

AASHTO DESIGN CRITERIA

THIS PROJECT WAS DESIGNED IN ACCORDANCE WITH THE 2004 PUBLICATION OF AASHTO'S "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS."

RIGHT OF WAY

RIGHT OF WAY AND EASEMENT LINES SHOWN ON THESE PLANS ARE FOR ASSISTANCE IN INTERPRETING THE PLANS. THEY ARE NOT OFFICIAL. FOR OFFICIAL RIGHT OF WAY AND EASEMENT INFORMATION, SEE APPROPRIATE RIGHT OF WAY PLATS.

UTILITIES

THE LOCATION OF UTILITIES SHOWN ON THE PLANS ARE FOR INFORMATION AND GUIDANCE ONLY. NO GUARANTEE IS MADE OF THE ACCURACY OF SAID LOCATIONS.

GENERAL NOTES

- CONSTRUCTION WITHIN HOWARD COUNTY RIGHT-OF-WAY: ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST HOWARD COUNTY STANDARDS, SPECIFICATIONS, AND DETAILS UNLESS OTHERWISE NOTED. WHEN MSHA STANDARDS ARE SPECIFIED ON THE PLANS, THE WORK SHALL BE IN ACCORDANCE WITH THE LATEST MSHA STANDARDS AND SPECIFICATIONS.
- CONSTRUCTION WITHIN MSHA RIGHT-OF-WAY: ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CURRENT SHA STANDARDS AND SPECIFICATIONS IN MSHA RIGHT-OF-WAY. SEE LIST OF APPLICABLE STANDARDS ON SHEET 2.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- THE SUBJECT PROPERTY IS ZONED RC-DEO PER THE JULY 28, 2006 COMPREHENSIVE ZONING PLAN.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED ON THE HOWARD COUNTY STATE PLANE COORDINATE SYSTEM: HORIZONTAL NAD83/91 VERTICAL NAVD'88.
- HOWARD COUNTY MONUMENTS USED FOR THIS PROJECT:
366C: N 563284.1261, E 1335985.7197
30HA: N 566030.6259, E 1337989.5444
- THE FLOODPLAIN STUDY FOR THIS PROJECT WAS PREPARED BY WHITMAN, REQUARDT AND ASSOCIATES, LLP AND WAS APPROVED ON NOVEMBER 5, 2009 BY PLANNING AND ZONING/DEVELOPMENT ENGINEERING DIVISION.
- THE WETLAND DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY WHITMAN, REQUARDT AND ASSOCIATES, LLP AND RECEIVED AND CONCURRED WITH IN THE FIELD BY MDE AND USAGE ON AUGUST 17, 2009.
- THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY WHITMAN, REQUARDT AND ASSOCIATES, LLP AND WAS APPROVED ON MARCH 1, 2010 BY THE MARYLAND STATE HIGHWAY ADMINISTRATION.
- TOPOGRAPHICAL FIELD SURVEYS OF THE SITE WERE PERFORMED BY WHITMAN, REQUARDT AND ASSOCIATES, LLP IN MARCH, 2006 AND ADDITIONAL UTILITY INFORMATION WAS PROVIDED BY HOWARD COUNTY RECORDS AND MAY NOT REFLECT CURRENT CONDITIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY CURRENT TOPOGRAPHIC AND UTILITY INFORMATION.

LIMIT OF WORK

- MD 175 STA. 1026+00.00
- MD 175 STA. 1056+00.00
- OAKLAND MILLS ROAD STA. 708+72.50
- OAKLAND MILLS ROAD STA. 1095+56.00
- OLD MONTGOMERY ROAD STA. 600+00.00



BLANDAIR REGIONAL PARK PHASE J - SOUTH

VICINITY MAP
SCALE - 1"=1000'

BLANDAIR REGIONAL PARK PHASE J - SOUTH

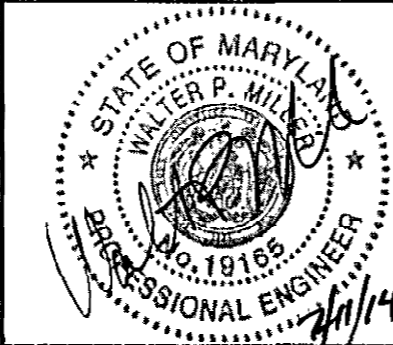
CAPITAL PROJECT # J-4237

S.H.A. TRACKING NO. 09-AP-HO-013-XX

HOWARD COUNTY, MARYLAND

"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. 19165, EXPIRATION DATE: 06/11/2015."

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231



DES:	VAK				
DRN:	VAK				
CHK:	BRT				
DATE:	7/1/2014	BY	NO.	REVISION	DATE

TITLE SHEET

BLANDAIR REGIONAL PARK
PHASE J - SOUTH
CAPITAL PROJECT # J-4237

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

[Signature] 7/1/14
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 7/1/14
CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 7/1/14
CHIEF, BUREAU OF HIGHWAYS DATE

[Signature] 7/1/14
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

DWG.	TI - 1
SCALE	AS SHOWN
SHEET	1 OF 138

THE FOLLOWING STANDARDS (CONSTRUCTION AND TEMPORARY TRAFFIC CONTROL) ARE REQUIRED FOR THIS PROJECT:

- A. MD-104.00-A - TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION (TTCTA INDEX)
- B. MD-104.00-B - TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION (TTCTA INDEX)
- C. MD-104.00-C - TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION (TTCTA INDEX)
- D. MD-104.00-D - TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION (TTCTA INDEX)
- E. MD-104.00-E - TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION (TTCTA INDEX)
- F. MD-104.00-F - TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION (TTCTA INDEX)
- G. MD-104.00-G - TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION (TTCTA INDEX)
- H. MD-104.00-H - TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION (TTCTA INDEX)
- I. MD-104.00-I - TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION (TTCTA INDEX)
- J. MD-104.00-J - TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION (TTCTA INDEX)
- K. MD-104.00-K - TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION (TTCTA INDEX)
- L. MD-104.00-01 - GENERAL NOTES (INTRODUCTION)
- M. MD-104.00-02 - GENERAL NOTES (INTRODUCTION AND DEFINITIONS)
- N. MD-104.00-03 - GENERAL NOTES (DEFINITIONS)
- O. MD-104.00-04 - GENERAL NOTES (DEFINITIONS)
- P. MD-104.00-05 - GENERAL NOTES (ABBREVIATIONS)
- Q. MD-104.00-06 - GENERAL NOTES (ABBREVIATIONS)
- R. MD-104.00-07 - GENERAL NOTES (SIGNS)
- S. MD-104.00-08 - GENERAL NOTES (SIGNS & PORTABLE VARIABLE MESSAGE SIGNS-PVMS)
- T. MD-104.00-09 - GENERAL NOTES (SIGNS & PORTABLE VARIABLE MESSAGE SIGNS-PVMS, ARROW PANELS & CHANNELIZING DEVICES)
- U. MD-104.00-10 - GENERAL NOTES (CHANNELIZING DEVICES & PAVEMENT MARKINGS)
- V. MD-104.00-11 - GENERAL NOTES (PAVEMENT MARKINGS & FLAGGING)
- W. MD-104.00-12 - GENERAL NOTES (FLAGGING & VEHICLES)
- X. MD-104.00-13 - GENERAL NOTES (STRATEGIES FOR SAFE ENTRY/EXIT OF WORK ZONE VEHICLES TOPFROM THE WORK AREA)
- Y. MD-104.00-14 - GENERAL NOTES (WORK HOUR RESTRICTIONS, TEMPORARY LIGHTING & PAVEMENT DROP-OFF)
- Z. MD-104.00-16 - GENERAL NOTES (SIGHT DISTANCE & WORK ZONE SPEED LIMITS ALONG 65 AND 60 MPH ROADWAYS)
- AA. MD-104.00-17 - GENERAL NOTES (WORK ZONE SPEED LIMITS ALONG 65 AND 60 MPH ROADWAYS & HIGHWAYRAIL GRADE CROSSINGS)
- BB. MD-104.00-18 - GENERAL NOTES (TRAFFIC CONTROL PLANS)
- CC. MD-104.01-01 - ROADWAY TYPES
- DD. MD-104.01-02 - SIGN SPACING CHART
- EE. MD-104.01-03 - PROJECT LIMITS SIGNS
- FF. MD-104.01-04 - GENERAL NOTES HAT AND SHOVEL SIGN - GREATER THAN 40 MPH
- GG. MD-104.01-05 - GENERAL NOTES HAT AND SHOVEL SIGN - LESS THAN OR EQUAL TO 40 MPH
- HH. MD-104.01-06 - REGULATORY SPEED SIGNS
- II. MD-104.01-07 - REGULATORY SPEED SIGNS
- JJ. MD-104.01-08 - TEMPORARY TRAFFIC CONTROL DEVICE SELECTION CHART
- KK. MD-104.01-09 - TEMPORARY TRAFFIC CONTROL DEVICE SELECTION CHART
- LL. MD-104.01-10 - TEMPORARY TRAFFIC CONTROL DEVICE SELECTION CHART
- MM. MD-104.01-11 - TEMPORARY TRAFFIC CONTROL DEVICE SELECTION CHART
- NN. MD-104.01-12 - REGULATORY, WARNING AND SPECIAL SIGNS
- OO. MD-104.01-13 - REGULATORY, WARNING AND SPECIAL SIGNS
- PP. MD-104.01-14 - REGULATORY, WARNING AND SPECIAL SIGNS
- QQ. MD-104.01-15 - REGULATORY, WARNING AND SPECIAL SIGNS
- RR. MD-104.01-16 - REGULATORY, WARNING AND SPECIAL SIGNS
- SS. MD-104.01-17 A - ROADSIDE SIGN/SIGN SUPPORT PLACEMENT
- TT. MD-104.01-17 B - SIGN SUPPORT FOUNDATIONS AND BREAKAWAY FEATURES
- UU. MD-104.01-17 C - BREAKAWAY TUBULAR STEEL SIGN SUPPORTS
- VV. MD-104.01-17 D - ROADSIDE SIGN SUPPORTS SKID MOUNTED FEATURES (WOOD & SIGN)
- WW. MD-104.01-18 A - VEHICLE CONSPICUITY AND LIGHTING
- XX. MD-104.01-18 B - TEMPORARY TRAFFIC CONTROL VEHICLE LIGHTING SELECTION CHART
- YY. MD-104.01-19 A - WORK ZONE VEHICLE PAINT TRUCK
- ZZ. MD-104.01-19 B - WORK ZONE VEHICLE PAINT TRAIN VEHICLE - VANPICKUP
- AAA. MD-104.01-19 C - PROTECTION VEHICLE WITH REAR TRUCK/TRAILER TRUCK - TRUCK MOUNTED ATTENUATOR
- BBB. MD-104.01-22 - PORTABLE VARIABLE MESSAGE SIGN PLACEMENT ALL ROADWAYS/ALL SPEEDS
- CCC. MD-104.01-23A - ADVANCE CHANNELIZATION AND PROTECTION FOR BARRIER FLARE SECTION
- DDD. MD-104.01-23B - ADVANCE CHANNELIZATION AND PROTECTION FOR BARRIER FLARE SECTION
- EEE. MD-104.01-25 - BARRIER DELINEATION BARRIER 4 FEET OR CLOSER TO EDGE LINE
- FFF. MD-104.01-26 - BARRIER DELINEATION BARRIER BETWEEN 4 AND 15 FEET FROM EDGE LINE
- GGG. MD-104.01-27 - PLACEMENT OF PAVEMENT MARKING ARROWS LANE TRANSITION
- HHH. MD-104.01-28 - STAGED ROADWAY CONSTRUCTION
- III. MD-104.01-29 - SIGHT TRIANGLE, STOPPING SIGHT DISTANCE & RAMP JUNCTION SIGHT DISTANCE
- JJJ. MD-104.01-30 A - CHANNELIZATION DEVICE USAGE EQUAL/LESS THAN 40 MPH OVER 12 HOURS NIGHTTIME USE
- KKK. MD-104.01-30 B - CHANNELIZATION DEVICE SPACING EQUAL/LESS THAN 40 MPH
- LLL. MD-104.01-30 C - CHANNELIZATION DEVICE SPACING GREATER THAN 40 MPH
- MMM. MD-104.01-30 D - CHANNELIZATION DEVICE USAGE CRITERIA TABLE
- NNN. MD-104.01-31 - WARRANTS FOR YIELD SIGNS ON ENTRANCE RAMP
- OOO. MD-104.01-32 - BARRIER-MOUNTED WARNING SIGN OPTIONS FOR RESTRICTED LATERAL CLEARANCE CONDITIONS
- PPP. MD-104.01-46 - PRECAST TEMPORARY 32 INCH F SHAPE CONCRETE TRAFFIC BARRIER TERMINAL END
- QQQ. MD-104.01-47 - PRECAST TEMPORARY 32 INCH F SHAPE CONCRETE TRAFFIC BARRIER TERMINAL END RIGHT SIDE APPROACH
- RRR. MD-104.01-48 - PRECAST TEMPORARY 32 INCH F SHAPE CONCRETE TRAFFIC BARRIER TERMINAL END RIGHT SIDE APPROACH DETAILS
- SSS. MD-104.01-49 - PRECAST TEMPORARY 32 INCH F SHAPE CONCRETE TRAFFIC BARRIER TERMINAL END RIGHT SIDE APPROACH DETAILS
- TTT. MD-104.01-50 - PRECAST TEMPORARY 32 INCH F SHAPE CONCRETE TRAFFIC BARRIER TERMINAL END LEFT SIDE APPROACH
- UUU. MD-104.01-51 - PRECAST TEMPORARY 32 INCH F SHAPE CONCRETE TRAFFIC BARRIER TERMINAL END LEFT SIDE APPROACH DETAILS
- VVV. MD-104.01-52 - PRECAST TEMPORARY 32 INCH F SHAPE CONCRETE TRAFFIC BARRIER TERMINAL END LEFT SIDE APPROACH
- WWW. MD-104.01-53 - PRECAST TEMPORARY 32 INCH F SHAPE CONCRETE TRAFFIC BARRIER (PIN AND LOOP JOINT)
- XXX. MD-104.01-54 - PRECAST TEMPORARY 32 INCH F SHAPE CONCRETE TRAFFIC BARRIER (PIN AND LOOP JOINT)
- YYY. MD-104.01-55 - PRECAST TEMPORARY 32 INCH F SHAPE CONCRETE TRAFFIC BARRIER TRANSITION RIGHT SIDE APPROACH
- ZZZ. MD-104.01-56 - APPROACH PLATE FOR PRECAST TEMPORARY 32 INCH F SHAPE CONCRETE TRAFFIC BARRIER FOR TRANSITION RIGHT SIDE

- AAAA. MD-104.01-57 PRECAST TEMPORARY 32 INCH F SHAPE CONCRETE TRAFFIC BARRIER TRANSITION LEFT SIDE APPROACH
- BBBB. MD-104.01-58 APPROACH PLATE FOR PRECAST TEMPORARY 32 INCH F SHAPE CONCRETE TRAFFIC BARRIER FOR TRANSITION LEFT SIDE
- CCOC. MD-104.01-61 TRAFFIC BARRIER W BEAM ANCHORAGE AT PRECAST TEMPORARY 32 INCH F SHAPE CONCRETE TRAFFIC BARRIER TERMINAL END
- DDDD. MD-104.01-62 TRAFFIC BARRIER W BEAM MEDIUM BARRIER ANCHORAGE AT PRECAST 32 INCH F SHAPE TEMPORARY CONCRETE TRAFFIC BARRIER TERMINAL END
- EEEE. MD-104.01-70 CRASH CUSHION SAND FILLED PLASTIC BARRELS (TEMPORARY OR PERMANENT)
- FFFF. MD-104.01-71 CRASH CUSHION SAND FILLED PLASTIC BARRELS (TEMPORARY OR PERMANENT)
- GGGG. MD-104.01-72 CRASH CUSHION SAND FILLED PLASTIC BARRELS (TEMPORARY OR PERMANENT)
- HHHH. MD-104.01-73 CRASH CUSHION SAND FILLED PLASTIC BARRELS (TEMPORARY OR PERMANENT)
- IIII. MD-104.01-80 TAPER LENGTH CRITERIA TABLE
- JJJJ. MD-104.01-81 TYPICAL APPLICATION NOTES
- KKKK. MD-104.04-01 SHOULDER WORK/DIVIDED UNCON. GREATER THAN 40 MPH
- LLLL. MD-104.04-03 LEFT LANE CLOSURE/DIVIDED UNCON. GREATER THAN 40 MPH
- MMMM. MD-104.04-05 RIGHT LANE CLOSURE/DIVIDED UNCON. GREATER THAN 40 MPH
- NNNN. MD-104.04-11 ROADWAY CLOSURE/DIVIDED UNCON. GREATER THAN 40 MPH/OVER 12 HRS. OR NIGHTTIME USE
- OOOO. MD-104.04-13 LEFT-TURN BAY CLOSURE/DIVIDED UNCON. GREATER THAN 40 MPH
- PPPP. MD-104.04-15 INTER. (LEFT LANE, TURN BAY) CLOSURE/DIVIDED UNCON. GREATER THAN 40 MPH
- QQQQ. MD-104.04-17 MOBILE OPERATIONS/DIVIDED UNCON. OR EXP-FREEWAY ALL SPEEDS/0-15 MIN. AND MOVING SLOW
- RRRR. MD-104.04-18 MOBILE OPERATION/DIVIDED UNCON. OR EXP-FREEWAY ALL SPEEDS/MOVING NORMAL
- SSSS. MD-104.04-19 MOBILE WORK OPERATION/DIVIDED UNCON. OR EXP-FREEWAY ALL SPEEDS
- TTTT. MD-104.04-20 MOBILE WORK OPERATION/DIVIDED UNCON. OR EXP-FREEWAY ALL SPEEDS
- UUUU. MD-104.06-01 INSTALLING LANE CLOSURE STEPS 1 AND 2
- VVVV. MD-104.06-02 INSTALLING LANE CLOSURE STEPS 3 AND 4
- WWWW. MD-104.06-03 INSTALLING LANE CLOSURE STEP 5 REMOVING LANE CLOSURE STEP 6
- XXXX. MD-104.06-04 REMOVING LANE CLOSURE STEPS 7 AND 8
- YYYY. MD-104.06-05 DETOUR SIGNING FOR ROADWAY CLOSURE-2-LANE, 2 WAY GREATER THAN 40 MPH/OVER 12 HRS. OR NIGHTTIME USE
- ZZZZ. MD-104.06-09A PED AND CURB-LANE CONTROL/MULTILANE UNDIV. FOR SPEED LESS THAN OR EQUAL TO 40 MPH/OVER 12 HRS. OR NIGHTTIME USE
- AAAA. MD-104.06-09B PED AND CURB-LANE CONTROL/MULTILANE UNDIV. FOR SPEEDS GREATER THAN 40 MPH/OVER 12 HRS. OR NIGHTTIME USE
- BBBB. MD-104.06-09C PED AND CURB-LANE CONTROL/MULTILANE UNDIV. AND SPEEDS/OVER 12 HRS. OR NIGHTTIME USE
- CCOC. MD-104.06-09D PED AND CURB-LANE CONTROL/MULTILANE UNDIV. FOR SPEEDS GREATER THAN 40 MPH/OVER 12 HRS. OR NIGHTTIME USE
- DDDD. MD-104.06-11 MOBILE SERVICE WORK/INTERSECTION GREATER THAN 40 MPH 0-15 MIN.
- EEEE. MD-104.06-13 TEMP. ROADWAY CLOSURE WITH LANE CLOSURE AND FLAGGER CONTROL DIVIDED UNCONTROLLED GREATER THAN 40 MPH/OVER 12 HRS. OR NIGHTTIME USE
- FFFF. MD-104.06-15 PAVEMENT DROP-OFF 2.5 INCHES OR LESS (BETWEEN TRAFFIC LANES)
- GGGG. MD-104.06-16 PAVEMENT EDGE DROP-OFF 2.5 INCHES OR LESS (BETWEEN TRAFFIC LANES AND SHOULDER)
- HHHH. MD-104.06-17 PAVEMENT EDGE DROP-OFF GREATER THAN 2 INCHES BUT EQUAL TO OR LESS THAN 5 INCHES (BETWEEN TRAFFIC LANES AND SHOULDER)
- IIII. MD-104.06-18 PAVEMENT EDGE DROP-OFF, GREATER THAN 5 INCH WITHOUT AN ADJACENT LANE CLOSURE
- JJJJ. MD-104.06-19 PAVEMENT EDGE DROP-OFF, GREATER THAN 5 INCH WITH AN ADJACENT LANE CLOSURE
- KKKK. MD-352.01 STANDARD HEADWALLS B-48 B-54 B-60
- LLLL. MD-368.01 STANDARD CONCRETE END SECTION ROUND CONCRETE PIPE
- MMMM. MD-374.68 PRECAST OR CAST-IN-PLACE COG/COS OPENING FOR 8" CURB 5" OR 10" ONLY
- NNNN. MD-378.05 STANDARD SINGLE OR DOUBLE OPENING TYPE K INLET OPEN-END GRATE
- OOOO. MD-384.01 48" DIAMETER PRECAST MANHOLE FOR 12" TO 24" PIPES
- PPPP. MD-384.07 84" DIAMETER PRECAST MANHOLE FOR 54" TO 60" PIPES
- QQQQ. MD-605.02 TYPE 'B' TRAFFIC BARRIER END TREATMENT
- RRRR. MD-605.02-01 TYPE 'B' AND TYPE 'C' TRAFFIC BARRIER END TREATMENT DELINEATION
- SSSS. MD-605.10 TYPE K TRAFFIC BARRIER END TREATMENT OPTION 1 ANCHORAGE
- TTTT. MD-605.10-01 TYPE K TRAFFIC BARRIER END TREATMENT OPTION 2 & 3 ANCHORAGE
- UUUU. MD-605-10-02 TYPE K TRAFFIC BARRIER END TREATMENT ANCHORAGE DETAILS
- VVVV. MD-605.20 TRAFFIC BARRIER W BEAM END SECTIONS
- WWWW. MD-605.21 TRAFFIC BARRIER W BEAM WITH WOOD OFFSET BLOCK
- XXXX. MD-605.22 TRAFFIC BARRIER W BEAM SINGLE FACE
- YYYY. MD-605.23 TRAFFIC BARRIER W BEAM METAL POST, W BEAM SPLICE AND WOOD OFFSET BLOCK
- ZZZZ. MD-605.26 TRAFFIC BARRIER W BEAM POST PLACEMENT DETAILS FOR SPANNING 12'-2" TO 18'-5" OPENINGS
- AAAA. MD-605.31 TRAFFIC BARRIER W BEAM PLACEMENT DETAILS
- BBBB. MD-605.32 TRAFFIC BARRIER W BEAM FLARE RATES
- CCOC. MD-665.02 BARRIER MARKERS
- DDDD. MD-665.03 PLACEMENT OF DELINEATORS
- EEEE. MD-665.04 PLACEMENT OF DELINEATORS AND MARKERS
- FFFF. MD-665.05 ACCEL/DECEL LANE DELINEATION
- GGGG. MD-665.06 RAMP DELINEATION
- HHHH. MD-805.02 TYPICAL BORED CONDUIT DETAIL AND MANHOLE LOCATION FOR LIGHTING
- IIII. MD-808.01 LIGHTNING STRUCTURE WITH BRACKET ARM
- JJJJ. MD-808.01-01 12 FT 35 FT BRACKET ARM CONNECTION DETAIL
- KKKK. MD-808.01-02 4 FT -10 FT ARM CONNECTION DETAIL
- LLLL. MD-808.03 LIGHTNING STRUCTURE IDENTIFICATION TAG

- MMMMM. MD-809.01 LIGHTING TRENCHING DETAILS
- NNNNN. MD-810.05 ROADWAY LIGHTING 277/240 VOLT SYSTEM 240 VOLT POLE CONNECTIONS
- OOOOO. MD-811.01 HANDHOLE (MATERIALS COVER)
- PPPPP. MD-811.02 HANDHOLE FRAME AND COVER
- QQQQQ. MD-811.03 HANDHOLE INSTALLATION
- RRRRR. MD-812.01 ELECTRICAL MANHOLE
- SSSSS. MD-812.01 WOODSIGN SUPPORTS FOUNDATIONS AND BREAKAWAY FEATURES
- TTTTT. MD-812.02 WOOD SIGN SUPPORTS SIGN MOUNTING
- UUUUU. MD-812.03 WOOD SIGN SUPPORTS ROUTE MARKER ASSEMBLIES
- VVVVV. MD-812.04 WOOD SIGN SUPPORTS POSTS SIZES & SPACING
- WWWWW. MD-813.02 WOOD SIGN POSTS VERTICAL AND LATERAL CLEARANCE
- XXXXX. MD-813.03 EXTRUDED ALUMINUM DETAILS SIGN PANEL DIMENSIONS
- YYYYY. MD-813.04 EXTRUDED ALUMINUM DETAILS
- ZZZZZ. MD-813.05 EXTRUDED ALUMINUM DETAILS AND VERTICAL SUPPORT ATTACHMENT
- AAAAAAA. MD-813.06 EXTRUDED ALUMINUM DETAILS SIGN PANEL ASSEMBLY
- BBBBBBB. MD-821.02 BREAKAWAY TRANSFORMER BASE FOR LIGHTING STRUCTURE
- CCCCCCC. MD-821.02-01 TYPICAL LIGHTING STRUCTURE FOUNDATION ON SLOPE
- DDDDDDD. MD-821.03 BREAKAWAY BASE SUPPORT SYSTEM *B* FOR HIGHWAY SIGNS
- EEEEEEE. MD-821.03-01 BREAKAWAY BASE SUPPORT SYSTEM *B* FOR HIGHWAY SIGNS
- FFFFFFF. MD-821.03-02 BREAKAWAY BASE SUPPORT SYSTEM *B* FOR HIGHWAY SIGNS
- GGGGGGG. MD-821.03-03 BREAKAWAY BASE SUPPORT SYSTEM *B* FOR HIGHWAY SIGNS
- HHHHHHH. MD-821.03-04 BREAKAWAY BASE SUPPORT SYSTEM *B* FOR HIGHWAY SIGNS
- IIIIIII. MD-821.03-05 BREAKAWAY BASE SUPPORT SYSTEM *B* FOR HIGHWAY SIGNS
- JJJJJJJ. MD-821.03-06 BREAKAWAY BASE SUPPORT SYSTEM *B* FOR HIGHWAY SIGNS
- KKKKKKK. MD-821.03-07 BREAKAWAY BASE SUPPORT SYSTEM *A* FOR HIGHWAY SIGNS
- LLLLLLL. MD-821.03-08 BREAKAWAY BASE SUPPORT SYSTEM *A* FOR HIGHWAY SIGNS
- MMMMMMM. MD-821.08-01 BREAKAWAY POLES ADJUSTMENT FOR GROUND SLOPES

"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. 19165, EXPIRATION DATE: 06/11/2015."

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

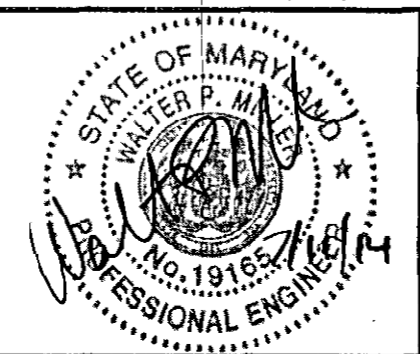
[Signature] 7/15/14
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 7/15/14
CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 7/15/14
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231

WR&A



DES: VAK					
DRN: SAD					
CHK: BRT					
DATE: 7/11/2014	BY	NO.	REVISION	DATE	TAX MAP

SHA STANDARDS

**BLANDAIR REGIONAL PARK
PHASE J - SOUTH**

CAPITAL PROJECT # J-4237

ELECTION DISTRICT 3/7 HOWARD COUNTY, MARYLAND

DWG. **GN-01**

SCALE AS SHOWN

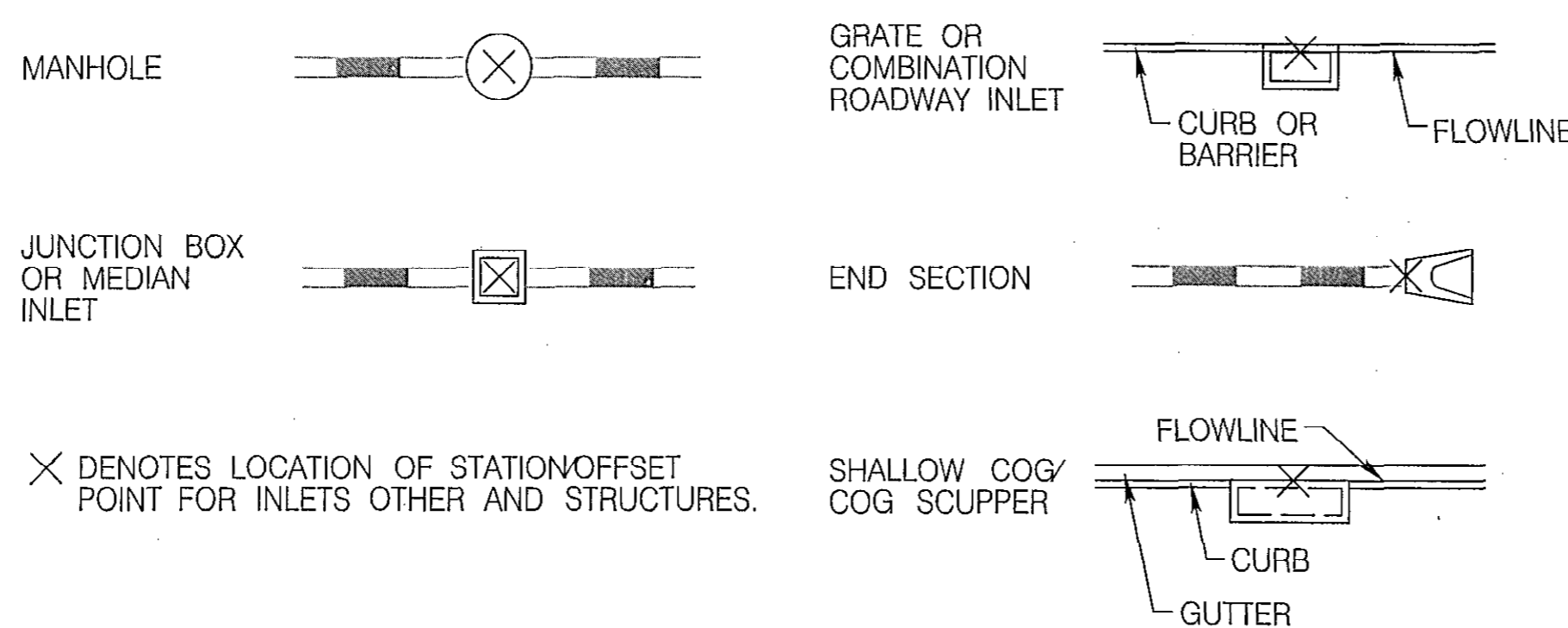
SHEET **2** OF **138**

INDEX OF SHEETS

(SHA SHEET NO.) - SHEET INCLUDED IN SHA SET

SHEET NO.	DESCRIPTION	SHEET NO.	DESCRIPTION
1	T1-01 TITLE SHEET*(1)	87	MT-2A.03 MAINTENANCE OF TRAFFIC - STAGE 2A*(49)
2	GN-01 SHA STANDARDS*(2)	88	MT-2B.01 MAINTENANCE OF TRAFFIC - STAGE 2B*(50)
3	GN-02 INDEX OF SHEETS, LEGEND, AND ABBREVIATIONS*(3)	89	MT-2B.02 MAINTENANCE OF TRAFFIC - STAGE 2B*(51)
4	GN-03 OVERALL SITE PLAN*(4)	90	DET-01 DETOUR PLAN - STAGE 1*(52)
5	HT-01 TYPICAL SECTION	91	DET-02 DETOUR PLAN - STAGE 2*(53)
6	HT-02 TYPICAL SECTION	92	DET-03 PEDESTRIAN DETOUR PLAN - STAGE 2A.1
7	HT-03 TYPICAL SECTION	93	DET-03A PEDESTRIAN DETOUR PLAN - STAGE 2A.3
8	HT-04 TYPICAL SECTION	94	DET-04 PEDESTRIAN DETOUR PLAN - STAGE 2A.1
9	HT-05 TYPICAL SECTION	95	DET-04A PEDESTRIAN DETOUR PLAN - STAGE 2A.4
10	HT-06 TYPICAL SECTION	96	DET-05 PEDESTRIAN DETOUR PLAN - STAGE 2A.2
11	HT-07 TYPICAL SECTION	97	DET-06 PEDESTRIAN DETOUR PLAN - STAGE 2A.2
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DRAINAGE STRUCTURE STAKEOUT LOCATION



ABBREVIATIONS

A.A.S.H.T.O. - AMERICAN ASSOCIATION OF STATE HIGHWAY TRANSPORTATION OFFICIALS	H.D.P. - HIGH DENSITY POLYETHYLENE	RT. - RIGHT
ACCEL. - ACCELERATION	HDWL. - HEADWALL	RW : R/W - RIGHT OF WAY
ADT - AVERAGE DAILY TRAFFIC	H.E.R.C.C.P. - HORIZONTAL ELLIPTICAL REINFORCED CEMENT CONCRETE PIPE	R.C.C.P. - REINFORCED CONCRETE PIPE
AHD - AHEAD	R.C.C.P. - REINFORCED CEMENT CONCRETE PIPE	S - SOUTH
APPROX. - APPROXIMATE	H.P. - HIGH POINT	SAN. - SANITARY SEWER
B/L - BASELINE	HMA - HOT MIX ASPHALT	SB : S/B - SOUTHBOUND
BK - BACK / BOOK	IN. - INCH	S.D. - STORM DRAIN
BIT. - BITUMINOUS	I.S.T. - INLET SEDIMENT TRAP	S.D.D. - SURFACE DRAIN DITCH
B.C. - BITUMINOUS CONCRETE	INV. - INVERT	S.E. : S/E - SUPER ELEVATION
B.M. - BENCH MARK	JRPC - JOINTED REINFORCED CONCRETE PAVEMENT	SFT - SIL FENCE
BOT. - BOTTOM	J.B. - JUNCTION BOX	SHT. - SHEET
C.C. - CENTER OF CURVE	K - K INLET	S.P.P. - STRUCTURAL PLATE PIPE
CATV - CABLE TELEVISION	L - LENGTH	SSD - STOPPING SIGHT DISTANCE
CL. - CLASS	L.F. - LINEAR FEET	SSF - SUPER SILT FENCE
CLF - CHAINLINK FENCE	L.P. - LIGHT POLE	SS&UE - SANITARY SEWER & UTILITY EASEMENT
CMP - CORRUGATED METAL PIPE	L.T. - LEFT	STD. - STANDARD
C.O. - CLEANOUT	L&UE - LANDSCAPE & UTILITY EASEMENT	STA. - STATION
COMB. - COMBINATION	MAC. - MACADAM	SO. - SINGLE OPENING
CONC. - CONCRETE	MAX. - MAXIMUM	S.W. - SQUARE YARDS
CONST./CONSTR. - CONSTRUCTION	MOD. - MODIFIED	S.M. - STORMWATER MANAGEMENT
COR. - CORNER	MIN. - MINIMUM	T - TANGENT
CORR. - CORRECTION	N - NORTH	N.B. - NORTHBOUND
CPP-SP - PERFORATED CORRUGATED POLYETHYLENE PIPE TYPE S	N.E. - NORTHEAST	NE. - NORTHEAST
CRCP - CONTINUOUSLY REINFORCED CONCRETE PAVEMENT	NO. - NUMBER	N.O.S. - NUMBERS
DC - DEGREE OF CURVE	CPP-S - CORRUGATED POLYETHYLENE PIPE TYPE S	O.C. - ON CENTER
DECEL. - DECELERATION	CRCP - CONTINUOUSLY REINFORCED CONCRETE PAVEMENT	OHE - OVERHEAD ELECTRIC
D.H.V. - DESIGN HOURLY VOLUME	DC - DEGREE OF CURVE	PAV'T. - PAVEMENT
D.I. - DROP INLET	DECEL. - DECELERATION	P.C. - POINT OF CURVATURE
DIA. - DIAMETER	D.H.V. - DESIGN HOURLY VOLUME	PCC - PORTLAND CEMENT CONCRETE
D.O. - DOUBLE OPENING	D.I. - DROP INLET	P.C.C. - POINT OF COMPOUND CURVATURE
E - EAST	DIA. - DIAMETER	P/C - POINT OF CROWN
E - ELECTRIC	D.O. - DOUBLE OPENING	P/G.E. - PROFILE GRADE ELEVATION
E - EXTERNAL DISTANCE	E - EAST	P.G.L. - PROFILE GRADE LINE
EA. - EACH	E - ELECTRIC	P/GL - PROFILE GROUND LINE
E.B. - EASTBOUND	E - EXTERNAL DISTANCE	P/R - POINT OF ROTATION
ELEV. - ELEVATION	EA. - EACH	P.I. - POINT OF INTERSECTION
ES - END SECTION	E.B. - EASTBOUND	P.O.C. - POINT ON CURVE
EX. : EXIST. - EXISTING	ELEV. - ELEVATION	P.O.T. - POINT ON TANGENT
FT. - FEET	ES - END SECTION	PROP. - PROPOSED
F : FL - FLOWLINE	EX. : EXIST. - EXISTING	P.R.C. - POINT OF REVERSE CURVE
F.B.D. - FLAT BOTTOM DITCH	FT. - FEET	PT - POINT
F.H. - FIRE HYDRANT	F : FL - FLOWLINE	P.T. - POINT OF TANGENCY
FWD. - FORWARD	F.B.D. - FLAT BOTTOM DITCH	PVC - POINT OF VERTICAL CURVATURE
G - GAS	F.H. - FIRE HYDRANT	PVC - POLYVINYL CHLORIDE
GR./GRD. - GRADE	FWD. - FORWARD	PVRC - POINT OF VERTICAL REVERSE CURVE
G.V. - GAS VALVE	G - GAS	PVT - POINT OF VERTICAL TANGENCY
H.B. - HANDBOX	GR./GRD. - GRADE	R - RADIUS
	G.V. - GAS VALVE	RSE - REVERTIBLE SLOPE EASEMENT
	H.B. - HANDBOX	

CONVENTIONAL SIGNS - EXAMPLES

PROPOSED MEDIAN BARRIER		PROPOSED PIPE/CULVERT	
ELECTRICAL HAND BOX - SIGNALS		EXISTING PIPE/CULVERT	
FLOW LINE		EXISTING DROP INLET AND CONNECTION PIPE	
CONTOUR		UTILITY POLE	
PROPOSED TRAFFIC BARRIER		WETLAND	
EXISTING TRAFFIC BARRIER		WETLAND BUFFER	
EXISTING FENCE LINE		WATERS OF THE U.S.	
RIGHT OF WAY LINE		STREAMS	
BOTTOM OF CUT		HEDGE / TREE LINE	
TOP OF FILL		BUSH / TREE	
BASE OR SURVEY LINE		CONIFEROUS TREE	
FIRE HYDRANT		GROUND ELEVATION	
HISTORIC BOUNDARY		GRADE ELEVATION	
STORM DRAIN		SPOT ELEVATION	
WATER		ELECTRIC MANHOLE	
STANITARY SEWER		TELEPHONE MANHOLE	
UNDERGROUND ELECTRIC		UTILITY MARKER	
UNDERGROUND TELEPHONE		ELECTRIC JUNCTION BOX	
CONCRETE CURB AND GUTTER		GUY WIRE	
WATER VALVE		SIGN	
STORM DRAIN INLET		SURVEY TRAVERSE MONUMENT	
STORM DRAIN MANHOLE		LIMIT OF DISTURBANCE	
SANITARY SEWER MANHOLE		TEST PIT LOCATION	
SOIL BORING LOCATION			

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HOWARD COUNTY, MARYLAND.

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DIRECTOR OF PUBLIC WORKS DATE

Morgan S. ... 7/14/14
CHIEF, BUREAU OF ENGINEERING DATE

Steve ... 7/14/14
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231

WR&A

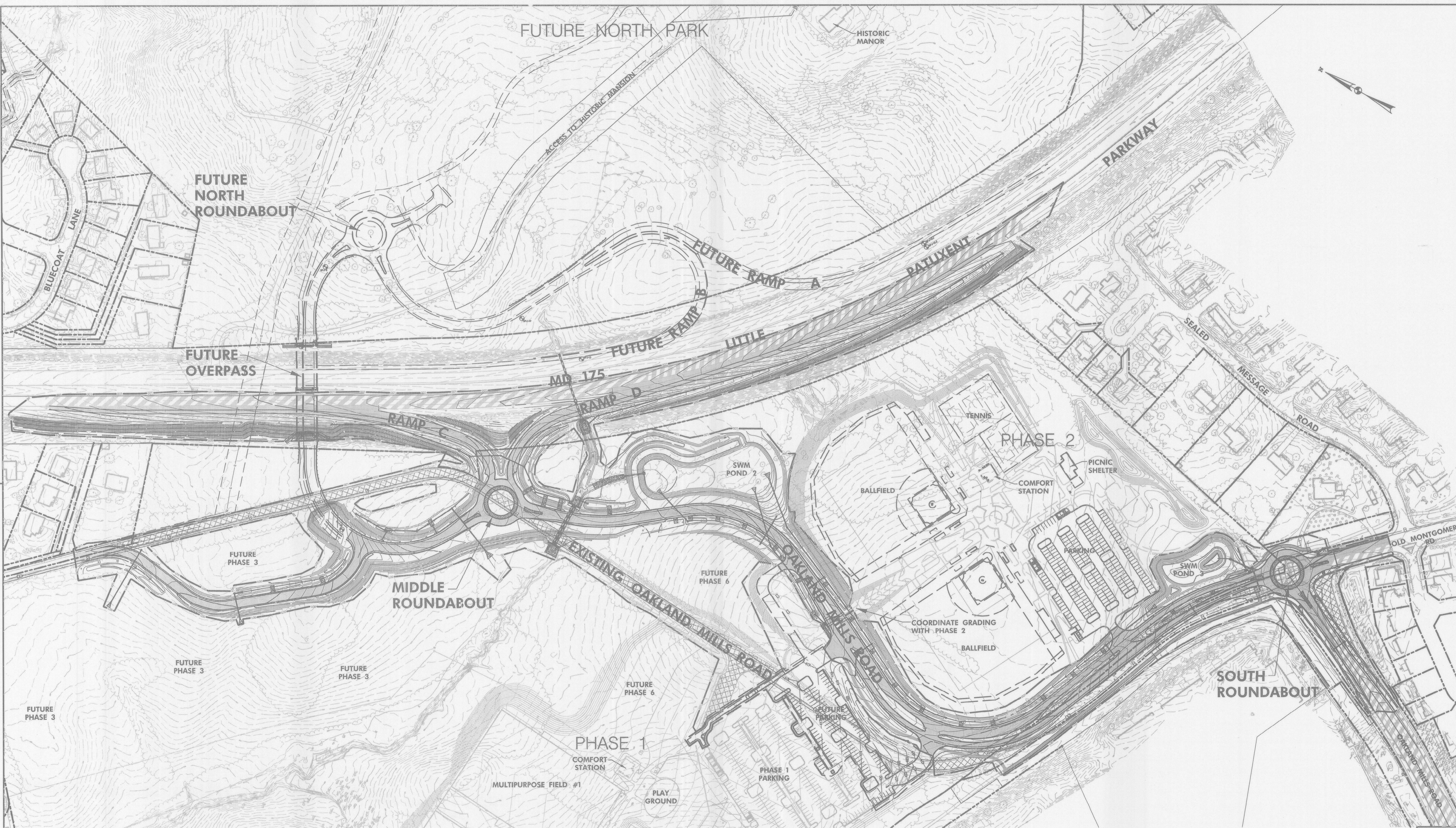
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DRN: VAK
CHK: BRT
DATE: 7/11/2014

INDEX OF SHEETS, LEGEND, AND ABBREVIATIONS

TAX MAP 36 BLOCK NO. 5 ELECTION DISTRICT 3/7 HOWARD COUNTY, MARYLAND

BLANDAIR REGIONAL PARK
PHASE J - SOUTH
CAPITAL PROJECT # J-4237

DWG. GN-02
SCALE NA
SHEET 3 OF 138



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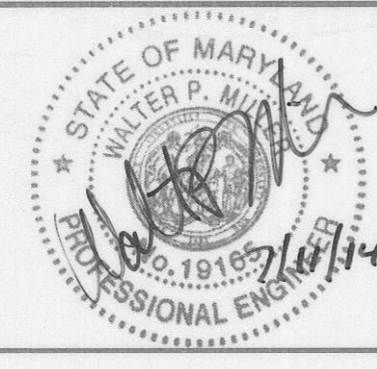
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CHIEF, BUREAU OF HIGHWAYS DATE

[Signature] 7/15/14
CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 7/11/14
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

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DES:	CYH								
DRN:	CYH								
CHK:	AJO								
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OVERALL SITE PLAN

**BLANDAIR REGIONAL PARK
PHASE J - SOUTH**

CAPITAL PROJECT # J-4237

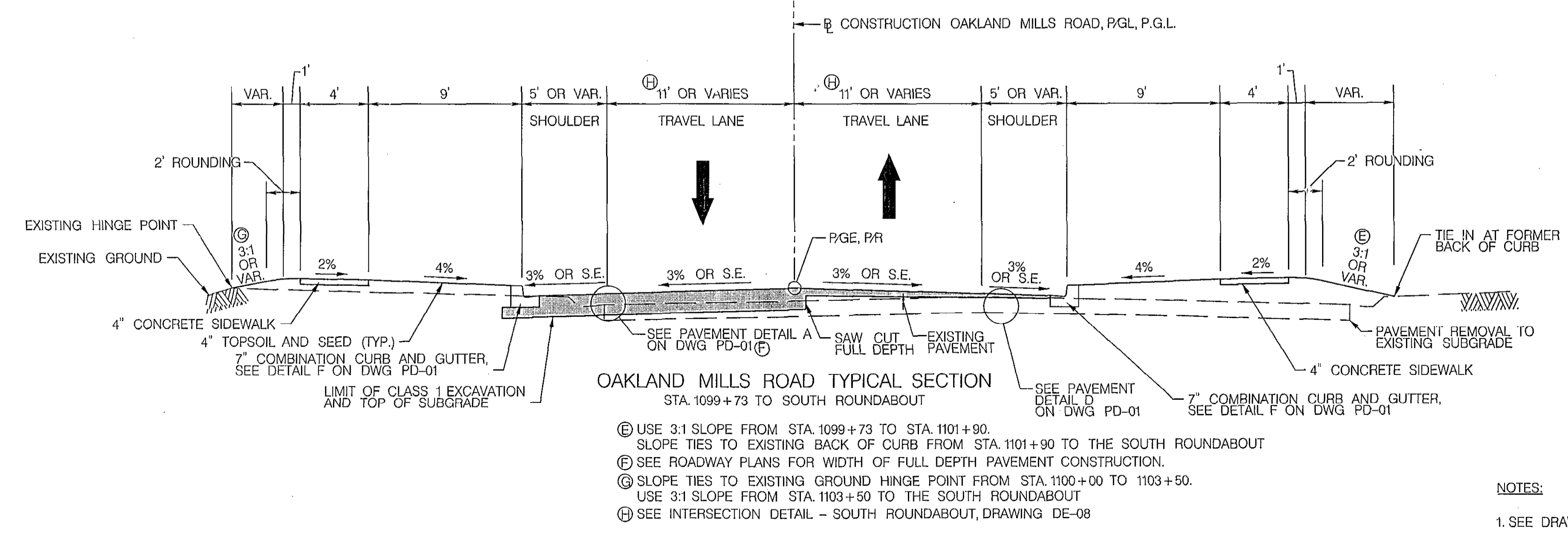
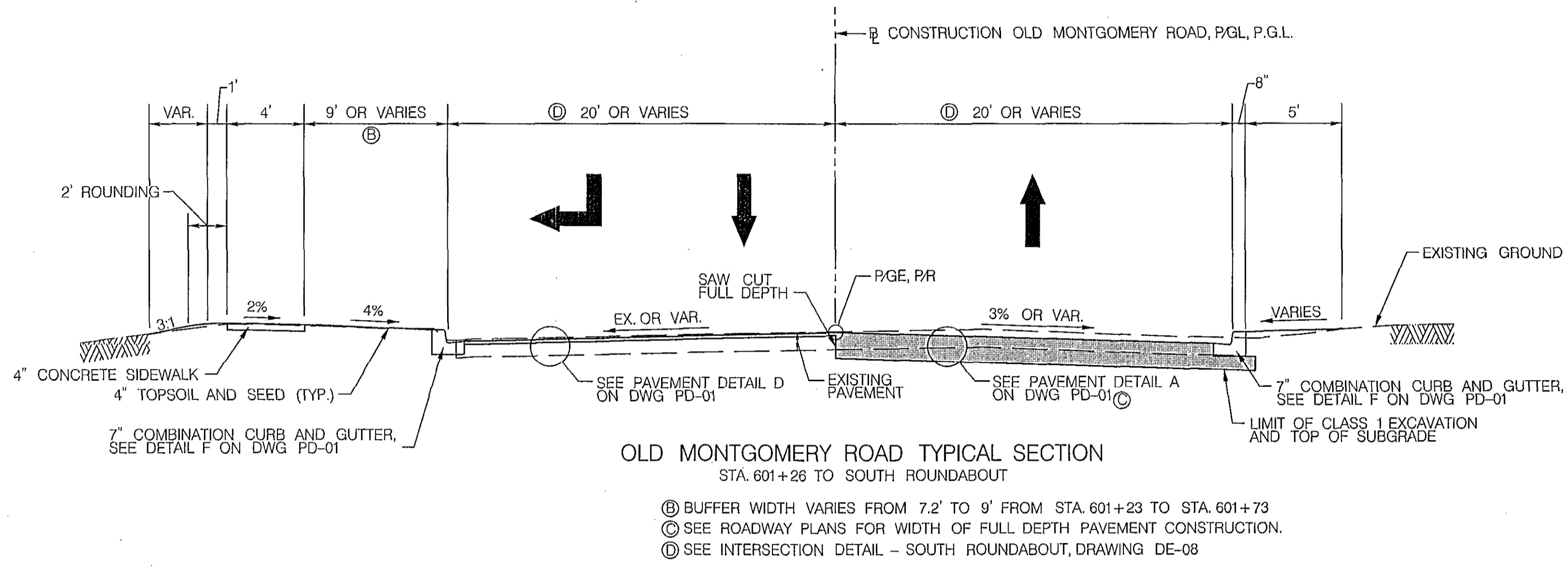
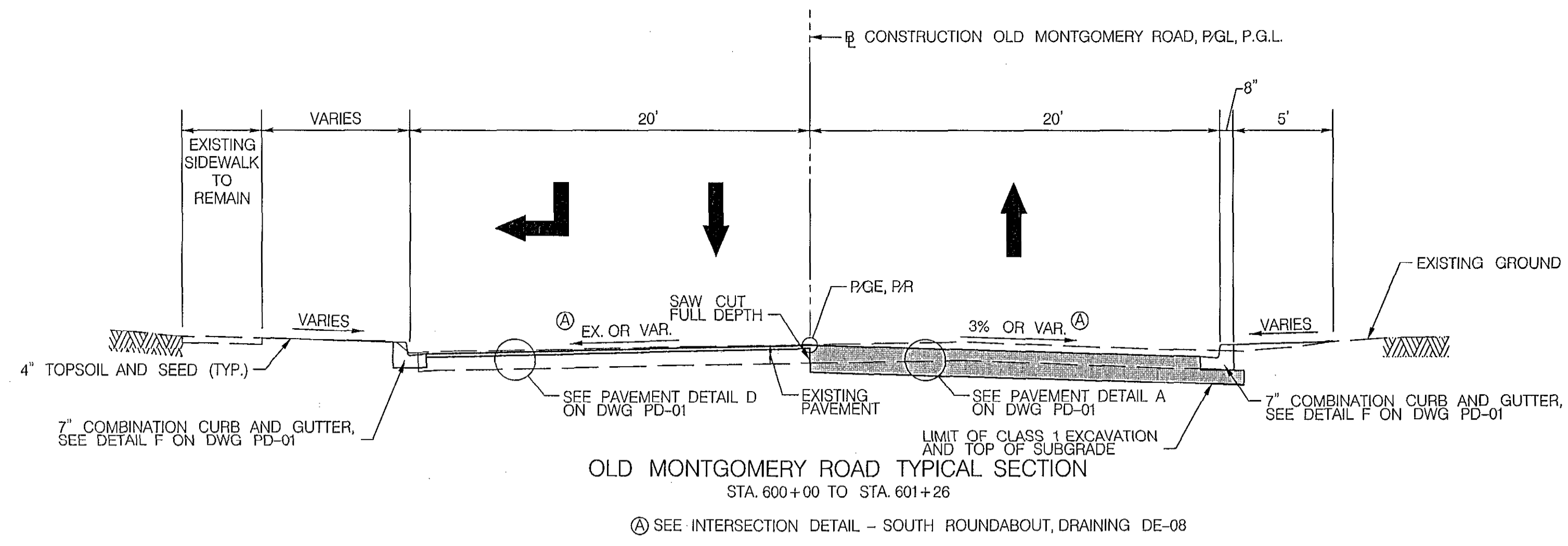
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DWG. **GN-03**

SCALE
1" = 120'

SHEET
4 OF 138

SHA SHEET 4 OF 76

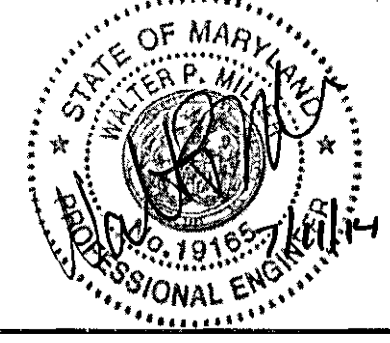


- NOTES:
1. SEE DRAWINGS PD-01 AND PD-02 FOR PAVEMENT AND CURB DETAILS.
 2. SEE DRAWING SE-01 FOR SUPERELEVATION TRANSITIONS.
 3. SEE ROADWAY PLANS FOR LIMITS OF RESURFACING AND LIMITS OF TRAFFIC BARRIER WBEAM.
 4. SEE STORMWATER MANAGEMENT PLANS FOR POND LOCATIONS AND GRADING.

