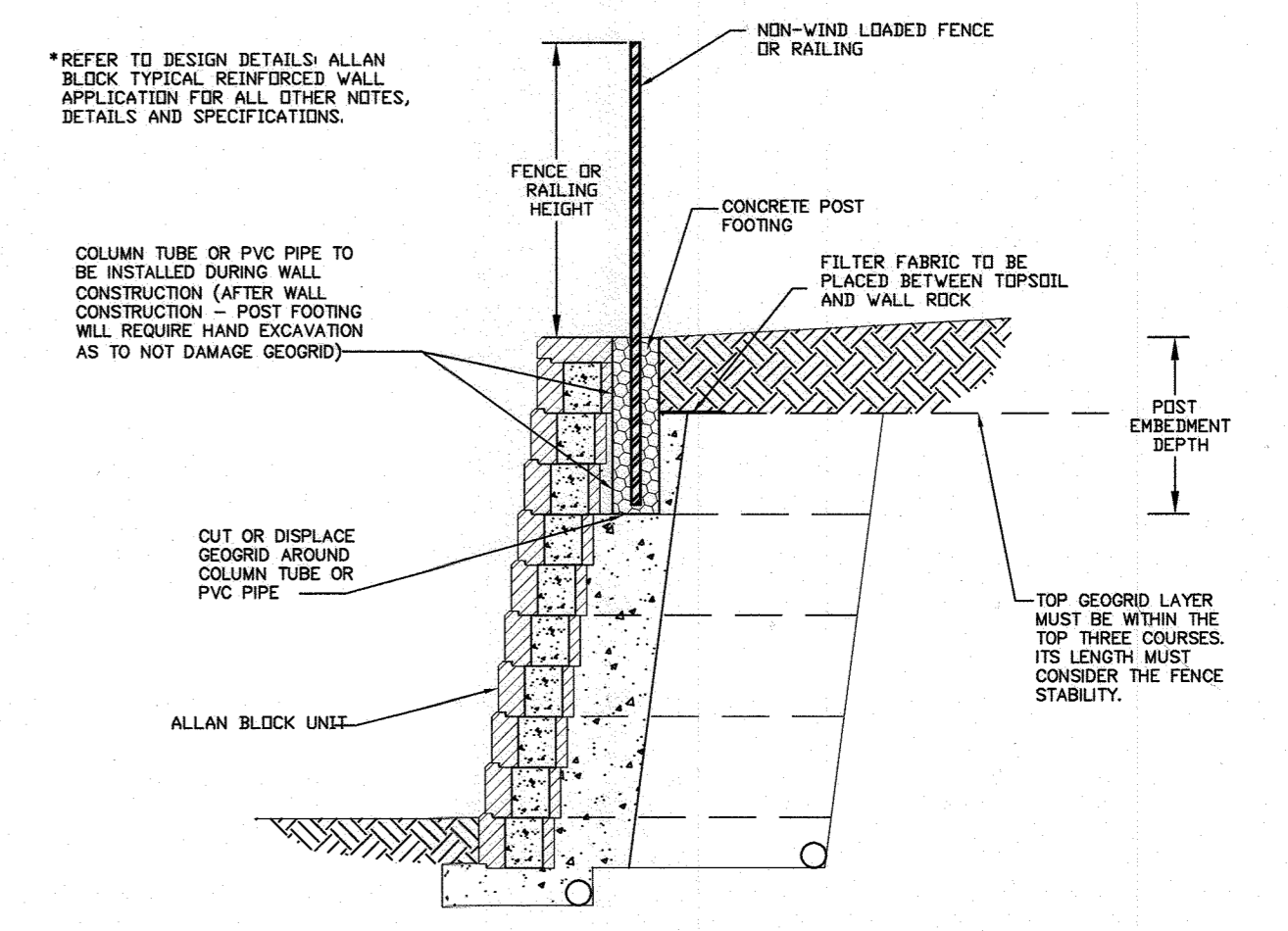
