



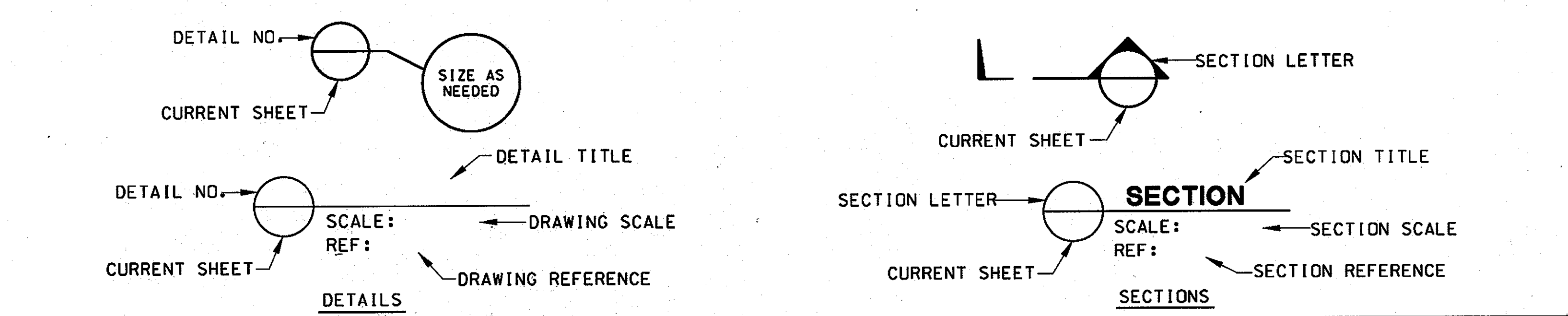


### ABBREVIATIONS

△	TOTAL CENTRAL ANGLE OF SPIRAL AND CIRCULAR CURVES	FF	FAR FACE	PROP	PROPOSED
△c	CENTRAL ANGLE OF CIRCULAR CURVE	FG	FINISH GRADE	PST	PORTABLE SEDIMENT TANK
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS	FH	FIRE HYDRANT	PT	POINT OF CHANGE FROM CIRCULAR CURVE TO TANGENT
AC	ASPHALT CONCRETE	FL	FLOOR, FLOWLINE	PV	PETROLEUM VALVE
ABAN	ABANDONED	FR	FRAME	PVC	POLYVINYL CHLORIDE
ABUT	ABUTMENT	FT.	FOOT, FEET	R	RADIUS
ADAAG	AMERICANS WITH DISABILITIES ACT	F/T	FUTURE TRACK	RCEP	REINFORCED CONCRETE ELLIPTICAL PIPE
AGIP	AT GRADE INLET PROTECTION	FUT	FUTURE	RCP	REINFORCED CONCRETE PIPE
AGG	AGGREGATE	GALV	GALVANIZED	REF	REFERENCE
AHD	AHEAD	GM	GAS METER	REINF	REINFORCED
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	GND	GROUND	REQD	REQUIRED
APPROX	APPROXIMATE	GR	GRADE	RET	RETAINING
ASPH	ASPHALT	GV	GAS VALVE	RP	RAMP
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	GW	GUY WIRE	RR	RAILROAD
@	AT	H	HEIGHT	RT	RIGHT
BIT	BITUMINOUS	HBX	HAND BOX	R/W	RIGHT OF WAY
BCCMP	BITUMINOUS COATED CORRUGATED METAL PIPE	HDPE	HIGH DENSITY POLYETHYLENE	S	SOUTH
BK	BACK	HMA	HOT MIX ASPHALT	SAN	SANITARY
BLDG	BUILDING	HORIZ	HORIZONTAL	SB	SOUTHBOUND
BLVD	BOULEVARD	HP	HIGH POINT	SCE	STABILIZED CONSTRUCTION ENTRANCE
BM	BENCHMARK	H/W	HEAD WALL	SCH	SCHEDULE
BOT	BOTTOM	I	INLET	SD	STORM DRAIN
BRG	BEARING	ID	INSIDE DIAMETER	S/E	SOUTH LINE - EAST TRACK
BSMT	BASEMENT	IN.	INCH	SEC.	SECOND
CB	CATCH BASIN	INT	INTERIOR	SECT	SECTION
CC	CONCRETE CURB	INV	INVERT	SF	SILT FENCE
C/C	CENTER TO CENTER	JB	JUNCTION BOX	S.F.	SQUARE FOOT
CD	STONE CHECK DAM	LB	POUND	SG	SUBGRADE
CEM	CEMENT	Lc	TOTAL LENGTH OF CIRCULAR CURVE, IN FEET	SHA	STATE HIGHWAY ADMINISTRATION
CG	CONCRETE GUTTER	LF	LINEAR FEET	SHLD	SHOULDER
C&G	CURB AND GUTTER	LOD	LIMIT OF DISTURBANCE	SHT	SHEET
CGSP	CORR. GALVANIZED STEEL PIPE	LP	LOW POINT	SIG	SIGNAL
CIP	CAST IRON PIPE	LPLG	LEAD PLUG (SURVEY MONUMENT)	SLP	SLOPE
CL	CENTERLINE	LR	LONG RADIUS	SP	SPACING
CL	CLASS	LRT	LIGHT RAIL TRANSIT	STA	STATION
CMP	CORRUGATED METAL PIPE	LRV	LIGHT RAIL VEHICLE	STD	STANDARD
CLR	CLEAR	LT	LEFT	STL	STEEL
CO	CLEAN OUT	MARC	MARYLAND RAIL COMMUTER	STR	STRUCTURE
COL	COLUMN	MAX	MAXIMUM	SURF	SURFACE
COMB	COMBINED SEWER	MH	MANHOLE	SW	SIDE WALK
CONC	CONCRETE	MIN	MINIMUM	S/W	SOUTH LINE - WEST TRACK
CONN	CONNECTION	MIN.	MINUTE	SWM	STORMWATER MANAGEMENT
CONST	CONSTRUCTION	MISC	MISCELLANEOUS	TB	TEST BORING
CRB	CURB LINE	MON	MONUMENT	Tc	TANGENT LENGTH OF CIRCULAR CURVE
CSX	CSX TRANSPORTATION INCORPORATED	MPH	MILES PER HOUR	T/C	TOP OF CURB
C/T	CROSSOVER TRACK	MSL	MEAN SEA LEVEL	TEL	TELEPHONE
CTB	CEMENT TREATED BASE	MTA	MARYLAND TRANSIT ADMINISTRATION	TEMP	TEMPORARY
Dc	DEGREE OF CIRCULAR CURVE	N	NORTH	T/G	TOP OF GROUND
DEFL	DEFLECTION	N/A	NOT APPLICABLE	T.G.	TOP OF GRATE
DEG.	DEGREES	NB	NORTHBOUND	TOPO	TOPOGRAPHY
D/I	DROP INLET	N/E	NORTH LINE - EAST TRACK	TP	TEST PIT
DIA	DIAMETER	NF	NEAR FACE	T/P	TOP OF PAVEMENT
DIP	DUCTILE IRON PIPE	N/F	NOW OR FORMERLY	T/R	TOP OF RAIL
DN	DOWNSPOUT	NIC	NOT IN CONTRACT	TRK	TRACK
DRWY	DRIVEWAY	NO. #	NUMBER	TR SIG	TRAFFIC SIGNAL
DWG	DRAWING	NTS	NOT TO SCALE	T.S.	TOP OF STRUCTURE
DWLG	DWELLING	N/W	NORTH LINE - WEST TRACK	TYP	TYPICAL
E	EAST	OD	OUTSIDE DIAMETER	UD	UNDERDRAIN
EA	EACH	OPP	OPPOSITE	UND	UNLESS NOTED OTHERWISE
EB	EASTBOUND	PAVT	PAVEMENT	V	VELOCITY
EL	ELEVATION	PC	POINT OF CHANGE FROM TANGENT TO CIRCULAR CURVE	VAR	VARIES
ELCP	ELLIPTICAL CONCRETE PIPE	PCC	POINT OF COMPOUND CIRCULAR CURVES	VCP	VITRIFIED CLAY PIPE
ELEC	ELECTRIC	PE	PEDESTRIAN	VERT	VERTICAL
EM	ELECTRIC METER	PERF	PERFORATED	W	WEST
EMB	EMBANKMENT	PERM	PERMANENT	W/	WITH
E/P	EDGE OF PAVEMENT	PGE	PROFILE GRADE ELEVATION	W/O	WITHOUT
EQ	EQUAL	PGL	PROFILE GRADE LINE	WAT	WATER
EQL	EQUILATERAL	PI	POINT OF INTERSECTION OF TWO TANGENTS	WB	WESTBOUND
EQN	EQUATION	PK	PARKER-KALON NAIL (SURVEY MARKER)	WHSE	WAREHOUSE
E/R	EDGE OF ROAD	PKG	PARKING	WM	WATER METER
E/S	EDGE OF STREAM	R	PROPERTY LINE	WMATA	WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
ESMT	EASEMENT	PLAT	PLATFORM	WP	WORK POINT
EXIST	EXISTING	POB	POINT OF BEGINNING	WS	WATER SURFACE
EXP	EXPANSION	POC	POINT ON CURVE	WV	WATER VALVE
EXT	EXTERIOR	PDE	POINT OF ENDING	X-ING	CROSSING
FC	FIELD CONNECTION	POL	POINT ON LINE	X-OVER	CROSSOVER
		POT	POINT ON TANGENT		
		PRC	POINT OF REVERSE CURVES		

### SYMBOLS

EXISTING	PROPOSED	EXISTING	PROPOSED
		140	140
		MAJOR CONTOUR LINE	
		141	141
		MINOR CONTOUR LINE	
		103.1 x	103.1
		SPOT ELEVATION	
		HIGH WATER	
		DITCH	
		SWALE	
		SURFACE FLOW DIRECTION	
		27" RCP	27" RCP
		STORM DRAIN LINE	
		UNDERDRAIN LINE	
		DROP INLET, CATCH BASIN OR DRAIN	
		CULVERT WITH HEADWALLS	
		MANHOLE (TYPE AS NOTED)	
		CLEANOUT	
		8" W	12" W
		WATER LINE	
		12" G	6" G
		GAS LINE	
		8" SAN	12" SAN
		SANITARY LINE	
		UNDERGROUND TELEPHONE LINE	
		OVERHEAD TELEPHONE LINE	
		UNDERGROUND ELECTRIC LINE	
		OVERHEAD ELECTRIC LINE	
		ELECTRICAL JUNCTION BOX	
		ELECTRIC METER	
		UNDERGROUND FIBER OPTIC LINE	
		OVERHEAD FIBER OPTIC LINE	
		UTILITY POLE	
		LIGHT POLE	
		FIRE HYDRANT	
		ITEM TO BE REMOVED	



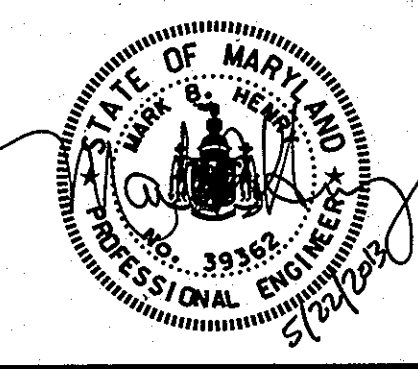
### OWNER/DEVELOPER

Howard County  
 c/o Mr. Brandon Love, Project Manager  
 Department of Public Works, Special Projects  
 9250 Bendix Road  
 Columbia, Maryland 21045  
 410-313-5398

4/25/2013  
 \$FILES

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 4/11/13  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 8/1-13  
 DIRECTOR

**RK&K**  
 CONSULTING ENGINEERS  
 81 MOSHER STREET  
 BALTIMORE, MARYLAND 21217  
 (800)-787-3755



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. 39362 Expiration Date 09/24/2014

NO.	DESCRIPTION	BY	DATE

APPR CHECK DESIGN  
 LH  
 LH  
 MBH

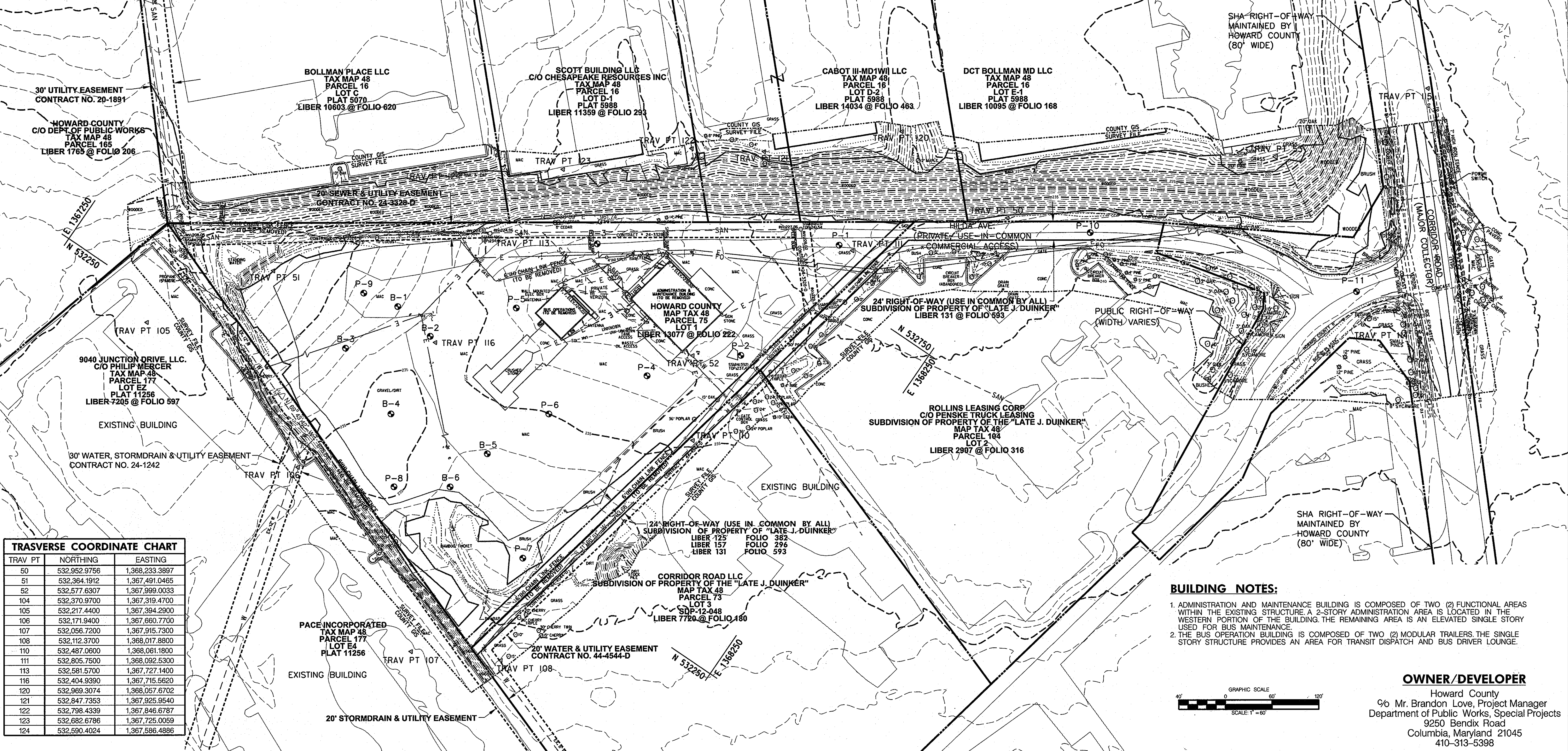
STANDARD SYMBOLS  
 SCALE: AS SHOWN  
 DATE: APRIL 26, 2013

**GREEN BUILDING**  
**HOWARD COUNTY**  
**CENTRAL MARYLAND**  
**TRANSIT OPERATIONS FACILITY**  
 (LOT 1 OF THE LATE J. DUINKER SUBDIVISION)  
 TAX MAP 48 GRID 13  
 CAPITAL PROJECT NO: C-0289 PARCEL 75  
 6TH ELECTION DISTRICT HOWARD COUNTY, MD

DISCIPLINE ABBREVIATION GN-02  
 SHEET NO. 2 OF 32



BORING LOCATION CHART		
NUMBER	NORTHING	EASTING
B-1	532,415.9931	1,367,649.0399
B-2	532,407.6476	1,367,705.4444
B-3	532,332.6384	1,367,625.0542
B-4	532,296.2782	1,367,720.4084
B-5	532,323.6169	1,367,852.2100
B-6	532,261.1695	1,367,836.6700
P-1	532,801.6851	1,368,074.0854
P-2	532,612.7601	1,368,049.9122
P-3	532,627.5805	1,367,815.6624
P-4	532,522.8300	1,367,965.0182
P-5	532,500.3835	1,367,776.3809
P-6	532,410.7412	1,367,888.6136
P-7	532,237.6438	1,367,966.457
P-8	532,220.5930	1,367,776.8126
P-9	532,405.7770	1,367,603.0677
P-10	532,997.2844	1,368,331.7613
P-11	533,127.3336	1,368,657.7947



TRASVERSE COORDINATE CHART		
TRAV PT	NORTHING	EASTING
50	532,952.9756	1,368,233.3897
51	532,364.1912	1,367,491.0465
52	532,577.6307	1,367,999.0033
104	532,370.9700	1,367,319.4700
105	532,217.4400	1,367,394.2900
106	532,171.9400	1,367,680.7700
107	532,056.7200	1,367,915.7300
108	532,112.3700	1,368,017.8800
110	532,487.0600	1,368,061.1800
111	532,805.7500	1,368,092.5300
113	532,581.5700	1,367,727.1400
116	532,404.9390	1,367,715.5620
120	532,969.3074	1,368,057.6702
121	532,847.7353	1,367,925.9540
122	532,798.4339	1,367,846.6787
123	532,682.6786	1,367,725.0059
124	532,590.4024	1,367,586.4886

**BUILDING NOTES:**

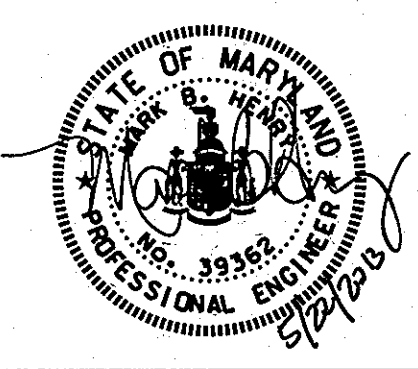
- ADMINISTRATION AND MAINTENANCE BUILDING IS COMPOSED OF TWO (2) FUNCTIONAL AREAS WITHIN THE EXISTING STRUCTURE. A 2-STORY ADMINISTRATION AREA IS LOCATED IN THE WESTERN PORTION OF THE BUILDING. THE REMAINING AREA IS AN ELEVATED SINGLE STORY USED FOR BUS MAINTENANCE.
- THE BUS OPERATION BUILDING IS COMPOSED OF TWO (2) MODULAR TRAILERS. THE SINGLE STORY STRUCTURE PROVIDES AN AREA FOR TRANSIT DISPATCH AND BUS DRIVER LOUNGE.

**OWNER/DEVELOPER**  
 Howard County  
 c/o Mr. Brandon Love, Project Manager  
 Department of Public Works, Special Projects  
 9250 Bendix Road  
 Columbia, Maryland 21045  
 410-313-5398

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

DATE: 6/11/13  
 DATE: 6/11/13  
 DATE: 6-1-13

**RK&K**  
 CONSULTING ENGINEERS  
 81 MOSHER STREET  
 BALTIMORE, MARYLAND 21217  
 (800)-787-3755



**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.

39362 09/24/2014  
 License No. Expiration Date

NO.	DESCRIPTION	BY	DATE

EXISTING SITE OVERVIEW PLAN

SCALE: 1" = 60'

DATE: APRIL 26, 2013

**GREEN BUILDING**  
**HOWARD COUNTY**  
**CENTRAL MARYLAND**  
**TRANSIT OPERATIONS FACILITY**

(LOT 1 OF THE LATE J. DUINKER SUBDIVISION)  
 TAX MAP 48 GRID 1.3  
 CAPITAL PROJECT NO: C-0289 PARCEL 75  
 6TH ELECTION DISTRICT HOWARD COUNTY, MD

DISCIPLINE ABBREVIATION SP-01

SHEET NO. 3 OF 32

4/25/2013 \$FILES



LOG OF BOREHOLE B-1									
CLIENT: RKKK		PROJECT: Central MdTA Operation Facility							
ARCHITECT/ENGINEER: RKKK		SITE: Howard County, Maryland							
SURFACE ELEV.: 233.0 ft									
6.1' (1' Asphlt)									
Firm brown and gray FINE SANDY CLAY (CL)									
3.0' with gravel									
Medium dense to very dense reddish brown to tan SILTY SAND (SM) with trace of gravel and clay to 15 ft									
- with some gravel between 9.5 to 13 ft									
- with trace of gravel between 18 to 25 ft									
- wet below 27 ft									
37.0' Firm tan and brown FINE SANDY SILT (ML)									
40.0' End of boring @ 40 ft									
WATER LEVEL OBSERVATIONS		AB Consultants, Inc. 9450 Annapolis Road Lanham, MD 20706 Phone: 301-306-3091 Fax: 301-306-3092							
WL 1	37	@ Drilling	STARTED: 11/2/12	FINISHED: 11/2/12	DRILLER: ABC	DRILL LOG: B61	DEALER: PS	ASST DRILLER:	LOGGED BY: APPROVED

LOG OF BOREHOLE B-2									
CLIENT: RKKK		PROJECT: Central MdTA Operation Facility							
ARCHITECT/ENGINEER: RKKK		SITE: Howard County, Maryland							
SURFACE ELEV.: 234.0 ft									
6.1' (1' Asphlt)									
Soft reddish brown FINE SANDY CLAY (CL)									
Medium dense reddish brown to tan SILTY SAND (SM) with trace of gravel and clay to 15 ft									
- wet below 33 ft									
37.0' Soft tan FINE SANDY SILT (ML)									
40.0' End of boring @ 40 ft									
WATER LEVEL OBSERVATIONS		AB Consultants, Inc. 9450 Annapolis Road Lanham, MD 20706 Phone: 301-306-3091 Fax: 301-306-3092							
WL 1	36	@ Drilling	STARTED: 11/2/12	FINISHED: 11/2/12	DRILLER: ABC	DRILL LOG: B61	DEALER: PS	ASST DRILLER:	LOGGED BY: APPROVED

LOG OF BOREHOLE B-3									
CLIENT: RKKK		PROJECT: Central MdTA Operation Facility							
ARCHITECT/ENGINEER: RKKK		SITE: Howard County, Maryland							
SURFACE ELEV.: 233.0 ft									
6.1' (1' Asphlt)									
Firm brown and reddish brown FINE SANDY CLAY (CL)									
3.0' Medium dense reddish brown SILTY SAND (SM) with trace of gravel and clay to 12 ft									
- with more gravel between 18 to 23 ft									
- wet below 33 ft									
37.0' Soft tan FINE SANDY SILT (ML)									
40.0' End of boring @ 40 ft									
WATER LEVEL OBSERVATIONS		AB Consultants, Inc. 9450 Annapolis Road Lanham, MD 20706 Phone: 301-306-3091 Fax: 301-306-3092							
WL 1	38	@ Drilling	STARTED: 11/2/12	FINISHED: 11/2/12	DRILLER: ABC	DRILL LOG: B61	DEALER: PS	ASST DRILLER:	LOGGED BY: APPROVED

LOG OF BOREHOLE B-4									
CLIENT: RKKK		PROJECT: Central MdTA Operation Facility							
ARCHITECT/ENGINEER: RKKK		SITE: Howard County, Maryland							
SURFACE ELEV.: 233.0 ft									
6.1' (1' Asphlt)									
Very soft brown and reddish brown FINE SANDY CLAY (CL) with gravel									
3.0' Medium dense nodules brown SILTY SAND (SM) with trace of gravel and clay to 17 ft									
- wet below 36 ft									
37.0' Firm tan FINE SANDY SILT (ML)									
40.0' End of boring @ 40 ft									
WATER LEVEL OBSERVATIONS		AB Consultants, Inc. 9450 Annapolis Road Lanham, MD 20706 Phone: 301-306-3091 Fax: 301-306-3092							
WL 1	38	@ Drilling	STARTED: 11/2/12	FINISHED: 11/2/12	DRILLER: ABC	DRILL LOG: B61	DEALER: PS	ASST DRILLER:	LOGGED BY: APPROVED

LOG OF BOREHOLE B-5									
CLIENT: RKKK		PROJECT: Central MdTA Operation Facility							
ARCHITECT/ENGINEER: RKKK		SITE: Howard County, Maryland							
SURFACE ELEV.: 234.0 ft									
6.1' (1' Asphlt)									
Firm brown FINE SANDY CLAY (CL)									
3.0' Medium dense reddish brown to tan SILTY SAND (SM) with trace of gravel and clay to 17 ft									
- wet below 36 ft									
37.0' Firm tan FINE SANDY SILT (ML)									
40.0' End of boring @ 40 ft									
WATER LEVEL OBSERVATIONS		AB Consultants, Inc. 9450 Annapolis Road Lanham, MD 20706 Phone: 301-306-3091 Fax: 301-306-3092							
WL 1	39	@ Drilling	STARTED: 11/2/12	FINISHED: 11/2/12	DRILLER: ABC	DRILL LOG: B61	DEALER: PS	ASST DRILLER:	LOGGED BY: APPROVED

LOG OF BOREHOLE B-6									
CLIENT: RKKK		PROJECT: Central MdTA Operation Facility							
ARCHITECT/ENGINEER: RKKK		SITE: Howard County, Maryland							
SURFACE ELEV.: 234.0 ft									
6.1' (1' Asphlt)									
Firm brown FINE SANDY CLAY (CL)									
3.0' Medium dense to brown reddish brown to tan SILTY SAND (SM) with trace of gravel and clay to 8 ft									
- wet below 27 ft									
37.0' Firm tan FINE SANDY SILT (ML)									
40.0' End of boring @ 40 ft									
WATER LEVEL OBSERVATIONS		AB Consultants, Inc. 9450 Annapolis Road Lanham, MD 20706 Phone: 301-306-3091 Fax: 301-306-3092							
WL 1	35	@ Drilling	STARTED: 11/2/12	FINISHED: 11/2/12	DRILLER: ABC	DRILL LOG: B61	DEALER: PS	ASST DRILLER:	LOGGED BY: APPROVED

LOG OF BOREHOLE P-1									
CLIENT: RKKK		PROJECT: Central MdTA Operation Facility							
ARCHITECT/ENGINEER: RKKK		SITE: Howard County, Maryland							
SURFACE ELEV.: 242.0 ft									
1.0' (1' Asphlt) of Stone									
Firm to soft reddish brown FINE SANDY CLAY (CL)									
10.0' End of boring @ 10 ft									
Upon completion, borehole was backfilled and patched with asphalt									
WATER LEVEL OBSERVATIONS		AB Consultants, Inc. 9450 Annapolis Road Lanham, MD 20706 Phone: 301-306-3091 Fax: 301-306-3092							
WL 1	Dry	@ Drilling	STARTED: 11/2/12	FINISHED: 11/2/12	DRILLER: ABC	DRILL LOG: B61	DEALER: PS	ASST DRILLER:	LOGGED BY: APPROVED

LOG OF BOREHOLE P-2									
CLIENT: RKKK		PROJECT: Central MdTA Operation Facility							
ARCHITECT/ENGINEER: RKKK		SITE: Howard County, Maryland							
SURFACE ELEV.: 236.0 ft									
6.0' (1' Asphlt) of Concrete									
Firm brown FINE SANDY CLAY (CL)									
5.5' Dense to medium dense reddish brown SILTY SAND (SM) with gravel									
10.0' End of boring @ 10 ft									
Upon completion, borehole was backfilled and patched with asphalt									
WATER LEVEL OBSERVATIONS		AB Consultants, Inc. 9450 Annapolis Road Lanham, MD 20706 Phone: 301-306-3091 Fax: 301-306-3092							
WL 1	Dry	@ Drilling	STARTED: 11/2/12	FINISHED: 11/2/12	DRILLER: ABC	DRILL LOG: B61	DEALER: PS	ASST DRILLER:	LOGGED BY: APPROVED

LOG OF BOREHOLE P-3									
CLIENT: RKKK		PROJECT: Central MdTA Operation Facility							
ARCHITECT/ENGINEER: RKKK		SITE: Howard County, Maryland							
SURFACE ELEV.: 237.0 ft									
1.0' (1' Asphlt) of Concrete									
Firm brown FINE SANDY CLAY (CL)									
3.0' Dense to medium dense reddish brown SILTY SAND (SM) with gravel									
10.0' End of boring @ 10 ft									
Upon completion, borehole was backfilled and patched with asphalt									
WATER LEVEL OBSERVATIONS		AB Consultants, Inc. 9450 Annapolis Road Lanham, MD 20706 Phone: 301-306-3091 Fax: 301-306-3092							
WL 1	Dry	@ Drilling	STARTED: 11/2/12	FINISHED: 11/2/12	DRILLER: ABC	DRILL LOG: B61	DEALER: PS	ASST DRILLER:	LOGGED BY: APPROVED

LOG OF BOREHOLE P-4									
CLIENT: RKKK		PROJECT: Central MdTA Operation Facility							
ARCHITECT/ENGINEER: RKKK		SITE: Howard County, Maryland							
SURFACE ELEV.: 237.0 ft									
1.0' (1' Asphlt) of Concrete									
Dense to medium dense reddish brown SILTY SAND (SM) with gravel and trace of clay									
10.0' End of boring @ 10 ft									
Upon completion, borehole was backfilled and patched with asphalt									
WATER LEVEL OBSERVATIONS		AB Consultants, Inc. 9450 Annapolis Road Lanham, MD 20706 Phone: 301-306-3091 Fax: 301-306-3092							
WL 1	Dry	@ Drilling	STARTED: 11/2/12	FINISHED: 11/2/12	DRILLER: ABC	DRILL LOG: B61	DEALER: PS	ASST DRILLER:	LOGGED BY: APPROVED

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

**RK&K**  
 CONSULTING ENGINEERS  
 81 MOSHER STREET  
 BALTIMORE, MARYLAND 21217  
 (800)-787-3755



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. 39362 Expiration Date 09/24/2014

NO.	DESCRIPTION	BY	DATE

DESIGN AB  
 CHECK AB  
 DRAWN JRN

SOIL BORING LOGS  
 SCALE: AS SHOWN  
 DATE: APRIL 26, 2013

**GREEN BUILDING HOWARD COUNTY CENTRAL MARYLAND TRANSIT OPERATIONS FACILITY**  
 (LOT 1 OF THE LATE J. DUNKER SUBDIVISION)  
 TAX MAP 48 GRID 13  
 CAPITAL PROJECT NO: C-0289 PARCEL 75  
 6TH ELECTION DISTRICT HOWARD COUNTY, MD

DISCIPLINE ABBREVIATION SO-01  
 SHEET NO. 4 OF 32

4/25/2013 \$FILE\$

Project No. 11-069		LOG OF BOREHOLE P-5		Sheet 1 of 1	
CLIENT:	RK&K	PROJECT:	Central MdTA Operation Facility		
ARCHITECT/ENGINEER:		SITE:	Howard County, Maryland		
GRAPHIC LOG		SAMPLES			
SURFACE ELEV.: 236.0 ft		DEPTH (FT)	BLAST/RECORDED VALUE	NUMBER	TESTS
3.0' Asphalt		1	16-17-18 N-18	19	LL = 29 PL = 16 PI = 13
3.0' Firm brown FINE SANDY CLAY (CL)		2	16-18-20 N-20	19	
Medium dense reddish brown SILTY SAND (SM) with gravel and clay		3	16-18-20 N-20	19	
7.8-10 N-10		4	13-11-7 N-18	16	
10.0'		5	12-16 N-18	16	
End of boring @ 10 ft					
WATER LEVEL OBSERVATIONS		AB Consultants, Inc.		STARTED:	11/2/12
WL	Dry @ 0 Hrs	9450 Annapolis Road		FINISHED:	11/2/12
WL	Dry, cased in 7.8' @ 0 Hrs	Lanham, MD 20706		DRAWN:	ABC
WL	Dry, cased in 7.8' After 24 Hrs	Phone: 301-306-3091		DRAWN:	PS
		Fax: 301-306-3092		LOGGED BY:	APPROVED

Project No. 11-069		LOG OF BOREHOLE P-6		Sheet 1 of 1	
CLIENT:	RK&K	PROJECT:	Central MdTA Operation Facility		
ARCHITECT/ENGINEER:		SITE:	Howard County, Maryland		
GRAPHIC LOG		SAMPLES			
SURFACE ELEV.: 235.0 ft		DEPTH (FT)	BLAST/RECORDED VALUE	NUMBER	TESTS
3.0' Asphalt		1	10-16-21 N-21	12	
Dense to medium dense reddish brown SILTY SAND (SM) with gravel and trace of clay		2	10-16-21 N-21	17	
10.0'		3	10-16-21 N-21	16	
10-11-11 N-11		4	10-16-21 N-21	8	
End of boring @ 10 ft					
WATER LEVEL OBSERVATIONS		AB Consultants, Inc.		STARTED:	11/2/12
WL	Dry @ 0 Hrs	9450 Annapolis Road		FINISHED:	11/2/12
WL	Dry, cased in 8 ft @ 0 Hrs	Lanham, MD 20706		DRAWN:	ABC
WL	Dry, cased in 8 ft After 24 Hrs	Phone: 301-306-3091		DRAWN:	PS
		Fax: 301-306-3092		LOGGED BY:	APPROVED

Project No. 11-069		LOG OF BOREHOLE P-7		Sheet 1 of 1	
CLIENT:	RK&K	PROJECT:	Central MdTA Operation Facility		
ARCHITECT/ENGINEER:		SITE:	Howard County, Maryland		
GRAPHIC LOG		SAMPLES			
SURFACE ELEV.: 233.0 ft		DEPTH (FT)	BLAST/RECORDED VALUE	NUMBER	TESTS
3.0' Asphalt		1	3-3 N-6	18	
Firm to stiff reddish brown FINE SANDY CLAY (CL) with gravel and roots		2	3-6A N-17	10	
5.0'		3	3-6 N-17	16	
Loose to medium dense reddish brown SILTY SAND (SM) with gravel and trace of clay		4	7-8-11 N-19	17	
10.0'		5	14-18 N-19	78%	
End of boring @ 10 ft					
WATER LEVEL OBSERVATIONS		AB Consultants, Inc.		STARTED:	11/2/12
WL	Dry @ 0 Hrs	9450 Annapolis Road		FINISHED:	11/2/12
WL	Dry, cased in 8 ft @ 0 Hrs	Lanham, MD 20706		DRAWN:	ABC
WL	Dry, cased in 8 ft After 24 Hrs	Phone: 301-306-3091		DRAWN:	PS
		Fax: 301-306-3092		LOGGED BY:	APPROVED

Project No. 11-069		LOG OF BOREHOLE P-8		Sheet 1 of 1	
CLIENT:	RK&K	PROJECT:	Central MdTA Operation Facility		
ARCHITECT/ENGINEER:		SITE:	Howard County, Maryland		
GRAPHIC LOG		SAMPLES			
SURFACE ELEV.: 232.0 ft		DEPTH (FT)	BLAST/RECORDED VALUE	NUMBER	TESTS
3.0' Asphalt		1	2-3 N-6	14	
Firm reddish brown FINE SANDY CLAY (CL) with gravel		2	3-6 N-17	10	
5.0'		3	3-6 N-17	16	
Loose to medium dense reddish brown to gray and tan SILTY SAND (SM) with gravel		4	7-8-11 N-19	13	
10.0'		5	14-18 N-19	78%	
End of boring @ 10 ft					
WATER LEVEL OBSERVATIONS		AB Consultants, Inc.		STARTED:	11/2/12
WL	Dry @ 0 Hrs	9450 Annapolis Road		FINISHED:	11/2/12
WL	Dry, cased in 8 ft @ 0 Hrs	Lanham, MD 20706		DRAWN:	ABC
WL	Dry, cased in 8 ft After 24 Hrs	Phone: 301-306-3091		DRAWN:	PS
		Fax: 301-306-3092		LOGGED BY:	APPROVED

Project No. 11-069		LOG OF BOREHOLE P-9		Sheet 1 of 1	
CLIENT:	RK&K	PROJECT:	Central MdTA Operation Facility		
ARCHITECT/ENGINEER:		SITE:	Howard County, Maryland		
GRAPHIC LOG		SAMPLES			
SURFACE ELEV.: 232.0 ft		DEPTH (FT)	BLAST/RECORDED VALUE	NUMBER	TESTS
3.0' Asphalt		1	3-6 N-17	15	
Firm brown and gray FINE SANDY CLAY (SC) with gravel		2	3-7 N-14	15	
5.0'		3	3-6 N-17	16	
Medium dense to dense to loose brown to reddish brown SILTY SAND (SM) with gravel		4	11-15-24 N-20	8	
10.0'		5	11-15-24 N-20	8	
20.0'		6	3-6 N-17	4	
End of boring @ 20 ft					
WATER LEVEL OBSERVATIONS		AB Consultants, Inc.		STARTED:	11/2/12
WL	Dry @ 0 Hrs	9450 Annapolis Road		FINISHED:	11/2/12
WL	Dry, cased in 18 ft @ 0 Hrs	Lanham, MD 20706		DRAWN:	ABC
WL	Dry, cased in 18 ft After 24 Hrs	Phone: 301-306-3091		DRAWN:	PS
		Fax: 301-306-3092		LOGGED BY:	APPROVED

Project No. 11-069		LOG OF BOREHOLE P-10		Sheet 1 of 1	
CLIENT:	RK&K	PROJECT:	Central MdTA Operation Facility		
ARCHITECT/ENGINEER:		SITE:	Howard County, Maryland		
GRAPHIC LOG		SAMPLES			
SURFACE ELEV.: 241.0 ft		DEPTH (FT)	BLAST/RECORDED VALUE	NUMBER	TESTS
3.0' Asphalt		1	16-18-20 N-20	2	
Very dense to medium dense to dense light gray and brown SILTY SAND (SM) with gravel and trace of clay		2	4-7-16 N-22	14	
5.0'		3	16-18-20 N-20	7	
16-28-31 N-28		4	19-26-28 N-28	7	
End of boring @ 10 ft					
Upon completion, borehole was backfilled and patched with concrete and asphalt					
WATER LEVEL OBSERVATIONS		AB Consultants, Inc.		STARTED:	11/2/12
WL	Dry @ 0 Hrs	9450 Annapolis Road		FINISHED:	11/2/12
WL	Dry, cased in 6.5 ft @ 0 Hrs	Lanham, MD 20706		DRAWN:	ABC
		Phone: 301-306-3091		DRAWN:	PS
		Fax: 301-306-3092		LOGGED BY:	APPROVED

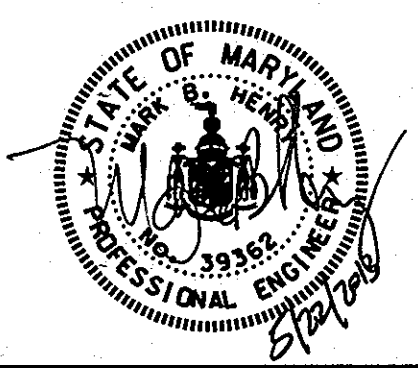
Project No. 11-069		LOG OF BOREHOLE P-11		Sheet 1 of 1	
CLIENT:	RK&K	PROJECT:	Central MdTA Operation Facility		
ARCHITECT/ENGINEER:		SITE:	Howard County, Maryland		
GRAPHIC LOG		SAMPLES			
SURFACE ELEV.: 237.0 ft		DEPTH (FT)	BLAST/RECORDED VALUE	NUMBER	TESTS
3.0' Asphalt		1	16-12-9 N-20	16	
Medium dense brown and gray SILTY SAND (SM) with gravel		2	2-7 N-17	11	
5.0'		3	2-7 N-17	11	
10.0'		4	2-7 N-17	10	
End of boring @ 10 ft					
Upon completion, borehole was backfilled and patched with concrete and asphalt					
WATER LEVEL OBSERVATIONS		AB Consultants, Inc.		STARTED:	11/2/12
WL	Dry @ 0 Hrs	9450 Annapolis Road		FINISHED:	11/2/12
WL	Dry, cased in 5.5 ft @ 0 Hrs	Lanham, MD 20706		DRAWN:	ABC
		Phone: 301-306-3091		DRAWN:	PS
		Fax: 301-306-3092		LOGGED BY:	APPROVED

**OWNER/DEVELOPER**

Howard County  
 %o Mr. Brandon Love, Project Manager  
 Department of Public Works, Special Projects  
 9250 Bendix Road  
 Columbia, Maryland 21045  
 410-313-5398

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 8/1/13  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 8-1-13  
 DIRECTOR

**RK&K**  
 CONSULTING ENGINEERS  
 81 MOSHER STREET  
 BALTIMORE, MARYLAND 21217  
 (800)-787-3755



**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. 39362, Expiration Date 09/24/2014

NO.	DESCRIPTION	BY	DATE

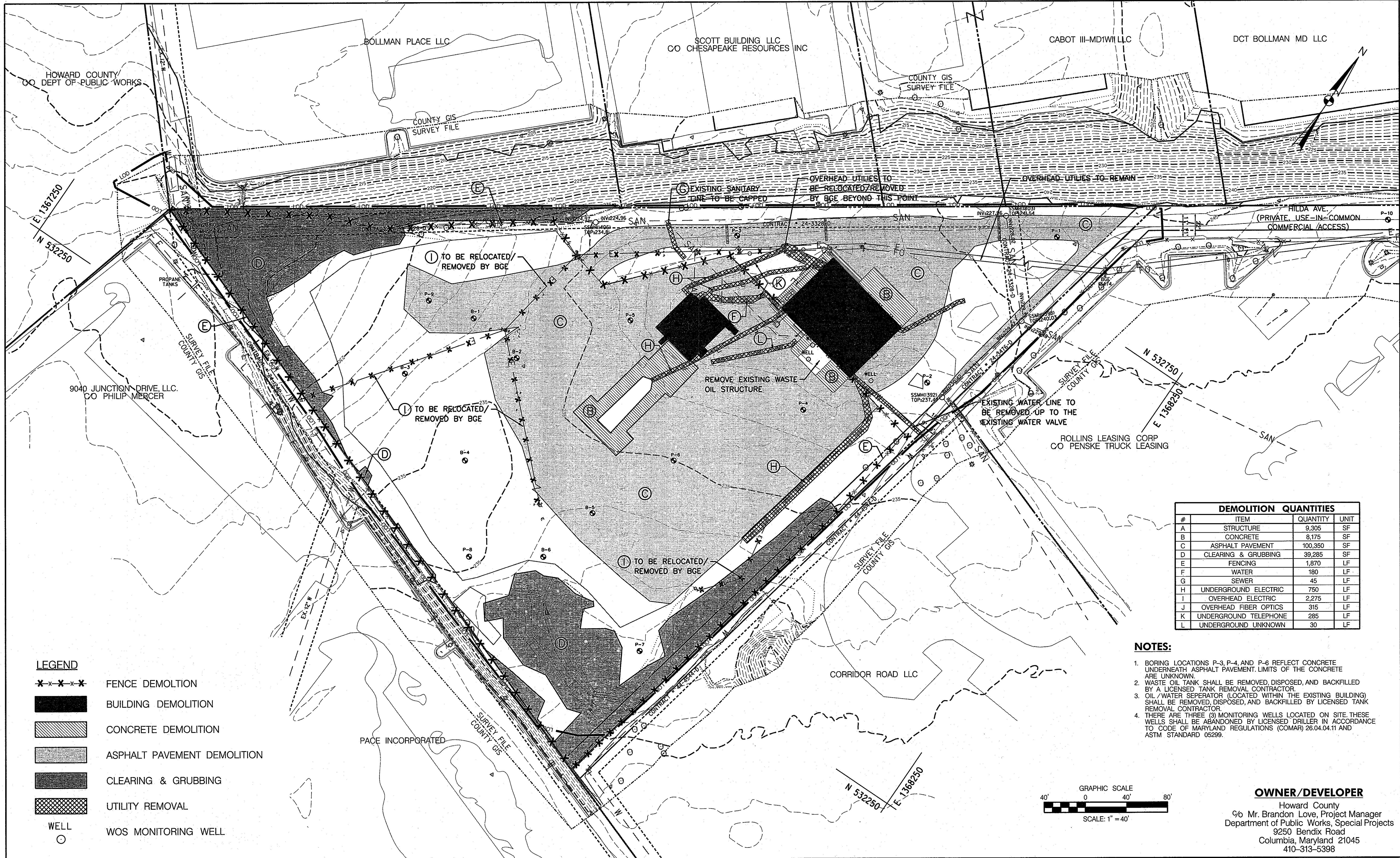
DESIGN: AB  
 CHECK: AB  
 DRAWN: JRN

**SOIL BORING LOGS**  
 SCALE: AS SHOWN  
 DATE: APRIL 26, 2013

**GREEN BUILDING HOWARD COUNTY CENTRAL MARYLAND TRANSIT OPERATIONS FACILITY**  
 (LOT 1 OF THE LATE J. DUNKER SUBDIVISION)  
 TAX MAP 48 GRID 13  
 CAPITAL PROJECT NO: C-0289 PARCEL 75  
 6TH ELECTION DISTRICT HOWARD COUNTY, MD

DISCIPLINE ABBREVIATION: SO-02  
 SHEET NO. 5 OF 32

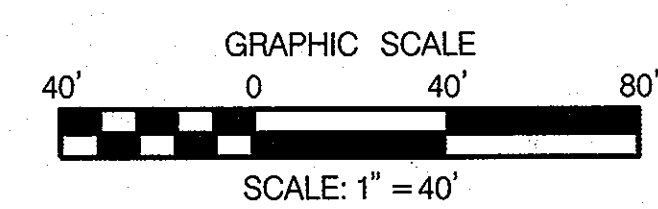




DEMOLITION QUANTITIES			
#	ITEM	QUANTITY	UNIT
A	STRUCTURE	9,305	SF
B	CONCRETE	8,175	SF
C	ASPHALT PAVEMENT	100,350	SF
D	CLEARING & GRUBBING	39,285	SF
E	FENCING	1,870	LF
F	WATER	180	LF
G	SEWER	45	LF
H	UNDERGROUND ELECTRIC	750	LF
I	OVERHEAD ELECTRIC	2,275	LF
J	OVERHEAD FIBER OPTICS	315	LF
K	UNDERGROUND TELEPHONE	285	LF
L	UNDERGROUND UNKNOWN	30	LF

- NOTES:**
- BORING LOCATIONS P-3, P-4, AND P-6 REFLECT CONCRETE UNDERNEATH ASPHALT PAVEMENT. LIMITS OF THE CONCRETE ARE UNKNOWN.
  - WASTE OIL TANK SHALL BE REMOVED, DISPOSED, AND BACKFILLED BY A LICENSED TANK REMOVAL CONTRACTOR.
  - OIL/WATER SEPARATOR (LOCATED WITHIN THE EXISTING BUILDING) SHALL BE REMOVED, DISPOSED, AND BACKFILLED BY LICENSED TANK REMOVAL CONTRACTOR.
  - THERE ARE THREE (3) MONITORING WELLS LOCATED ON SITE. THESE WELLS SHALL BE ABANDONED BY LICENSED DRILLER IN ACCORDANCE TO CODE OF MARYLAND REGULATIONS (COMAR) 26.04.04.11 AND ASTM STANDARD 05299.