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801 South Caroline Street, Baltimore, MD 21231

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TYPICAL SECTIONS

TAX MAP 36 BLOCK NO. 5

BLANDAIR REGIONAL PARK
PHASE J - SOUTH
CAPITAL PROJECT # J-4237

ELECTION DISTRICT 3 / 7 HOWARD COUNTY, MARYLAND

DWG. HT-01
SCALE 1" = 5'
SHEET 5 OF 138

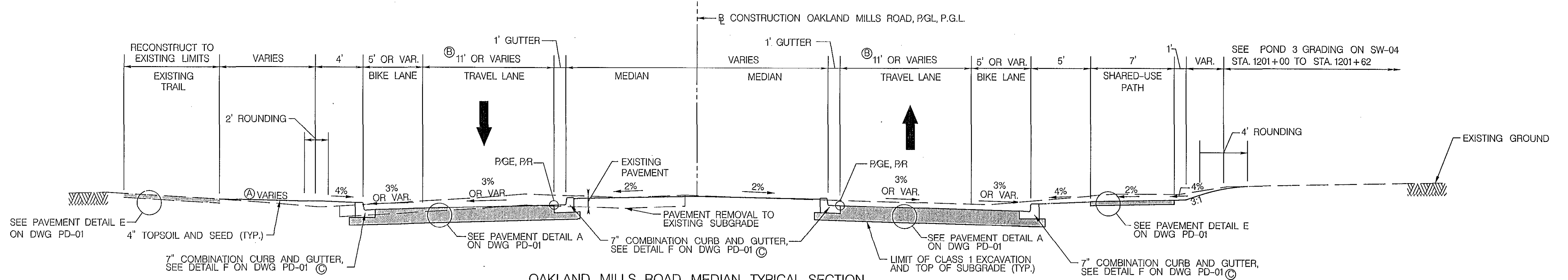
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Mona E. Butler 7/11/14
CHIEF, BUREAU OF ENGINEERING DATE

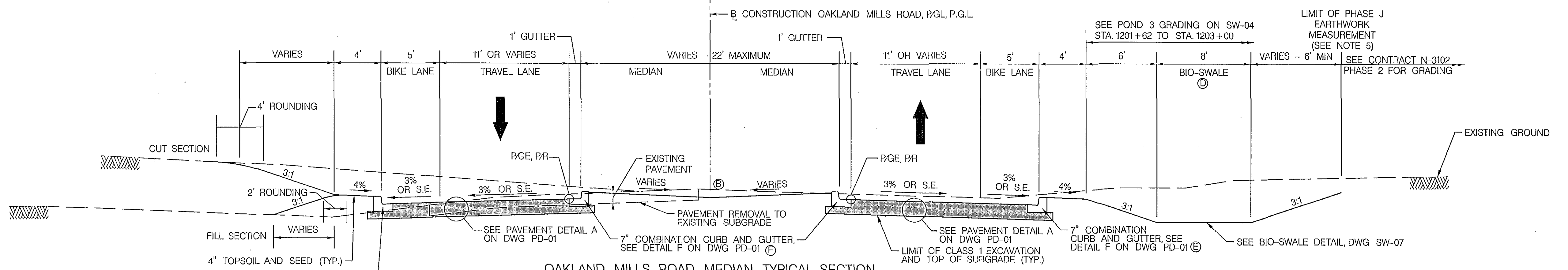
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CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

Holger Seiwand 7-11-14
CHIEF, BUREAU OF HIGHWAYS DATE



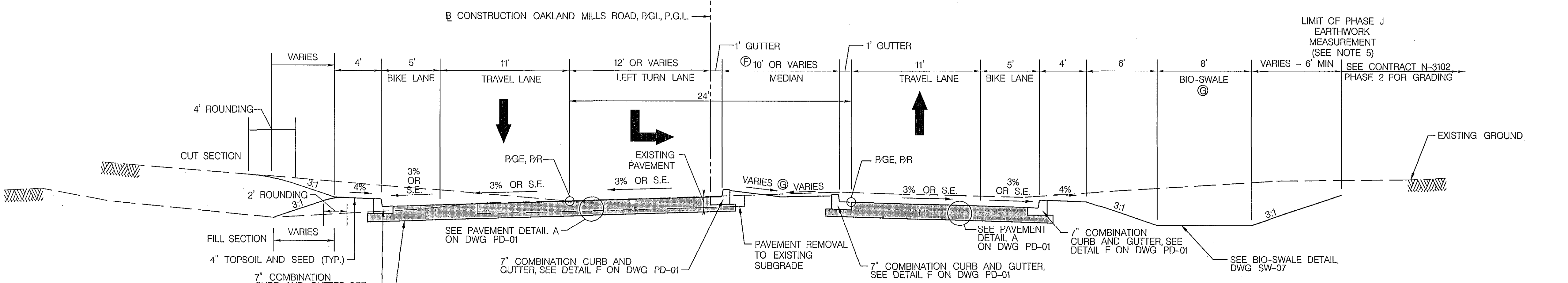
OAKLAND MILLS ROAD MEDIAN TYPICAL SECTION
SOUTH ROUNDABOUT TO STA. 1201+62

- Ⓐ SLOPE VARIES TO TIE TO EXISTING TRAIL FROM SOUTH ROUNDABOUT TO STA. 1201+10. SLOPE TRANSITIONS FROM 2.6% TO 3:1 FROM STA. 1201+10 TO 1201+62.
- Ⓑ SEE INTERSECTION DETAIL - SOUTH ROUNDABOUT, DRAWING DE-08
- Ⓒ SEE OAKLAND MILLS ROAD CURB LAYOUT DETAIL ON DRAWING DE-11 FOR CURB/FLOWLINE GEOMETRY



OAKLAND MILLS ROAD MEDIAN TYPICAL SECTION
STA. 1201+62 TO STA. 1203+92

- Ⓓ REFER TO ROADWAY PLANS FOR DITCH/BIO-SWALE WIDTH, LOCATION, OFFSET AND ELEVATION
- Ⓔ SEE OAKLAND MILLS ROAD CURB LAYOUT DETAIL ON DRAWING DE-11 FOR CURB/FLOWLINE GEOMETRY FROM STA. 1201+62 TO STA. 1203+24



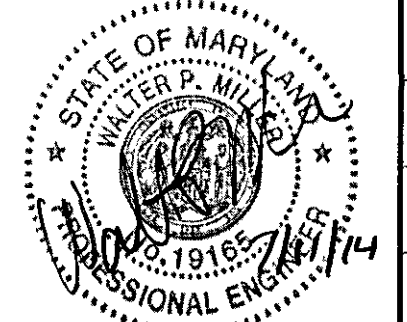
OAKLAND MILLS ROAD SB LEFT TURN LANE TYPICAL SECTION
STA. 1203+92 TO STA. 1204+50

- Ⓕ SEE INTERSECTION DETAIL - OAKLAND MILLS ROAD AT PHASE 2 PARKING LOT ENTRANCE, DRAWING DE-10
- Ⓖ REFER TO ROADWAY PLANS FOR DITCH/BIO-SWALE WIDTH, LOCATION, OFFSET AND ELEVATION

- NOTES:**
1. SEE DRAWINGS PD-01 AND PD-02 FOR PAVEMENT AND CURB DETAILS.
 2. SEE DRAWING SE-01 FOR SUPERELEVATION TRANSITIONS.
 3. SEE ROADWAY PLANS FOR LIMITS OF RESURFACING AND LIMITS OF TRAFFIC BARRIER WBEAM.
 4. SEE STORMWATER MANAGEMENT PLANS FOR POND LOCATIONS AND GRADING.
 5. SEE DRAWING ED-06 FOR LOCATION OF LIMIT OF PHASE J EARTHWORK MEASUREMENT, ALONG LIMIT OF DISTURBANCE.

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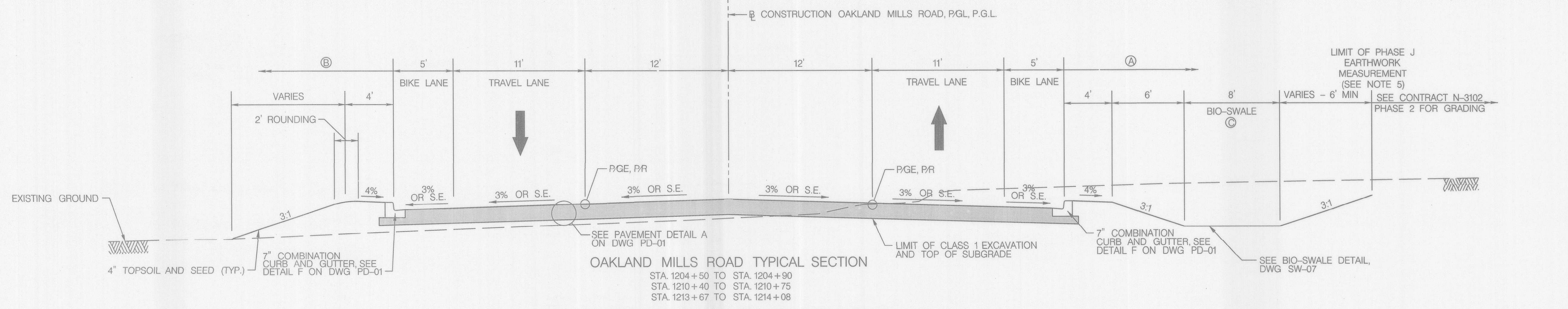
TAX MAP	36
BLOCK NO.	5

ELECTION DISTRICT 3 / 7
HOWARD COUNTY, MARYLAND

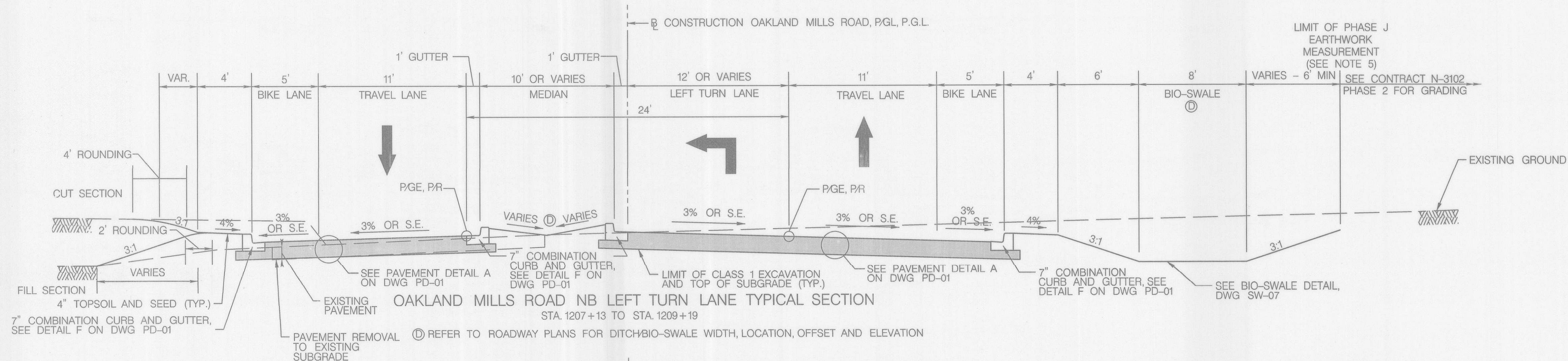
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 Chief, Bureau of Engineering: *[Signature]* 7/15/14
 Chief, Transportation and Special Projects Division: *[Signature]* 7/15/14

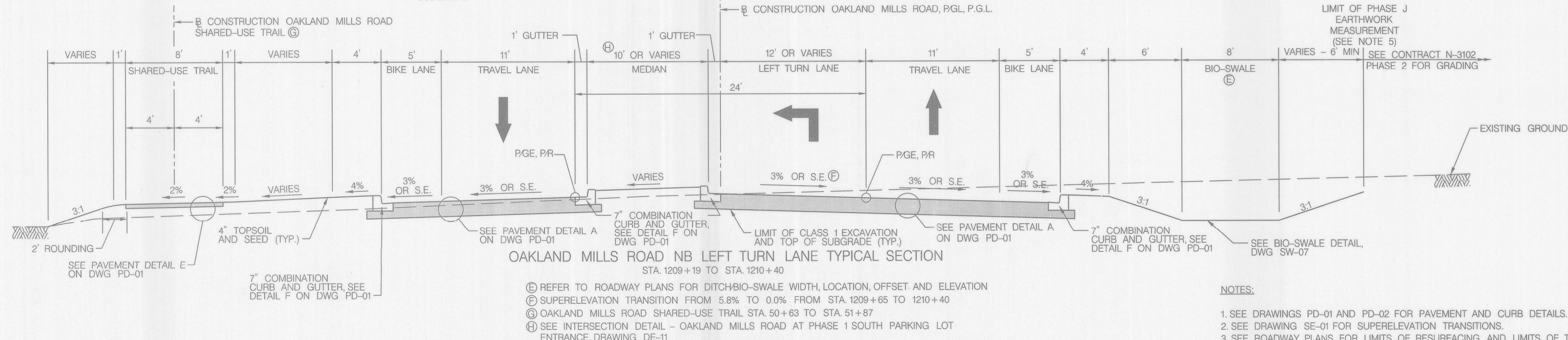
DWG.
HT-02
SCALE
1" = 5'
SHEET
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- Ⓐ NO CURB OR SWALE, TIE TO PARKING LOT ENTRANCE FROM STA. 1204+50 TO STA. 1204+90. SEE INTERSECTION DETAIL - OAKLAND MILLS ROAD AT PHASE 2 PARKING LOT ENTRANCE, DRAWING DE-10.
- Ⓑ NO CURB, TIE TO PARKING LOT DRIVEWAY FROM STA. 1210+40 TO STA. 1210+75 AND STA. 1213+67 TO STA. 1214+08. SEE INTERSECTION DETAIL - PHASE 1 PARKING LOT ENTRANCE, DRAWING DE-11 AND DE-12.
- Ⓒ REFER TO ROADWAY PLANS FOR DITCH/BIO-SWALE WIDTH, LOCATION, OFFSET AND ELEVATION



- Ⓔ REFER TO ROADWAY PLANS FOR DITCH/BIO-SWALE WIDTH, LOCATION, OFFSET AND ELEVATION



- Ⓕ REFER TO ROADWAY PLANS FOR DITCH/BIO-SWALE WIDTH, LOCATION, OFFSET AND ELEVATION
- Ⓖ SUPERELEVATION TRANSITION FROM 5.8% TO 0.0% FROM STA. 1209+65 TO 1210+40
- Ⓖ OAKLAND MILLS ROAD SHARED-USE TRAIL STA. 50+63 TO STA. 51+87
- Ⓖ SEE INTERSECTION DETAIL - OAKLAND MILLS ROAD AT PHASE 1 SOUTH PARKING LOT ENTRANCE, DRAWING DE-11

- NOTES:
1. SEE DRAWINGS PD-01 AND PD-02 FOR PAVEMENT AND CURB DETAILS.
 2. SEE DRAWING SE-01 FOR SUPERELEVATION TRANSITIONS.
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 5. SEE DRAWING ED-06 FOR LOCATION OF LIMIT OF PHASE J EARTHWORK MEASUREMENT, ALONG LIMIT OF DISTURBANCE.

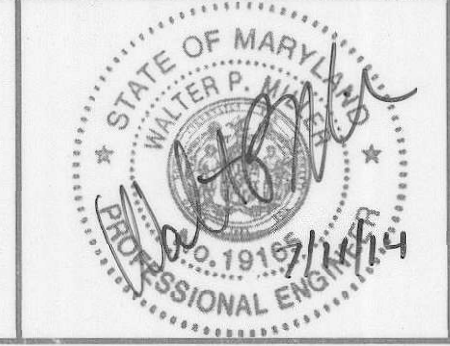
"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19165, EXPIRATION DATE: 06/11/2015."

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

Director of Public Works: *John P. Williams* 7/11/14
Chief, Bureau of Highways: *Steve Shaver* 7/11/14

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231

WR&A



DES:	VAK				
DRN:	VAK				
CHK:	BRT				
DATE:	7/11/2014	BY:		NO.:	
		REVISION:		DATE:	

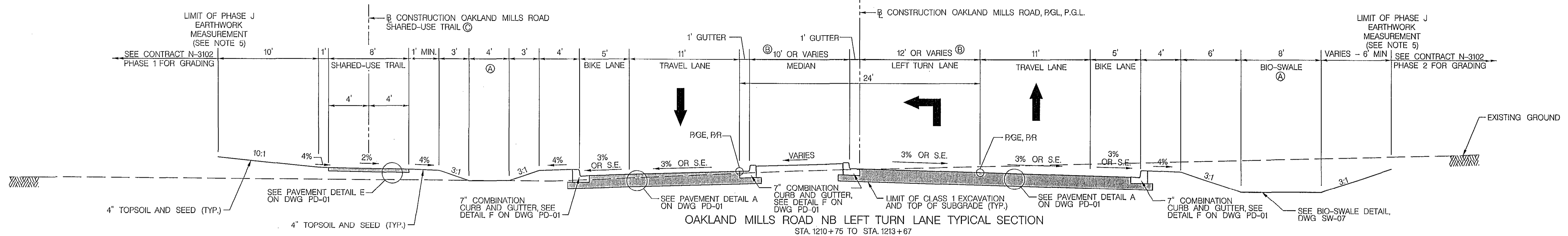
TYPICAL SECTIONS

TAX MAP 36 BLOCK NO. 5

BLANDAIR REGIONAL PARK
PHASE J - SOUTH
CAPITAL PROJECT # J-4237

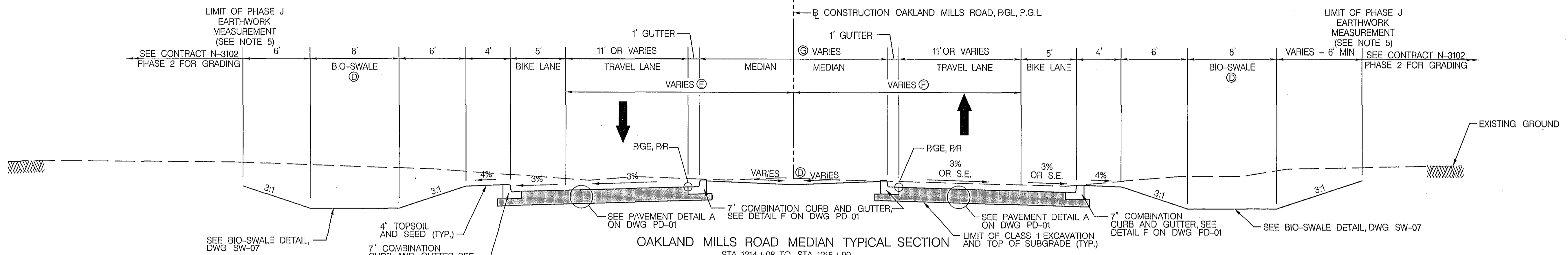
ELECTION DISTRICT 3/7 HOWARD COUNTY, MARYLAND

DWG. HT-03
SCALE 1" = 5'
SHEET 7 OF 138



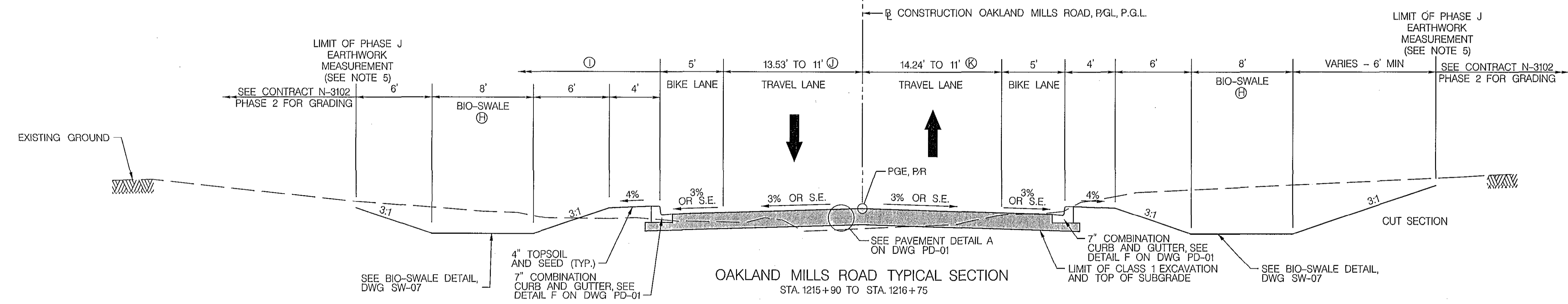
OAKLAND MILLS ROAD NB LEFT TURN LANE TYPICAL SECTION
STA. 1210+75 TO STA. 1213+67

- Ⓐ REFER TO ROADWAY PLANS FOR DITCH/BIO-SWALE WIDTH, LOCATION, OFFSET AND ELEVATION
- Ⓑ 12' LEFT TURN LANE AND 10' MEDIAN FROM STA. 1212+39 TO STA. 1213+67. SEE INTERSECTION DETAIL - PHASE 1 PARKING LOT ENTRANCE, DRAWING DE-11 AND DE-12.
- Ⓒ OAKLAND MILLS ROAD SHARED-USE TRAIL STA. 52+45 TO STA. 55+51



OAKLAND MILLS ROAD MEDIAN TYPICAL SECTION
STA. 1214+08 TO STA. 1215+90

- Ⓐ REFER TO ROADWAY PLANS FOR DITCH/BIO-SWALE WIDTH, LOCATION, OFFSET AND ELEVATION
- Ⓑ WIDTH VARIES 23' TO 13.53' FROM STA. 1214+27.93 TO STA. 1215+90
- Ⓒ WIDTH VARIES 23' TO 14.24' FROM STA. 1214+27.93 TO STA. 1215+90
- Ⓓ SEE INTERSECTION DETAIL - PHASE 1 NORTH PARKING LOT ENTRANCE, DRAWING DE-12.



OAKLAND MILLS ROAD TYPICAL SECTION
STA. 1215+90 TO STA. 1216+75

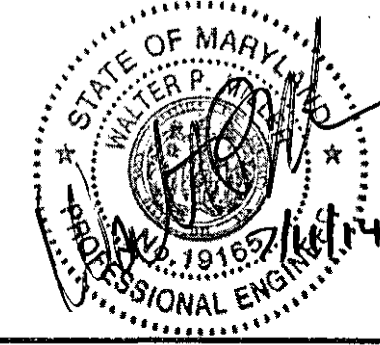
- Ⓐ REFER TO ROADWAY PLANS FOR DITCH/BIO-SWALE WIDTH, LOCATION, OFFSET AND ELEVATION
- Ⓐ NO CURB OR SWALE TIE TO BUS LOOP FROM STA. 1215+98 TO STA. 1215+75. SEE INTERSECTION DETAIL - PHASE 1 NORTH PARKING LOT ENTRANCE, DRAWING DE-12.
- Ⓑ WIDTH VARIES 13.53' TO 11' FROM STA. 1215+90.00 TO STA. 1216+41.59
- Ⓒ WIDTH VARIES 14.24' TO 11' FROM STA. 1215+90.00 TO STA. 1216+57.58

NOTES:

1. SEE DRAWINGS PD-01 AND PD-02 FOR PAVEMENT AND CURB DETAILS.
2. SEE DRAWING SE-01 FOR SUPERELEVATION TRANSITIONS.
3. SEE ROADWAY PLANS FOR LIMITS OF RESURFACING AND LIMITS OF TRAFFIC BARRIER W/BEAM.
4. SEE STORMWATER MANAGEMENT PLANS FOR POND LOCATIONS AND GRADING.
5. SEE DRAWING ED-06 FOR LOCATION OF LIMIT OF PHASE J EARTHWORK MEASUREMENT, ALONG LIMIT OF DISTURBANCE.

"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. 19165, EXPIRATION DATE: 06/11/2015."

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231



DES:	VAK				
DRN:	VAK				
CHK:	BRT				
DATE:	7/1/2014	BY:		NO.:	
		REVISION:		DATE:	

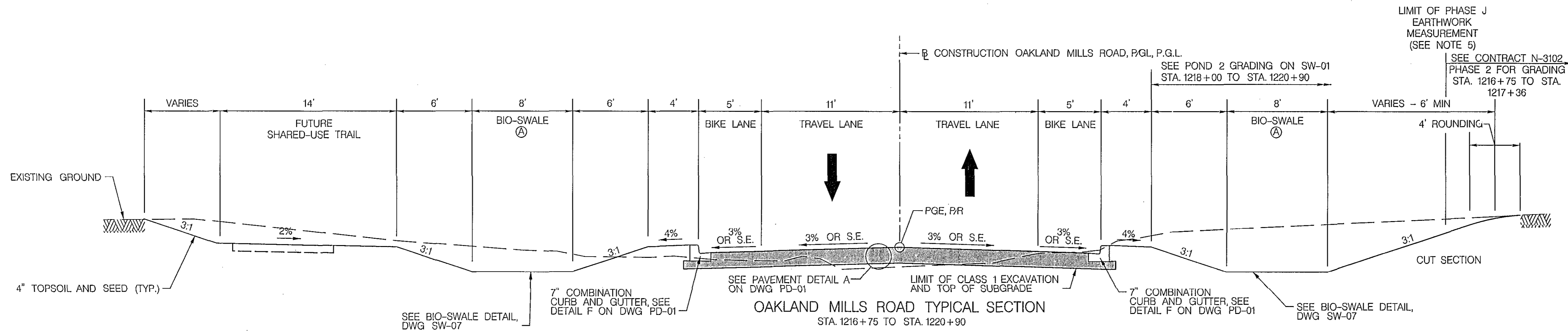
TYPICAL SECTIONS
TAX MAP 36
BLOCK NO. 5

BLANDAIR REGIONAL PARK
PHASE J - SOUTH
CAPITAL PROJECT # J-4237
ELECTION DISTRICT 3/7
HOWARD COUNTY, MARYLAND

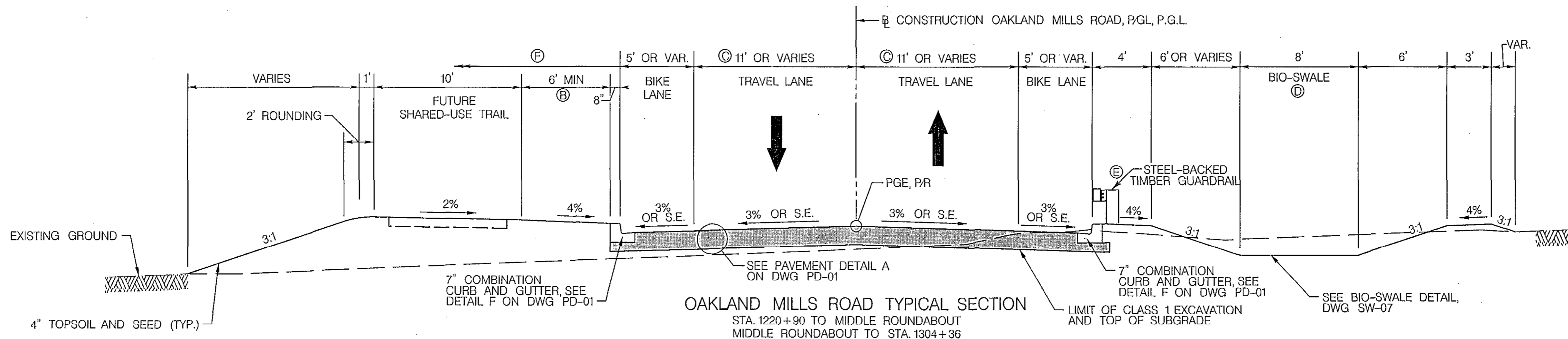
DWG.
HT-04
SCALE
1" = 5'
SHEET
8 OF 138

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

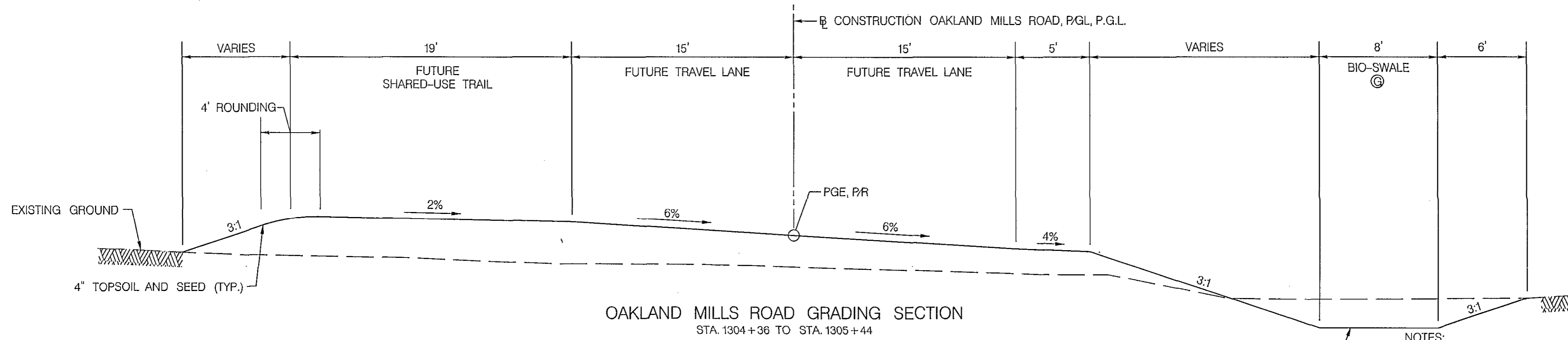
Director of Public Works: *Raymond Williams* 7/11/14
Chief, Bureau of Engineering: *Thomas R. Butler* 7/11/14
Chief, Transportation and Special Projects Division: *Steve Shaver* 7/11/14



REFER TO ROADWAY PLANS FOR DITCH/BIO-SWALE WIDTH, LOCATION, OFFSET AND ELEVATION



- ⓑ BUFFER WIDTH 6' FROM STA. 1220+90 TO STA. 1222+69 AND FROM STA. 1302+00 TO 1303+67. BUFFER WIDTH VARIES FROM 6' TO 21.3' FROM STA. 1222+69 TO MIDDLE ROUNDABOUT. BUFFER WIDTH VARIES FROM 28.67' TO 6' FROM MIDDLE ROUNDABOUT TO STA. 1302+00.
- ⓒ SEE INTERSECTION DETAIL - MIDDLE ROUNDABOUT DRAWING DE-09.
- ⓓ REFER TO ROADWAY PLANS FOR DITCH/BIO-SWALE WIDTH, LOCATION, OFFSET AND ELEVATION
- ⓔ STEEL-BACKED TIMBER GUARDRAIL FROM STA. 1221+06 TO STA. 1223+11 AND STA. 1300+75 TO STA. 1304+36. SEE DETAILS ON DRAWINGS DE-02 - DE-04.
- ⓕ NO CURB OR FUTURE TRAIL GRADING. TIE TO OAKLAND MILLS ROAD FROM STA. 1303+50 TO STA. 1304+36. SEE INTERSECTION DETAIL- OAKLAND MILLS ROAD AT TEMPORARY OAKLAND MILLS ROAD, DRAWING DE-10.



REFER TO ROADWAY PLANS FOR DITCH/BIO-SWALE WIDTH, LOCATION, OFFSET AND ELEVATION

NOTES:

1. SEE DRAWINGS PD-01 AND PD-02 FOR PAVEMENT AND CURB DETAILS.
2. SEE DRAWING SE-01 FOR SUPERELEVATION TRANSITIONS.
3. SEE ROADWAY PLANS FOR LIMITS OF RESURFACING AND LIMITS OF TRAFFIC BARRIER WBEAM.
4. SEE STORMWATER MANAGEMENT PLANS FOR POND LOCATIONS AND GRADING.
5. SEE DRAWING ED-06 FOR LOCATION OF LIMIT OF PHASE J EARTHWORK MEASUREMENT, ALONG LIMIT OF DISTURBANCE.

"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. 19165, EXPIRATION DATE: 06/11/2015."

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
001 South Caroline Street, Baltimore, MD 21231



DES:	VAK
DRN:	VAK
CHK:	BRT
DATE:	7/11/2014
BY:	
NO.:	
REVISION:	
DATE:	

TYPICAL SECTIONS

TAX MAP 36

BLOCK NO. 5

ELECTION DISTRICT 3/7

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

John R. ... 7/15/14
DIRECTOR OF PUBLIC WORKS
Steve Sharov 7/11/14
CHIEF, BUREAU OF HIGHWAYS

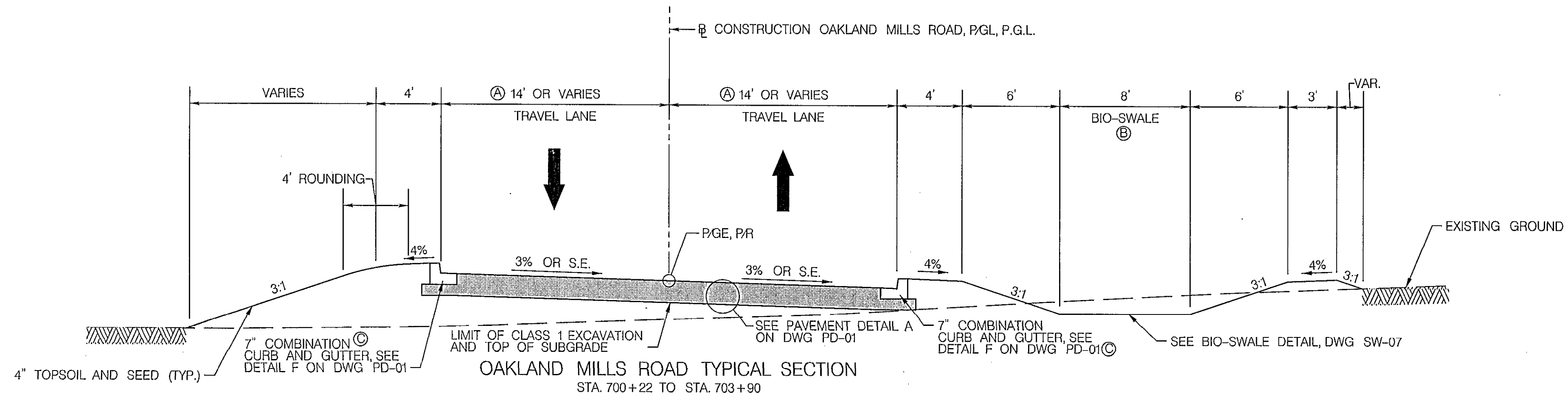
Monica S. Butler 7/11/14
CHIEF, BUREAU OF ENGINEERING
Steve Sharov 7/11/14
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION

BLANDAIR REGIONAL PARK
PHASE J - SOUTH
CAPITAL PROJECT # J-4237

DWG.
HT-05

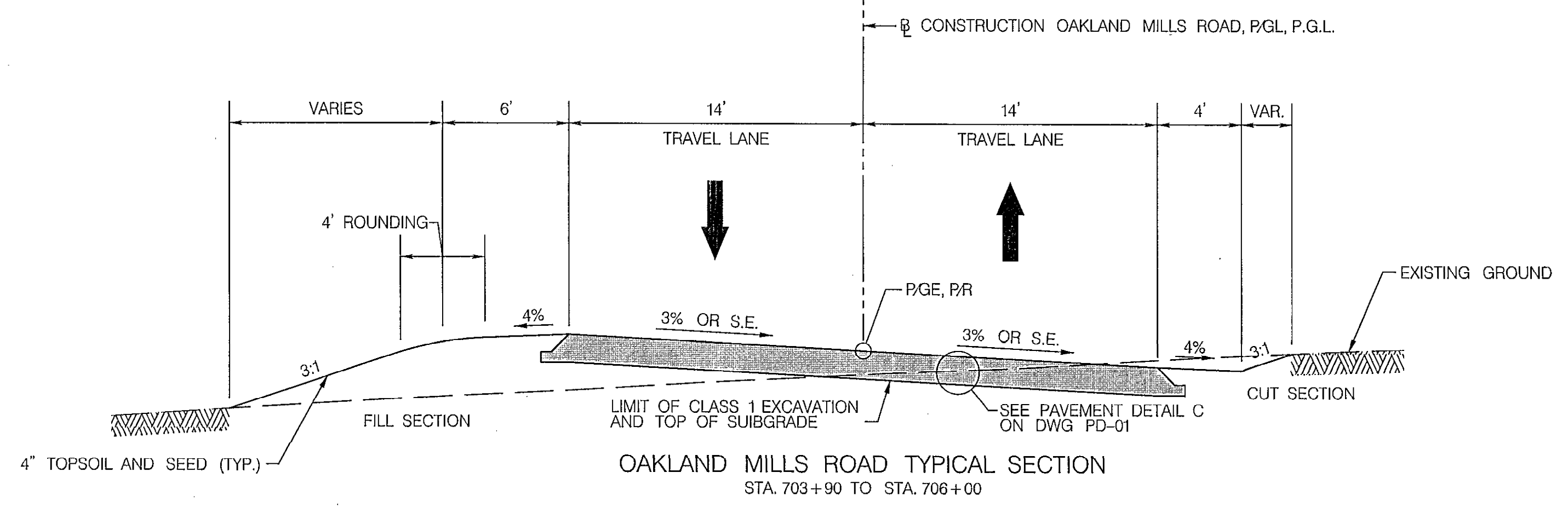
SCALE
1" = 5'

SHEET
9 OF 138

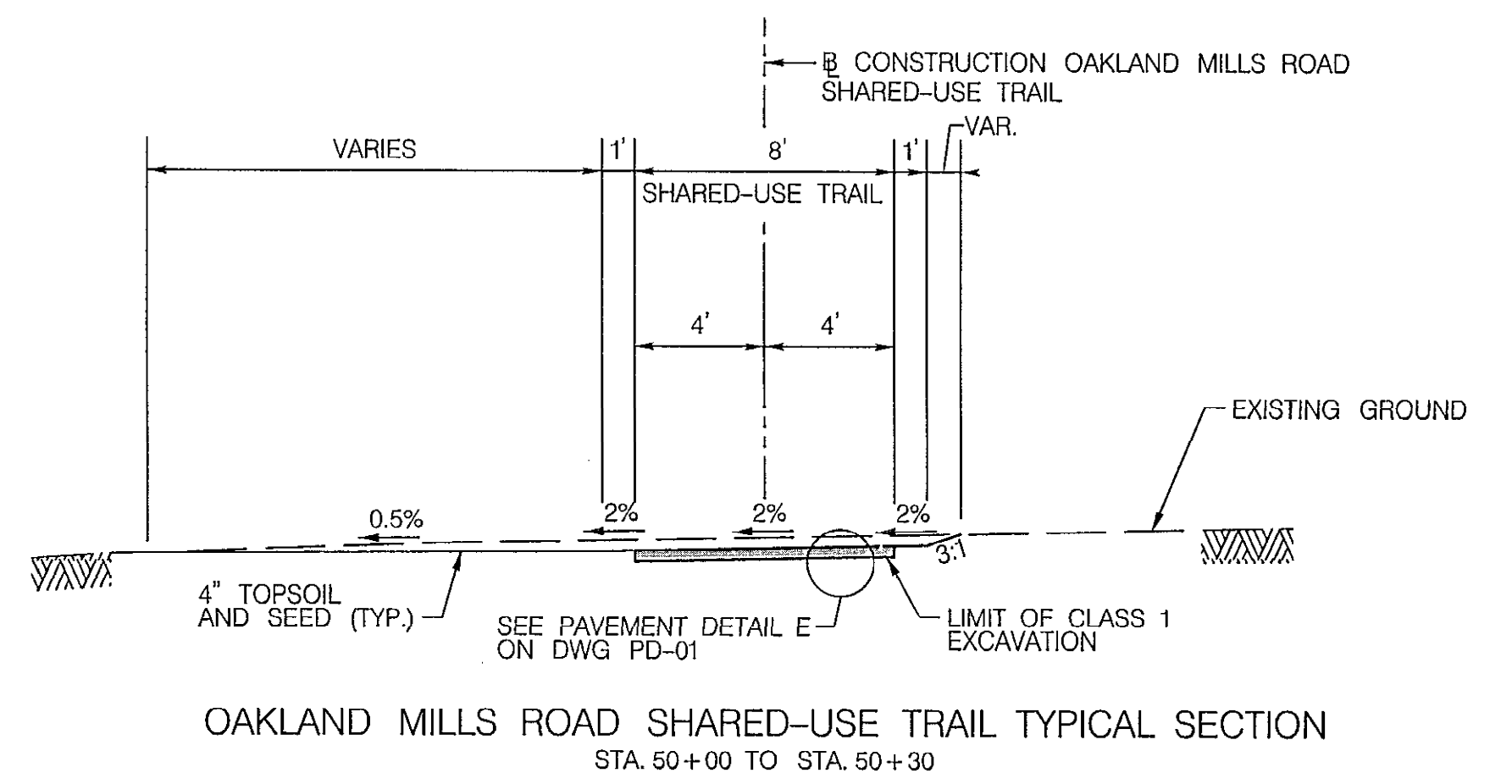


OAKLAND MILLS ROAD TYPICAL SECTION
STA. 700+22 TO STA. 703+90

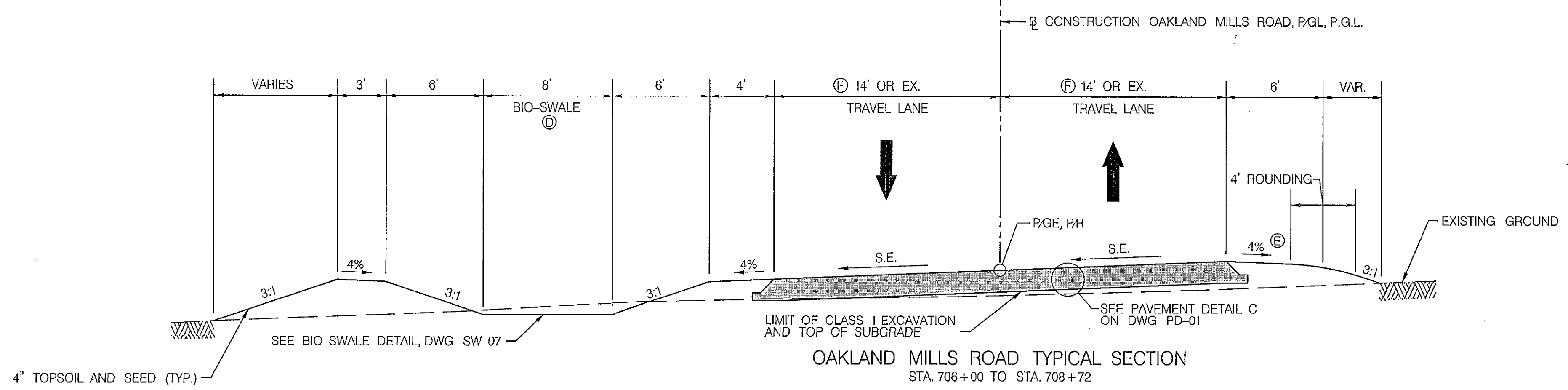
Ⓐ SEE INTERSECTION DETAIL - OAKLAND MILLS ROAD AT TEMPORARY OAKLAND MILLS ROAD, DRAWING DE-10.
 Ⓑ REFER TO ROADWAY PLANS FOR DITCH/BIO-SWALE WIDTH, LOCATION, OFFSET AND ELEVATION
 Ⓒ NO CURB FROM STA. 703+50 TO STA. 703+90. SEE PAVEMENT DETAIL C ON DRAWING PD-01.