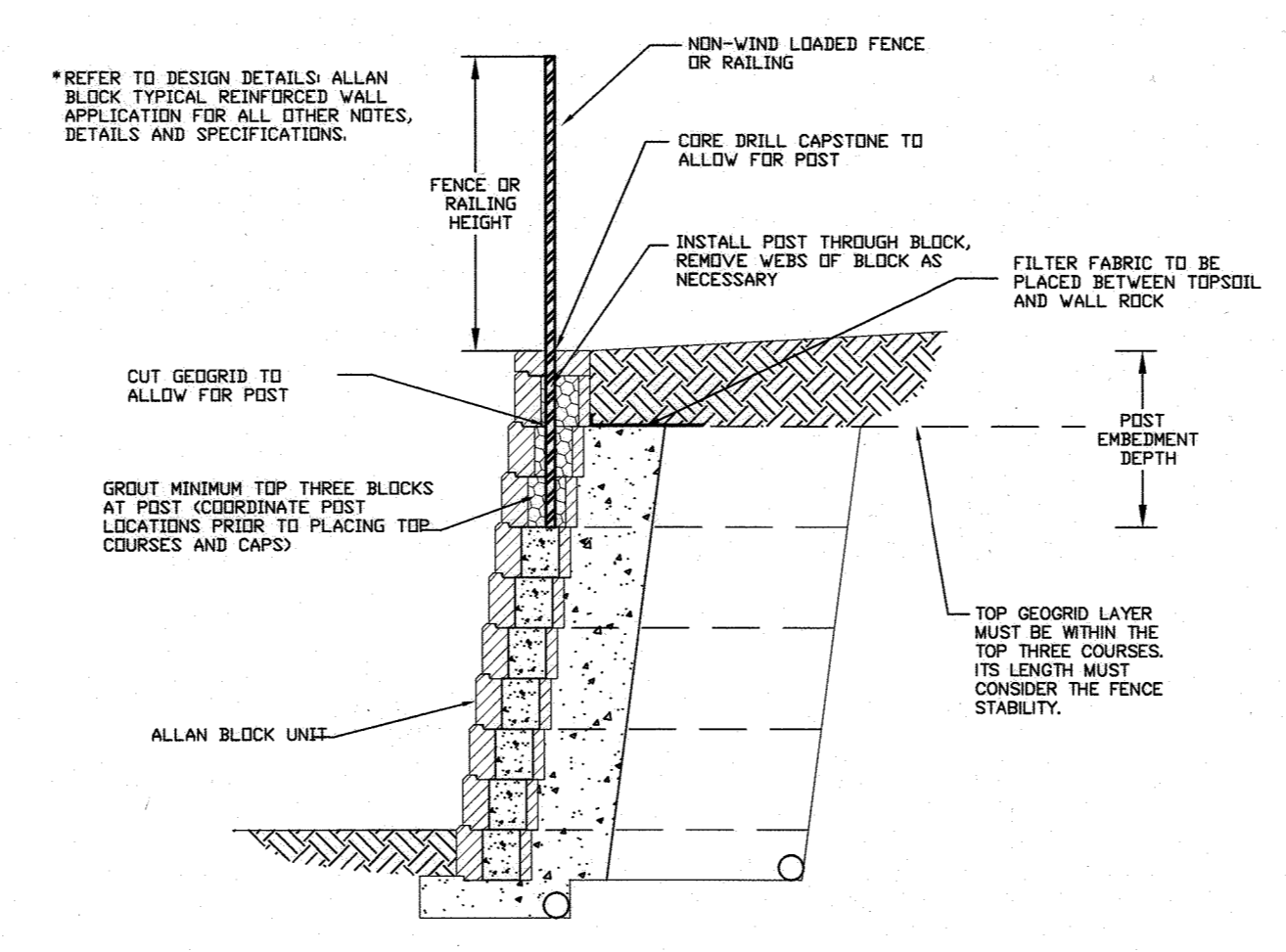
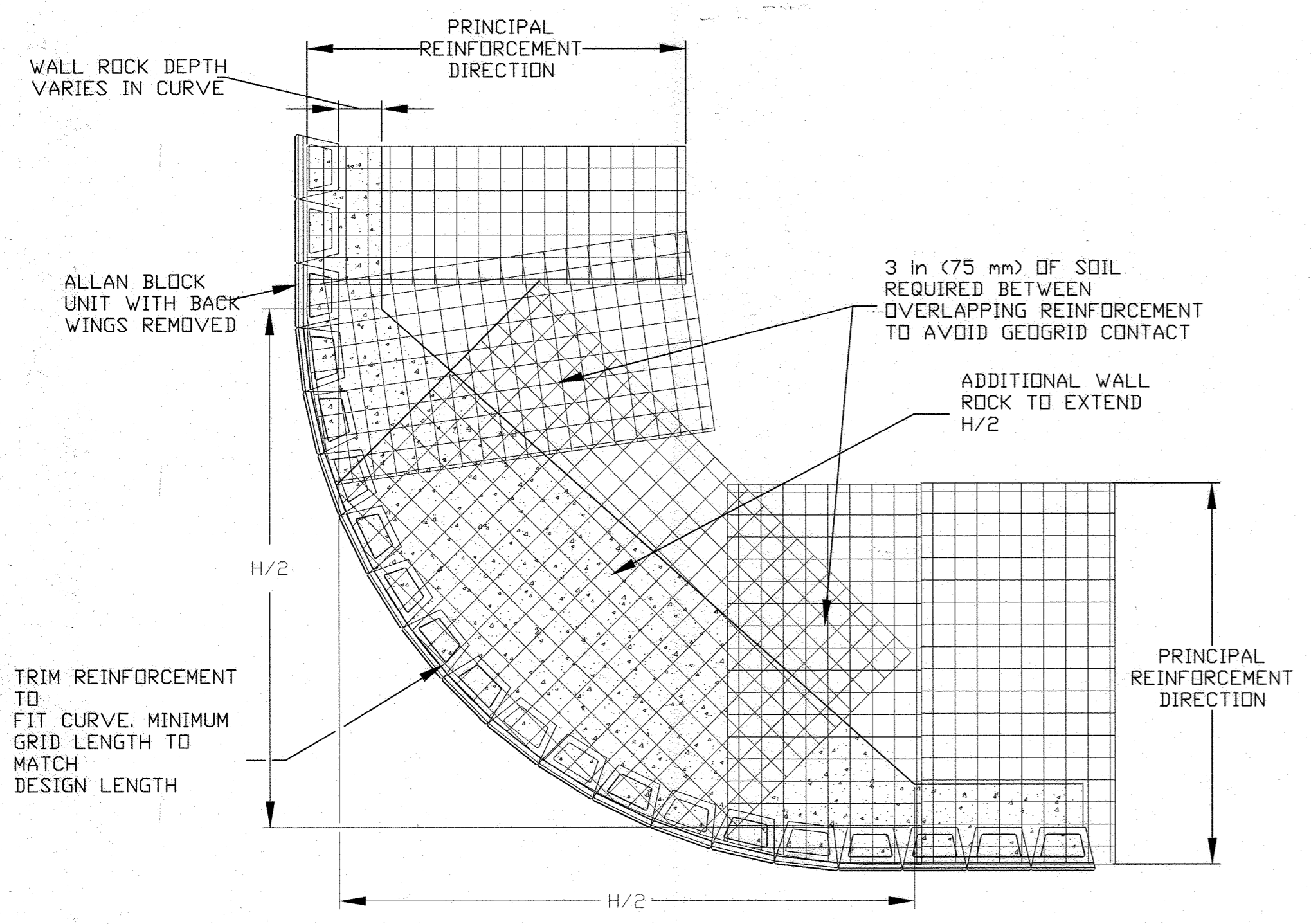