- LEGEND**
- \*-x-x-x\* FENCE DEMOLITION
  - [Solid Black] BUILDING DEMOLITION
  - [Hatched] CONCRETE DEMOLITION
  - [Dotted] ASPHALT PAVEMENT DEMOLITION
  - [Cross-hatched] CLEARING & GRUBBING
  - [Diagonal Lines] UTILITY REMOVAL
  - WELL
  - WOS MONITORING WELL



**OWNER/DEVELOPER**  
 Howard County  
 % Mr. Brandon Love, Project Manager  
 Department of Public Works, Special Projects  
 9250 Bendix Road  
 Columbia, Maryland 21045  
 410-313-5398

4/25/2013 \$FILES\$

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 8/1/13  
 DIRECTOR

**RK&K**  
 CONSULTING ENGINEERS  
 81 MOSHER STREET  
 BALTIMORE, MARYLAND 21217  
 (800)-787-3755



**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. 39362 Expiration Date 09/24/2014

NO.	DESCRIPTION	BY	DATE

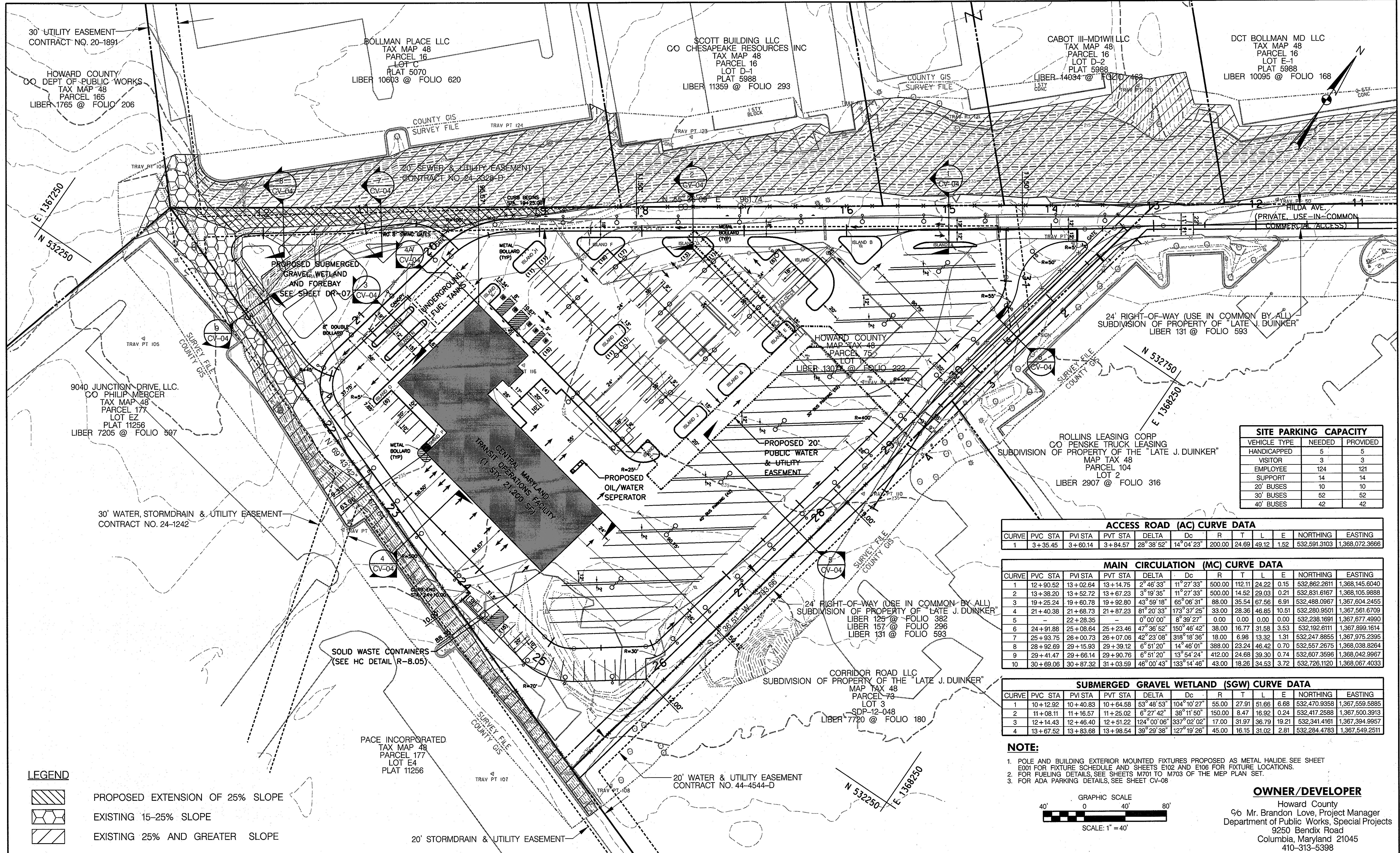
APPR CHECK DRAWING DESIGN  
 JRN  
 JRN  
 MBH

**SITE DEMOLITION PLAN**  
 SCALE: 1" = 40'  
 DATE: APRIL 26, 2013

**GREEN BUILDING HOWARD COUNTY CENTRAL MARYLAND TRANSIT OPERATIONS FACILITY**  
 (LOT 1 OF THE LATE J. DUINKER SUBDIVISION)  
 TAX MAP 48 GRID 13  
 CAPITAL PROJECT NO: C-0289 PARCEL 75  
 6TH ELECTION DISTRICT HOWARD COUNTY, MD

DISCIPLINE ABBREVIATION DM-01  
 SHEET NO. 6 OF 32  
 SDP-13-039





**SITE PARKING CAPACITY**

VEHICLE TYPE	NEEDED	PROVIDED
HANDICAPPED	5	5
VISITOR	3	3
EMPLOYEE	124	121
SUPPORT	14	14
20' BUSES	10	10
30' BUSES	52	52
40' BUSES	42	42

**ACCESS ROAD (AC) CURVE DATA**

CURVE	PVC STA	PVI STA	PVT STA	DELTA	Dc	R	T	L	E	NORTHING	EASTING
1	3+35.45	3+60.14	3+84.57	28°38'52"	14°04'23"	200.00	24.69	49.12	1.52	532,591.3103	1,368,072.3666

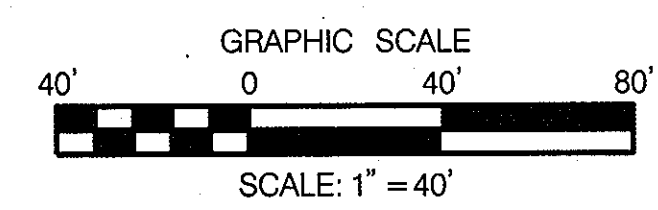
**MAIN CIRCULATION (MC) CURVE DATA**

CURVE	PVC STA	PVI STA	PVT STA	DELTA	Dc	R	T	L	E	NORTHING	EASTING
1	12+90.52	13+02.64	13+14.75	2°46'33"	11°27'33"	500.00	112.11	24.22	0.15	532,862.2611	1,368,145.6040
2	13+38.20	13+52.72	13+67.23	3°19'35"	11°27'33"	500.00	14.52	29.03	0.21	532,831.6167	1,368,105.9888
3	19+25.24	19+60.78	19+92.80	43°59'18"	65°06'31"	88.00	35.54	67.56	6.91	532,488.0967	1,367,604.2455
4	21+40.38	21+68.73	21+87.23	81°20'33"	173°37'25"	33.00	28.36	46.85	10.51	532,280.9501	1,367,561.6709
5	-	22+28.35	-	0°00'00"	8°39'27"	0.00	0.00	0.00	0.00	532,238.1691	1,367,677.4990
6	24+91.88	25+08.64	25+23.46	47°36'52"	150°46'42"	38.00	16.77	31.58	3.53	532,192.6111	1,367,899.1614
7	25+93.75	26+00.73	26+07.06	42°23'08"	318°18'36"	18.00	6.98	13.32	1.31	532,247.8855	1,367,975.2395
8	28+92.69	29+15.93	29+39.12	6°51'20"	14°46'01"	388.00	23.24	46.42	0.70	532,557.2675	1,368,038.8264
9	29+41.47	29+66.14	29+90.76	6°51'20"	13°54'24"	412.00	24.68	39.30	0.74	532,607.3596	1,368,042.9967
10	30+69.06	30+87.32	31+03.59	46°00'43"	133°14'46"	43.00	18.26	34.53	3.72	532,726.1120	1,368,067.4033

**SUBMERGED GRAVEL WETLAND (SGW) CURVE DATA**

CURVE	PVC STA	PVI STA	PVT STA	DELTA	Dc	R	T	L	E	NORTHING	EASTING
1	10+12.92	10+40.83	10+64.58	53°48'53"	104°10'27"	55.00	27.91	51.66	6.68	532,470.9358	1,367,559.5885
2	11+08.11	11+16.57	11+25.02	6°27'42"	38°11'50"	150.00	8.47	16.92	0.24	532,417.2588	1,367,500.3913
3	12+14.43	12+46.40	12+51.22	124°00'06"	337°02'02"	17.00	31.97	36.79	19.21	532,341.4161	1,367,394.9957
4	13+67.52	13+83.68	13+98.64	39°29'38"	127°19'26"	45.00	16.15	31.02	2.81	532,284.4783	1,367,549.2511

- NOTE:**
- POLE AND BUILDING EXTERIOR MOUNTED FIXTURES PROPOSED AS METAL HALIDE. SEE SHEET E001 FOR FIXTURE SCHEDULE AND SHEETS E102 AND E106 FOR FIXTURE LOCATIONS.
  - FOR FUELING DETAILS, SEE SHEETS M701 TO M703 OF THE MEP PLAN SET.
  - FOR ADA PARKING DETAILS, SEE SHEET CV-08

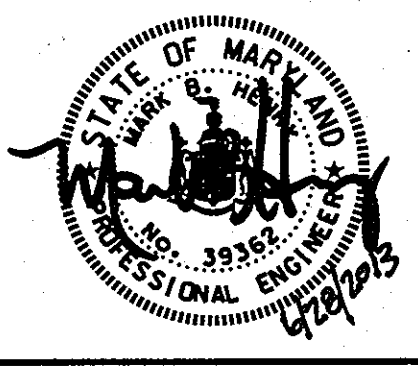


**OWNER/DEVELOPER**  
 Howard County  
 % Mr. Brandon Love, Project Manager  
 Department of Public Works, Special Projects  
 9250 Bendix Road  
 Columbia, Maryland 21045  
 410-313-5398

- LEGEND**
- PROPOSED EXTENSION OF 25% SLOPE
  - EXISTING 15-25% SLOPE
  - EXISTING 25% AND GREATER SLOPE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 7/17/13  
 DATE: 8/1/13  
 DATE: 8-1-13

**RK&K**  
 CONSULTING ENGINEERS  
 81 MOSHER STREET  
 BALTIMORE, MARYLAND 21217  
 (800)-787-3755



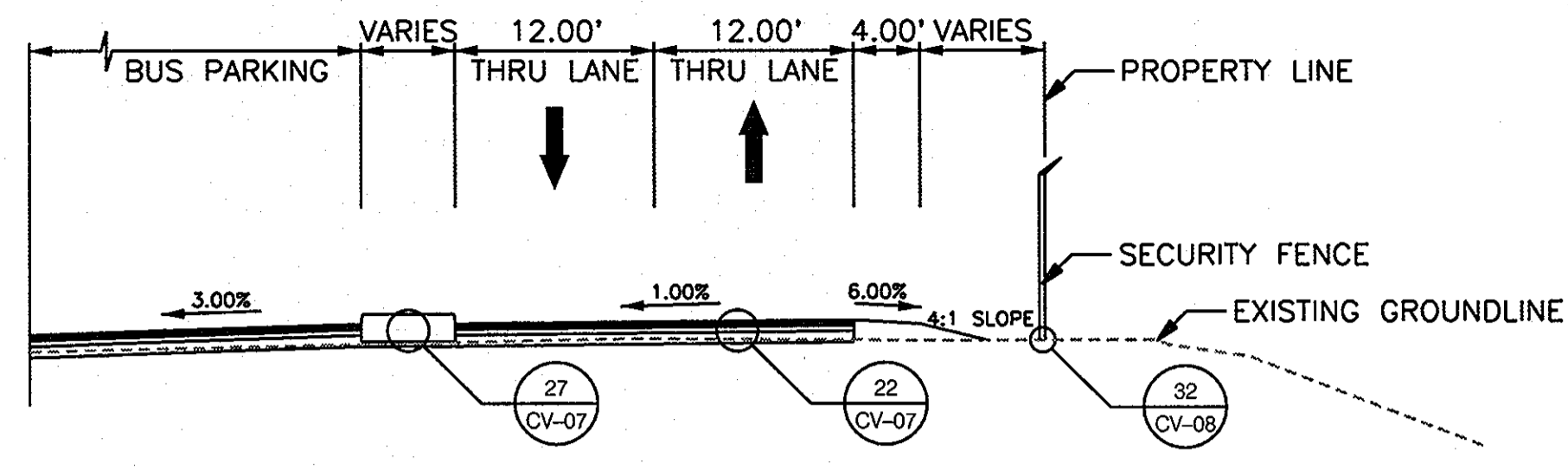
**PROFESSIONAL CERTIFICATION**  
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 39362  
 Expiration Date 09/24/2014

NO.	DESCRIPTION	BY	DATE
		JRN	
		JRN	
		MBH	

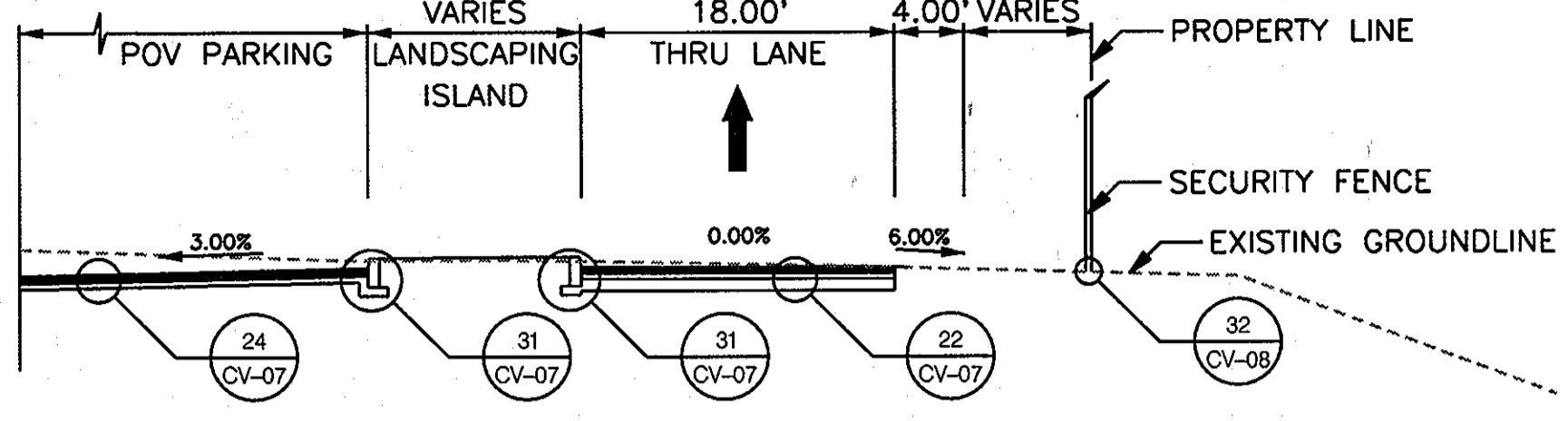
**SITE LAYOUT PLAN**  
 SCALE: 1" = 40'  
 DATE: APRIL 26, 2013

**GREEN BUILDING HOWARD COUNTY CENTRAL MARYLAND TRANSIT OPERATIONS FACILITY**  
 (LOT 1 OF THE LATE J. DUINKER SUBDIVISION)  
 TAX MAP 48  
 CAPITAL PROJECT NO: C-0289  
 6TH ELECTION DISTRICT  
 GRID 13  
 PARCEL 75  
 HOWARD COUNTY, MD  
 DISCIPLINE ABBREVIATION: CV-03  
 SHEET NO.: 7 OF 32  
 SDP-13-039

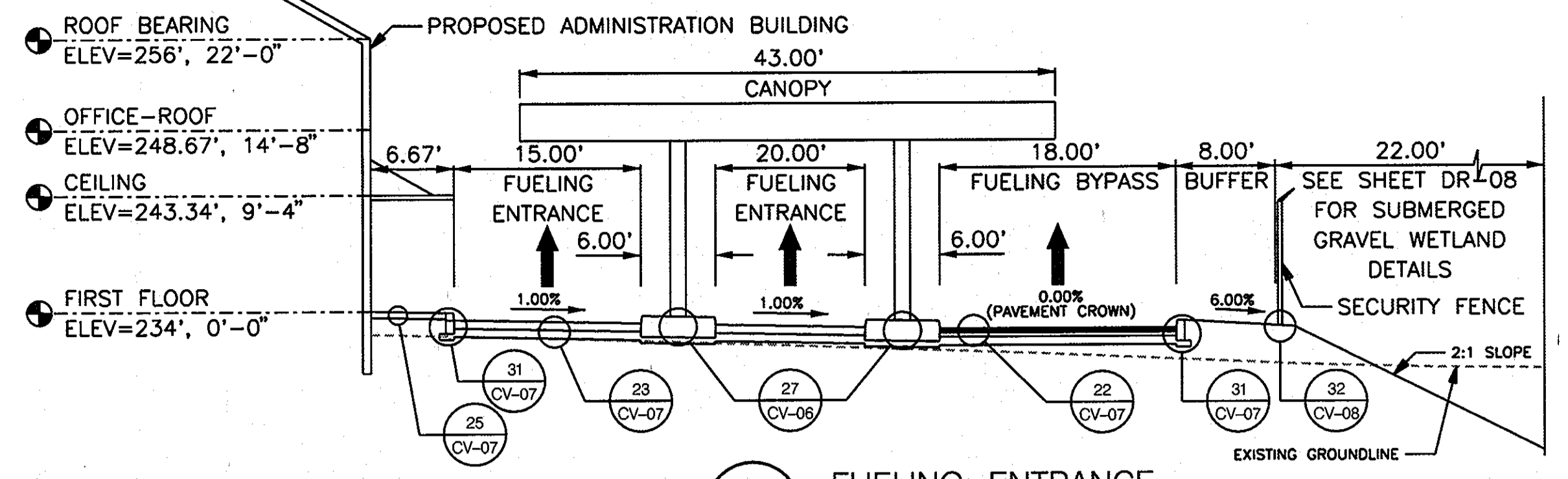




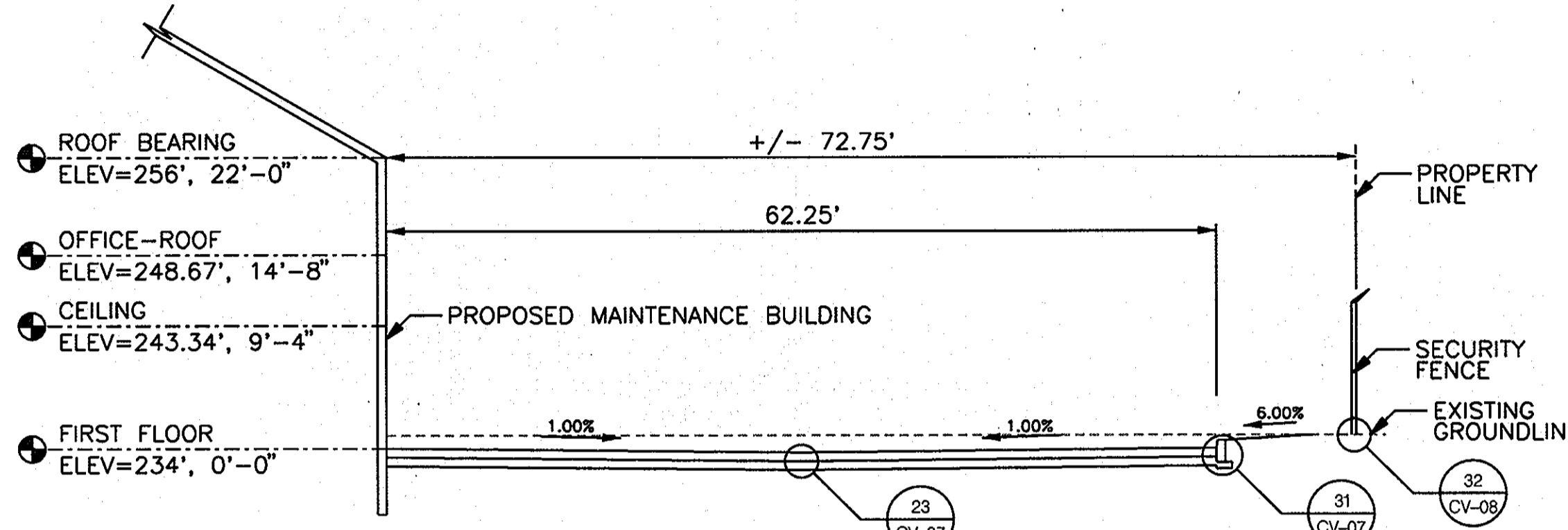
1 FACILITY ENTRANCE  
CV-03 SCALE: 1" = 10'-0"



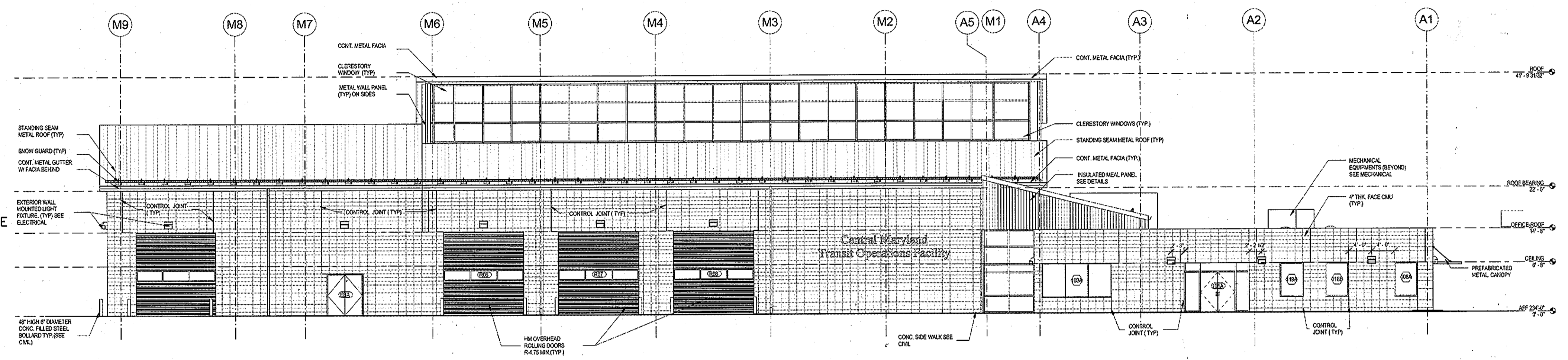
2 MAIN CIRCULATION  
CV-03 SCALE: 1" = 10'-0"



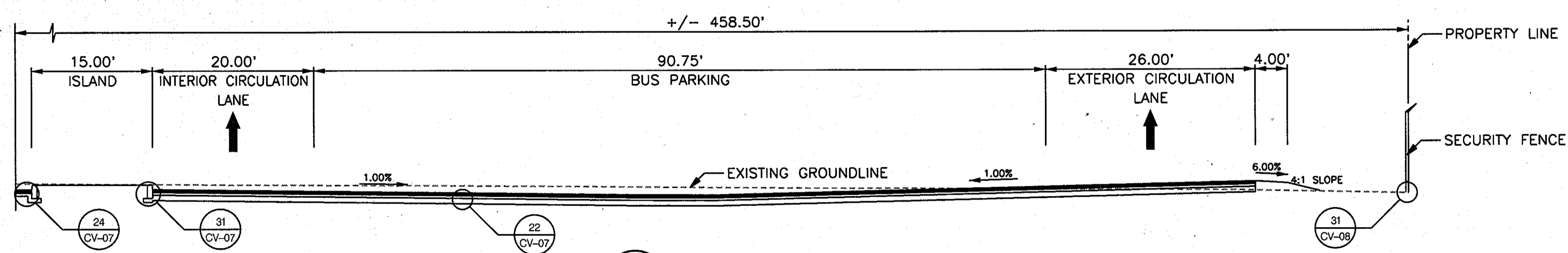
3 FUELING ENTRANCE  
CV-03 SCALE: 1" = 10'-0"



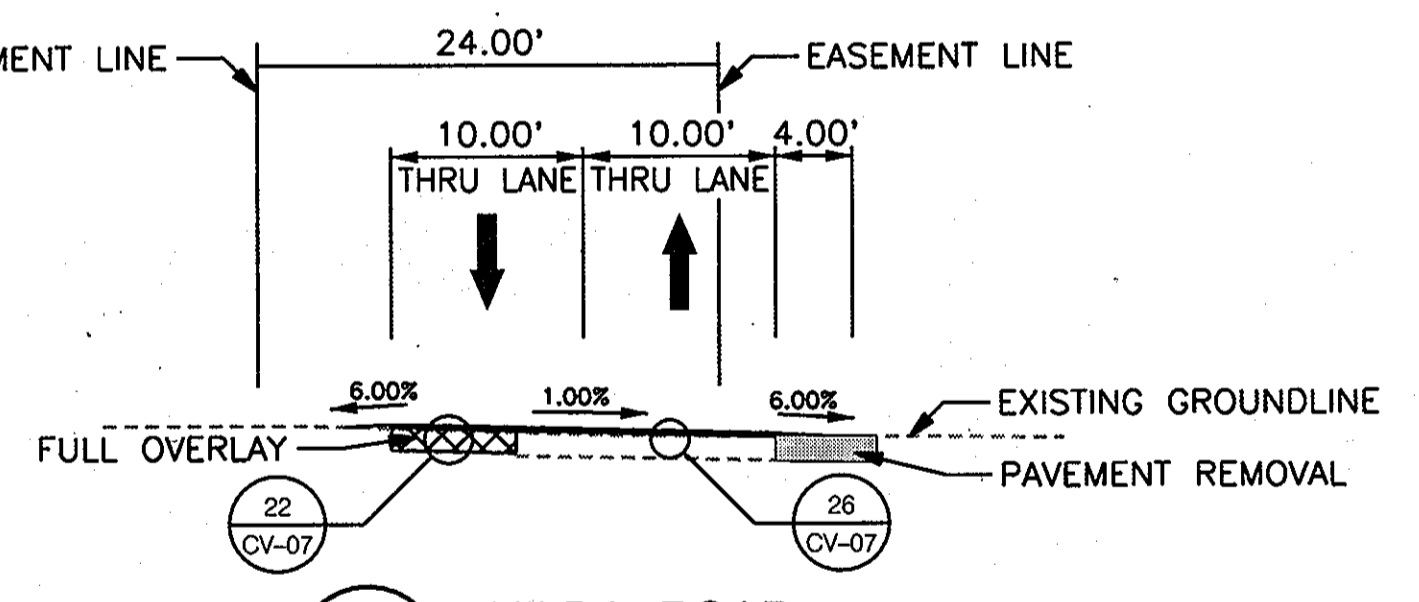
4 MAINTENANCE BAY ENTRANCE  
CV-03 SCALE: 1" = 10'-0"



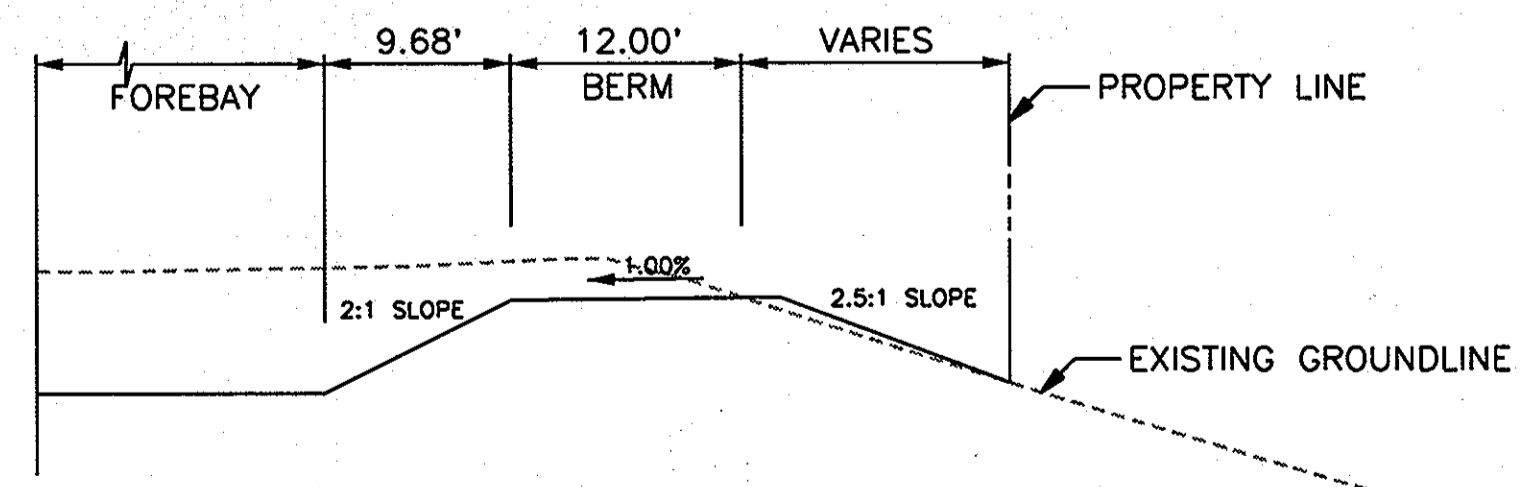
4A BUILDING FACADE  
CV-03 SCALE: NOT TO SCALE  
NOTE: SEE SHEET A201 IN THE ARCHITECTURAL PLAN SET



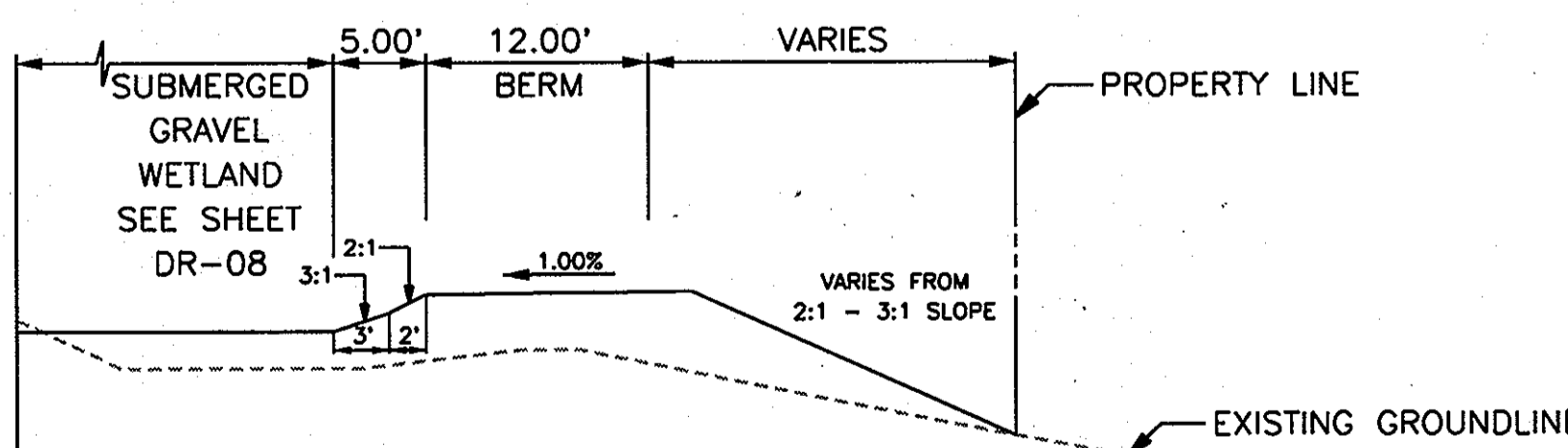
5 BUS PARKING AREA  
CV-03 SCALE: 1" = 10'-0"



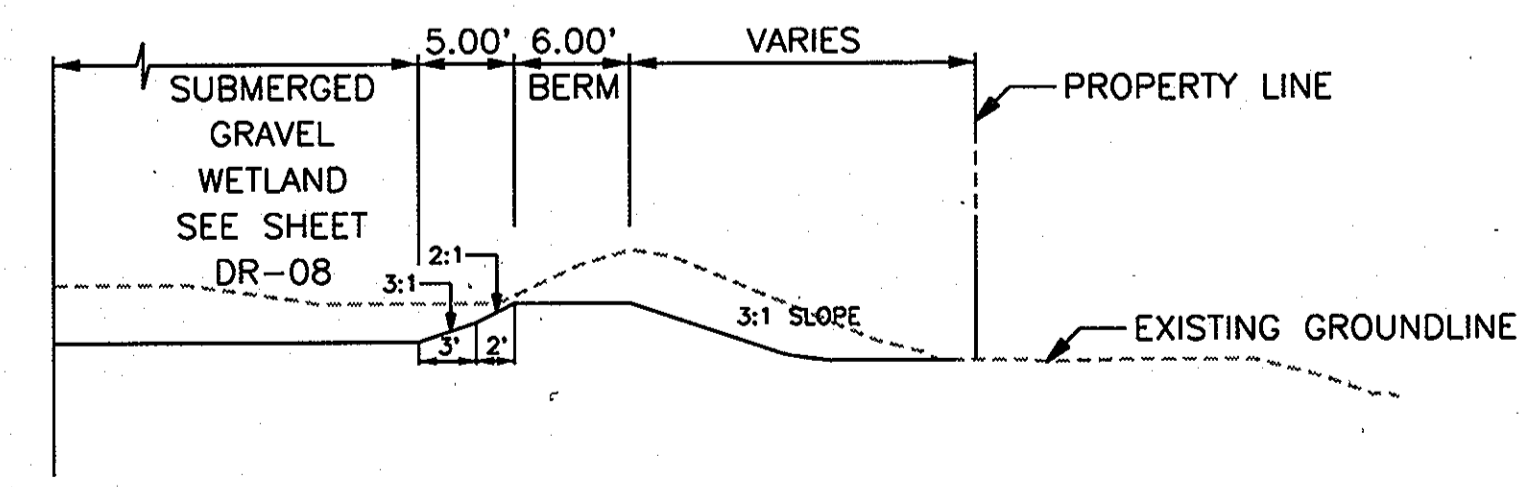
6 HILDA ROAD  
CV-03 SCALE: 1" = 10'-0"  
STA 13+00.00 TO STA 4+00.00



7 FOREBAY SLOPE  
CV-03 SCALE: 1" = 10'-0"



8 WESTERN SLOPE  
CV-03 SCALE: 1" = 10'-0"



9 SOUTHERN SLOPE  
CV-03 SCALE: 1" = 10'-0"

**OWNER/DEVELOPER**  
Howard County  
% Mr. Brandon Love, Project Manager  
Department of Public Works, Special Projects  
9250 Parcel Road  
Columbia, Maryland 21045  
410-313-5398

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

**RK&K**  
CONSULTING ENGINEERS  
81 MOSHER STREET  
BALTIMORE, MARYLAND 21217  
(800)-787-3755



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.  
39362 License No. 09/24/2014 Expiration Date

NO.	DESCRIPTION	BY	DATE
		JRN	6/25/2013

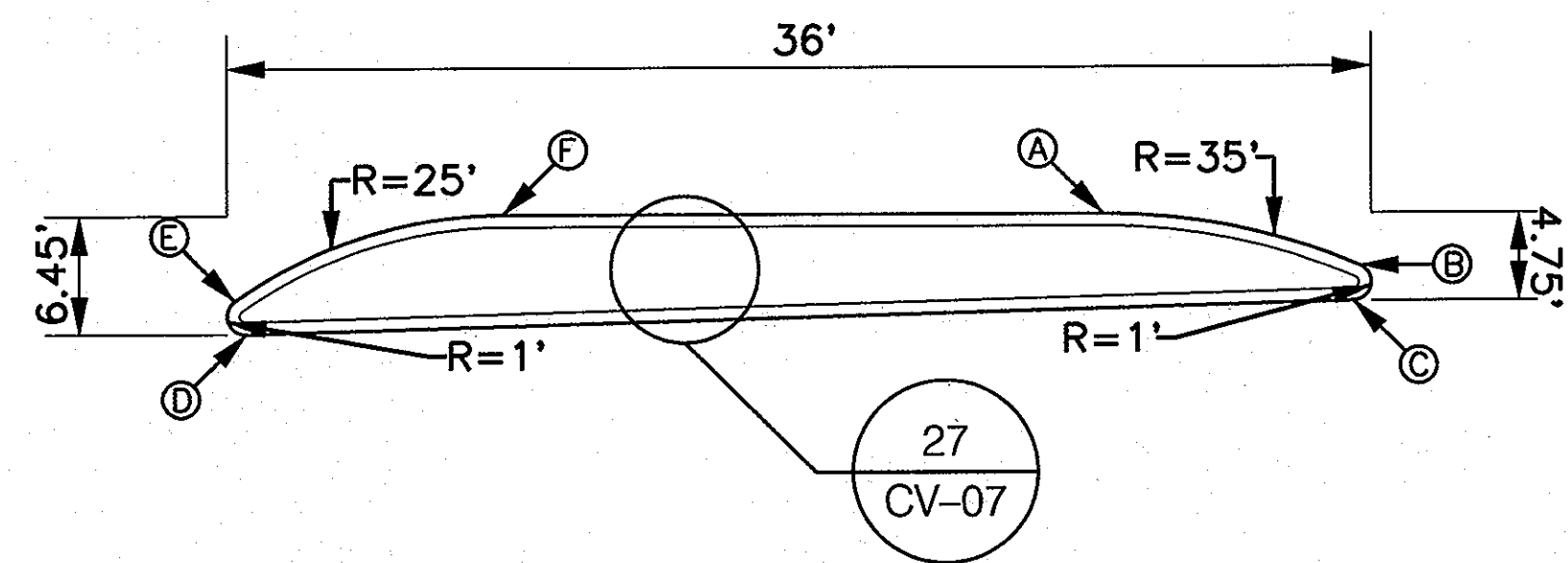
APPR	CHECK	DESIGN
		JRN
		JRN
		MBH

**GREEN BUILDING**  
**HOWARD COUNTY**  
**CENTRAL MARYLAND**  
**TRANSIT OPERATIONS FACILITY**  
(LOT 1 OF THE LATE J. DUINKER SUBDIVISION)  
TAX MAP 48  
CAPITAL PROJECT NO: C-0289  
6TH ELECTION DISTRICT  
GRID 13  
PARCEL 75  
HOWARD COUNTY, MD

DISCIPLINE ABBREVIATION CV-04  
SHEET NO. 8 OF 32

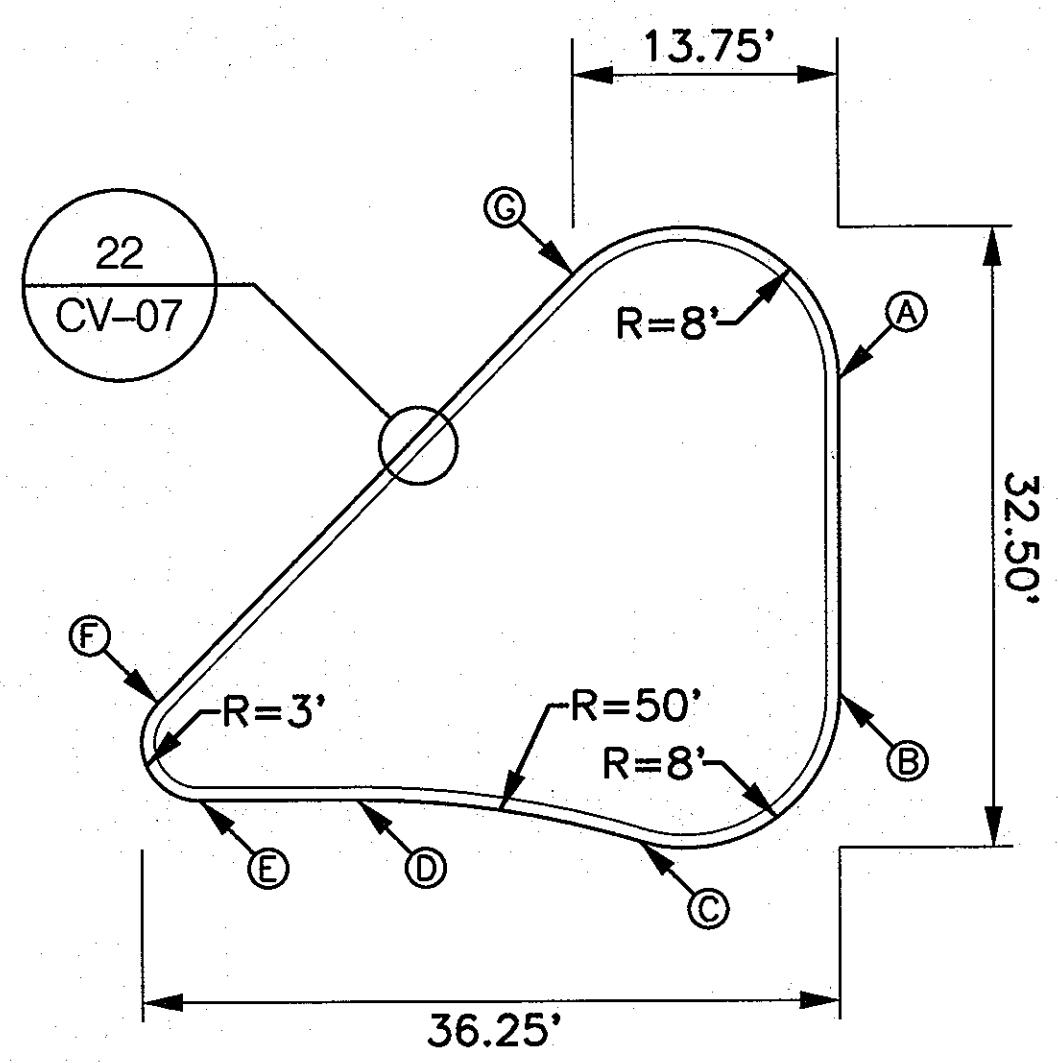
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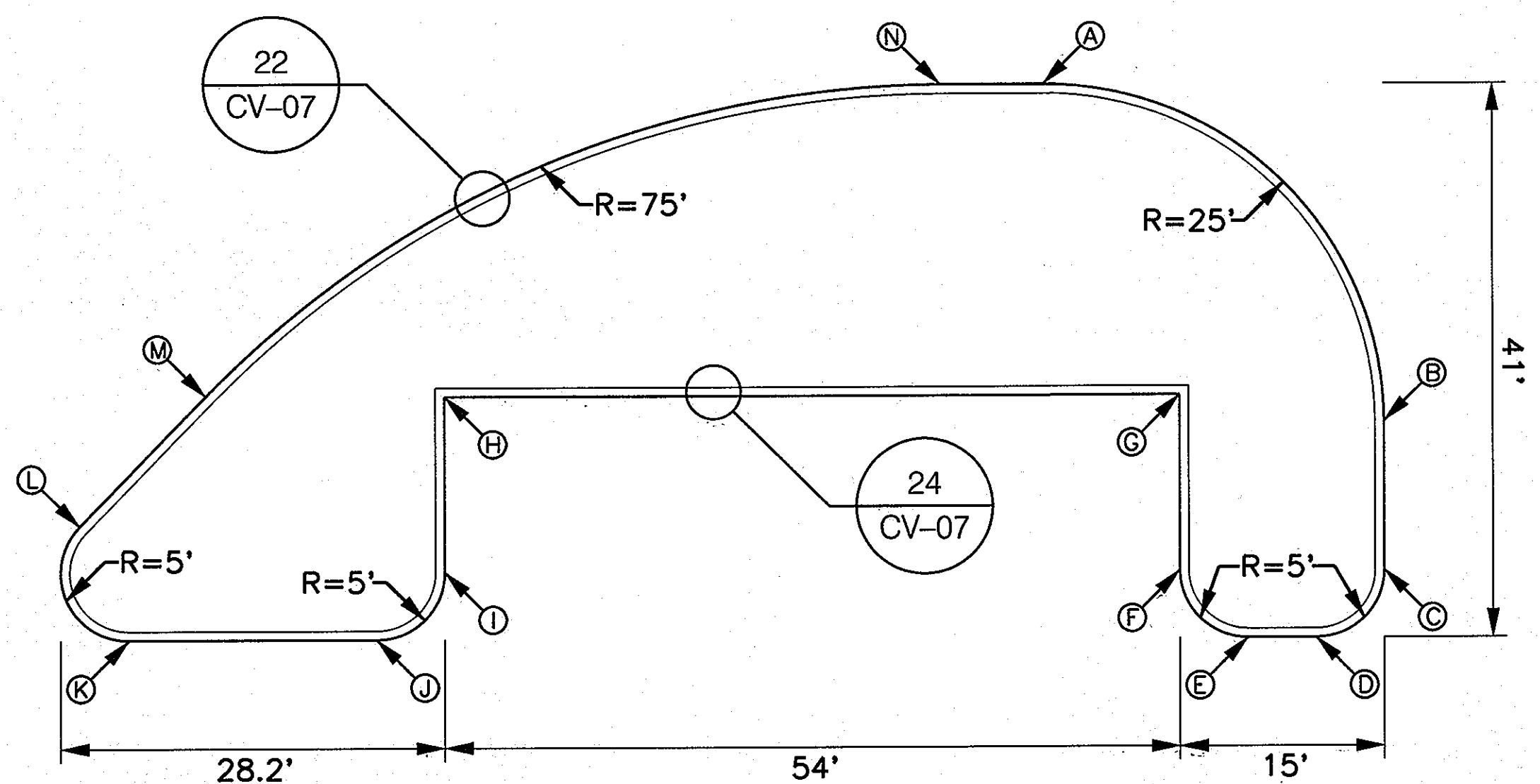
ISLAND A CONSTRUCTION POINTS			
POINT	NORTHING	EASTING	ELEVATION
A	532,746.7647	1,368,001.8355	240.94
B	532,751.2359	1,368,014.8987	241.12
C	532,749.4454	1,368,015.6782	241.05
D	532,714.2386	1,367,987.2208	240.22
E	532,715.3915	1,367,985.6938	240.25
F	532,727.4232	1,367,975.0459	240.57

10 SITE ISLAND A  
CV-03 NOT TO SCALE



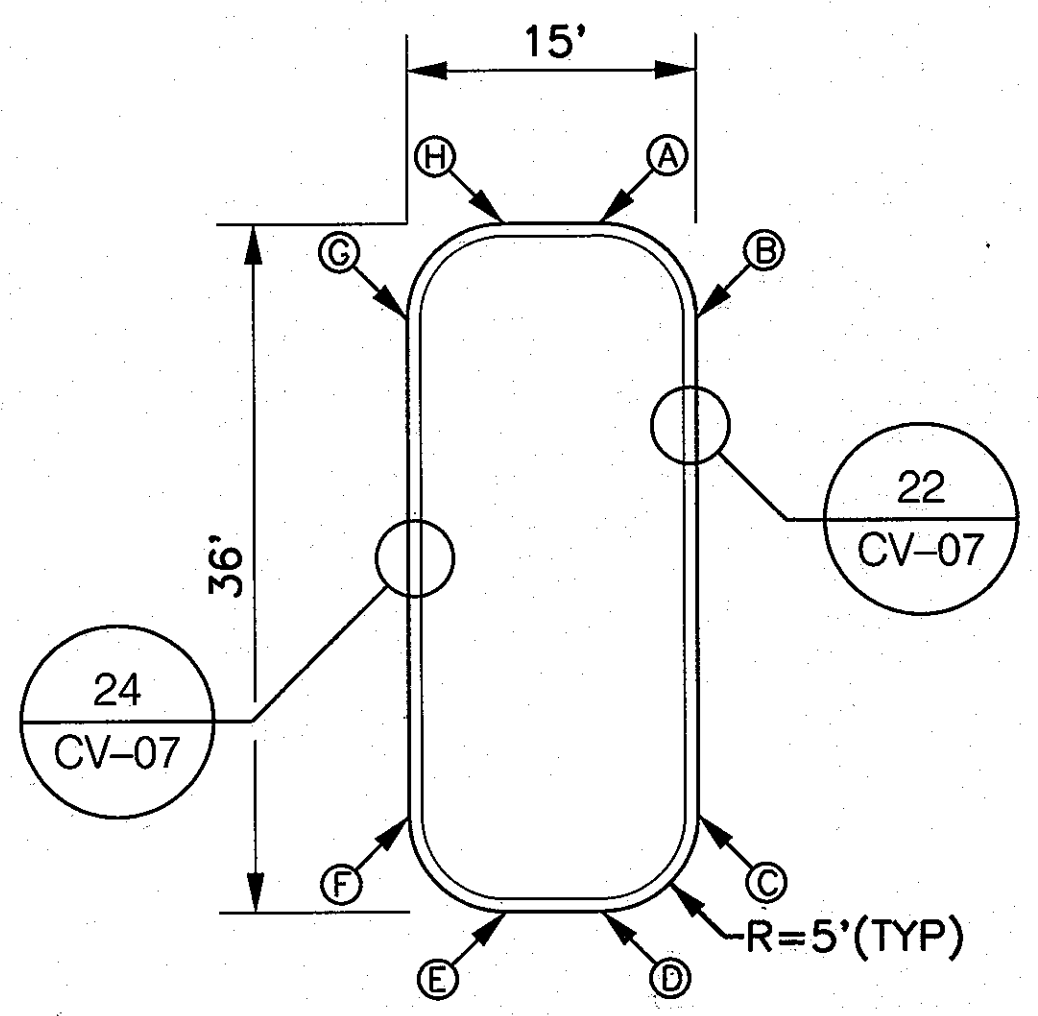
ISLAND B CONSTRUCTION POINTS			
POINT	NORTHING	EASTING	ELEVATION
A	532,693.6865	1,367,939.4991	239.85
B	532,677.5701	1,367,936.1887	239.53
C	532,672.1607	1,367,924.5139	239.29
D	532,677.2421	1,367,910.6009	239.22
E	532,678.9074	1,367,902.5858	239.16
F	532,684.3252	1,367,901.4765	239.24
G	532,701.8982	1,367,927.1434	239.86

11 SITE ISLAND B  
CV-03 NOT TO SCALE



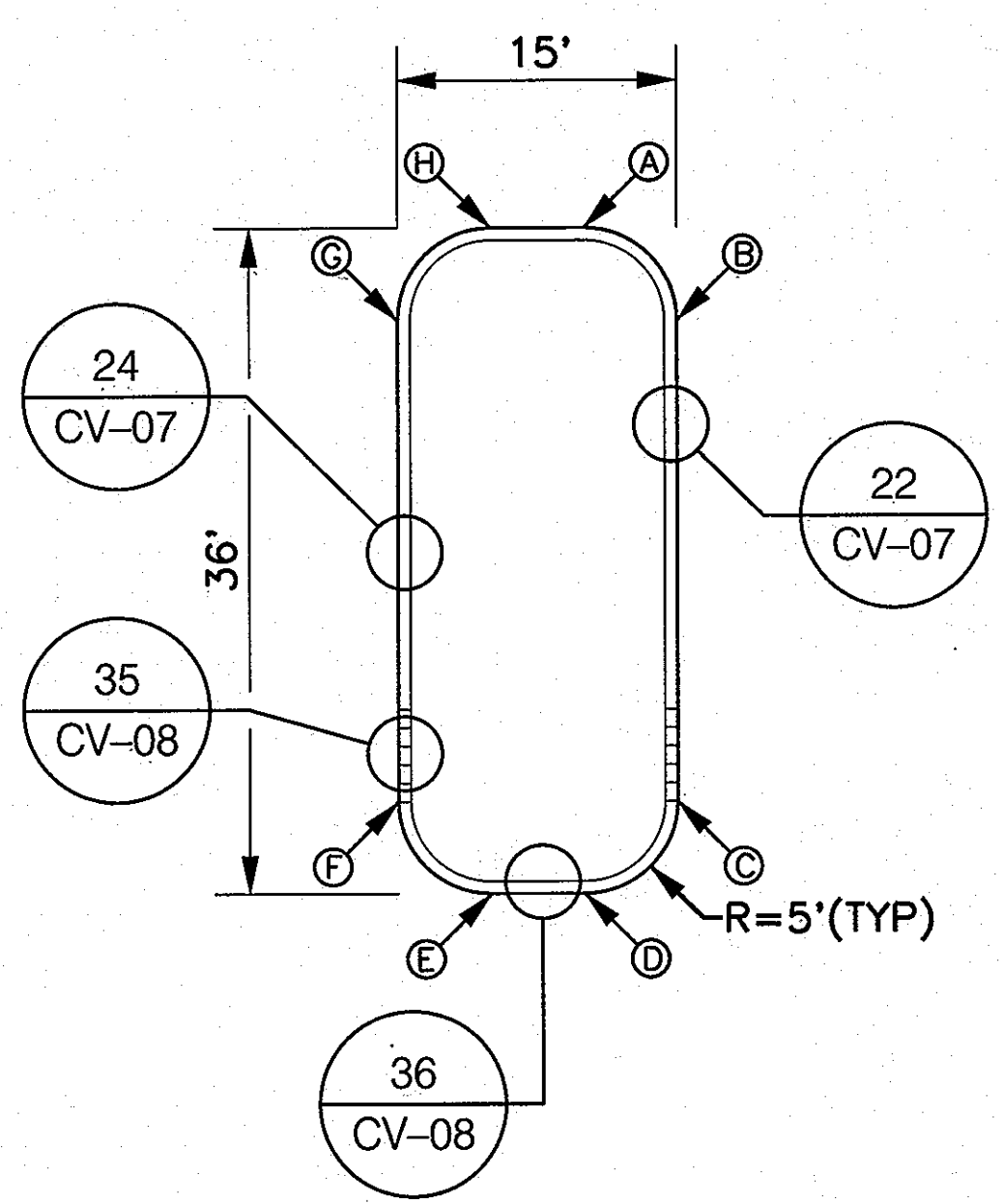
ISLAND C CONSTRUCTION POINTS			
POINT	NORTHING	EASTING	ELEVATION
A	532,652.7740	1,367,985.5678	238.71
B	532,653.2926	1,367,983.0230	238.42
C	532,612.4820	1,367,922.8093	238.20
D	532,608.5907	1,367,916.9060	238.04
E	532,609.5874	1,367,912.0520	237.98
F	532,615.5006	1,367,908.1161	238.04
G	532,628.5217	1,367,910.7327	238.31
H	532,640.9149	1,367,849.0226	237.91
I	532,628.1838	1,367,846.4060	237.64
J	532,624.2926	1,367,840.5028	237.51
K	532,636.1423	1,367,851.4936	237.37
L	532,638.1658	1,367,839.6746	237.52
M	532,642.7153	1,367,840.7013	237.78
N	532,654.2949	1,367,898.1702	238.65

12 SITE ISLAND C  
CV-03 NOT TO SCALE



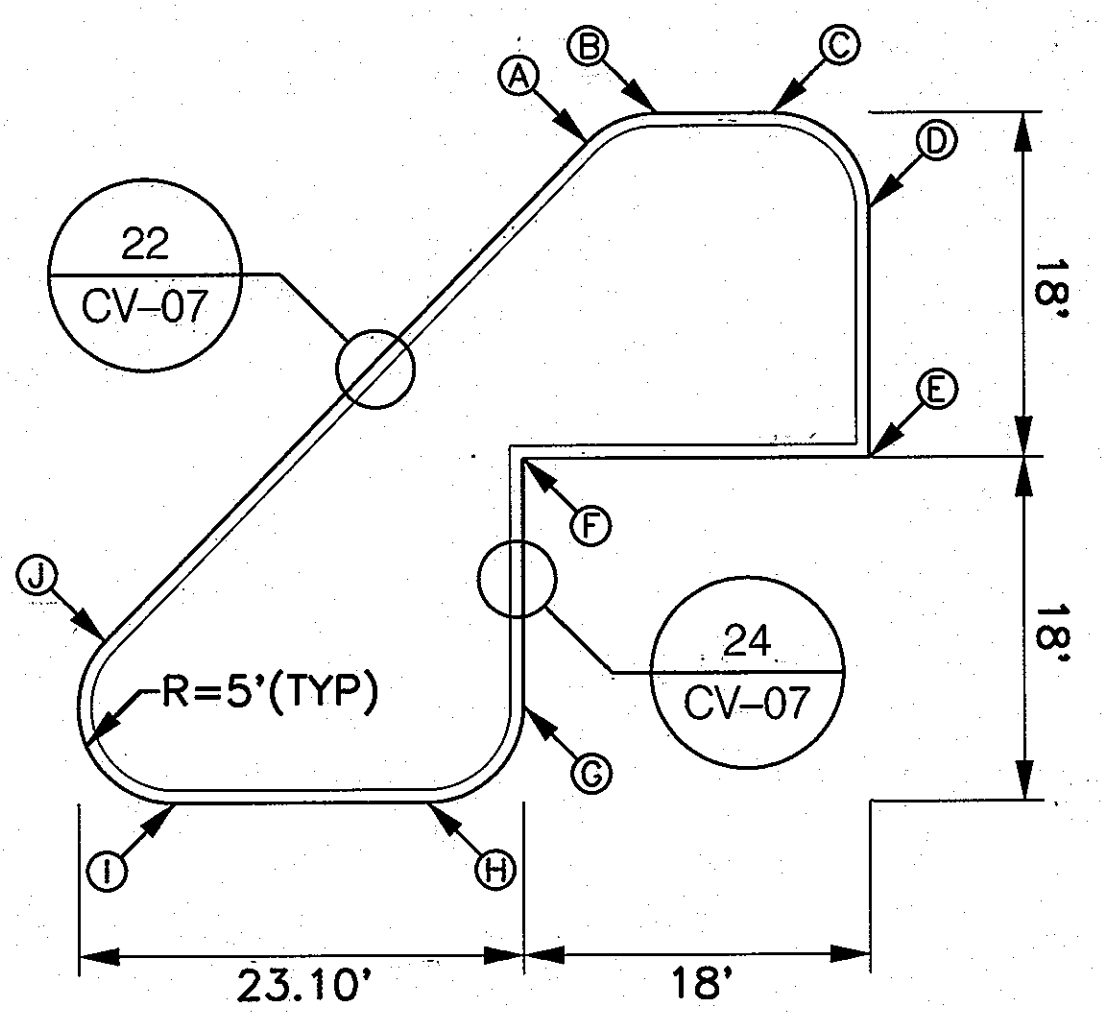
ISLAND E CONSTRUCTION POINTS			
POINT	NORTHING	EASTING	ELEVATION
A	532,585.0825	1,367,912.0724	237.58
B	532,579.1781	1,367,916.9444	237.59
C	532,553.7104	1,367,910.7300	237.00
D	532,549.8192	1,367,904.8268	236.77
E	532,550.8246	1,367,899.9289	236.64
F	532,556.7291	1,367,896.0369	236.61
G	532,592.1967	1,367,901.2712	237.43
H	532,586.0880	1,367,907.1745	237.49

13 SITE ISLAND E, F  
CV-03 NOT TO SCALE



ISLAND H CONSTRUCTION POINTS			
POINT	NORTHING	EASTING	ELEVATION
A	532,467.5395	1,367,887.9139	233.77
B	532,461.6351	1,367,891.8059	233.66
C	532,436.1664	1,367,896.5714	233.59
D	532,432.2753	1,367,890.8671	233.67
E	532,433.4830	1,367,874.7907	233.66
F	532,438.2065	1,367,871.6771	233.22
G	532,464.6539	1,367,877.1128	233.34
H	532,468.5451	1,367,883.0161	233.69

13 SITE ISLAND H, J  
CV-03 NOT TO SCALE



ISLAND D CONSTRUCTION POINTS			
POINT	NORTHING	EASTING	ELEVATION
A	532,608.4694	1,367,790.6819	236.58
B	532,609.2414	1,367,794.5127	236.64
C	532,608.0306	1,367,800.4065	236.65
D	532,602.1263	1,367,804.2980	236.54
E	532,599.3909	1,367,801.6805	236.22
F	532,593.0147	1,367,784.0490	236.16
G	532,580.2832	1,367,781.4323	235.83
H	532,576.3920	1,367,775.5290	235.69
I	532,579.0301	1,367,762.6917	235.65
J	532,588.0536	1,367,760.8627	235.68

14 SITE ISLAND D  
CV-03 NOT TO SCALE

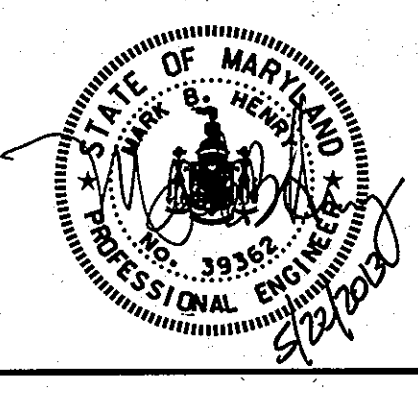
NOTE:  
MOUNTABLE CURB TO BE INSTALLED FROM POINT C TO POINT F  
ONLY ON ISLANDS H AND J. SEE SHEET CV-08 FOR DETAILS.