OAKLAND MILLS ROAD TYPICAL SECTION
STA. 703+90 TO STA. 706+00

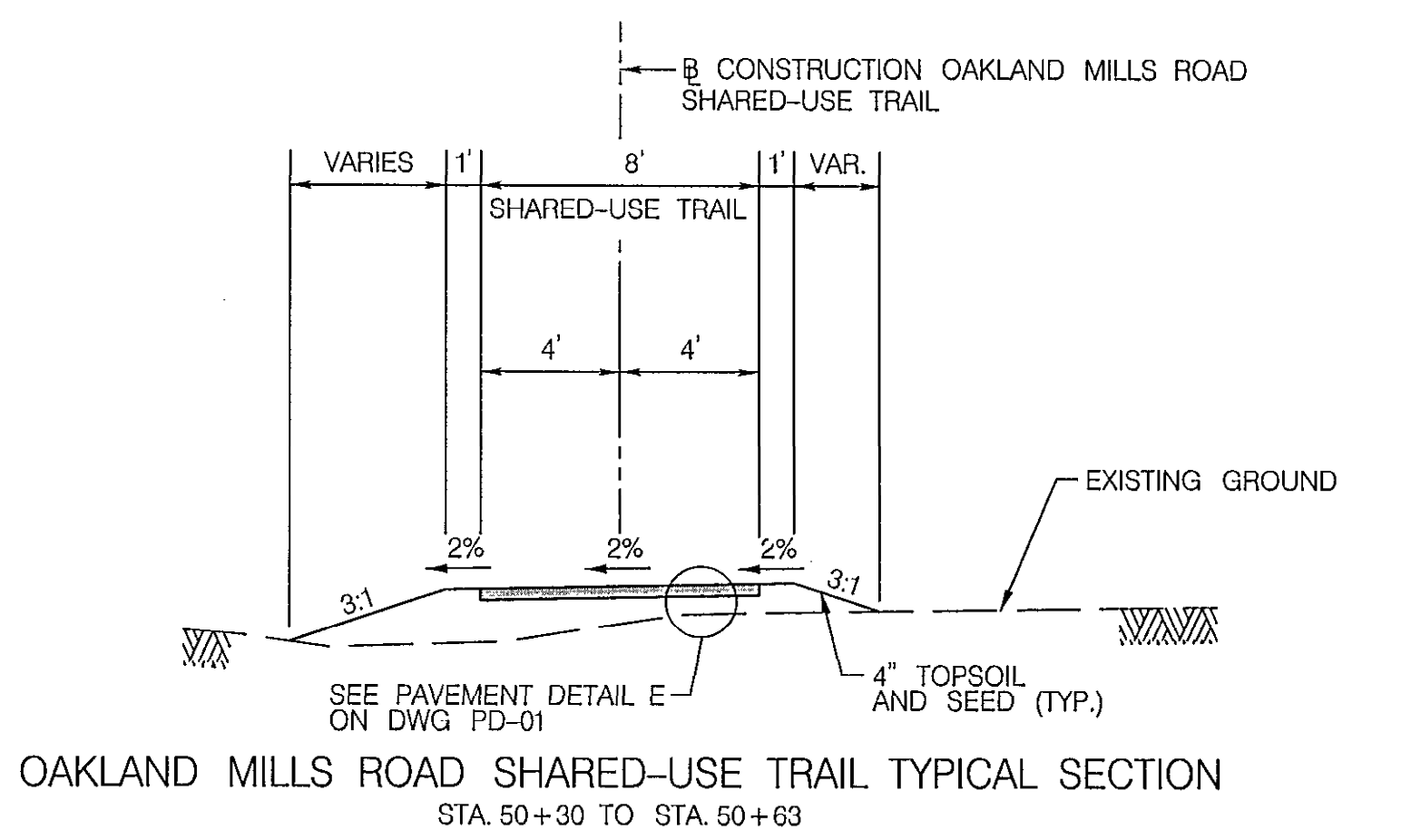


OAKLAND MILLS ROAD SHARED-USE TRAIL TYPICAL SECTION
STA. 50+00 TO STA. 50+30



OAKLAND MILLS ROAD TYPICAL SECTION
STA. 706+00 TO STA. 708+72

Ⓓ REFER TO ROADWAY PLANS FOR DITCH/BIO-SWALE WIDTH, LOCATION, OFFSET AND ELEVATION
 Ⓔ TIE TO EXISTING GROUND AT 4% FROM STA. 707+80 TO STA. 708+72
 Ⓕ WIDTH VARIES FROM 14' TO TIE TO EXISTING OAKLAND MILLS ROAD FROM STA. 707+11 TO STA. 708+11. EXISTING OAKLAND MILLS ROAD WIDTH FROM STA. 708+11 TO STA. 708+72.



OAKLAND MILLS ROAD SHARED-USE TRAIL TYPICAL SECTION
STA. 50+30 TO STA. 50+63

- NOTES:
1. SEE DRAWINGS PD-01 AND PD-02 FOR PAVEMENT AND CURB DETAILS.
 2. SEE DRAWING SE-01 FOR SUPERELEVATION TRANSITIONS.
 3. SEE ROADWAY PLANS FOR LIMITS OF RESURFACING AND LIMITS OF TRAFFIC BARRIER WBEAM.
 4. SEE STORMWATER MANAGEMENT PLANS FOR POND LOCATIONS AND GRADING.

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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

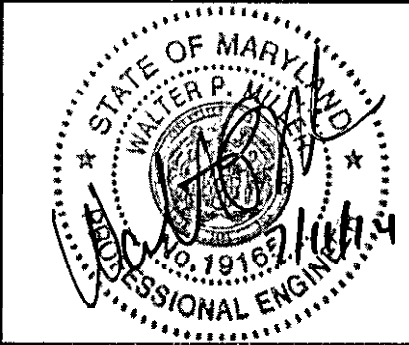
Ray A. ... 7/11/14
DIRECTOR OF PUBLIC WORKS DATE

Thomas E. ... 7/11/14
CHIEF, BUREAU OF ENGINEERING DATE

Steve ... 7/11/14
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231

WR&A



DES:	VAK				
DRN:	VAK				
CHK:	BRT				
DATE:	7/11/2014	BY:		NO.:	
		REVISION:		DATE:	

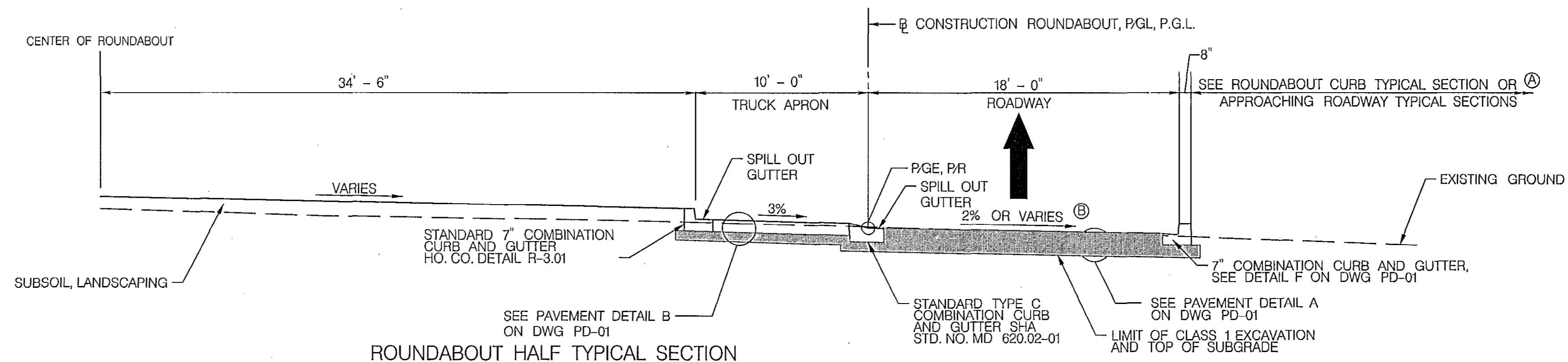
TYPICAL SECTIONS

TAX MAP 36 BLOCK NO. 5

BLANDAIR REGIONAL PARK
PHASE J - SOUTH
CAPITAL PROJECT # J-4237

ELECTION DISTRICT 3/7 HOWARD COUNTY, MARYLAND

DWG. HT-06
SCALE 1" = 5'
SHEET 10 OF 138

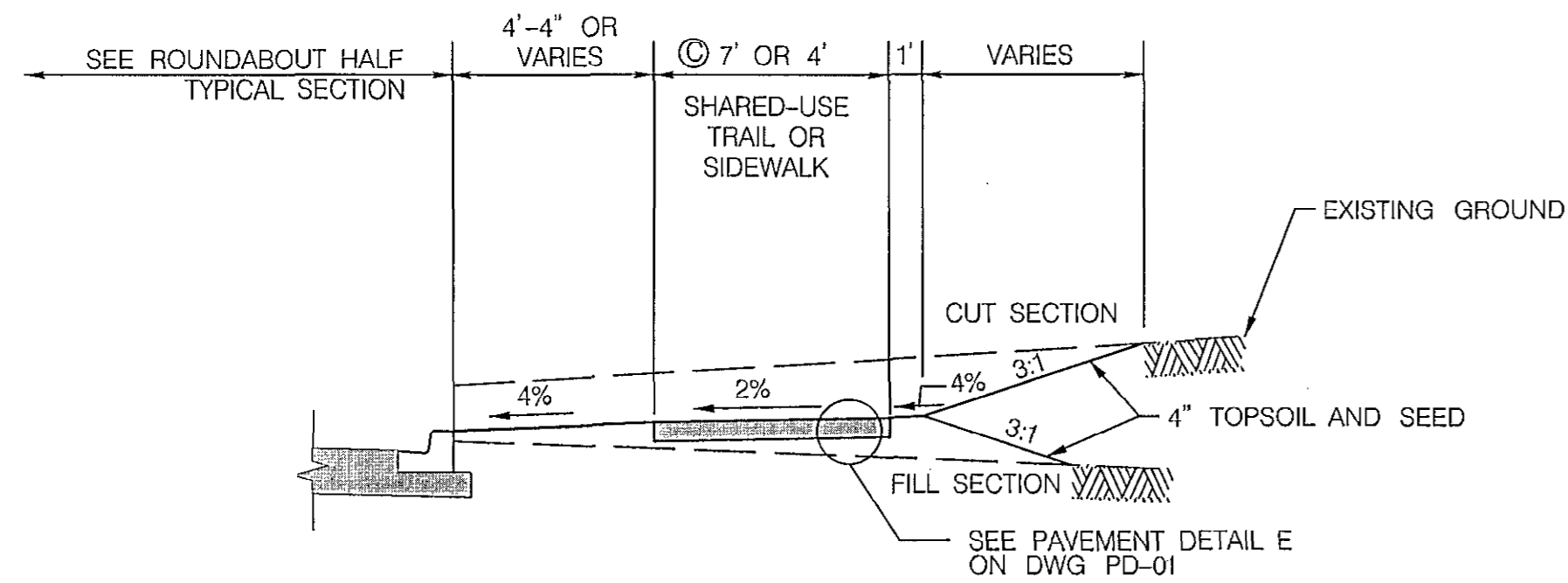


ROUNDABOUT HALF TYPICAL SECTION

SOUTH ROUNDABOUT: STA. 10+00 TO STA. 12+79
 MIDDLE ROUNDABOUT: STA. 20+00 TO STA. 22+79

- Ⓐ SEE APPROACHING ROADWAY TYPICAL SECTIONS:
 STA. 10+00 TO STA. 10+26
 STA. 11+06 TO STA. 11+63
 STA. 11+95 TO STA. 12+79
 STA. 20+00 TO STA. 20+30
 STA. 20+80 TO STA. 21+36
 STA. 21+54 TO STA. 22+27
 STA. 22+54 TO STA. 22+79

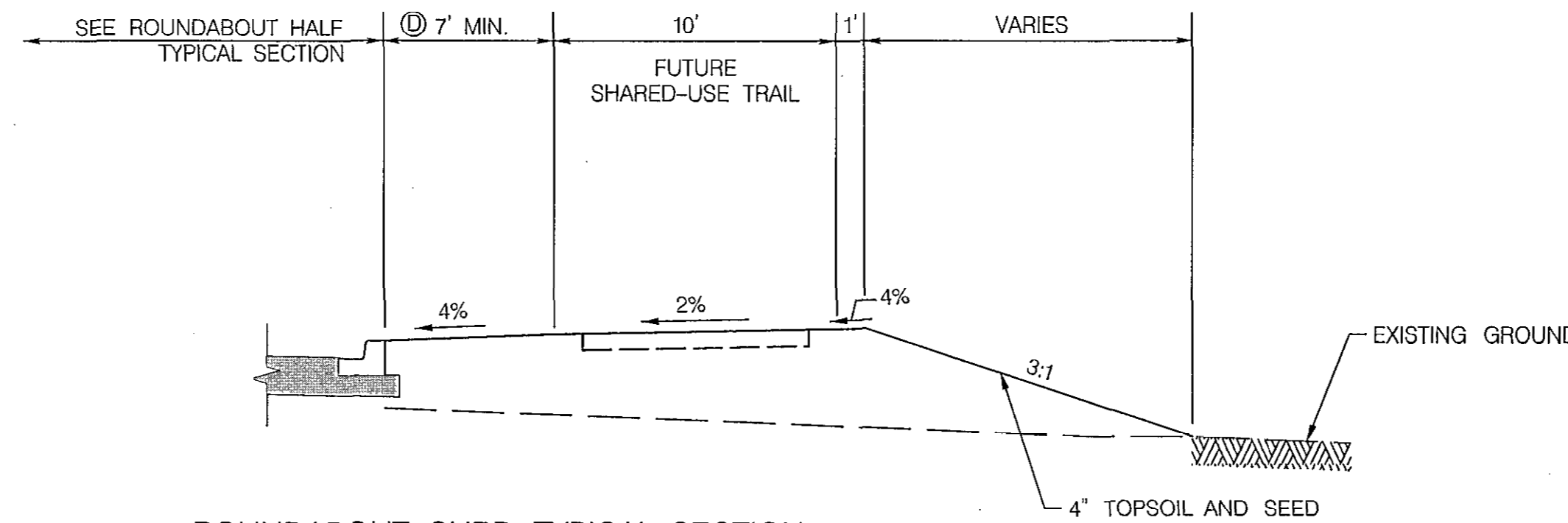
- Ⓑ SEE INTERSECTION DETAIL - SOUTH ROUNDABOUT, DRAWING DE-08
 SEE INTERSECTION DETAIL - MIDDLE ROUNDABOUT, DRAWING DE-09



ROUNDABOUT CURB TYPICAL SECTION

STA. 10+26 TO STA. 11+06
 STA. 11+63 TO STA. 11+95

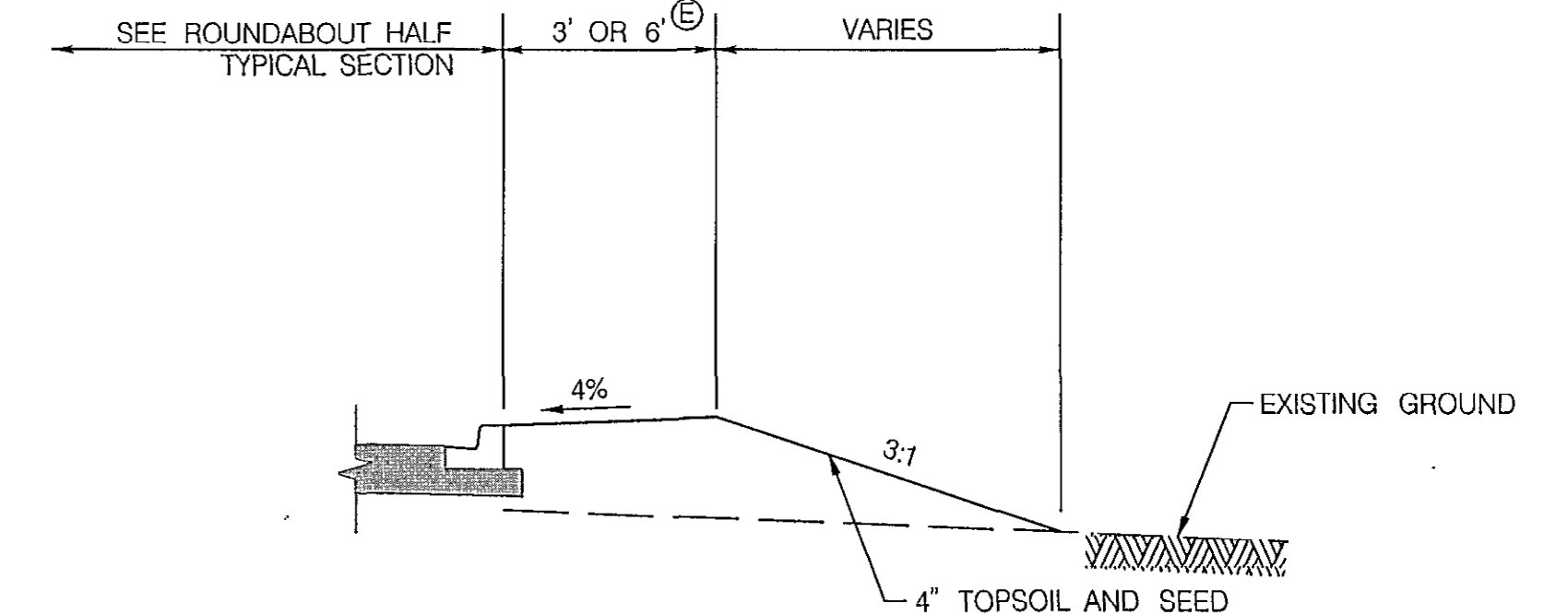
- Ⓒ 7' SHARED-USE TRAIL FROM STA. 10+26 TO STA. 11+06.
 4' WIDE 4" CONCRETE SIDEWALK FROM STA. 11+63 TO STA. 11+95



ROUNDABOUT CURB TYPICAL SECTION

STA. 20+30 TO STA. 20+80

- Ⓓ 7' OFFSET AT STA. 20+61 TAPER BUFFER TO TIE TO FUTURE SHARED-USE TRAIL ALONG OAKLAND MILLS ROAD. SEE ROUNDABOUT PLAN - MIDDLE ROUNDABOUT, DRAWING DE-07.



ROUNDABOUT CURB TYPICAL SECTION

STA. 21+36 TO STA. 21+54
 STA. 22+27 TO STA. 22+54

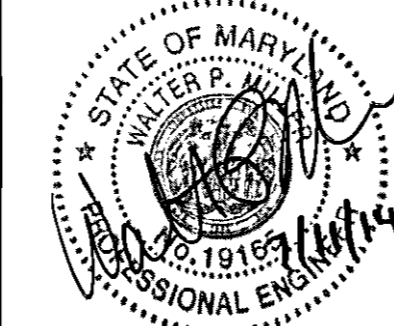
- Ⓔ 6' BUFFER WIDTH FROM STA. 21+36 TO STA. 21+54.
 3' BUFFER WIDTH FROM STA. 22+27 TO STA. 22+54

NOTES:

1. SEE DRAWINGS PD-01 AND PD-02 FOR PAVEMENT AND CURB DETAILS.
2. SEE DRAWING SE-01 FOR SUPERELEVATION TRANSITIONS.
3. SEE ROADWAY PLANS FOR LIMITS OF RESURFACING AND LIMITS OF TRAFFIC BARRIER WBEAM.
4. SEE STORMWATER MANAGEMENT PLANS FOR POND LOCATIONS AND GRADING.
5. SEE DRAWING DE-01 FOR SPLITTER ISLAND DETAILS.

"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. 19165, EXPIRATION DATE: 06/11/2015."

PREPARED BY:
 WHITMAN, REQUARDT & ASSOCIATES, LLP
 801 South Caroline Street, Baltimore, MD 21231



DES:	VAK				
DRN:	VAK				
CHK:	BRT				
DATE:	7/11/2014	BY	NO.	REVISION	DATE

TYPICAL SECTIONS

TAX MAP 36 BLOCK NO. 5 ELECTION DISTRICT 3/7 HOWARD COUNTY, MARYLAND

**BLANDAIR REGIONAL PARK
 PHASE J - SOUTH
 CAPITAL PROJECT # J-4237**

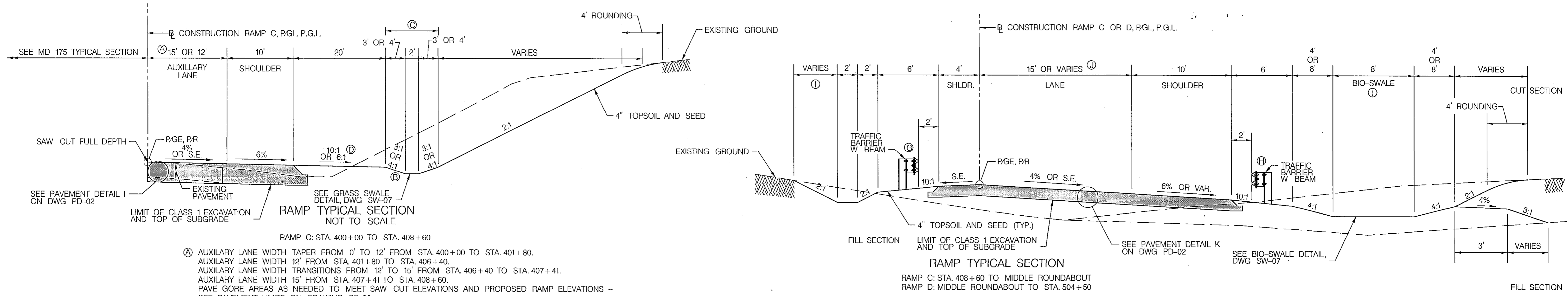
DWG.
HT-07

SCALE
 1" = 5'

SHEET
11 OF 138

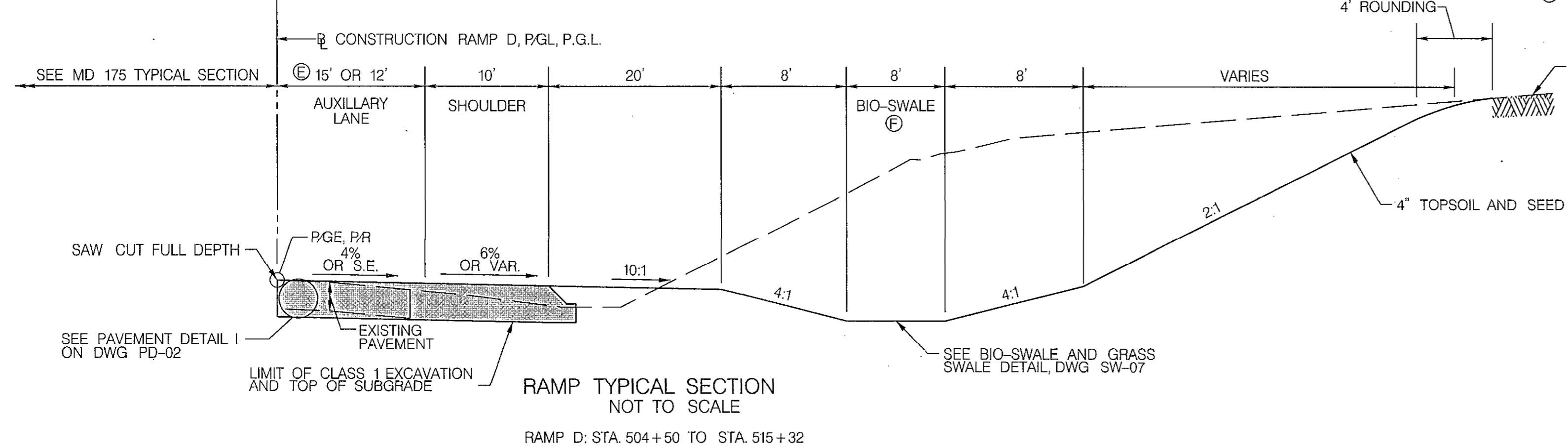
DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND.

Director of Public Works: *Ray Ab* 7/15/14
 Chief, Bureau of Engineering: *Thomas Butler* 7/14/14
 Chief, Bureau of Highways: *Holger Silliano* 7/11/14
 Chief, Transportation and Special Projects Division: *Steve Shaver* 7/11/14

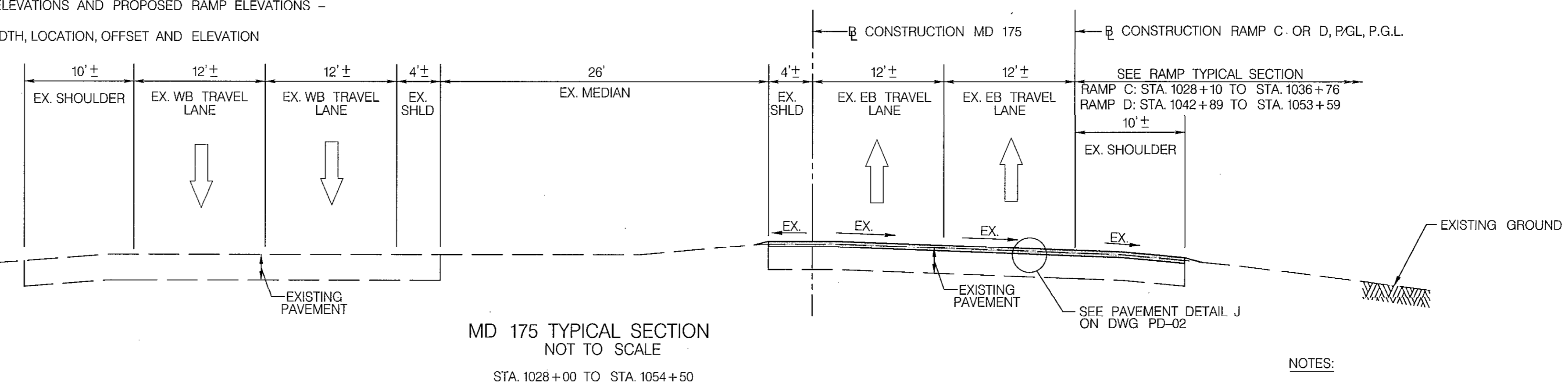


- Ⓐ AUXILIARY LANE WIDTH TAPER FROM 0' TO 12' FROM STA. 400+00 TO STA. 401+80. AUXILIARY LANE WIDTH 12' FROM STA. 401+80 TO STA. 406+40. AUXILIARY LANE WIDTH TRANSITIONS FROM 12' TO 15' FROM STA. 406+40 TO STA. 407+41. AUXILIARY LANE WIDTH 15' FROM STA. 407+41 TO STA. 408+60. PAVE GORE AREAS AS NEEDED TO MEET SAW CUT ELEVATIONS AND PROPOSED RAMP ELEVATIONS - SEE PAVEMENT LIMITS ON DRAWING PS-06.
- Ⓑ 4:1 SLOPE USED IN LOCATION OF BIO-SWALE. REFER TO ROADWAY PLANS FOR DITCH WIDTH, LOCATION, OFFSET AND ELEVATION AND SEE BIO-SWALE DETAIL DRAWING SW-07.
- Ⓒ NO DITCH FROM STA. 405+00 TO STA. 406+80 AND FROM STA. 407+50 TO STA. 408+60
- Ⓓ 6:1 SLOPE USED FROM STA. 405+00 TO STA. 406+80

- Ⓔ TRAFFIC BARRIER W BEAM (STD. NO. MD-605.22)- RAMP C STA. 410+50 TO STA. 412+00
- Ⓕ TRAFFIC BARRIER W BEAM (STD. NO. MD-605.22)- RAMP D STA. 501+50 TO STA. 503+78
- Ⓖ REFER TO ROADWAY PLANS FOR DITCH/BIO-SWALE WIDTH, LOCATION, OFFSET AND ELEVATION
- Ⓗ SEE INTERSECTION DETAIL - MIDDLE ROUNDABOUT, DRAWING DE-09, FOR RAMP LAYOUT AND STAND 7" CURB AND GUTTER LOCATION



- Ⓔ AUXILIARY LANE WIDTH 15' FROM STA. 504+50 TO STA. 506+86. AUXILIARY LANE WIDTH TRANSITIONS FROM 15' TO 12' FROM STA. 506+86 TO STA. 507+86. AUXILIARY LANE WIDTH 12' FROM STA. 507+86 TO STA. 512+34. AUXILIARY LANE WIDTH TAPER FROM 12' TO 0' FROM STA. 512+34 TO STA. 515+32. PAVE GORE AREAS AS NEEDED TO MEET SAW CUT ELEVATIONS AND PROPOSED RAMP ELEVATIONS - SEE PAVEMENT LIMITS ON DRAWING PS-06.
- Ⓕ REFER TO ROADWAY PLANS FOR DITCH/BIO-SWALE WIDTH, LOCATION, OFFSET AND ELEVATION



- NOTES:
1. SEE DRAWINGS PD-01 AND PD-02 FOR PAVEMENT AND CURB DETAILS.
 2. SEE DRAWING SE-01 FOR SUPERELEVATION TRANSITIONS.
 3. SEE ROADWAY PLANS FOR LIMITS OF RESURFACING AND LIMITS OF TRAFFIC BARRIER WBEAM.
 4. SEE STORMWATER MANAGEMENT PLANS FOR POND LOCATIONS AND GRADING.

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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

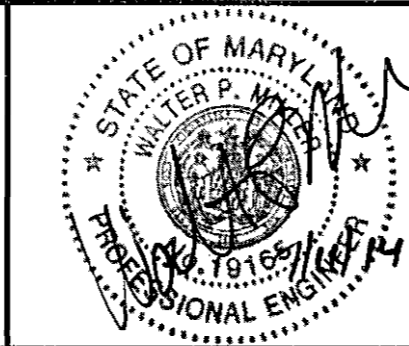
Ra. J. ab 7/6/14
DIRECTOR OF PUBLIC WORKS DATE

Thomas P. Butler 7/16/14
CHIEF, BUREAU OF ENGINEERING DATE

Steve Slawer 7/16/14
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231

WR&A



DES:	VAK
DRN:	VAK
CHK:	BRT
DATE:	7/11/2014
BY:	NO.
REVISION:	
DATE:	

TYPICAL SECTIONS

TAX MAP 36 BLOCK NO. 5

BLANDAIR REGIONAL PARK
PHASE J - SOUTH
CAPITAL PROJECT # J-4237

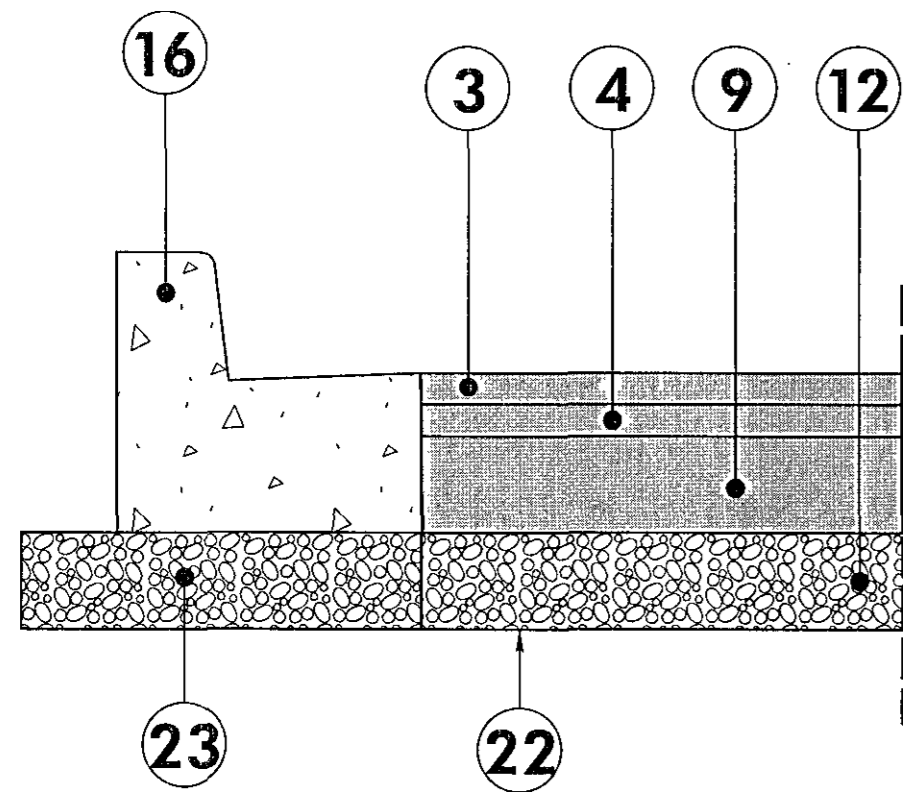
ELECTION DISTRICT 3/7 HOWARD COUNTY, MARYLAND

DWG. HT-08
SCALE 1" = 5'
SHEET 12 OF 138

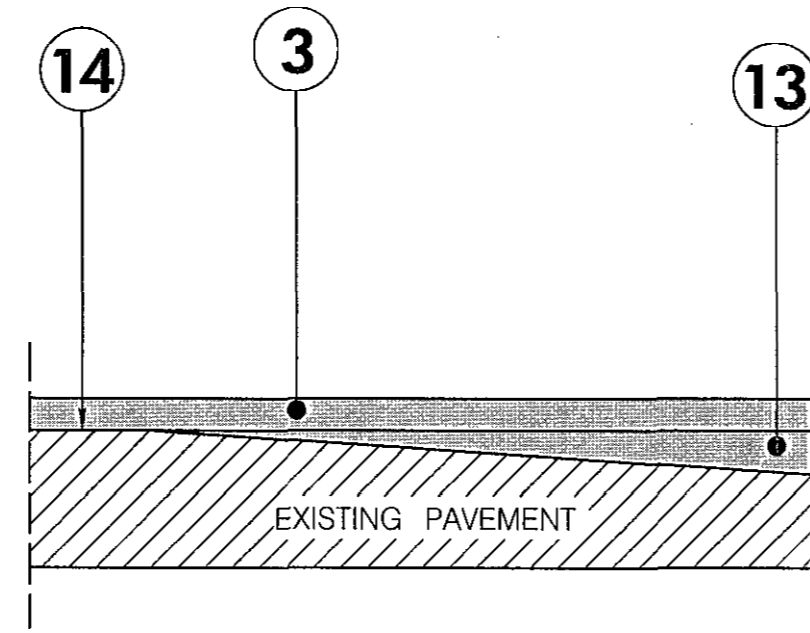
PAVEMENT LEGEND

- 1 1.5" HOT-MIX ASPHALT SUPERPAVE 9.5 mm FOR SURFACE, PG 64-22, LEVEL-1.
- 2 1.0" HOT-MIX ASPHALT SUPERPAVE 9.5 mm FOR INTERMEDIATE SURFACE, PG 64-22, LEVEL-1.
- 3 2.0" HOT-MIX ASPHALT SUPERPAVE 12.5 mm FOR SURFACE, PG 64-22, LEVEL-2.
- 4 2.0" HOT-MIX ASPHALT SUPERPAVE 12.5 mm FOR INTERMEDIATE SURFACE, PG 64-22, LEVEL-2.
- 5 2.5" HOT MIX ASPHALT SUPERPAVE 19.0 mm FOR SURFACE, PG 64-22, LEVEL-1.
- 6 2.0" HOT MIX ASPHALT SUPERPAVE 19.0 mm FOR BASE, PG 64-22, LEVEL-2.
- 7 4.5" HOT-MIX ASPHALT SUPERPAVE 19.0 mm FOR BASE, PG 64-22, LEVEL-1. (2.0" LIFT AND 2.5" LIFT)
- 8 3.0" HOT MIX ASPHALT SUPERPAVE 19.0 mm FOR BASE, PG 64-22, LEVEL-2.
- 9 6.0" HOT-MIX ASPHALT SUPERPAVE 19.0 mm FOR BASE, PG 64-22, LEVEL-2. (TWO 3.0" LIFTS)
- 10 6.0" HOT MIX ASPHALT SUPERPAVE 25.0 mm FOR BASE, PG 64-22, LEVEL 2.
- 11 4.0" GRADED AGGREGATE BASE.
- 12 6.0" GRADED AGGREGATE BASE.
- 13 VARIABLE DEPTH HOT MIX ASPHALT SUPERPAVE 9.5 mm FOR WEDGE AND LEVELING, PG 64-22, LEVEL-4.
- 14 TOP OF PAVEMENT SURFACE AFTER 2" GRINDING.
- 15 STANDARD 7" COMBINATION CURB AND GUTTER (REFER TO HO. CO. DETAIL R-3.01).
- 16 7" COMBINATION CURB AND GUTTER. SEE DETAIL F (THIS SHEET).
- 17 STANDARD TYPE C COMBINATION CURB AND GUTTER (REFER TO SHA STD. NO. MD 620.02-01)
- 18 1" ELASTOMERIC SEALANT ATOP 3/8" PREMOLDED EXPANSION JOINT (EJ) (INCIDENTAL TO 6" THICK 4,500 PSI AIR-ENTRAINED CONCRETE SLAB)
- 19 6" x 6" W2.9 x W2.9 WWF (2" FROM TOP) DISCONTINUE MESH AT EXPANSION JOINTS (INCIDENTAL TO 6" THICK 4,500 PSI AIR-ENTRAINED CONCRETE SLAB)
- 20 3/8" x 3/8" CONTROL JOINT (CJ) (INCIDENTAL TO 6" THICK 4,500 PSI AIR-ENTRAINED CONCRETE SLAB)
- 21 6" THICK 4,500 PSI AIR-ENTRAINED CONCRETE SLAB
- 22 TOP OF SUBGRADE AND LIMIT OF EXCAVATION. (SEE NOTE 5)
- 23 6.0" GRADED AGGREGATE BASE. (INCIDENTAL TO CURB).

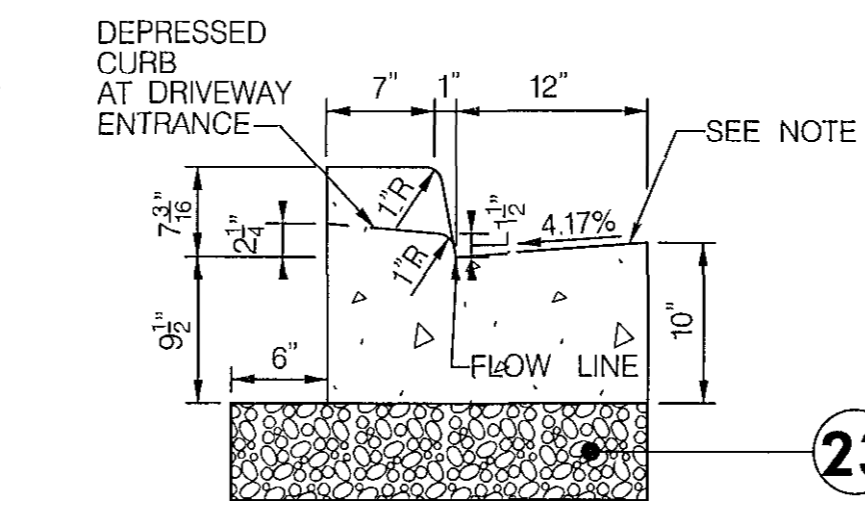
- NOTE:
1. GUTTER PAN AT THE MEDIAN EDGE OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AND IN THE SAME DIRECTION AS THE PAVEMENT. MATCH PAVEMENT CROSS SLOPE WHEN CURB IS LOCATED ON THE LOW SIDE OF SUPERELEVATED SECTION AND THE RATE OF SUPERELEVATION IS GREATER THAN 3% FOR MODIFIED CURB AND GUTTER.
 2. A MINIMUM OF TWO FEET OF COMPACTED STABILIZED EARTH, OR EQUIVALENT, SHALL SUPPORT THE ENTIRE BACK OF CURB.
 3. RED STAMPED ASPHALT TRUCK APRONISLAND SHALL BE APPROVED BY HOWARD COUNTY TRAFFIC (410) 313-2430 PRIOR TO BEING INSTALLED.
 4. THE TOP OF SUBGRADE SHALL BE PROOF ROLLED PRIOR TO PLACING THE BASE COURSE FOR THE PAVEMENT SECTION. IF WET, UNSTABLE SUBGRADE OR UNSUITABLE MATERIAL IS ENCOUNTERED DURING CONSTRUCTION, THOSE AREAS SHOULD BE UNDERCUT TO A DEPTH OF 12 INCHES AND BACKFILLED WITH MATERIAL MEETING THE REQUIREMENTS OF SELECT BORROW.
 5. IN AREAS WHERE EXISTING PAVEMENT IS BEING REMOVED, THE LIMIT OF CLASS 1 EXCAVATION SHALL BE AT THE BOTTOM OF THE BOUND MATERIALS IN THE EXISTING PAVEMENT OR AT THE TOP OF SUBGRADE, WHICHEVER IS LOWER.



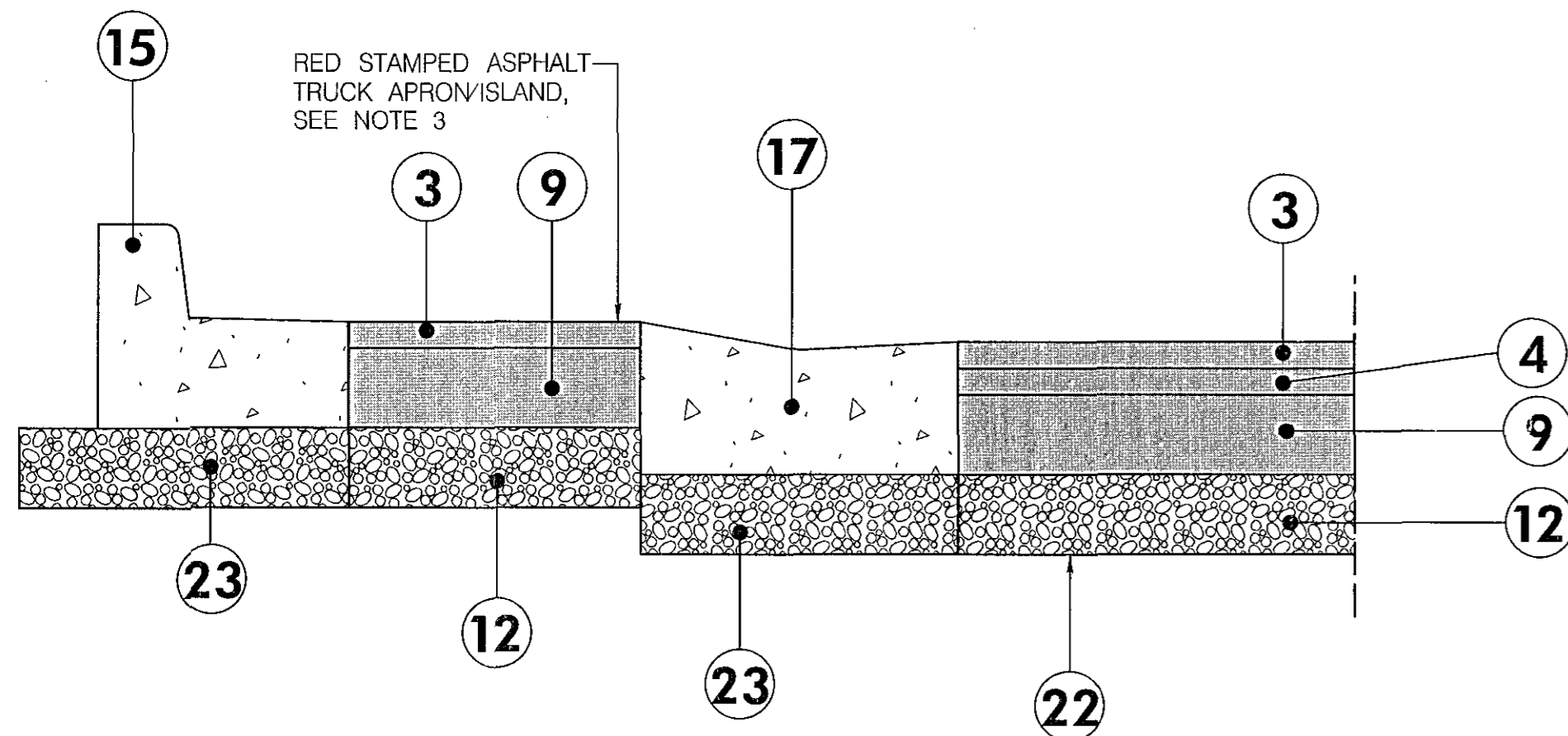
DETAIL A - COUNTY ROAD FULL DEPTH CLOSED SECTION



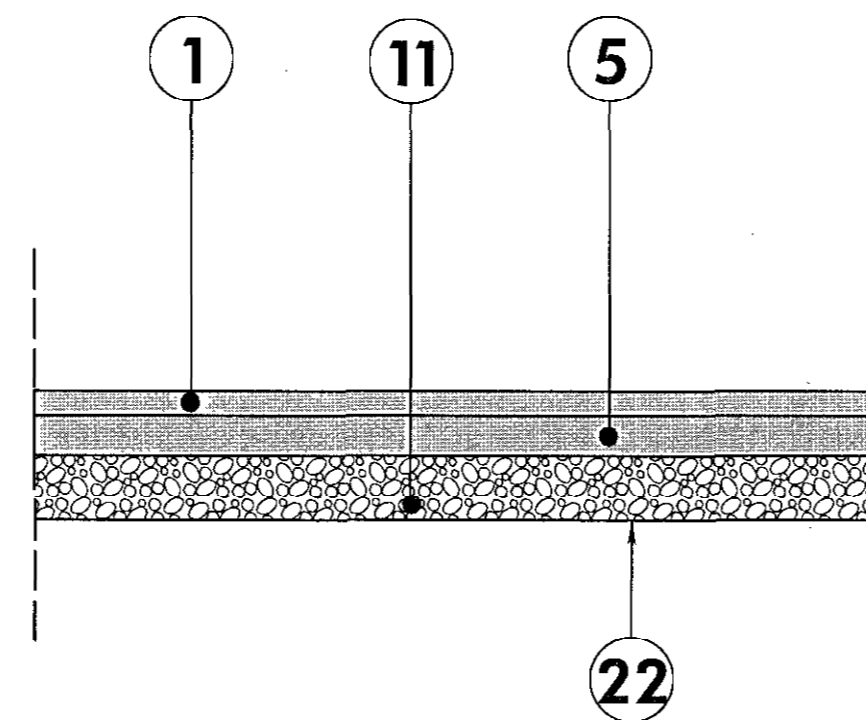
DETAIL D - COUNTY ROAD HMA RESURFACING



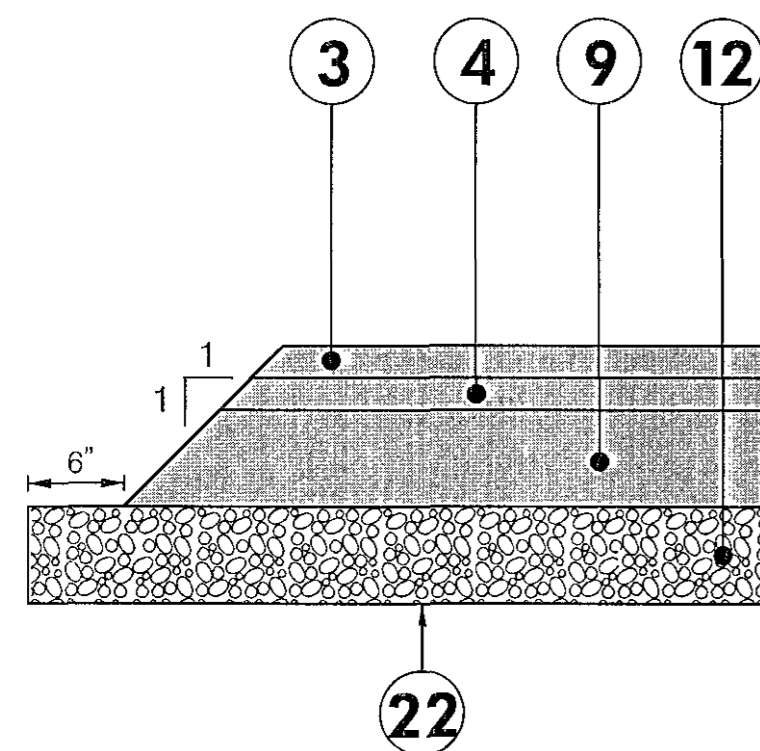
DETAIL F - 7" COMBINATION CURB AND GUTTER