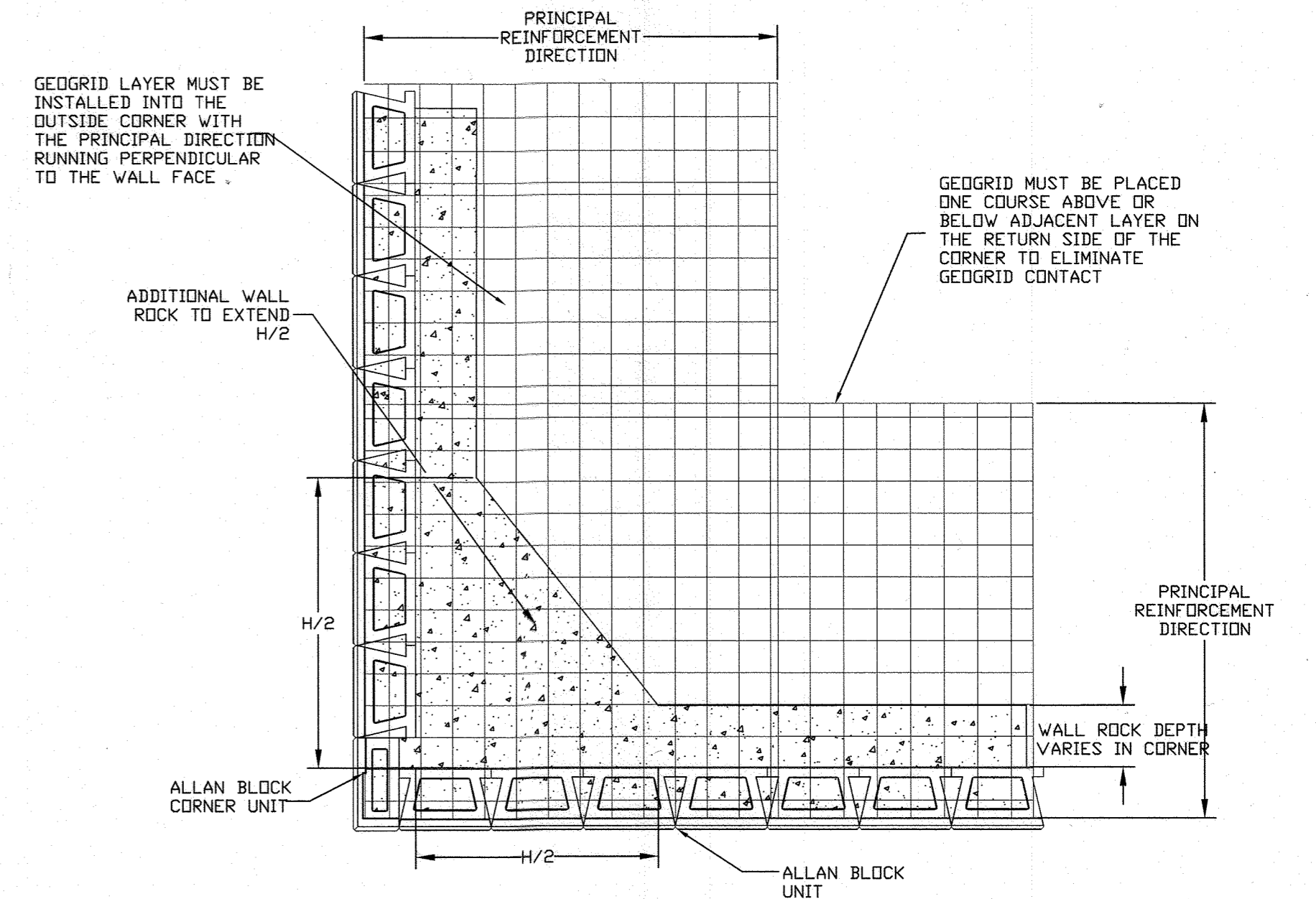