**OWNER/DEVELOPER**  
Howard County  
% Mr. Brandon Love, Project Manager  
Department of Public Works, Special Projects  
9250 Bendix Road  
Columbia, Maryland 21045  
410-313-5398

4/25/2013  
\$FILE\$

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 6/11/13  
  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 5/1/13  
  
 DIRECTOR

**RK&K**  
CONSULTING ENGINEERS  
81 MOSHER STREET  
BALTIMORE, MARYLAND 21217  
(800)-787-3755



**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.  
39362 09/24/2014  
License No. Expiration Date

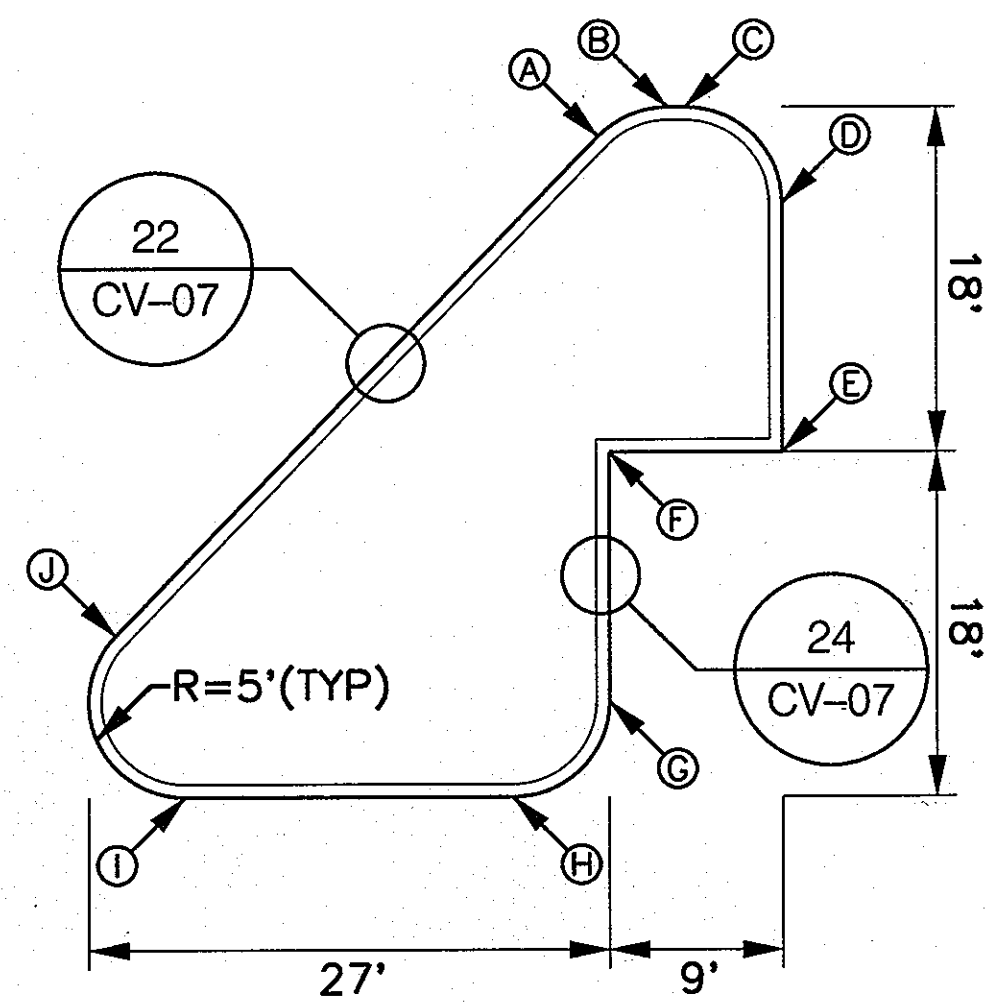
NO.	DESCRIPTION	BY	DATE

CIVIL DETAILS  
SCALE: AS SHOWN  
DATE: APRIL 26, 2013

**GREEN BUILDING**  
**HOWARD COUNTY**  
**CENTRAL MARYLAND**  
**TRANSIT OPERATIONS FACILITY**  
(LOT 1 OF THE LATE J. DUINKER SUBDIVISION)  
TAX MAP 48 GRID 13  
CAPITAL PROJECT NO: C-0289 PARCEL 75  
6TH ELECTION DISTRICT HOWARD COUNTY, MD

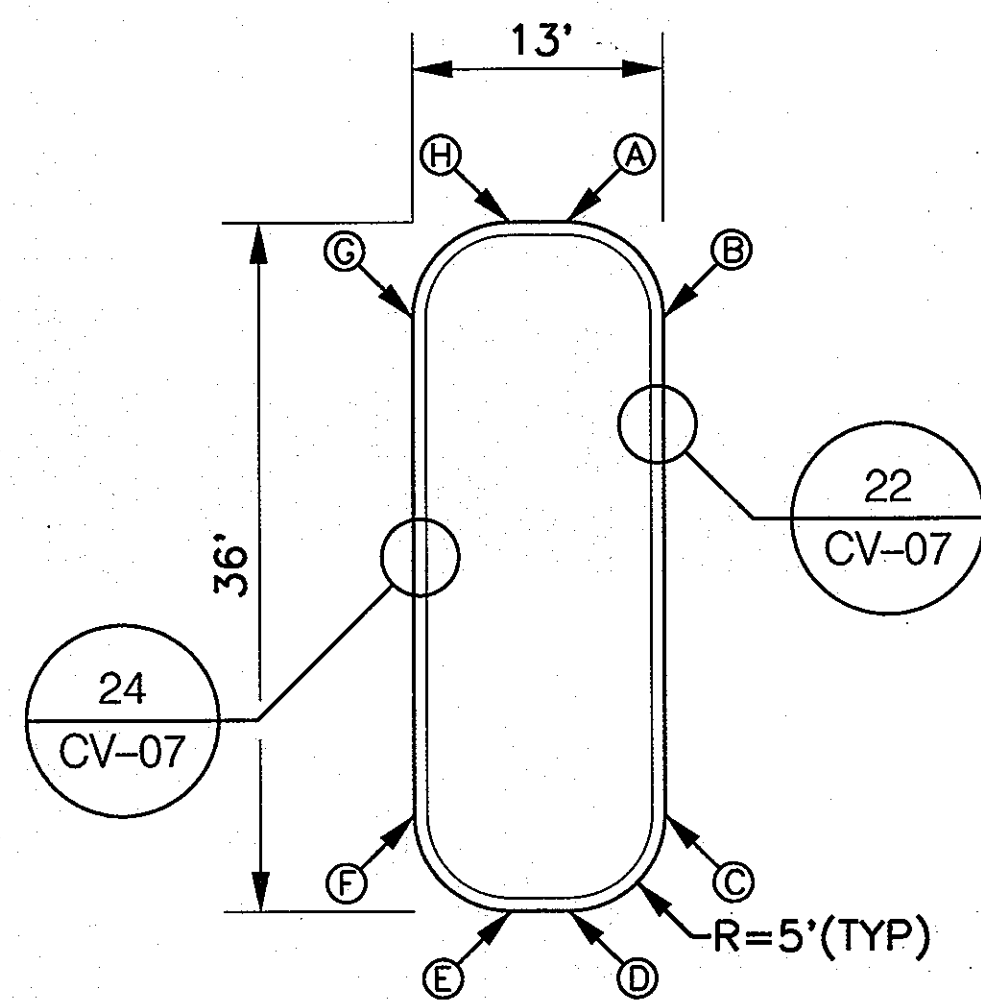
DISCIPLINE ABBREVIATION: CV-05  
SHEET NO. 9 OF 32  
SDP-13-039





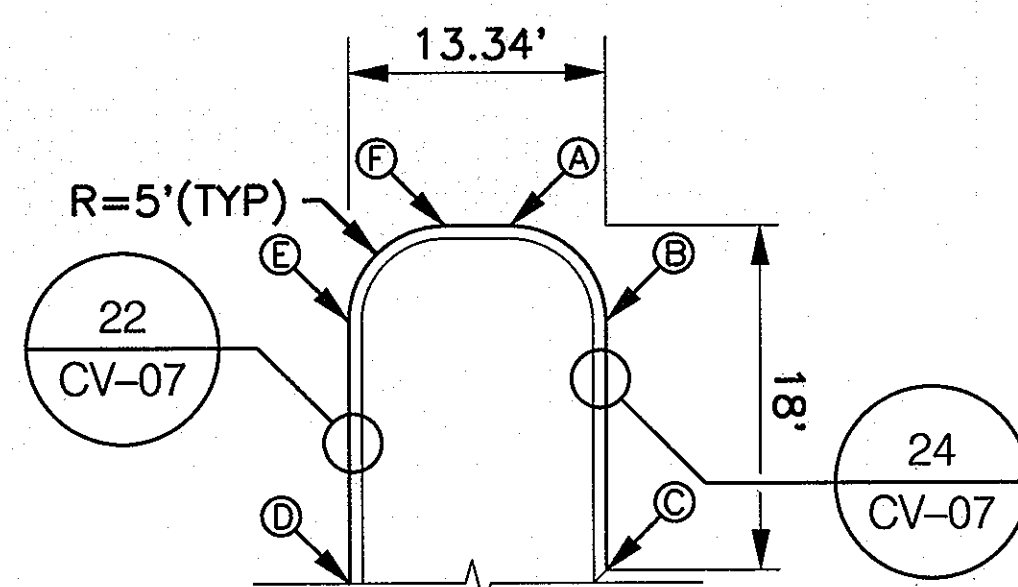
ISLAND F CONSTRUCTION POINTS			
POINT	NORTHING	EASTING	ELEVATION
A	532,561.3575	1,367,721.8706	234.93
B	532,562.1296	1,367,725.7010	234.98
C	532,561.9416	1,367,728.6165	234.97
D	532,556.0372	1,367,730.5595	234.83
E	532,543.3026	1,367,727.8912	234.41
F	532,545.1144	1,367,719.0754	234.44
G	532,532.3814	1,367,716.4584	234.03
H	532,528.4902	1,367,710.5552	233.90
I	532,531.9179	1,367,693.8700	233.95
J	532,540.9414	1,367,692.0510	234.21

15 SITE ISLAND F  
CV-03 NOT TO SCALE



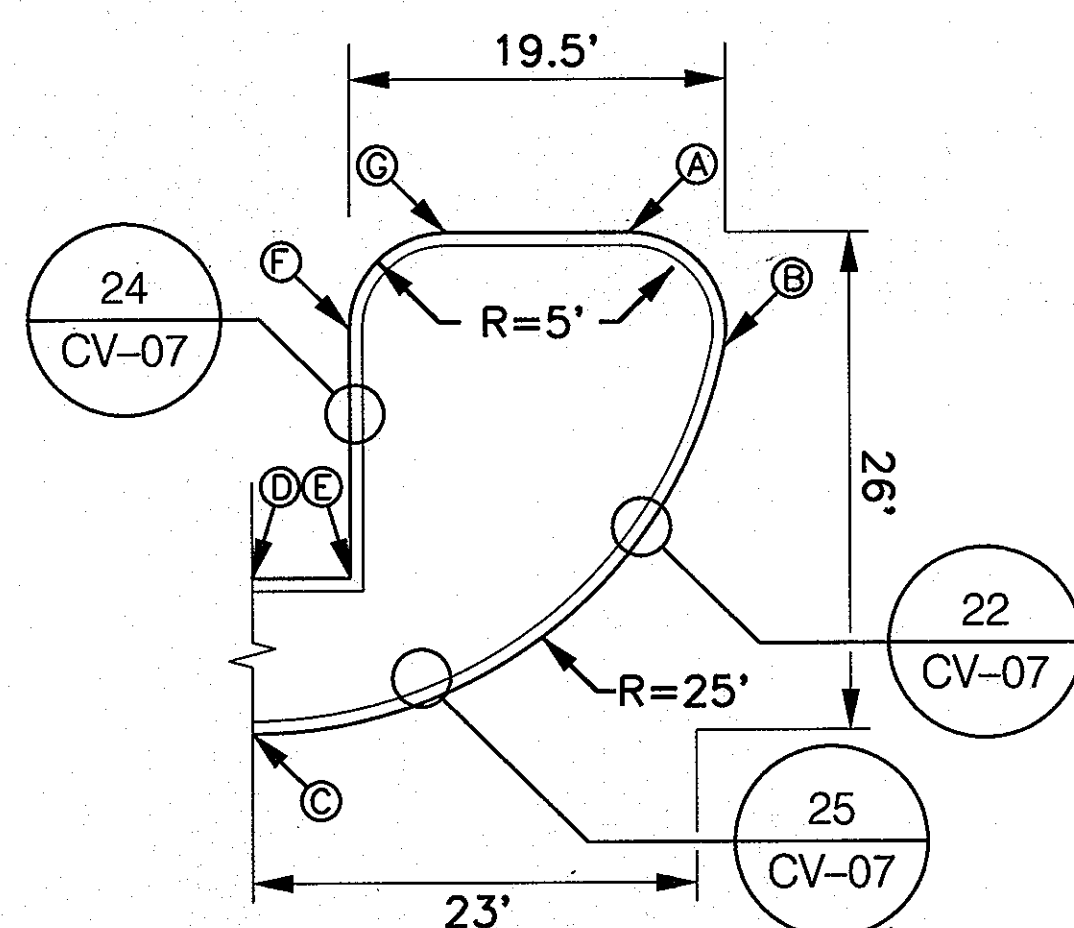
ISLAND I CONSTRUCTION POINTS			
POINT	NORTHING	EASTING	ELEVATION
A	532,490.4857	1,367,776.2482	234.19
B	532,484.5817	1,367,780.1392	234.13
C	532,459.1140	1,367,774.9049	233.48
D	532,455.2230	1,367,769.0006	233.53
E	532,455.8287	1,367,766.0581	233.59
F	532,461.7350	1,367,762.1671	233.73
G	532,487.1896	1,367,767.4014	233.85
H	532,491.0807	1,367,773.3057	234.15

16 SITE ISLAND I  
CV-03 NOT TO SCALE



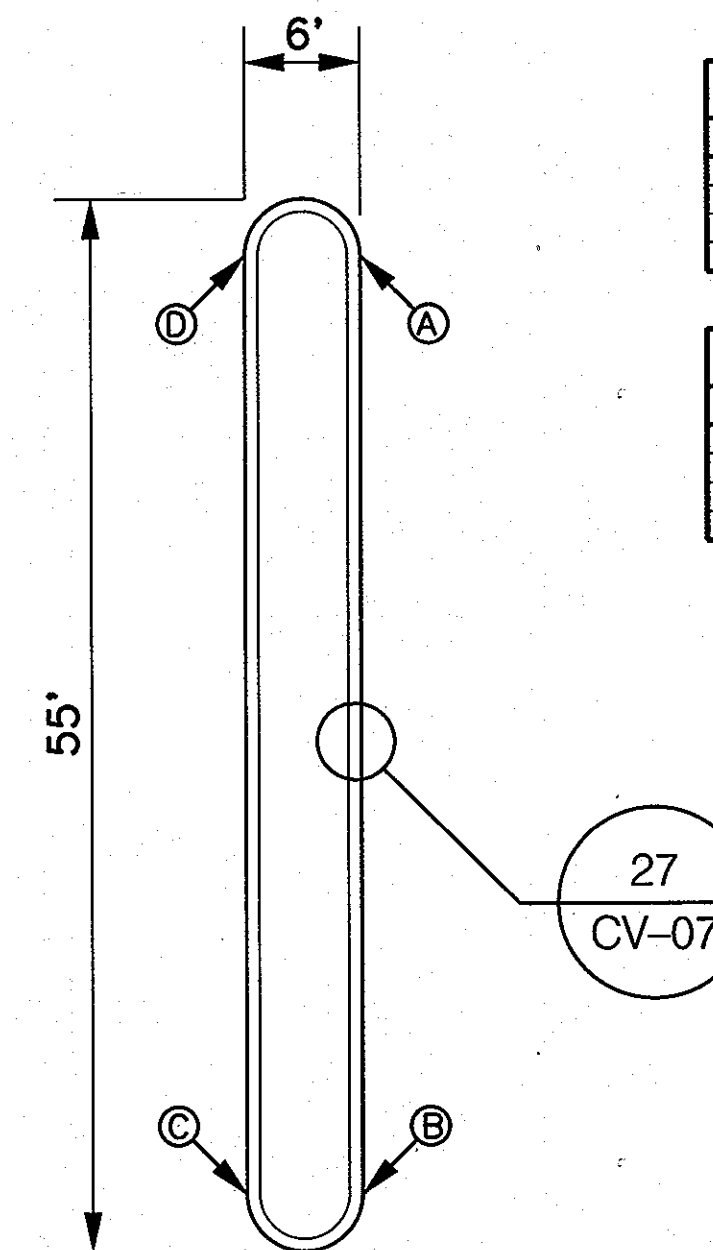
ISLAND K CONSTRUCTION POINTS			
POINT	NORTHING	EASTING	ELEVATION
A	532,454.5834	1,367,652.8899	233.46
B	532,448.6909	1,367,656.7258	233.58
C	532,435.9537	1,367,654.1087	233.81
D	532,437.9885	1,367,640.9043	233.37
E	532,451.3763	1,367,643.6599	233.37
F	532,455.2675	1,367,649.5632	233.42

17 SITE ISLAND K  
CV-03 NOT TO SCALE



ISLAND L CONSTRUCTION POINTS			
POINT	NORTHING	EASTING	ELEVATION
A	532,409.6704	1,367,871.4505	234.19
B	532,414.3568	1,367,875.0591	234.25
C	532,387.9927	1,367,846.9576	233.79
D	532,395.9891	1,367,848.9002	234.27
E	532,394.9575	1,367,853.6001	234.29
F	532,407.8937	1,367,856.2177	233.94
G	532,411.5849	1,367,862.1210	234.03

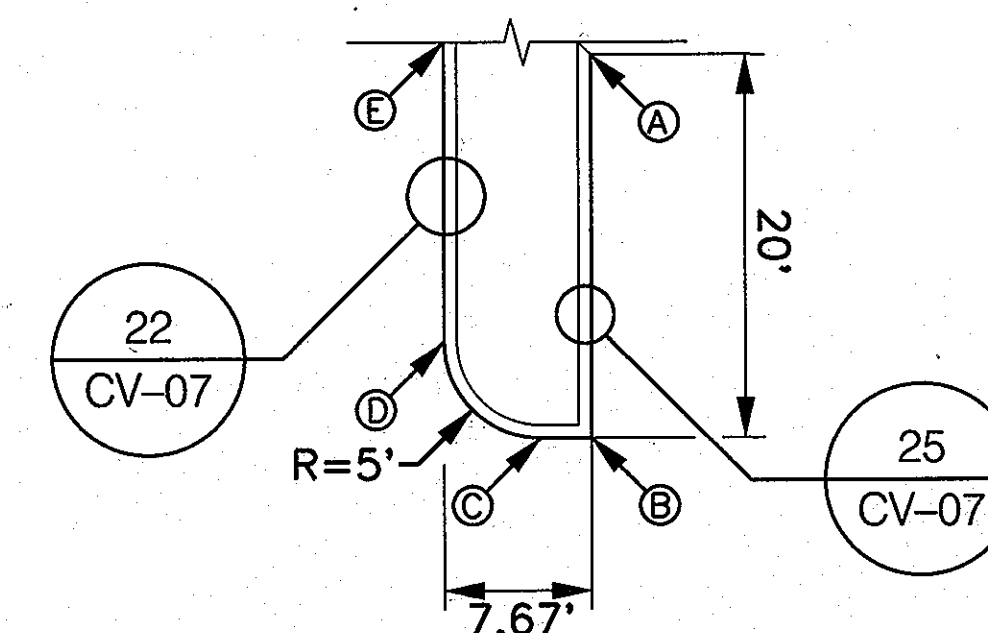
18 SITE ISLAND L  
CV-03 NOT TO SCALE



ISLAND M CONSTRUCTION POINTS			
POINT	NORTHING	EASTING	ELEVATION
A	532,387.4509	1,367,596.8301	233.03
B	532,339.4530	1,367,586.9651	232.86
C	532,390.6604	1,367,581.0904	232.77
D	532,388.6584	1,367,590.9554	232.57

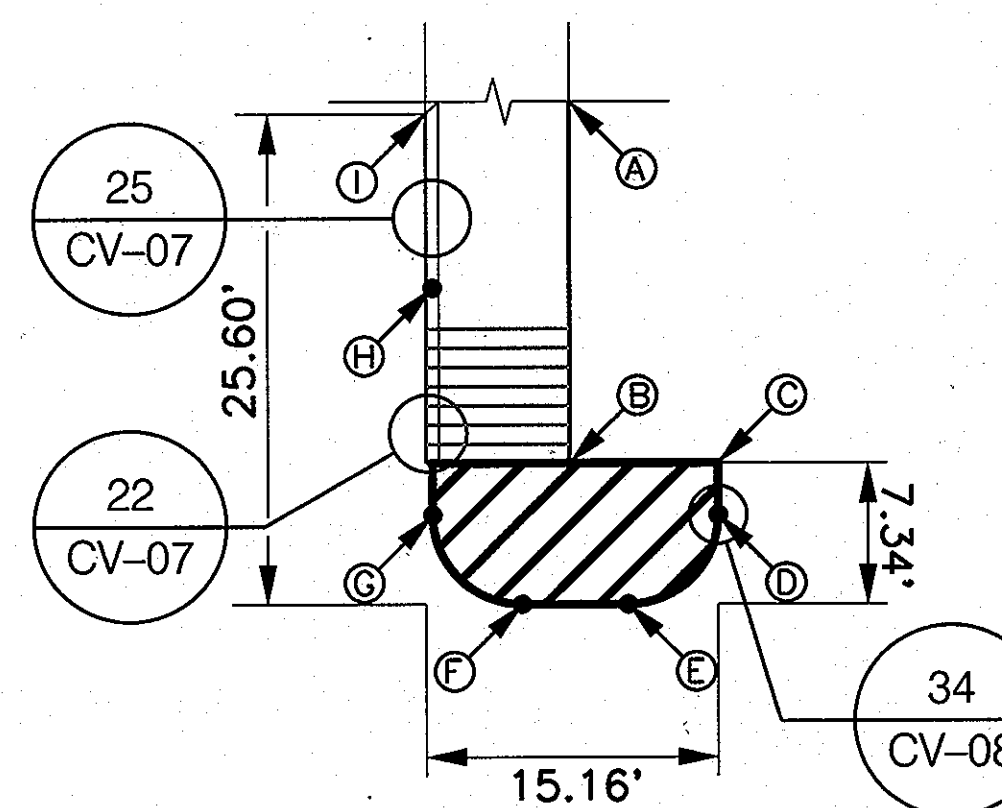
ISLAND N CONSTRUCTION POINTS			
POINT	NORTHING	EASTING	ELEVATION
A	532,383.8277	1,367,614.4591	233.21
B	532,335.8297	1,367,604.5942	233.14
C	532,337.0372	1,367,598.7194	233.04
D	532,385.0351	1,367,608.5844	233.15

19 SITE ISLAND M, N  
CV-03 NOT TO SCALE



ISLAND O CONSTRUCTION POINTS			
POINT	NORTHING	EASTING	ELEVATION
A	532,311.4699	1,367,622.3309	233.49
B	532,291.8794	1,367,618.9044	233.49
C	532,292.4554	1,367,616.1018	233.37
D	532,298.3597	1,367,612.2106	233.37
E	532,313.0993	1,367,615.2359	233.37

20 SITE ISLAND O  
CV-03 NOT TO SCALE



ISLAND P CONSTRUCTION POINTS			
POINT	NORTHING	EASTING	ELEVATION
A	532,298.5467	1,367,688.1367	234.00
B	532,280.0065	1,367,685.3261	234.00
C	532,278.4547	1,367,692.8763	234.00
D	532,275.7964	1,367,692.3351	233.90
E	532,272.1710	1,367,686.8274	233.78
F	532,292.3909	1,367,681.4400	233.72
G	532,278.7820	1,367,677.8087	233.72
H	532,290.3812	1,367,680.1927	233.83
I	532,267.1577	1,367,681.7024	233.93

21 SITE ISLAND P  
CV-03 NOT TO SCALE

**OWNER/DEVELOPER**

Howard County  
% Mr. Brandon Love, Project Manager  
Department of Public Works, Special Projects  
9250 Bendix Road  
Columbia, Maryland 21045  
410-313-5398

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

6/1/13  
8/01/13  
8-1-13  
DATE DATE DATE  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DIRECTOR



CONSULTING ENGINEERS  
81 MOSHER STREET  
BALTIMORE, MARYLAND 21217  
(800)-787-3755



**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

39362 09/24/2014  
License No. Expiration Date

NO.	DESCRIPTION	BY	DATE

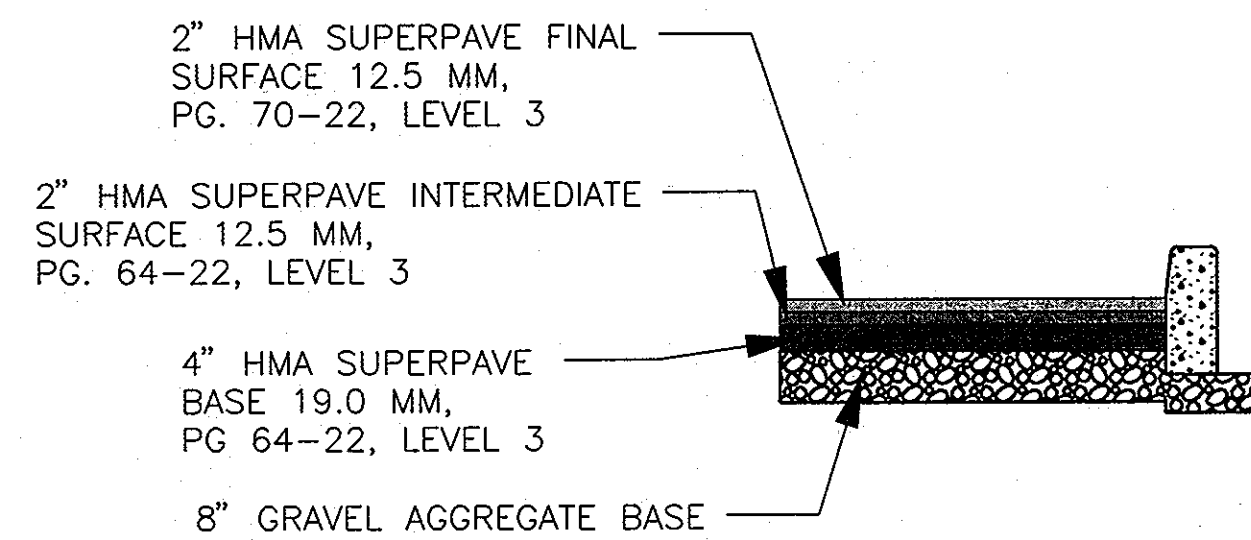
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CHECK	JRN
APPR	MBH

CIVIL DETAILS  
SCALE: AS SHOWN  
DATE: APRIL 26, 2013

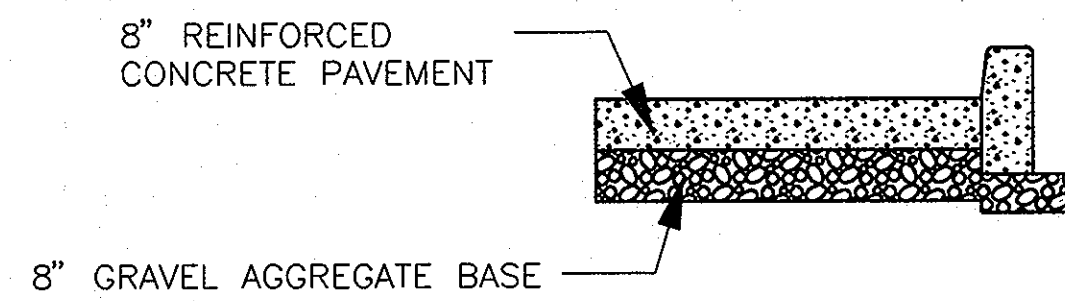
**GREEN BUILDING HOWARD COUNTY CENTRAL MARYLAND TRANSIT OPERATIONS FACILITY**  
(LOT 1 OF THE LATE J. DUINKER SUBDIVISION)  
TAX MAP 48 GRID 13  
CAPITAL PROJECT NO: C-0289 PARCEL 75  
6TH ELECTION DISTRICT HOWARD COUNTY, MD

DISCIPLINE ABBREVIATION CV-06  
SHEET NO. 10 OF 32

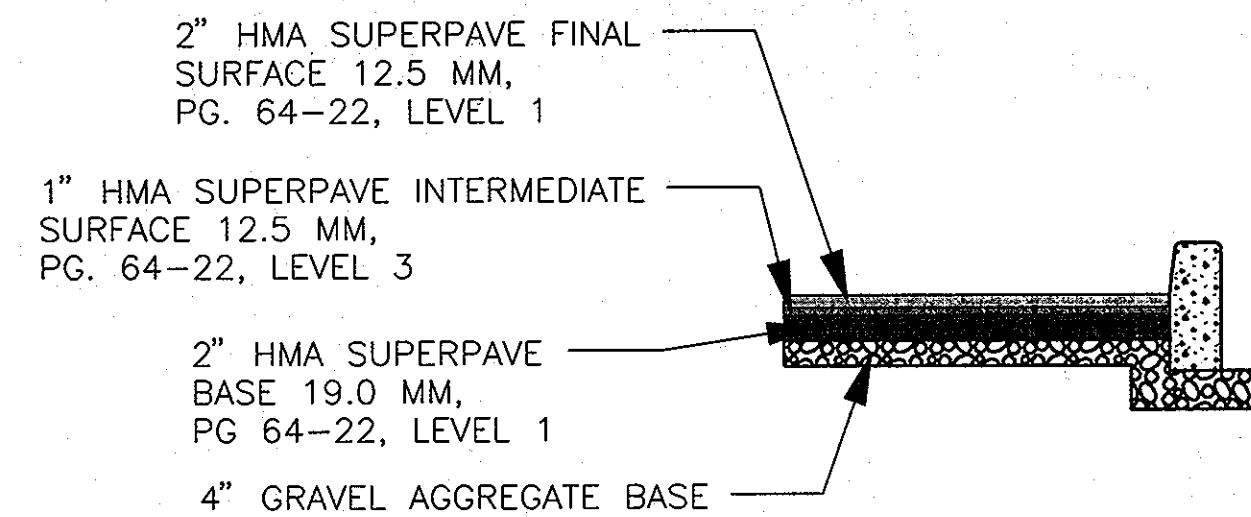




22 BITUMINOUS PAVEMENT SECTION FOR BUS LANES & PARKING  
CV-04 SCALE: NOT TO SCALE



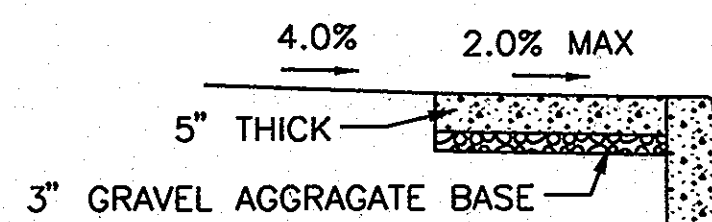
23 CONCRETE PAVEMENT SECTION  
CV-04 SCALE: NOT TO SCALE



24 BITUMINOUS PAVEMENT SECTION FOR EMPLOYEE PARKING  
CV-04 SCALE: NOT TO SCALE

NOTES

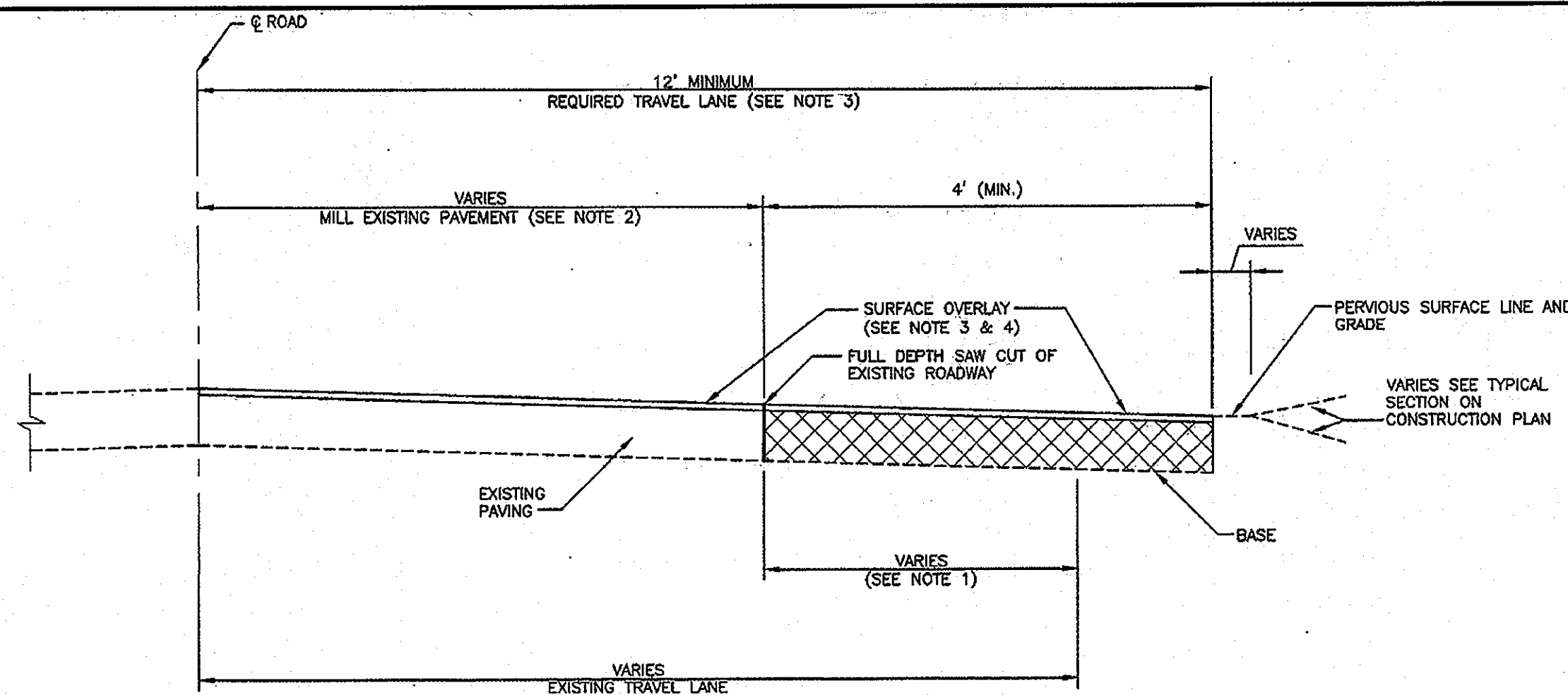
- USE THE FOLLOWING ITEM FOR WEDGE /LEVEL AS DIRECTED BY THE ENGINEER:  
VARIABLE DEPTH - HOT MIX ASPHALT SURPAVE 9.5 MM FOR WEDGE /LEVEL, PG. 64-22, LEVEL 2 (1" MINIMUM LIFT, 2" MAXIMUM LIFT THICKNESS)
- COMPACTION LIMITS - 2 LIFTS AT 3" MAX FOR ASPHALT AND 2 LIFTS AT 6" MAX FOR GRADED AGGREGATE BASE.
- HMA SUPERPAVE LAYERS SHALL BE PLACED IN APPROXIMATE COMPACTED LIFT THICKNESS: 19.0 MM BASE (2" MINIMUM TO 4" MAXIMUM), 12.5 MM SURFACE (1.5" MINIMUM TO 3" MAXIMUM), AND 9.5 MM SURFACE (1" MINIMUM TO 2" MAXIMUM).
- GRADED AGGREGATE BASE (GAB) TO BE PLACED AND COMPACTED IN 6" MAXIMUM COMPACTED THICKNESS LAYERS.
- THE INTERMEDIATE SURFACE COURSE LAYER MUST BE PLACED WITHIN TWO (2) WEEKS OF PLACEMENT OF BASE COURSE, AND IS REQUIRED PRIOR TO SUBSTANTIAL COMPLETION INSPECTION AND BOND REDUCTION.



NOTES

- SIDEWALK TO BE SCRIBED IN 4' SECTIONS.
- EXPANSION JOINTS ACROSS THE SIDEWALK NOT MORE THAN 16' APART.
- 1/2" PREFORMED BITUMINOUS EXPANSION JOINT FILLER IN THE EXPANSION JOINTS TO BE 1/4" BELOW THE SURFACE OF THE SIDEWALK.
- CONCRETE SHALL BE SHA MIX NO. 2.
- WHEN SIDEWALK ABUTS CURB, THE SIDEWALK SHALL BE 1/4" ABOVE CURB WITH 1/2" PREFORMED BITINOUS EXPANSION JOINT FILLER BETWEEN THEM.
- 3" GAB INCIDENTAL TO 5" SIDEALK PAY ITEM

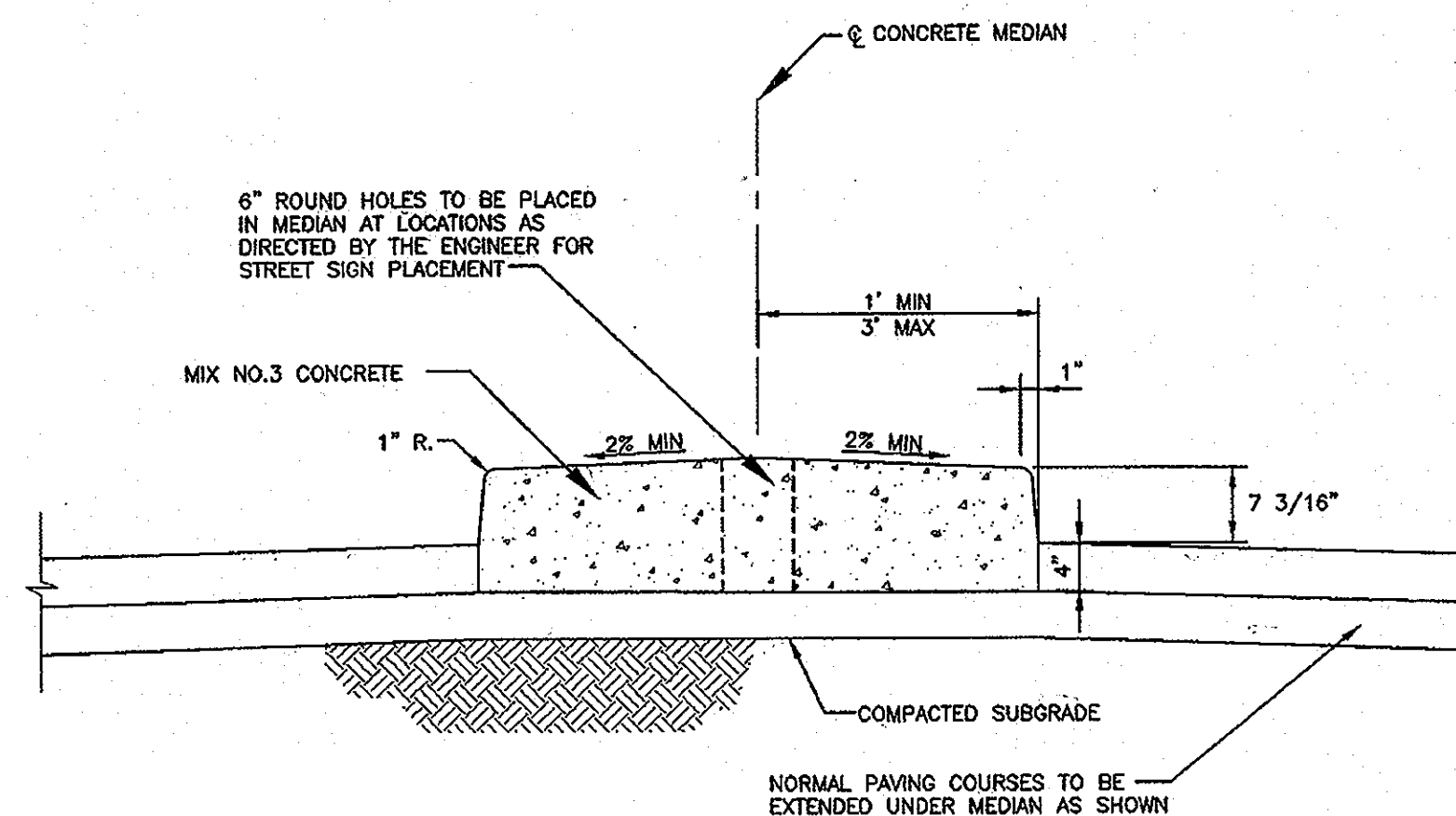
25 STANDARD CONCRETE SIDEWALK  
CV-04 SCALE: NOT TO SCALE



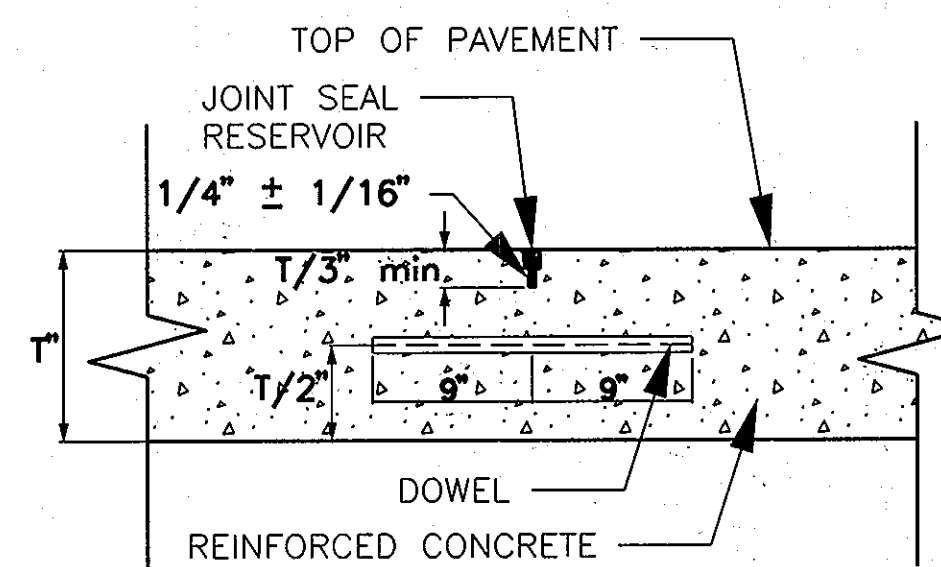
NOTES

- WHEN EXISTING TRAVEL LANE IS LESS THAN THE REQUIRED 12' LANE CONTRACTOR SHALL REMOVE A MINIMUM OF 1' FULL DEPTH OF THE EXISTING ROADWAY. IF CURB AND GUTTER IS INSTALLED, PROVIDE A MINIMUM OF 4' OF WIDENING FROM FACE OF GUTTER PAN.
- RESURFACING COURSE TO BE EQUAL TO THE SURFACE COURSE OF THE TYPICAL PAVEMENT SECTION
- HILDA AVENUE WILL HAVE A FULL OVERLAY WHERE WIDENED AND MODIFIED.