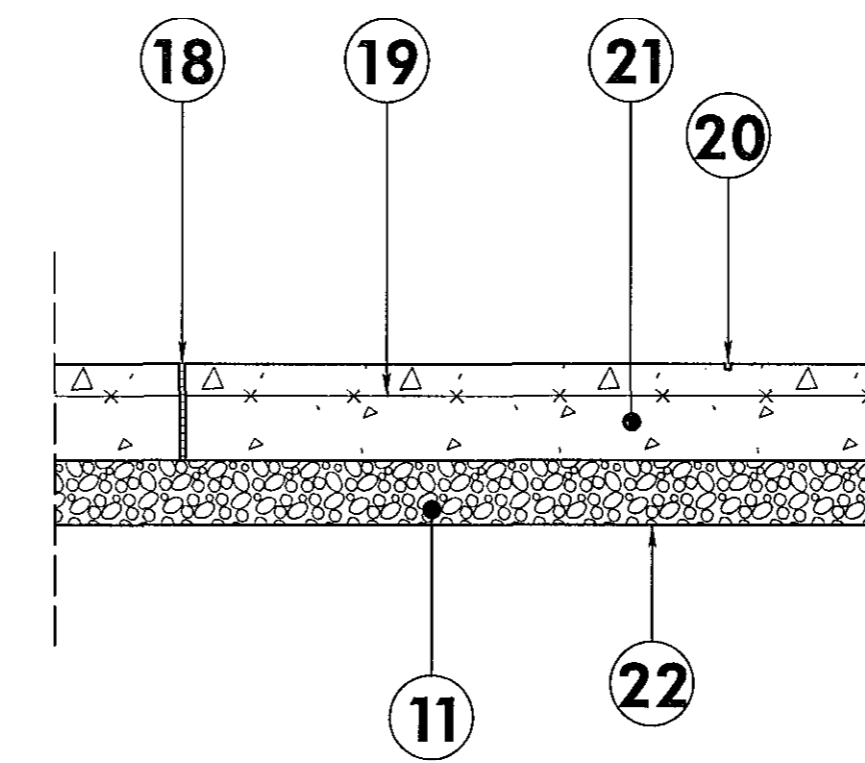
DETAIL B - ROUNDABOUT TRUCK APRON



DETAIL E - ASPHALT TRAIL



DETAIL C - COUNTY ROAD FULL DEPTH OPEN SECTION



DETAIL G - HEAVY-DUTY CONCRETE PAVEMENT

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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

Director of Public Works: *Ray R. Sullivan* 7/11/14
 Chief, Bureau of Engineering: *Thomas E. Butler* 7/11/14
 Chief, Bureau of Highways: *Steve Shaver* 7/11/14
 Chief, Transportation and Special Projects Division

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231

WR&A



DES:	VAK				
DRN:	VAK				
CHK:	BRT				
DATE:	7/11/2014	BY:	NO.	REVISION	DATE

PAVEMENT DETAILS

TAX MAP 36 BLOCK NO. 5

BLANDAIR REGIONAL PARK
PHASE J - SOUTH
CAPITAL PROJECT # J-4237

ELECTION DISTRICT 3/7 HOWARD COUNTY, MARYLAND

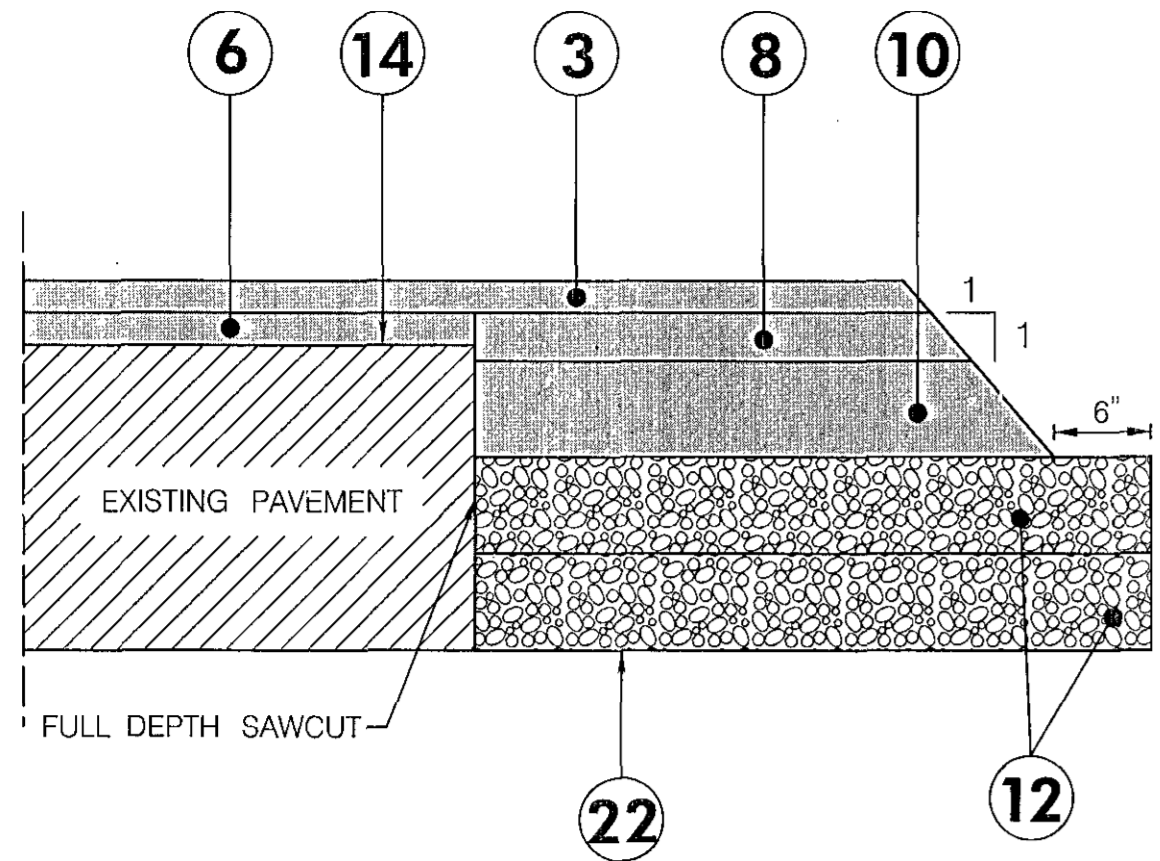
DWG. PD-01
SCALE NA
SHEET 13 OF 138

PAVEMENT LEGEND

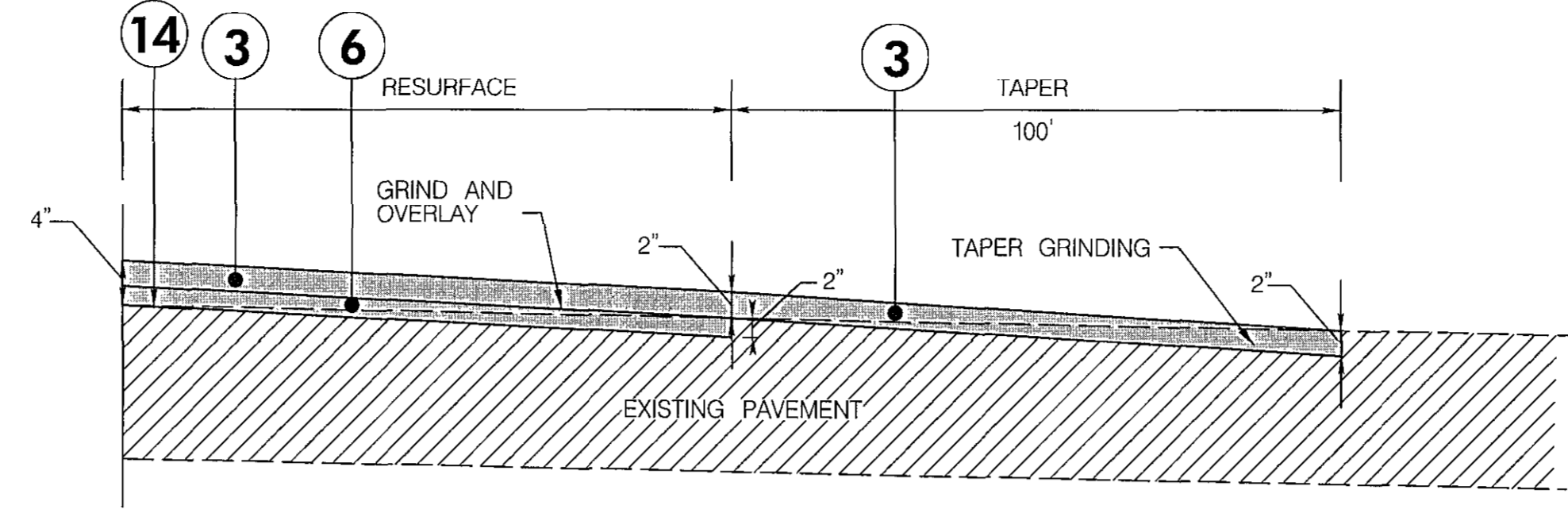
- ① 1.5" HOT-MIX ASPHALT SUPERPAVE 9.5 mm FOR SURFACE, PG 64-22, LEVEL-1.
- ② 1.0" HOT-MIX ASPHALT SUPERPAVE 9.5 mm FOR INTERMEDIATE SURFACE, PG 64-22, LEVEL-1.
- ③ 2.0" HOT-MIX ASPHALT SUPERPAVE 12.5 mm FOR SURFACE, PG 64-22, LEVEL-2.
- ④ 2.0" HOT-MIX ASPHALT SUPERPAVE 12.5 mm FOR INTERMEDIATE SURFACE, PG 64-22, LEVEL-2.
- ⑤ 2.5" HOT MIX ASPHALT SUPERPAVE 19.0 mm FOR SURFACE, PG 64-22, LEVEL-1.
- ⑥ 2.0" HOT MIX ASPHALT SUPERPAVE 19.0 mm FOR BASE, PG 64-22, LEVEL-2.
- ⑦ 4.5" HOT-MIX ASPHALT SUPERPAVE 19.0 mm FOR BASE, PG 64-22, LEVEL-1. (2.0" LIFT AND 2.5" LIFT)
- ⑧ 3.0" HOT MIX ASPHALT SUPERPAVE 19.0 mm FOR BASE, PG 64-22, LEVEL-2.
- ⑨ 6.0" HOT-MIX ASPHALT SUPERPAVE 19.0 mm FOR BASE, PG 64-22, LEVEL-2. (TWO 3.0" LIFTS)
- ⑩ 6.0" HOT MIX ASPHALT SUPERPAVE 25.0 mm FOR BASE, PG 64-22, LEVEL 2.
- ⑪ 4.0" GRADED AGGREGATE BASE.
- ⑫ 6.0" GRADED AGGREGATE BASE.
- ⑬ VARIABLE DEPTH HOT MIX ASPHALT SUPERPAVE 9.5 mm FOR WEDGE AND LEVELING, PG 64-22, LEVEL-4.
- ⑭ TOP OF PAVEMENT SURFACE AFTER 2" GRINDING.
- ⑮ STANDARD 7" COMBINATION CURB AND GUTTER (REFER TO HO. CO. DETAIL R-3.01).
- ⑯ 7" COMBINATION CURB AND GUTTER. SEE DETAIL F (DWG PD-01).
- ⑰ STANDARD TYPE C COMBINATION CURB AND GUTTER (REFER TO SHA STD. NO. MD 620.02-01)
- ⑱ 1" ELASTOMERIC SEALANT ATOP 3/8" PREMOLDED EXPANSION JOINT (EJ) (INCIDENTAL TO 6" THICK 4,500 PSI AIR-ENTRAINED CONCRETE SLAB)
- ⑲ 6" x 6" W2.9 x W2.9 WWF (2" FROM TOP) DISCONTINUE MESH AT EXPANSION JOINTS (INCIDENTAL TO 6" THICK 4,500 PSI AIR-ENTRAINED CONCRETE SLAB)
- ⑳ 3/8" x 3/8" CONTROL JOINT (CJ) (INCIDENTAL TO 6" THICK 4,500 PSI AIR-ENTRAINED CONCRETE SLAB)
- ㉑ 6" THICK 4,500 PSI AIR-ENTRAINED CONCRETE SLAB
- ㉒ TOP OF SUBGRADE AND LIMIT OF EXCAVATION. (SEE NOTE 5)
- ㉓ 6.0" GRADED AGGREGATE BASE. (INCIDENTAL TO CURB).

NOTE:

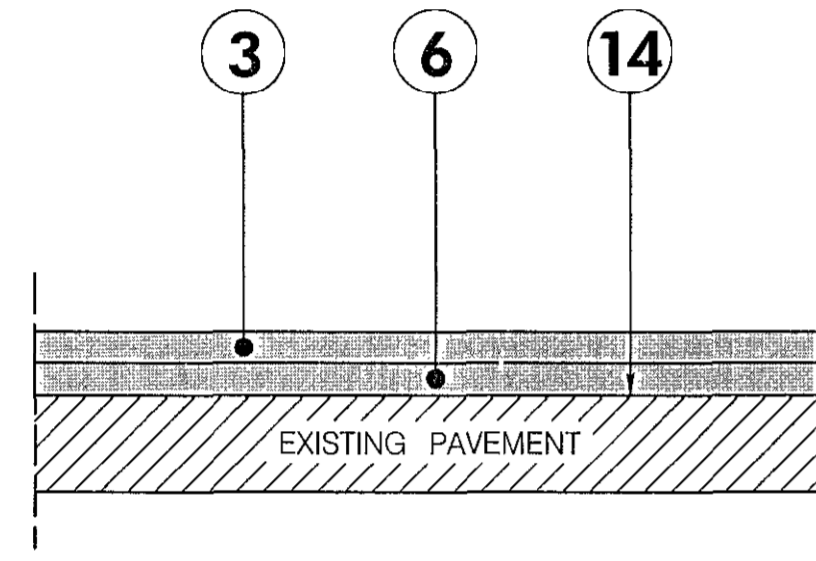
1. GUTTER PAN AT THE MEDIAN EDGE OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AND IN THE SAME DIRECTION AS THE PAVEMENT. MATCH PAVEMENT CROSS SLOPE WHEN CURB IS LOCATED ON THE LOW SIDE OF SUPERELEVATED SECTION AND THE RATE OF SUPERELEVATION IS GREATER THAN 3% FOR MODIFIED CURB AND GUTTER.
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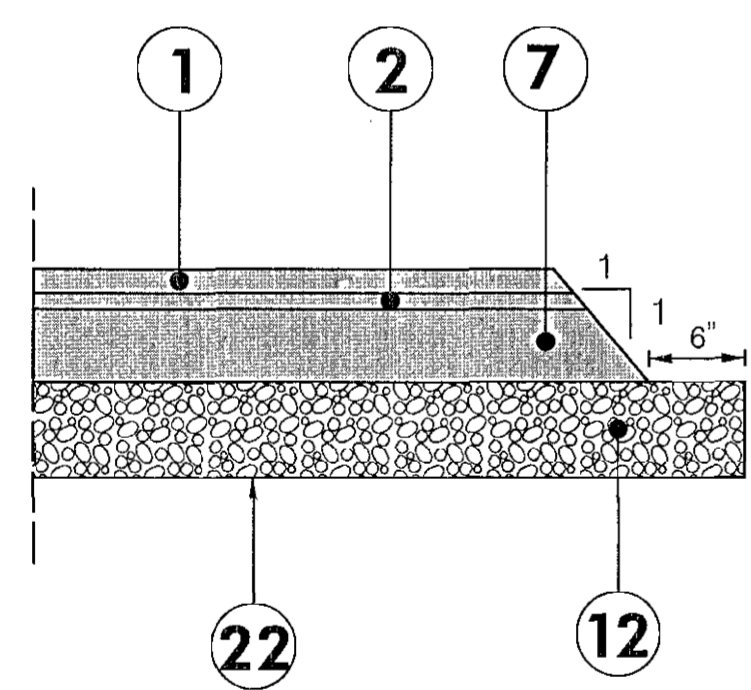
DETAIL I - MD 175 WIDENING



MD 175 BUTT JOINT DETAIL



DETAIL J - MD 175 HMA RESURFACING

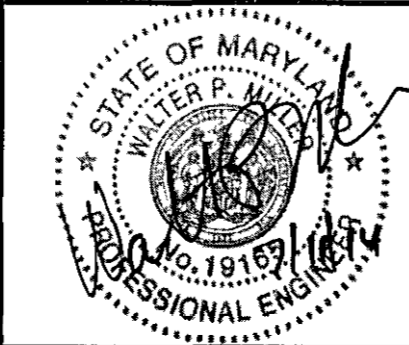


DETAIL K - MD 175 RAMPS FULL DEPTH

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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.
[Signatures]
DATE: 7/15/14
DATE: 7/16/14

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231
WR&A

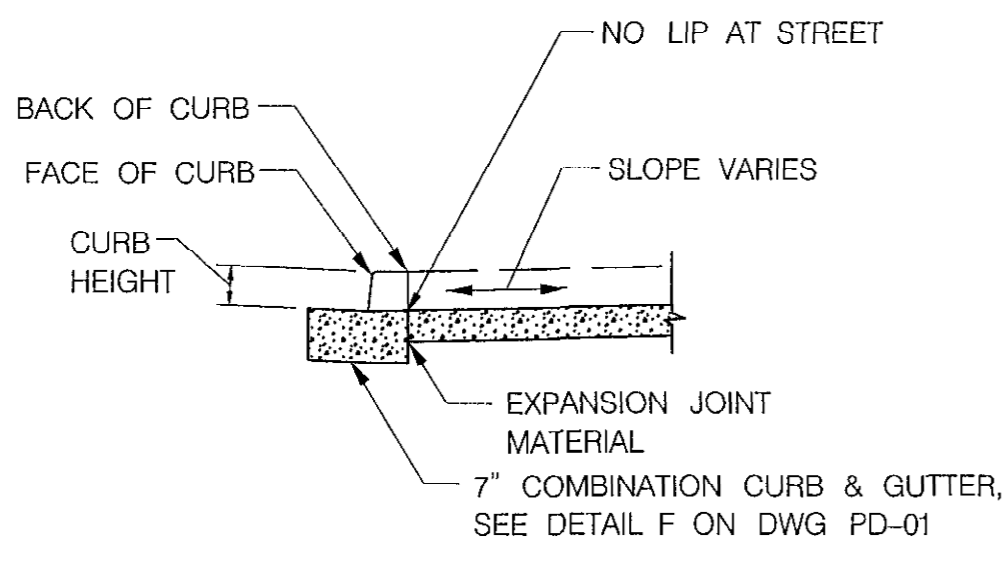
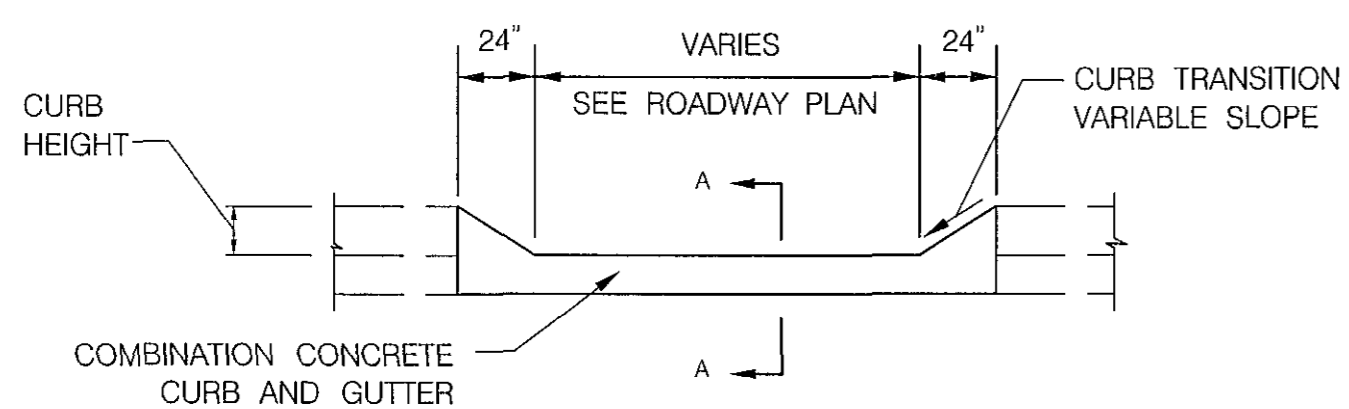
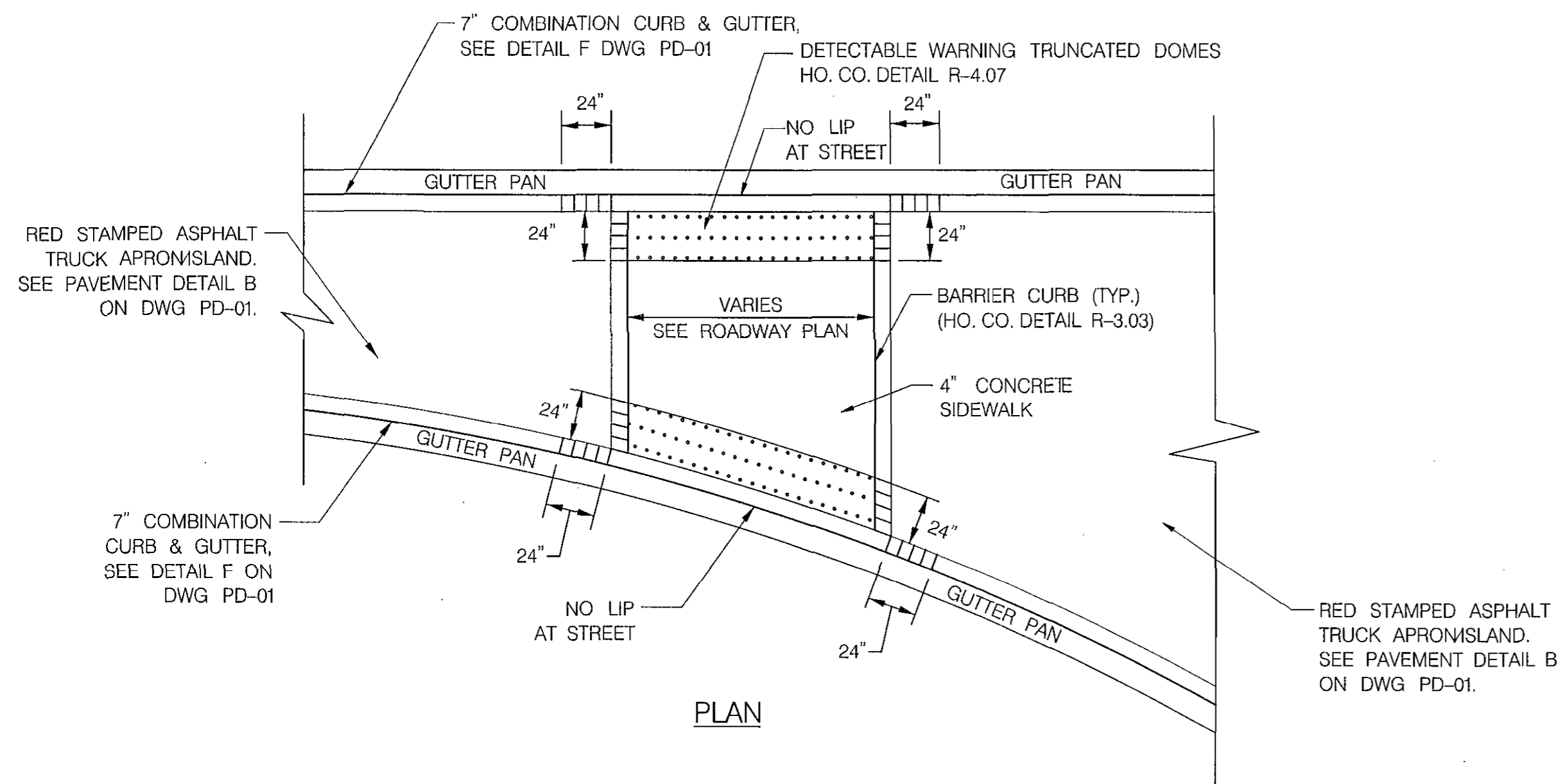


DES: VAK					
DRN: VAK					
CHK: BRT					
DATE: 7/1/2014	BY	NO.	REVISION	DATE	TAX MAP 36

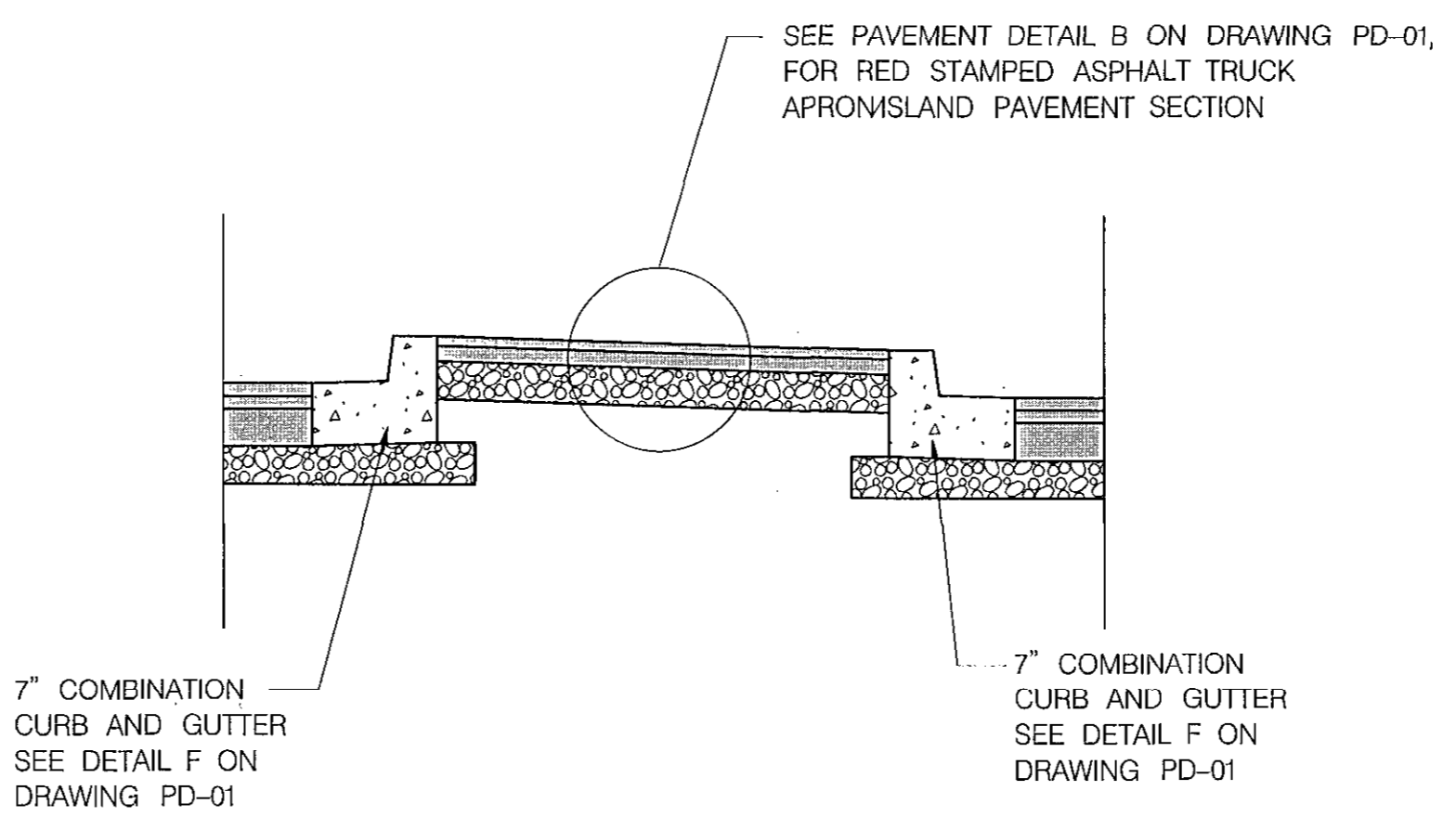
PAVEMENT DETAILS

**BLANDAIR REGIONAL PARK
PHASE J - SOUTH
CAPITAL PROJECT # J-4237**

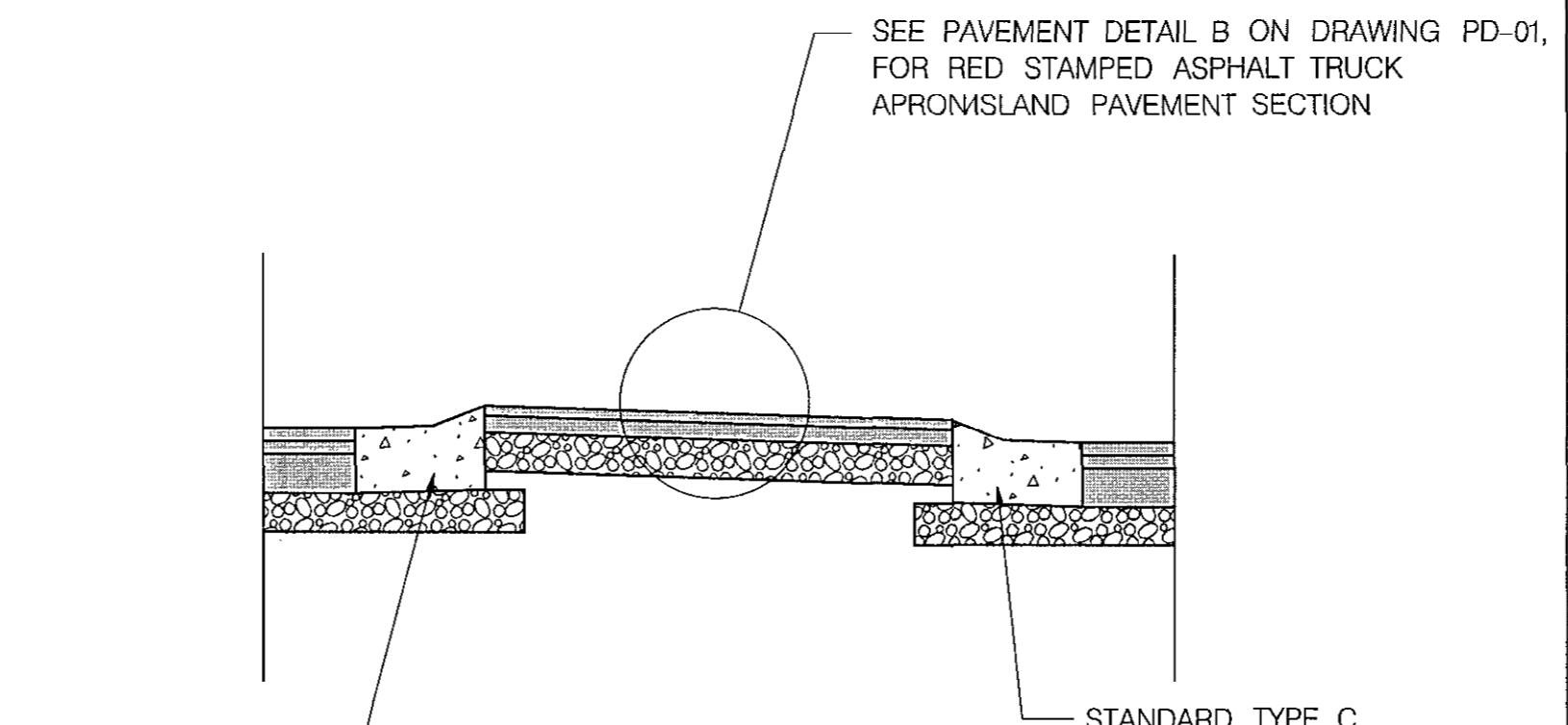
DWG. PD-02
SCALE NA
SHEET 14 OF 138



CUT-THROUGH MEDIAN AND ISLAND OPENINGS

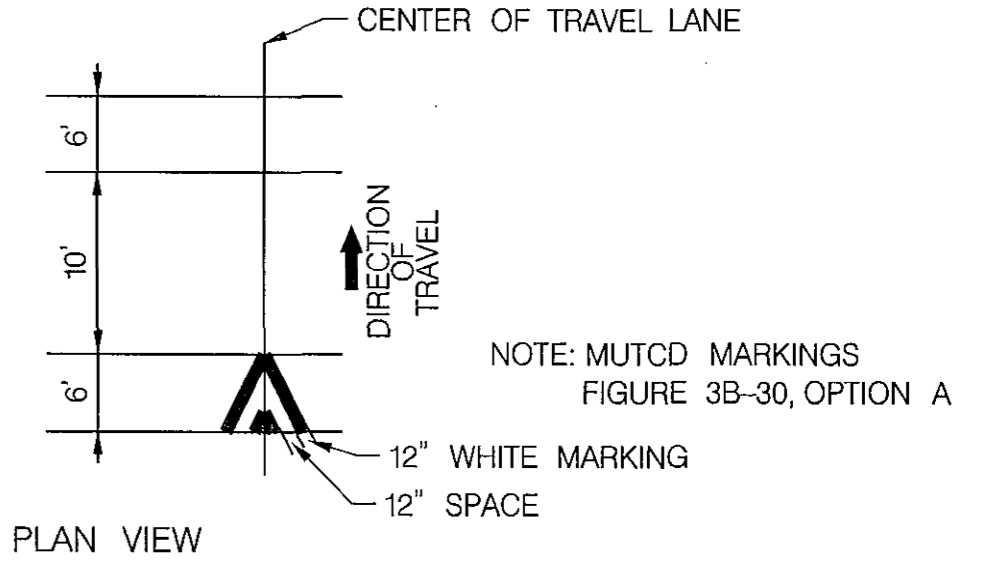


SOUTHERN ROUNDABOUT SPLITTER ISLAND DETAIL
 SEE INTERSECTION DETAIL - SOUTH ROUNDABOUT, DRAWING DE-08, FOR CURB LAYOUT OF SPLITTER ISLANDS

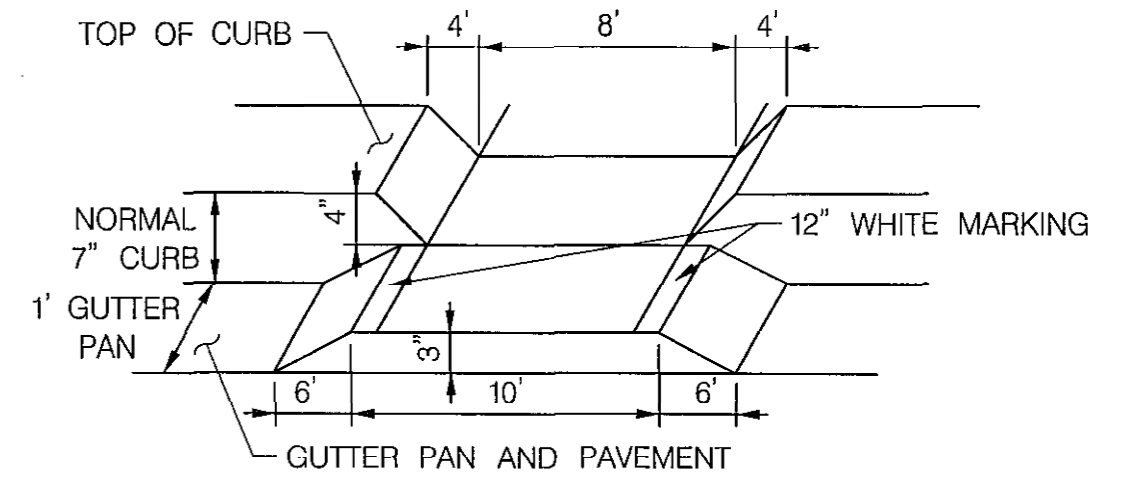


MIDDLE ROUNDABOUT SPLITTER ISLAND DETAIL
 SEE INTERSECTION DETAIL - MIDDLE ROUNDABOUT, DRAWING DE-09, FOR CURB LAYOUT OF SPLITTER ISLANDS

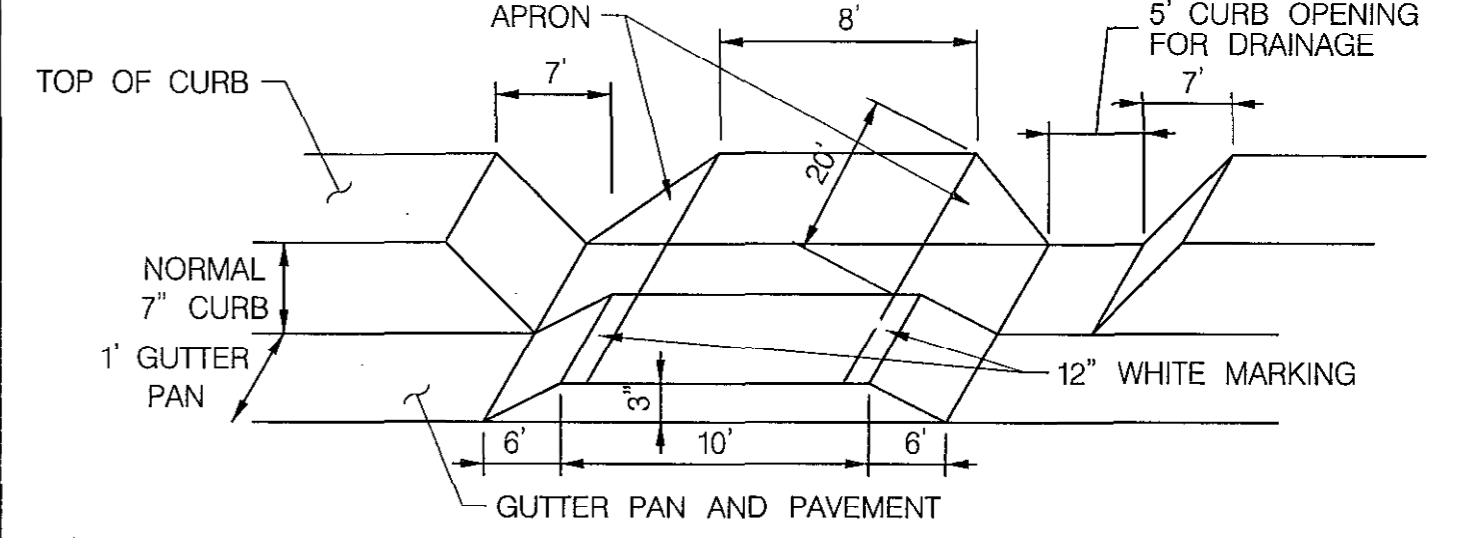
SPEED TABLE DETAILS
 NOT TO SCALE



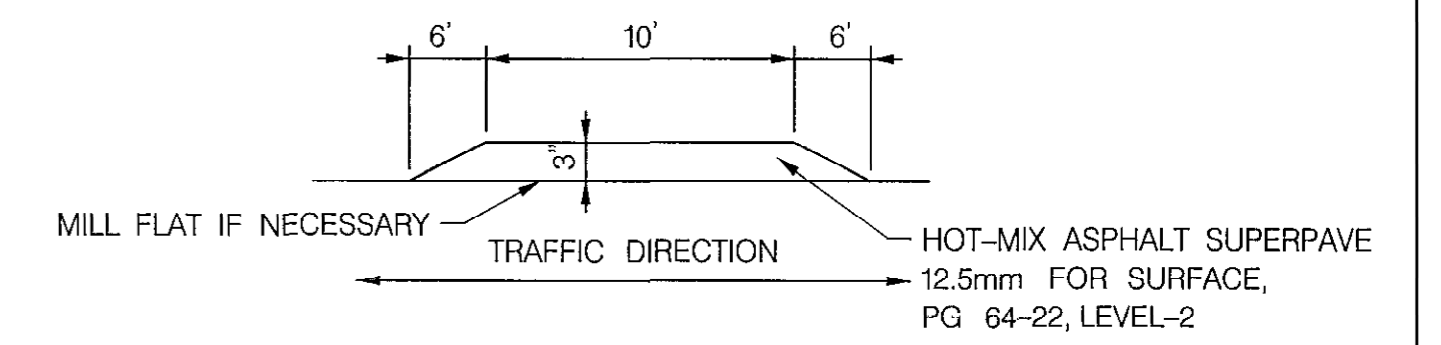
WEST CURB AND MEDIAN CURB PROFILE VIEW (VERTICAL EXAGGERATED)



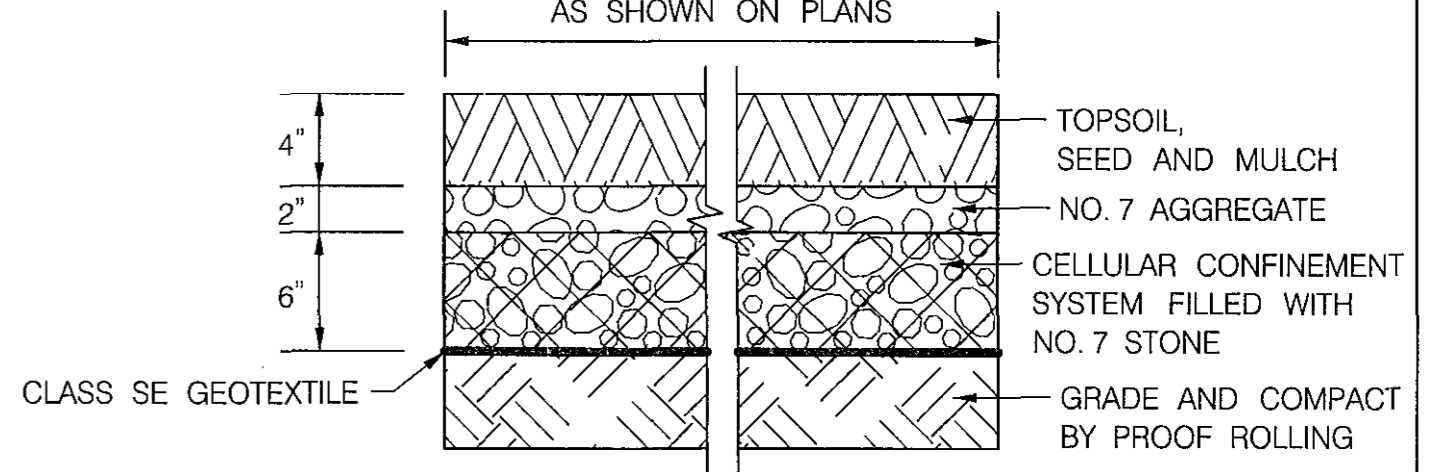
EAST CURB PROFILE VIEW (VERTICAL EXAGGERATED)



SPEED TABLE DETAIL



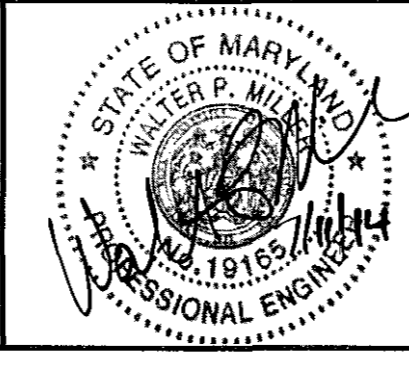
APRON DETAIL



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DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND.
 Director of Public Works: *Janet A. ...* 7/11/14
 Chief, Bureau of Engineering: *Thomas B. ...* 7/11/14
 Chief, Transportation and Special Projects Division: *Steve ...* 7/11/14

PREPARED BY:
 WHITMAN, REQUARDT & ASSOCIATES, LLP
 801 South Caroline Street, Baltimore, MD 21231
 WR&A



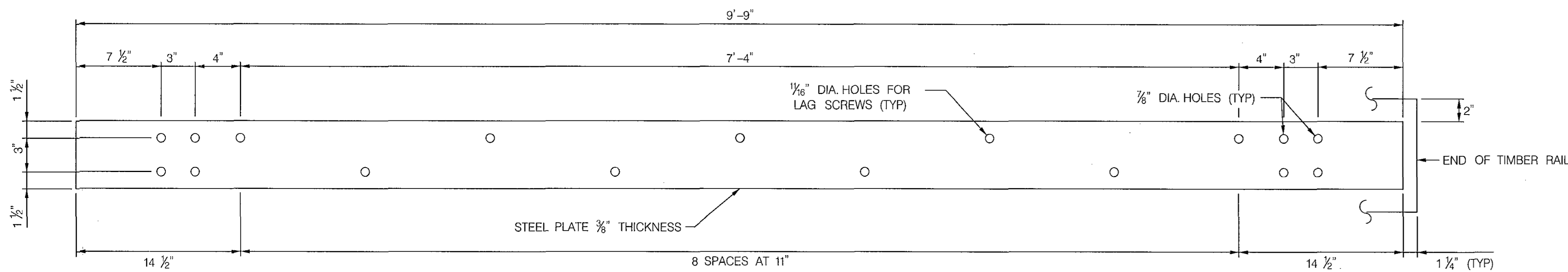
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DRN:	VAK				
CHK:	BRT				
DATE:	7/11/2014	BY:	NO.	REVISION	DATE

ROADWAY DETAILS
 TAX MAP 36
 BLOCK NO. 5

BLANDAIR REGIONAL PARK
 PHASE J - SOUTH
 CAPITAL PROJECT # J-4237
 ELECTION DISTRICT 3 / 7
 HOWARD COUNTY, MARYLAND

DWG. DE-01
 SCALE NA
 SHEET 15 OF 138

- NOTES**
- USE THE TYPE A, BLOCKED-OUT, SYSTEM OR THE TYPE B, NON-BLOCKED-OUT, SYSTEM AS SPECIFIED.
 - USE WEATHERING STEEL FOR ALL STRUCTURAL STEEL AND FASTENER HARDWARE AS SPECIFIED.
 - PLACE A TERMINAL SECTION (SEE DE-04) ON BOTH APPROACH AND TRAILING ENDS OF BARRIER INSTALLATIONS.