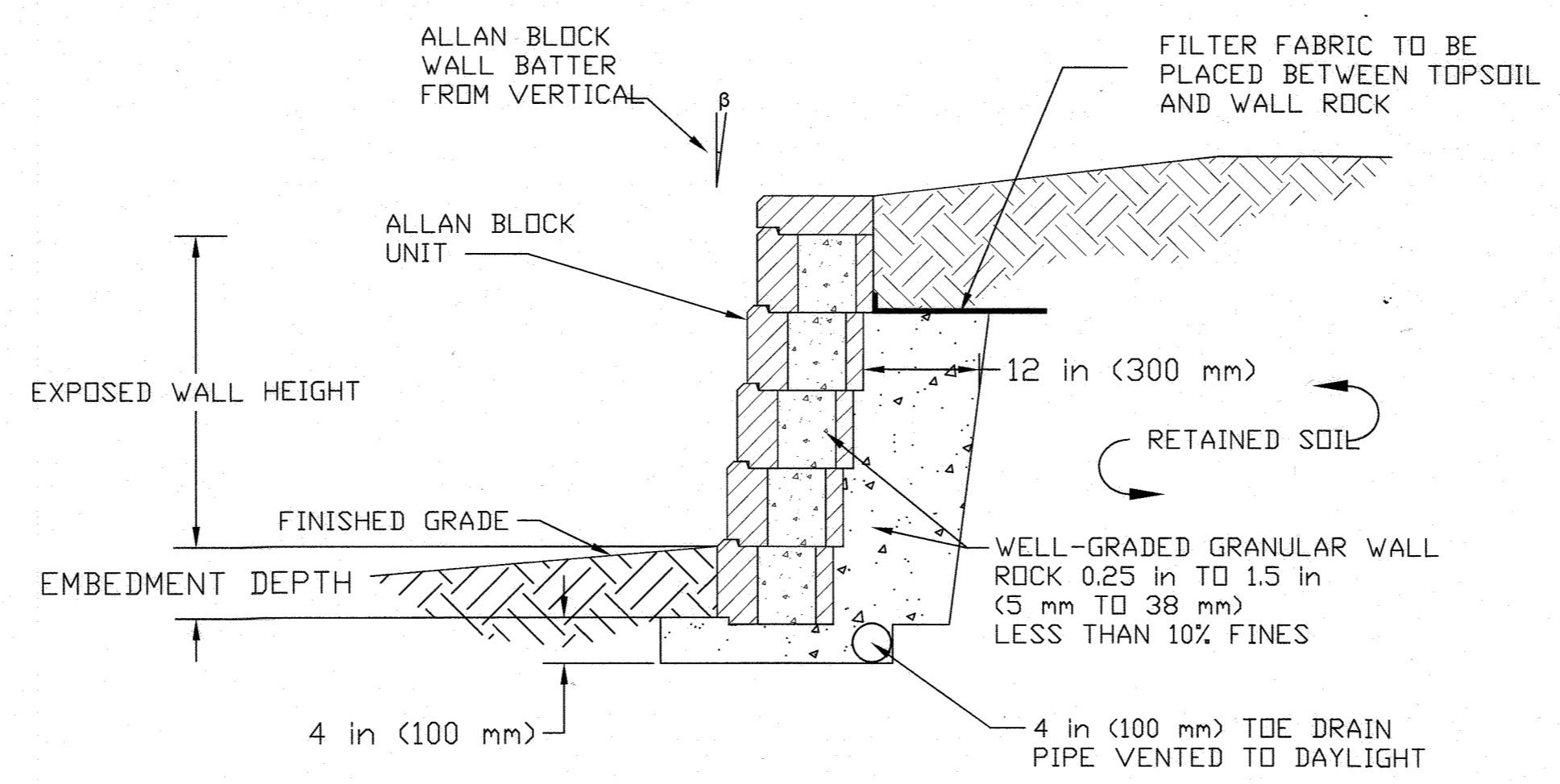
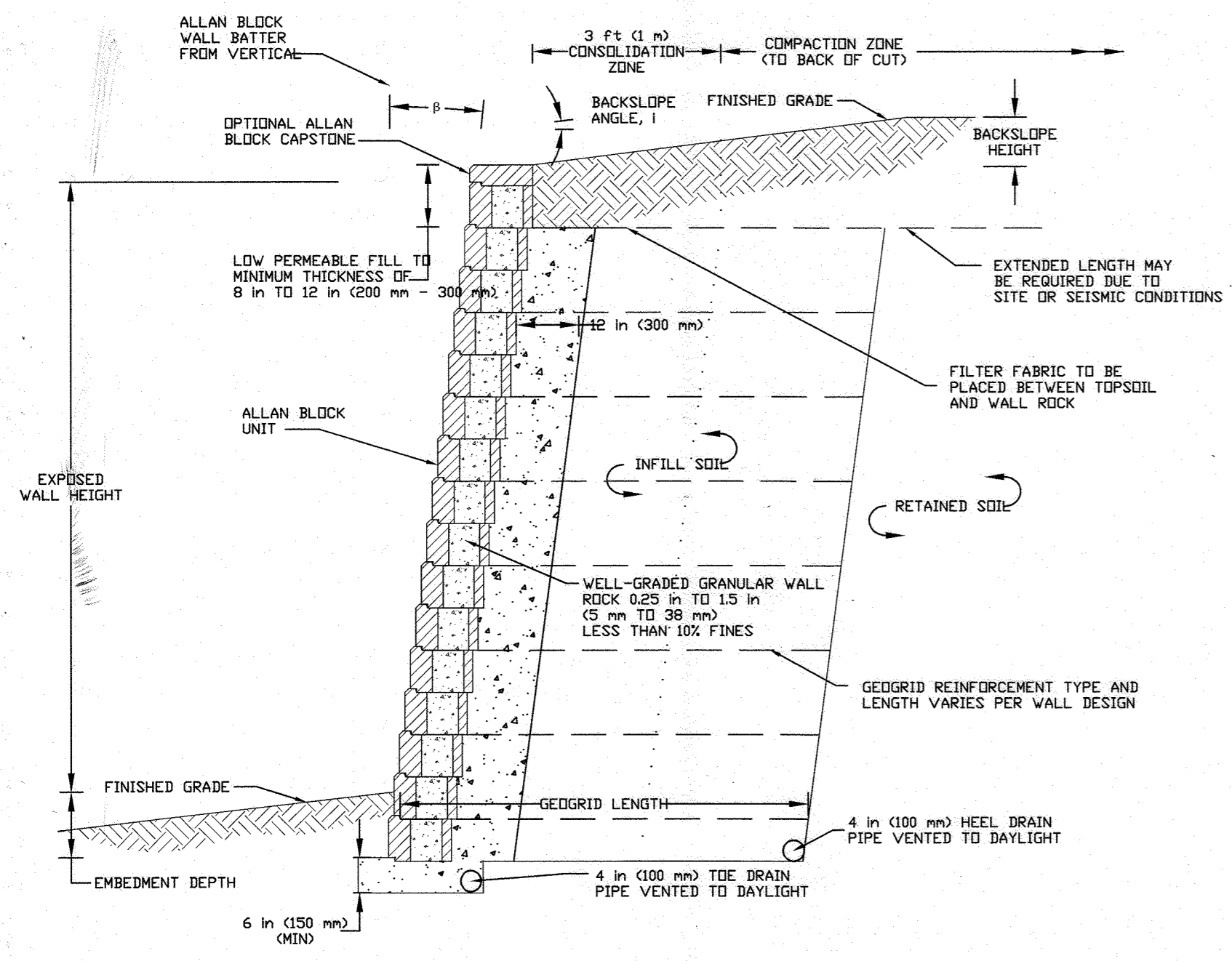
Table 1 Embankment Protection Fabric Specifications