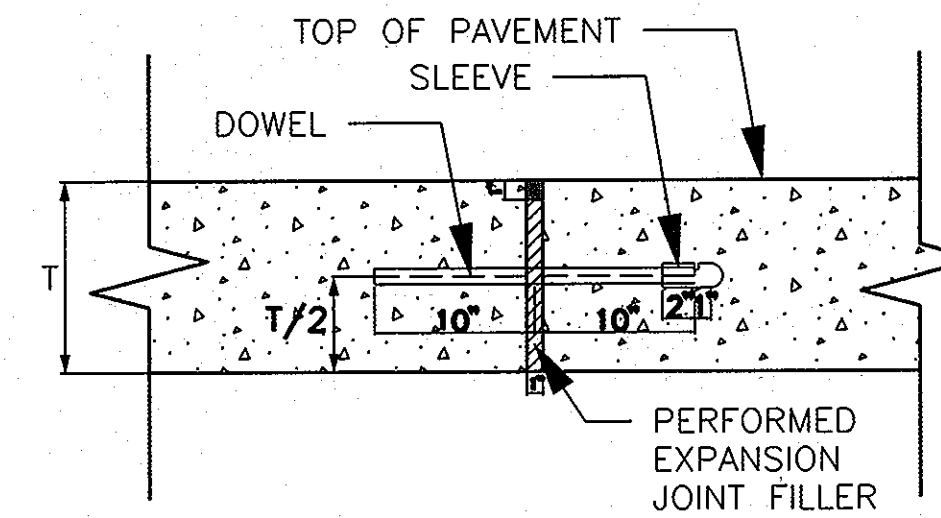
26 EXISTING ROADWAY WIDENING STRIP  
CV-04 SCALE: NOT TO SCALE  
HOWARD COUNTY STD DWG R-1.08  
DATED: 5 / 7 / 2007



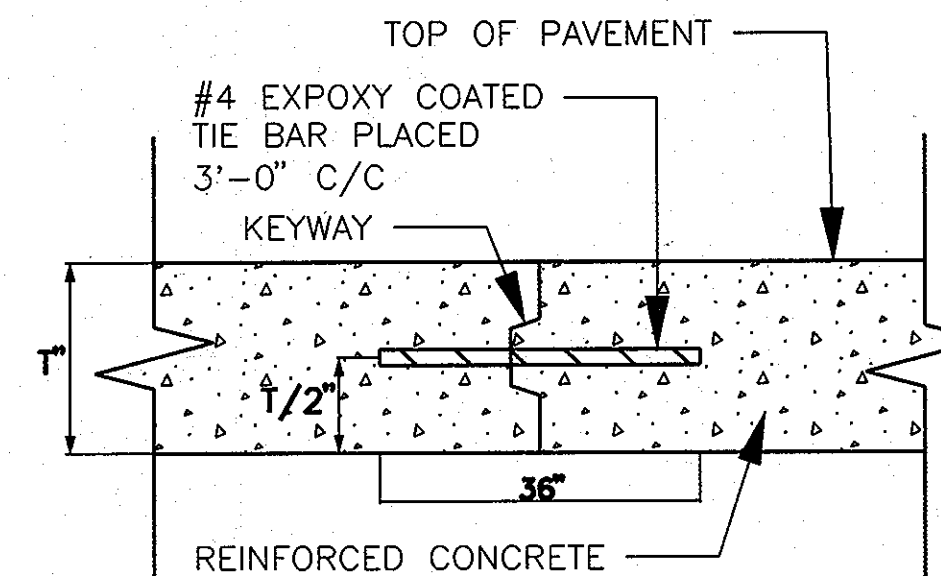
27 MONOLITHIC CONCRETE MEDIAN  
CV-04 SCALE: NOT TO SCALE  
HOWARD COUNTY STD DWG R-3.04  
DATED: 5 / 7 / 2007



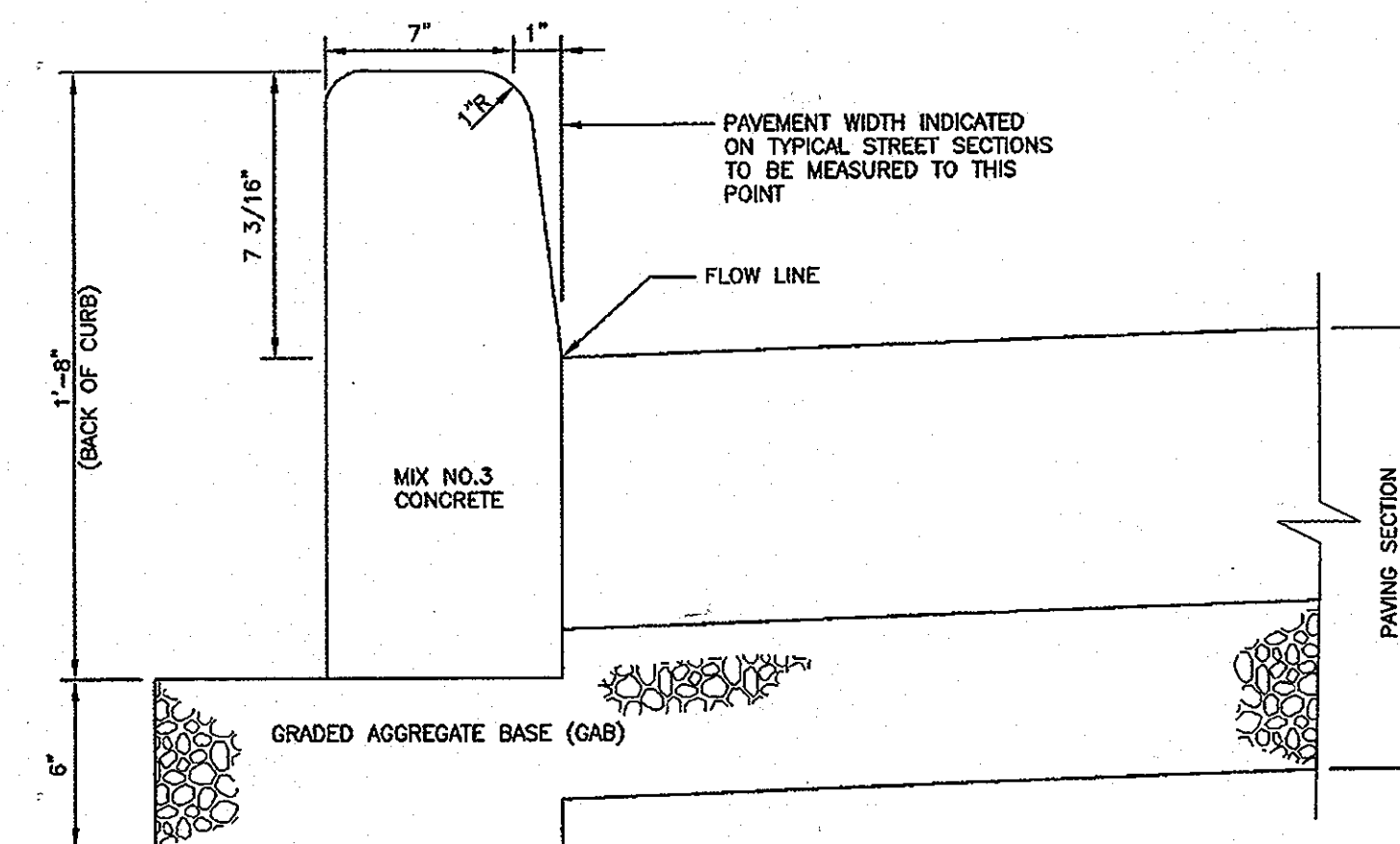
28 CONTRACTION JOINT  
CV-08 SCALE: NOT TO SCALE



29 EXPANSION JOINT  
CV-08 SCALE: NOT TO SCALE



30 TIE DEVICE - ONE - PIECE BAR  
CV-08 SCALE: NOT TO SCALE



NOTES:  
CONCRETE BARRIER CURB  
1. A MINIMUM OF TWO (2) FEET OF COMPACTED STABILIZED EARTH, OR EQUIVALENT, SHALL SUPPORT THE ENTIRE BACK OF CURB.  
2. POSITIVE DRAINAGE SHALL BE PROVIDED BOTH BEHIND THE CURB AND ALONG THE GUTTER AND FLOW LINE.

31 CURBS HOT MIX ASPHALT AND CONCRETE BARRIER  
CV-04 SCALE: NOT TO SCALE  
HOWARD COUNTY STD DWG R-3.03  
DATED: 5 / 7 / 2007

OWNER/DEVELOPER

Howard County  
% Mr. Brandon Love, Project Manager  
Department of Public Works, Special Projects  
9250 Bendix Road  
Columbia, Maryland 21045  
410-313-5398

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

**RK&K**  
CONSULTING ENGINEERS  
81 MOSHER STREET  
BALTIMORE, MARYLAND 21217  
(800)-787-3755



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  
39362 09/24/2014  
License No. Expiration Date

NO.	DESCRIPTION	BY	DATE

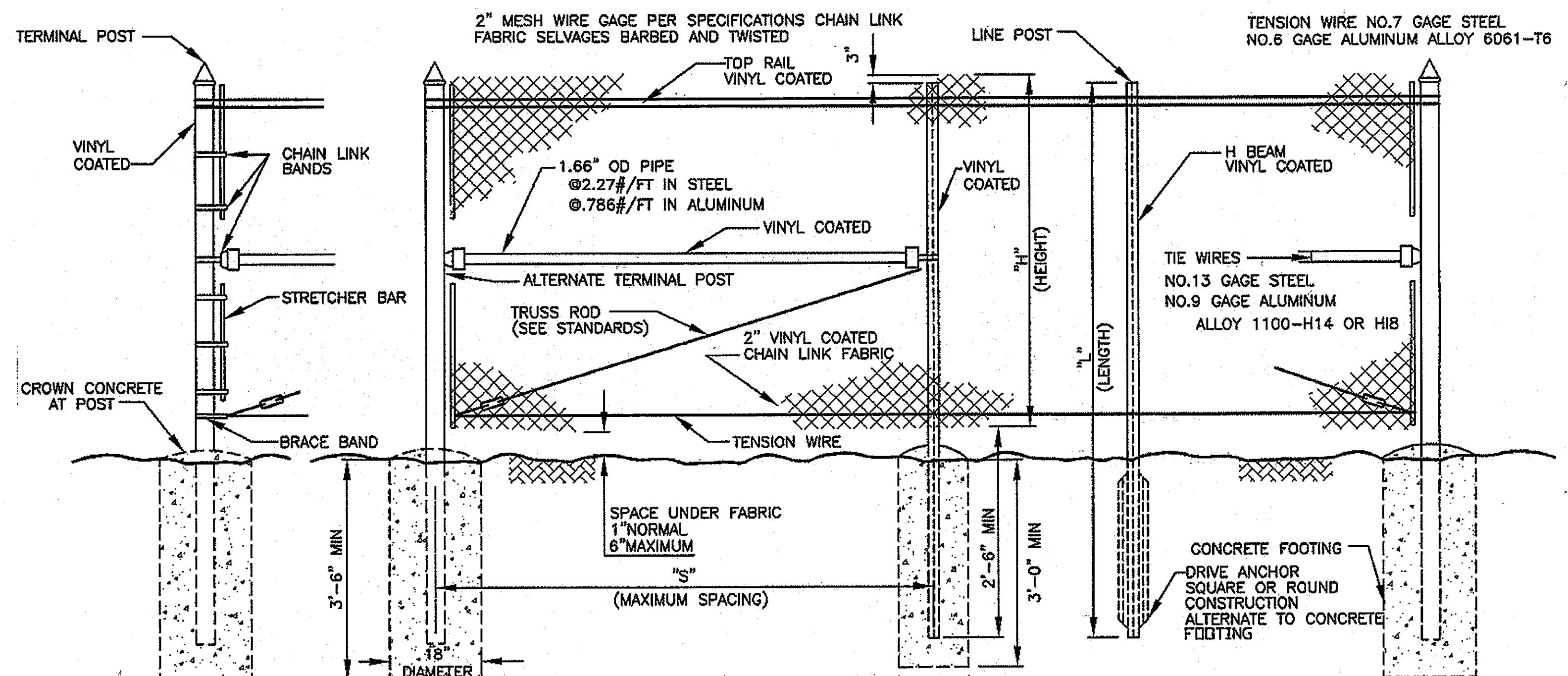
APPR. CHECK DRAWING DESIGN  
JRN  
JRN  
MBH

CIVIL DETAILS  
SCALE: AS SHOWN  
DATE: APRIL 26, 2013

GREEN BUILDING  
HOWARD COUNTY  
CENTRAL MARYLAND  
TRANSIT OPERATIONS FACILITY  
(LOT 1 OF THE LATE J. DUINKER SUBDIVISION)  
TAX MAP 48 GRID 13  
CAPITAL PROJECT NO: C-0289 PARCEL 75  
6TH ELECTION DISTRICT HOWARD COUNTY, MD

DISCIPLINE ABBREVIATION CV-07  
SHEET NO. 11 OF 32

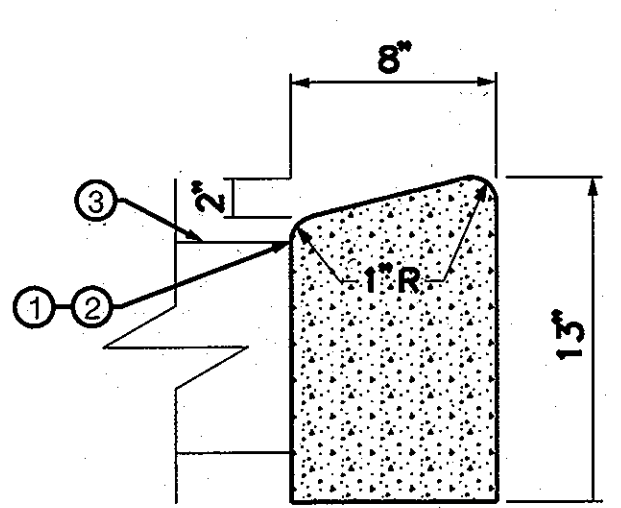
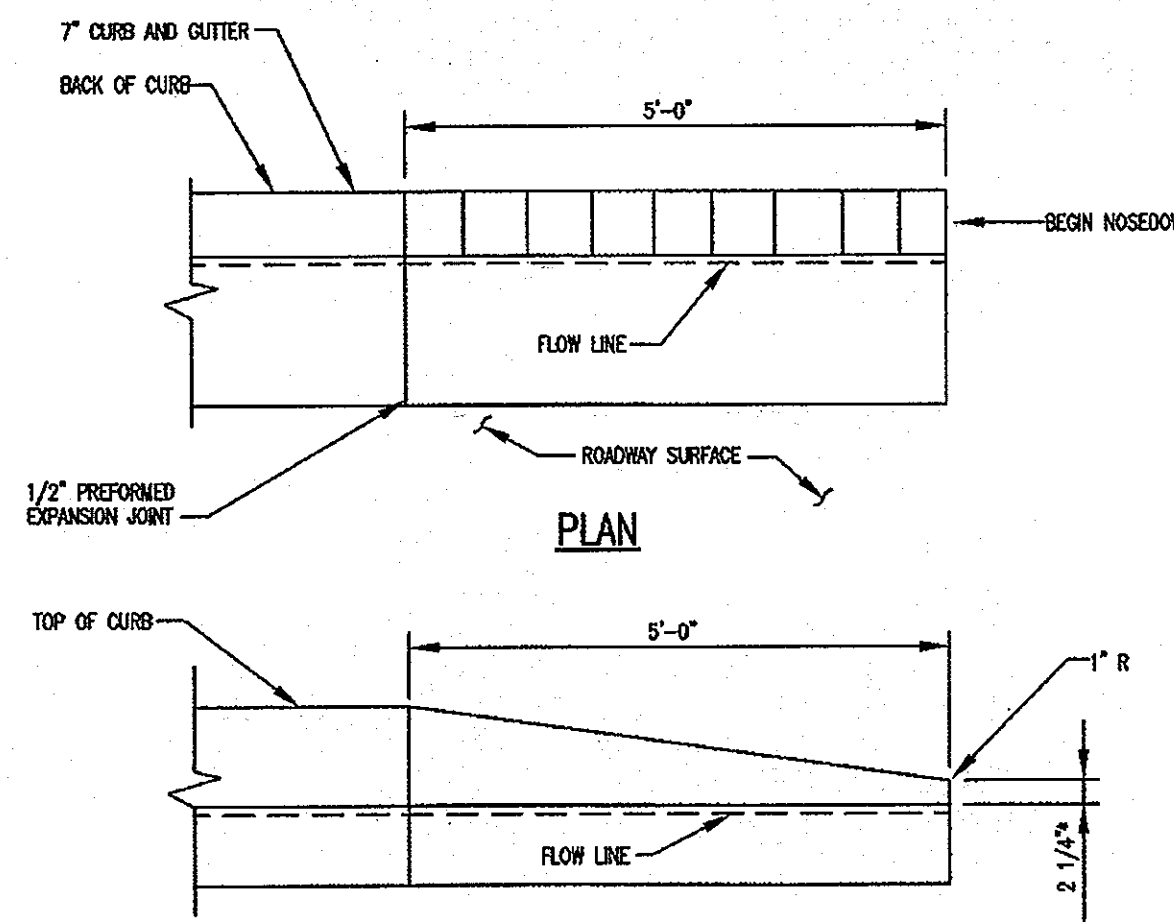




"H" HEIGHT OF FENCE	5'-0" RURAL	6'-0"	8'-0"
"S" POST SPACING MAX	12'-0"	10'-0"	10'-0"
"L" LENGTH OF H BEAM	7'-8" MIN	8'-8" MIN	10'-8" MIN
H BEAM - STEEL	1.875"x1.65"@2.70"/FT	2.25"x1.95"@4.10"/FT	2.25"x1.95"@4.10"/FT
H BEAM - ALUMINUM	1.875"x1.625"@0.91"/FT	2.25"x1.95"@1.25"/FT	2.25"x1.95"@1.25"/FT
TERM POST STEEL	2.375"OD@3.65"/FT	2.875"OD@5.79"/FT	2.875"OD@5.79"/FT
TERM POST ALUMINUM	2.375"OD@1.26"/FT	2.875"OD@2.00"/FT	2.875"OD@2.00"/FT
ALT TERM POST STEEL	2.00"SQ @3.85"/FT	2.50"SQ @5.70"/FT	2.50"SQ @5.70"/FT
ALT TERM POST ALUMINUM	2.50"SQ @1.26"/FT	3.00"SQ @2.00"/FT	3.00"SQ @2.00"/FT

- NOTES:**
- ALL POSTS (TERMINAL AND LINE) TO BE SAME LENGTH (L).
  - TENSION WIRE CLIP AT 18"± O/C 12 1/2 GA. GALVANIZED STEEL WIRE .110 DIAMETER ALUMINUM WIRE ALLOY 5058-H38.
  - MATERIALS TO MEET REQUIREMENTS OF AASHTO M181.
  - VINYL CLAD STEEL IF SPECIFIED BY ENGINEER SHALL BE COLORED BLACK UNLESS OTHERWISE SPECIFIED.
- 5'-0" RURAL & 6'-0"
- |                     |  |
|---------------------|--|
| HOG RING - STEEL    | 18" ± O/C 12.5 GA GALVANIZED STEEL WIRE        |
| HOG RING - ALUMINUM | 18" ± O/C 110 0 ALUMINUM WIRE ALLOY 5058 - H38 |

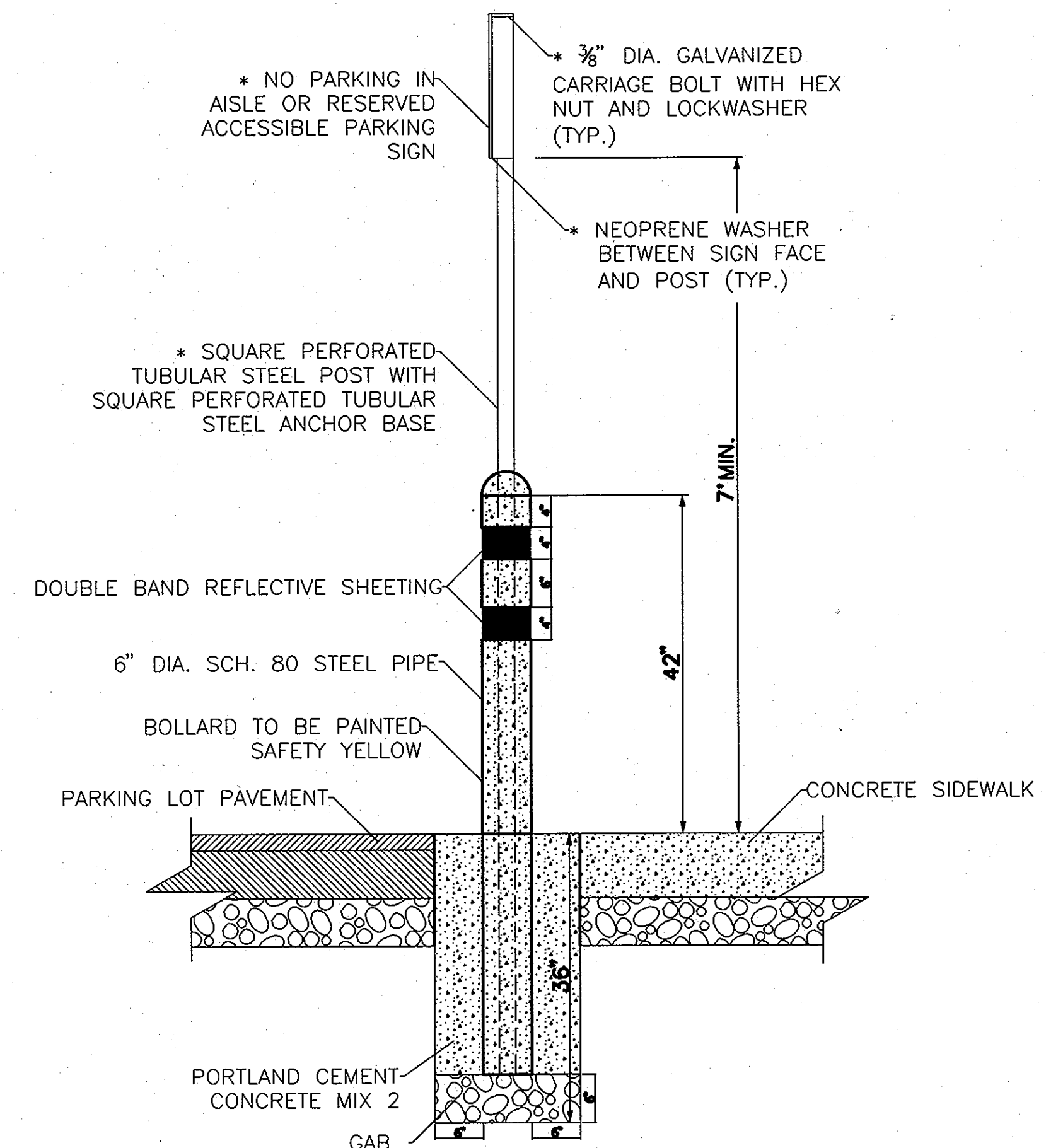
32 CHAIN LINK FENCE  
 CV-04 SCALE: NOT TO SCALE  
 HOWARD COUNTY STD DWG G-7.21  
 DATED: 5 / 7 / 2007



- NOTES:**
- ROADWAY PAVEMENT CONSTRUCTION JOINT
  - FLOW LINE
  - ROADWAY PAVEMENT SLOPE

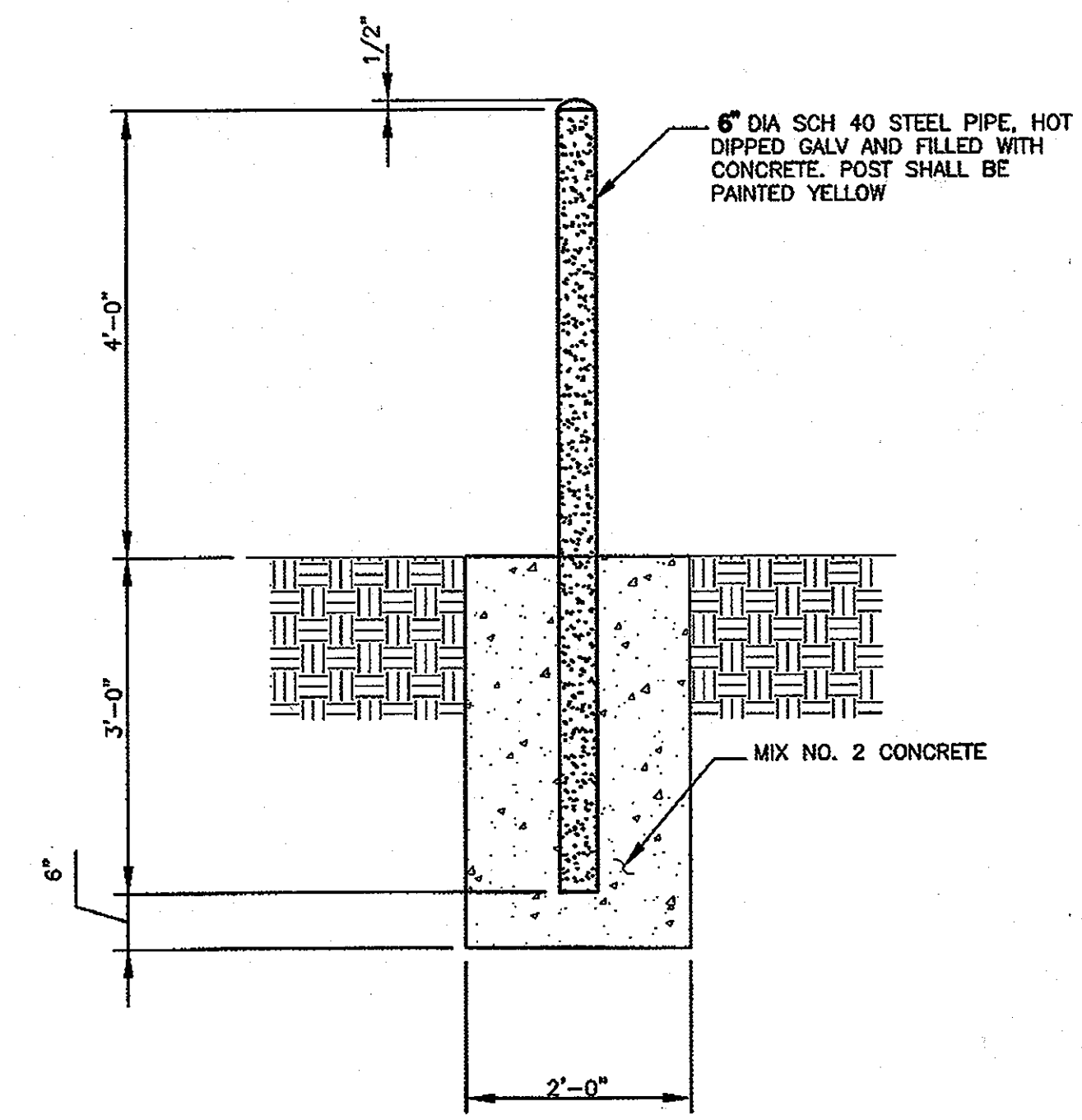
35 CURB 7" TRANSITION  
 CV-08 SCALE: NOT TO SCALE  
 HOWARD COUNTY STD DWG R-3.02  
 DATED: 5 / 7 / 2007

36 MOUNTABLE CURB  
 CV-08 SCALE: NOT TO SCALE

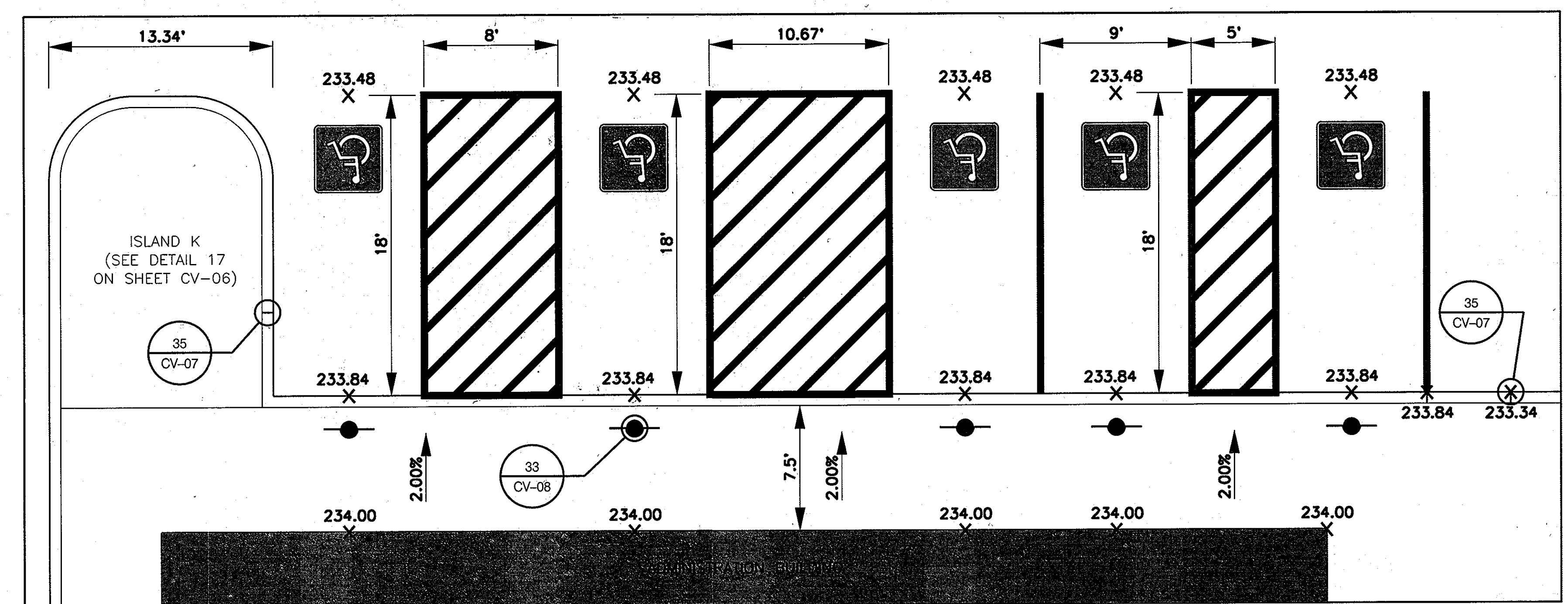


- NOTE:**
- \*THESE ITEMS WILL ONLY BE INSTALLED IF A SIGN IS SPECIFIED

33 METAL BOLLARD WITH OPTIONAL SIGN  
 CV-06 SCALE: NOT TO SCALE



34 METAL BOLLARD  
 CV-03 SCALE: NOT TO SCALE  
 HOWARD COUNTY STD DWG G-7.42  
 DATED: 5 / 7 / 2007



37 HANDICAPPED PARKING DIMENSIONS  
 CV-06 SCALE: NOT TO SCALE

**OWNER/DEVELOPER**  
 Howard County  
 % Mr. Brandon Love, Project Manager  
 Department of Public Works, Special Projects  
 9250 Bendix Road  
 Columbia, Maryland 21045  
 410-313-5398

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 6/11/13 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION

*[Signature]* 8/1/13 DATE

CHIEF DIVISION OF LAND DEVELOPMENT

*[Signature]* 8-1-13 DATE

DIRECTOR

**RK&K**  
 CONSULTING ENGINEERS  
 81 MOSHER STREET  
 BALTIMORE, MARYLAND 21217  
 (800)-787-3755



**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

39362 09/24/2014 License No. Expiration Date

NO.	DESCRIPTION	BY	DATE
REVISIONS			

DESIGN: JRN  
 JRN  
 MBH

SCALE: AS SHOWN  
 DATE: APRIL 26, 2013

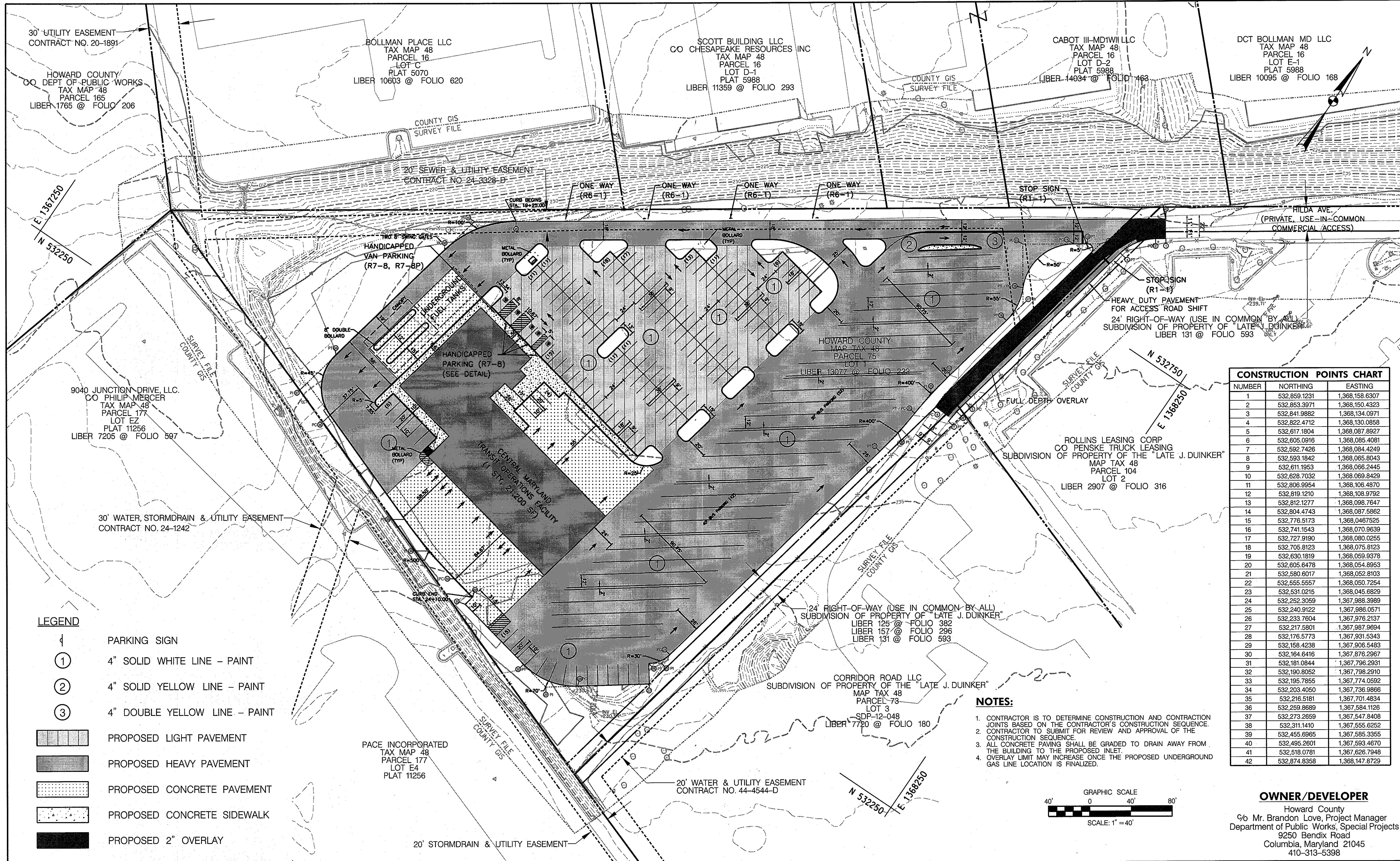
**GREEN BUILDING HOWARD COUNTY CENTRAL MARYLAND TRANSIT OPERATIONS FACILITY**

(LOT 1 OF THE LATE J. DUINKER SUBDIVISION)  
 TAX MAP 48 GRID 13  
 CAPITAL PROJECT NO: C-0289 PARCEL 75  
 6TH ELECTION DISTRICT HOWARD COUNTY, MD

DISCIPLINE ABBREVIATION CV-08

SHEET NO. 12 OF 32

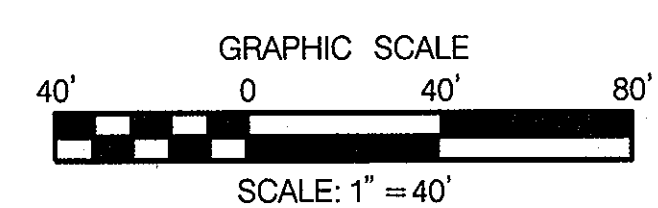




CONSTRUCTION POINTS CHART		
NUMBER	NORTHING	EASTING
1	532,859.1231	1,368,158.6307
2	532,853.3971	1,368,150.4323
3	532,841.9882	1,368,134.0971
4	532,822.4712	1,368,130.0858
5	532,617.1804	1,368,087.8927
6	532,605.0916	1,368,085.4081
7	532,592.7426	1,368,084.4249
8	532,593.1842	1,368,065.8043
9	532,611.1953	1,368,066.2445
10	532,628.7032	1,368,069.8429
11	532,806.9954	1,368,106.4870
12	532,819.1210	1,368,108.9792
13	532,812.1277	1,368,098.7647
14	532,804.4743	1,368,087.5862
15	532,776.5173	1,368,046.7525
16	532,741.1543	1,368,070.9639
17	532,727.9190	1,368,080.0255
18	532,705.8123	1,368,075.8123
19	532,630.1819	1,368,059.9378
20	532,605.6478	1,368,054.8953
21	532,580.6017	1,368,052.8103
22	532,555.5557	1,368,050.7254
23	532,531.0215	1,368,045.6829
24	532,252.3059	1,367,988.3989
25	532,240.9122	1,367,986.0571
26	532,233.7604	1,367,976.2137
27	532,217.5801	1,367,987.9694
28	532,176.5773	1,367,931.5343
29	532,158.4238	1,367,906.5483
30	532,164.6416	1,367,876.2967
31	532,181.0844	1,367,796.2931
32	532,190.8052	1,367,798.2910
33	532,195.7855	1,367,774.0592
34	532,203.4050	1,367,736.9866
35	532,216.5181	1,367,701.4834
36	532,259.8689	1,367,584.1126
37	532,273.2659	1,367,547.8408
38	532,311.1410	1,367,555.6252
39	532,455.8965	1,367,585.3355
40	532,495.2601	1,367,593.4670
41	532,518.0781	1,367,626.7948
42	532,874.8358	1,368,147.8729

- LEGEND**
- PARKING SIGN
  - 4" SOLID WHITE LINE - PAINT
  - 4" SOLID YELLOW LINE - PAINT
  - 4" DOUBLE YELLOW LINE - PAINT
  - PROPOSED LIGHT PAVEMENT
  - PROPOSED HEAVY PAVEMENT
  - PROPOSED CONCRETE PAVEMENT
  - PROPOSED CONCRETE SIDEWALK
  - PROPOSED 2" OVERLAY

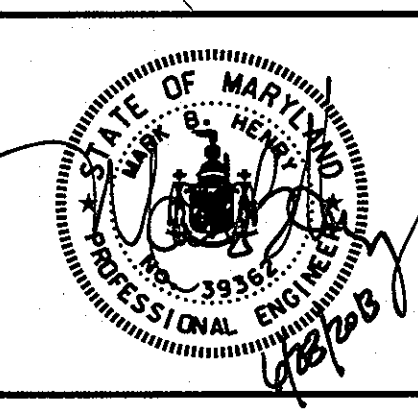
- NOTES:**
- CONTRACTOR IS TO DETERMINE CONSTRUCTION AND CONTRACTION JOINTS BASED ON THE CONTRACTOR'S CONSTRUCTION SEQUENCE.
  - CONTRACTOR TO SUBMIT FOR REVIEW AND APPROVAL OF THE CONSTRUCTION SEQUENCE.
  - ALL CONCRETE PAVING SHALL BE GRADED TO DRAIN AWAY FROM THE BUILDING TO THE PROPOSED INLET.
  - OVERLAY LIMIT MAY INCREASE ONCE THE PROPOSED UNDERGROUND GAS LINE LOCATION IS FINALIZED.



**OWNER/DEVELOPER**  
 Howard County  
 % Mr. Brandon Love, Project Manager  
 Department of Public Works, Special Projects  
 9250 Bendix Road  
 Columbia, Maryland 21045  
 410-313-5398

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 7/17/13  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 8/1-13  
 DIRECTOR

**RK&K**  
 CONSULTING ENGINEERS  
 81 MOSHER STREET  
 BALTIMORE, MARYLAND 21217  
 (800)-787-3755



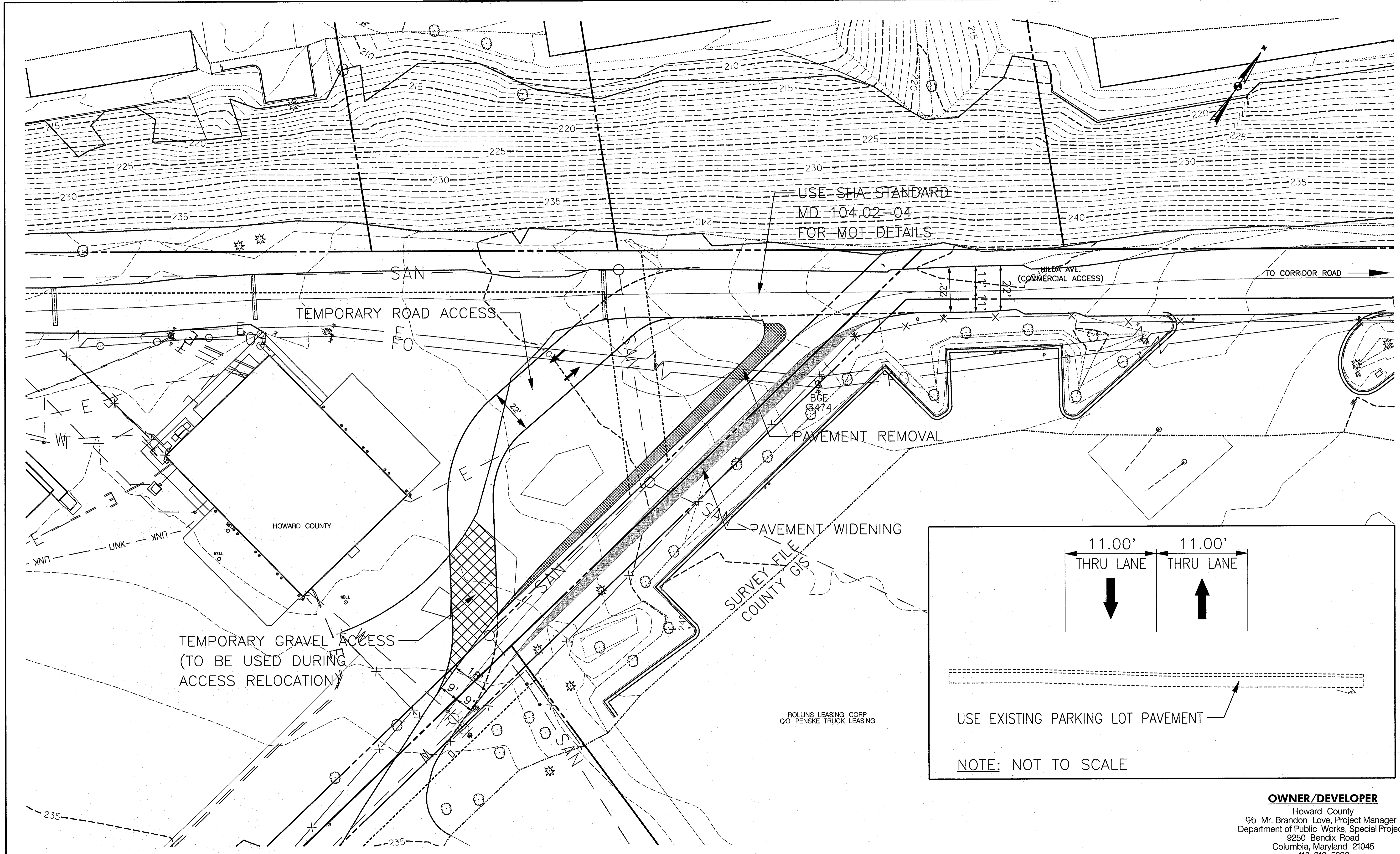
**PROFESSIONAL CERTIFICATION**  
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 39362, Expiration Date 09/24/2014

NO.	DESCRIPTION	BY	DATE

**PAVEMENT DESIGN PLAN**  
 SCALE: 1" = 40'  
 DATE: APRIL 26, 2013

**GREEN BUILDING**  
**HOWARD COUNTY**  
**CENTRAL MARYLAND**  
**TRANSIT OPERATIONS FACILITY**  
 (LOT 1 OF THE LATE J. DUINKER SUBDIVISION)  
 TAX MAP 48, GRID 13  
 CAPITAL PROJECT NO: C-0289, PARCEL 75  
 6TH ELECTION DISTRICT, HOWARD COUNTY, MD  
 DISCIPLINE ABBREVIATION: PV-01  
 SHEET NO. 13 OF 32





USE SHA STANDARD  
MD 104.02-04  
FOR MOT DETAILS

TEMPORARY ROAD ACCESS

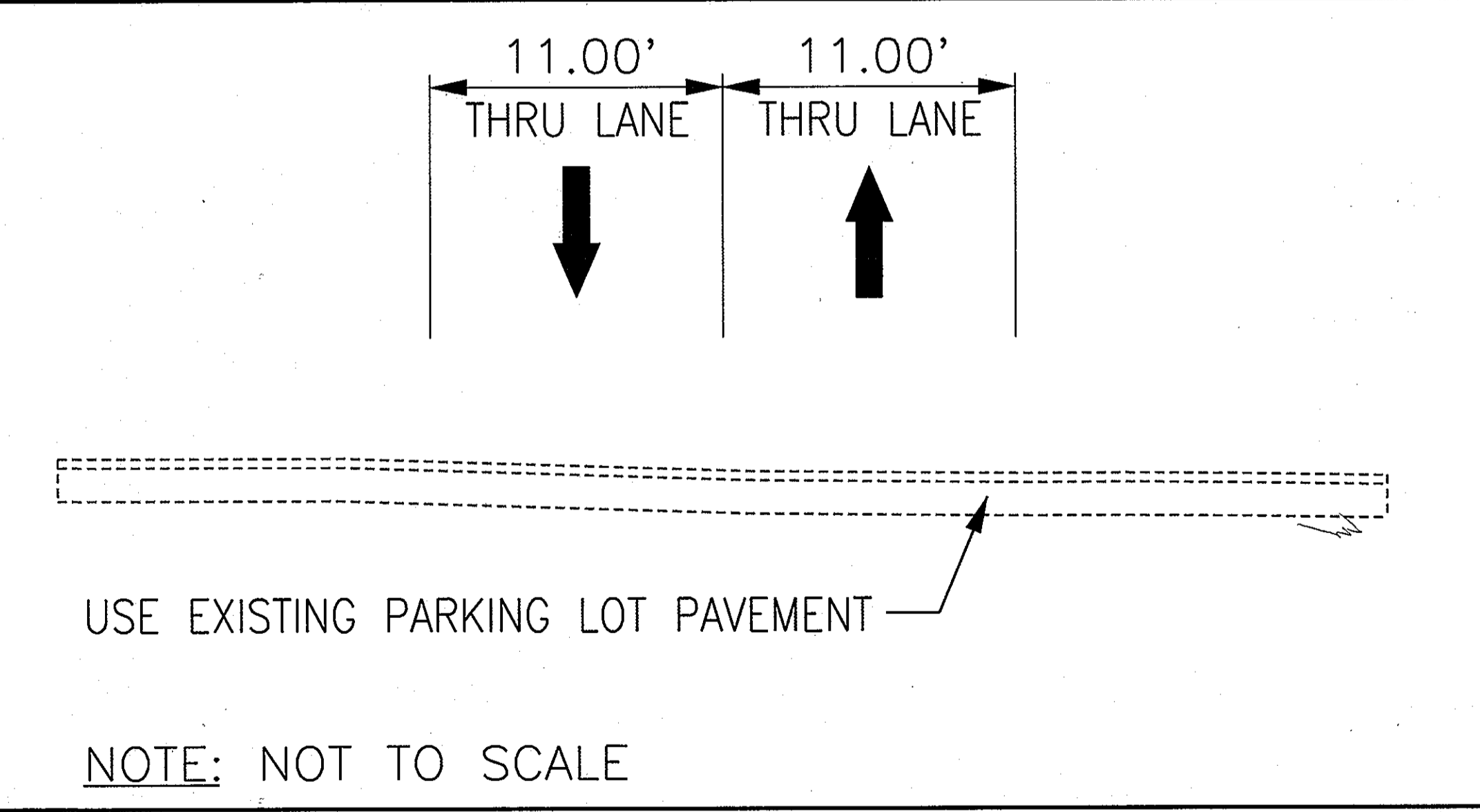
WILDA AVE.  
(COMMERCIAL ACCESS)

TO CORRIDOR ROAD

PAVEMENT REMOVAL

PAVEMENT WIDENING

TEMPORARY GRAVEL ACCESS  
(TO BE USED DURING  
ACCESS RELOCATION)



ROLLINS LEASING CORP  
OO PENSKE TRUCK LEASING

**OWNER/DEVELOPER**

Howard County  
% Mr. Brandon Love, Project Manager  
Department of Public Works, Special Projects  
9250 Bendix Road  
Columbia, Maryland 21045  
410-313-5398

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*John P. ...*  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 6/11/13  
*Katrina ...*  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 8/01/13  
*Kimberly ...*  
 DIRECTOR  
 DATE: 8-1-13

**RK&K**  
 CONSULTING ENGINEERS  
 81 MOSHER STREET  
 BALTIMORE, MARYLAND 21217  
 (800)-787-3755



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 License No. 39362 Expiration Date 09/24/2014