STEEL RAIL DETAIL

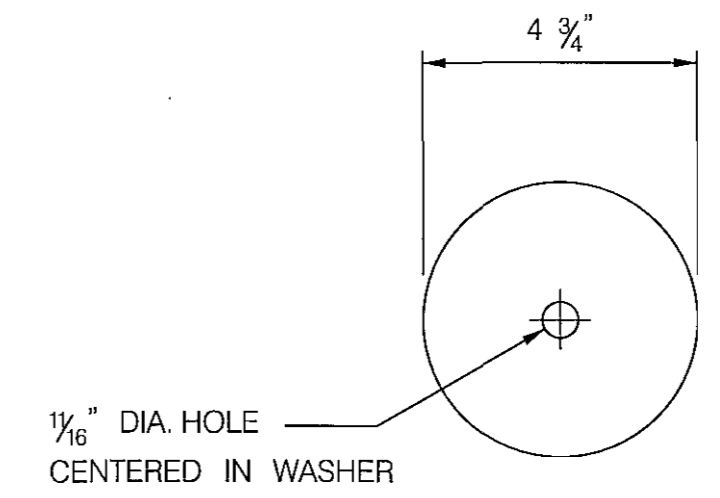
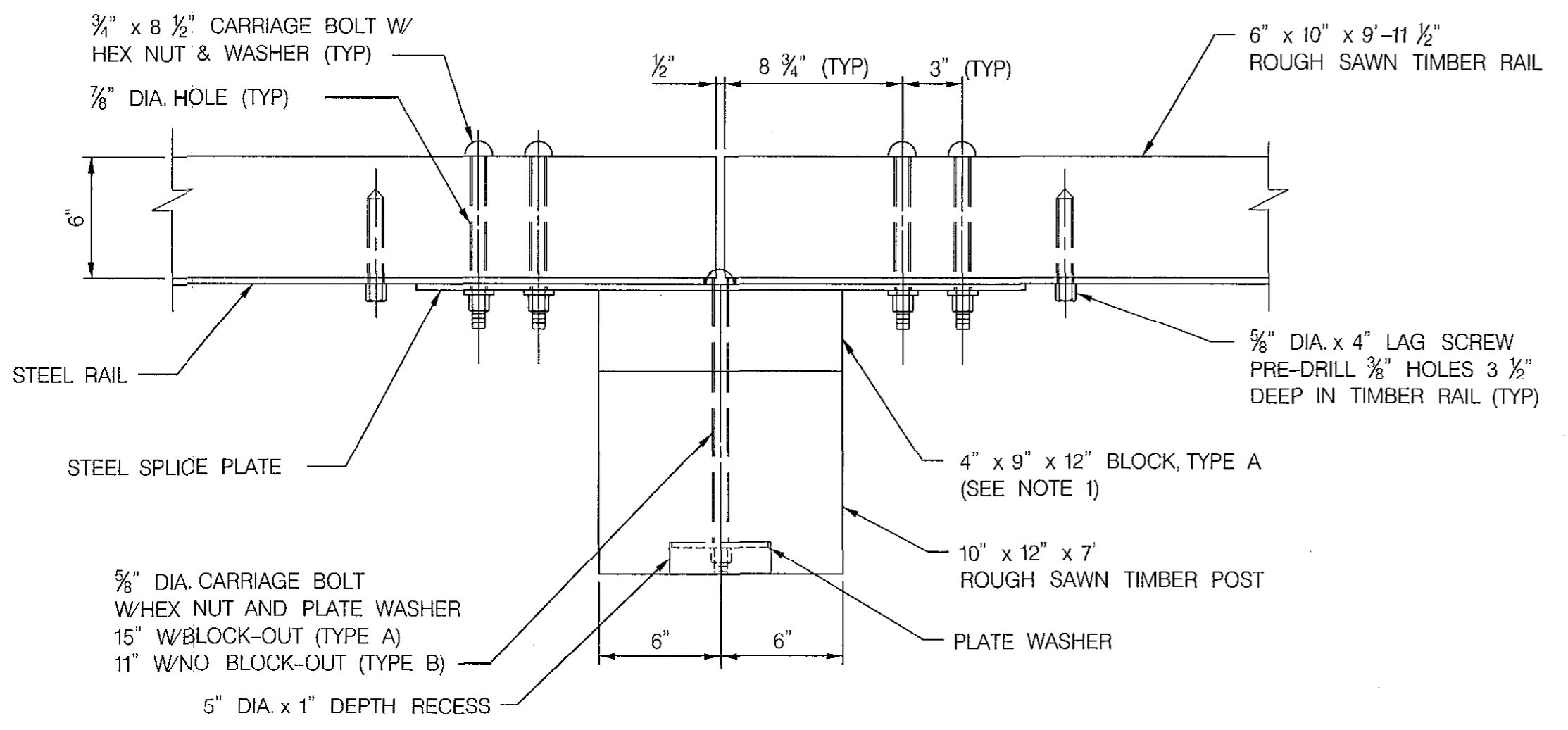
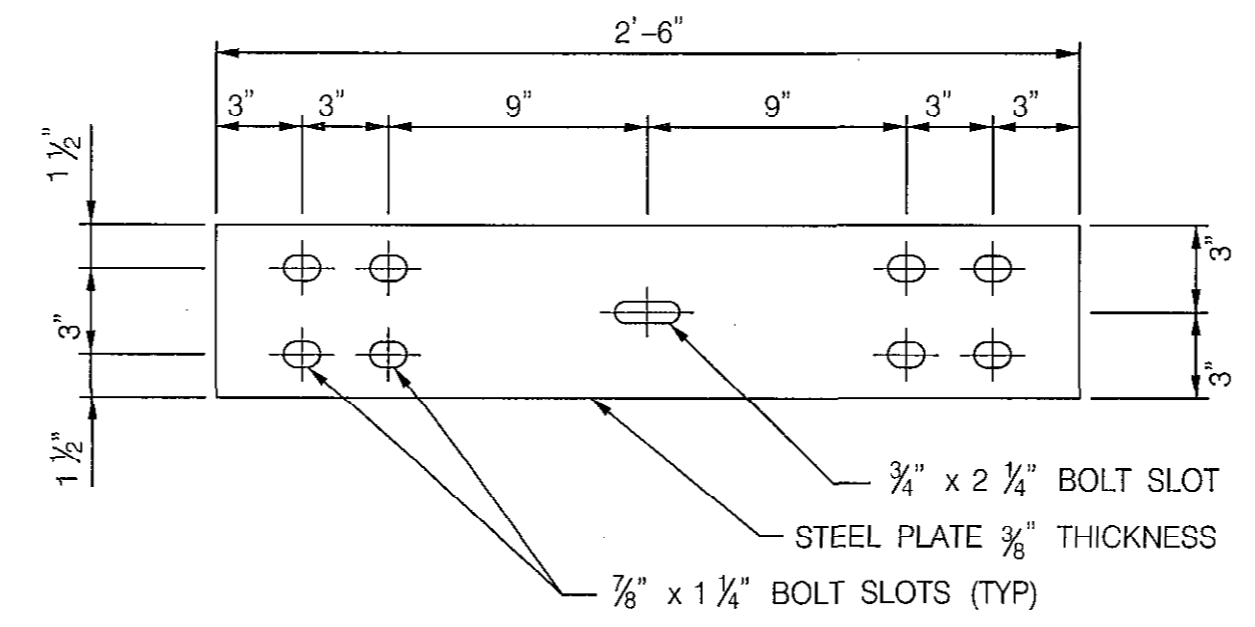


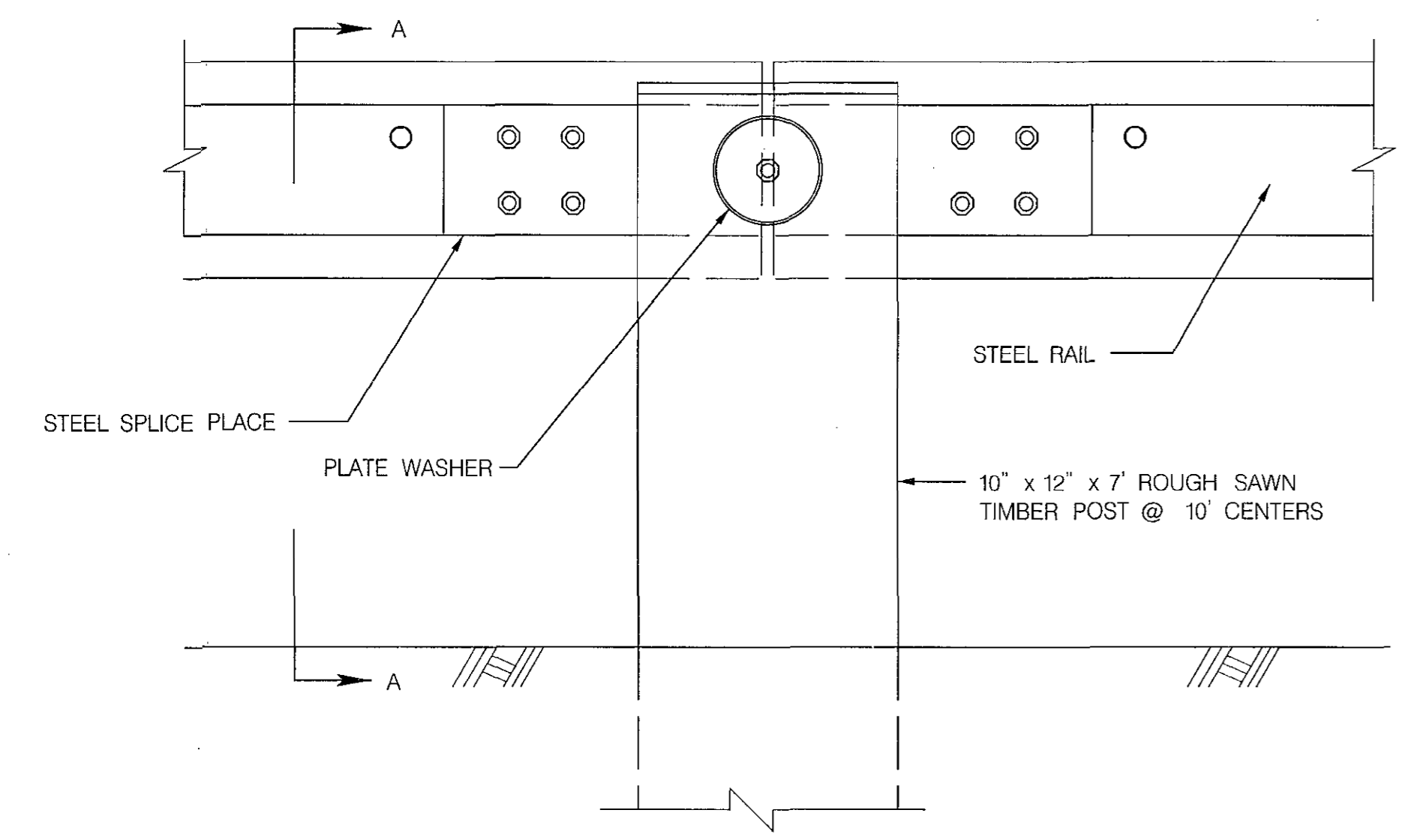
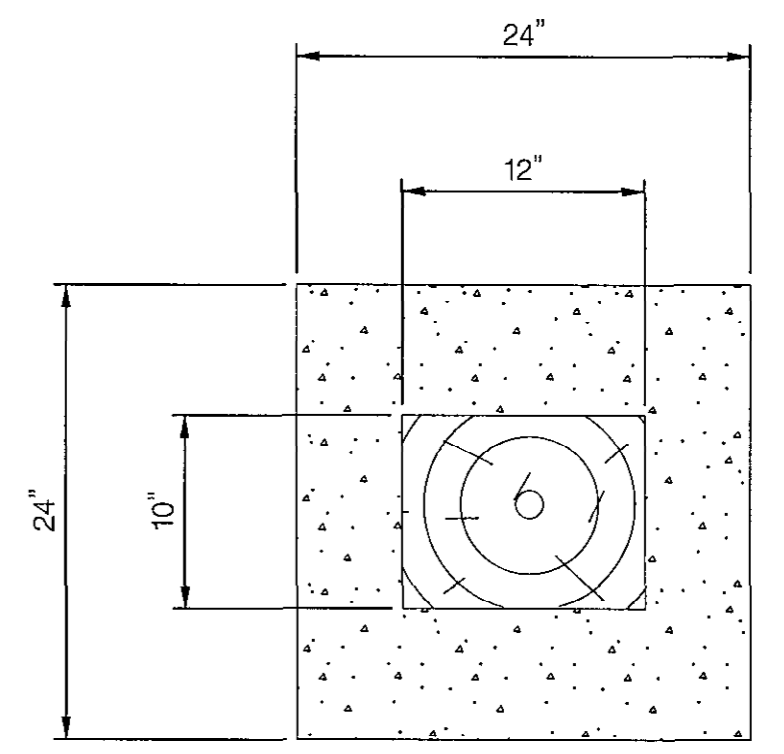
PLATE WASHER DETAIL



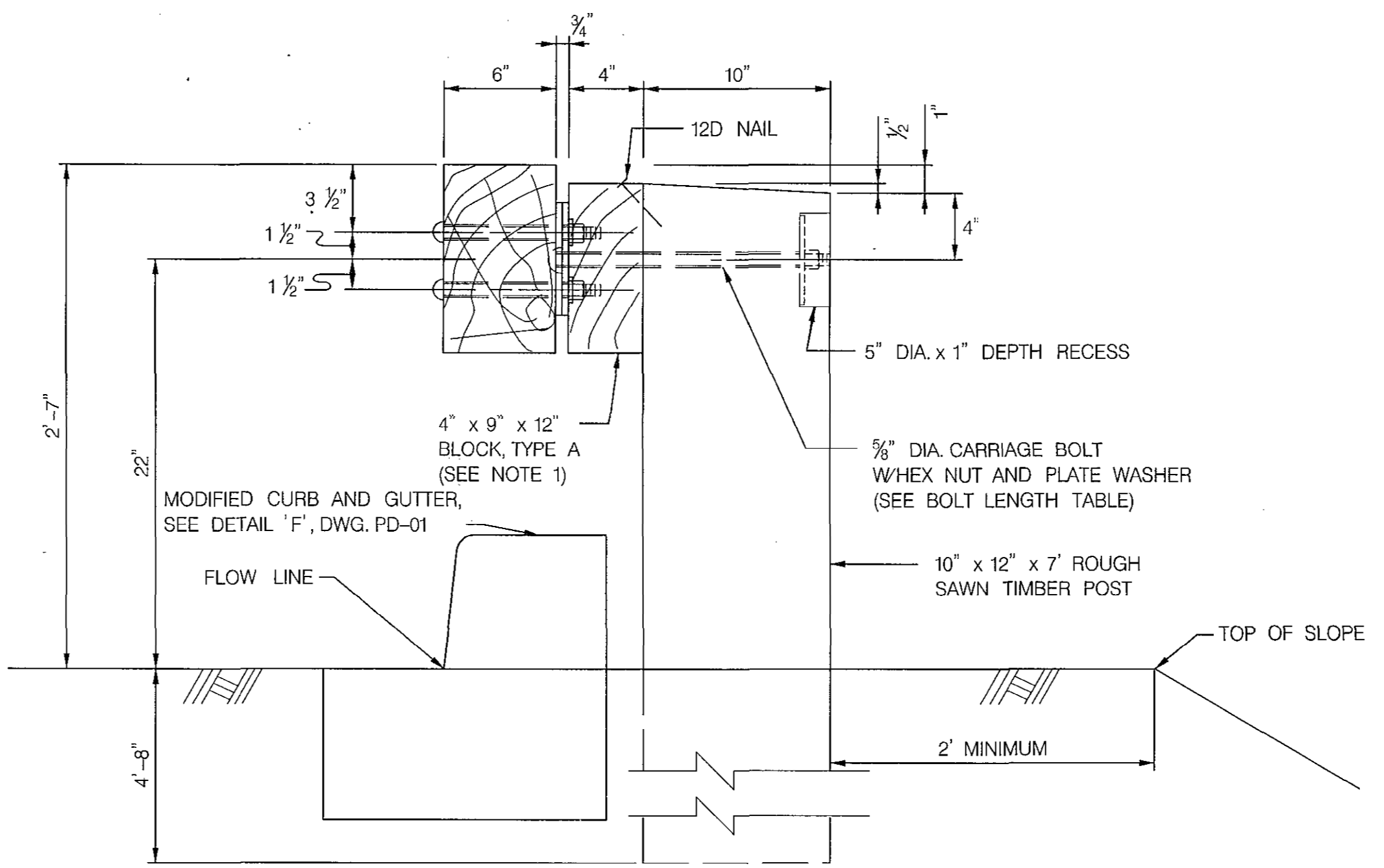
POST CONNECTION PLAN



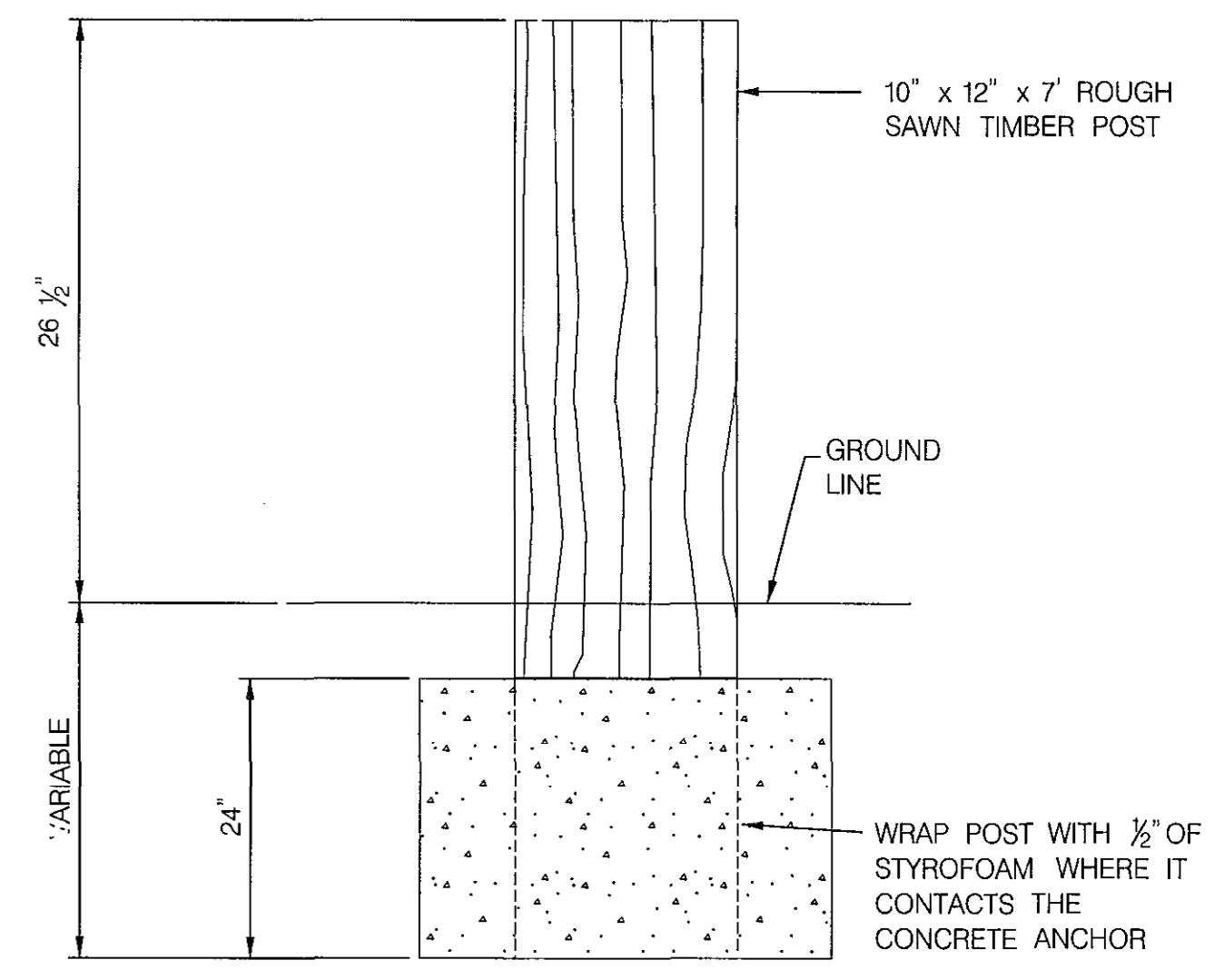
STEEL SPLICE PLATE



POST CONNECTION ELEVATION



SECTION A-A



CONCRETE ANCHOR FOR SHORT GUARDRAIL ASSEMBLY

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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

Ray A. ... 7/15/14
DIRECTOR OF PUBLIC WORKS DATE

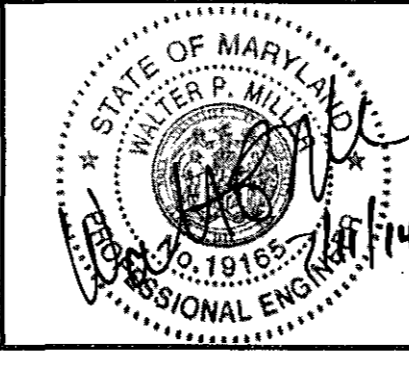
Thomas B. Butler 7/15/14
CHIEF, BUREAU OF ENGINEERING DATE

Holger Serrano 7-11-14
CHIEF, BUREAU OF HIGHWAYS DATE

Steve Shaver 7/15/14
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231

WR&A



DES:	VAK				
DRN:	VAK				
CHK:	BRT				
DATE:	7/1/2014	BY:	NO.	REVISION	DATE

STEEL-BACKED TIMBER GUARDRAIL DETAILS

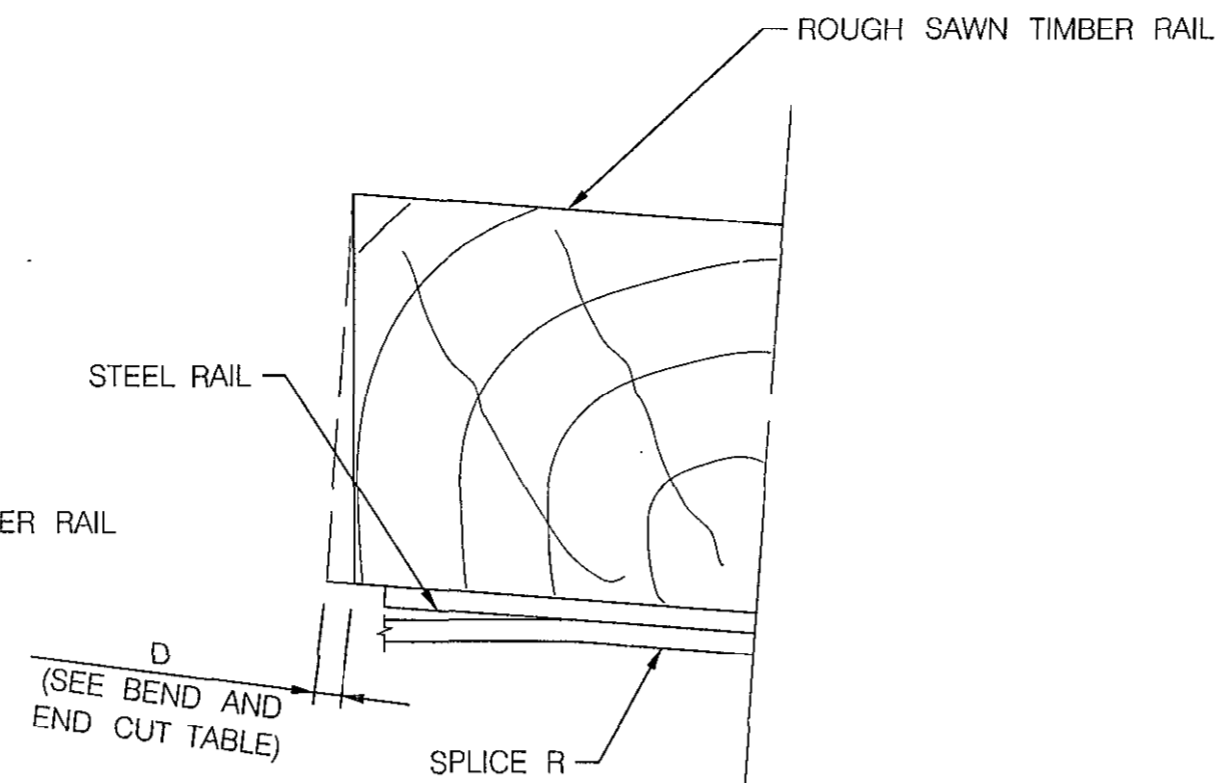
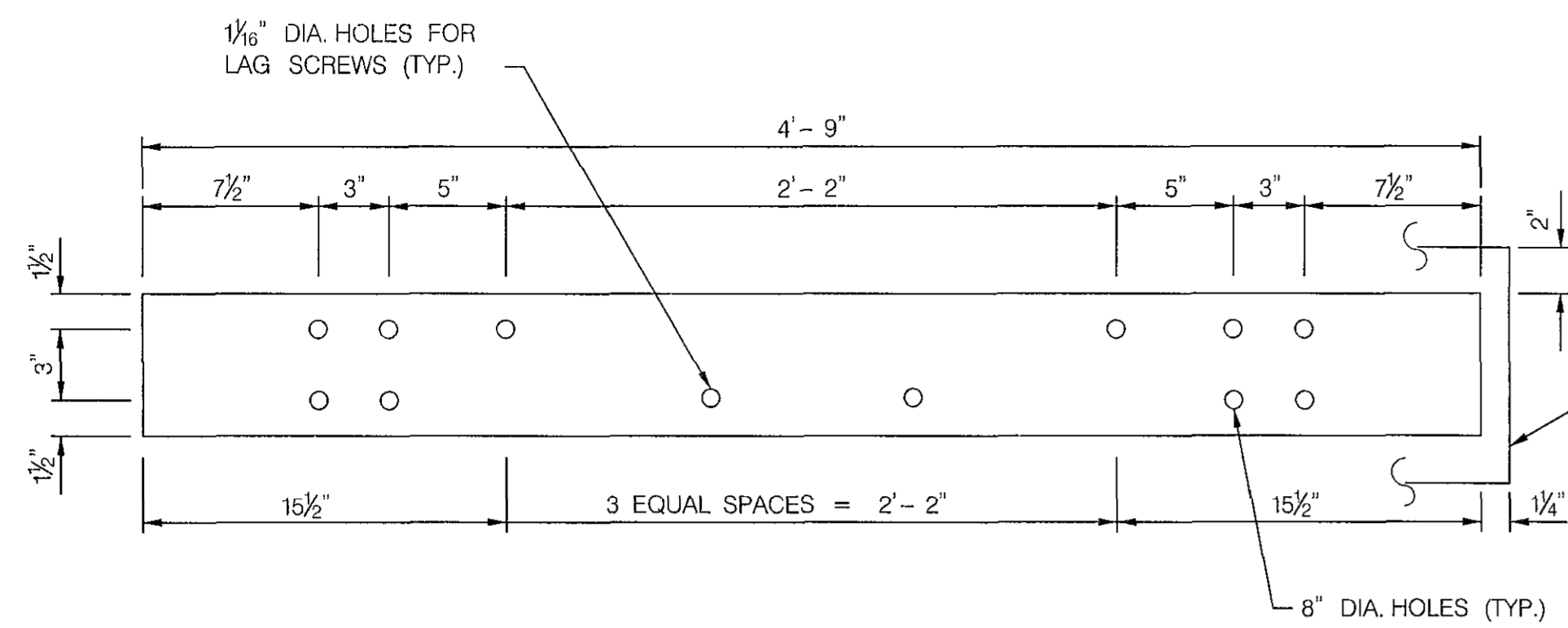
BLANDAIR REGIONAL PARK PHASE J - SOUTH
CAPITAL PROJECT # J-4237

ELECTION DISTRICT 3 / 7 HOWARD COUNTY, MARYLAND

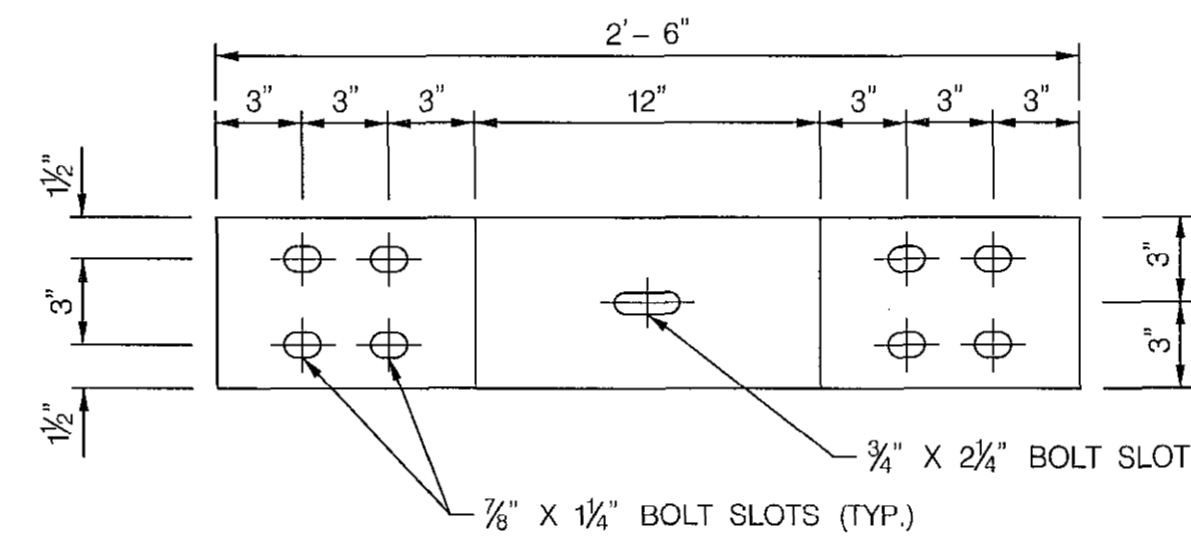
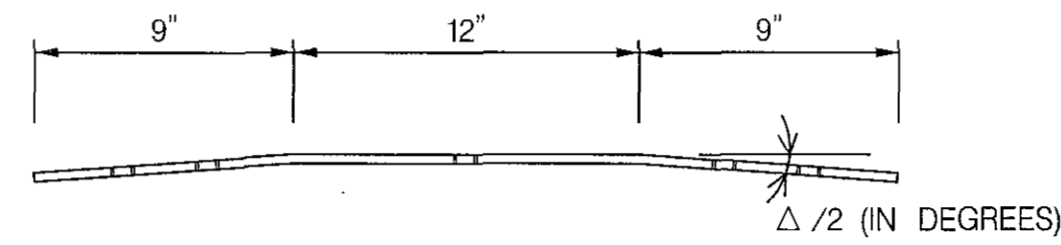
DWG. **DE-02**

SCALE NA

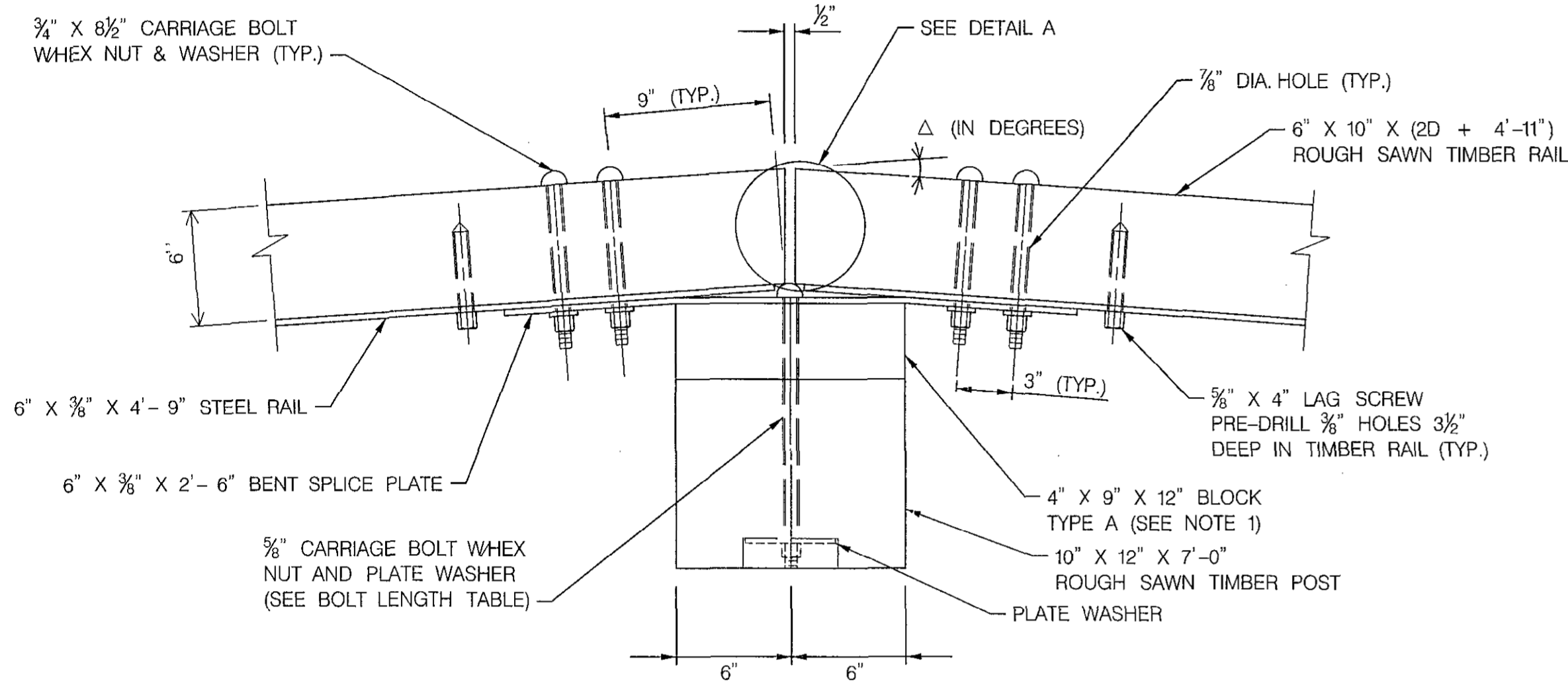
SHEET **16** OF **138**



DETAIL A



BENT SPLICE PLATE DETAIL
6' x 3/8' x 2'-6'



- NOTES
1. USE THE TYPE A, BLOCKED-OUT, SYSTEM OR THE TYPE B, NON-BLOCKED-OUT, SYSTEM AS SPECIFIED.
 2. USE WEATHERING STEEL FOR ALL STRUCTURAL STEEL AND FASTENER HARDWARE AS SPECIFIED.
 3. FURNISH SHOP BENT SPLICE PLATES. USE THE BEND ANGLE SHOWN IN THE TABLE BELOW FOR THE CORRESPONDING LOCATION.

BEND AND END CUT TABLE	
Δ/2 DEGREES	D IN.
7.18	3/4
5.74	5/8
4.78	1/2
4.10	7/16
3.58	3/8
3.18	1/3
2.87	5/16
2.61	1/4
2.39	1/4
2.05	1/4
FLAT	0

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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

[Signature] 7/6/14
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 7/16/14
CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 7/16/14
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231



DES:	VAK
DRN:	VAK
CHK:	BRT
DATE:	7/1/2014
BY:	NO.
REVISION:	
DATE:	

STEEL-BACKED TIMBER
GUARDRAIL DETAILS

BLANDAIR REGIONAL PARK
PHASE J - SOUTH
CAPITAL PROJECT # J-4237

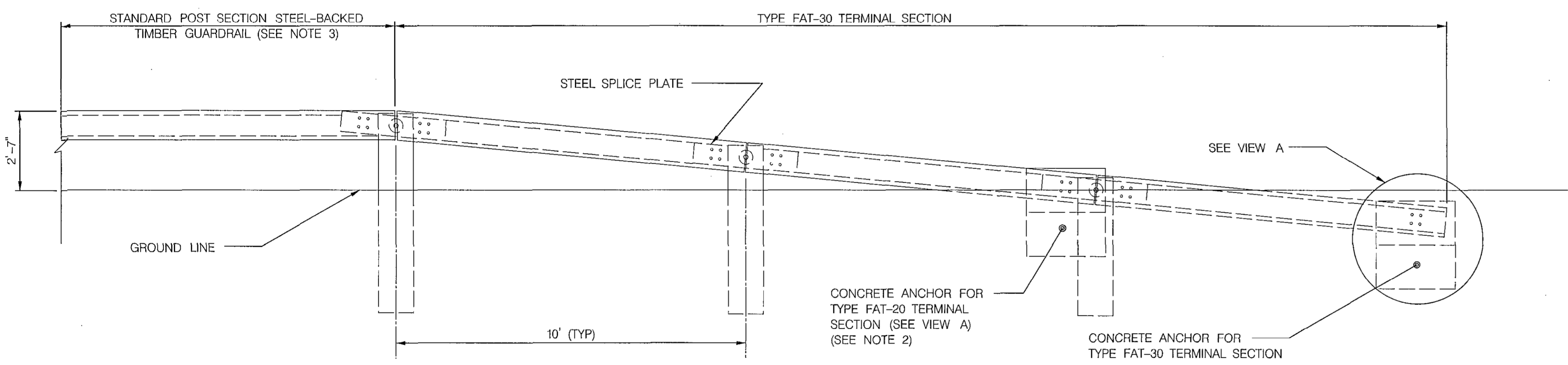
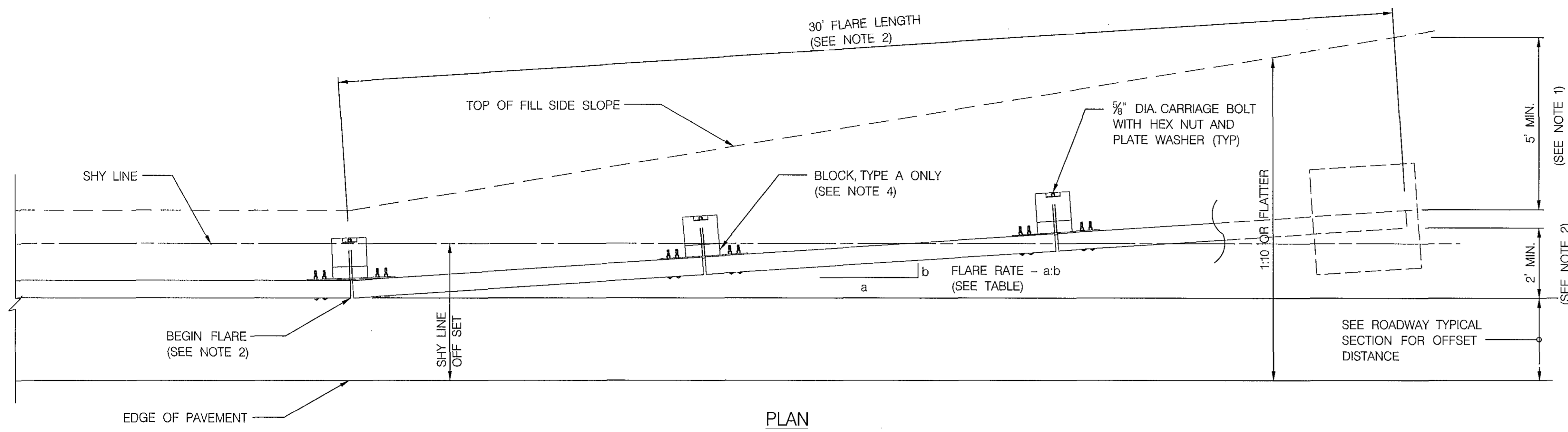
TAX MAP 36 BLOCK NO. 5 ELECTION DISTRICT 3/7 HOWARD COUNTY, MARYLAND

DWG.
DE-03

SCALE
NA

SHEET
17 OF 138

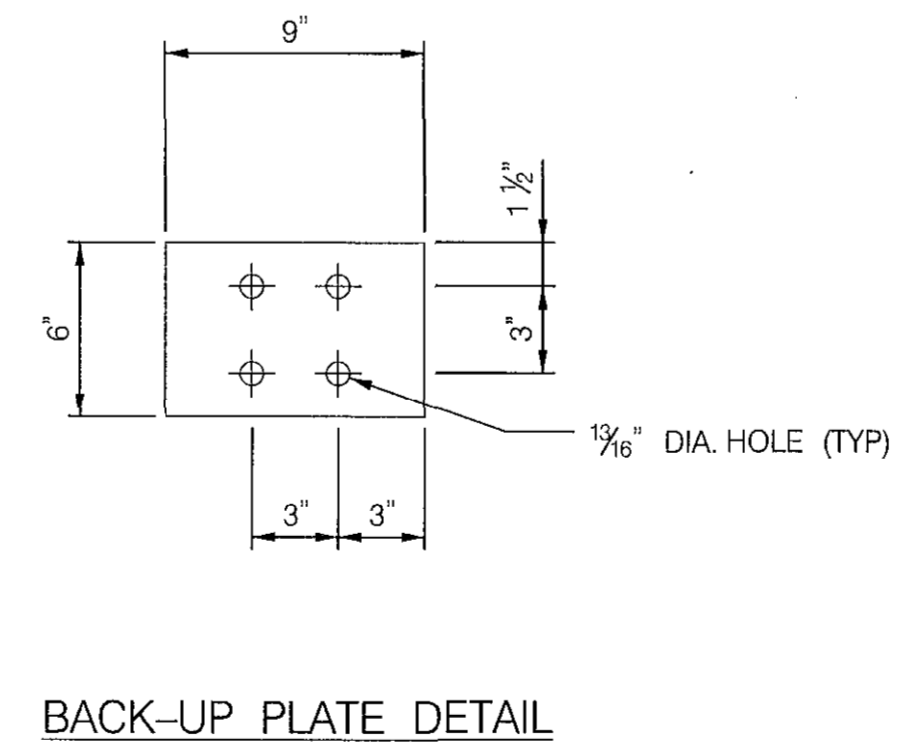
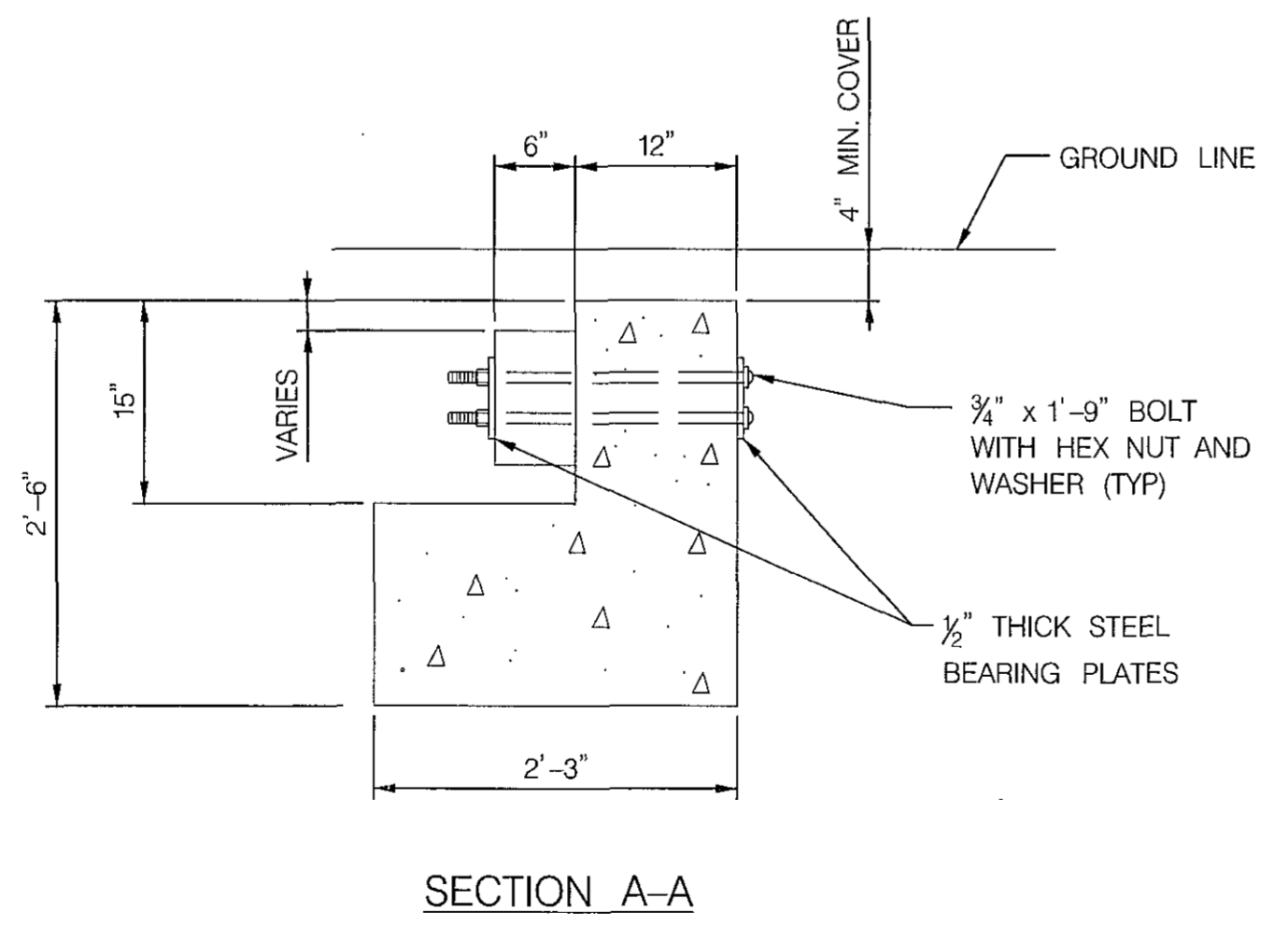
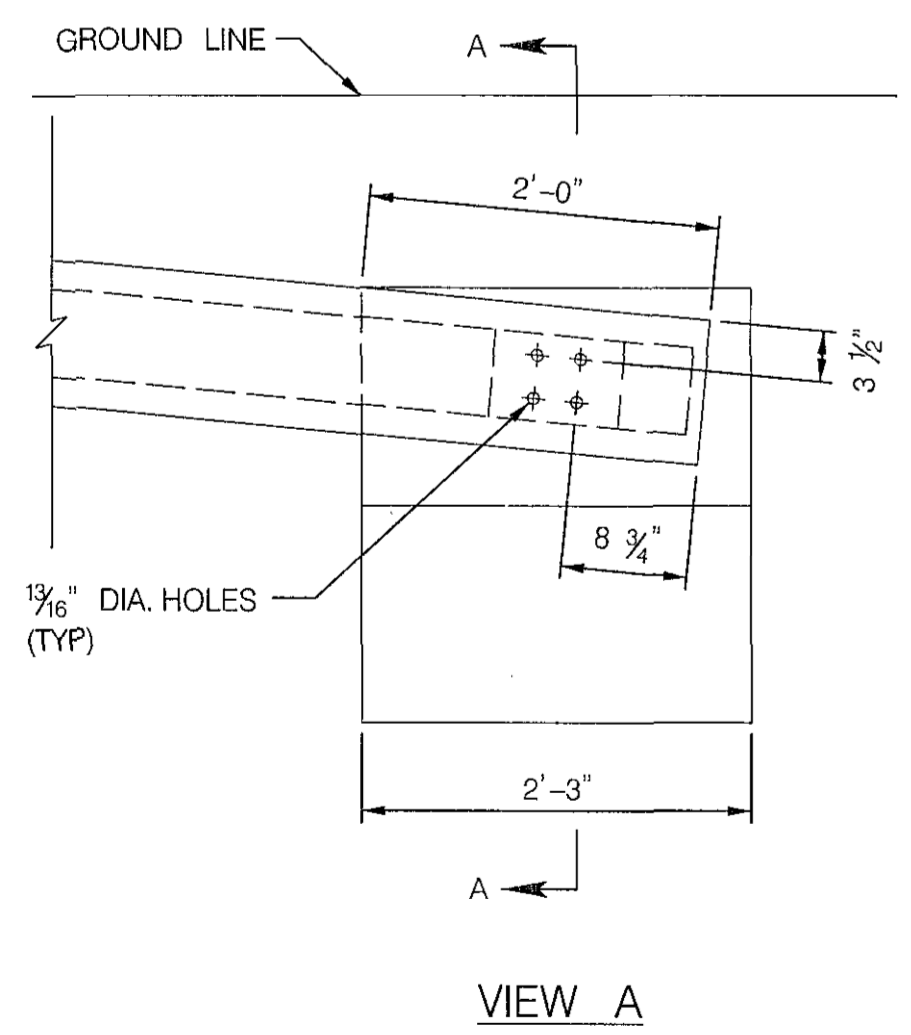
- NOTES**
1. EXTEND THE FILL WIDENING A MINIMUM OF 5 FEET BEHIND THE GUARDRAIL.
 2. THE GUARDRAIL FLARE SHOWN IN THE PLAN VIEW IS THE MINIMUM LENGTH AND RATE REQUIRED. FLARE THE GUARDRAIL SO THAT THE TERMINAL SECTION IS OUTSIDE THE CLEAR ZONE. IF THE TERMINAL SECTION CANNOT BE LOCATED OUTSIDE THE CLEAR ZONE, IT SHOULD BE FLARED AS FAR AS PRACTICAL FROM THE ROAD AT THE MAXIMUM RATE INDICATED ON THE GUARDRAIL FLARE RATES TABLE.
 3. SEE DE-02 AND DE-03, STEEL-BACKED TIMBER GUARDRAIL, FOR TIMBER, STRUCTURAL STEEL, AND HARDWARE DETAILS.
 4. ON THE TYPE A, BLOCKED-OUT GUARDRAIL, INCLUDE THE BLOCKS IN TERMINAL SECTION, EXCEPT ON THE CONCRETE ANCHOR. FOR THE TYPE B, NON-BLOCKED-OUT GUARDRAIL, NO BLOCKS ARE INCLUDED.
 5. TYPE FAT-30 TERMINAL SECTION SHALL BE PAID FOR PER LINEAR FOOT OF STEEL-BACKED TIMBER GUARDRAIL



APPROACH AND DEPARTURE FLARE WITH FLARED ANCHOR TERMINAL (FAT)

GUARDRAIL FLARE RATES

DESIGN SPEED (MPH)	SHY LINE OFFSET (FT)	FLARE RATE INSIDE SHY LINE (a:b)	FLARE RATE OUTSIDE SHY LINE (a:b)
40	5.0	16:1	8:1
30 AND LESS	3.5	13:1	7:1



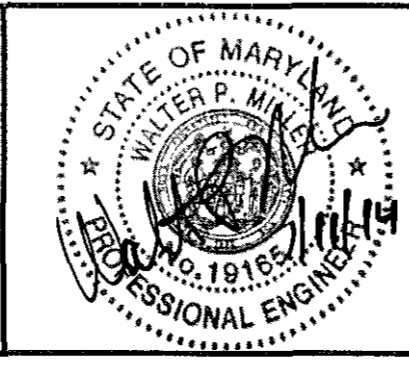
"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19165, EXPIRATION DATE: 06/11/2015."