Table with 2 columns: Mechanical Property and Determination Method. Rows include Tensile Strength, Puncture Strength, Apparent Opening Size (AOS), Trapezoidal Tear, Percent Open Area, and Permeability.

- D. For walls having moving water or wave action, natural or manufactured rip-rap in front of the wall to protect the toe of the wall from scour effects is recommended.

Professional Certification section with signature, date (12/9/20), and license information (License No.: 18182, Expiration Date: 3/12/21).

Project information and title block including: OWNER/DEVELOPER (KIT KAT ROAD PARTNERS II, LLC), PROJECT (KIT KAT ROAD PARTNERS II, LLC), TITLE (REINFORCED SITE DEVELOPMENT), and SHEET (32 OF 33).



APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT

1/27/21

12.9.20

1-27-21

DATE

DATE

DATE

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.: 18182

Expiration Date: 3/12/21

1	BEI	8/5/2019	PHASE 2 DEVELOPMENT	
NO.	DATE		REVISION	
BENCHMARK ENGINEERING, INC. ENGINEERS • LAND SURVEYORS • PLANNERS 8480 BALTIMORE NATIONAL PIKE SUITE 315 ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BEI-CIVILENGINEERING.COM		 GEOTECHNICAL LABORATORIES, INC. ENGINEERS • GEOLOGISTS • CONSULTANTS 8980 STATE ROUTE 108, SUITE D COLUMBIA, MARYLAND 21045 (C) 410-772-2200 (F) 410-772-2221 geolab@verizon.net		
REVISED SITE DEVELOPMENT ALAN BLOCK SEGMENTAL RETAINING WALL #2				
DESIGN: BL		DRAFT: DR		SCALE: AS SHOWN
TYPICAL DETAILS		GEO LAB PROJECT NO. 116-183		
DATE: AUGUST, 2019		BEI PROJECT NO. 2781		
SHEET		33 OF 33		