NO.	DESCRIPTION	BY	DATE

DESIGN LH  
 LH  
 MBH  
 APPR

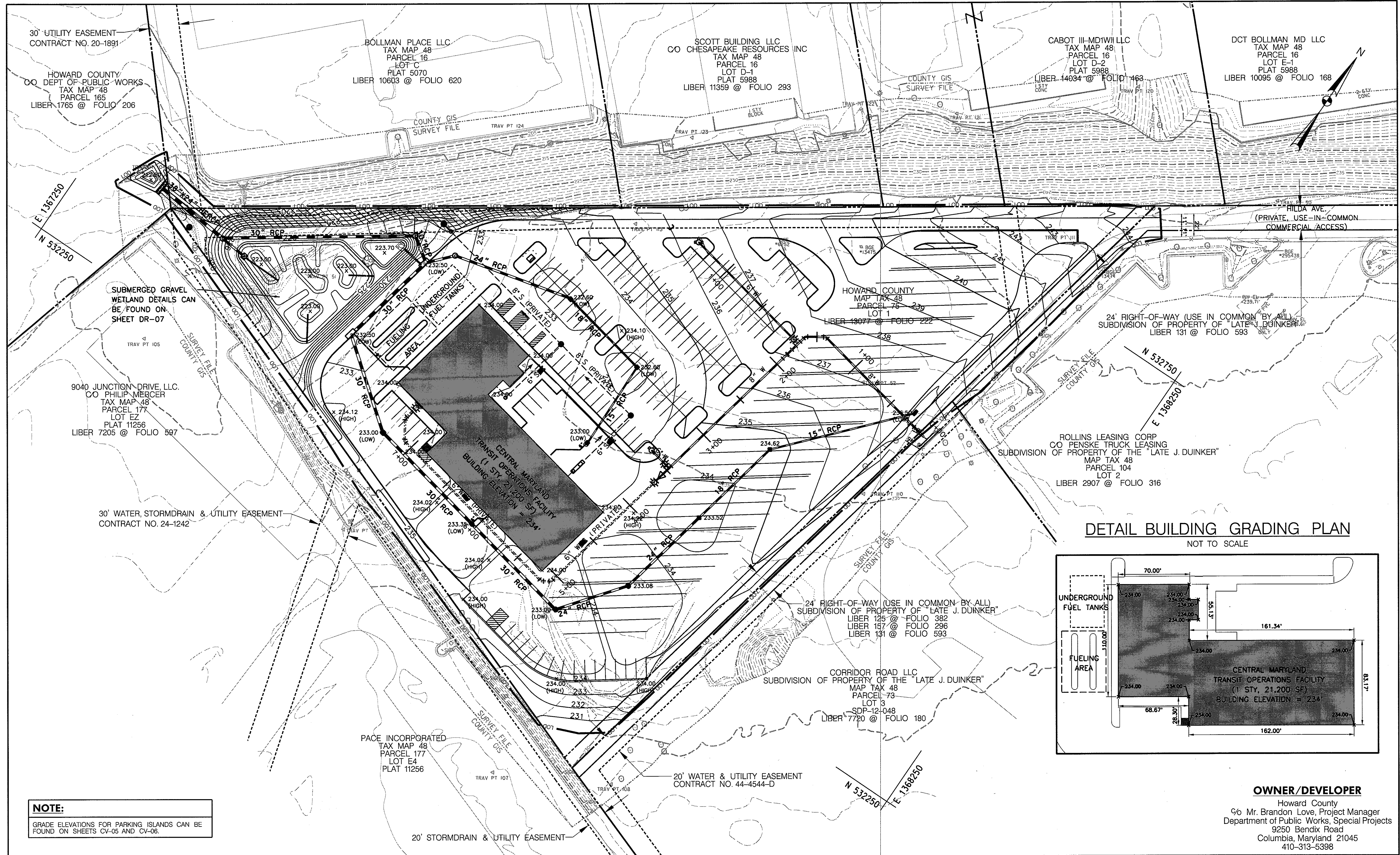
ACCESS ROAD  
MOT PLAN.  
 SCALE: 1" = 20'  
 DATE: APRIL 26, 2013

**GREEN BUILDING  
HOWARD COUNTY  
CENTRAL MARYLAND  
TRANSIT OPERATIONS FACILITY**  
 (LOT 1 OF THE LATE J. DUINKER SUBDIVISION)  
 TAX MAP 48 GRID 13  
 CAPITAL PROJECT NO: C-0289 PARCEL 75  
 6TH ELECTION DISTRICT HOWARD COUNTY, MD

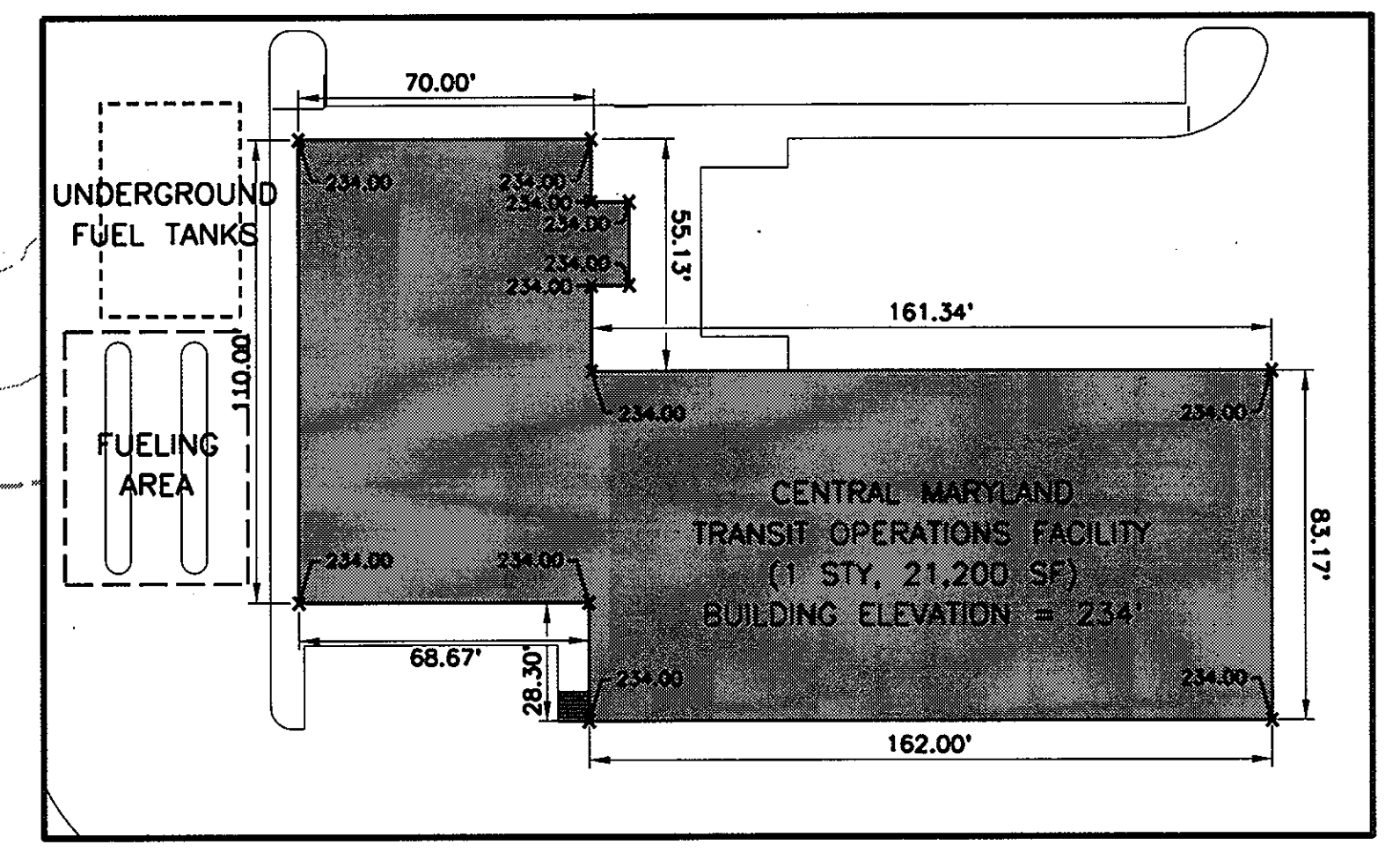
DISCIPLINE ABBREVIATION MT-01  
 SHEET NO. 14 OF 32

4/25/2013  
\$FILES





**DETAIL BUILDING GRADING PLAN**  
NOT TO SCALE

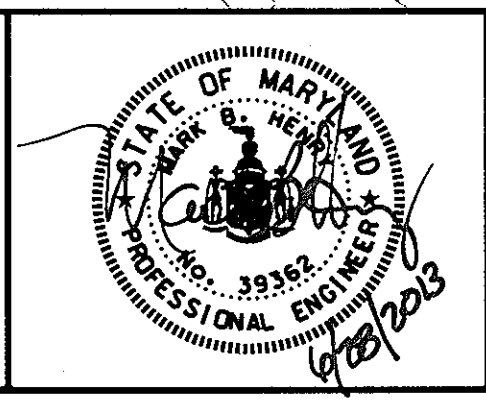


**NOTE:**  
GRADE ELEVATIONS FOR PARKING ISLANDS CAN BE FOUND ON SHEETS CV-05 AND CV-06.

**OWNER/DEVELOPER**  
Howard County  
% Mr. Brandon Love, Project Manager  
Department of Public Works, Special Projects  
9250 Bendix Road  
Columbia, Maryland 21045  
410-313-5398

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*[Signature]* 7/17/13  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*[Signature]* 9/01/13  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
*[Signature]* 8-1-13  
 for DIRECTOR

**RK&K**  
CONSULTING ENGINEERS  
81 MOSHER STREET  
BALTIMORE, MARYLAND 21217  
(800)-787-3755



**PROFESSIONAL CERTIFICATION**  
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 License No. 39362 Expiration Date 09/24/2014

NO.	DESCRIPTION	BY	DATE
1	REVISED SERVICE CONNECTION LABELS	MBH	10/19/2013

PROPOSED GRADING PLAN  
 SCALE: 1" = 40'  
 DATE: APRIL 26, 2013

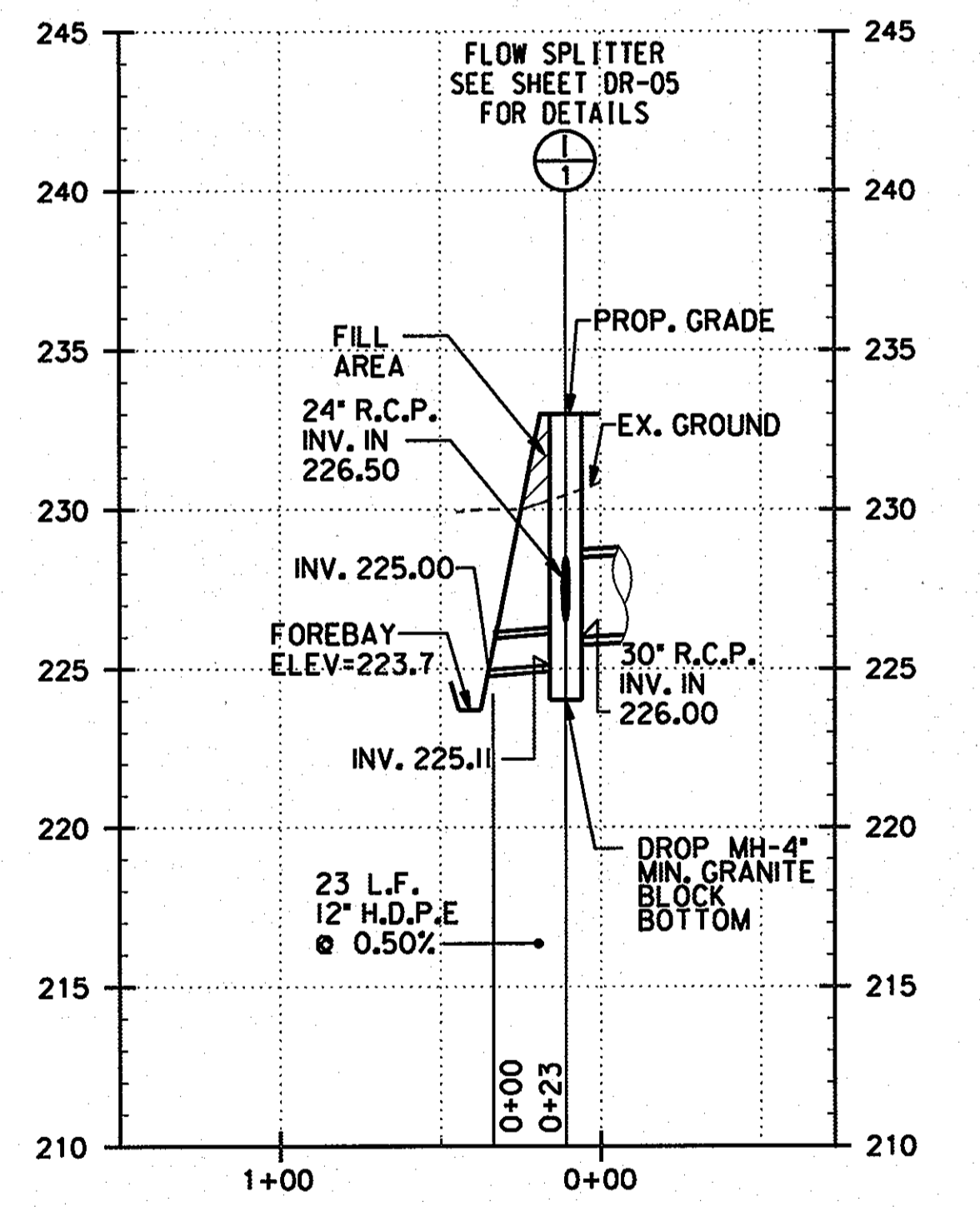
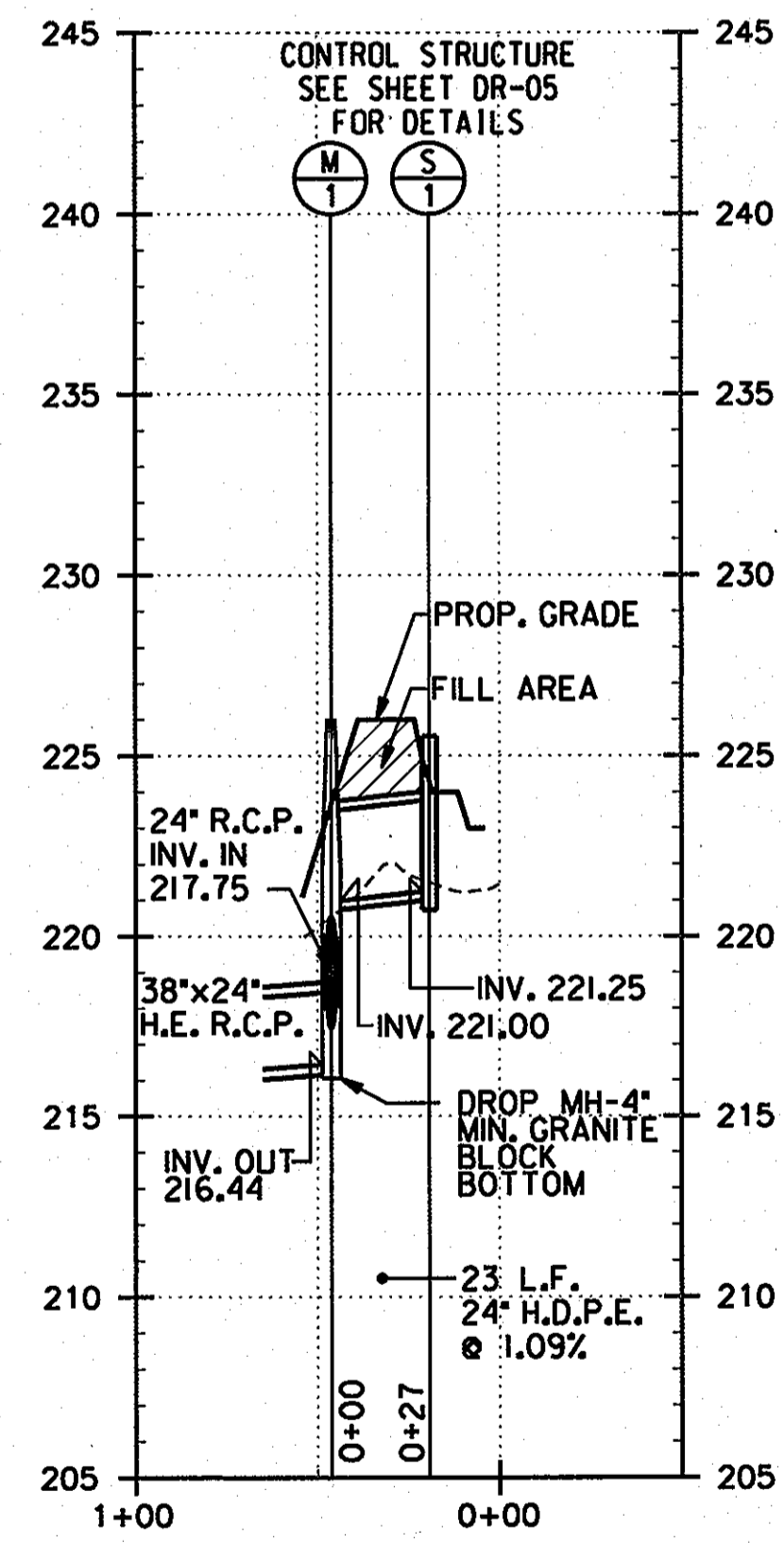
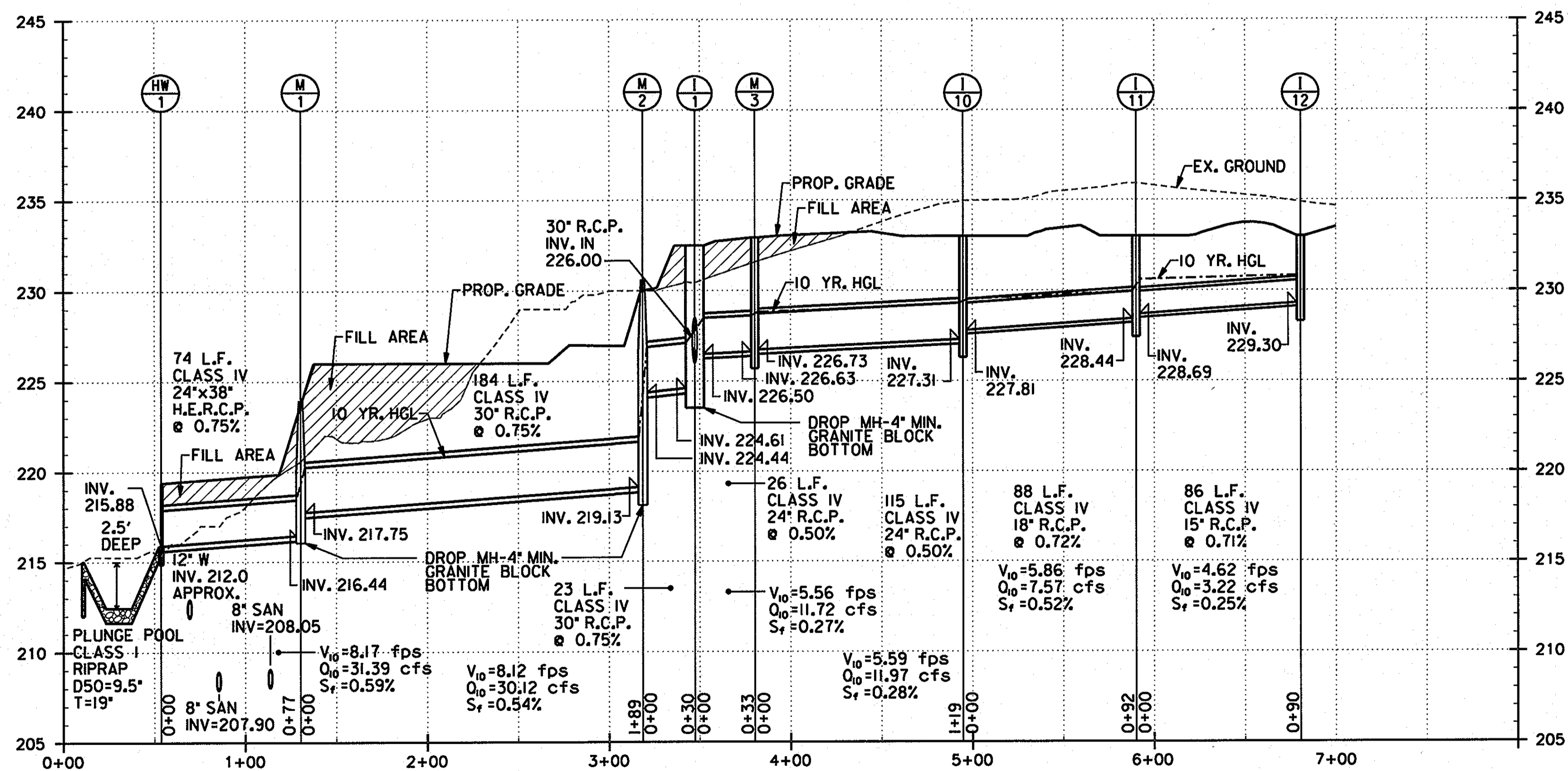
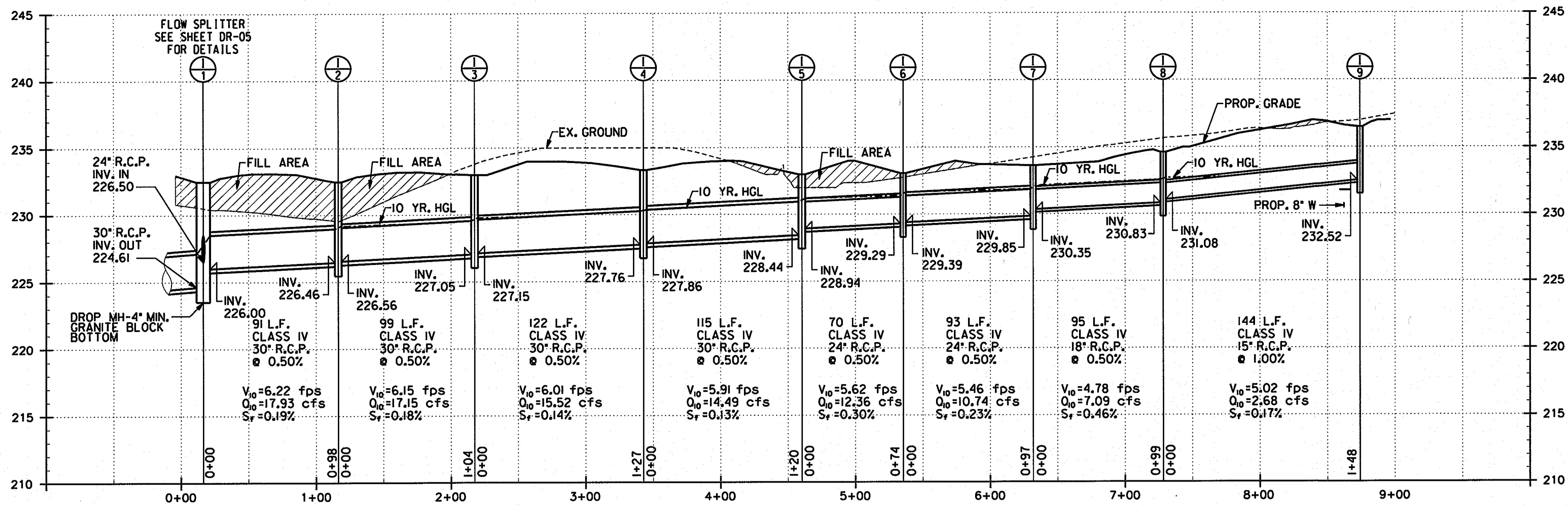
**GREEN BUILDING HOWARD COUNTY CENTRAL MARYLAND TRANSIT OPERATIONS FACILITY**  
 (LOT 1 OF THE LATE J. DUINKER SUBDIVISION)  
 TAX MAP 48 GRID 13  
 CAPITAL PROJECT NO: C-0289 PARCEL 75  
 6TH ELECTION DISTRICT HOWARD COUNTY, MD

DISCIPLINE ABBREVIATION SP-03  
 SHEET NO. 15 OF 32  
 SDP-13-039

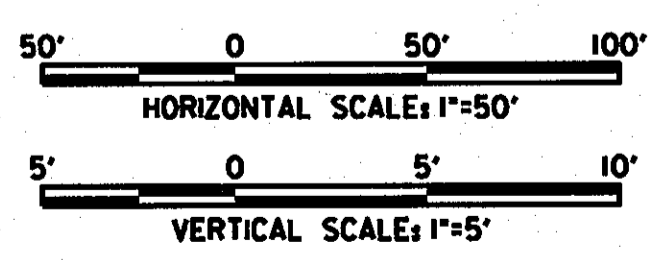








**NOTE:**  
ALL FILL AREAS TO BE COMPACTED PER HOWARD COUNTY CONSTRUCTION SPECIFICATIONS AND TESTED BY A CERTIFIED GEOTECHNICAL AGENCY.

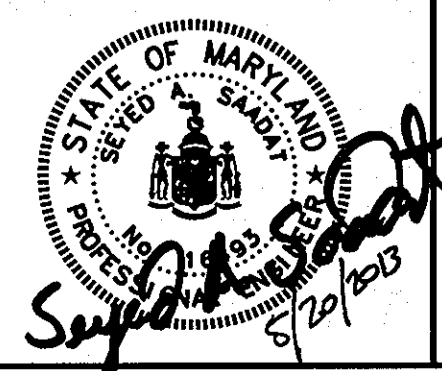


**OWNER/DEVELOPER**

Howard County  
% Mr. Brandon Love, Project Manager  
Department of Public Works, Special Projects  
9250 Bendix Road  
Columbia, Maryland 21045  
410-313-5398

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 [Signature] DATE 8/1/13  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 [Signature] DATE 8-1-13  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 [Signature] DATE

**RK&K**  
CONSULTING ENGINEERS  
81 MOSHER STREET  
BALTIMORE, MARYLAND 21217  
(800)-787-3755



**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.  
16493 05/16/2015  
License No. Expiration Date

NO.	DESCRIPTION	BY	DATE

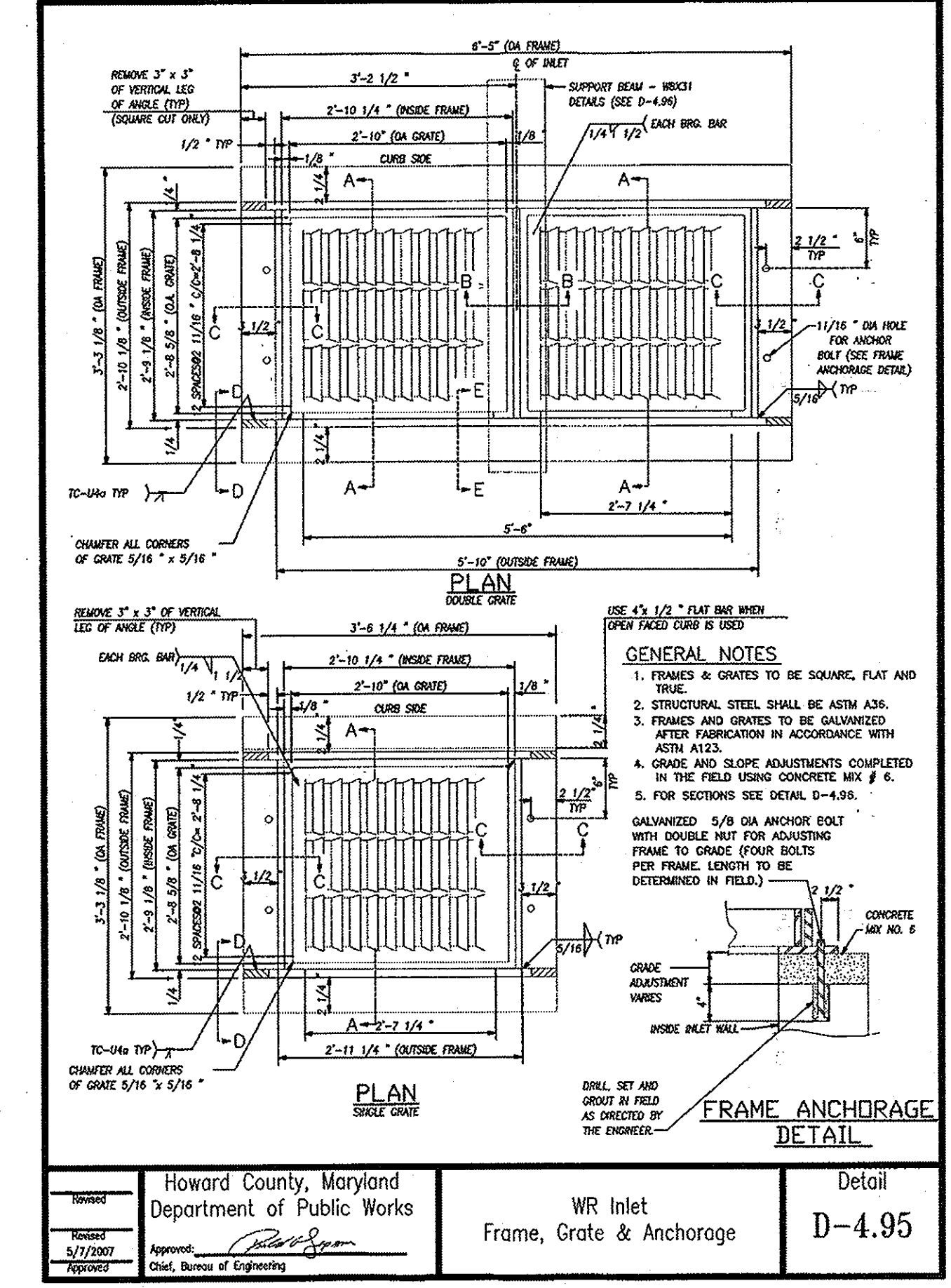
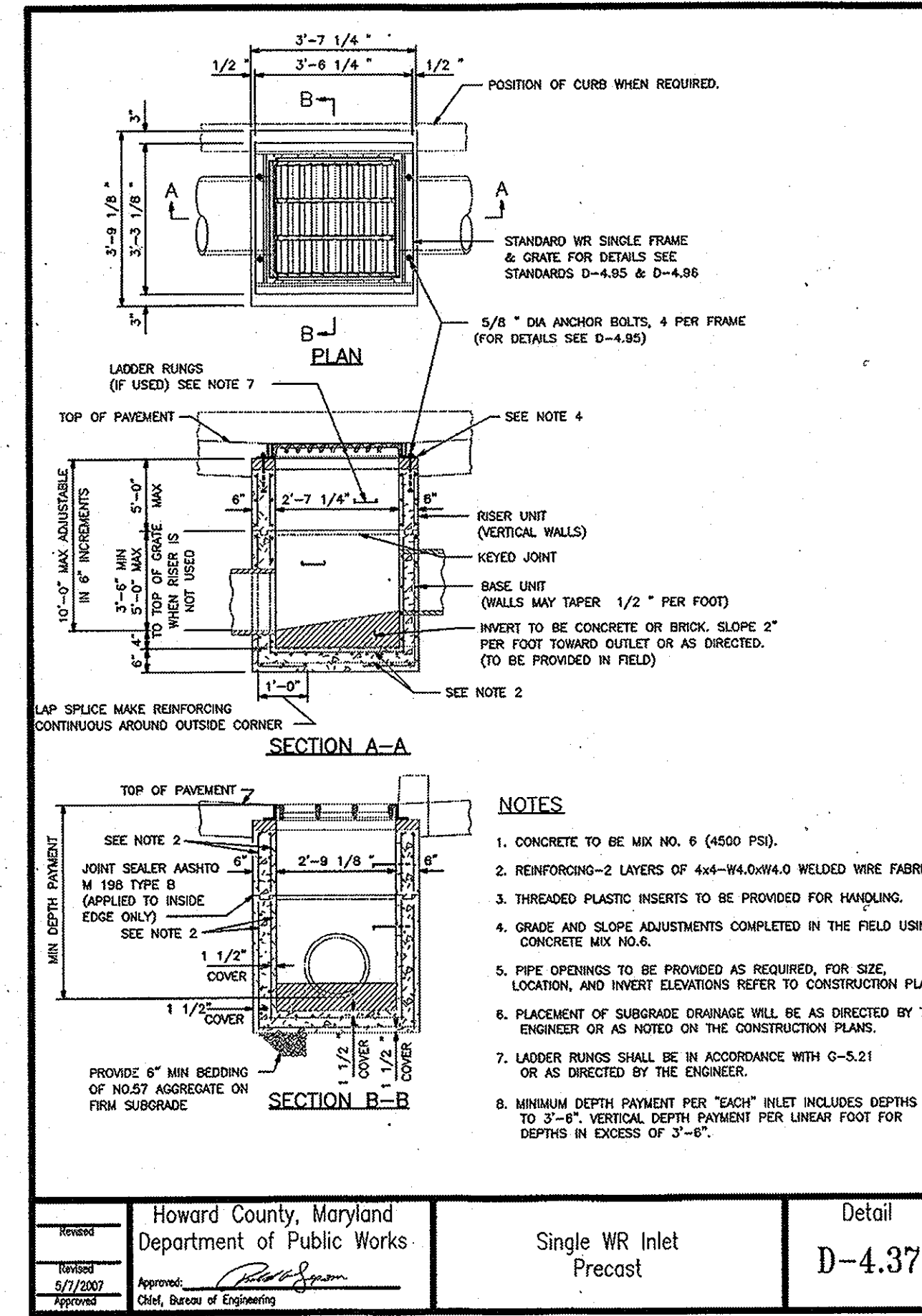
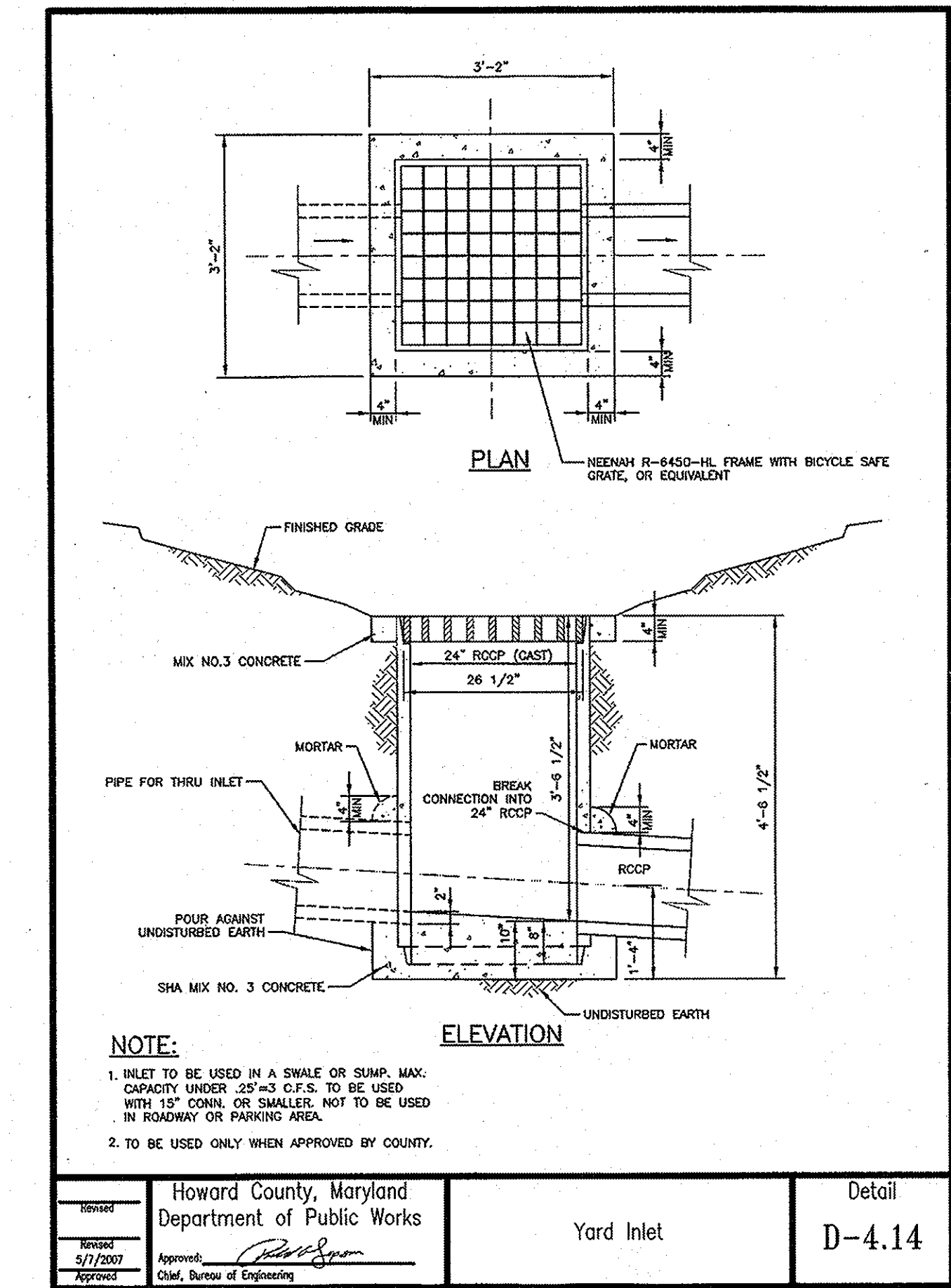
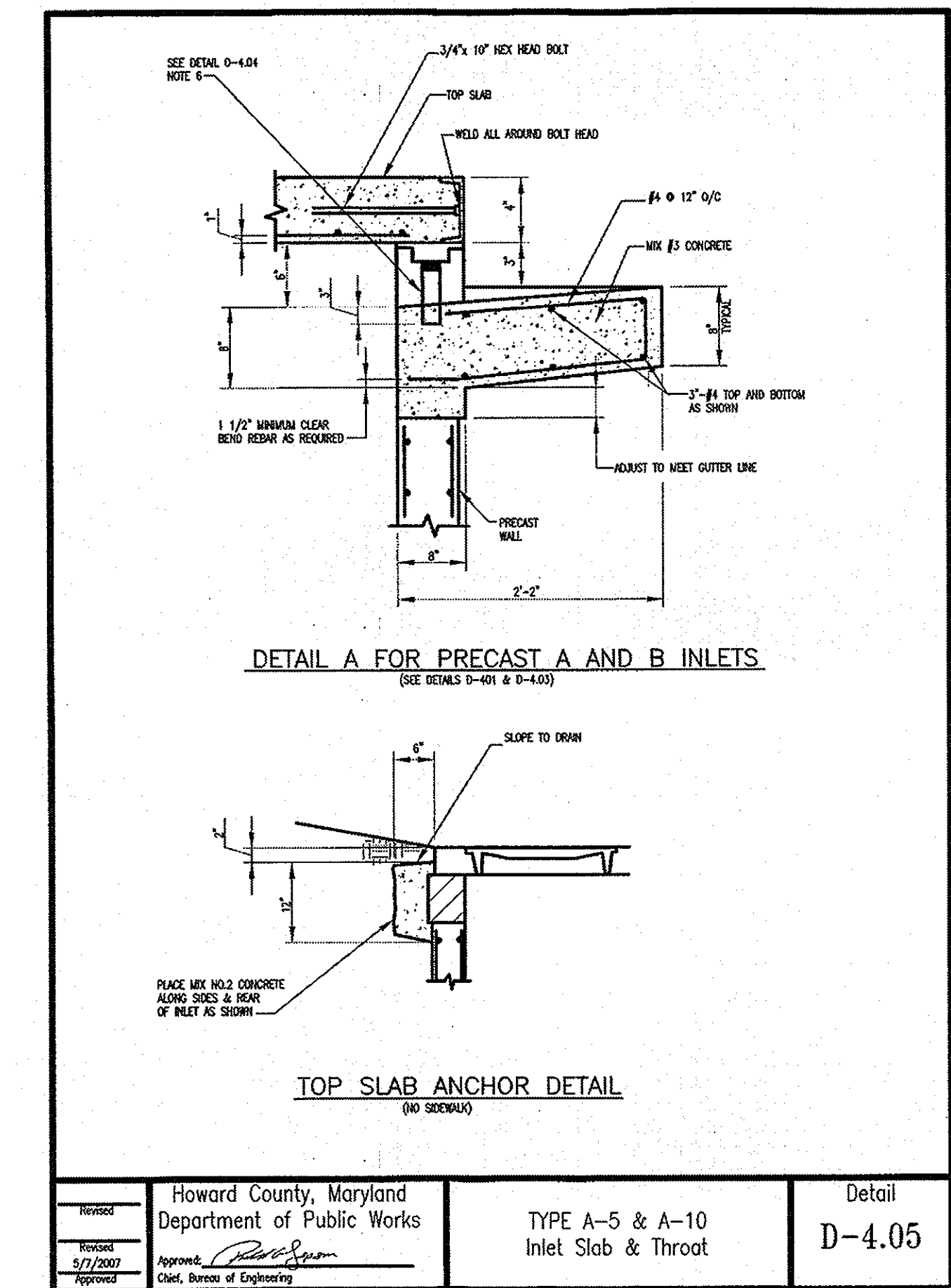
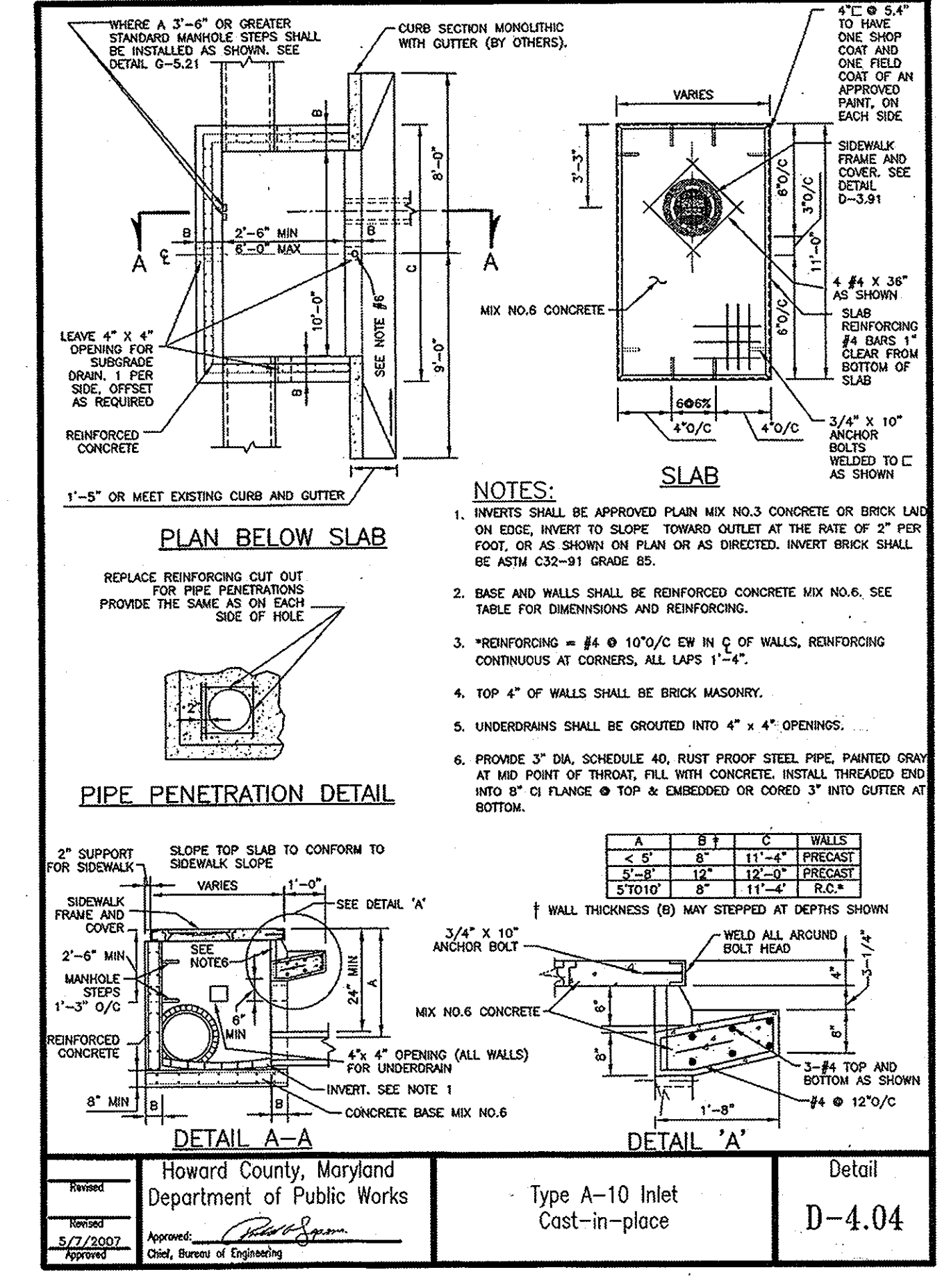
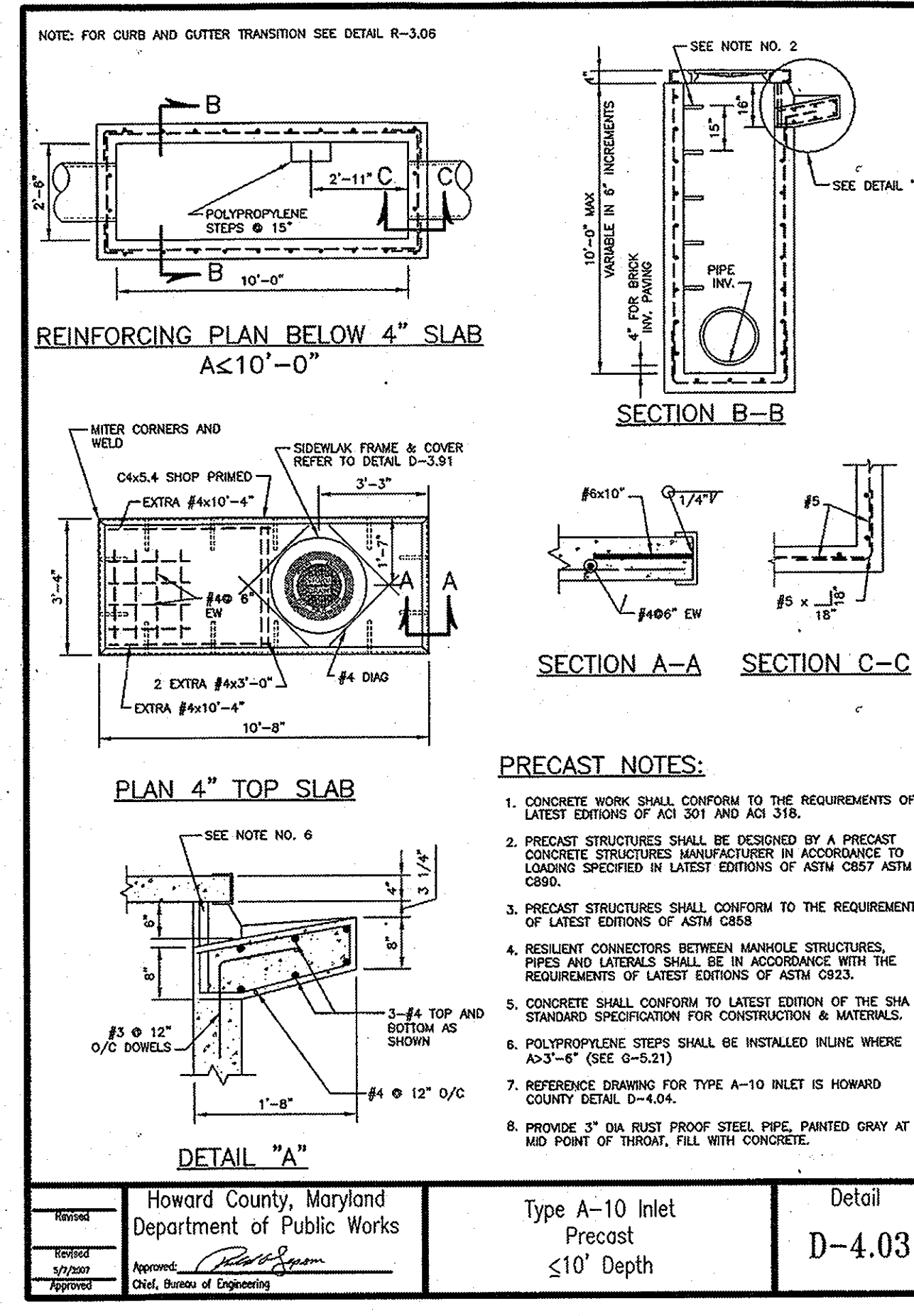
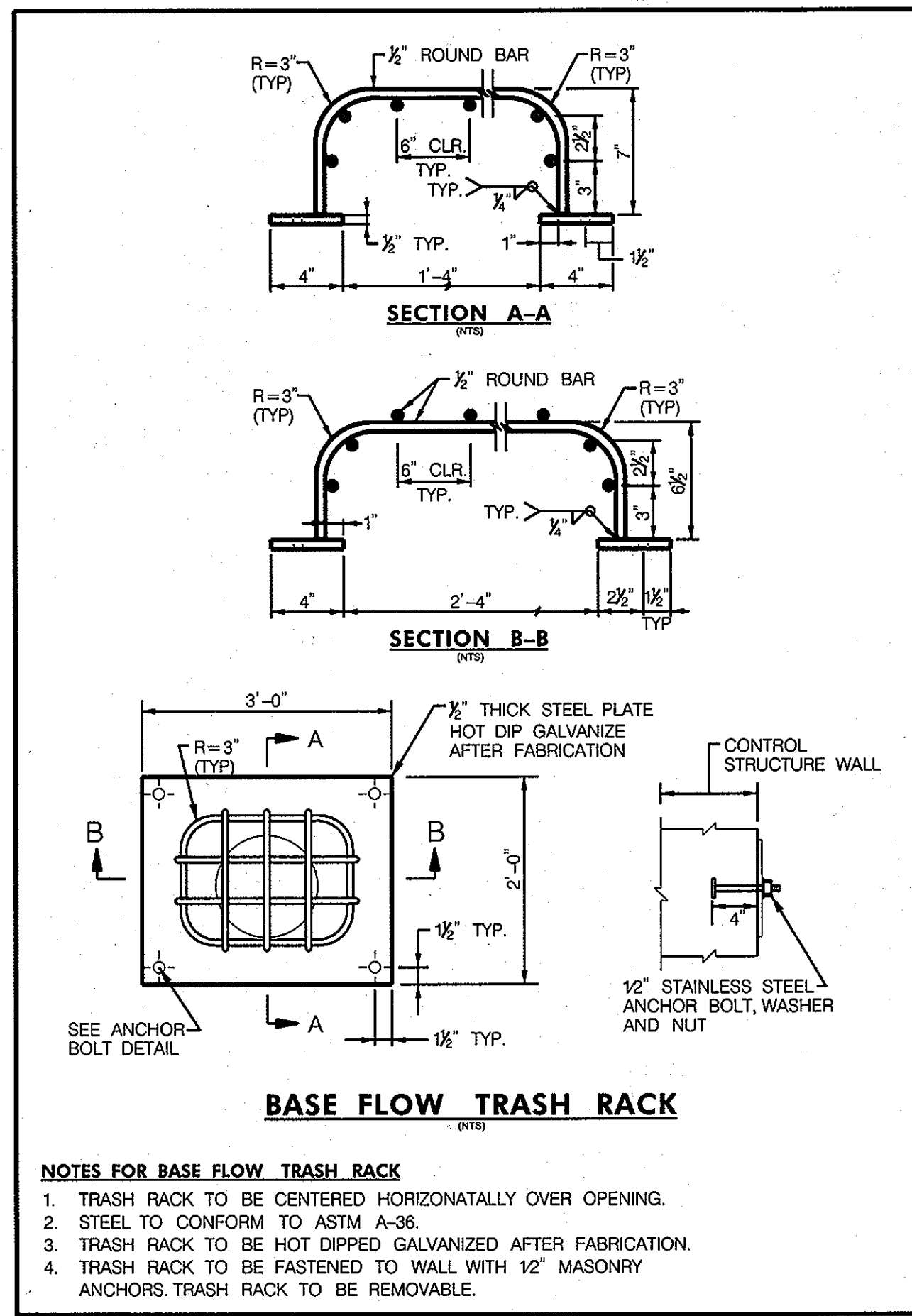
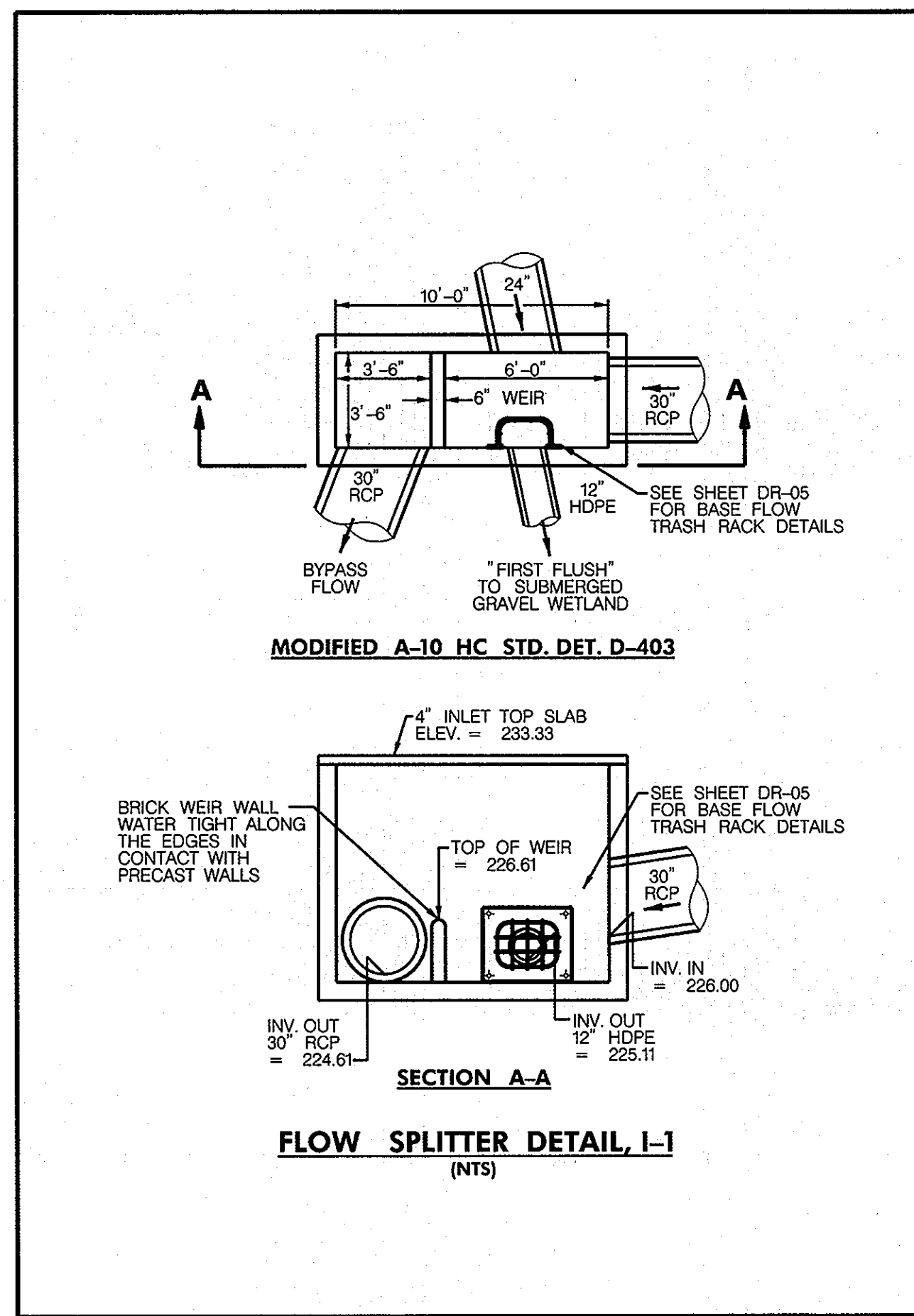
DESIGN: KWS  
DETAILED: DEA  
CHECKED: REP