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

Director of Public Works: *James C. ...* 7/15/14
Chief, Bureau of Engineering: *Thomas E. ...* 7/16/14
Chief, Bureau of Highways: *John ...* 7-11-14
Chief, Transportation and Special Projects Division: *Steve ...* 7/16/14

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231

WR&A



DES: VAK	DATE: 7/11/2014
DRN: VAK	BY: NO.
CHK: BRT	REVISION
	DATE

STEEL-BACKED TIMBER GUARDRAIL DETAILS

BLANDAIR REGIONAL PARK PHASE J - SOUTH
CAPITAL PROJECT # J-4237

ELECTION DISTRICT 3 / 7 HOWARD COUNTY, MARYLAND

DWG. **DE-04**
SCALE NA
SHEET **18** OF **138**

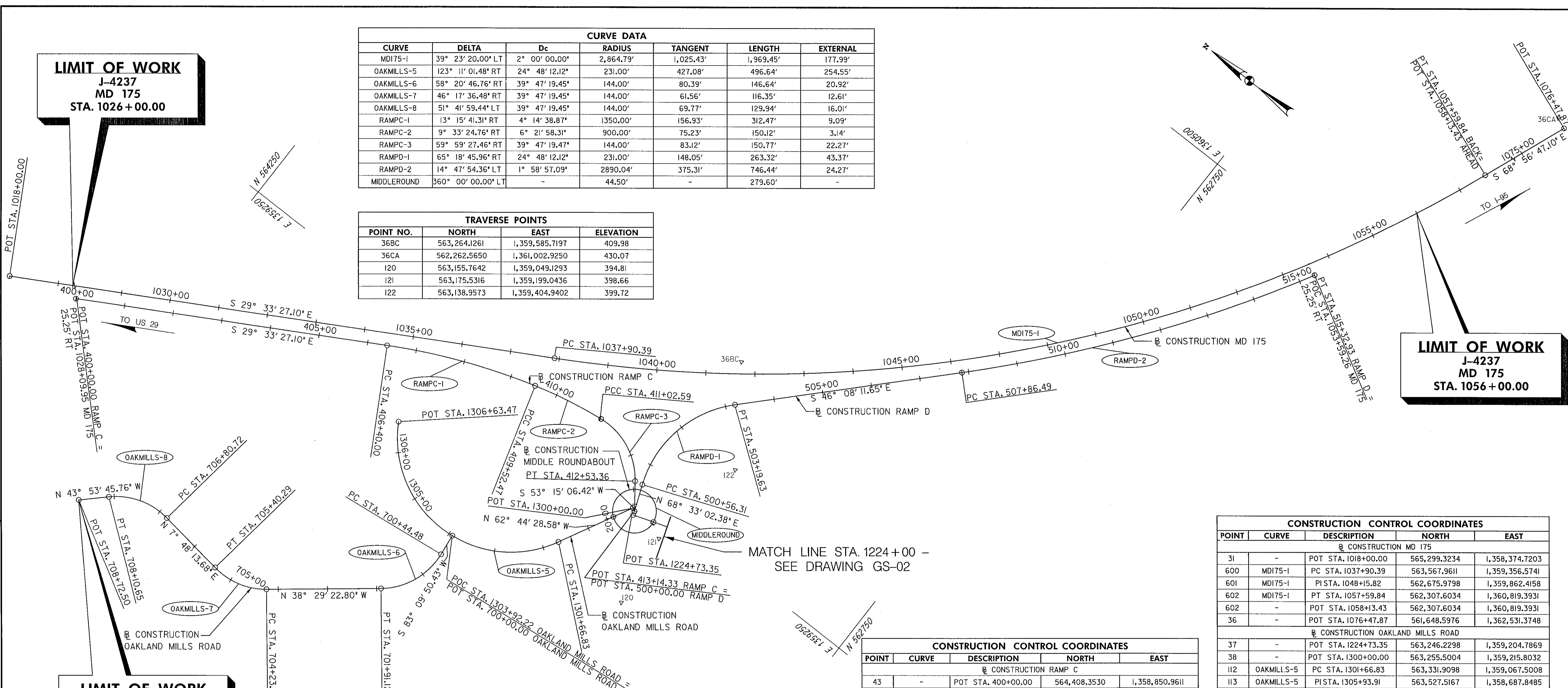
LIMIT OF WORK
J-4237
MD 175
STA. 1026+00.00

LIMIT OF WORK
J-4237
MD 175
STA. 1056+00.00

LIMIT OF WORK
J-4237
OAKLAND MILLS ROAD
STA. 708+72.50

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
MD175-1	39° 23' 20.00" LT	2° 00' 00.00"	2,864.79'	1,025.43'	1,969.45'	177.99'
OAKMILLS-5	123° 11' 01.48" RT	24° 48' 12.12"	231.00'	427.08'	496.64'	254.55'
OAKMILLS-6	58° 20' 46.76" RT	39° 47' 19.45"	144.00'	80.39'	146.64'	20.92'
OAKMILLS-7	46° 17' 36.48" RT	39° 47' 19.45"	144.00'	61.56'	116.35'	12.61'
OAKMILLS-8	51° 41' 59.44" LT	39° 47' 19.45"	144.00'	69.77'	129.94'	16.01'
RAMPC-1	13° 15' 41.31" RT	4° 14' 38.87"	1350.00'	156.93'	312.47'	9.09'
RAMPC-2	9° 33' 24.76" RT	6° 21' 58.31"	900.00'	75.23'	150.12'	3.14'
RAMPC-3	59° 59' 27.46" RT	39° 47' 19.47"	144.00'	83.12'	150.77'	22.27'
RAMPD-1	65° 18' 45.96" RT	24° 48' 12.12"	231.00'	148.05'	263.32'	43.37'
RAMPD-2	14° 47' 54.36" LT	1° 58' 57.09"	2890.04'	375.31'	746.44'	24.27'
MIDDLEGROUND	360° 00' 00.00" LT	-	44.50'	-	279.60'	-

TRAVERSE POINTS			
POINT NO.	NORTH	EAST	ELEVATION
36BC	563,264.1261	1,359,585.7197	409.98
36CA	562,262.5650	1,361,002.9250	430.07
120	563,155.7642	1,359,049.1293	394.81
121	563,175.5316	1,359,199.0436	398.66
122	563,138.9573	1,359,404.9402	399.72



CONSTRUCTION CONTROL COORDINATES				
POINT	CURVE	DESCRIPTION	NORTH	EAST
CONSTRUCTION MD 175				
31	-	POT STA. 1018+00.00	565,299.3234	1,358,374.7203
600	MD175-1	PC STA. 1037+90.39	563,567.9611	1,359,356.5741
601	MD175-1	PI STA. 1048+15.82	562,675.9798	1,359,862.4158
602	MD175-1	PT STA. 1057+59.84	562,307.6034	1,360,819.3931
602	-	POT STA. 1058+13.43	562,307.6034	1,360,819.3931
36	-	POT STA. 1076+47.87	561,648.5976	1,362,531.3748
CONSTRUCTION OAKLAND MILLS ROAD				
37	-	POT STA. 1224+73.35	563,246.2298	1,359,204.7869
38	-	POT STA. 1300+00.00	563,255.5004	1,359,215.8032
112	OAKMILLS-5	PC STA. 1301+66.83	563,331.9098	1,359,067.5008
113	OAKMILLS-5	PI STA. 1305+93.91	563,527.5167	1,358,687.8485
114	OAKMILLS-5	POT STA. 1306+63.47	563,738.1945	1,359,059.3493
39	-	POT STA. 700+00.00	563,509.7612	1,358,943.9432
115	OAKMILLS-6	PC STA. 700+44.48	563,504.4663	1,358,899.7747
116	OAKMILLS-6	PI STA. 701+24.88	563,494.8976	1,358,819.9559
117	OAKMILLS-6	PT STA. 701+91.12	563,557.8208	1,358,769.9230
118	OAKMILLS-7	PC STA. 704+23.94	563,740.0535	1,358,625.0222
119	OAKMILLS-7	PI STA. 704+85.50	563,788.2379	1,358,586.7089
120	OAKMILLS-7	PT STA. 705+40.29	563,849.2278	1,358,595.0676
121	OAKMILLS-8	PC STA. 706+80.72	563,988.3525	1,358,614.1347
122	OAKMILLS-8	PI STA. 707+50.49	564,057.4736	1,358,623.6078
123	OAKMILLS-8	PT STA. 708+10.65	564,107.7477	1,358,575.2346
124	-	POT STA. 708+72.50	564,152.3105	1,358,532.3568
CONSTRUCTION MIDDLE ROUNDABOUT				
800	MIDDLEGROUND	POB STA. 20+00.00	563,275.5889	1,359,176.8136
801	MIDDLEGROUND	POE STA. 22+79.60	563,275.5889	1,359,176.8136
803	MIDDLEGROUND	CENTER	563,248.8174	1,359,212.3599

CONSTRUCTION CONTROL COORDINATES				
POINT	CURVE	DESCRIPTION	NORTH	EAST
CONSTRUCTION RAMP C				
43	-	POT STA. 400+00.00	564,408.3530	1,358,850.9611
400	RAMPC-1	PC STA. 406+40.00	563,851.6422	1,359,166.6712
401	RAMPC-1	PI STA. 407+96.93	563,715.1312	1,359,244.0865
402	RAMPC-1&2	PCC STA. 409+52.47	563,564.5018	1,359,288.1223
403	RAMPC-2	PI STA. 410+27.70	563,492.2903	1,359,309.2331
404	RAMPC-2&3	PCC STA. 411+02.59	563,417.5761	1,359,318.0618
405	RAMPC-3	PI STA. 411+85.71	563,335.0271	1,359,327.8163
406	RAMPC-3	PT STA. 412+53.36	563,285.2945	1,359,261.2119
44	-	POT STA. 413+14.33	563,248.8174	1,359,212.3599
CONSTRUCTION RAMP D				
45	-	POT STA. 500+00.00	563,248.8174	1,359,212.3599
500	RAMPD-1	PC STA. 500+56.31	563,269.4095	1,359,264.7719
501	RAMPD-1	PI STA. 502+04.36	563,323.5486	1,359,402.5693
502	RAMPD-1	PT STA. 503+19.63	563,220.9578	1,359,509.3132
503	RAMPD-2	PC STA. 507+86.49	562,897.4538	1,359,845.9133
504	RAMPD-2	PI STA. 511+61.80	562,637.3855	1,360,116.5098
505	RAMPD-2	PT STA. 515+32.93	562,455.0591	1,360,444.5571

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DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND.

La 206 7/15/14
 DIRECTOR OF PUBLIC WORKS DATE

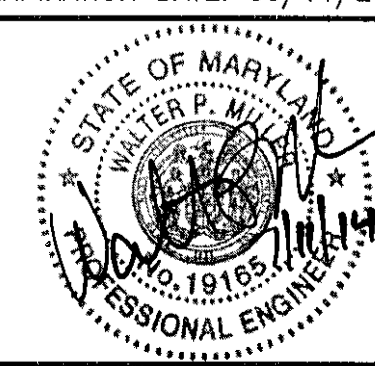
Thomas E. Butler 7/15/14
 CHIEF, BUREAU OF ENGINEERING DATE

Holguera 7/11/14
 CHIEF, BUREAU OF HIGHWAYS DATE

Steve Shavano 7/11/14
 CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

PREPARED BY:
 WHITMAN, REQUARDT & ASSOCIATES, LLP
 801 South Caroline Street, Baltimore, MD 21231

WR&A



DES: VAK
 DRN: VAK
 CHK: BRT
 DATE: 7/11/2014

BY NO. REVISION DATE TAX MAP 36 BLOCK NO. 5 ELECTION DISTRICT 3/7 HOWARD COUNTY, MARYLAND

ROADWAY GEOMETRY

BLANDAIR REGIONAL PARK
PHASE J - SOUTH
CAPITAL PROJECT # J-4237

DWG. **GS-01**
 SCALE 1" = 100'
 SHEET **19** OF **138**
 SHA SHEET 7 OF 76

CONSTRUCTION CONTROL COORDINATES				
POINT	CURVE	DESCRIPTION	NORTH	EAST
CONSTRUCTION OAKLAND MILLS ROAD				
69	-	POT STA. 1094+00.00	560,459.9360	1,359,560.9737
70	OAKMILLS-9	PC STA. 1097+27.12	560,729.8770	1,359,745.7477
71	OAKMILLS-9	PI STA. 1098+69.39	560,847.2781	1,359,826.1086
72	OAKMILLS-9	PT STA. 1100+11.07	560,975.8389	1,359,887.0432
73	-	POT STA. 1104+29.81	561,354.2239	1,360,066.3882
74	-	POT STA. 1200+00.00	561,365.4090	1,360,074.2975
100	OAKMILLS-1	PC STA. 1201+57.76	561,469.7971	1,359,956.0161
101	OAKMILLS-1	PI STA. 1202+69.31	561,543.6116	1,359,872.3775
102	OAKMILLS-1	PT STA. 1203+78.86	561,586.5914	1,359,769.4371
103	OAKMILLS-2	PC STA. 1207+49.84	561,729.5238	1,359,427.1018
104	OAKMILLS-2	PI STA. 1210+71.10	561,853.3002	1,359,130.6469
105	OAKMILLS-2	PT STA. 1212+39.01	562,138.6516	1,359,278.2297
106	OAKMILLS-3	PC STA. 1216+41.59	562,496.2382	1,359,463.1724
107	OAKMILLS-3	PI STA. 1218+32.33	562,665.6653	1,359,550.7996
108	OAKMILLS-3	PT STA. 1219+80.47	562,815.4643	1,359,432.7135
109	OAKMILLS-4	PC STA. 1221+32.79	562,935.0856	1,359,338.4163
110	OAKMILLS-4	PI STA. 1222+10.67	562,996.2471	1,359,290.2029
111	OAKMILLS-4	PT STA. 1222+87.06	563,069.9435	1,359,265.0218
CONSTRUCTION OLD MONTGOMERY ROAD				
75	-	POT STA. 600+00.00	561,156.6154	1,360,263.7168
76	-	POT STA. 602+79.26	561,354.2239	1,360,066.3882
CONSTRUCTION SOUTH PARKING ENTRANCE				
200	-	POT STA. 30+00.00	561,955.5997	1,359,248.9137
201	SOUTHPARK-1	PC STA. 30+74.16	561,945.4170	1,359,175.4570
202	SOUTHPARK-1	PI STA. 30+92.74	561,942.8659	1,359,157.0532
203	SOUTHPARK-1	PT STA. 31+10.14	561,951.4012	1,359,140.5501
204	-	POT STA. 32.02.15	561,993.6694	1,359,058.8245
CONSTRUCTION NORTH PARKING ENTRANCE				
205	-	POT STA. 40+00.00	562,270.9354	1,359,346.6465
206	-	POT STA. 42+50.00	562,385.7833	1,359,124.5880
CONSTRUCTION SOUTH ROUNDABOUT				
77	SOUTHROUND	POB STA. 10+00.00	561,322.7354	1,360,097.8321
78	SOUTHROUND	POE STA. 12+79.60	561,322.7354	1,360,097.8321
79	SOUTHROUND	CENTER	561,354.2239	1,360,066.3882
OAKLAND MILLS ROAD SHARED-USE TRAIL				
310	-	POB STA. 50+00.00	561,746.6617	1,359,252.7682
311	OAKTRAIL-1	PC STA. 50+06.99	561,752.7021	1,359,256.2813
312	OAKTRAIL-1	PI STA. 50+37.99	561,779.5013	1,359,271.8675
313	OAKTRAIL-1&2	PRC STA. 50+63.27	561,806.4737	1,359,256.5829
314	OAKTRAIL-2	PI STA. 51+23.71	561,859.0508	1,359,226.7886
315	OAKTRAIL-2	PT STA. 51+82.84	561,918.7344	1,359,217.3061
316	OAKTRAIL-3	PC STA. 52+92.95	562,027.4742	1,359,200.0296
317	OAKTRAIL-3	PI STA. 53+15.81	562,050.0538	1,359,196.4422
318	OAKTRAIL-3&4	PCC STA. 53+38.26	562,072.5774	1,359,200.3661
319	OAKTRAIL-4	PI STA. 54+29.85	562,162.8091	1,359,216.0856
320	OAKTRAIL-4&5	PRC STA. 55+16.18	562,229.3391	1,359,279.0350
321	OAKTRAIL-5	PI STA. 55+30.44	562,239.6943	1,359,288.8330
322	OAKTRAIL-5	PT STA. 55+44.51	562,252.3569	1,359,295.3820
323	-	POE STA. 55+84.56	562,287.9329	1,359,313.7818

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
OAKMILLS-9	9° 01' 54.40" LT	3° 10' 50.68"	1,801.33'	142.27'	283.95'	5.61'
OAKMILLS-1	18° 46' 05.24" LT	8° 29' 17.75"	675.00'	111.55'	221.11'	9.16'
OAKMILLS-2	94° 41' 10.57" RT	19° 21' 24.06"	296.00'	321.26'	489.17'	140.83'
OAKMILLS-3	65° 35' 47.31" LT	19° 21' 24.06"	296.00'	190.75'	338.88'	56.14'
OAKMILLS-4	19° 23' 02.20" RT	12° 33' 53.51"	456.00'	77.88'	154.27'	6.60'
SOUTHPARK-1	35° 14' 23.97" RT	97° 56' 29.41"	58.50'	18.58'	35.98'	2.88'
SOUTHROUND	360° 00' 00.00" LT	-	44.50'	-	279.60'	-
OAKTRAIL-1	59° 43' 16.79" LT	106° 06' 11.86"	54.00'	31.00'	56.29'	8.27'
OAKTRAIL-2	20° 30' 42.04" RT	17° 09' 15.93"	334.00'	60.43'	119.57'	5.42'
OAKTRAIL-3	18° 54' 36.31" RT	41° 44' 06.25"	137.28'	22.86'	45.31'	1.89'
OAKTRAIL-4	33° 32' 00.88" RT	18° 50' 50.27"	304.00'	91.59'	177.92'	13.50'
OAKTRAIL-5	16° 04' 05.38" LT	56° 43' 42.58"	101.00'	14.26'	28.32'	1.00'

TRAVERSE POINTS			
POINT NO.	NORTH	EAST	ELEVATION
120A	562,764.3651	1,359,118.5774	408.11
120B	562,364.9404	1,359,049.4421	416.31
120C	562,083.2403	1,359,026.8657	421.69
120E	561,734.5308	1,359,274.5088	425.81
120F	561,554.3822	1,359,685.6390	417.16

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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

[Signature] 7/15/14
DIRECTOR OF PUBLIC WORKS DATE

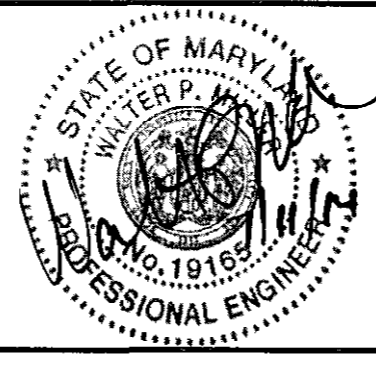
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CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

PREPARED BY:
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801 South Caroline Street, Baltimore, MD 21231

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DES:	VAK				
DRN:	VAK				
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		REVISION:			
		DATE:			

ROADWAY GEOMETRY

**BLANDAIR REGIONAL PARK
PHASE J - SOUTH**

CAPITAL PROJECT # J-4237

ELECTION DISTRICT 3 / 7

HOWARD COUNTY, MARYLAND

DWG. **GS-02**

SCALE
1" = 100'

SHEET
20 OF 138

OLD MONTGOMERY ROAD						
STATION	A	B	C	D	C FACTOR	REMARKS
600+00.00	EX.	EX.	EX.	EX.		TIE INTO EXISTING GRADE
600+19.00	-2.38	-2.38	-3.00	-3.00	0.00053	RIGHT LANE NORMAL
600+30.00	-3.00	-3.00	-3.00	-3.00	0.00053	BEGIN NORMAL SECTION
601+95.00	-3.00	-3.00	-3.00	-3.00		END NORMAL SECTION
602+14.00	-2.00	-2.00	-2.00	-2.00	0.00053	NORMAL SECTION ROUNDABOUT

OAKLAND MILLS ROAD						
STATION	A	B	C	D	C FACTOR	REMARKS
1095+56.00	EX.	EX.	EX.	EX.		MATCH EXISTING GRADE
1100+00.00	EX.	EX.	EX.	EX.		TIE INTO EXISTING GRADE
1100+12.00	-3.00	-3.00	-3.00	-3.00	0.00053	BEGIN NORMAL SECTION
1103+46.00	-3.00	-3.00	-3.00	-3.00		END NORMAL SECTION
1103+65.00	-2.00	-2.00	-2.00	-2.00	0.00053	NORMAL SECTION ROUNDABOUT

OAKLAND MILLS ROAD						
STATION	A	B	C	D	C FACTOR	REMARKS
1200+60.00	-2.00	-2.00	-2.00	-2.00		NORMAL SECTION ROUNDABOUT
1200+65.41	-2.00	-2.00	-2.00	-2.00		END NORMAL SECTION ROUNDABOUT
1201+03.36	-2.00	-2.00	0.00	0.00	0.00053	HALF PLANE
1201+41.31	-2.00	-2.00	2.00	2.00	0.00053	PLANE INCLINED
1201+57.76	-2.86	-2.86	2.86	2.86	0.00053	PC
1201+84.96	-4.30	-4.30	4.30	4.30	0.00053	BEGIN FULL SUPERELEVATION
1203+51.66	-4.30	-4.30	4.30	4.30		END FULL SUPERELEVATION
1203+76.32	-3.00	-3.00	3.00	3.00	0.00053	PLANE INCLINED
1203+78.86	-3.00	-3.00	2.86	2.86	0.00053	PT
1204+33.25	-3.00	-3.00	0.00	0.00	0.00053	HALF PLANE
1204+90.18	-3.00	-3.00	-3.00	-3.00	0.00053	BEGIN NORMAL SECTION
1206+35.34	-3.00	-3.00	-3.00	-3.00		END NORMAL SECTION
1206+85.34	0.00	0.00	-3.00	-3.00	0.00060	HALF PLANE
1207+35.34	3.00	3.00	-3.00	-3.00	0.00060	PLANE INCLINED
1207+49.84	3.87	3.87	-3.87	-3.87	0.00060	PC
1207+82.04	5.80	5.80	-5.80	-5.80	0.00060	BEGIN FULL SUPERELEVATION
1212+06.81	5.80	5.80	-5.80	-5.80		END FULL SUPERELEVATION
1212+39.01	3.87	3.87	-3.87	-3.87	0.00060	PT
1212+53.51	3.00	3.00	-3.00	-3.00	0.00060	PLANE INCLINED
1213+03.51	0.00	0.00	-3.00	-3.00	0.00060	HALF PLANE
1213+53.51	-3.00	-3.00	-3.00	-3.00	0.00060	BEGIN NORMAL SECTION
1215+27.09	-3.00	-3.00	-3.00	-3.00		END NORMAL SECTION
1215+77.09	-3.00	-3.00	0.00	0.00	0.00060	HALF PLANE
1216+27.09	-3.00	-3.00	3.00	3.00	0.00060	PLANE INCLINED
1216+41.59	-3.87	-3.87	3.87	3.87	0.00060	PC
1216+73.79	-5.80	-5.80	5.80	5.80	0.00060	BEGIN FULL SUPERELEVATION
1219+66.63	-5.80	-5.80	5.80	5.80		END FULL SUPERELEVATION
1219+80.47	-4.97	-4.97	4.97	4.97	0.00060	PT
1220+63.30	0.00	0.00	0.00	0.00	0.00060	FULL PLANE
1221+32.79	4.17	4.17	-4.17	-4.17	0.00060	PC
1221+46.63	5.00	5.00	-5.00	-5.00	0.00060	BEGIN FULL SUPERELEVATION
1222+59.28	5.00	5.00	-5.00	-5.00		END FULL SUPERELEVATION
1222+87.06	3.33	3.33	-3.33	-3.33	0.00060	PT
1223+09.28	2.00	2.00	-2.00	-2.00	0.00060	PLANE INCLINED
1223+42.61	0.00	0.00	-2.00	-2.00	0.00060	HALF PLANE
1223+75.94	-2.00	-2.00	-2.00	-2.00	0.00060	BEGIN NORMAL SECTION ROUNDABOUT
1224+10.00	-2.00	-2.00	-2.00	-2.00		NORMAL SECTION ROUNDABOUT

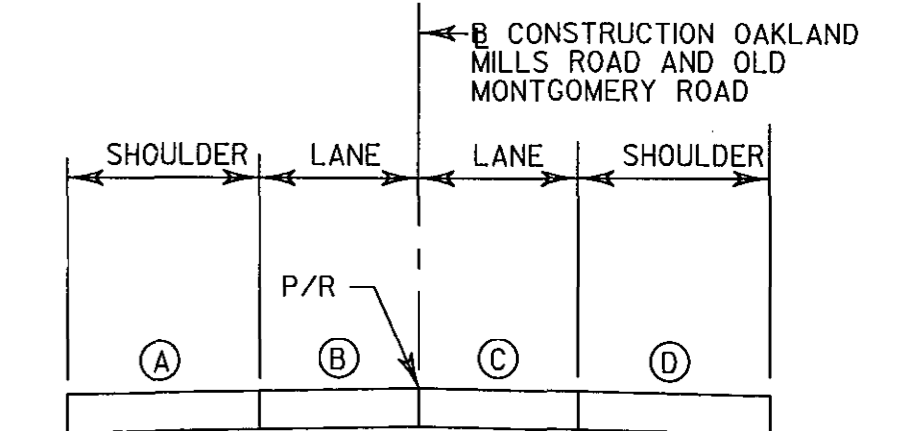
OAKLAND MILLS ROAD						
STATION	A	B	C	D	C FACTOR	REMARKS
1300+62.00	-2.00	-2.00	-2.00	-2.00		NORMAL ROUNDABOUT SECTION
1300+66.83	-2.00	-2.00	-2.00	-2.00		END NORMAL ROUNDABOUT SECTION
1301+00.16	0.00	0.00	-2.00	-2.00		HALF PLANE
1301+13.50	2.00	2.00	-2.00	-2.00		PLANE INCLINED
1301+33.49	2.00	2.00	-2.00	-2.00		PLANE INCLINED
1301+66.83	4.00	4.00	-4.00	-4.00	0.0006	PC
1302+00.16	6.00	6.00	-6.00	-6.00	0.0006	BEGIN FULL SUPERELEVATION
1304+36.13	6.00	6.00	-6.00	-6.00		PT

OAKLAND MILLS ROAD						
STATION	A	B	C	D	C FACTOR	REMARKS
700+15.00	-5.35	-5.35	5.35	5.35		TIE TO OAKLAND MILLS
700+44.48	-3.58	-3.58	3.58	3.58	0.0006	PC
701+04.00	0.00	0.00	0.00	0.00	0.0006	FULL PLANE
701+54.00	3.00	3.00	-3.00	-3.00	0.0006	PLANE INCLINED
701+91.12	3.00	3.00	-3.00	-3.00		PT
703+90.94	3.00	3.00	-3.00	-3.00		PLANE INCLINED
704+23.94	4.98	4.98	-4.98	-4.98	0.0006	PC
704+40.94	6.00	6.00	-6.00	-6.00	0.0006	BEGIN FULL SUPERELEVATION
705+10.51	6.00	6.00	-6.00	-6.00		END FULL SUPER ELEVATION
705+40.29	4.21	4.21	-4.21	-4.21	0.0006	PT
706+10.51	0.00	0.00	0.00	0.00	0.0006	FULL PLANE
706+80.72	-4.21	-4.21	4.21	4.21	0.0006	PC
707+10.51	-6.00	-6.00	6.00	6.00	0.0006	BEGIN FULL SUPERELEVATION
707+55.50	-6.00	-6.00	6.00	6.00		END FULL SUPER ELEVATION
708+10.65	-6.00	-6.00	2.70	2.70	0.0006	PT
708+55.50	-6.00	-6.00	0.00	0.00	0.0006	HALF PLANE
708+72.50	EX.	EX.	EX.	EX.	0.0006	TIE INTO EXISTING GRADE

RAMP C - RAMP SECTION					
STATION	E	F	G	C FACTOR	REMARKS
400+00.00	-	-4.00	-6.00		RAMP NORMAL SECTION
406+40.00	-	-4.00	-6.00		PC
408+50.00	-3.00	-4.00	-6.00		BEGIN LEFT SHOULDER/END GORE
409+52.47	-3.00	-4.00	-6.00		PCC
410+74.89	-3.00	-4.00	-6.00		END RAMP NORMAL SECTION
411+02.59	-1.70	-5.30	-6.00	0.00047	PCC
411+17.47	-1.00	-6.00	-6.00	0.00047	BEGIN FULL SUPERELEVATION
411+68.25	-1.00	-6.00	-6.00		END FULL SUPERELEVATION
412+00.00	-	-4.51	-6.00	0.00047	END LEFT SHOULDER
412+38.47	-	-2.70	-	0.00047	END RIGHT SHOULDER
412+53.36	-	-2.00	-	0.00047	NORMAL SECTION ROUNDABOUT

RAMP D - RAMP SECTION					
STATION	E	F	G	C FACTOR	REMARKS
500+62.90	-	-2.00	-	0.00044	NORMAL SECTION ROUNDABOUT
500+84.10	-	-2.93	-6.00	0.00044	BEGIN RIGHT SHOULDER
501+17.25	-1.00	-4.39	-6.00	0.00044	BEGIN LEFT SHOULDER
501+53.81	-1.00	-6.00	-6.00		BEGIN FULL SUPERELEVATION
502+24.32	-1.00	-6.00	-6.00		BEGIN LEFT SHOULDER TRANSITION
503+03.87	2.15	-6.00	-6.00	0.00044	END FULL SUPERELEVATION
503+19.63	2.79	-5.31	-6.00	0.00044	PT
503+49.32	4.00	-4.00	-6.00		BEGIN NORMAL RAMP SECTION
504+50.00	-	-4.00	-6.00		END LEFT SHOULDER/BEGIN GORE
505+24.32	-	-4.00	-6.00	0.00025	END NORMAL RAMP SECTION
506+84.32	-	0.00	-6.00	0.00025	FULL PLANE
507+24.32	-	1.00	-6.00	0.00025	BEGIN RIGHT SHOULDER TRANSITION
507+86.49	-	2.55	-4.45	0.00025	PC
508+64.32	-	4.50	-2.50	0.00025	FULL SUPERELEVATION
515+32.93	-	4.50	-2.50		END RAMP

NOTE: OAKLAND MILLS ROAD TURN LANE SUPERELEVATION SHALL MATCH ADJACENT TRAVEL LANE SUPERELEVATION UNLESS OTHERWISE NOTED ON TYPICAL SECTIONS OR INTERSECTION DETAILS. POINT OF ROTATION SHALL REMAIN AT EDGE OF TRAVEL LANE.

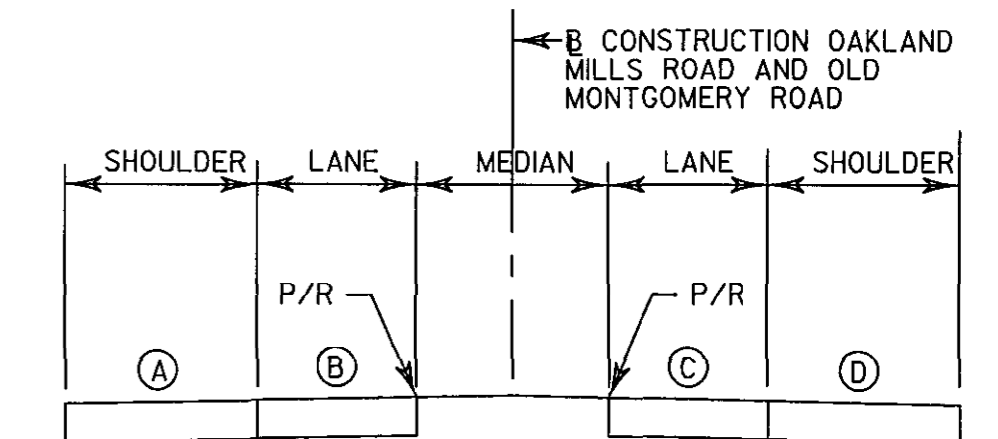


OAKLAND MILLS ROAD

STA. 1095+56 TO STA. 1103+65
 STA. 1215+90 TO STA. 1224+10
 STA. 1300+62 TO STA. 1304+36.13
 STA. 700+15 TO STA. 708+72.50

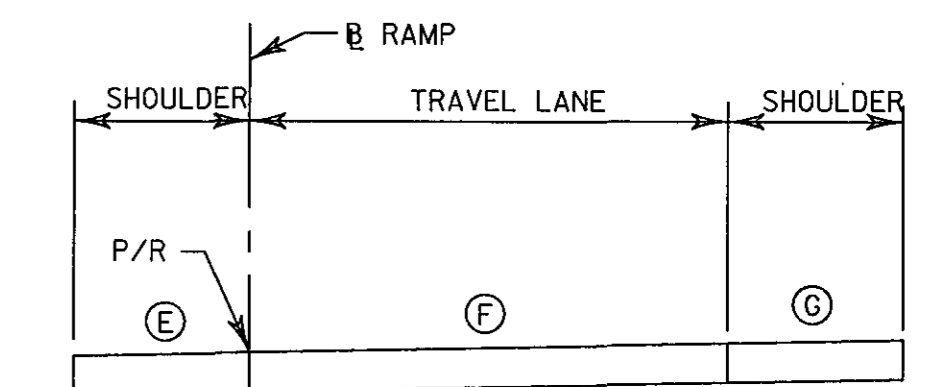
OLD MONTGOMERY ROAD

STA. 600+00 TO STA. 602+14



OAKLAND MILLS ROAD

STA. 1200+60 TO STA. 1215+90



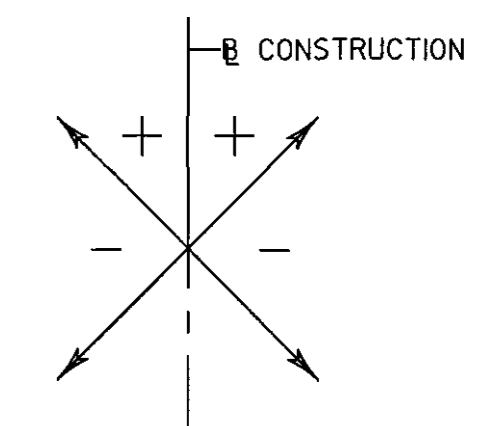
RAMP SECTION

RAMP C

STA. 400+00.00 TO STA. 412+53.36

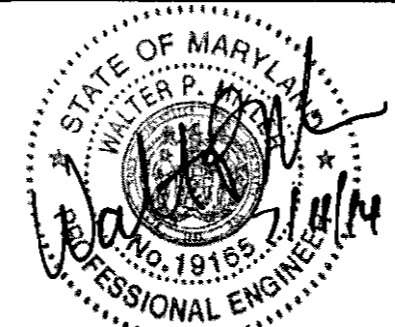
RAMP D

STA. 500+62.90 TO STA. 515+32.93



"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. 19165, EXPIRATION DATE: 06/11/2015."

PREPARED BY:
 WHITMAN, REQUARDT & ASSOCIATES, LLP
 801 South Caroline Street, Baltimore, MD 21231



DES: VAK
 DRN: VAK
 CHK: BRT
 DATE: 7/1/2014

SUPERELEVATION TRANSITIONS

BLANDAIR REGIONAL PARK PHASE J - SOUTH CAPITAL PROJECT # J-4237

DWG.
SE-01

SCALE
 1" = 10'

SHEET
21 OF 138

SHA SHEET 8 OF 76

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND.

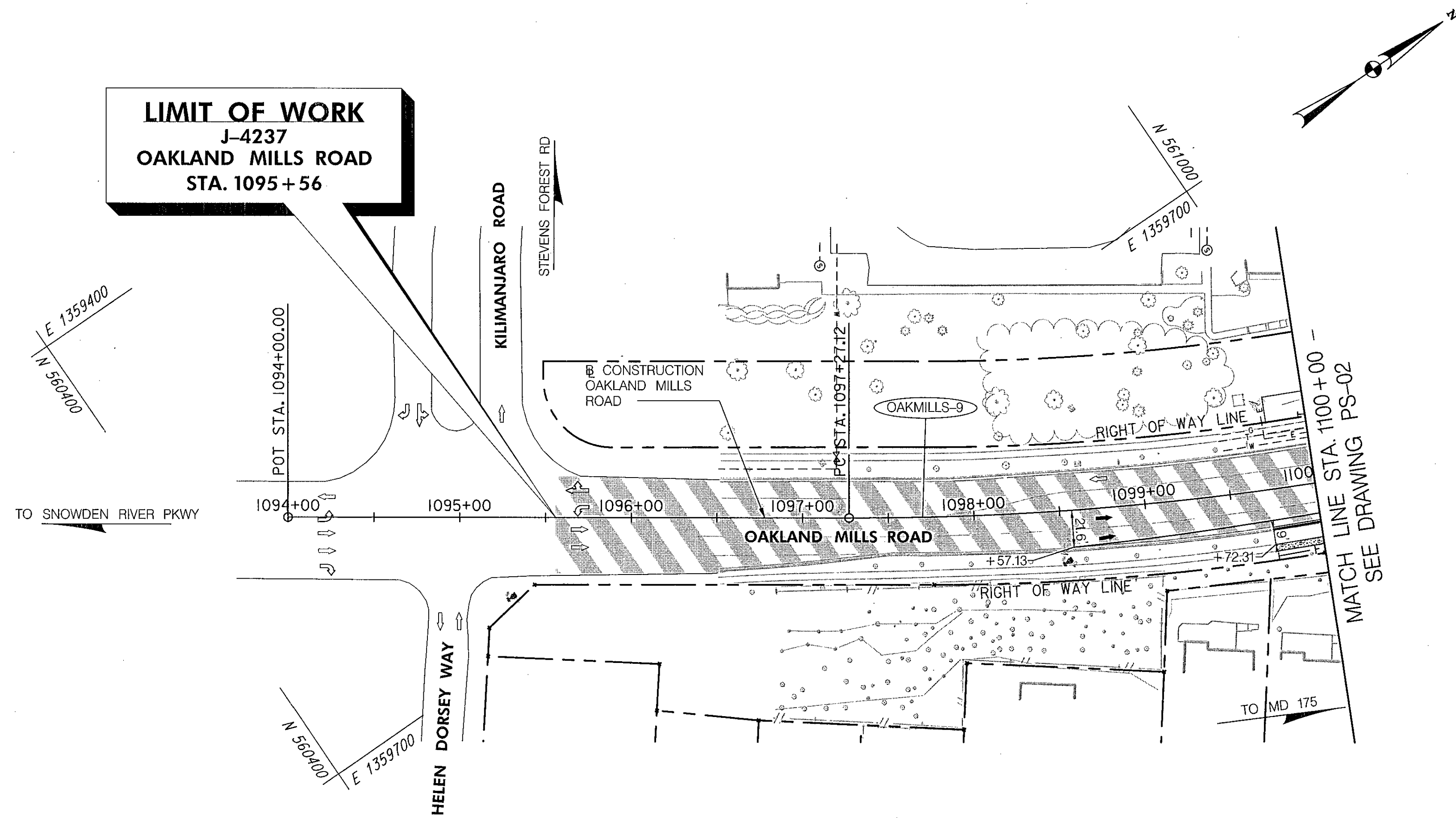
Director of Public Works: *[Signature]* 7/15/14
 Chief, Bureau of Engineering: *[Signature]* 7/15/14
 Chief, Bureau of Highways: *[Signature]* 7/11/14
 Chief, Transportation and Special Projects Division: *[Signature]* 7/11/14

CURVE DATA							
CURVE	DELTA	Dc	R	L	T	E	S.E.
OAKMILLS-9	9° 01' 54.40" LT	3° 10' 50.68"	1,801.33'	142.27'	142.27'	5.61'	EX.

4" CONCRETE SIDEWALK (HO. CO. DETAIL R-3.05)		
STATION	SF	REMARKS
1099+73 TO 1100+00	112	OAKLAND MILLS ROAD RT

7" COMBINATION CURB AND GUTTER (SEE DETAIL F ON DWG PD-01)		
STATION	LF	REMARKS
1099+73 TO 1100+00	28	OAKLAND MILLS ROAD RT

GRINDING HOT MIX ASPHALT PAVEMENT 0" -2"		
STATION	SY	REMARKS
1095+56 TO 1100+00	2295	OAKLAND MILLS ROAD



- NOTES:
1. ALL PAVEMENT REMOVAL SHALL BE TO TOP OF EXISTING SUBGRADE.
 2. SEE DRAWING SE-01 FOR SUPERELEVATION TRANSITIONS.
 3. SEE DRAWINGS HT-01 THROUGH HT-08 FOR TYPICAL SECTIONS.

PAVEMENT LEGEND

	PAVEMENT REMOVAL
	FULL DEPTH HMA
	GRIND AND OVERLAY
	ASPHALT TRAIL
	CONCRETE SIDEWALK
	RED STAMPED ASPHALT

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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

John J. Williams 7/11/14
DIRECTOR OF PUBLIC WORKS DATE

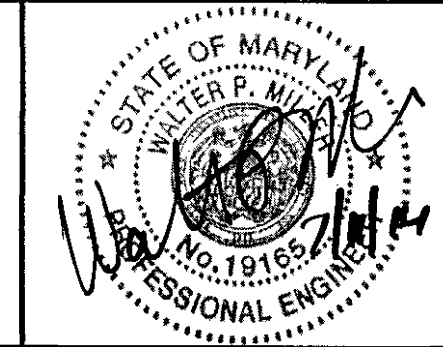
Thomas P. Butler 7/11/14
CHIEF, BUREAU OF ENGINEERING DATE

Halper Williams 7-11-14
CHIEF, BUREAU OF HIGHWAYS DATE

Steve Shavano 7/11/14
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231

WR&A



DES:	VAK				
DRN:	VAK				
CHK:	BRT				
DATE:	7/11/2014	BY:		NO.:	
		REVISION:		DATE:	

ROADWAY PLAN

TAX MAP 36 BLOCK NO. 5

**BLANDAIR REGIONAL PARK
PHASE J - SOUTH**

CAPITAL PROJECT # J-4237

ELECTION DISTRICT 3 / 7 HOWARD COUNTY, MARYLAND

DWG. **PS-01**

SCALE
1" = 50'

SHEET
22 OF 138

CURVE DATA							
CURVE	DELTA	Dc	R	L	T	E	S.E.
OAKMILLS-1	18° 46' 05.24" LT	8° 29' 17.75"	675.00'	221.11'	111.55'	9.16'	4.3%
OAKMILLS-2	94° 41' 10.57" RT	19° 21' 24.06"	296.00'	489.17'	321.26'	140.83'	5.8%
SOUTHROUND	360° 00' 00.00" LT	-	44.50'	279.60'	-	-	-2.0%
OAKTRAIL-1	59° 43' 16.79" LT	106° 06' 11.86"	54.00'	56.29'	31.00'	8.27'	2.0%
OAKTRAIL-2	20° 30' 42.04" RT	17° 09' 15.93"	334.00'	119.57'	60.43'	5.42'	2.0%

TYPE A SOIL STABILIZATION MATTING	
STATION	AREA (SY)
1201+00 TO 1204+00 RT	2,029
1205+10 TO 1208+25 CENTER	413

TYPE D SOIL STABILIZATION MATTING	
STATION	AREA (SY)
1201+25 TO 1204+00 CENTER	481
1205+10 TO 1210+00 RT	1,414

PERPENDICULAR SIDEWALK RAMPS (HO. CO. DETAIL R-4.05)		
STATION	OFFSET	REMARKS
601+87	20' RT	OLD MONTGOMERY ROAD
601+87	22' LT	OLD MONTGOMERY ROAD
1103+37	20' RT	OAKLAND MILLS ROAD
1103+37	20' LT	OAKLAND MILLS ROAD

4" CONCRETE SIDEWALK (HO. CO. DETAIL R-3.05)		
STATION	SF	REMARKS
601+23 TO 602+11	416	OLD MONTGOMERY ROAD LT
601+64 TO 602+15	246	OLD MONTGOMERY ROAD RT
601+87	47	OLD MONTGOMERY ROAD MEDIAN
1100+00 TO 1103+71	1574	OAKLAND MILLS ROAD RT
1100+00 TO 1104+06	1821	OAKLAND MILLS ROAD LT
1103+37	47	OAKLAND MILLS ROAD MEDIAN
1200+90	48	OAKLAND MILLS ROAD MEDIAN

GRINDING HOT MIX ASPHALT PAVEMENT 0"-2"		
STATION	SY	REMARKS
600+00 TO 601+62	347	OLD MONTGOMERY ROAD
1100+00 TO 1102+96	858	OAKLAND MILLS ROAD

LIMIT OF WORK
J-4237
OLD MONTGOMERY ROAD
STA. 600+00.00

TEST HOLE SCHEDULE					
NO.	COORDINATES		COVER	SURFACE ELEV.	REMARKS
	NORTH	EAST			
TH-1	561108.79	1359856.25	5.32	408.57	8" SANITARY SEWER
TH-2A	561322.81	1360083.75	3.59	414.61	4" PLASTIC GAS
TH-2A	561322.81	1360083.75	4.24	414.61	ELECTRIC CABLE
TH-2B	561325.21	1360084.95	6.52	414.68	(3) 4" PLASTIC TELECOMMUNICATION CONDUITS
TH-3	561332.61	1360045.02	3.16	414.69	(3) 2" FIBER OPTIC CABLE TELEVISION
TH-4	561368.76	1360059.34	6.02	415.22	CAST IRON WATER

STANDARD TYPE C COMBINATION CURB AND GUTTER (SHA STD. NO. MD 620.02-01)		
STATION	LF	REMARKS
10+00 TO 12+79.60	280	SOUTH ROUNDABOUT

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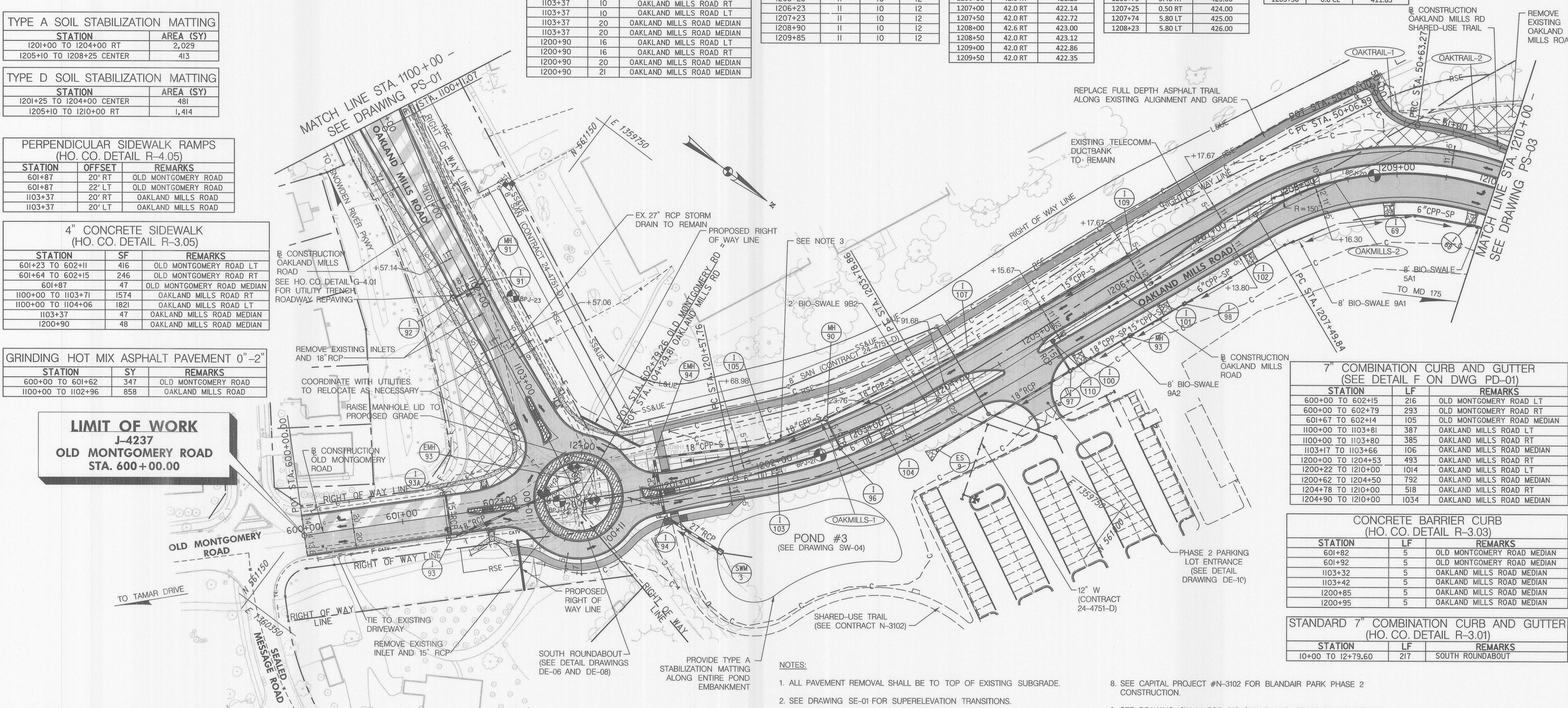
DETECTABLE WARNING SURFACE (HO. CO. DETAIL R-4.07)		
STATION	SF	REMARKS
601+87	10	OLD MONTGOMERY ROAD RT
601+87	20	OLD MONTGOMERY ROAD MEDIAN
601+87	20	OLD MONTGOMERY ROAD MEDIAN
601+87	10	OLD MONTGOMERY ROAD LT
1103+37	10	OAKLAND MILLS ROAD RT
1103+37	10	OAKLAND MILLS ROAD LT
1103+37	20	OAKLAND MILLS ROAD MEDIAN
1103+37	20	OAKLAND MILLS ROAD MEDIAN
1200+90	16	OAKLAND MILLS ROAD LT
1200+90	16	OAKLAND MILLS ROAD RT
1200+90	20	OAKLAND MILLS ROAD MEDIAN
1200+90	21	OAKLAND MILLS ROAD MEDIAN

CLASS 1 RIPRAP			
STATION	LENGTH (FT)	WIDTH (FT)	S.Y.
1202+01	4.5	10	5
1203+16	8	10	9
1203+53	10	12	5
1205+23	11	10	12
1206+23	11	10	12
1207+23	11	10	12
1208+90	11	10	12
1209+85	11	10	12

DITCH SCHEDULE		
STATION	OFFSET	ELEVATION
1205+00	44.4 RT	417.00
1205+50	42.0 RT	418.27
1206+00	42.0 RT	419.87
1206+50	42.0 RT	421.23
1207+00	42.0 RT	422.14
1207+50	42.0 RT	422.72
1208+00	42.6 RT	423.00
1208+50	42.0 RT	423.12
1209+00	42.0 RT	422.86
1209+50	42.0 RT	422.35

DITCH SCHEDULE		
STATION	OFFSET	ELEVATION
1205+25	6.50 RT	420.00
1205+75	6.20 RT	421.00
1206+25	6.50 RT	422.00
1206+75	3.40 RT	423.00
1207+25	0.50 RT	424.00
1207+74	5.80 LT	425.00
1208+23	5.80 LT	426.00

DITCH SCHEDULE		
STATION	OFFSET	ELEVATION
1202+00	0.0 CL	411.47
1202+50	0.0 CL	411.00
1203+00	0.0 CL	411.00
1203+50	0.0 CL	411.83



NOTES:

- ALL PAVEMENT REMOVAL SHALL BE TO TOP OF EXISTING SUBGRADE.
- SEE DRAWING SE-01 FOR SUPERELEVATION TRANSITIONS.
- SEE OAKLAND MILLS ROAD CURB LAYOUT DETAIL ON DRAWING DE-11 FOR NORTHBOUND AND SOUTHBOUND OAKLAND MILLS ROAD CURB/FLOWLINE GEOMETRY FROM STA. 1200+72 TO STA. 1203+24.
- SEE DRAWINGS PP-04, PP-05, SW-05 AND DS-01 FOR STORM DRAIN PROFILE AND SCHEDULE.
- THE APPROACH NOSES OF MEDIANS WITHOUT PEDESTRIAN CROSSINGS SHALL BE DEPRESSED TO 2 INCHES ABOVE THE PAVEMENT. SEE HO. CO. DETAIL R-3.04.
- SEE CUT THROUGH MEDIAN AND ISLAND OPENINGS DETAIL ON DRAWING DE-01 FOR ROUNDABOUT SPLITTER ISLANDS.
- SEE CONTRACT #24-4751-D FOR WATER AND SANITARY LINE CONSTRUCTION.
- SEE CAPITAL PROJECT #N-3102 FOR BLANDAIR PARK PHASE 2 CONSTRUCTION.
- SEE DRAWING SW-07 FOR BIO-SWALE AND GRASS SWALE DETAILS AND PLACEMENT OF STABILIZATION MATTING.
- SEE DRAWINGS HT-01 THROUGH HT-08 FOR TYPICAL SECTIONS.

PAVEMENT LEGEND

- PAVEMENT REMOVAL
- FULL DEPTH HMA
- GRIND AND OVERLAY
- ASPHALT TRAIL
- CONCRETE SIDEWALK
- RED STAMPED ASPHALT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

Director of Public Works: *[Signature]* DATE: 7/15/14
 Chief, Bureau of Engineering: *[Signature]* DATE: 7/15/14
 Chief, Bureau of Highways: *[Signature]* DATE: 7/15/14
 Chief, Transportation and Special Projects Division: *[Signature]* DATE: 7/15/14

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231

WR&A



DES:	VAK				
DRN:	VAK				
CHK:	BRT				
DATE:	7/11/2014	BY:	NO.	REVISION	DATE

ROADWAY PLAN

TAX MAP 36 BLOCK NO. 5

**BLANDAIR REGIONAL PARK
PHASE J - SOUTH**

CAPITAL PROJECT # J-4237

ELECTION DISTRICT 3/7 HOWARD COUNTY, MARYLAND

DWG. **PS-02**

SCALE 1" = 50'

SHEET **23** OF 138

CURVE DATA							
CURVE	DELTA	Dc	R	L	T	E	S.E.
OAKMILLS-2	94° 41' 10.57" RT	19° 21' 24.06"	296.00'	489.17'	321.26'	140.83'	5.8%
OAKMILLS-3	65° 35' 47.31" LT	19° 21' 24.06"	296.00'	338.88'	190.75'	56.14'	5.8%
OAKMILLS-4	19° 23' 02.20" RT	12° 33' 53.51"	456.00'	154.27'	77.88'	6.60'	5.0%
SOUTH-PARK-1	35° 14' 23.97" RT	97° 56' 29.41"	58.50'	35.98'	18.58'	2.88	-
OAKTRAIL-2	20° 30' 42.04" RT	17° 09' 15.93"	334.00'	119.57'	60.43'	5.42'	2.0%
OAKTRAIL-3	18° 54' 36.31" RT	41° 44' 06.25"	137.28'	45.31'	22.86'	1.89'	2.0%
OAKTRAIL-4	33° 32' 00.88" RT	18° 50' 50.27"	304.00'	177.92'	91.59'	13.50'	2.0%
OAKTRAIL-5	16° 04' 05.38" LT	56° 43' 42.58"	101.00'	28.32'	14.26'	1.00'	2.0%

7" COMBINATION CURB AND GUTTER (SEE DETAIL F ON DWG PD-01)		
STATION	LF	REMARKS
1210+00 TO 1210+37	60	OAKLAND MILLS ROAD LT
1210+00 TO 1223+00	1291	OAKLAND MILLS ROAD RT
1210+00 TO 1210+39	84	OAKLAND MILLS ROAD MEDIAN
1210+67 TO 1213+70	364	OAKLAND MILLS ROAD LT
1210+76 TO 1213+67	597	OAKLAND MILLS ROAD MEDIAN
1214+06 TO 1216+38	273	OAKLAND MILLS ROAD LT
1214+09 TO 1215+90	370	OAKLAND MILLS ROAD MEDIAN
1216+60 TO 1223+00	656	OAKLAND MILLS ROAD LT

24" CONCRETE CASING PIPE FOR FUTURE UTILITY CONSTRUCTION		
STATION	LF	REMARKS
1217+49	89	OAKLAND MILLS ROAD

*SEE DRAWING PP-05 FOR CASING PIPE PROFILE

HEAVY-DUTY CONCRETE PAVEMENT (SEE DETAIL G ON DWG PD-01)		
STATION	SY	REMARKS
1214+44 TO 1214+52	18	OAKLAND MILLS ROAD RT*

*PROPOSED RAMP TO BLANDAIR PARK, PHASE 2.

4" CONCRETE SIDEWALK (HO. CO. DETAIL R-3.05)		
STATION	SF	REMARKS
1214+16 TO 1214+63	390	OAKLAND MILLS ROAD LT
1214+43 TO 1214+63	147	OAKLAND MILLS ROAD MEDIAN

TEST HOLE SCHEDULE					
NO.	COORDINATES		COVER	SURFACE ELEV.	REMARKS
	NORTH	EAST			
TH-2	562901.26	1359189.49	3.80	401.90	10-4" PLASTIC CONDUITS
TH-3	562666.73	1359171.39	4.08	406.17	8-4" PLASTIC CONDUITS

DETECTABLE WARNING SURFACE (HO. CO. DETAIL R-4.07)		
STATION	SF	REMARKS
51+88	23	OAKLAND MILLS TRAIL
52+44	22	OAKLAND MILLS TRAIL
55+50	28	OAKLAND MILLS TRAIL
1214+22	27	OAKLAND MILLS ROAD LT
1214+47	16	OAKLAND MILLS ROAD RT
1214+49	18	OAKLAND MILLS ROAD MEDIAN
1214+57	18	OAKLAND MILLS ROAD MEDIAN
1214+59	20	OAKLAND MILLS ROAD LT

TYPE A SOIL STABILIZATION MATTING	
STATION	AREA (SY)
1211+15 TO 1213+00 LT	393
1211+15 TO 1213+00 CENTER	302
1215+05 TO 1215+80 CENTER	65
1217+35 TO 1221+10 RT	5,963
1219+90 TO 1221+60 LT	126

TYPE D SOIL STABILIZATION MATTING	
STATION	AREA (SY)
1210+00 TO 1217+10 RT	2,905
1214+94 TO 1216+10 LT	206
1216+80 TO 1219+80 LT	1,356
1221+05 TO 1222+41 RT	654

CLASS 1 RIPRAP				
STATION	LENGTH (FT)	WIDTH (FT)	S.Y.	
1211+11	11	10	12	12
1212+21	11	10	12	12
1213+30	11	10	12	12
1214+31	11	10	12	12
1215+00	11	10	12	12
1215+45	11	10	12	12
1215+97	11	10	12	12
1216+69	11.5	10	13	13
1217+33	11.5	10	13	13
1218+12	11.5	10	13	13
1218+24	10	10	12	12
1218+91	11.5	10	13	13
1219+69	11.5	10	13	13
1220+20	11.5	10	13	13
1220+37	10	10	8	8
1221+26	84	14	130	130
1221+81	22	10	25	25

CLASS 2 RIPRAP				
STATION	LENGTH (FT)	WIDTH (FT)	S.Y.	
1222+82	27	17	54	54
1218+08	13	10	14	14

DITCH SCHEDULE		
STATION	OFFSET	ELEVATION
1210+00	42.0 RT	421.61
1210+50	42.0 RT	420.86
1211+00	42.0 RT	420.11
1211+50	42.0 RT	419.36
1212+00	42.0 RT	418.61
1212+50	42.0 RT	418.27
1213+00	42.0 RT	417.54
1213+50	42.0 RT	416.79
1214+00	41.8 RT	415.94
1214+50	40.8 RT	414.81
1215+00	38.1 RT	413.90
1215+50	35.4 RT	413.20
1216+00	32.7 RT	412.60
1216+50	30.0 RT	412.15
1217+00	33.4 RT	411.00

DITCH SCHEDULE		
STATION	OFFSET	ELEVATION
1221+50	39.2 RT	398.70
1222+00	41.2 RT	398.00

DITCH SCHEDULE		
STATION	OFFSET	ELEVATION
1215+00	38.2 LT	413.89
1215+50	35.4 LT	412.89
1216+00	32.3 LT	411.90
1216+14	31.7 LT	411.90
1217+00	30.9 LT	409.47
1217+50	30.0 LT	408.46
1218+00	30.0 LT	407.46
1218+50	30.0 LT	406.46
1219+00	30.0 LT	405.46
1219+50	30.0 LT	404.46
1220+00	30.0 LT	403.78
1220+50	30.0 LT	403.29
1221+00	27.0 LT	403.06

DITCH SCHEDULE		
STATION	OFFSET	ELEVATION
1211+50	0.7 RT	422.31
1212+00	1.2 LT	421.56
1212+50	5.7 LT	420.81
1213+00	6.9 LT	420.06
1214+67	0.0 CL	417.00
1215+00	0.0 CL	416.40
1215+50	0.0 CL	415.00
1215+80	0.0 CL	415.00

DITCH SCHEDULE		
STATION	OFFSET	ELEVATION
1211+00	32.66 LT	423.94
1211+50	37.00 LT	422.21
1212+00	37.00 LT	421.46
1212+50	37.00 LT	420.30
1213+00	36.43 LT	419.07

- NOTES:
- ALL PAVEMENT REMOVAL SHALL BE TO TOP OF EXISTING SUBGRADE.
 - SEE DRAWING SE-01 FOR SUPERELEVATION TRANSITIONS.
 - SEE DRAWINGS PP-03, PP-04, PP-05, SW-02 AND DS-01 FOR STORM DRAIN PROFILE AND SCHEDULE.
 - THE APPROACH NOSES OF MEDIANS WITHOUT PEDESTRIAN CROSSINGS SHALL BE DEPRESSED TO 2 INCHES ABOVE THE PAVEMENT. SEE HO.CO. DETAIL R-3.04.
 - SEE SPEED TABLE DETAILS ON DRAWING DE-01.
 - SEE CAPITAL PROJECT #N-3102 FOR BLANDAIR PARK PHASE 2 CONSTRUCTION.
 - SEE DRAWINGS HT-01 THROUGH HT-08 FOR TYPICAL SECTIONS.
 - SEE DRAWING SW-07 FOR BIO SWALE AND GRASS SWALE SECTIONS AND PLACEMENT OF STABILIZATION MATTING.

"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. 19165, EXPIRATION DATE: 06/11/2015."

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

[Signature] 7/15/14
DIRECTOR OF PUBLIC WORKS DATE

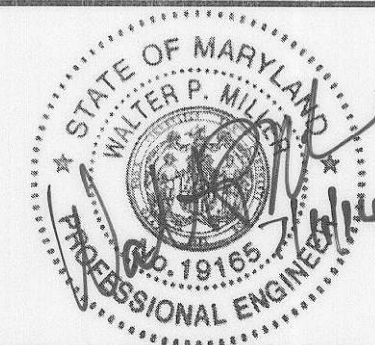
[Signature] 7/15/14
CHIEF, BUREAU OF HIGHWAYS DATE

[Signature] 7/15/14
CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 7/15/14
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231

WR&A



DES:	VAK
DRN:	VAK
CHK:	BRT
DATE:	7/11/2014

BY	NO.	REVISION	DATE

**BLANDAIR REGIONAL PARK
PHASE J - SOUTH**

CAPITAL PROJECT # J-4237

SCALE
1" = 50'

SHEET
24 of 138

CURVE DATA							
CURVE	DELTA	Dc	R	L	T	E	S.E.
OAKMILLS-5	123° 11' 01.48" RT	24° 48' 12.12"	231.00'	496.64'	427.08'	254.55'	6.02'
OAKMILLS-6	58° 20' 46.76" RT	39° 47' 19.45"	144.00'	146.64'	80.39'	20.92'	3.02'
OAKMILLS-7	46° 17' 36.48" RT	39° 47' 19.45"	144.00'	116.35'	61.56'	12.61'	6.02'
OAKMILLS-8	51° 41' 59.44" LT	39° 47' 19.45"	144.00'	129.94'	69.77'	16.01'	6.02'
RAMPC-3	59° 59' 27.46" RT	39° 47' 19.47"	144.00'	150.77'	83.12'	22.27'	6.02'
RAMPD-1	65° 18' 45.96" RT	24° 48' 12.12"	231.00'	263.32'	148.05'	43.37'	6.02'
MIDDLE ROUNDABOUT	360° 00' 00.00" LT	-	44.50'	279.60'	-	-	-2.02'

TYPE D SOIL STABILIZATION MATTING	
STATION	AREA (SY)
411+50 TO 412+25 RT	176
500+50 TO 502+00 RT	675
700+50 TO 703+82 RT	857
705+80 TO 708+73 RT	729
1300+55 TO 1304+75 RT	1578
1223+00 TO 1224+15 RT	641

TYPE A SOIL STABILIZATION MATTING	
STATION	AREA (SY)
411+50 TO 412+35 LT	286
500+65 TO 502+00 LT	494

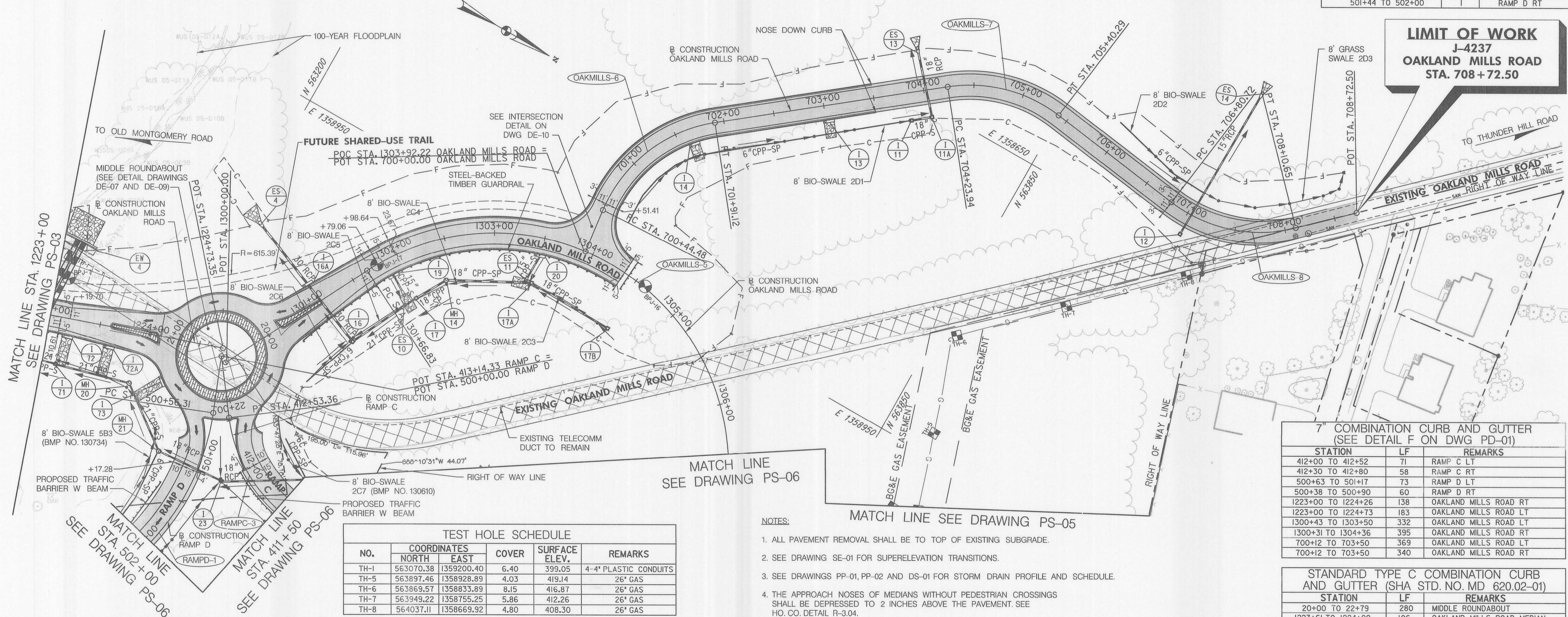
DEAD END BARRICADE TYPE B (HO. CO. DETAIL R-5.10)		
STATION	LF	REMARKS
1304+41	32	OAKLAND MILLS ROAD

TRAFFIC BARRIER W BEAM USING 6 FT POST (SHA STD. NO. MD-605.22)		
STATION	LF	REMARKS
411+50 TO 412+00	52	RAMP C LT

STEEL-BACKED TIMBER GUARDRAIL (SEE DETAILS ON DWGS DE-02 - DE-04)		
STATION	LF	REMARKS
1223+00 TO 1223+11, RT	11	TYPE A
1300+75 TO 1304+36, RT	338	TYPE A

TYPE K TRAFFIC BARRIER W BEAM END TREATMENT (SHA STD. NO. MD-605.10)		
STATION	EA.	REMARKS
412+00	1	RAMP C LT

TYPE C TRAFFIC BARRIER W BEAM END TREATMENT (SHA STD. NO. MD-605.03)		
STATION	EA.	REMARKS
501+44 TO 502+00	1	RAMP D RT



LIMIT OF WORK
J-4237
OAKLAND MILLS ROAD
STA. 708 + 72.50

7" COMBINATION CURB AND GUTTER (SEE DETAIL F ON DWG PD-01)		
STATION	LF	REMARKS
412+00 TO 412+52	71	RAMP C LT
412+30 TO 412+80	58	RAMP C RT
500+63 TO 501+17	73	RAMP D LT
500+38 TO 500+90	60	RAMP D RT
1223+00 TO 1224+26	138	OAKLAND MILLS ROAD RT
1223+00 TO 1224+73	183	OAKLAND MILLS ROAD LT
1300+43 TO 1303+50	332	OAKLAND MILLS ROAD LT
1300+31 TO 1304+36	395	OAKLAND MILLS ROAD RT
700+12 TO 703+50	369	OAKLAND MILLS ROAD LT
700+12 TO 703+50	340	OAKLAND MILLS ROAD RT

STANDARD TYPE C COMBINATION CURB AND GUTTER (SHA STD. NO. MD 620.02-01)		
STATION	LF	REMARKS
20+00 TO 22+79	280	MIDDLE ROUNDABOUT
1223+61 TO 1224+09	106	OAKLAND MILLS ROAD MEDIAN
1300+64 TO 1301+12	106	OAKLAND MILLS ROAD MEDIAN

STANDARD 7" COMBINATION CURB AND GUTTER (HO. CO. DETAIL R-3.01)		
STATION	LF	REMARKS
20+00 TO 22+79	217	MIDDLE ROUNDABOUT

TEST HOLE SCHEDULE					
NO.	COORDINATES		COVER	SURFACE ELEV.	REMARKS
	NORTH	EAST			
TH-1	563070.38	1359200.40	6.40	399.05	4-4" PLASTIC CONDUITS
TH-5	563897.46	1358928.89	4.03	419.14	26" GAS
TH-6	563869.57	1358833.89	8.15	416.87	26" GAS
TH-7	563949.22	1358755.25	5.86	412.26	26" GAS
TH-8	564037.11	1358669.92	4.80	408.30	26" GAS

- NOTES:
- ALL PAVEMENT REMOVAL SHALL BE TO TOP OF EXISTING SUBGRADE.
 - SEE DRAWING SE-01 FOR SUPERELEVATION TRANSITIONS.
 - SEE DRAWINGS PP-01, PP-02 AND DS-01 FOR STORM DRAIN PROFILE AND SCHEDULE.
 - THE APPROACH NOSES OF MEDIANS WITHOUT PEDESTRIAN CROSSINGS SHALL BE DEPRESSED TO 2 INCHES ABOVE THE PAVEMENT. SEE HO. CO. DETAIL R-3.04.
 - SEE DRAWING DE-01 FOR ROUNDABOUT SPLITTER ISLAND DETAILS.
 - SEE DRAWING SW-09 FOR SWALE AS-BUILT CERTIFICATION.
 - SEE DRAWINGS HT-01 THROUGH HT-08 FOR TYPICAL SECTIONS.
 - SEE DRAWING SW-07 FOR GRASS SWALE AND BIO SWALE SECTIONS AND PLACEMENT OF STABILIZATION MATTING.
 - THE CONTRACTOR SHALL NOTIFY BGE PRIOR TO WORKING WITHIN 25' OF THE HP GAS MAIN. NO MECHANICAL EQUIPMENT SHALL BE USED WITHIN 2' OF THE HP GAS MAIN. THE CONTRACTOR IS RESPONSIBLE FOR COMFORMING WITH BGE RESTRICTIONS. CONTACT BGE DAMAGE PREVENTION AT 410-470-6698 TO SCHEDULE A PRECONSTRUCTION MEETING ONE WEEK PRIOR TO CONSTRUCTION.

CLASS 1 RIPRAP			
STATION	LENGTH (FT)	WIDTH (FT)	S.Y
701+61	10	12	9
703+02	10	12	9
704+00	10	12	9
1223+03	26	30	87
1223+20	28	10	31
1223+62	28	10	31
1224+22	29	10	32
1301+04	15	18	26
1301+88	18	10	20
1303+32	10	18	20

PAVEMENT LEGEND	
	PAVEMENT REMOVAL
	FULL DEPTH HMA
	GRIND AND OVERLAY
	ASPHALT TRAIL
	CONCRETE SIDEWALK
	RED STAMPED ASPHALT

DITCH SCHEDULE		
STATION	OFFSET	ELEVATION
1301+00	50.1 RT	401.05
1301+50	49.7 RT	401.00
1302+00	47.7 RT	401.00
1302+50	46.9 RT	401.62
1303+00	45.7 RT	402.97
1303+50	48.6 RT	404.19
1304+00	53.3 RT	406.00
1304+50	53.1 RT	407.46

DITCH SCHEDULE		
STATION	OFFSET	ELEVATION
411+50	41.2 RT	401.78
412+00	46.5 RT	401.56

DITCH SCHEDULE		
STATION	OFFSET	ELEVATION
500+50	81.0 RT	400.00
501+00	50.4 RT	400.50
501+50	44.0 RT	401.00
502+00	43.0 RT	401.98

DITCH SCHEDULE		
STATION	OFFSET	ELEVATION
706+00	29.8 LT	406.51
706+50	26.1 LT	405.39
707+00	26.1 LT	404.19
707+50	25.6 LT	404.03
708+00	24.9 LT	403.23
708+50	23.8 LT	403.00

DITCH SCHEDULE		
STATION	OFFSET	ELEVATION
500+65	11.0 LT	405.00
501+00	17.3 LT	403.36
501+50	10.9 LT	402.06
502+00	13.4 LT	401.64

DITCH SCHEDULE		
STATION	OFFSET	ELEVATION
700+50	28.6 RT	415.52
701+00	28.2 RT	414.66
701+50	28.0 RT	412.91
702+00	28.0 RT	410.93
702+50	27.9 RT	409.20
703+00	28.0 RT	408.08
703+50	28.1 RT	407.16

DITCH SCHEDULE		
STATION	OFFSET	ELEVATION
411+50	16.9 LT	401.49
412+00	25.0 LT	401.09

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PREPARED BY:
 WHITMAN, REQUARDT & ASSOCIATES, LLP
 801 South Caroline Street, Baltimore, MD 21231



DES:	VAK				
DRN:	VAK				
CHK:	BRT				
DATE:	7/1/2014	BY	NO.	REVISION	DATE

SHA RW PLAT NUMBER
 58864

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND.

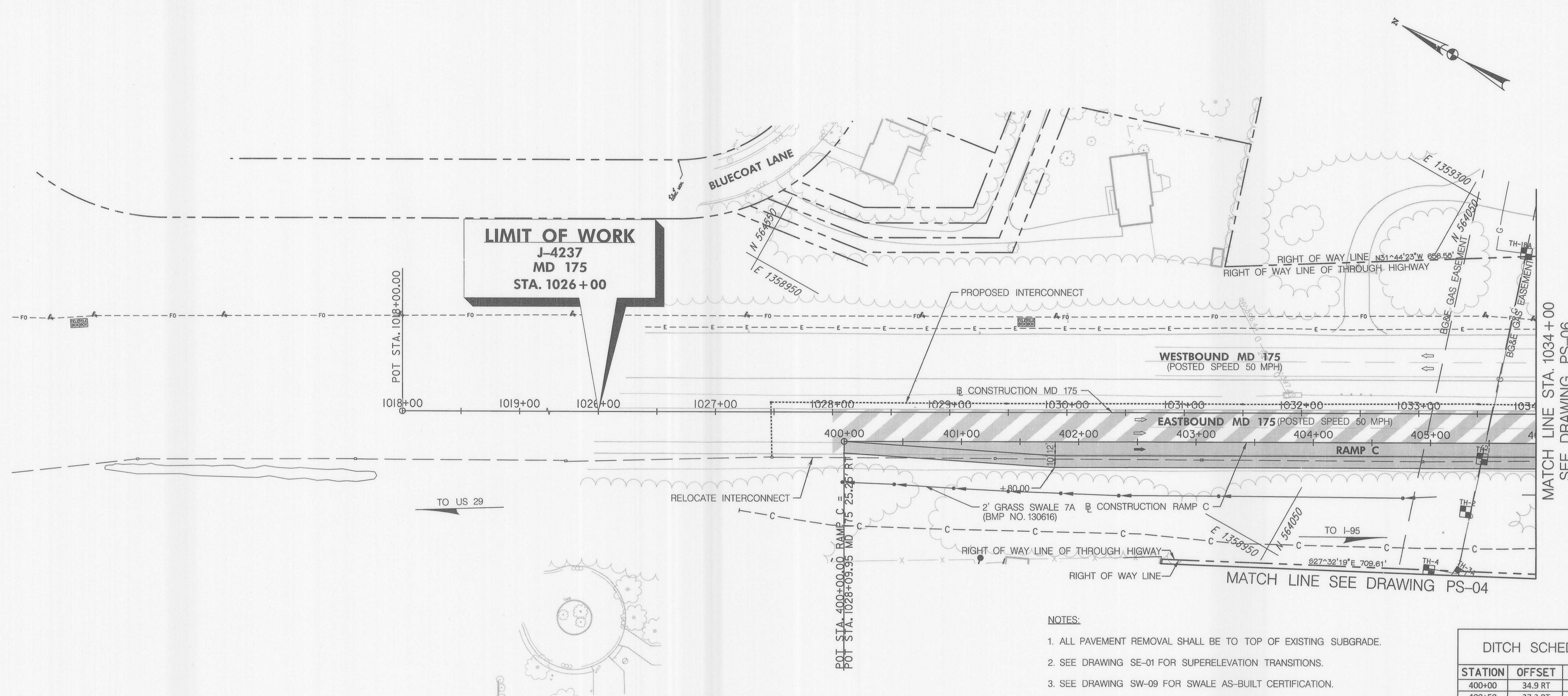
Director of Public Works: *[Signature]* DATE: 7-11-14
 Chief, Bureau of Highways: *[Signature]* DATE: 7-11-14

Chief of Engineering: *[Signature]* DATE: 7-11-14
 Chief, Transportation and Special Projects Division: *[Signature]* DATE: 7-11-14

ROADWAY PLAN

BLANDAIR REGIONAL PARK
PHASE J - SOUTH
CAPITAL PROJECT # J-4237

DWG. **PS-04**
 SCALE 1" = 60'
 SHEET **25 OF 138**



LIMIT OF WORK
J-4237
MD 175
STA. 1026+00

TYPE A SOIL STABILIZATION MATTING

STATION	AREA (SY)
400+00 TO 405+00 RT	3419

GRINDING HOT MIX ASPHALT PAVEMENT 0" - 2"

STATION	SY	REMARKS
1028+00 TO 1034+00	1914	MD 175 EASTBOUND

TEST HOLE SCHEDULE

NO.	COORDINATES		COVER	SURFACE ELEV.	REMARKS
	NORTH	EAST			
TH-1	563928.39	1359107.60	4.69	403.40	24" GAS
TH-2	563918.33	1359031.52	11.32	415.52	24" GAS
TH-3A	563898.97	1359012.43	N/A	N/A	24" GAS VERTICAL BEND @ INV. 413.75
TH-4	563921.16	1359002.61	3.19	417.09	24" GAS
TH-18A	563982.59	1359279.35	N/A	N/A	24" GAS VERTICAL BEND @ INV. 409.57

NOTES:

- ALL PAVEMENT REMOVAL SHALL BE TO TOP OF EXISTING SUBGRADE.
- SEE DRAWING SE-01 FOR SUPERELEVATION TRANSITIONS.
- SEE DRAWING SW-09 FOR SWALE AS-BUILT CERTIFICATION.
- THE CONTRACTOR SHALL NOTIFY BGE PRIOR TO WORKING WITHIN 25' OF THE HP GAS MAIN. NO MECHANICAL EQUIPMENT SHALL BE USED WITHIN 2' OF THE HP GAS MAIN. THE CONTRACTOR IS RESPONSIBLE FOR COMFORMING WITH BGE RESTRICTIONS. CONTACT BGE DAMAGE PREVENTION AT 410-470-6698 TO SCHEDULE A PRECONSTRUCTION MEETING ONE WEEK PRIOR TO CONSTRUCTION.
- SEE DRAWINGS HT-01 THROUGH HT-08 FOR TYPICAL SECTIONS.
- SEE DRAWING SW-07 FOR GRASS SWALE AND BIO SWALE SECTIONS AND PLACEMENT OF STABILIZATION MATTING.

DITCH SCHEDULE

STATION	OFFSET	ELEVATION
400+00	34.9 RT	396.46
400+50	37.3 RT	396.58
401+00	40.7 RT	397.07
401+50	44.0 RT	397.51
402+00	46.0 RT	397.91
402+50	46.0 RT	398.41
403+00	46.0 RT	398.93
403+50	46.0 RT	399.35
404+00	46.0 RT	399.68
404+50	46.0 RT	399.98
405+00	47.0 RT	400.35

PAVEMENT LEGEND

- PAVEMENT REMOVAL
- FULL DEPTH HMA
- GRIND AND OVERLAY
- ASPHALT TRAIL
- CONCRETE SIDEWALK
- RED STAMPED ASPHALT

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SHA R/W PLAT NUMBER

49542
58864

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND.

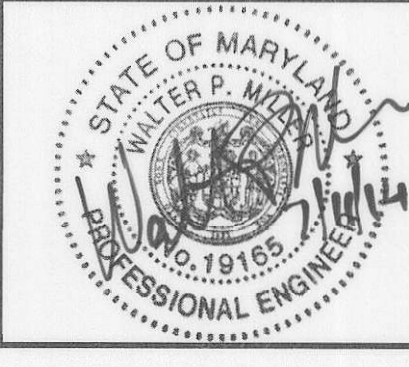
John K. ...
 DIRECTOR OF PUBLIC WORKS

Thomas P. ...
 CHIEF, BUREAU OF ENGINEERING

Steve ...
 CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION

PREPARED BY:
 WHITMAN, REQUARDT & ASSOCIATES, LLP
 801 South Caroline Street, Baltimore, MD 21231

WR&A



DES: VAK			
DRN: VAK			
CHK: BRT			
DATE: 7/1/2014	BY	NO.	REVISION

ROADWAY PLAN

TAX MAP 36 BLOCK NO. 5

BLANDAIR REGIONAL PARK
PHASE J - SOUTH
CAPITAL PROJECT # J-4237

ELECTION DISTRICT 3 / 7 HOWARD COUNTY, MARYLAND

DWG. **PS-05**

SCALE
 1" = 50'

SHEET
26 OF 138

STATION	OFFSET	ELEVATION
406+00	47.0 RT	400.95
406+50	47.5 RT	401.27
407+00	48.8 RT	401.53
407+50	47.5 RT	401.00
408+50	35.0 RT	404.00
409+00	36.4 RT	403.64
409+50	38.5 RT	403.20
410+00	39.0 RT	402.70
410+50	38.0 RT	402.40
411+00	40.5 RT	402.00

STATION	OFFSET	ELEVATION
502+50	43.1 RT	402.45
503+00	43.0 RT	403.37

STATION	OFFSET	ELEVATION
504+00	42.9 RT	406.12
504+50	43.0 RT	407.61
505+00	43.0 RT	409.02
505+50	44.9 RT	409.90
506+00	48.4 RT	410.48
506+50	50.8 RT	411.19
507+00	52.6 RT	411.98
507+50	53.8 RT	412.72
508+00	54.0 RT	413.57
508+50	54.0 RT	414.75

STATION	OFFSET	ELEVATION
409+50	11.5 LT	403.20
410+00	14.1 LT	402.70
410+50	13.8 LT	402.29
411+00	13.68 LT	401.89

STRUCTURE NO.	STATION	OFFSET	MD. STANDARD NO./TYPE	T.S.	REMARKS
MH-5	503+52	14' LT	MD STD. NO. 384.07 STANDARD PRECAST MANHOLE	411.30'	RAMP D
*EW-1	503+54	36' RT	MD STD. NO. 352.01 STANDARD TYPE B ENDWALL METAL OR CONCRETE ROUND PIPE	405.58'	RAMP D
MH-16	506+59	47' RT	MD STD. NO. 384.01 PRECAST MANHOLE	411.38'	RAMP D
I-15	411+43	39' RT	MD STD. NO. 378.05 STANDARD SINGLE OR DOUBLE OPENING TYPE K INLET OPEN-END GRATE	401.41'	RAMP C
ES-16	407+50	47' RT	MD STD. NO. 368.01 STANDARD END SECTION ROUND CONCRETE PIPE	400.75'	RAMP C
MH-18	408+91	29.4' RT	MD STD. NO. 384.01 STANDARD PRECAST MANHOLE	405.00'	RAMP C
MH-15A	411+05	40.7' RT	MD STD. NO. 384.01 STANDARD PRECAST MANHOLE	402.05'	RAMP C

*NOTE: CONTRACTOR MUST SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING.

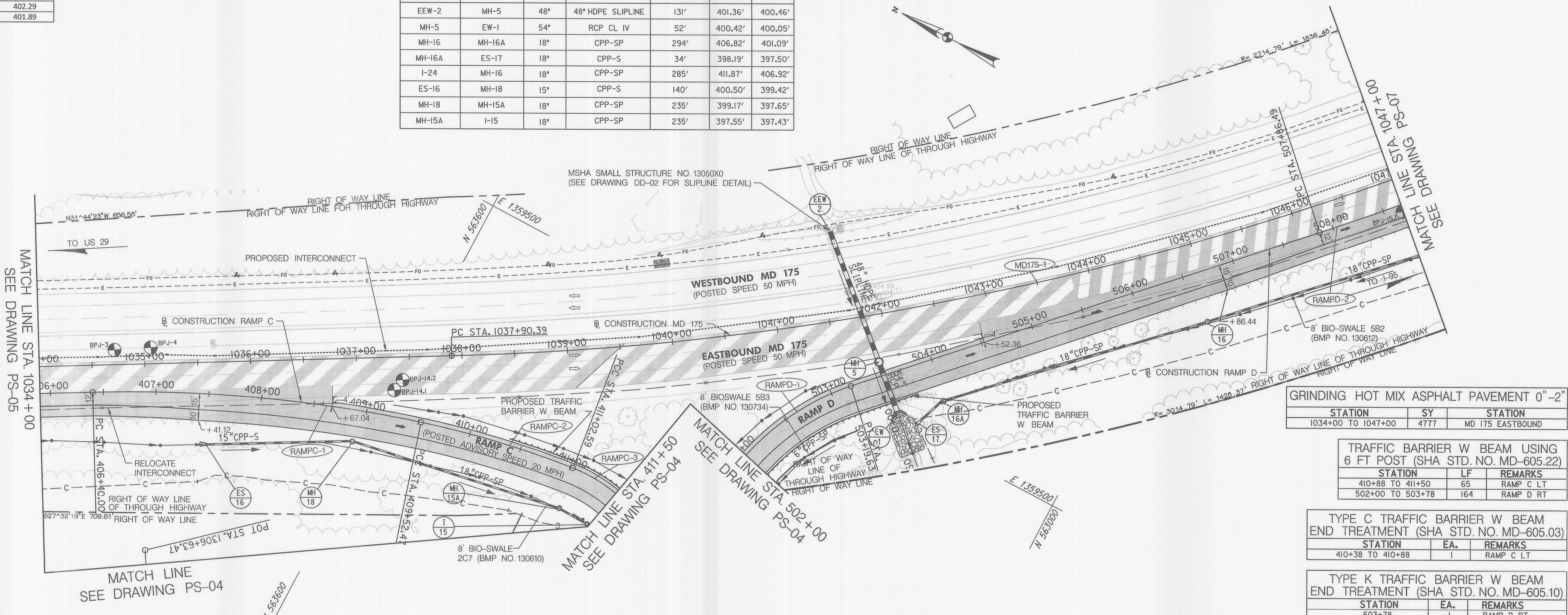
FROM	TO	SIZE	TYPE	LENGTH	INV.US	INV.DS
EEW-2	MH-5	48"	48" HDPE SLIPLINE	131'	401.36'	400.46'
MH-5	EW-1	54"	RCP CL IV	52'	400.42'	400.05'
MH-16	MH-16A	18"	CPP-SP	294'	406.82'	401.09'
MH-16A	ES-17	18"	CPP-S	34'	398.19'	397.50'
I-24	MH-16	18"	CPP-SP	285'	411.87'	406.92'
ES-16	MH-18	15"	CPP-S	140'	400.50'	399.42'
MH-18	MH-15A	18"	CPP-SP	235'	399.17'	397.65'
MH-15A	I-15	18"	CPP-SP	235'	397.55'	397.43'

STATION	AREA (SY)
405+90 TO 407+50 RT	1107
409+22 TO 410+88 LT	814
408+50 TO 409+70 RT	193
502+00 TO 503+14 LT	354

STATION	AREA (SY)
409+70 TO 411+50 RT	479
502+00 TO 503+14 RT	254
503+97 TO 508+68 RT	2064

STATION	LENGTH (FT)	WIDTH (FT)	S.Y.
503+54	40	25	III

CURVE	DELTA	Dc	R	L	T	E	S.E.
RAMP-C-1	13° 15' 41.31" RT	4° 14' 38.87"	1350.00'	312.47'	156.93'	9.09'	4.0%
RAMP-C-2	9° 33' 24.76" RT	6° 21' 58.31"	900.00'	150.12'	75.23'	3.14'	4.0%
RAMP-C-3	59° 59' 27.46" RT	39° 47' 19.47"	144.00'	150.77'	83.12'	22.27'	6.0%
RAMP-D-1	65° 18' 45.96" RT	24° 48' 12.12"	231.00'	263.32'	148.05'	43.37'	6.0%
RAMP-D-2	14° 47' 54.36" LT	1° 58' 57.09"	2890.04'	746.44'	375.31'	24.27'	4.5%
MD175-1	39° 23' 20.00" LT	2° 00' 00.00"	2864.79'	1969.45'	1025.43'	177.99'	EX.



STATION	SY	STATION
1034+00 TO 1047+00	4777	MD 175 EASTBOUND

STATION	LF	REMARKS
410+88 TO 411+50	65	RAMP C LT
502+00 TO 503+78	164	RAMP D RT

STATION	EA.	REMARKS
410+38 TO 410+88	I	RAMP C LT

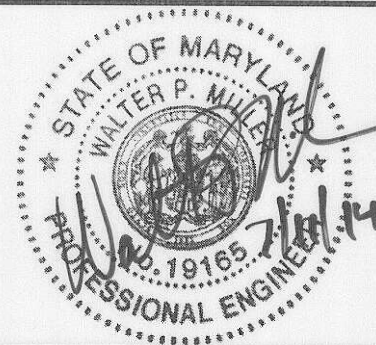
STATION	EA.	REMARKS
503+78	I	RAMP D RT

- NOTES:
- ALL PAVEMENT REMOVAL SHALL BE TO TOP OF EXISTING SUBGRADE.
 - SEE DRAWING SE-01 FOR SUPERELEVATION TRANSITIONS.
 - SEE DRAWINGS PP-01 FOR STORM DRAIN PROFILE.
 - SEE DRAWING SW-09 FOR SWALE AS-BUILT CERTIFICATION.
 - SEE DRAWINGS HT-01 THROUGH HT-08 FOR TYPICAL SECTIONS.
 - SEE DRAWING SW-07 FOR GRASS SWALE AND BIO-SWALE SECTIONS AND PLACEMENT OF STABILIZATION MATTING.

PAVEMENT LEGEND	
[Symbol]	PAVEMENT REMOVAL
[Symbol]	FULL DEPTH HMA
[Symbol]	GRIND AND OVERLAY
[Symbol]	ASPHALT TRAIL
[Symbol]	CONCRETE SIDEWALK
[Symbol]	RED STAMPED ASPHALT

"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. 19165, EXPIRATION DATE: 06/11/2015."

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
 801 South Caroline Street, Baltimore, MD 21231



DES:	VAK
DRN:	VAK
CHK:	BRT
DATE:	7/11/2014

BY	NO.	REVISION	DATE

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND.

Director of Public Works: *[Signature]* 7/16/14
 Chief, Bureau of Engineering: *[Signature]* 7/16/14
 Chief, Transportation and Special Projects Division: *[Signature]* 7/16/14

ROADWAY PLAN

SHA RW PLAT NUMBER: 58864

BLANDAIR REGIONAL PARK
 PHASE J - SOUTH
 CAPITAL PROJECT # J-4237

TAX MAP 36 BLOCK NO. 5 ELECTION DISTRICT 3/7 HOWARD COUNTY, MARYLAND

CURVE DATA

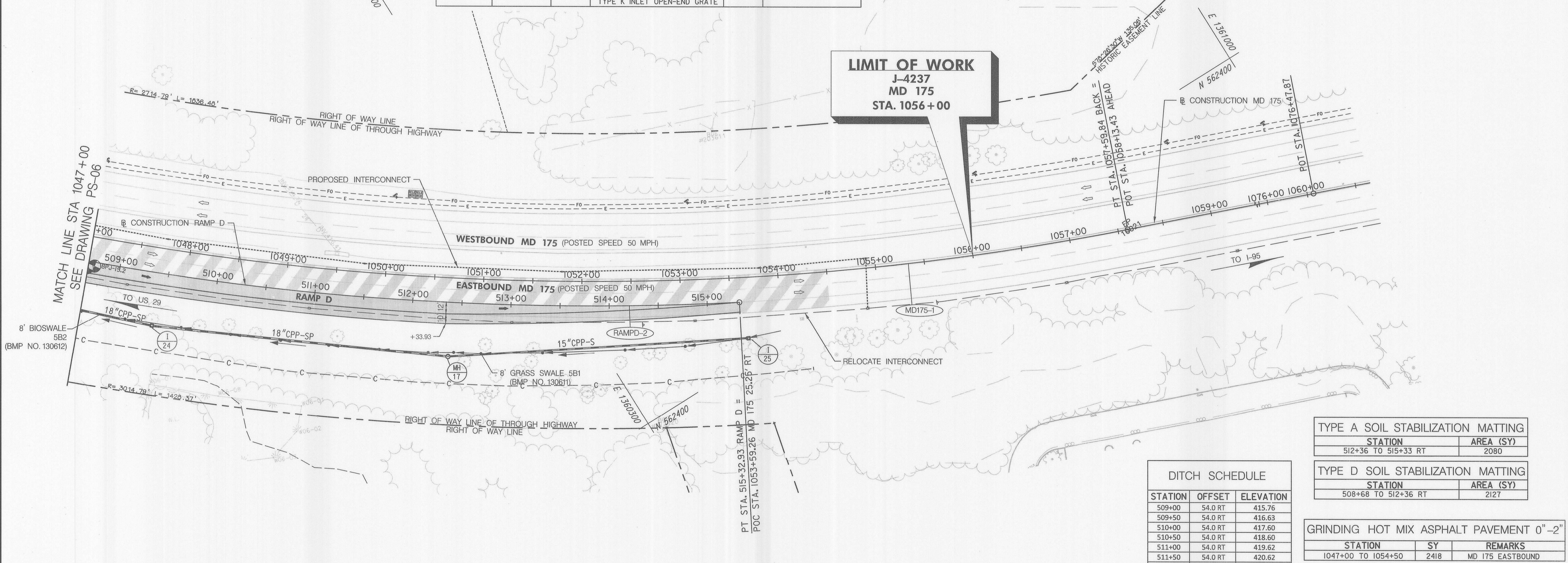
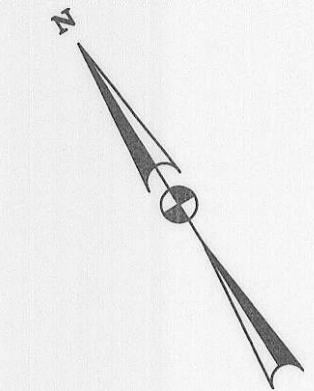
CURVE	DELTA	Dc	R	L	T	E	S.E.
RAMPD-2	14° 47' 54.36" LT	1° 58' 57.09"	2890.04'	746.44'	375.31'	24.27'	4.5%
MD175-1	39° 23' 20.00" LT	2° 00' 00.00"	2864.79'	1969.45'	1025.43'	177.99'	EX.

PIPE SCHEDULE

FROM	TO	SIZE	TYPE	LENGTH	INV.US	INV.DS
MH-17	I-24	18"	CPP-SP	302'	417.85'	411.97'
I-25	MH-17	15"	CPP-S	308'	422.70'	418.09'

DRAINAGE STRUCTURE SCHEDULE

STRUCTURE NO.	STATION	OFFSET	MD. STANDARD NO./TYPE	T.S.	REMARKS
I-24	509+42	53' RT	MD STD NO. 378.05 STANDARD SINGLE OR DOUBLE OPENING TYPE K INLET OPEN-END GRATE	416.50'	RAMP D
MH-17	512+38	55' RT	MD STD NO. 384.01 PRECAST MANHOLE	422.38'	RAMP D
I-25	1053+67	60' RT	MD STD NO. 378.05 STANDARD SINGLE OR DOUBLE OPENING TYPE K INLET OPEN-END GRATE	429.06'	MD 175



LIMIT OF WORK
J-4237
MD 175
STA. 1056+00

DITCH SCHEDULE

STATION	OFFSET	ELEVATION
509+00	54.0 RT	415.76
509+50	54.0 RT	416.63
510+00	54.0 RT	417.60
510+50	54.0 RT	418.60
511+00	54.0 RT	419.62
511+50	54.0 RT	420.62
512+00	54.0 RT	421.62
512+50	53.4 RT	422.62
513+00	51.4 RT	423.49
513+50	49.4 RT	424.25
514+00	47.3 RT	424.80
514+50	45.3 RT	425.43
515+00	40.0 RT	428.20

TYPE A SOIL STABILIZATION MATTING

STATION	AREA (SY)
512+36 TO 515+33 RT	2080

TYPE D SOIL STABILIZATION MATTING

STATION	AREA (SY)
508+68 TO 512+36 RT	2127

GRINDING HOT MIX ASPHALT PAVEMENT 0" -2"

STATION	SY	REMARKS
1047+00 TO 1054+50	2418	MD 175 EASTBOUND

- NOTES:
1. ALL PAVEMENT REMOVAL SHALL BE TO TOP OF EXISTING SUBGRADE.
 2. SEE DRAWING SE-01 FOR SUPERELEVATION TRANSITIONS.
 3. SEE DRAWINGS PP-01 AND FOR STORM DRAIN, BIO-SWALE AND GRASS SWALE PROFILES.
 4. SEE DRAWING SW-09 FOR SWALE AS-BUILT CERTIFICATION
 5. SEE DRAWINGS HT-01 THROUGH HT-08 FOR TYPICAL SECTIONS.
 6. SEE DRAWING SW-07 FOR GRASS SWALE AND BIO-SWALE SECTIONS AND PLACEMENT OF STABILIZATION MATTING.

PAVEMENT LEGEND

- PAVEMENT REMOVAL
- FULL DEPTH HMA
- GRIND AND OVERLAY
- ASPHALT TRAIL
- CONCRETE SIDEWALK
- RED STAMPED ASPHALT

"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. 19165, EXPIRATION DATE: 06/11/2015."