**STORM DRAIN PROFILE**  
SCALE: AS SHOWN  
DATE: APRIL 26, 2013

**GREEN BUILDING HOWARD COUNTY CENTRAL MARYLAND TRANSIT OPERATIONS FACILITY**  
(LOT 1 OF THE LATE J. DUNKER SUBDIVISION)  
TAX MAP 48 GRID 13  
CAPITAL PROJECT NO: C-0289 PARCEL 75  
6TH ELECTION DISTRICT HOWARD COUNTY, MD

DISCIPLINE ABBREVIATION: DR-02  
SHEET NO.: 17 OF 32





APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 7/2/13  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 8/1-13  
 DATE: 8-1-13

**RK&K**  
 CONSULTING ENGINEERS  
 81 MOSHER STREET  
 BALTIMORE, MARYLAND 21217  
 (800)-787-3755

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  
 16493 05/16/2015  
 License No. Expiration Date

NO.	DESCRIPTION	BY	DATE
REVISIONS			

STORMDRAIN AND STORMWATER MANAGEMENT DETAILS  
 SCALE: AS SHOWN  
 DATE: APRIL 26, 2013

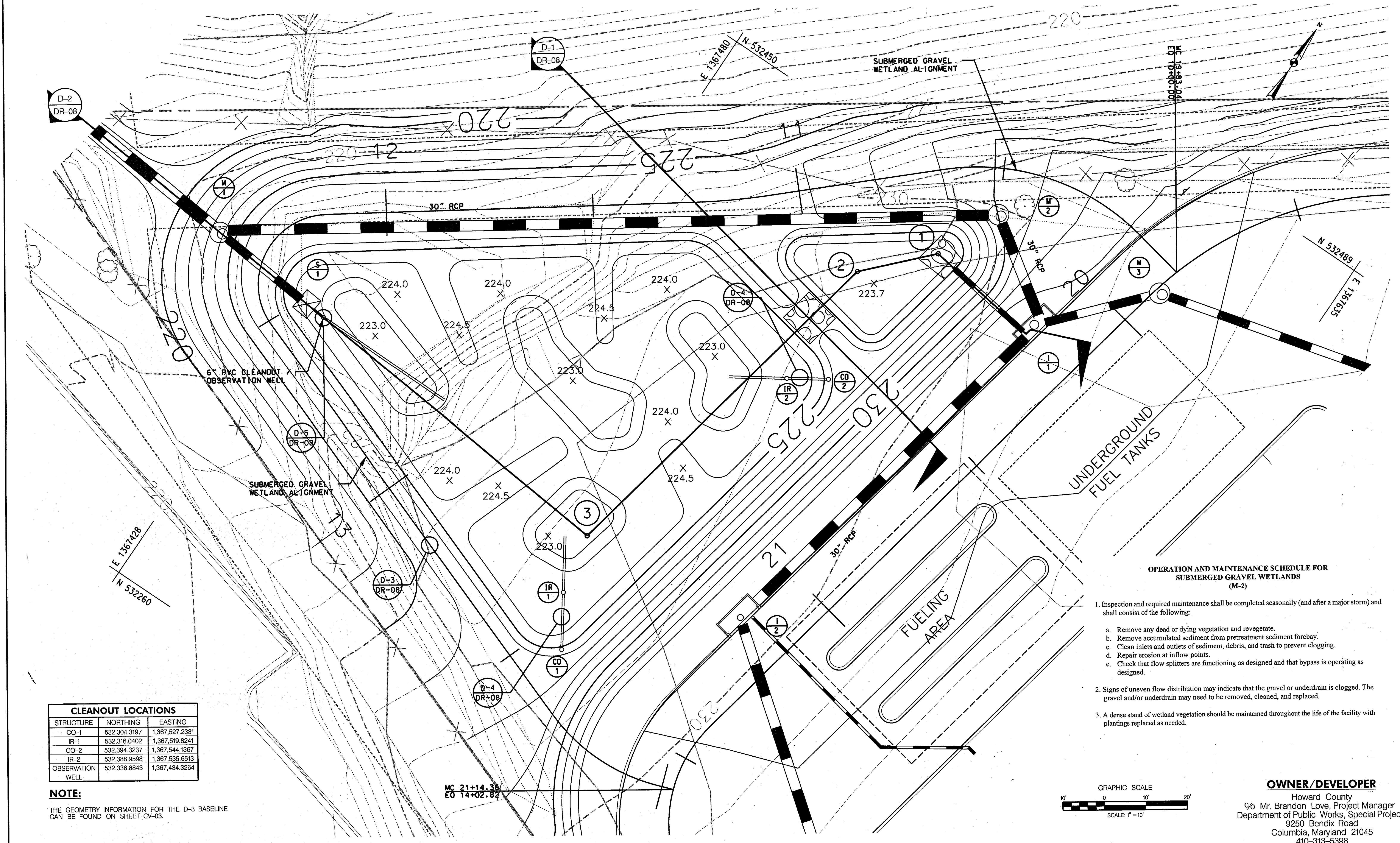
GREEN BUILDING HOWARD COUNTY CENTRAL MARYLAND TRANSIT OPERATIONS FACILITY  
 (LOT 1 OF THE LATE J. DUINKER SUBDIVISION)  
 TAX MAP 48 GRID 13  
 CAPITAL PROJECT NO: C-0289 PARCEL 75  
 6TH ELECTION DISTRICT HOWARD COUNTY, MD

DISCIPLINE ABBREVIATION DR-05  
 SHEET NO. 18 OF 32  
 SDP-13-039







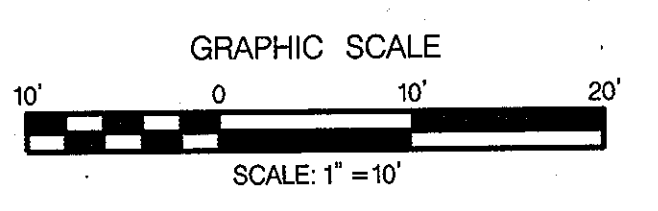


**CLEANOUT LOCATIONS**

STRUCTURE	NORTHING	EASTING
CO-1	532,304.3197	1,367,527.2331
IR-1	532,316.0402	1,367,519.8241
CO-2	532,394.3237	1,367,544.1367
IR-2	532,388.9598	1,367,535.6513
OBSERVATION WELL	532,338.8843	1,367,434.3264

**NOTE:**  
THE GEOMETRY INFORMATION FOR THE D-3 BASELINE CAN BE FOUND ON SHEET CV-03.

- OPERATION AND MAINTENANCE SCHEDULE FOR SUBMERGED GRAVEL WETLANDS (M-2)**
- Inspection and required maintenance shall be completed seasonally (and after a major storm) and shall consist of the following:
    - Remove any dead or dying vegetation and revegetate.
    - Remove accumulated sediment from pretreatment sediment forebay.
    - Clean inlets and outlets of sediment, debris, and trash to prevent clogging.
    - Repair erosion at inflow points.
    - Check that flow splitters are functioning as designed and that bypass is operating as designed.
  - Signs of uneven flow distribution may indicate that the gravel or underdrain is clogged. The gravel and/or underdrain may need to be removed, cleaned, and replaced.
  - A dense stand of wetland vegetation should be maintained throughout the life of the facility with plantings replaced as needed.



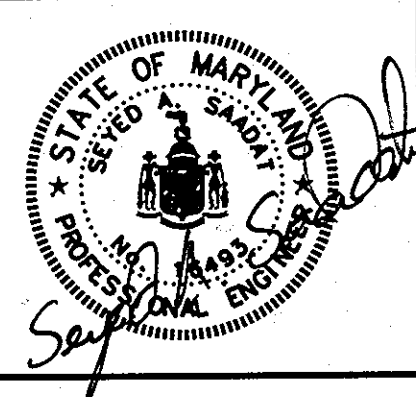
**OWNER/DEVELOPER**  
Howard County  
% Mr. Brandon Love, Project Manager  
Department of Public Works, Special Projects  
9250 Bendix Road  
Columbia, Maryland 21045  
410-313-5398

6/26/2013  
\$FILE\$

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 Chief, Development Engineering Division  
 Chief, Division of Land Development  
 Director

DATE: 7/17/13  
 DATE: 8/1/13  
 DATE: 8-1-13

**RK&K**  
 CONSULTING ENGINEERS  
 81 MOSHER STREET  
 BALTIMORE, MARYLAND 21217  
 (800)-787-3755



**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. 16493 Expiration Date 05/16/2015

NO.	DESCRIPTION	BY	DATE
REVISIONS			

DESIGN: JRN  
 CHECK DRAWING: JRN  
 MBH

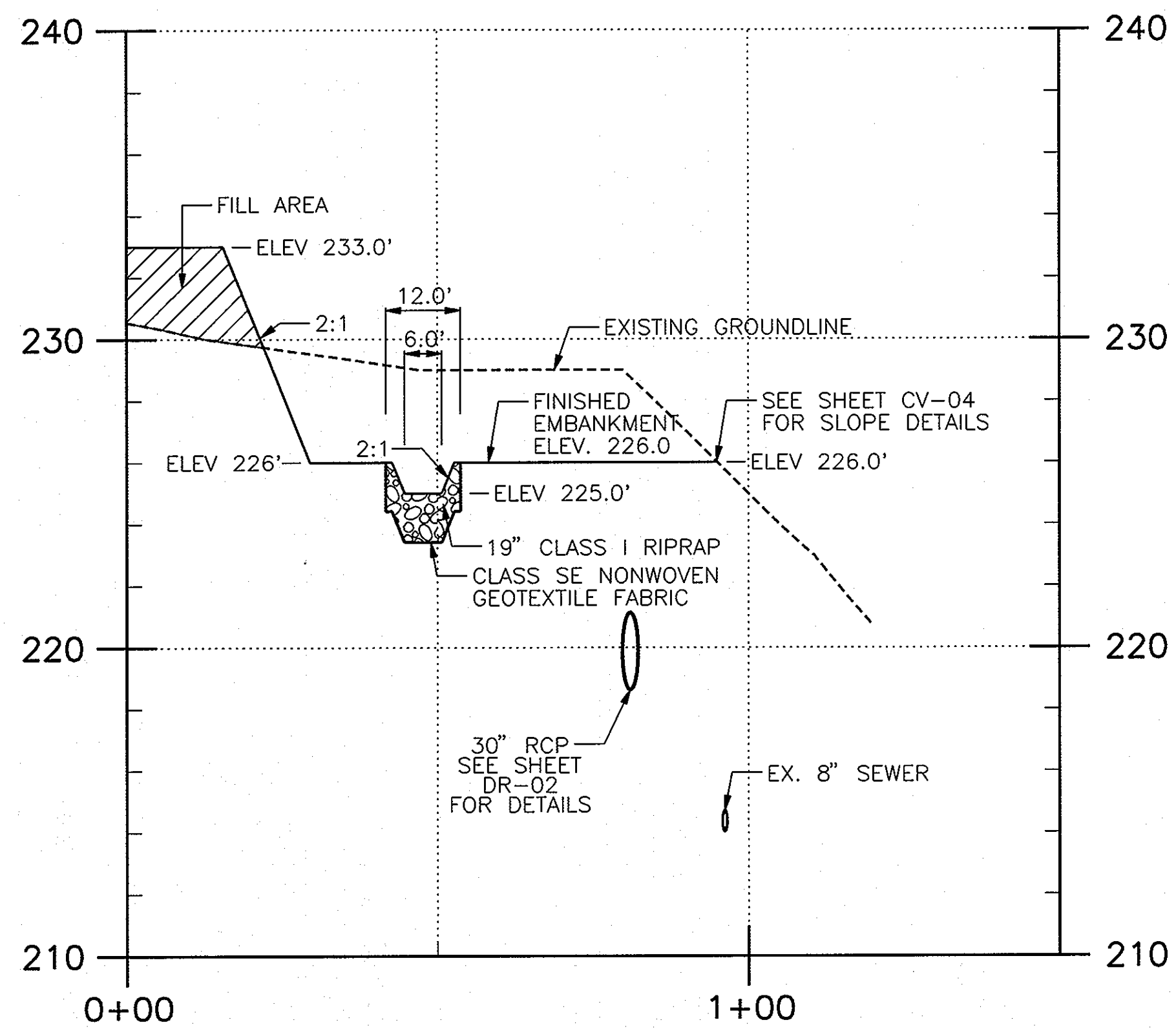
**SUBMERGED GRAVEL WETLAND PLAN**

SCALE: 1" = 10'  
 DATE: APRIL 26, 2013

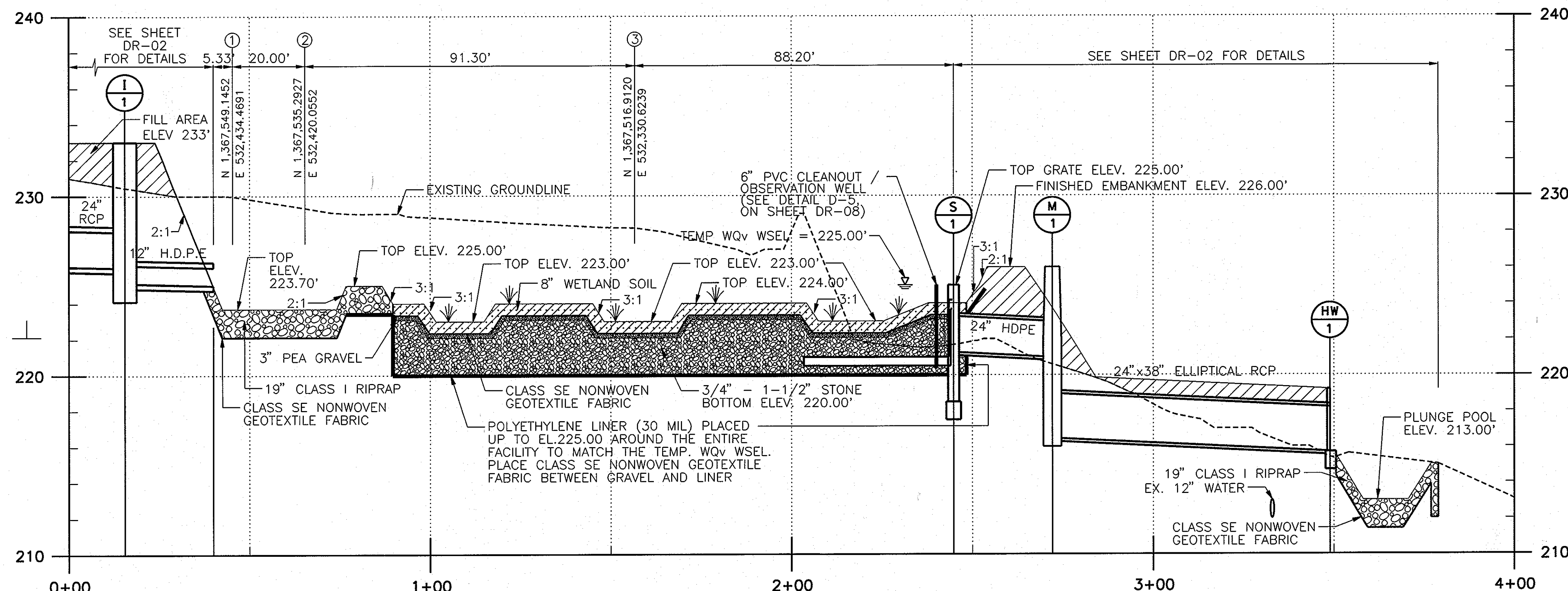
**GREEN BUILDING HOWARD COUNTY CENTRAL MARYLAND TRANSIT OPERATIONS FACILITY**  
 (LOT 1 OF THE LATE J. DUINKER SUBDIVISION)  
 TAX MAP 48 GRID 13  
 CAPITAL PROJECT NO: C-0289 PARCEL 75  
 6TH ELECTION DISTRICT HOWARD COUNTY, MD

DISCIPLINE ABBREVIATION: DR-07  
 SHEET NO.: 20 OF 32  
 SDP-13-039

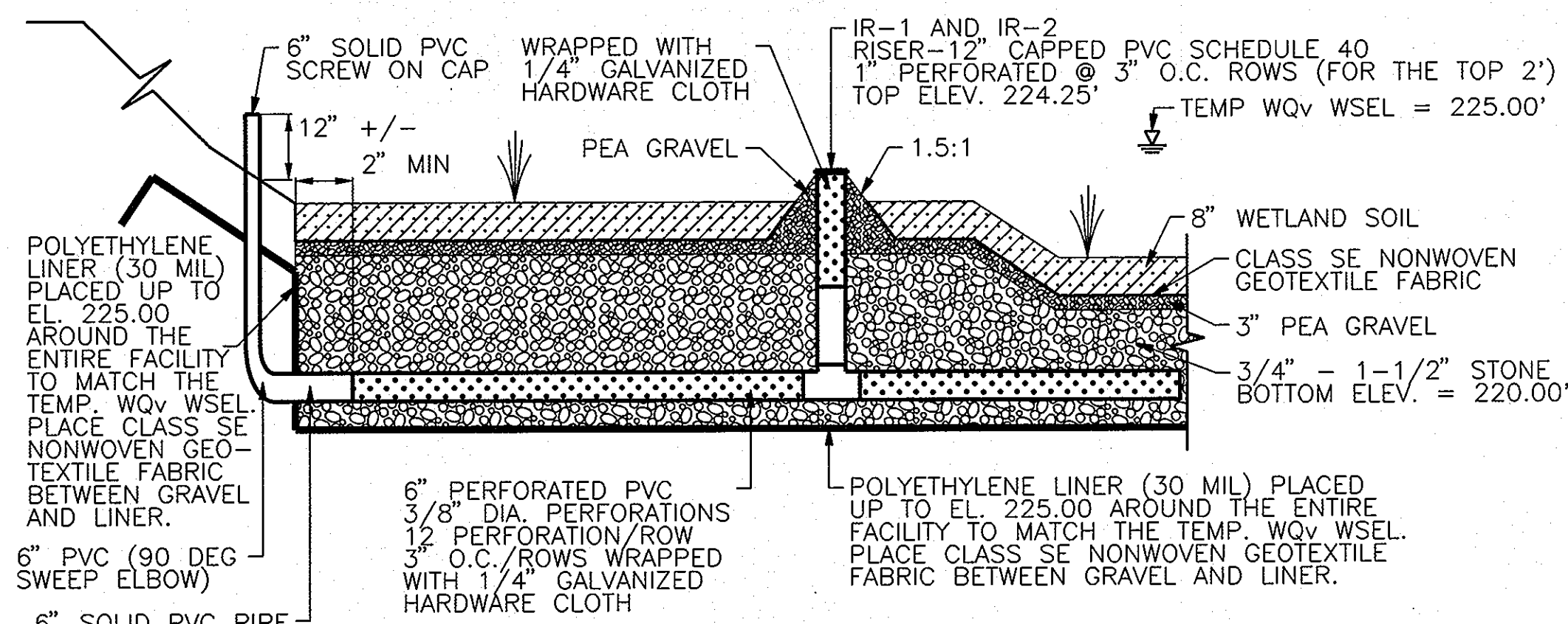




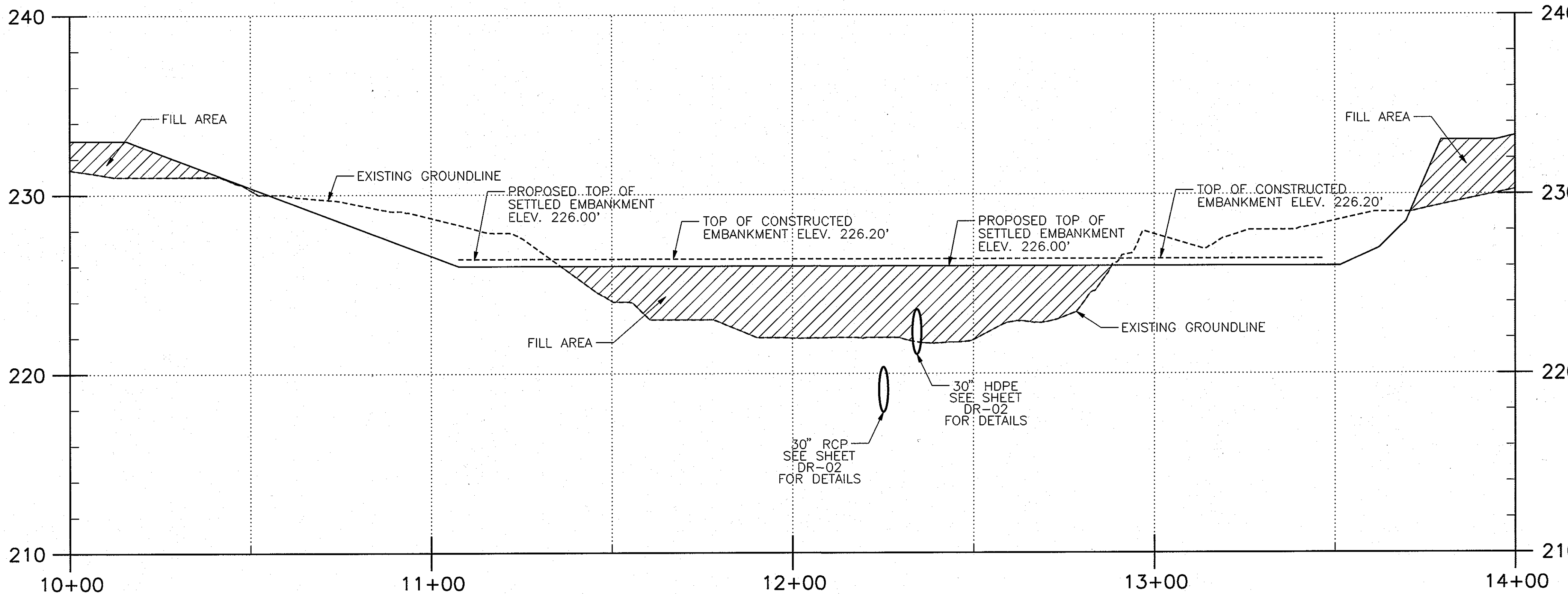
**D-1 SPILLWAY BERM**  
 DR-07 SCALE: 1" = 20'-0" HORIZONTAL  
 1" = 4'-0" VERTICAL



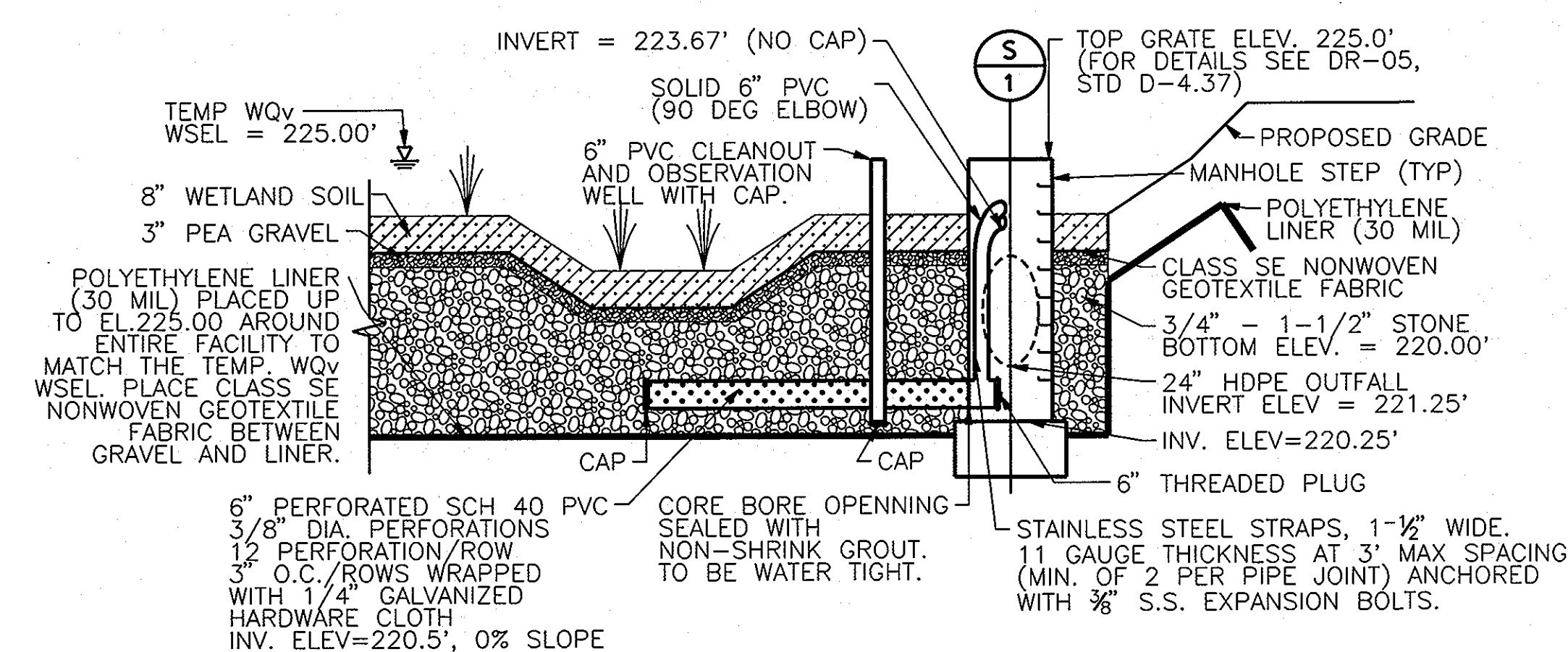
**D-2 SUBMERGED GRAVEL WETLAND**  
 DR-07 SCALE: 1" = 20'-0" HORIZONTAL  
 1" = 4'-0" VERTICAL



**D-4 PVC CLEANOUT AND VERTICAL RISER DETAIL (TYP)**  
 DR-07 SCALE: 1" = 5'-0" HORIZONTAL  
 1" = 2'-6" VERTICAL



**D-3 SUBMERGED GRAVEL WETLAND ALIGNMENT**  
 DR-07 SCALE: 1" = 20'-0" HORIZONTAL  
 1" = 4'-0" VERTICAL



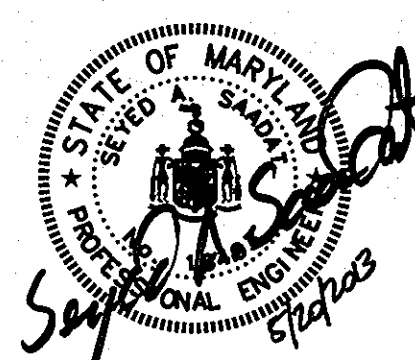
**D-5 OBSERVATION WELL / CLEANOUT**  
 DR-08 SCALE: 1" = 5'-0" HORIZONTAL  
 1" = 2'-6" VERTICAL

**NOTE:**  
 ALL FILL AREAS TO BE COMPACTED PER HOWARD COUNTY CONSTRUCTION SPECIFICATIONS AND TESTED BY A CERTIFIED GEOTECHNICAL AGENCY.

**OWNER/DEVELOPER**  
 Howard County  
 % Mr. Brandon Love, Project Manager  
 Department of Public Works, Special Projects  
 9250 Bendix Road  
 Columbia, Maryland 21045  
 410-313-5398

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 Chief, Development Engineering Division  
 DATE: 8-1-13  
 Chief, Division of Land Development  
 DATE: 8-1-13  
 Director

**RK&K**  
 CONSULTING ENGINEERS  
 81 MOSHER STREET  
 BALTIMORE, MARYLAND 21217  
 (800)-787-3755



**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. 16493 Expiration Date 05/16/2015

NO.	DESCRIPTION	BY	DATE

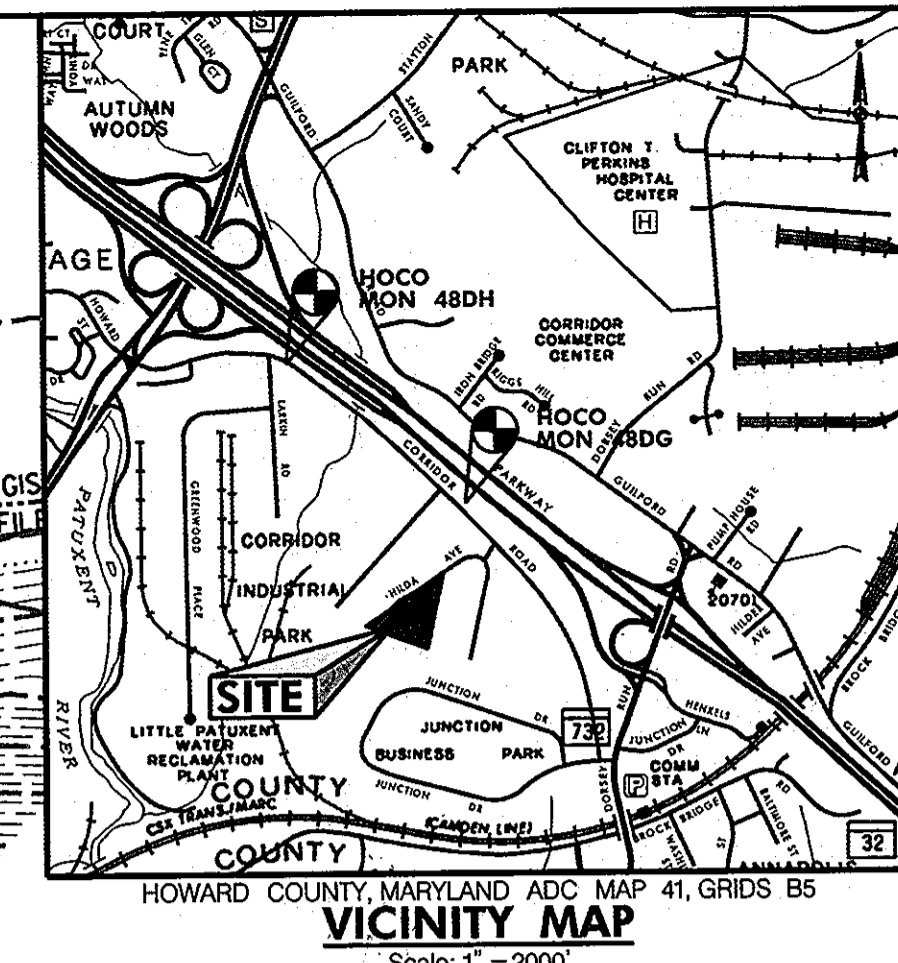
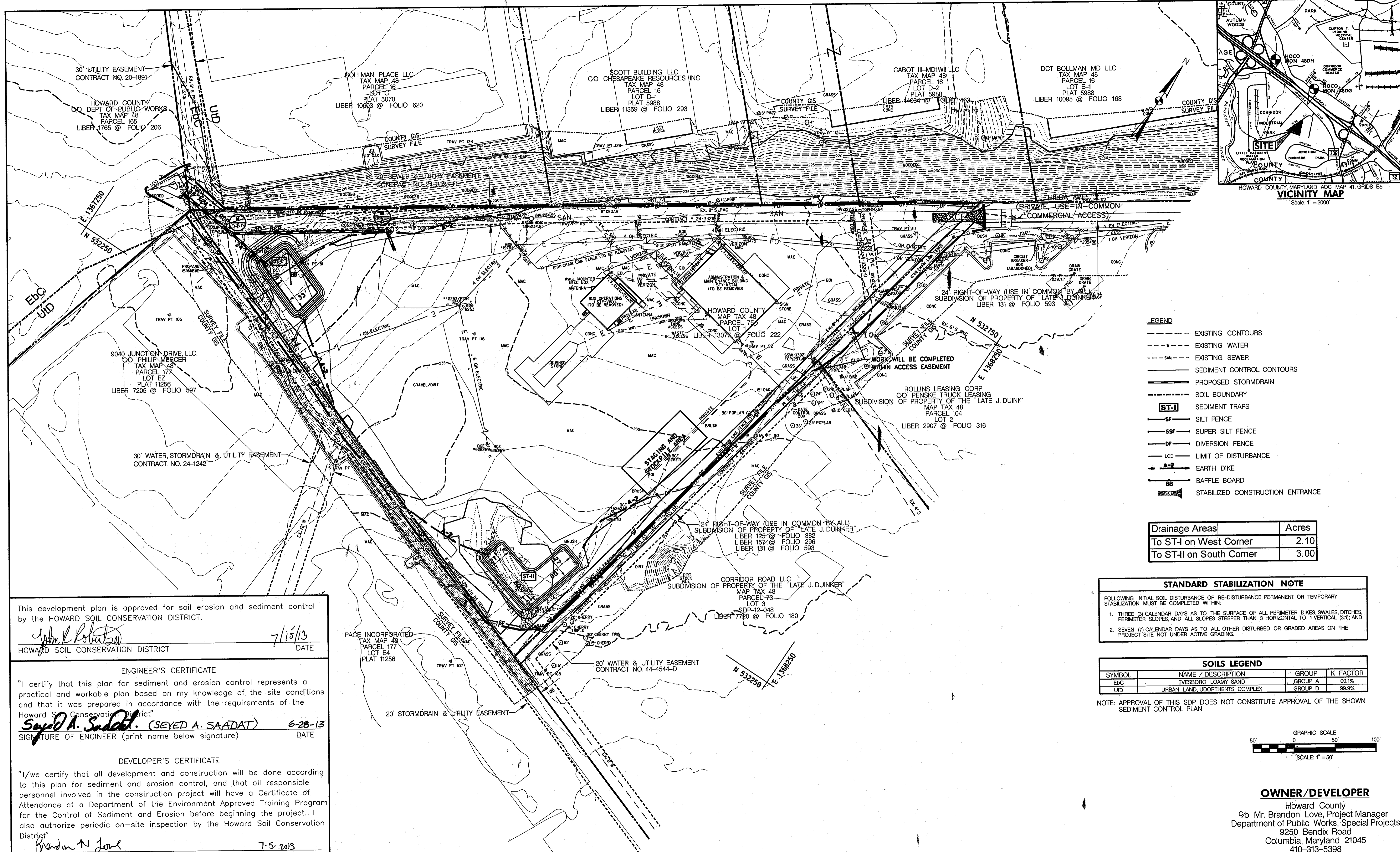
JRN  
 JRN  
 MBH

**SUBMERGED GRAVEL WETLAND DETAILS**  
 SCALE: AS SHOWN  
 DATE: APRIL 26, 2013

**GREEN BUILDING HOWARD COUNTY CENTRAL MARYLAND TRANSIT OPERATIONS FACILITY**  
 (LOT 1 OF THE LATE J. DUINKER SUBDIVISION)  
 TAX MAP 48 GRID 13  
 CAPITAL PROJECT NO: C-0289 PARCEL 75  
 6TH ELECTION DISTRICT HOWARD COUNTY, MD

DISCIPLINE ABBREVIATION DR-08  
 SHEET NO. 21 OF 32





- LEGEND**
- EXISTING CONTOURS
  - EXISTING WATER
  - SAN
  - EXISTING SEWER
  - SEDIMENT CONTROL CONTOURS
  - PROPOSED STORMDRAIN
  - SOIL BOUNDARY
  - ST-I** SEDIMENT TRAPS
  - SF** SILT FENCE
  - SSF** SUPER SILT FENCE
  - DF** DIVERSION FENCE
  - LOD** LIMIT OF DISTURBANCE
  - A-2** EARTH DIKE
  - BB** BAFFLE BOARD
  - SC** STABILIZED CONSTRUCTION ENTRANCE

Drainage Areas	Acres
To ST-I on West Corner	2.10
To ST-II on South Corner	3.00

**STANDARD STABILIZATION NOTE**

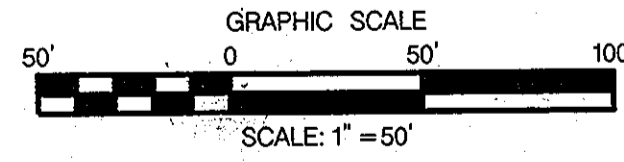
FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

- THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
- SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

**SOILS LEGEND**

SYMBOL	NAME / DESCRIPTION	GROUP	K FACTOR
Ebc	EVESBORO LOAMY SAND	GROUP A	00.1%
UD	URBAN LAND, UDORTHERENTS COMPLEX	GROUP D	99.9%

NOTE: APPROVAL OF THIS SDP DOES NOT CONSTITUTE APPROVAL OF THE SHOWN SEDIMENT CONTROL PLAN



**OWNER/DEVELOPER**

Howard County  
 % Mr. Brandon Love, Project Manager  
 Department of Public Works, Special Projects  
 9250 Bendix Road  
 Columbia, Maryland 21045  
 410-313-5398

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

*John K. Roberts* 7/15/13  
 HOWARD SOIL CONSERVATION DISTRICT DATE

**ENGINEER'S CERTIFICATE**

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

*Seyed A. Saadat* (SEYED A. SAADAT) 6-28-13  
 SIGNATURE OF ENGINEER (print name below signature) DATE

**DEVELOPER'S CERTIFICATE**

"I/we certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

*Brandon N. Love* 7-5-2013  
 SIGNATURE OF DEVELOPER (print name below signature) DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Walter J. ...* 7/17/13  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION 4w DATE

*Walter J. ...* 8/1/13  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*Walter J. ...* 8-1-13  
 DIRECTOR DATE

**RK&K**  
 CONSULTING ENGINEERS  
 81 MOSHER STREET  
 BALTIMORE, MARYLAND 21217  
 (800)-787-3755



**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

16493 05/16/2015  
 License No. Expiration Date

NO.	DESCRIPTION	BY	DATE
REVISIONS			

PHASE I  
 SEDIMENT & EROSION  
 CONTROL PLAN

SCALE: 1" = 50'  
 DATE: APRIL 26, 2013

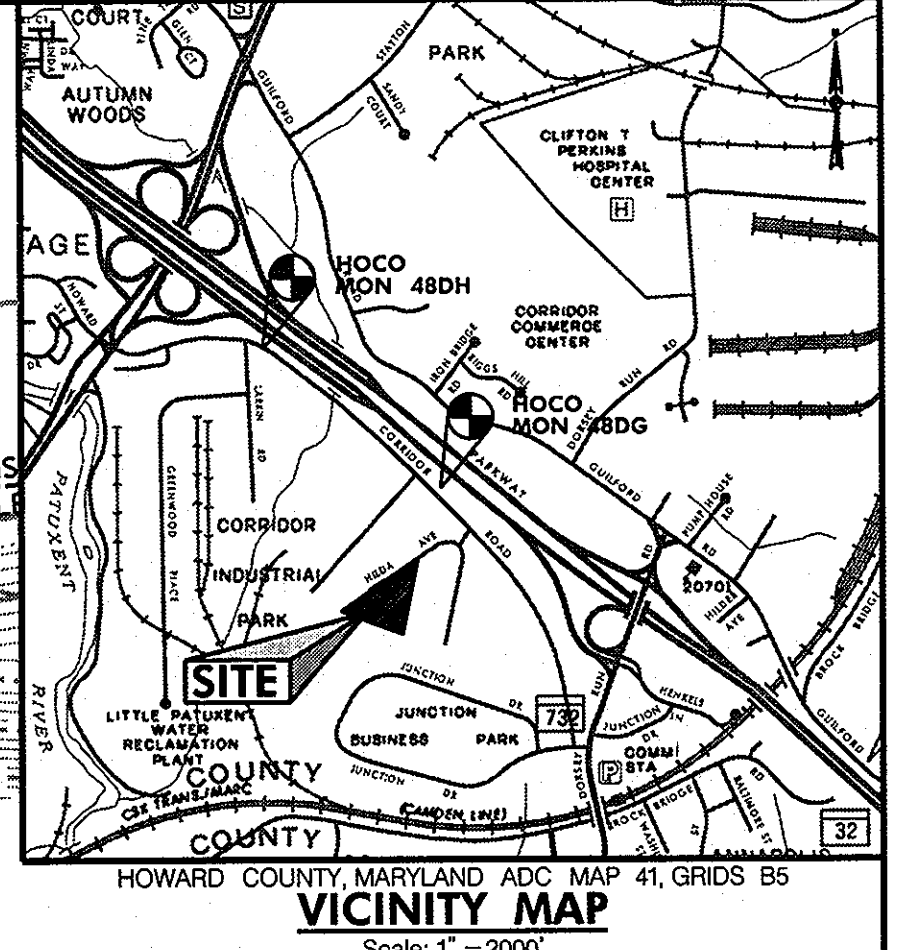
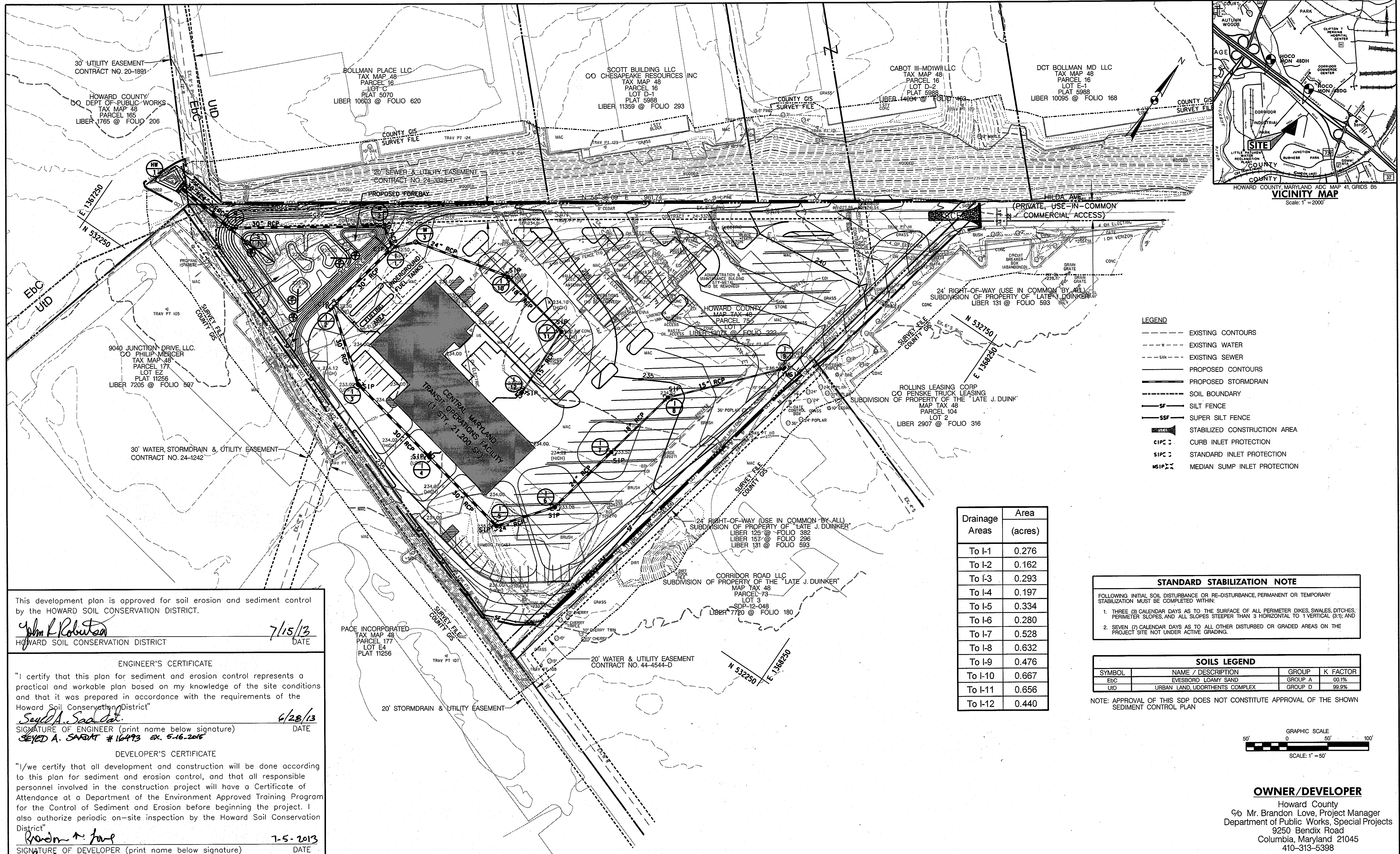
**GREEN BUILDING**  
**HOWARD COUNTY**  
**CENTRAL MARYLAND**  
**TRANSIT OPERATIONS FACILITY**

(LOT 1 OF THE LATE J. DUINKER SUBDIVISION)  
 TAX MAP 48 GRID 13  
 CAPITAL PROJECT NO: C-0289 PARCEL 75  
 6TH ELECTION DISTRICT HOWARD COUNTY, MD

DISCIPLINE  
 ABBREVIATION  
 SC-01

SHEET NO.  
 22 OF 32





- LEGEND**
- EXISTING CONTOURS
  - EXISTING WATER
  - EXISTING SEWER
  - PROPOSED CONTOURS
  - PROPOSED STORMDRAIN
  - SOIL BOUNDARY
  - SF SILT FENCE
  - SSF SUPER SILT FENCE
  - STABILIZED CONSTRUCTION AREA
  - CIPC CURB INLET PROTECTION
  - SIPC STANDARD INLET PROTECTION
  - MSIP MEDIAN SUMP INLET PROTECTION

Drainage Areas	Area (acres)
To I-1	0.276
To I-2	0.162
To I-3	0.293
To I-4	0.197
To I-5	0.334
To I-6	0.280
To I-7	0.528
To I-8	0.632
To I-9	0.476
To I-10	0.667
To I-11	0.656
To I-12	0.440

**STANDARD STABILIZATION NOTE**

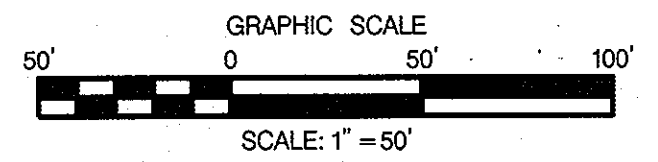
FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

- THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
- SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

**SOILS LEGEND**

SYMBOL	NAME / DESCRIPTION	GROUP	K FACTOR
Ebc	EVESBORO LOAMY SAND	GROUP A	00.1%
Urd	URBAN LAND, UDORTHEMITS COMPLEX	GROUP D	99.9%

NOTE: APPROVAL OF THIS SDP DOES NOT CONSTITUTE APPROVAL OF THE SHOWN SEDIMENT CONTROL PLAN



This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

*John K. Robertson* 7/15/13  
 HOWARD SOIL CONSERVATION DISTRICT DATE

**ENGINEER'S CERTIFICATE**

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

*Sayed A. Saadati* 6/28/13  
 SIGNATURE OF ENGINEER (print name below signature) DATE  
 SAYED A. SAADATI #16493 EX. 5-16-2015

**DEVELOPER'S CERTIFICATE**

"I/we certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District"

*Brandon P. Love* 7-5-2013  
 SIGNATURE OF DEVELOPER (print name below signature) DATE  
 BRANDON P. LOVE

PACE INCORPORATED  
 TAX MAP 48  
 PARCEL 177  
 LOT E4  
 PLAT 11256

20' STORMDRAIN & UTILITY EASEMENT

**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

16493 05/16/2015  
 License No. Expiration Date

**RK&K**  
 CONSULTING ENGINEERS  
 81 MOSHER STREET  
 BALTIMORE, MARYLAND 21217  
 (800)-787-3755



NO.	DESCRIPTION	BY	DATE

PHASE II  
 SEDIMENT & EROSION  
 CONTROL PLAN

SCALE: 1" = 50'  
 DATE: APRIL 26, 2013

**OWNER/DEVELOPER**

Howard County  
 % Mr. Brandon Love, Project Manager  
 Department of Public Works, Special Projects  
 9250 Bendix Road  
 Columbia, Maryland 21045  
 410-313-5398

**GREEN BUILDING**  
**HOWARD COUNTY**  
**CENTRAL MARYLAND**  
**TRANSIT OPERATIONS FACILITY**  
 (LOT 1 OF THE LATE J. DUINKER SUBDIVISION)  
 TAX MAP 48 GRID 13  
 CAPITAL PROJECT NO: C-0289 PARCEL 75  
 6TH ELECTION DISTRICT HOWARD COUNTY, MD

DISCIPLINE ABBREVIATION SC-02  
 SHEET NO. 23 OF 32

6/26/2013  
 \$FILE\$

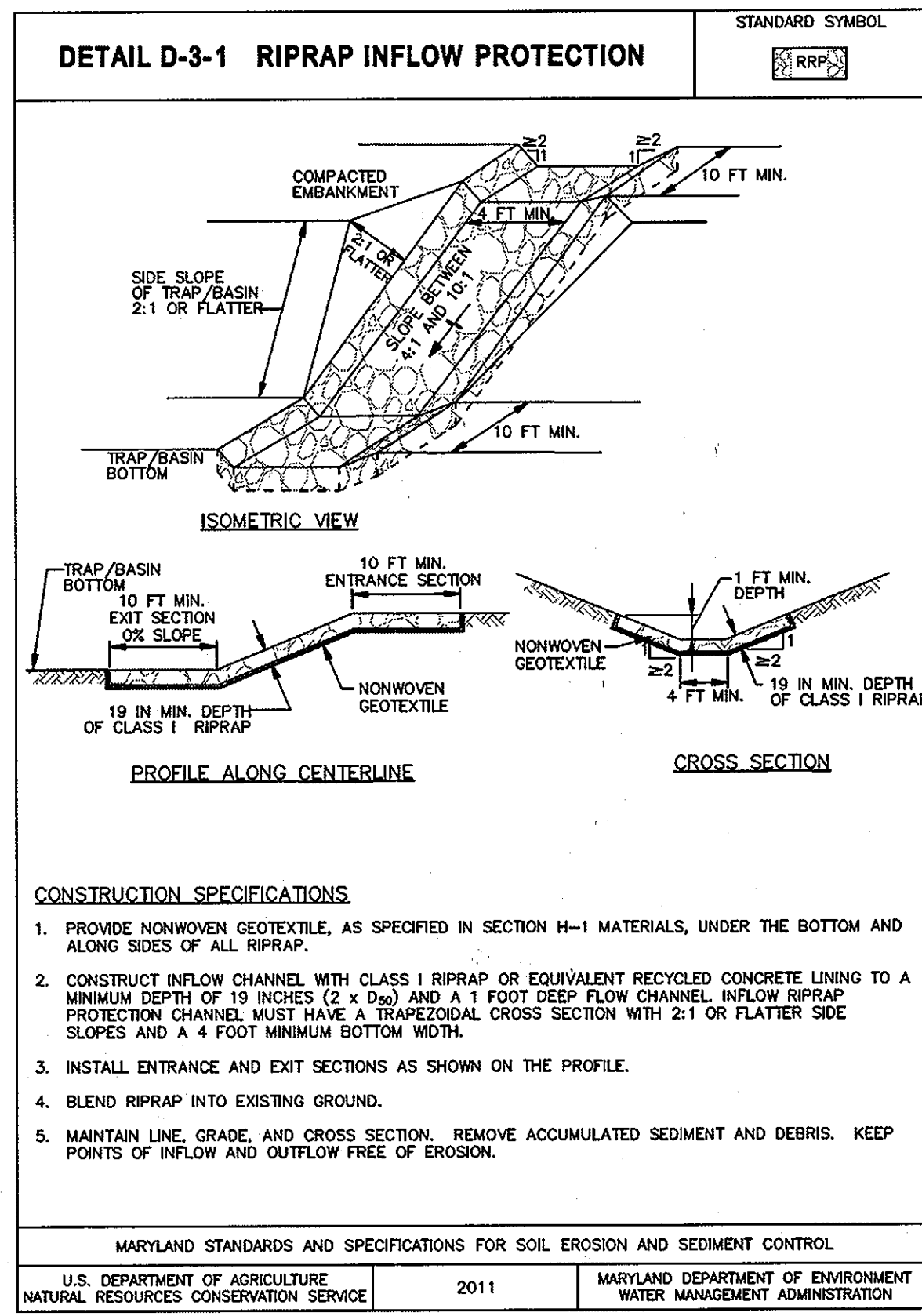
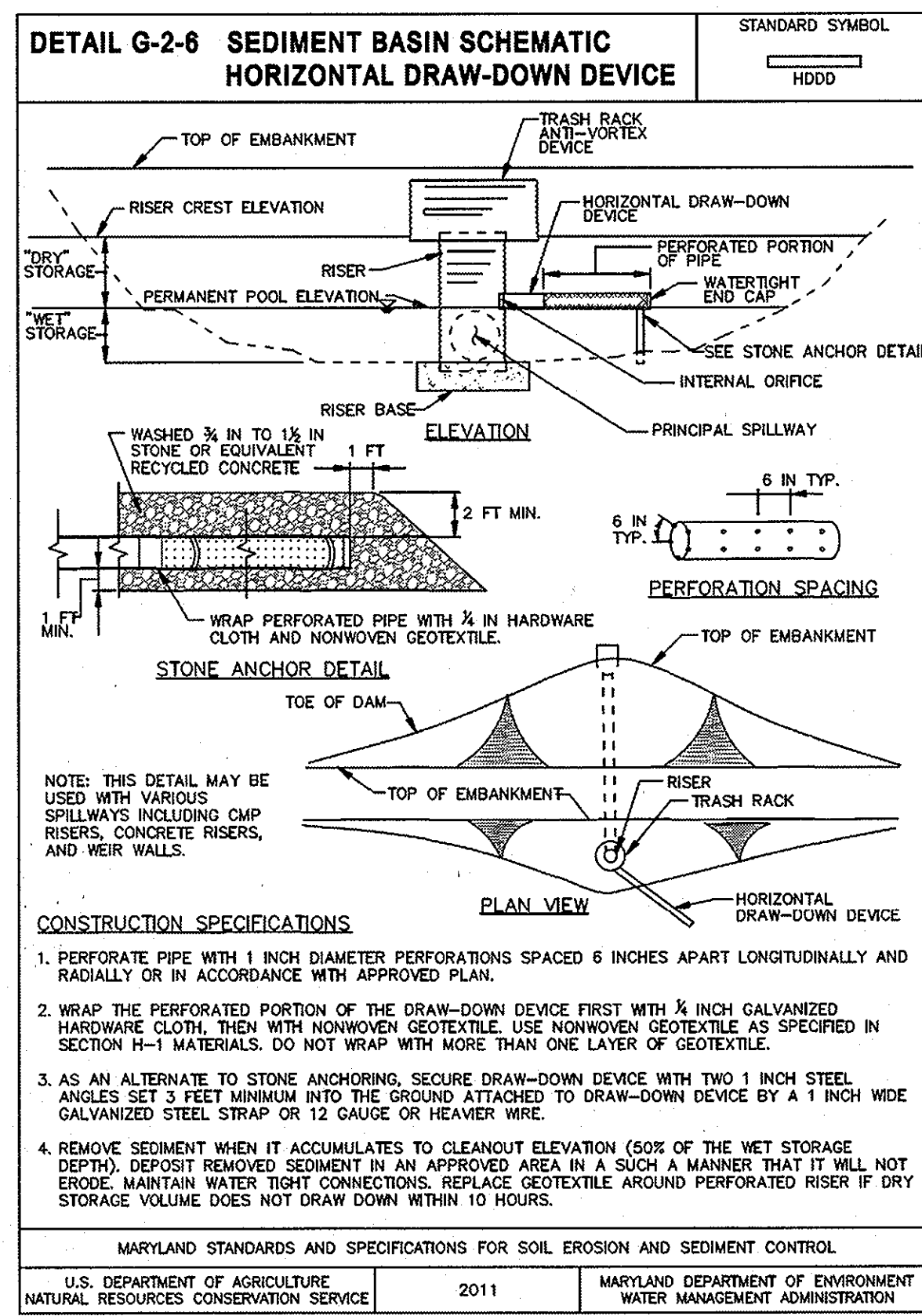
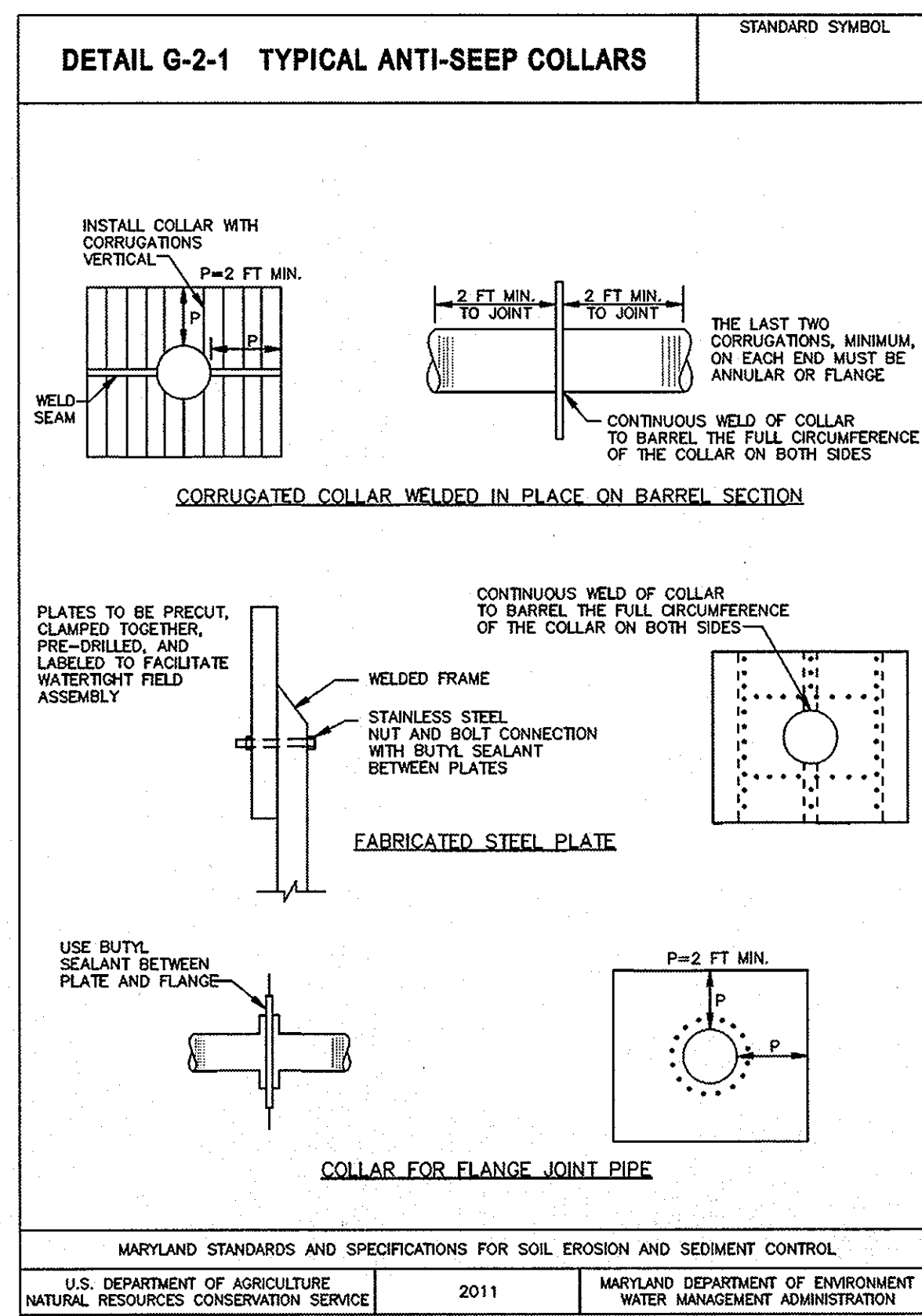












DETAIL G-1-2 STONE/RIPRAP OUTLET SEDIMENT TRAP ST-II

STONE/RIPRAP OUTLET SEDIMENT TRAP ST-II, TRAP NO. ON SOUTH CORNER		
DRAINAGE AREA - INITIAL	3.0	ACRES
DRAINAGE AREA - INTERIM	-	ACRES
DRAINAGE AREA - FINAL	0	ACRES
TOTAL STORAGE REQUIRED	10,800	CF
TOTAL STORAGE PROVIDED	11,500	CF
WET STORAGE REQUIRED	5,400	CF
WET STORAGE PROVIDED	6,000	CF
DRY STORAGE REQUIRED	5,400	CF
DRY STORAGE PROVIDED	5,500	CF
EXISTING GROUND ELEVATION AT OUTLET (WET STORAGE ELEVATION)	230.50	FT
TRAP BOTTOM ELEVATION	229.10	FT
TRAP BOTTOM DIMENSIONS	27' x 80' + 27' x 53'	FT x FT
WEIR LENGTH	12	FT
WEIR CREST (DRY STORAGE) ELEVATION	231.60	FT
CLEANOUT ELEVATION	229.80	FT
TOP OF EMBANKMENT ELEVATION	232.60	FT
SIDE SLOPE	2:1	H:V RATIO
EMBANKMENT TOP WIDTH	4	FT
OUTLET PROTECTION - LENGTH	10	FT
OUTLET PROTECTION - DEPTH	19"	IN

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE. 2011. MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION. G.13. 3 OF 3

DETAIL G-1-1 PIPE OUTLET SEDIMENT TRAP ST-I

PIPE OUTLET SEDIMENT TRAP ST-I, TRAP NO. ON WEST CORNER		
DRAINAGE AREA - INITIAL	2.1	ACRES
DRAINAGE AREA - INTERIM	-	ACRES
DRAINAGE AREA - FINAL	0	ACRES
TOTAL STORAGE REQUIRED	7,560	CF
TOTAL STORAGE PROVIDED	8,130	CF
WET STORAGE REQUIRED	3,780	CF
WET STORAGE PROVIDED	4,000	CF
DRY STORAGE REQUIRED	3,780	CF
DRY STORAGE PROVIDED	4,130	CF
TRAP BOTTOM ELEVATION	221.50	FT
TRAP BOTTOM DIMENSIONS	33' x 71'	FT x FT
RISER CREST (DRY STORAGE) ELEVATION	224.50	FT
OUTLET (WET STORAGE) ELEVATION	223.20	FT
CLEANOUT ELEVATION	223.35	FT
TOP OF EMBANKMENT ELEVATION	226.0	FT
SIDE SLOPE	2:1	H:V RATIO
EMBANKMENT TOP WIDTH	6.0'	FT
PRINCIPAL SPILLWAY MATERIAL (BARREL, RISER, ANTI-SEEP COLLAR)	HDPE	
RISER DIAMETER	33"	IN
BARREL DIAMETER	24"	IN
TRASH RACK DIAMETER	48"	IN
TRASH RACK HEIGHT	23"	IN
ANTI-SEEP COLLAR DIMENSIONS	2.0'	FT
OUTLET PROTECTION - LENGTH	PLUNGE POOL	FT
OUTLET PROTECTION - WIDTH	PLUNGE POOL	FT
OUTLET PROTECTION - DEPTH	PLUNGE POOL	IN

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE. 2011. MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION. G.8. 3 OF 3

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE. 2011. MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION. G.42.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE. 2011. MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION. G.48.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE. 2011. MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION. D.10.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE. 2011. MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION. G.13.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE. 2011. MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION. G.8.

Table B.1: Temporary Seeding for Site Stabilization

Plant Species	Seeding Rate <sup>1/</sup>		Seeding Depth <sup>2/</sup> (inches)	Recommended Seeding Dates by Plant Hardiness Zone <sup>3/</sup>
	lb/ac	lb/1000 ft <sup>2</sup>		
<b>Cool-Season Grasses</b>				
Annual Ryegrass ( <i>Lolium perenne</i> ssp. <i>multiflorum</i> )	40	1.0	0.5	Mar 1 to May 15; Aug 1 to Oct 15
Barley ( <i>Hordeum vulgare</i> )	96	2.2	1.0	Mar 1 to May 15; Aug 1 to Oct 15
Oats ( <i>Avena sativa</i> )	72	1.7	1.0	Mar 1 to May 15; Aug 1 to Oct 15
Wheat ( <i>Triticum aestivum</i> )	120	2.8	1.0	Mar 1 to May 15; Aug 1 to Oct 15
Cereal Rye ( <i>Secale cereale</i> )	112	2.8	1.0	Mar 1 to May 15; Aug 1 to Nov 15
<b>Warm-Season Grasses</b>				
Foxtail Millet ( <i>Setaria italica</i> )	30	0.7	0.5	May 16 to Jul 31
Pearl Millet ( <i>Pennisetum glaucum</i> )	20	0.5	0.5	May 16 to Jul 31

NOTES:  
 1/ Seeding rates for the warm-season grasses are in pounds of Pure Live Seed (PLS). Actual planting rates shall be adjusted to reflect percent seed germination and purity, as tested. Adjustments are usually not needed for the cool-season grasses.  
 Seeding rates listed above are for temporary seedings, when planted alone. When planted as a nurse crop with permanent seed mixes, use 1/3 of the seeding rate listed above for barley, oats, and wheat. For smaller-seeded grasses (annual ryegrass, pearl millet, foxtail millet), do not exceed more than 5% (by weight) of the overall permanent seeding mix. Cereal rye generally should not be used as a nurse crop, unless planting will occur in very late fall beyond the seeding dates for other temporary seedings. Cereal rye has allelopathic properties that inhibit the germination and growth of other plants. If it must be used as a nurse crop, seed at 1/3 of the rate listed above.  
 Oats are the recommended nurse crop for warm-season grasses.  
 2/ For sandy soils, plant seeds at twice the depth listed above.  
 3/ The planting dates listed are averages for each Zone and may require adjustment to reflect local conditions, especially near the boundaries of the zone.

B.20

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

*John R. Roberts*  
 HOWARD SOIL CONSERVATION DISTRICT  
 DATE: 7/15/13

ENGINEER'S CERTIFICATE

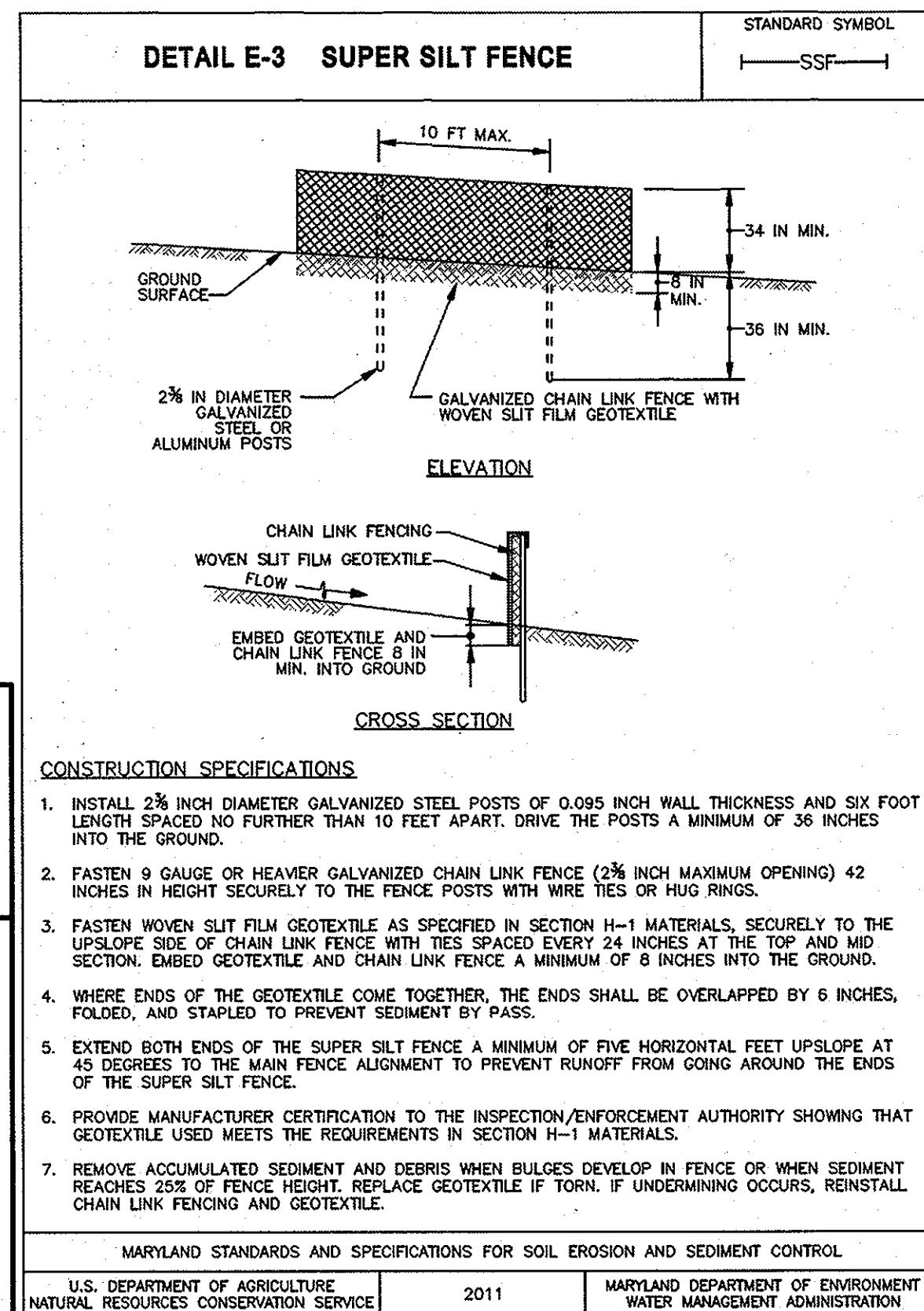
"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District"

*Sayed A. Sadat*  
 SIGNATURE OF ENGINEER (print name below signature)  
 DATE: 6/26/13

DEVELOPER'S CERTIFICATE

"I/we certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District"

*Brandon M. Fox*  
 SIGNATURE OF DEVELOPER (print name below signature)  
 DATE: 7-5-2013



MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE. 2011. MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION. E.7.

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

16493 License No. 05/16/2015 Expiration Date

NO.	DESCRIPTION	BY	DATE
REVISIONS			

KWS	DESIGN
DEA	DESIGN
REP	DESIGN

EROSION AND SEDIMENT CONTROL DETAILS

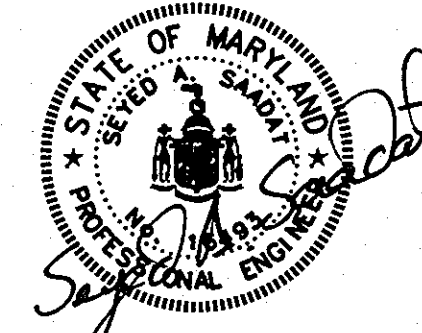
SCALE: AS SHOWN DATE: APRIL 26, 2013

**OWNER/DEVELOPER**  
 Howard County  
 % Mr. Brandon Love, Project Manager  
 Department of Public Works, Special Projects  
 9250 Bendix Road  
 Columbia, Maryland 21045  
 410-313-5398

**GREEN BUILDING HOWARD COUNTY CENTRAL MARYLAND TRANSIT OPERATIONS FACILITY**  
 (LOT 1 OF THE LATE J. DUINKER SUBDIVISION)  
 TAX MAP 48 GRID 13  
 CAPITAL PROJECT NO: C-0289 PARCEL 75  
 6TH ELECTION DISTRICT HOWARD COUNTY, MD

DISCIPLINE ABBREVIATION: SC-05  
 SHEET NO.: 26 OF 32

**RK&K**  
 CONSULTING ENGINEERS  
 81 MOSHER STREET  
 BALTIMORE, MARYLAND 21217  
 (800)-787-3755





HOWARD SOIL CONSERVATION DISTRICT  
STANDARD SEDIMENT CONTROL NOTES

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 3 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 7 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL 1, CHAPTER 12 OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:
 

TOTAL AREA OF SITE:	6.45	ACRES
AREA DISTURBED:	6.45	ACRES
AREA TO BE ROOFED OR PAVED:	4.68	ACRES
AREA TO BE VEGETATIVELY STABILIZED:	1.77	ACRES
TOTAL CUT:	5,945	CU. YDS.
TOTAL FILL:	4,366	CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION:		
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORK DAY, WHICHEVER IS SHORTER.

SEQUENCE OF CONSTRUCTION

- OBTAIN A GRADING PERMIT.
- CONTACT HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION TO SCHEDULE A PRE-CONSTRUCTION MEETING.

PHASE I - SEDIMENT CONTROL

- INSTALL STABILIZED CONSTRUCTION ENTRANCE.
- CLEAR AND GRUB ALONG PERIMETER OF THE SITE ENOUGH TO INSTALL PERIMETER CONTROLS, STORMDRAIN FROM HW-1 TO M-1, AND TRAPS. INSTALL PERIMETER CONTROLS, I.E. EARTH DIKES, SILT FENCE, AND SUPER SILT FENCE, IN ACCORDANCE WITH THE E&S PLAN.
- CONSTRUCT STORMDRAIN FROM HW-1 TO M-2 AND STUB PIPE FOR I-1, INCLUDING PLUNGE POOL AT OUTFALL. ALL DISTURBED AREA SHALL BE STABILIZED BY THE END OF EACH DAY.
- DEWATER THE TWO (2) EXISTING SEDIMENT TRAPS AND CONSTRUCT TWO (2) TRAPS IN CORNERS OF THE SITE. INSTALL DIVERSION FENCE AND EARTH DIKES. PROVIDE POSITIVE DRAINAGE FROM THE DIKES INTO THE TRAPS.
  - THE TRAP IN THE WEST CORNER TO BE ST-II WITH TRASH RACK, ANTI-VORTEX DEVICE, RISER, OUTFALL BARREL CONNECTING M-1 AND ANTI-SEEP COLLAR.
  - THE TRAP IN THE SOUTHEAST CORNER TO BE ST-I WITH A RIPRAP WEIR CREST AND OUTFALL.
- WITH APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB THE REMAINING SITE.

PHASE II - SEDIMENT CONTROL

- INSTALL THE REMAINDER OF THE STORMDRAIN SYSTEM EXCEPT FOR THE 12" PVC PIPE FROM THE FLOW-SPLITTER AT I-1. BLOCK THE 12" OPENING AT THE FLOW-SPLITTER. INSTALL INLET PROTECTION IMMEDIATELY AFTER CONSTRUCTION OF THE INLET. AT NO TIME WILL UNTREATED WATER ENTER INTO THE TRAP THROUGH THE FLOW-SPLITTER. POSITIVE SURFACE DRAINAGE TO THE TRAPS IS TO BE MAINTAINED UNTIL PROTECTION IS INSTALLED ON THE STORMDRAIN INLETS.
- FINE GRADE THE SITE INCLUDING CONSTRUCTION OF THE BUILDING AND PARKING LOT.
- WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE TRAP ST-II, EARTH DIKES AND DIVERSION FENCE AND CLOSE GAP IN SILT FENCE.
- WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, CONVERT ST-I ON WEST CORNER TO A SUBMERGED GRAVEL WETLAND INCLUDING INSTALLATION OF THE LINER, RIPRAP, FOREBAY, 12" PVC INFLOW PIPE FROM THE FLOW SPLITTER AT I-1, AND THE OVERFLOW INLET S-1 LOCATED WITHIN THE SUBMERGED GRAVEL WETLAND.
- STABILIZE AREAS DISTURBED DURING CONSTRUCTION.
- WITH APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE INLET PROTECTION AND OPEN THE FLOW-SPLITTER AT I-1.
- REMOVE PERIMETER SEDIMENT CONTROLS AND STABILIZE AREAS DISTURBED DURING REMOVAL.

HOWARD SOIL CONSERVATION DISTRICT  
PERMANENT SEEDING NOTES

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

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

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

1. PREFERRED -- APPLY 2 TONS/ACRE DOLOMITIC LIMESTONE (90 IBS/1000 SQ. FT.) AND 600 IBS/ACRE 10-10-10 FERTILIZER (14 IBS/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 150 IBS/ACRE 46-0-0 UREAFORM FERTILIZER (3.5 IBS/1000 SQ. FT.)

2. ACCEPTABLE -- APPLY 2 TONS/ACRE DOLOMITIC LIMESTONE (90 IBS/1000 SQ. FT.) AND 1000 IBS/ACRE 10-10-10 FERTILIZER (23 IBS/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL.

SEEDING -- FOR THE PERIODS MARCH 1 -- MAY 15, AND AUGUST 1 -- OCTOBER 15, SEED WITH 60 IBS/ACRE (1.4 IBS/1000 SQ. FT.) OF TALL FESCUE, KENTUCKY BLUEGRASS. FOR THE PERIOD MAY 16 -- JULY 31, SEED WITH 60 IBS TALL FESCUE, KENTUCKY BLUEGRASS PER ACRE AND 2 IBS/ACRE (.05 IBS/100() SQ. FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 -- FEBRUARY 28, PROTECT SITE BY:  
OPTION 1 -- TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING.  
OPTION 2 --USE SOD. OPTION 3 --- SEED: WITH 60 IBS/ACRE KENTUCKY 30 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING -- APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 IBS/1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPE 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ. FT.) FOR ANCHORING.

MAINTENANCE -- INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS. APPLY 500 IBS/ACRE 10-10-10 FERTILIZER (11.5 IBS/1000 SQ. FT.) YEARLY AS NEEDED.

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE RE-DISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

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

SOIL AMENDMENTS: -- APPLY 600 IBS/ACRE 10-10-10 FERTILIZER (14 IBS/1000 SQ. FT.).

SEEDING: -- FOR PERIODS MARCH 1 -- APRIL 15 AND FROM AUGUST 1 -- OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 IBS/1000 SQ. FT.). FOR THE PERIOD MAY 16 -- JULY 31, SEED WITH 3 IBS/ACRE OF FOXTAL MILLET (.07 IBS/1000 SQ. FT.). FOR THE PERIOD NOVEMBER 16 -- FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS/ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING: -- APPLY 1-1/2 TO 2 TONS/ACRE (70 TO 90 IBS/1000 SQ. FT.) OF UNROTTED WEED-FREE, SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL. PER ACRE (5 GAL/1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPE 8 FT. OR HIGHER, USE 348 GAL. PER ACRE (8 GAL/1000 SQ. FT.) FOR ANCHORING.

REFER TO THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOL EROSION AND SEDIMENT CONTROL FOR ADDITIONAL RATES AND METHODS NOT COVERED.

HYDROLOGIC SOIL GROUP

HYDROLOGIC SOIL GROUP - SUMMARY BY MAP UNIT - HOWARD COUNTY, MARYLAND (MD027)				
MAP UNIT SYMBOL	MAP UNIT NAME	RATING	ACRES IN AOI	PERCENT OF AOI
Ebc	EVESBORO LOAMY SAND, 2 TO 10 PERCENT SLOPES	A	0.0	0.1%
UID	URBAN LAND-UDORMENTS COMPLEX, 0 TO 15 PERCENT SLOPES	D	5.8	99.9%
TOTALS FOR AREA OF INTEREST			5.8	100.0%

ENGINEER'S CERTIFICATE

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

*Sayed A. Sabach* 6/28/13  
SIGNATURE OF ENGINEER (print name below signature) DATE  
SEYED A. SABACH LIC. # 16743 EX. 5-16-2015

DEVELOPER'S CERTIFICATE

"I/we certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District"

*Brandon M. Love* 7-5-2013  
SIGNATURE OF DEVELOPER (print name below signature) DATE  
Brandon M. Love

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

*John P. Robertson* 7/15/13  
HOWARD SOIL CONSERVATION DISTRICT DATE

OWNER/DEVELOPER

Howard County  
% Mr. Brandon Love, Project Manager  
Department of Public Works, Special Projects  
9250 Bendix Road  
Columbia, Maryland 21045  
410-313-5398

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Robert J. ...* 7/17/13  
CHIEF, DEVELOPMENT ENGINEERING DIVISION Aw DATE  
*Robert J. ...* 8/01/13  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
*Robert J. ...* 8-1-13  
DIRECTOR DATE



CONSULTING ENGINEERS  
81 MOSHER STREET  
BALTIMORE, MARYLAND 21217  
(800)-787-3755



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

16493 05/16/2015  
License No. Expiration Date

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

APPR	CHECK	DESIGN
		KWS
		DEA
		REP

EROSION AND SEDIMENT CONTROL NOTES

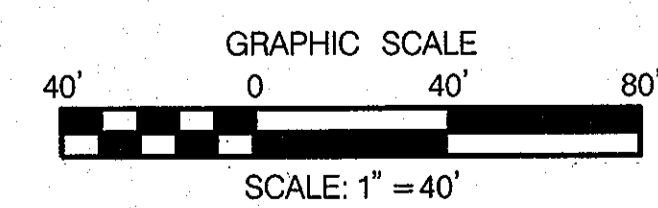
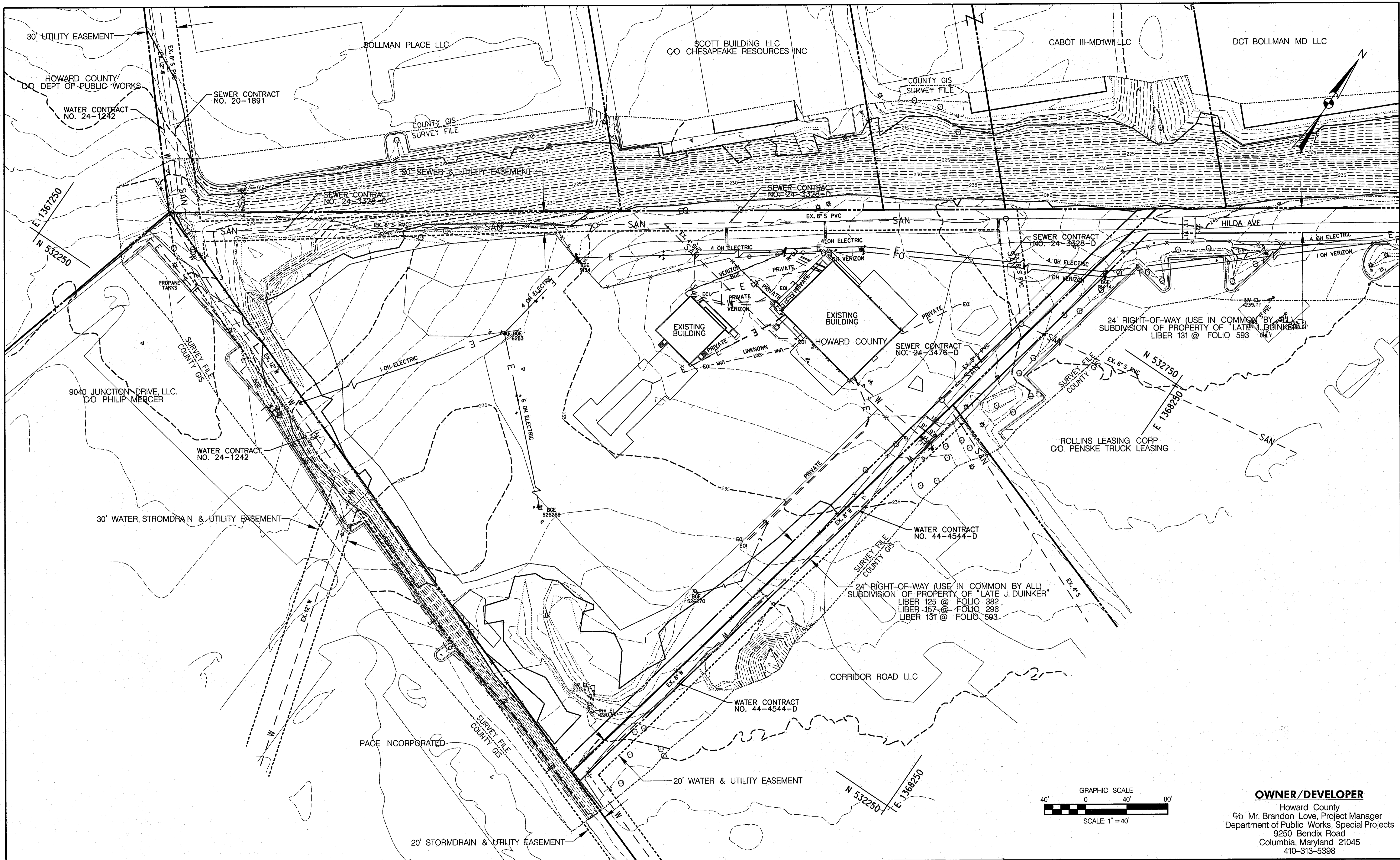
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GREEN BUILDING  
HOWARD COUNTY  
CENTRAL MARYLAND  
TRANSIT OPERATIONS FACILITY

(LOT 1 OF THE LATE J. DUINKER SUBDIVISION)  
TAX MAP 48 GRID 13  
CAPITAL PROJECT NO: C-0289 PARCEL 75  
6TH ELECTION DISTRICT HOWARD COUNTY, MD

DISCIPLINE ABBREVIATION SC-06  
SHEET NO. 27 OF 32





**OWNER/DEVELOPER**

Howard County  
 % Mr. Brandon Love, Project Manager  
 Department of Public Works, Special Projects  
 9250 Bendix Road  
 Columbia, Maryland 21045  
 410-313-5398

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 [Signature] DATE 6/11/13  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 [Signature] DATE 2/01/13  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 [Signature] DATE 8/1/13  
 DIRECTOR

**RK&K**  
 CONSULTING ENGINEERS  
 81 MOSHER STREET  
 BALTIMORE, MARYLAND 21217  
 (800)-787-3755



**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. 39362 Expiration Date 09/24/2014

NO.	DESCRIPTION	BY	DATE

DESIGN: JRN  
 CHECK: JRN  
 MBH

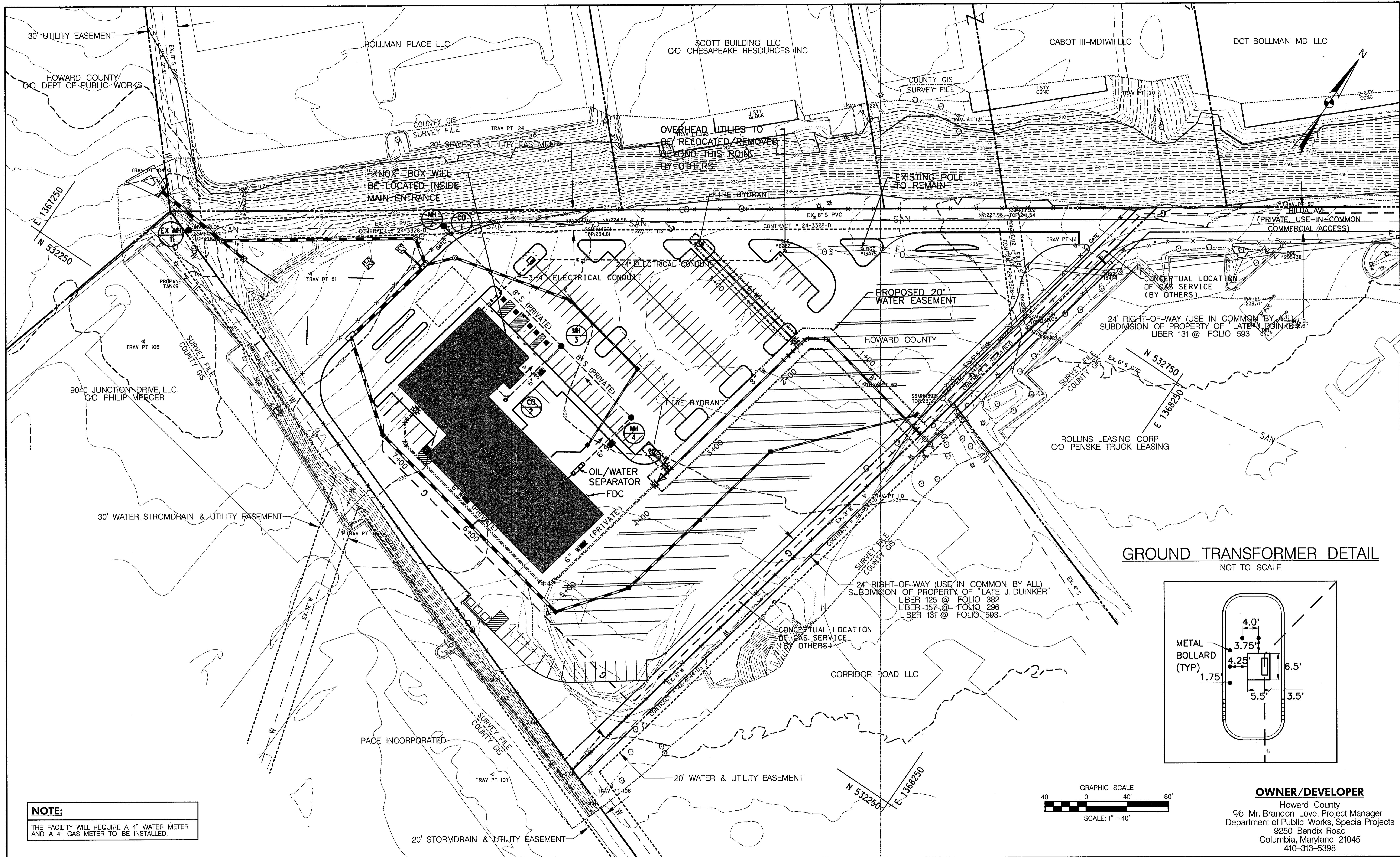
**EXISTING UTILITY COMPOSITE PLAN**  
 SCALE: 1" = 40'  
 DATE: APRIL 26, 2013

**GREEN BUILDING HOWARD COUNTY CENTRAL MARYLAND TRANSIT OPERATIONS FACILITY**  
 (LOT 1 OF THE LATE J. DUINKER SUBDIVISION)  
 TAX MAP 48 GRID 13  
 CAPITAL PROJECT NO: C-0289 PARCEL 75  
 6TH ELECTION DISTRICT HOWARD COUNTY, MD

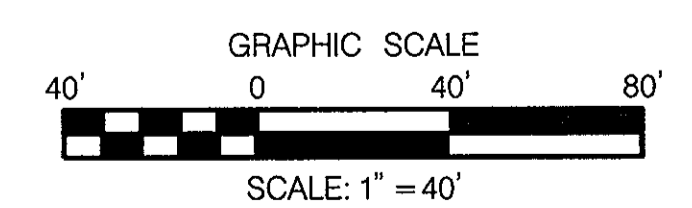
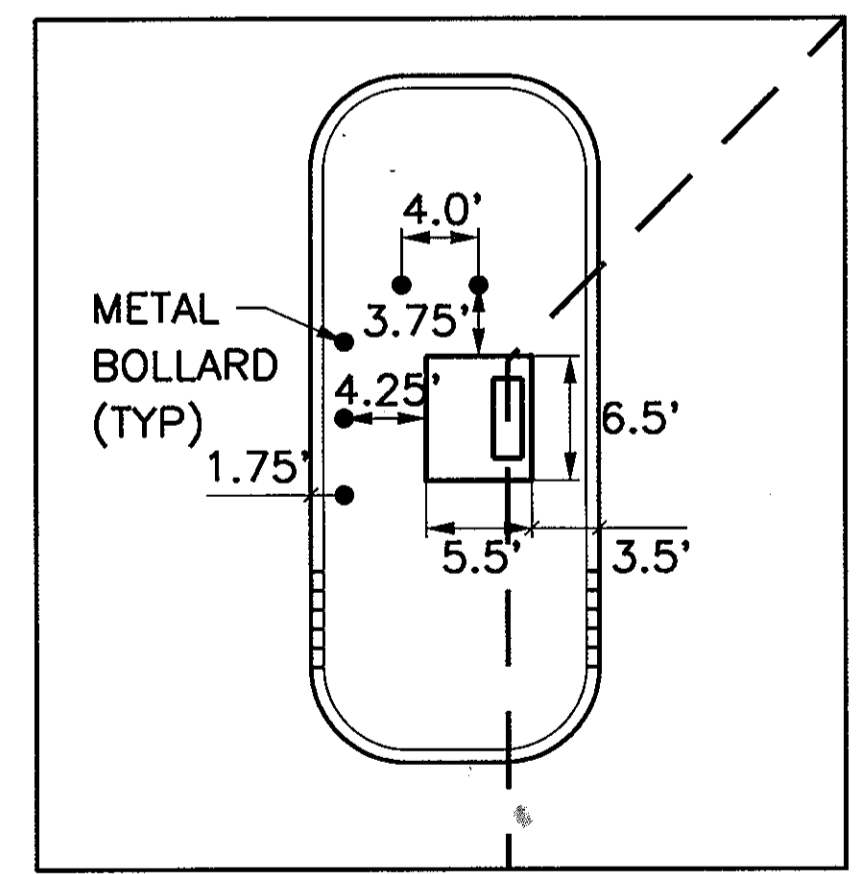
DISCIPLINE ABBREVIATION: UT-01  
 SHEET NO.: 28 OF 32

4/25/2013 \$FILES





**GROUND TRANSFORMER DETAIL**  
NOT TO SCALE



**NOTE:**  
THE FACILITY WILL REQUIRE A 4" WATER METER AND A 4" GAS METER TO BE INSTALLED.

**OWNER/DEVELOPER**  
Howard County  
% Mr. Brandon Love, Project Manager  
Department of Public Works, Special Projects  
9250 Bendix Road  
Columbia, Maryland 21045  
410-313-5398

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*[Signature]*  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 8/1/13  
*[Signature]*  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 8-1-13  
*[Signature]*  
 DIRECTOR

**RK&K**  
CONSULTING ENGINEERS  
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BALTIMORE, MARYLAND 21217  
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39362 09/24/2014  
License No. Expiration Date

NO.	DESCRIPTION	BY	DATE
1	REVISED SERVICE CONNECTION LABELS	MBH	8/1/13

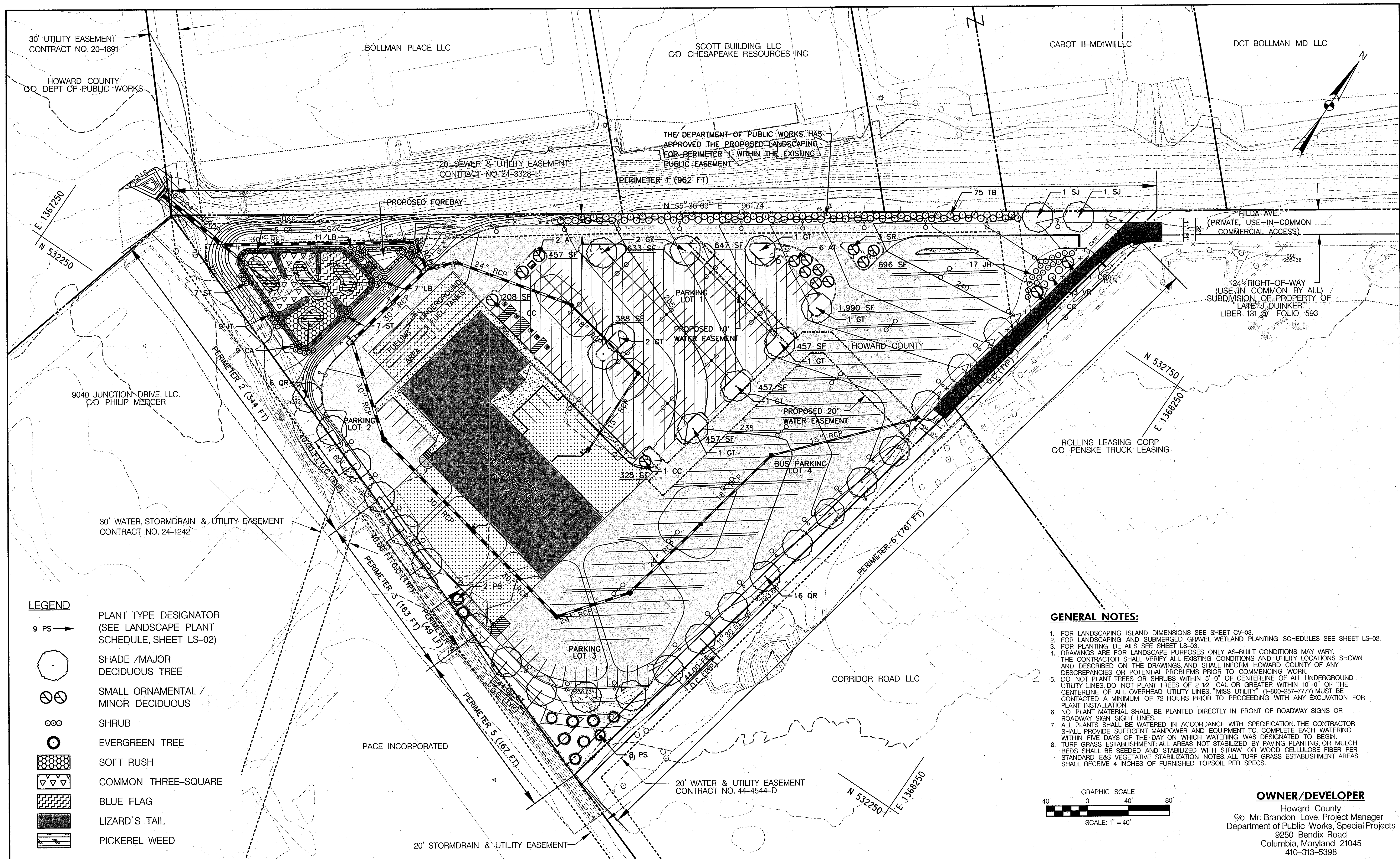
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**PROPOSED UTILITY COMPOSITE PLAN**  
 SCALE: 1" = 40'  
 DATE: APRIL 26, 2013

**GREEN BUILDING HOWARD COUNTY CENTRAL MARYLAND TRANSIT OPERATIONS FACILITY**  
 (LOT 1 OF THE LATE J. DUINKER SUBDIVISION)  
 TAX MAP 48 GRID 13  
 CAPITAL PROJECT NO: C-0289 PARCEL 75  
 6TH ELECTION DISTRICT HOWARD COUNTY, MD

DISCIPLINE ABBREVIATION: UT-02  
 SHEET NO.: 29 OF 32  
 SDP-13-039

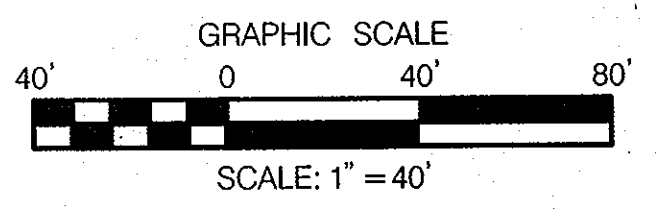
5/16/2013 \$FILES





- LEGEND**
- 9 PS → PLANT TYPE DESIGNATOR (SEE LANDSCAPE PLANT SCHEDULE, SHEET LS-02)
  - SHADE / MAJOR DECIDUOUS TREE
  - ⊗ SMALL ORNAMENTAL / MINOR DECIDUOUS
  - ∞ SHRUB
  - EVERGREEN TREE
  - ▨ SOFT RUSH
  - ▧ COMMON THREE-SQUARE
  - ▩ BLUE FLAG
  - ▬ LIZARD'S TAIL
  - ▭ PICKEREL WEED

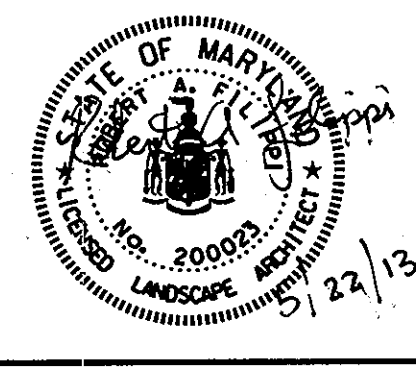
- GENERAL NOTES:**
1. FOR LANDSCAPING ISLAND DIMENSIONS SEE SHEET CV-03.
  2. FOR LANDSCAPING AND SUBMERGED GRAVEL WETLAND PLANTING SCHEDULES SEE SHEET LS-02.
  3. FOR PLANTING DETAILS SEE SHEET LS-03.
  4. DRAWINGS ARE FOR LANDSCAPE PURPOSES ONLY. AS-BUILT CONDITIONS MAY VARY. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND UTILITY LOCATIONS SHOWN AND DESCRIBED ON THE DRAWINGS, AND SHALL INFORM HOWARD COUNTY OF ANY DISCREPANCIES OR POTENTIAL PROBLEMS PRIOR TO COMMENCING WORK.
  5. DO NOT PLANT TREES OR SHRUBS WITHIN 5'-0" OF CENTERLINE OF ALL UNDERGROUND UTILITY LINES. DO NOT PLANT TREES OF 2 1/2" CAL OR GREATER WITHIN 10'-0" OF THE CENTERLINE OF ALL OVERHEAD UTILITY LINES. "MISS UTILITY" (1-800-257-7777) MUST BE CONTACTED A MINIMUM OF 72 HOURS PRIOR TO PROCEEDING WITH ANY EXCAVATION FOR PLANT INSTALLATION.
  6. NO PLANT MATERIAL SHALL BE PLANTED DIRECTLY IN FRONT OF ROADWAY SIGNS OR ROADWAY SIGN SIGHT LINES.
  7. ALL PLANTS SHALL BE WATERED IN ACCORDANCE WITH SPECIFICATION. THE CONTRACTOR SHALL PROVIDE SUFFICIENT MANPOWER AND EQUIPMENT TO COMPLETE EACH WATERING WITHIN FIVE DAYS OF THE DAY ON WHICH WATERING WAS DESIGNATED TO BEGIN.
  8. TURF GRASS ESTABLISHMENT: ALL AREAS NOT STABILIZED BY PAVING, PLANTING, OR MULCH BEDS SHALL BE SEEDED AND STABILIZED WITH STRAW OR WOOD CELLULOSE FIBER PER STANDARD E&S VEGETATIVE STABILIZATION NOTES. ALL TURF GRASS ESTABLISHMENT AREAS SHALL RECEIVE 4 INCHES OF FURNISHED TOPSOIL PER SPECS.



**OWNER/DEVELOPER**  
 Howard County  
 c/o Mr. Brandon Love, Project Manager  
 Department of Public Works, Special Projects  
 9250 Bendix Road  
 Columbia, Maryland 21045  
 410-313-5398

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 8/1/13  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 8-1-13

**RK&K**  
 CONSULTING ENGINEERS  
 81 MOSHER STREET  
 BALTIMORE, MARYLAND 21217  
 (800)-787-3755



**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. 200023  
 Expiration Date: 10/21/2015

NO.	DESCRIPTION	BY	DATE

DESIGN: RAF  
 DRAWN: RAF  
 CHECK: MBH

**LANDSCAPING PLAN**  
 SCALE: 1" = 40'  
 DATE: APRIL 26, 2013

**GREEN BUILDING HOWARD COUNTY CENTRAL MARYLAND TRANSIT OPERATIONS FACILITY**  
 (LOT 1 OF THE LATE J. DUINKER SUBDIVISION)  
 TAX MAP 48  
 CAPITAL PROJECT NO: C-0289  
 6TH ELECTION DISTRICT  
 GRID 13  
 PARCEL 75  
 HOWARD COUNTY, MD

DISCIPLINE ABBREVIATION: LS-01  
 SHEET NO.: 30 OF 32

5/21/2013 \$FILE\$



SCHEDULE A - PERIMETER LANDSCAPE EDGE						
PERIMETER	ADJACENT TO PERIMETER PROPERTIES					
	1	2	3	4*	5	6
LANDSCAPE TYPE	A	A	C	C	A	A
LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER	962'±	344'±	163'±	49'±	167'±	761'±
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO	NO
CREDIT FOR WALL, FENCE, BERM OR DRIVE AISLE (YES/NO/LINEAR FEET)	NO	NO	NO	NO	NO	NO
LINEAR FEET REMAINING	962'±	344'±	163'±	49'±	167'±	761'±
NUMBER OF PLANTS REQUIRED:						
SHADE TREES	16	6	4	1	3	13
EVERGREEN TREES	-	-	8	2	-	-
SMALL FLOWERING TREES	-	-	-	-	-	-
SHRUBS	-	-	-	-	-	-
NUMBER OF PLANTS PROVIDED:						
SHADE TREES	2	3	2	1	3	13
EVERGREEN TREES	-	-	-	2	4	4
SMALL FLOWERING TREES	-	-	-	-	-	2
SHRUBS	75	-	-	-	-	20

**SCHEDULE "A" NOTES:**  
 \* PERIMETER 4 PROVIDES DUMPSTER SCREENING

**SUBSTITUTION NOTES:**  
 PERIMETER 1: 7.5 SHADE TREES CONVERTED TO 75 SHRUBS. 6.5 SHADE TREES CONVERTED TO 13 SMALL FLOWERING TREES AND MOVED TO PARKING LOT 1.  
 PERIMETER 2: 2 SHADE TREES MOVED TO PARKING LOT 1. 1 SHADE TREE WAS CONVERTED TO 10 SHRUBS AND MOVED TO PERIMETER 6.  
 PERIMETER 3: 2 SHADE TREES CONVERTED TO 2 SMALL FLOWERING TREE AND 10 SHRUBS AND MOVED TO PERIMETER 6. 8 EVERGREEN TREES SPLIT EVENLY AND MOVED TO PERIMETERS 5 AND 6.

SCHEDULE B - PARKING LOT INTERNAL LANDSCAPING				
PARKING LOT	1	2	3	-
NUMBER OF PARKING SPACES	142	6	15	-
NUMBER OF SHADE TREES/ISLANDS REQUIRED (1/20 SPACES)	7	0	0**	-
NUMBER OF TREES PROVIDED:				
SHADE TREES	9	0	-	-
OTHER TREES (2:1 SUBSTITUTION)	13	-	-	-
NUMBER OF ISLANDS PROVIDED	12	0	0	-

**SUBSTITUTION NOTES:**  
 \* PARKING LOT 1: ADDITIONAL TREES PROVIDED IN PARKING LOT 1 TRANSFERRED FROM PERIMETERS 1 AND 2 LANDSCAPING REQUIREMENTS. SEE SCHEDULE "A".  
 \*\* PARKING LOT 3: NO REQUIREMENTS, PART OF BUS STORAGE

SCHEDULE D - STORMWATER MANAGEMENT AREA LANDSCAPING	
S.W.M. FACILITY PERIMETER	1
LANDSCAPE TYPE	B
LINEAR FEET OF TOTAL PERIMETER	501'
CREDIT FOR EX. VEGETATION (NO OR YES & %)	NO
CREDIT FOR OTHER PROP. LANDSCAPING (NO OR YES & %)	NO
LINEAR FEET OF REMAINING PERIMETER	501'
NUMBER OF TREES REQUIRED: SHADE TREES	0*
EVERGREEN TREES	0*
NUMBER OF PLANTS PROVIDED: SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTION, 50% MAX.)	-

**SCHEDULE "D" NOTES:**  
 \* SITE IS ZONED M-2, THUS SCHEDULE D STORMWATER MANAGEMENT LANDSCAPING REQUIREMENTS DO NOT APPLY. STANDARD SCHEDULE A PERIMETER EDGE LANDSCAPING STILL APPLIES.

**GENERAL PLANTING SPECIFICATIONS**

- PLANTS, RELATED MATERIAL, AND OPERATIONS SHALL MEET THE DETAILED DESCRIPTION AS GIVEN ON THE PLANS AND AS DESCRIBED HEREIN.
- ALL PLANT MATERIAL UNLESS OTHERWISE SPECIFIED, SHALL BE NURSERY GROWN, UNIFORMLY BRANCHED, HAVE A VIGOROUS ROOT SYSTEM, AND SHALL CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK ANSI Z601-2004, BY THE AMERICAN NURSERYMEN & LANDSCAPE ASSOCIATION (ANLA) STANDARDS. PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, FREE FROM DEFECTS, DECAY, DISFIGURING ROOTS, SUNSCOLD INJURIES, ABRASIONS OF THE BARK, PLANT DISEASE, INSECT PEST EGGS, BORERS, AND ALL FORMS OF INSECT INFESTATIONS OR OBJECTIONABLE DISFIGUREMENTS. PLANT MATERIAL THAT IS WEAK OR WHICH HAS BEEN CUT BACK FROM LARGER GRADES TO MEET SPECIFIED REQUIREMENTS WILL BE REJECTED. TREES WITH FORKED LEADERS WILL NOT BE ACCEPTED. ALL PLANTS SHALL BE FRESHLY DUG; NO HEAL-IN PLANTS OR PLANTS FROM COLD STORAGE WILL BE ACCEPTED.
- UNLESS OTHERWISE SPECIFIED, ALL GENERAL CONDITIONS, PLANTING OPERATIONS, DETAILS, AND PLANTING SPECIFICATION SHALL CONFORM TO "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS," (HEREINAFTER "LANDSCAPE GUIDELINES") APPROVED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF METROPOLITAN WASHINGTON AND THE POTOMAC CHAPTER OF THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS, LATEST EDITION, INCLUDING ALL ADDENDA.
- CONTRACTOR SHALL BE REQUIRED TO GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE YEAR AFTER DATE OF ACCEPTANCE IN ACCORDANCE WITH THE APPROPRIATE SECTION OF THE LANDSCAPE GUIDELINES. THE GUARANTEE SHALL ALSO INCLUDE DAMAGE DUE TO HERBIVORY. CONTRACTOR'S ATTENTION IS DIRECTED TO THE MAINTENANCE REQUIREMENTS FOUND WITHIN THE LANDSCAPE GUIDELINES, INCLUDING WATERING AND REPLACEMENT OF SPECIFIED PLANT MATERIAL.
- CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING UTILITY COMPANIES, UTILITY CONTRACTORS, AND "MISS UTILITY" A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY WORK. CONTRACTOR MAY MAKE MINOR ADJUSTMENTS IN SPACING AND LOCATION OF PLANT MATERIAL TO AVOID CONFLICTS WITH UTILITIES. DAMAGE TO EXISTING STRUCTURE AND UTILITIES SHALL BE REPAIR AT THE EXPENSE OF THE CONTRACTOR.
- PROTECTION OF EXISTING VEGETATION TO REMAIN, WHEN SHOWN ON PLANS, SHALL BE ACCOMPLISHED BY THE TEMPORARY INSTALLATION OF A 4-FOOT-HIGH SNOW FENCE AT THE DRIP LINE UNLESS OTHERWISE SPECIFIED.
- CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL MATERIAL IN THE PROPER GROWING SEASON, SPRING PLANTING SHALL OCCUR BETWEEN MARCH 1 AND JUNE 1, FALL PLANTING SHALL OCCUR BETWEEN SEPTEMBER 15 AND NOVEMBER 15.
- PLANTING QUANTITIES ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. IF DISCREPANCIES EXIST BETWEEN QUANTITIES SHOWN ON PLAN AND THOSE SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE PLAN TAKE PRECEDENCE.
- ALL SHRUBS AND GROUND COVER AREAS SHALL BE PLANTED IN CONTINUOUS PREPARED, MULCHED PLANTING BEDS. ALL STAND-ALONE TREES AND SHRUBS SHALL BE MULCHED AS SHOWN ON THE PLANTING DETAILS.
- POSITIVE DRAINAGE SHALL BE MAINTAINED IN PLANTING BEDS (MINIMUM 2 PERCENT SLOPE).
- PLANTING MIX BACKFILL SHALL BE AS FOLLOWS: DECIDUOUS PLANTS - TWO PARTS TOPSOIL, ONE PART WELL-ROTTED COW OR HORSE MANURE, ADD 3 LBS OF STANDARD FERTILIZER PER CUBIC YARD OF PLANTING MIX. EVERGREEN PLANTS - TWO PARTS TOPSOIL, ONE PART HUMUS OR OTHER APPROVED ORGANIC MATERIAL, ADD 3 LBS OF EVERGREEN (ACIDIC) FERTILIZER PER CUBIC YARD OF PLANTING MIX. TOPSOIL SHALL CONFORM TO THE LANDSCAPE GUIDELINES.
- WEED CONTROL: INCORPORATE A PRE-EMERGENT HERBICIDE INTO THE PLANTING BED FOLLOWING RECOMMENDED RATE ON THE LABEL CAUTION; BE SURE TO CAREFULLY CHECK THE CHEMICAL USED TO ASSURE ITS ADAPTABILITY TO THE SPECIFIC GROUND COVER TO BE TREATED.
- MULCH: UNLESS OTHERWISE NOTED ON THE PLANS, ALL MULCH SHALL BE EITHER SHREDDED, COMPOSTED HARDWOOD MULCH OR PINE BARK CHIPS AND SHALL BE SPREAD 3" THICK. MULCH SHALL BE FREE TO DELETERIOUS MATERIALS. DO NOT PLACE MULCH WITHIN 2" OF TRUNKS OR STEMS.
- ALL AREAS WITHIN CONTRACT LIMITS DISTURBED DURING OR PRIOR TO CONSTRUCTION NOT DESIGNATED TO RECEIVE PLANTS, MULCH OR SOIL SHALL BE FINE GRADED AND SEEDED AND STABILIZED AS SPECIFIED ON THE EROSION AND SEDIMENT CONTROL VEGETATIVE STABILIZATION NOTES.
- THIS PLAN IS INTENDED FOR LANDSCAPING USE ONLY. SEE OTHER PLANS SHEETS FOR MORE INFORMATION ON GRADING, SEDIMENT CONTROL, LAYOUT, ETC.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.

**HOWARD COUNTY NOTES**

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL, DATED MARCH 2, 1998.
- THE CENTRAL MARYLAND TRANSIT AND OPERATIONS FACILITY IS EXEMPT FROM THE FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING.
- AT THE TIME OF INSTALLATION, ALL SHRUBS AND OTHER PLANTINGS SHALL BE OF THE PROPER HEIGHT AND/OR SPREAD REQUIREMENTS IN ACCORDANCE WITH THIS PLAN AND THE HOWARD COUNTY LANDSCAPE MANUAL.
- NO SUBSTITUTIONS OR RELOCATIONS OF THE PLANTS MAY BE MADE WITHOUT PRIOR APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING OF HOWARD COUNTY. ANY DEVIATION FROM THIS LANDSCAPE PLAN MAY RESULT IN A REQUIREMENT FOR SUBMITTAL OF AN OFFICIAL "REDLINE REVISION" TO THE SITE DEVELOPMENT PLAN(S) AND/OR DENIAL IN THE RELEASE OF LANDSCAPE SURETY.
- THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING ANY PLANT MATERIALS, BERMS, FENCES, AND WALLS, AS APPLICABLE TO THIS PROJECT. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS.

**LANDSCAPE PLANT SCHEDULE**

QTY.	KEY	BOTANICAL / COMMON NAME	SIZE	ROOT	COMMENTS
8	AT	ACER TARARICA / TATARIAN MAPLE	1 1/2" - 2" CAL	B&B	NONE
4	CC	COTINUS COGGYGRISMOKETREE	1 1/2" - 2" CAL	B&B	NONE
9	GT	GLEDITSIA TRIACANTHOS INERMIS 'SHADEMASTER' / SHADEMASTER THORNLESS HONEY LOCUST	2 1/2" - 3" CAL	B&B	NONE
17	JH	JUNIPERUS HORIZONTALIS 'PLUMOSA COMPACTA' / COMPACT ANDORRA JUNIPER	18" - 24" SPR	CONT.	NONE
22	QR	QUERCUS RUBRA / RED OAK	2 1/2" - 3" CAL	B&B	NONE
10	PS	PINUS STROBUS / WHITE PINE	8-10' HT	B&B	NONE
2	SJ	SOPHORA JAPONICA 'PRINCETON UPRIGHT' / PRINCETON UPRIGHT JAPANESE PAGODA TREE	2 1/2" - 3" CAL	B&B	NONE
3	SR	SYRINGA RETICULATA 'IVORY SILK' / IVORY SILK JAPANESE TREE LILAC	1 1/2" - 2" CAL	B&B	NONE
3	VR	VIBURNUM RHYTIDOPHYLLUM / LEATHERLEAF VIBURNUM	30" - 36" HT	B&B	NONE
75	TB	TAXUS BACCATA "REPANDENS"	18" - 24" HT	CONT	NONE

**SUBMERGED GRAVEL WETLAND PLANT SCHEDULE**

QTY.	KEY	BOTANICAL / COMMON NAME	SIZE	WETLAND INDICATOR STATUS	SPACING
14	CA	CORNUS AMOMUM / SILKY DOGWOOD	15-18"	FACW	SEE LS-01
14	IT	ITEA VIRGINICA / VIRGINIA SWEETSPIRE	15-18"	OBL	SEE LS-01
18	LB	LINDERA BENZOIN / SPICEBUSH	15-18"	FAC	SEE LS-01
14	ST	SPIRAEA TOMENTOSA / STEEPLEBUSH	15-18"	FACW	SEE LS-01
668	JE	JUNCUS EFFUSUS / SOFT RUSH	PLUG	FACW	18"
840	SP	SCHOENOPLECTUS PUNGENS V. PUNGENS / COMMON THREE-SQUARE	PLUG	OBL	18"
555	IV	IRIS VERSICOLOR / BLUE FLAG	PLUG	OBL	18"
1080	SC	SAURURUS CERNUUS / LIZARD'S TAIL	PLUG	OBL	18"
882	PC	PONTEDERIA CORDATA / PICKERELWEED	PLUG	OBL	18"

Forest Conservation Worksheet 2.2							
<b>Net Tract Area</b>							
A.	Total Tract Area (LOD)	A =	6.45				
B.	Deductions Non-tidal wetlands, floodplains	B =	0.00				
C.	Net Tract Area (LOD)	C =	6.45				
<b>Land Use Category</b>							
Input the number "1" under the appropriate land use zoning, and limit to only one entry							
	ARA	MDR	IDA	HDR	MPD	CIA	
	0	0	1	0	0	0	
D.	Afforestation Threshold ( Net Tract Area x 15% )					D =	0.97
E.	Conservation Threshold ( Net Tract Area x 20% )					E =	1.29
<b>Existing Forest Cover</b>							
F.	Existing Forest Cover within the Net Tract Area					F =	0.27
G.	Area of Forest Above Conservation Threshold					G =	0.00
<b>Break Even Point</b>							
H.	Break Even Point					H =	0.27
I.	Forest Clearing Permitted Without Mitigation					I =	0.00
<b>Proposed Forest Clearing</b>							
J.	Total Area of Forest to be Cleared					J =	0.27
K.	Total Area of Forest to be Retained					K =	0.00
<b>Planting Requirements</b>							
L.	Reforestation for Clearing Above the Conservation Threshold					L =	0.00
M.	Reforestation for Clearing Below the Conservation Threshold					M =	0.54
N.	Credit for Retention above the Conservation Threshold					N =	0.00
P.	Total Reforestation Required					P =	0.54
Q.	Total Afforestation Required					Q =	0.70
R.	Total Planting Requirement					R =	1.24

**NOTE**  
 THE FOREST CONSERVATION AGREEMENT HAS BEEN FULFILLED BY PAYMENT OF A FEE-IN-LIEU FOR THE 1.24 ACRES OF FOREST OBLIGATION IN THE AMOUNT OF \$40,510.80.

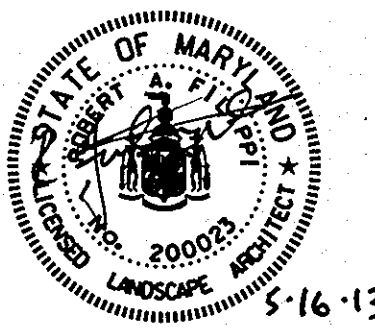
**DEVELOPER'S / BUILDER'S CERTIFICATE:**

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 HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR LATER GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

*Brandon N. Love* 7/5/2013  
 SIGNATURE DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*Karl Sheeloch* 8/01/13  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
*Debra J. Paulino* 8-1-13  
 DIRECTOR DATE

**RK&K**  
 CONSULTING ENGINEERS  
 81 MOSHER STREET  
 BALTIMORE, MARYLAND 21217  
 (800)-787-3755



**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  
 200023 10/21/2015  
 License No. Expiration Date

NO.	DESCRIPTION	BY	DATE
<b>REVISIONS</b>			
		JRN	
		JRN	
		MBH	

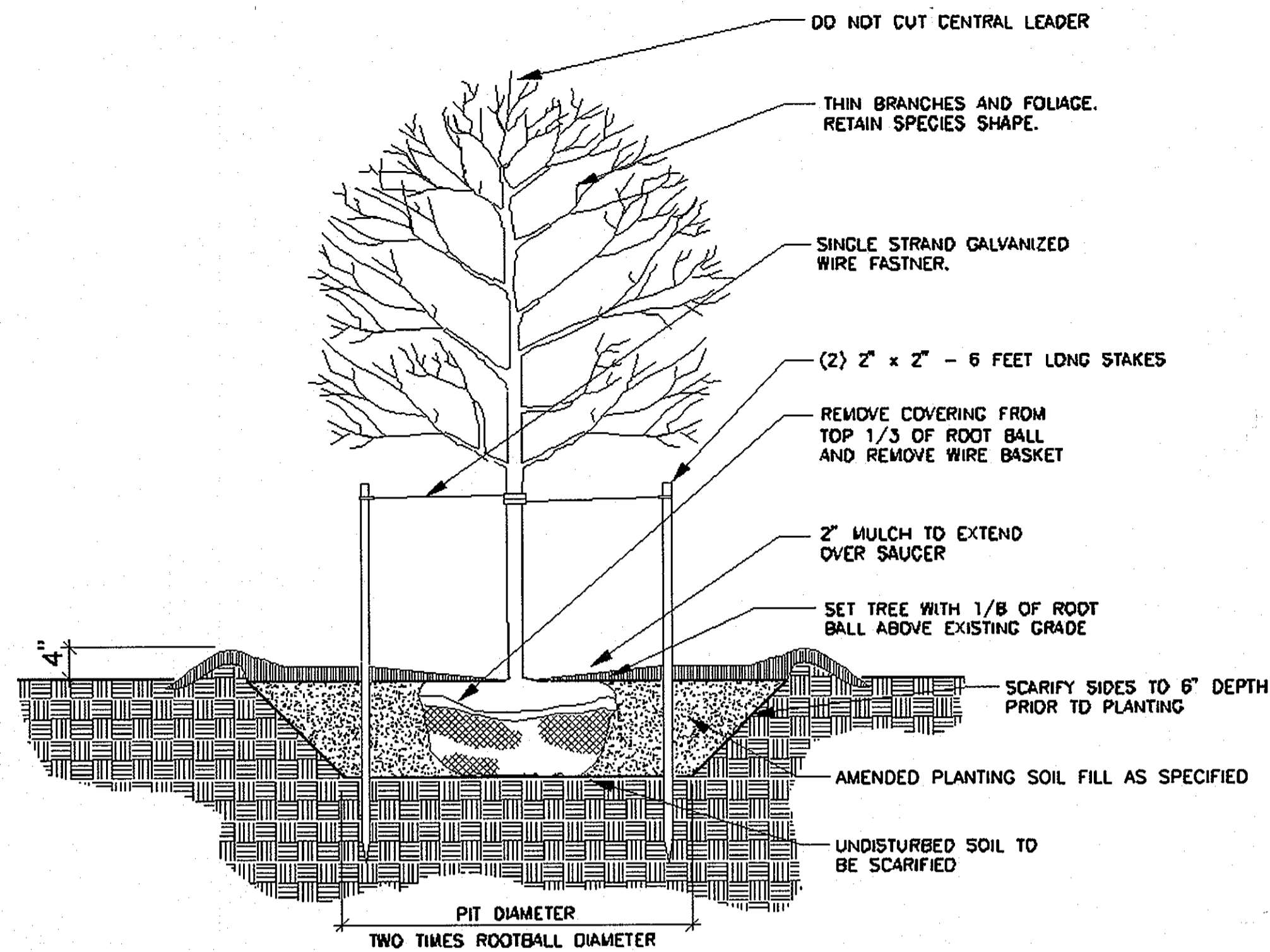
**LANDSCAPING SCHEDULE & NOTES**  
 SCALE: AS SHOWN  
 DATE: APRIL 26, 2013

**GREEN BUILDING HOWARD COUNTY CENTRAL MARYLAND TRANSIT OPERATIONS FACILITY**  
 (LOT 1 OF THE LATE J. DUINKER SUBDIVISION)  
 TAX MAP 48 GRID 13  
 CAPITAL PROJECT NO: C-0289 PARCEL 75  
 6TH ELECTION DISTRICT HOWARD COUNTY, MD

**OWNER/DEVELOPER**  
 Howard County  
 % Mr. Brandon Love, Project Manager  
 Department of Public Works, Special Projects  
 9250 Bendix Road  
 Columbia, Maryland 21045  
 410-313-5398

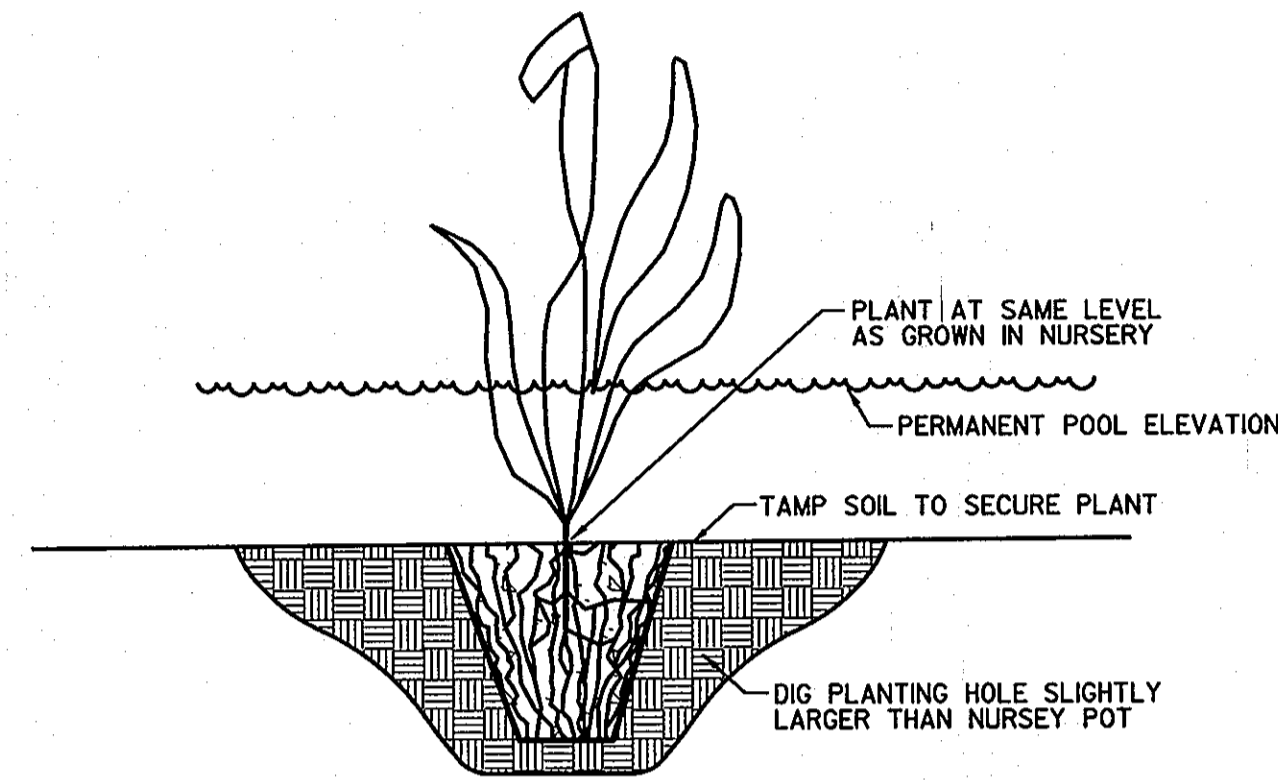
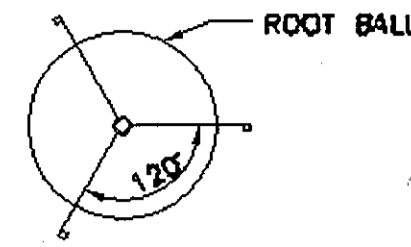
DISCIPLINE ABBREVIATION LS-02  
 SHEET NO. 31 OF 32



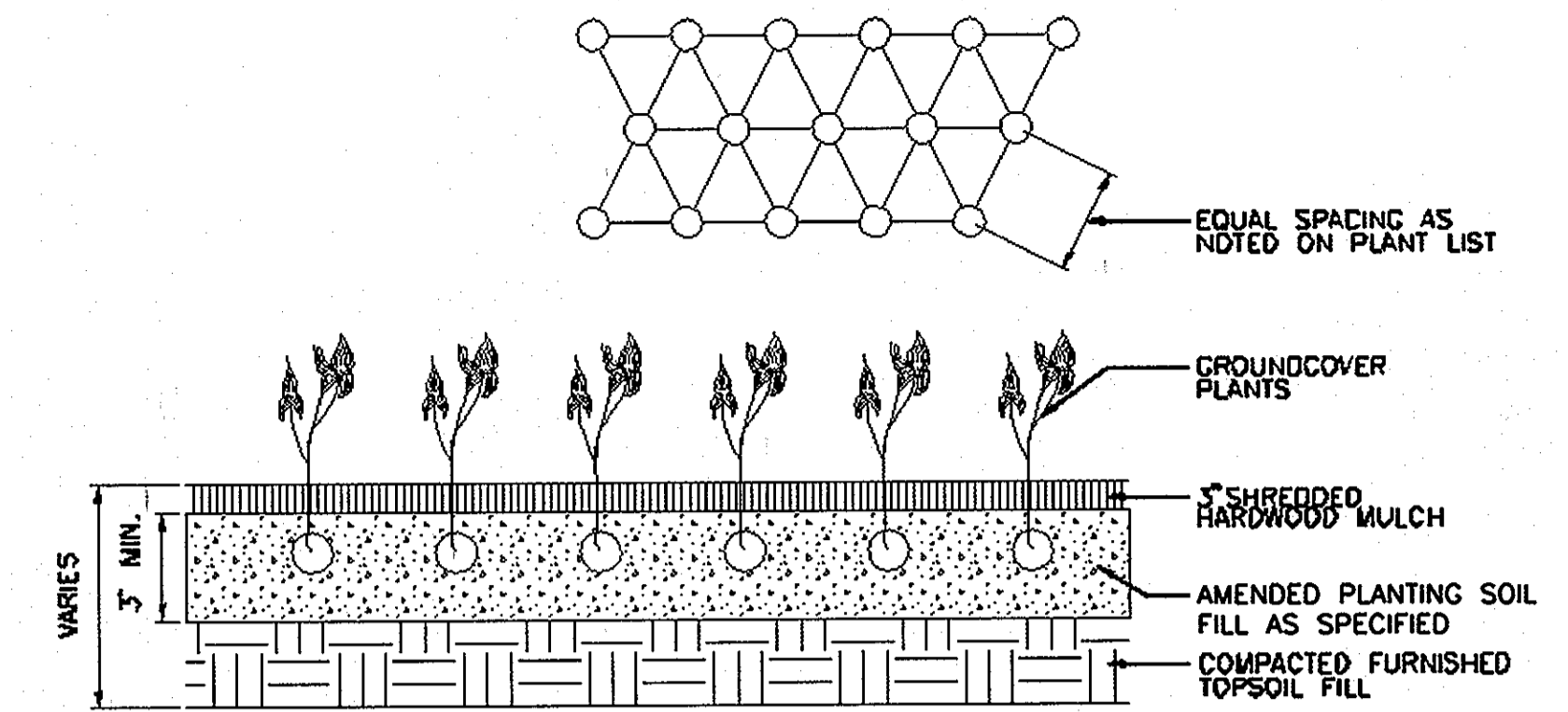


TYPICAL TREE PLANTING IN LAWN AREAS  
NOT TO SCALE

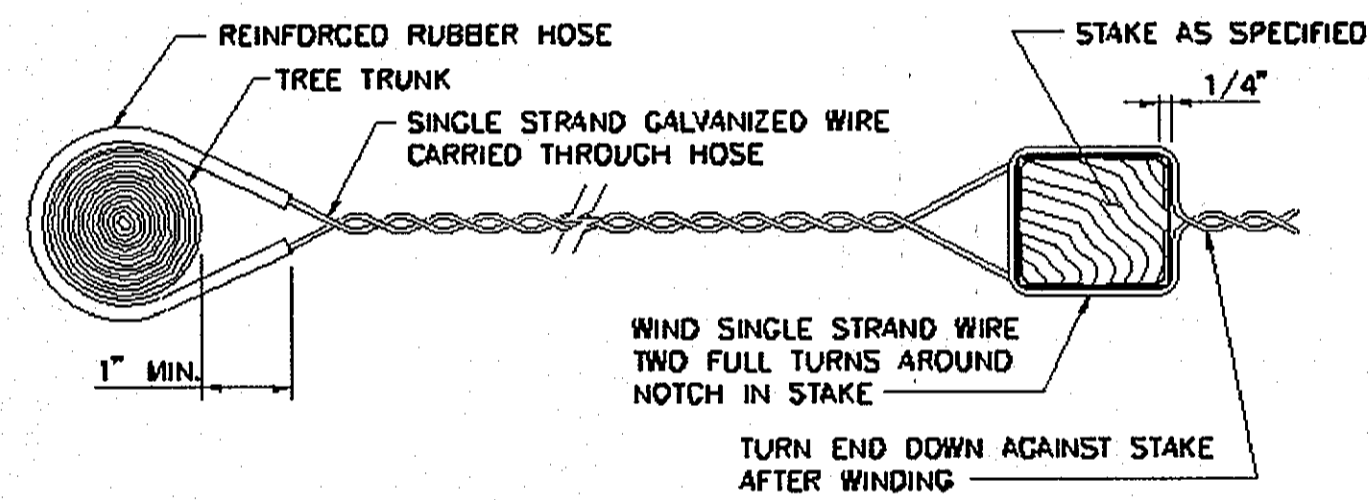
PLAN VIEW OF STAKING FOR TREES WHEN THREE STAKES ARE SPECIFIED.



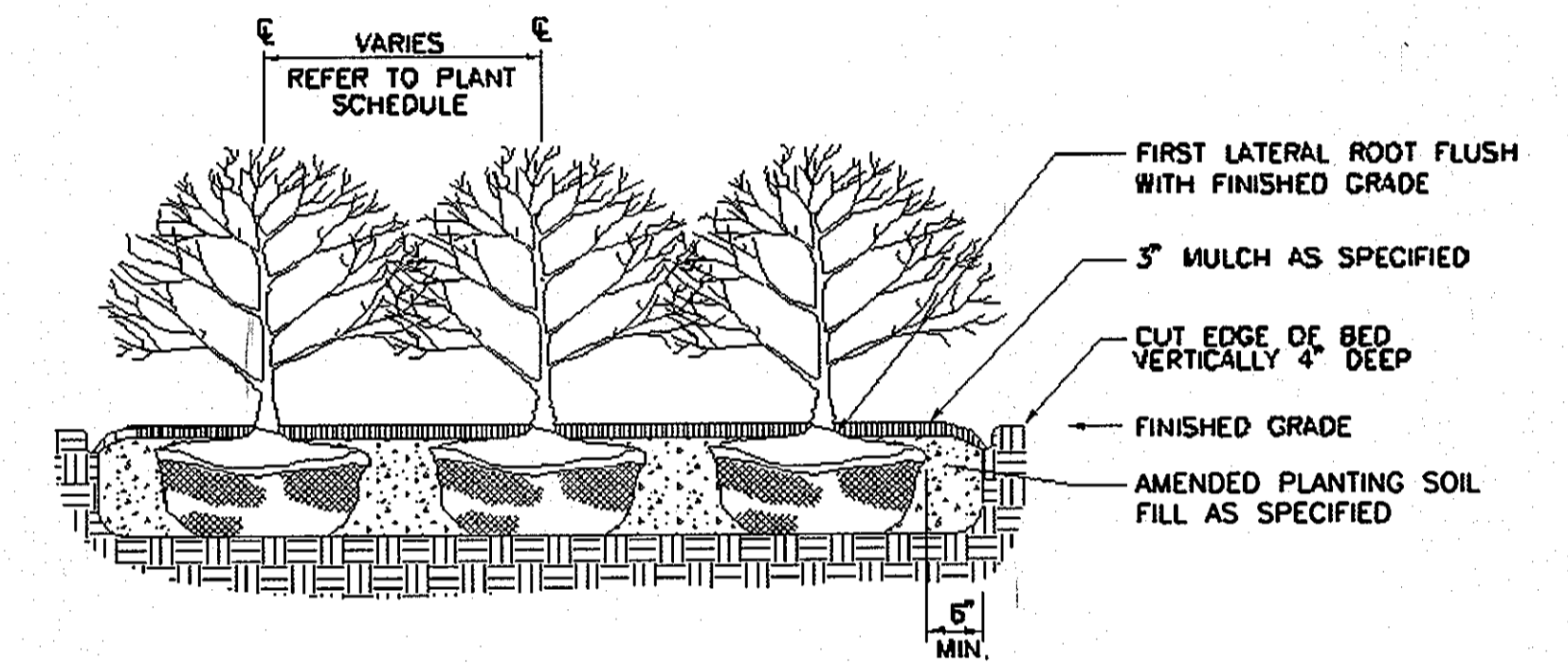
EMERGENT HERBACEOUS PLANTING DETAIL  
NOT TO SCALE



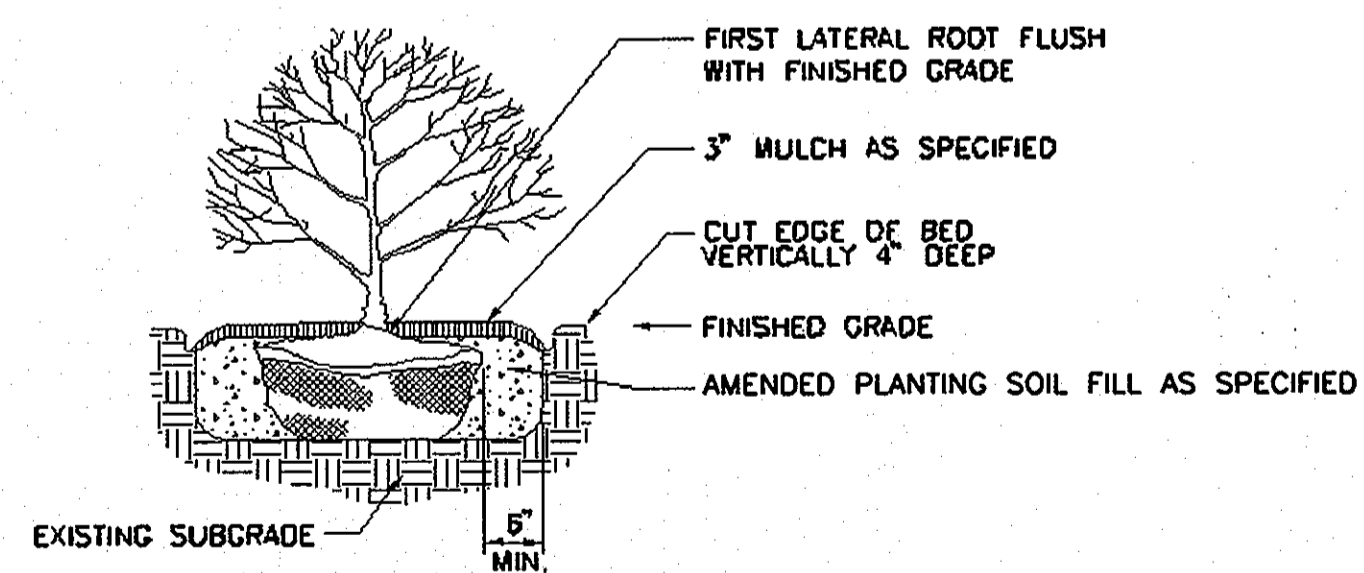
TYPICAL GROUNDCOVER PLANTING DETAIL  
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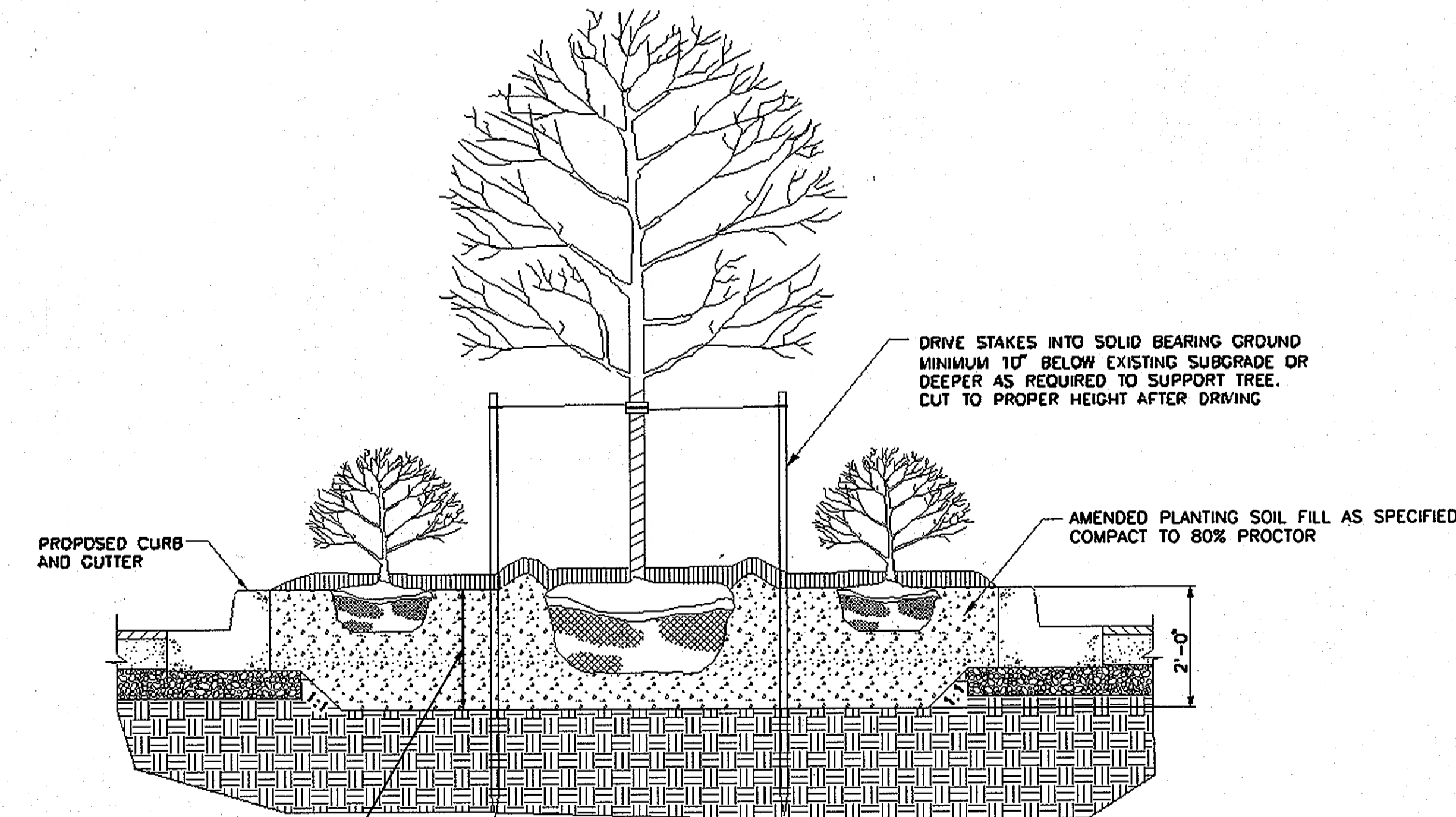
SINGLE STRAND GALVANIZED WIRE FASTENER  
NOT TO SCALE



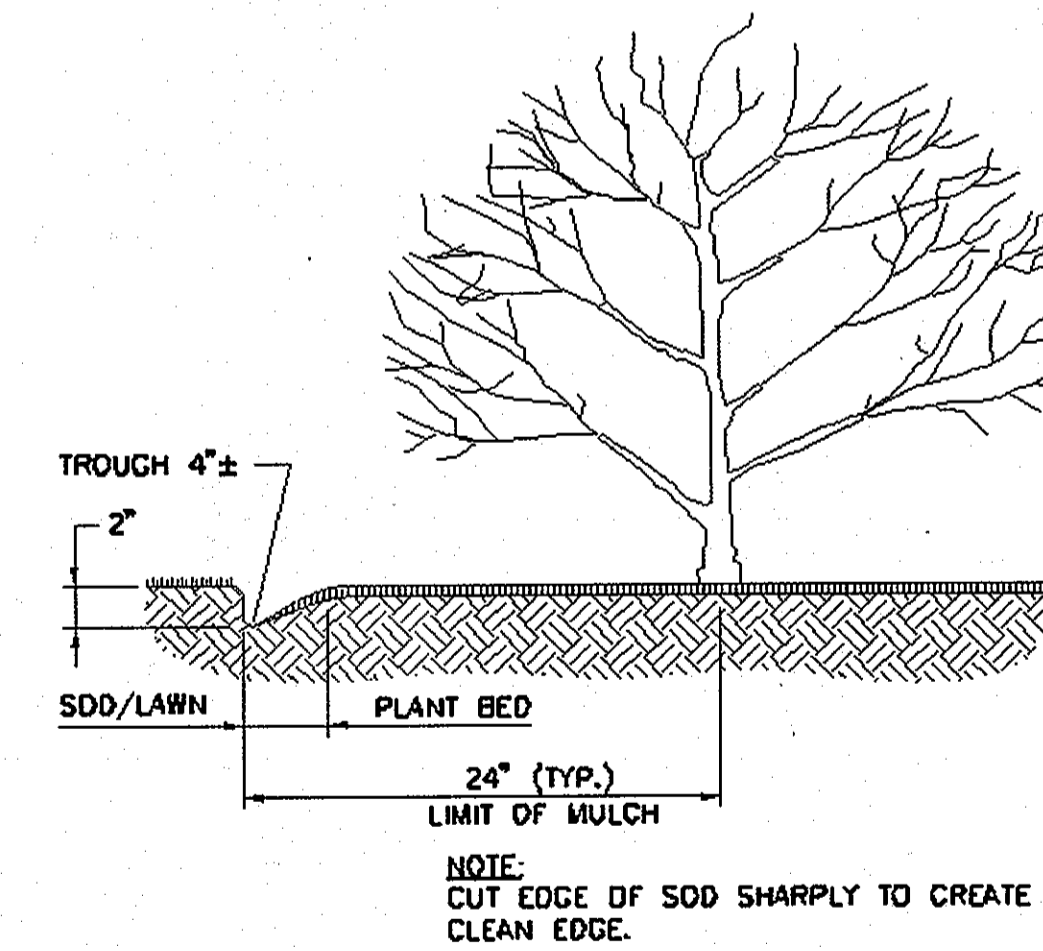
SHRUB MASS PLANTING DETAIL  
NOT TO SCALE



SINGLE SHRUB PLANTING DETAIL  
NOT TO SCALE



SOIL PREPARATION IN ISLAND  
NOT TO SCALE



PLANT BED EDGING  
NOT TO SCALE

**OWNER/DEVELOPER**

Howard County  
% Mr. Brandon Love, Project Manager  
Department of Public Works, Special Projects  
9250 Bendix Road  
Columbia, Maryland 21045  
410-313-5398

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

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



CONSULTING ENGINEERS  
81 MOSHER STREET  
BALTIMORE, MARYLAND 21217  
(800)-787-3755



**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

200023 License No. 10/21/2015 Expiration Date

NO.	DESCRIPTION	BY	DATE

APPR	RAF
CHECK	RAF
DRAWN	MBH
DESIGN	

**LANDSCAPING DETAILS**

SCALE: AS SHOWN

DATE: APRIL 26, 2013

**GREEN BUILDING  
HOWARD COUNTY  
CENTRAL MARYLAND  
TRANSIT OPERATIONS FACILITY**  
(LOT 1 OF THE LATE J. DUINKER SUBDIVISION)  
TAX MAP 48 GRID 13  
CAPITAL PROJECT NO: C-0289 PARCEL 75  
6TH ELECTION DISTRICT HOWARD COUNTY, MD

DISCIPLINE ABBREVIATION  
LS-03

SHEET NO.  
32 OF 32