SHA R/W PLAT NUMBER
 42637
 58864

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND.

John A. Serrano
 DIRECTOR OF PUBLIC WORKS
 DATE: 7/11/14

Steve Shavano
 CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION
 DATE: 7/11/14

PREPARED BY:
 WHITMAN, REQUARDT & ASSOCIATES, LLP
 801 South Caroline Street, Baltimore, MD 21231

WR&A



DES:	VAK
DRN:	VAK
CHK:	BRT
DATE:	7/11/2014

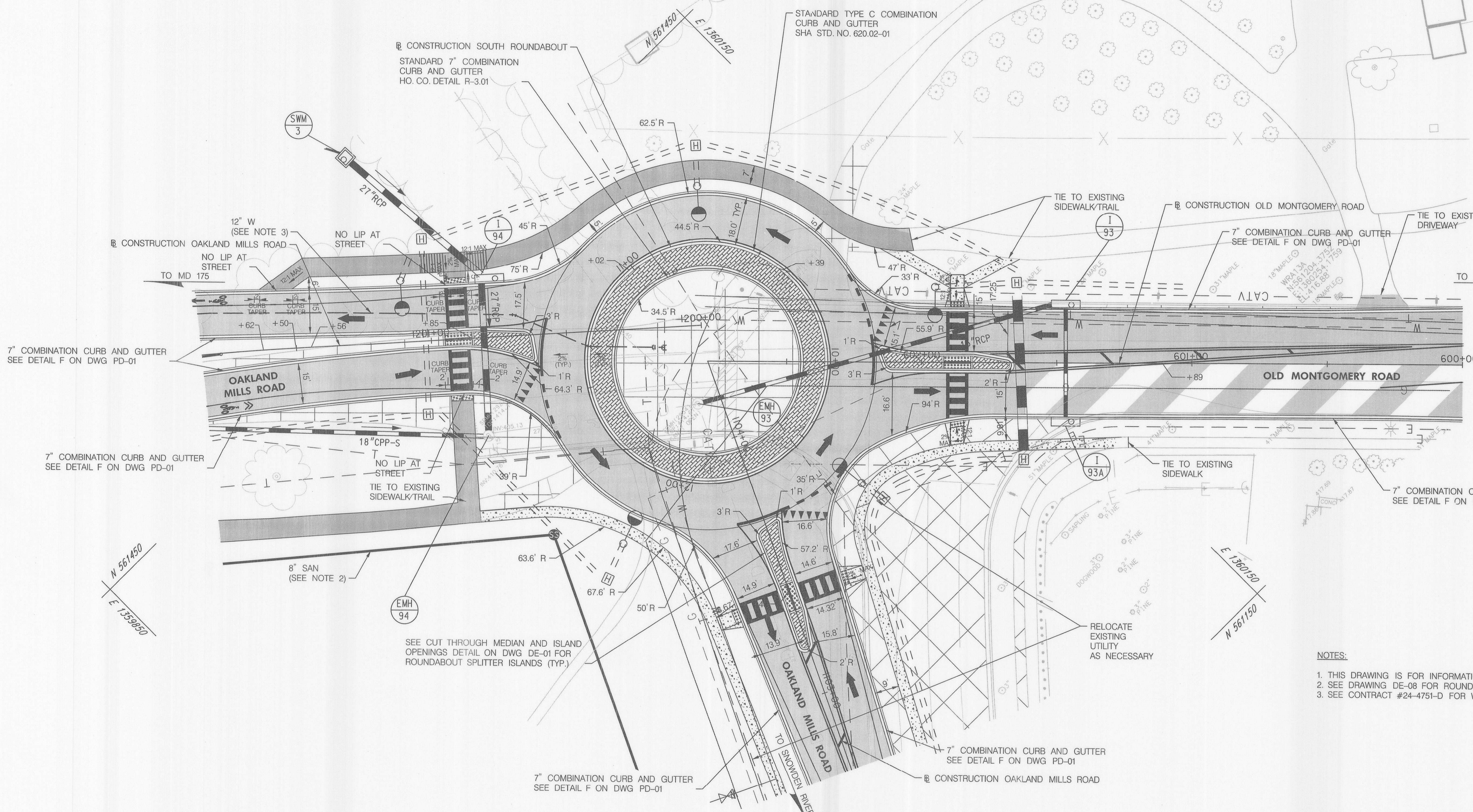
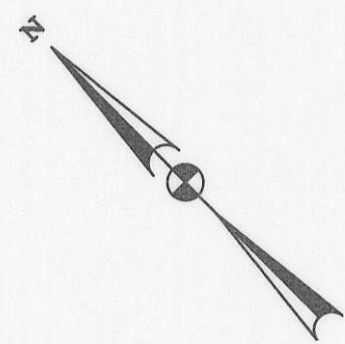
ROADWAY PLAN

BLANDAIR REGIONAL PARK
PHASE J - SOUTH
CAPITAL PROJECT # J-4237

DWG. **PS-07**

SCALE
 1" = 50'

SHEET
28 OF 138



- NOTES:**
1. THIS DRAWING IS FOR INFORMATIONAL PURPOSES ONLY.
 2. SEE DRAWING DE-08 FOR ROUNDABOUT CURB LAYOUT.
 3. SEE CONTRACT #24-4751-D FOR WATER AND SANITARY LINE CONSTRUCTION.

PAVEMENT LEGEND

- PAVEMENT REMOVAL
- FULL DEPTH HMA
- GRIND AND OVERLAY
- ASPHALT TRAIL
- CONCRETE SIDEWALK
- RED STAMPED ASPHALT

"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. 19165, EXPIRATION DATE: 06/11/2015."

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

John S. Seaman 7/11/14
DIRECTOR OF PUBLIC WORKS
CHIEF, BUREAU OF HIGHWAYS

Thomas P. Butler 7/11/14
CHIEF, BUREAU OF ENGINEERING

Steve Shaver 7/11/14
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231

WR&A



DES:	VAK	BY:		NO.		REVISION		DATE	
DRN:	VAK								
CHK:	BRT								
DATE:	7/11/2014								

ROUNDABOUT PLAN - SOUTH ROUNDABOUT

TAX MAP 36 BLOCK NO. 5

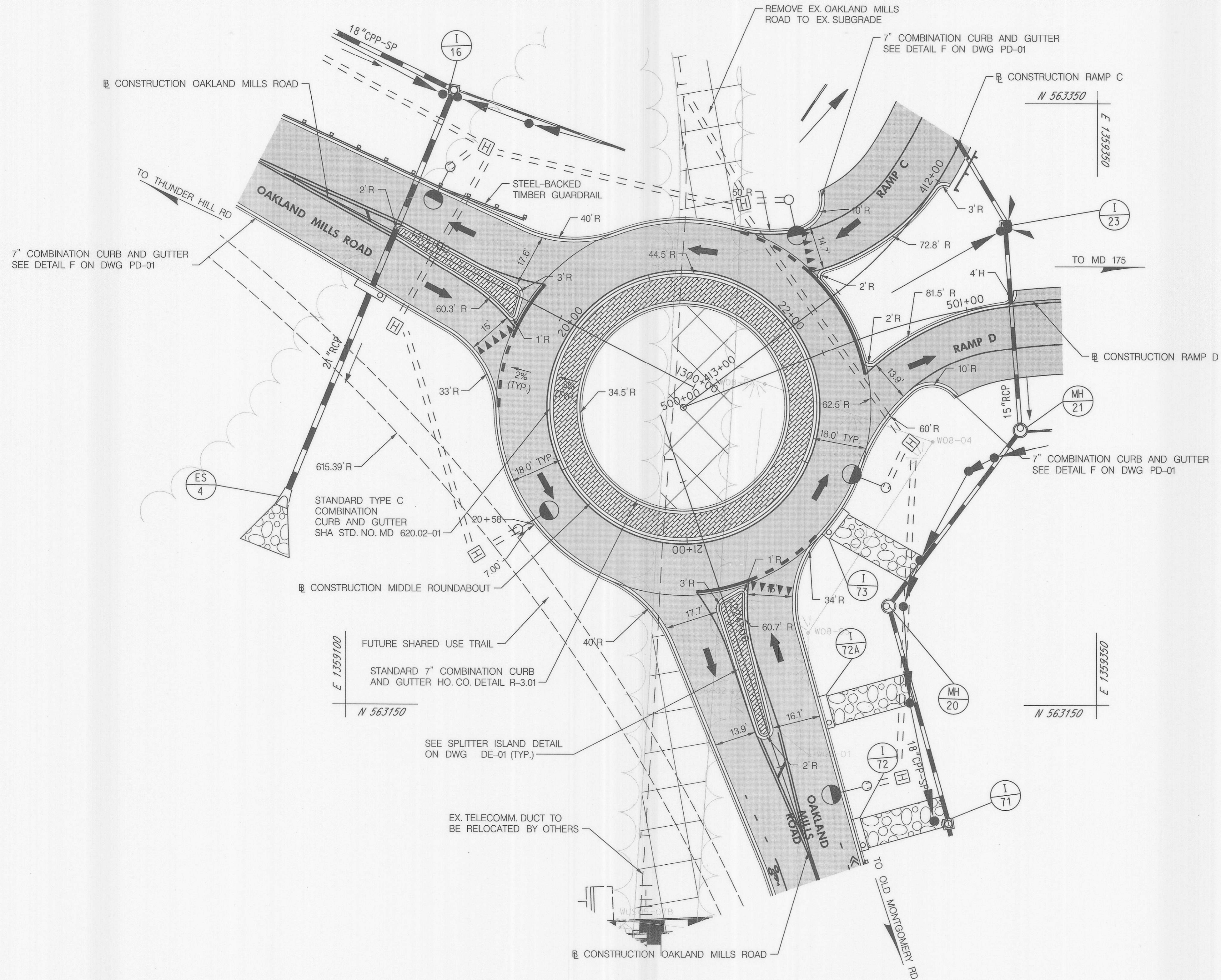
**BLANDAIR REGIONAL PARK
PHASE J - SOUTH
CAPITAL PROJECT # J-4237**

ELECTION DISTRICT 3/7 HOWARD COUNTY, MARYLAND

DWG. **DE-06**

SCALE 1" = 20'

SHEET **29** OF 138



- NOTES:**
1. THIS DRAWING IS FOR INFORMATIONAL PURPOSES ONLY.
 2. SEE DRAWING DE-09 FOR ROUNDABOUT CURB LAYOUT.

PAVEMENT LEGEND

- PAVEMENT REMOVAL
- FULL DEPTH HMA
- GRIND AND OVERLAY
- ASPHALT TRAIL
- CONCRETE SIDEWALK
- RED STAMPED ASPHALT

"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. 19165, EXPIRATION DATE: 06/11/2015."

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

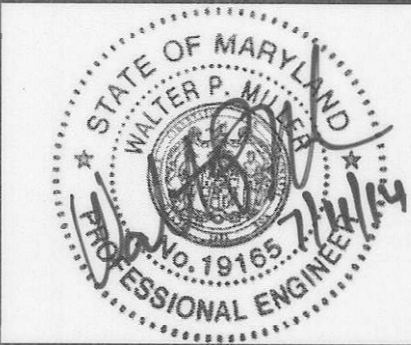
Ray J. An 7/11/14
DIRECTOR OF PUBLIC WORKS
CHIEF, BUREAU OF HIGHWAYS

Thomas E. Butler 7/11/14
CHIEF, BUREAU OF ENGINEERING

Steve Shann 7/11/14
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231

WR&A



DES:	VAK				
DRN:	VAK				
CHK:	BRT				
DATE:	7/11/2014	BY	NO.	REVISION	DATE

ROUNDABOUT PLAN - MIDDLE ROUNDABOUT

TAX MAP 36 BLOCK NO. 5

BLANDAIR REGIONAL PARK PHASE J - SOUTH
CAPITAL PROJECT # J-4237

ELECTION DISTRICT 3 / 7 HOWARD COUNTY, MARYLAND

DWG. **DE-07**

SCALE 1" = 20'

SHEET **30** OF **138**

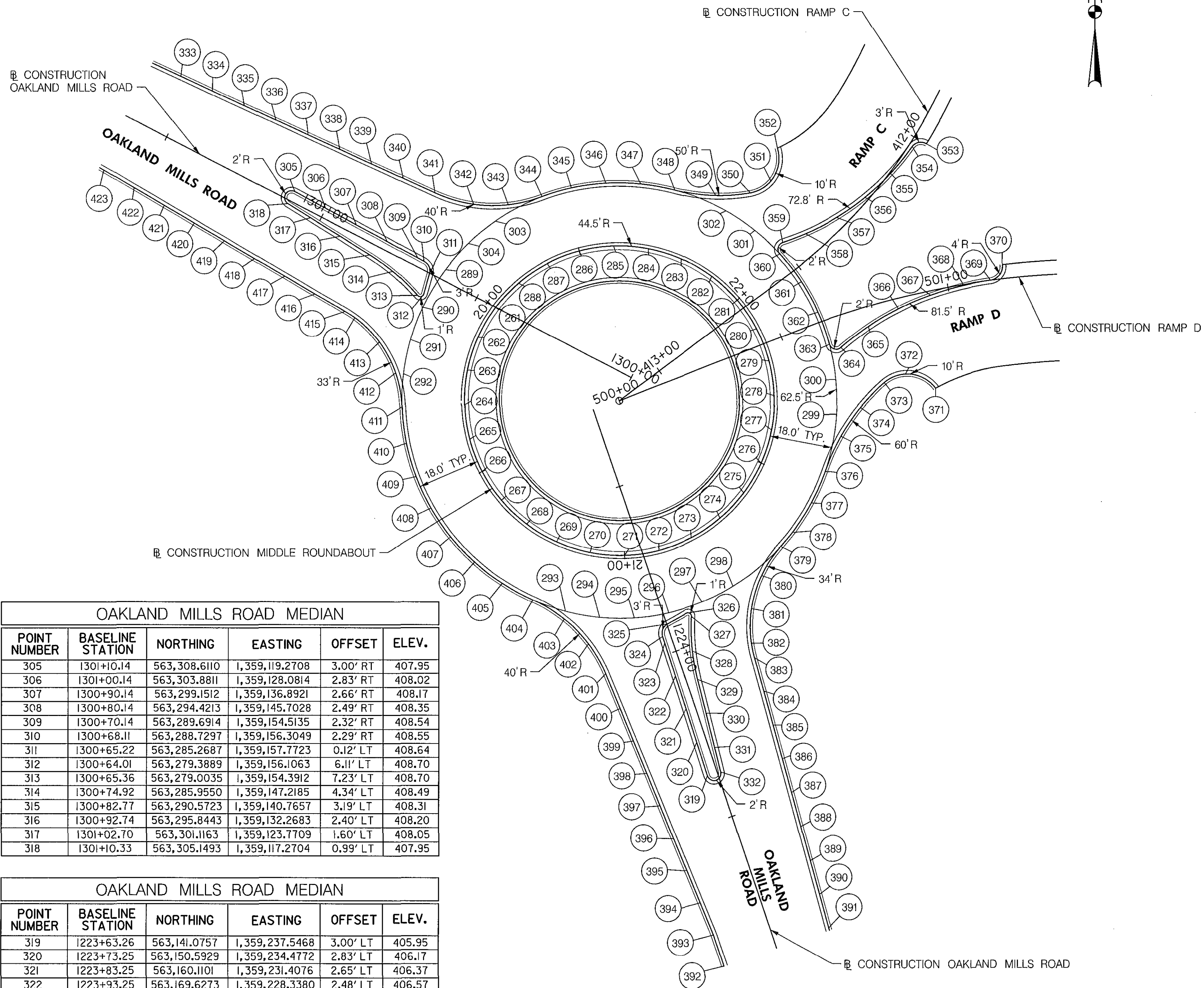
OUTER AND INNER ROUNDABOUT CIRCLE					
POINT NUMBER	BASELINE STATION	NORTHING	EASTING	OFFSET	ELEV.
424	10+00.40	561,323.0180	1,360,098.1127	0'	416.52
425	10+10.00	561,330.5338	1,360,104.0582	0'	416.50
426	10+20.00	561,339.5236	1,360,108.3900	0'	416.44
427	10+30.00	561,349.2526	1,360,110.6939	0'	416.33
428	10+40.00	561,359.2315	1,360,110.6055	0'	416.18
429	10+50.00	561,368.9587	1,360,108.3779	0'	415.99
430	10+60.00	561,377.9449	1,360,104.0388	0'	415.75
431	10+70.00	561,385.7382	1,360,097.8063	0'	415.47
432	10+80.00	561,391.9468	1,360,089.9939	0'	415.20
433	10+90.00	561,396.2585	1,360,080.9945	0'	414.96
434	11+00.00	561,398.4564	1,360,071.2606	0'	414.77
435	11+10.00	561,398.4300	1,360,061.2817	0'	414.62
436	11+20.00	561,396.1806	1,360,051.5595	0'	414.52
437	11+30.00	561,391.8213	1,360,042.5830	0'	414.46
438	11+40.00	561,385.5714	1,360,034.8037	0'	414.43
439	11+50.00	561,377.7452	1,360,028.6125	0'	414.46
440	11+60.00	561,368.7362	1,360,024.3210	0'	414.52
441	11+70.00	561,358.9973	1,360,022.1449	0'	414.63
442	11+80.00	561,349.0185	1,360,022.1937	0'	414.78
443	11+90.00	561,339.3014	1,360,024.4648	0'	414.97
444	12+00.00	561,330.3347	1,360,028.8441	0'	415.21
445	12+10.00	561,322.5693	1,360,035.1114	0'	415.49
446	12+20.00	561,316.3957	1,360,042.9515	0'	415.76
447	12+30.00	561,312.1244	1,360,051.9701	0'	416.00
448	12+40.00	561,309.9701	1,360,061.7138	0'	416.19
449	12+50.00	561,310.0412	1,360,071.6925	0'	416.33
450	12+60.00	561,312.3340	1,360,081.4045	0'	416.44
451	12+70.00	561,316.7334	1,360,090.3613	0'	416.50
452	10+00.65	561,310.6447	1,360,111.9174	18' RT	416.18
453	10+09.69	561,320.5865	1,360,119.0643	18' RT	416.16
454	10+16.81	561,329.4084	1,360,123.7506	18' RT	416.12
455	11+16.49	561,414.6087	1,360,050.2660	18' RT	414.21
456	11+23.61	561,411.2689	1,360,040.8515	18' RT	414.15
457	11+30.73	561,406.4718	1,360,032.0894	18' RT	414.11
458	11+37.85	561,400.3400	1,360,024.2034	18' RT	414.10
459	11+44.97	561,393.0302	1,360,017.3951	18' RT	414.10
460	11+52.09	561,384.7290	1,360,011.8383	18' RT	414.13
461	12+01.93	561,378.4141	1,360,015.1641	18' RT	414.92
462	12+09.05	561,370.7106	1,360,021.5235	18' RT	415.12
463	12+16.17	561,364.1186	1,360,029.0290	18' RT	415.32
464	12+23.29	561,298.8066	1,360,037.4889	18' RT	415.50
465	12+30.41	561,294.9102	1,360,046.6870	18' RT	415.66
466	12+37.53	561,292.5291	1,360,056.3884	18' RT	415.80
467	12+44.65	561,291.7239	1,360,066.3453	18' RT	415.92
468	12+51.77	561,292.5154	1,360,076.3032	18' RT	416.02
469	12+58.89	561,294.8832	1,360,086.0078	18' RT	416.09
470	12+66.01	561,298.7669	1,360,095.2113	18' RT	416.14
471	12+73.13	561,304.0673	1,360,103.6785	18' RT	416.17

OAKLAND MILLS ROAD MEDIAN					
POINT NUMBER	BASELINE STATION	NORTHING	EASTING	OFFSET	ELEV.
472	1201+59.76	561,474.7782	1,359,957.7253	4.87' RT	412.76
473	1201+49.78	561,467.8837	1,359,964.9706	4.49' RT	412.81
474	1201+39.78	561,460.9901	1,359,972.2149	4.12' RT	412.89
475	1201+29.79	561,454.0966	1,359,979.4591	3.74' RT	412.98
476	1201+19.80	561,447.2031	1,359,986.7034	3.37' RT	413.09
477	1201+09.81	561,440.3096	1,359,993.9476	3.00' RT	413.21
478	1201+00.06	561,433.4161	1,360,001.2626	3.00' RT	413.38
479	1200+90.06	561,427.2494	1,360,008.7603	3.00' RT	413.55
480	1200+83.56	561,422.9499	1,360,013.6321	3.00' RT	413.71
481	1200+73.60	561,415.6562	1,360,020.4733	2.06' RT	413.85
482	1200+65.70	561,409.8633	1,360,025.9068	1.31' RT	413.96
483	1200+62.99	561,406.0386	1,360,026.1392	1.40' LT	414.06
484	1200+62.34	561,400.2611	1,360,021.9089	8.53' LT	414.09
485	1200+63.78	561,400.4688	1,360,020.1784	9.52' LT	414.02
486	1200+73.07	561,409.3710	1,360,015.6452	5.85' LT	413.85
487	1200+82.81	561,417.4629	1,360,009.7870	3.66' LT	413.68
488	1200+91.99	561,424.0268	1,360,003.3443	3.00' LT	413.53
489	1201+01.99	561,430.6438	1,359,995.8466	3.00' LT	413.38
490	1201+01.06	561,435.9848	1,359,989.7947	3.00' LT	413.27
491	1201+20.05	561,442.3169	1,359,982.0542	3.38' LT	413.15
492	1201+28.04	561,447.3799	1,359,975.8631	3.67' LT	413.06
493	1201+38.03	561,453.6693	1,359,968.0886	4.10' LT	412.97
494	1201+48.02	561,459.8747	1,359,960.2469	4.64' LT	412.89
495	1201+58.00	561,465.9953	1,359,952.3388	5.28' LT	412.82

SOUTHEAST CURB RETURN					
POINT NUMBER	BASELINE STATION	NORTHING	EASTING	OFFSET	ELEV.
567	600+82.59	561,200.9230	1,360,191.2077	20.00' LT	415.31
568	600+92.59	561,207.9991	1,360,184.1416	20.00' LT	415.21
569	601+02.59	561,215.0752	1,360,177.0756	20.00' LT	415.11
570	601+12.59	561,222.1513	1,360,170.0095	20.00' LT	415.01
571	601+22.59	561,229.2273	1,360,162.9435	20.00' LT	414.93
572	601+32.59	561,236.3034	1,360,155.8774	20.00' LT	414.87
573	601+42.59	561,243.3795	1,360,148.8114	20.00' LT	414.89
574	601+52.59	561,250.4556	1,360,141.7453	20.00' LT	414.85
575	601+62.59	561,257.5317	1,360,134.6793	20.00' LT	414.91
576	601+72.59	561,264.6077	1,360,127.6132	20.00' LT	415.06
577	601+82.59	561,271.6838	1,360,120.5471	20.00' LT	415.09
578	601+92.59	561,278.7599	1,360,113.4810	20.00' LT	415.16
579	601+95.43	561,279.0237	1,360,109.0709	22.93' LT	415.26
580	602+05.43	561,283.6606	1,360,106.2163	25.92' LT	415.49
581	602+14.60	561,287.3310	1,360,090.9193	29.91' LT	415.74
582	602+22.20	561,289.0768	1,360,084.2024	35.06' LT	415.97
583	602+28.63	561,288.2485	1,360,071.9707	42.67' LT	415.76
584	602+35.36	561,284.6547	1,360,062.6752	26.44' RT	415.38
585	602+42.20	561,278.5867	1,360,054.7695	21.90' RT	415.00
586	602+46.70	561,270.5365	1,360,048.8944	20.04' RT	414.62
587	602+50.70	561,261.7019	1,360,044.2094	19.59' RT	414.43
588	602+54.70	561,252.8673	1,360,039.5244	19.14' RT	414.22
589	602+58.70	561,244.0326	1,360,034.8394	18.69' RT	413.98
590	602+62.70	561,235.1980	1,360,030.1544	18.24' RT	413.76
591	602+66.70	561,226.3634	1,360,025.4694	17.79' RT	413.60
592	602+70.70	561,217.5287	1,360,020.7844	17.34' RT	413.45
593	602+74.70	561,208.6941	1,360,016.0995	16.89' RT	413.32
594	602+78.70	561,199.8594	1,360,011.4145	16.44' RT	413.21

NORTH CURB RETURN					
POINT NUMBER	BASELINE STATION	NORTHING	EASTING	OFFSET	ELEV.
526	1201+59.76	561,487.5680	1,359,968.9456	21.88' RT	413.26
527	1201+49.78	561,480.3728	1,359,976.5069	21.49' RT	413.24
528	1201+39.78	561,473.4964	1,359,983.7674	21.14' RT	413.24
529	1201+29.79	561,466.6544	1,359,991.0603	20.83' RT	413.25
530	1201+19.80	561,459.8469	1,359,998.3855	20.58' RT	413.28
531	1201+09.81	561,453.0741	1,360,005.7427	20.37' RT	413.30
532	1200+99.41	561,446.3362	1,360,013.3139	20.20' RT	413.33
533	1200+89.41	561,439.6332	1,360,020.5528	20.09' RT	413.40
534	1200+79.41	561,432.9654	1,360,028.0053	20.02' RT	413.48
535	1200+69.41	561,426.3273	1,360,033.6349	20.00' RT	413.65
536	1200+59.41	561,422.2300	1,360,041.7982	21.01' RT	413.88
537	1200+49.41	561,418.4301	1,360,051.0258	24.35' RT	414.11
538	1200+39.41	561,416.7574	1,360,060.8641	29.61' RT	414.24
539	1200+29.41	561,416.7004	1,360,064.6748	32.09' RT	414.38
540	1200+19.41	561,416.7154	1,360,074.6504	38.30' RT	414.49
541	1200+09.41	561,414.0678	1,360,084.4148	43.18' RT	414.62
542	1200+05.23	561,410.4315	1,360,093.7188	46.61' RT	414.78
543	1200+05.42	561,405.3593	1,360,102.3246	48.50' RT	414.96
544	602+79.26	561,398.3868	1,360,110.6137	62.50' RT	415.18
545	602+70.14	561,391.4590	1,360,116.5858	61.83' RT	415.36
546	602+60.41	561,382.9860	1,360,121.8769	59.59' RT	415.54
547	602+51.15	561,373.7183	1,360,125.7504	55.82' RT	415.71
548	602+42.62	561,364.0710	1,360,128.1076	50.63' RT	415.84
549	602+35.02	561,354.1122	1,360,128.8881	44.15' RT	415.96
550	602+27.27	561,341.9434	1,360,127.6698	34.69' RT	416.07
551	602+20.56	561,331.9923	1,360,127.2091	27.33' RT	416.01
552	602+11.95	561,322.3571	1,360,129.7390	22.31' RT	415.71
553	602+02.24	561,313.9158	1,360,135.0289	20.09' RT	415.47
554	601+99.82	561,312.1413	1,360,136.6755	20.00' RT	415.41
555	601+89.82	561,305.0652	1,360,143.7415	20.00' RT	415.23
556	601+79.82	561,297.9891	1,360,150.8076	20.00' RT	415.11
557	601+69.82	561,290.9130	1,360,157.8736	20.00' RT	414.98
558	601+59.82	561,283.8370	1,360,164.9397	20.00' RT	414.87
559	601+49.82	561,276.7609	1,360,172.0057	20.00' RT	414.84
560	601+39.82	561,269.6848	1,360,179.0718	20.00' RT	414.85
561	601+29.82	561,262.6087	1,360,186.1378	20.00' RT	414.88
562	601+19.82	561,255.5327	1,360,193.2039	20.00' RT	414.95
563	601+09.82	561,248.4566	1,360,200.2700	20.00' RT	415.04
564	600+99.82	561,241.3805	1,360,207.3360	20.00' RT	415.14
565	600+89.82	561,234.3044	1,360,214.4021	20.00' RT	415.24
566	600+79.82	561,227.2283	1,360,221.4681	20.00' RT	415.34

OUTER AND INNER ROUNDABOUT CIRCLE					
POINT NUMBER	BASELINE STATION	NORTHING	EASTING	OFFSET	ELEV.
261	20+00.00	563,275.5889	1,359,176.8136	0'	409.11
262	20+10.00	563,266.9949	1,359,171.7418	0'	409.09
263	20+20.00	563,257.4868	1,359,168.7125	0'	409.03
264	20+30.00	563,247.5428	1,359,167.8781	0'	408.92
265	20+40.00	563,237.6629	1,359,169.2806	0'	408.77
266	20+50.00	563,228.3439	1,359,172.8493	0'	408.58
267	20+60.00	563,220.0544	1,359,178.4049	0'	408.34
268	20+70.00	563,213.2113	1,359,185.6680	0'	408.06
269	20+80.00	563,208.1587	1,359,194.2733	0'	407.78
270	20+90.00	563,205.1507	1,359,203.7881	0'	407.55
271	21+00.00	563,204.3386	1,359,213.7340	0'	407.36
272	21+10.00	563,205.7631	1,359,223.6107	0'	407.21
273	21+20.00	563,209.3527	1,359,232.9217	0'	407.11
274	21+30.00	563,214.9268	1,359,241.9888	0'	407.05
275	21+40.00	563,222.2052	1,359,248.0256	0'	407.02
276	21+49.67	563,230.8218	1,359,253.0589	0'	407.05
277	21+59.67	563,240.3433	1,359,256.0456	0'	407.11
278	21+69.67	563,250.2910	1,359,256.8355	0'	407.22
279	21+79.67	563,260.1645	1,359,255.3889	0'	407.37
280	21+89.67	563,269.4675	1,359,251.7785	0'	407.56
281	21+99.67	563,277.7320	1,359,246.1858	0'	407.80
282	22+09.67	563,284.5425	1,359,238.8922	0'	408.08
283	22+19.67	563,289.5565	1,359,230.2644	0'	408.35
284	22+29.67	563,292.5219	1,359,220.7362	0'	408.59
285	22+39.67	563,293.2896	1,359,210.7868	0'	408.78
286	22+49.67	563,291.8208	1,359,200.9165	0'	408.92
287	22+59.67	563,288.1896	1,359,191.6216	0'	409.03
288	22+69.67	563,282.5785	1,359,183.3697	0'	409.09
289	20+00.00	563,286.4178	1,359,162.4354	18' RT	408.77
290	20+09.04	563,275.5701	1,359,155.8750	18' RT	408.75
291	20+16.16	563,266.2293	1,359,152.3343	18' RT	408.71
292	20+23.28	563,256.4437	1,359,150.3269	18' RT	408.65
293	20+30.36	563,188.3089	1,359,196.7081	18' RT	407.27
294	20+34.48	563,186.5882	1,359,206.5481	18' RT	407.12
295	21+01.60	563,186.4571	1,359,216.5366	18' RT	407.00
296	21+08.72	563,187.9190	1,359,226.4184	18' RT	406.89
297	21+15.84	563,190.9366	1,359,235.9410	18' RT	406.81
298	21+22.96	563,195.4328	1,359,244.8613	18' RT	406.75
299	21+30.08	563,200.8252	1,359,254.7323	18' RT	406.82
300	21+37.20	563,206.8132	1,359,264.5716	18' RT	406.91
301	22+04.32	563,213.2113	1,359,274.4021	18' RT	407.00
302	22+11.44	563,219.6093	1,359,284.2326	18' RT	407.09
303	22+18.56	563,226.0075	1,359,294.0631	18' RT	407.18
304	22+25.68	563,232.4057	1,359,303.8936	18' RT	407.27



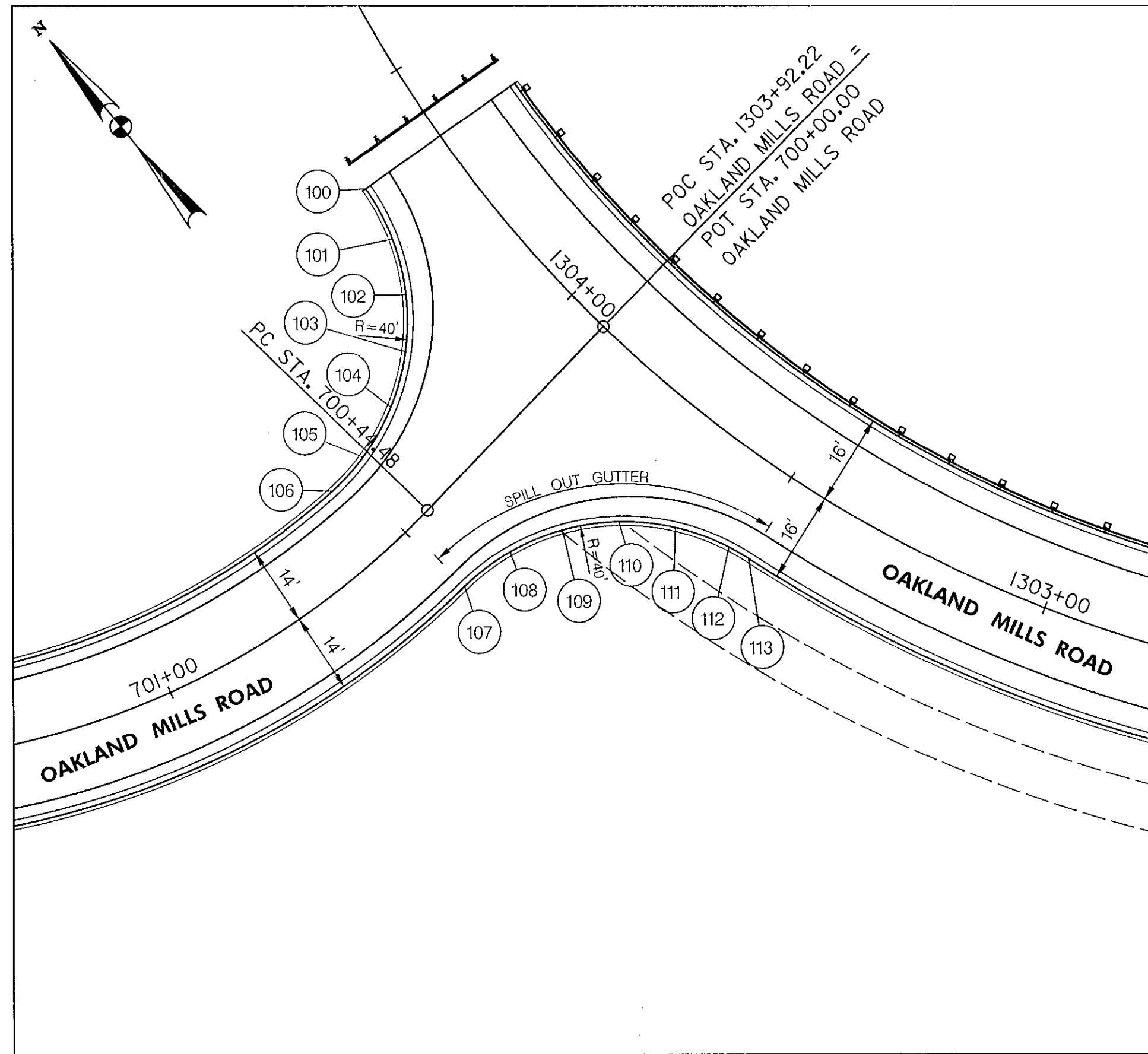
NORTH CURB RETURN					
POINT NUMBER	BASELINE STATION	NORTHING	EASTING	OFFSET	ELEV.
333	1301+54.16	563,341.4562	1,359,086.6727	17.28' RT	407.17
334	1301+44.17	563,337.3087	1,359,095.7720	17.75' RT	407.27
335	1301+34.18	563,333.1612	1,359,104.8714	18.23' RT	407.38
336	1301+24.19	563,329.0137	1,359,113.9707	18.71' RT	407.43
337	1301+14.20	563,324.8662	1,359,123.0701	19.19' RT	407.51
338	1301+04.22	563,320.7186	1,359,132.1694	19.67' RT	407.61
339	1300+94.23	563,316.5711	1,359,141.2687	20.15' RT	407.74
340	1300+84.24	563,312.4236	1,359,150.3681	20.63' RT	407.89
341	1300+74.25	563,308.2761	1,359,159.4674	21.11' RT	408.12
342	1300+64.26	563,304.1286	1,359,168.5668	21.59' RT	408.39
343	1300+54.27	563,300.0000	1,359,177.6662	22.07' RT	408.62
344	1300+44.28	563,295.8525	1,359,186.7656	22.55' RT	408.68
345	1300+34.29	563,291.7050	1,359,195.8650	23.03' RT	408.60
346	1300+24.30	563,287.5575	1,359,204.9644	23.51' RT	408.49
347	1300+14.31	563,283.4100	1,359,214.0638	23.99' RT	408.37
348	412+65.33	563,309.2224	1,359,228.4063	38.80' RT	408.22
349	412+56.90	563,307.5580	1,359,240.1622	30.43' RT	407.72
350	412+47.43	563,308.3397	1,359,250.1149	25.00' RT	407.34
351	412+39.36	563,311.7672	1,359,256.0129	23.75' RT	406.87
352	412+29.68	563,321.1716	1,359,257.8830	23.19' RT	406.20

EAST CURB RETURN					
POINT NUMBER	BASELINE STATION	NORTHING	EASTING	OFFSET	ELEV.
353	411+99.77	563,322.4045	1,359,300.6645	4.00' LT	406.52
354	412+02.58	563,321.6018	1,359,296.5992	1.00' LT	406.42
355	412+12.51	563,313.8456	1,359,290.2997	0.29' LT	406.63
356	412+22.43	563,307.0243	1,359,282.9981	1.09' RT	406.85
357	412+32.36	563,301.2664	1,359,274.8317	3.15' RT	407.06
358	412+42.28	563,296.6801	1,359,265.9543	5.88' RT	407.12
359	412+49.26	563,294.2065	1,359,259.3830	8.18' RT	407.42
360	412+52.07	563,290.9546	1,359,258.5195	6.14' RT	407.54
361	412+51.98	563,283.0623	1,359,264.6431	3.85' LT	407.36
362	500+62.36	563,274.2952	1,359,269.4311	2.92' LT	407.20
363	500+62.28	563,264.9887	1,359,272.7316	6.95' RT	407.07
364	500+65.11	563,263.9996	1,359,275.9789	8.97' RT	406.95
365	500+74.83	563,270.0987	1,359,283.8957	5.63' RT	406.90
366	500+84.68	563,275.1832	1,359,292.4993	3.05' RT	406.74
367	500+94.60	563,279.1765	1,359,301.6605	1.25' RT	406.85
368	501+04.57	563,282.0188	1,359,311.2416	0.24' RT	406.44
369	501+12.33	563,283.4031	1,359,318.8728	0.00' RT	406.34
370	501+16.26	563,287.8605	1,359,322.3165	4.00' LT	406.25

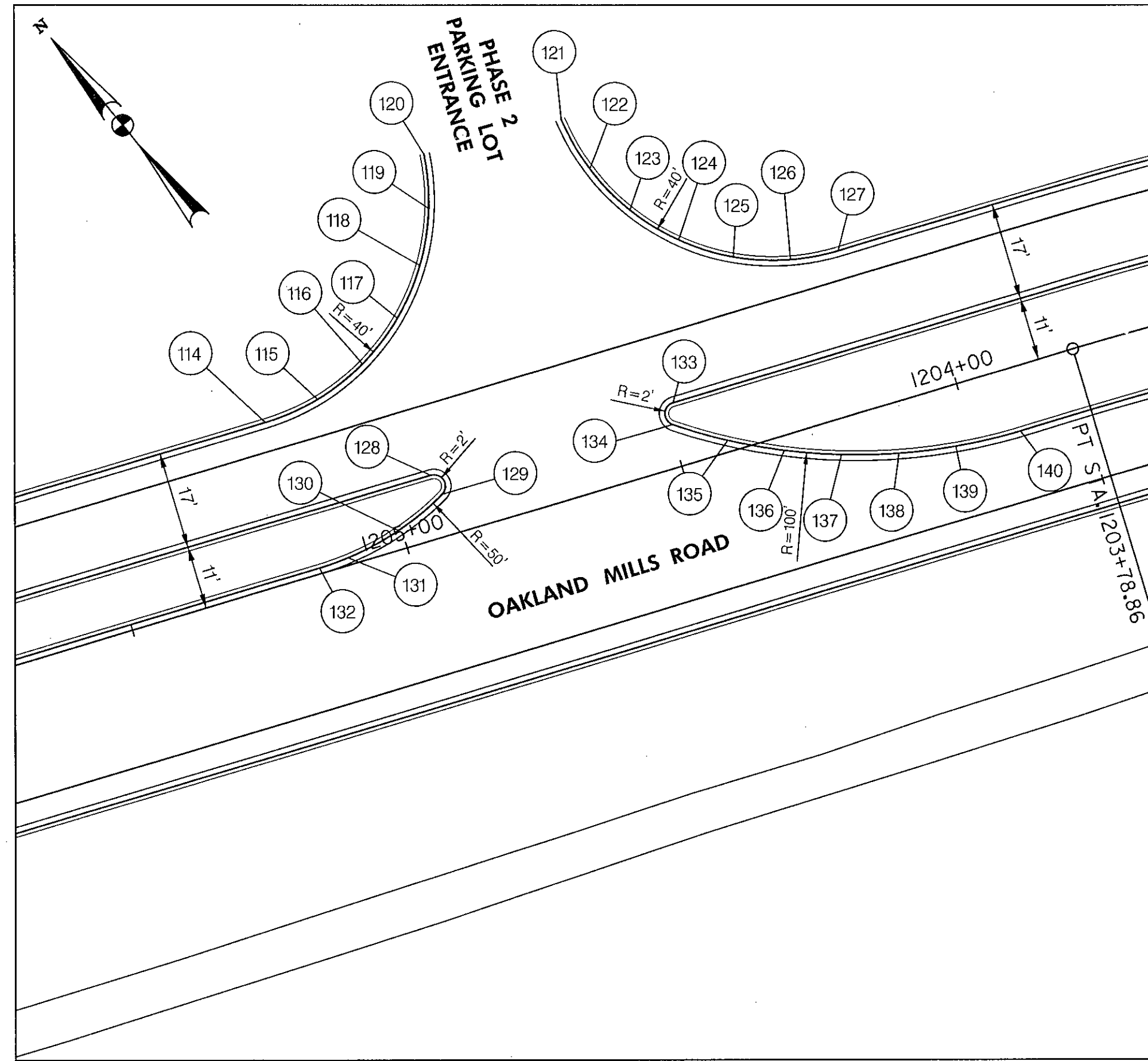
SOUTHWEST CURB RETURN					
POINT NUMBER	BASELINE STATION	NORTHING	EASTING	OFFSET	ELEV.
392	1223+10.34	563,086.8028	1,359,242.3529	16.00' LT	405.23
393	1223+19.70	563,095.6543	1,359,239.3285	16.00' LT	405.31
394	1223+29.68	563,104.8875	1,359,235.4881	16.65' LT	405.41
395	1223+39.66	563,114.1207	1,359,231.6477	17.30' LT	405.51
396	1223+49.63	563,123.3538	1,359,227.8073	17.95' LT	405.59
397	1223+59.61	563,132.5870	1,359,223.9669	18.60' LT	405.66
398	1223+69.59	563,141.8202	1,359,220.1265	19.24' LT	405.77
399	1223+79.57	563,151.0533	1,359,216.2861	19.89' LT	405.97
400	1223+89.55	563,160.2865	1,359,212.4457	20.54' LT	406.15
401	1224+00.30	563,170.2281	1,359,208.3106	21.24' LT	406.50
402	1224+10.09	563,178.8879	1,359,203.3620	23.12' LT	406.84
403	1224+19.11	563,186.0541	1,359,196.4248	27.37' LT	407.75
404	1224+27.22	563,191.5304	1,359,187.3709	34.17' LT	407.48
405	1224+34.53	563,196.2433	1,359,178.5632	40.98' LT	407.67
406	1224+42.83	563,202.2992	1,359,170.6189	46.54' LT	407.88
407	1224+51.91	563,209.5435	1,359,163.7408	50.70' LT	408.07
408	1300+34.02	563,217.7910	1,359,158.1048	59.95' LT	408.24
409	1300+41.94	563,226.8312	1,359,153.8547	53.86' LT	408.38
410	1300+48.79	563,236.4329	1,359,151.0992	46.59' LT	408.51
411	1300+54.67	563,246.9245	1,359,149.8886	37.81' LT	408.62
412	1300+60.76	563,256.7221	1,359,148.0874	29.93' LT	408.57
413	1300+68.92	563,265.5358	1,359,143.4446	24.22' LT	408.37
414	1300+78.41	563,272.5625	1,359,136.3832	21.21' LT	408.22
415	1300+81.78	563,274.4191	1,359,133.5498	20.86' LT	408.17
416	1300+91.77	563,279.4633	1,359,124.9153	20.33' LT	408.11
417	1301+01.76	563,284.5076	1,359,116.2807	19.80' LT	408.24
418	1301+11.74	563,289.5518	1,359,107.6462	19.27' LT	408.09
419	1301+21.73	563,294.5961	1,359,099.0116	18.74' LT	408.10
420	1301+31.71	563,299.6403	1,359,090.3771	18.21' LT	408.14
421	1301+41.70	563,304.6846	1,359,081.7425	17.68' LT	408.21
422	1301+51.69	563,309.7288	1,359,073.1079	17.15' LT	408.28
423	1301+61.67	563,314.7731	1,359,064.4734	16.62' LT	408.38

OAKLAND MILLS ROAD MEDIAN					
POINT NUMBER	BASELINE STATION	NORTHING	EASTING	OFFSET	ELEV.
305	1301+00.14	563,308.6110	1,359,119.2708	3.00' RT	407.95
306	1301+00.14	563,303.8811	1,359,128.0814	2.83' RT	408.02
307	1300+90.14	563,299.1512	1,359,136.8921	2.66' RT	408.17
308	1300+80.14	563,294.4213	1,359,145.7028	2.49' RT	408.35
309	1300+70.14	563,289.6914	1,359,154.5135	2.32' RT	408.54
310	1300+60.11	563,284.9615	1,359,163.3242	2.15' RT	408.75
311	1300+50.08	563,280.2316	1,359,172.1349	1.98' RT	408.97
312	1300+40.05	563,275.5017	1,359,180.9456	1.81' RT	409.20
313	1300+30.02	563,270.7718	1,359,189.7563	1.64' RT	409.43
314	1300+20.00	563,266.0419	1,359,198.5670	1.47' RT	409.66
315	1300+10.00	563,261.3120	1,359,207.3777	1.30' RT	409.89
316	1300+00.00	563,256.5821	1,359,216.1884	1.13' RT	410.12
317	1301+02.70	563,301.1163	1,359,123.7709	1.60' LT	408.05
318	1301+00.33	563,305.1493	1,359,117.2704	0.99' LT	407.95

OAKLAND MILLS ROAD MEDIAN					
POINT NUMBER	BASELINE STATION	NORTHING	EASTING	OFFSET	ELEV.
319	1223+63.26	563,141.0757	1,359,237.5468	3.00' LT	405.95
320	1223+73.25	563,150.5929	1,359,234.4772	2.83' LT	406.17
321	1223+83.25	563,160.1101	1,359,231.4076	2.65' LT	406.37
322	1223+93.25	563,169.6273	1,359,228.3380	2.48' LT	406.57
323	1224+03.25	563,179.1446	1,359,225.2684	2.31' LT	406.67
324	1224+05.29	563,181.0897	1,359,224.6410	2.27' LT	406.70
325	1224+08.19	563,184.6180	1,359,226.0124	0.16' RT	406.74
326	1224+09.35	563,187.7007	1,359,231.4297	6.29'	



OAKLAND MILLS ROAD
AT TEMPORARY OAKLAND MILLS ROAD



OAKLAND MILLS ROAD
AT PHASE 2 PARKING LOT ENTRANCE

OAKLAND MILLS ROAD					
POINT NUMBER	BASELINE STATION	NORTHING	EASTING	OFFSET	ELEV.
100	104+36.13	563,554.7212	1,358,926.9192	16.00' LT	418.49
101	1304+26.93	563,544.9377	1,358,924.9791	17.44' LT	418.00
102	1304+18.58	563,535.9384	1,358,920.6788	21.63' LT	417.58
103	1304+11.78	563,528.2827	1,358,914.2857	28.17' LT	417.19
104	1304+06.99	563,522.4468	1,358,906.1974	36.51' LT	416.91
105	1304+04.38	563,518.7933	1,358,896.9166	46.00' LT	416.73
106	1304+03.84	563,517.5970	1,358,888.9680	54.01' LT	416.68
107	1303+80.78	563,490.0393	1,358,896.3532	49.94' LT	415.78
108	1303+79.03	563,489.6597	1,358,906.3199	40.19' LT	415.54
109	1303+75.09	563,486.8261	1,358,915.8829	31.31' LT	415.17
110	1303+69.06	563,481.7147	1,358,924.4476	23.98' LT	414.68
111	1303+61.26	563,474.6433	1,358,931.4814	18.79' LT	414.19
112	1303+52.30	563,466.0514	1,358,936.5471	16.23' LT	413.70
113	1303+48.58	563,462.3250	1,358,937.9411	16.00' LT	413.48

NOTES:

- SEE DRAWING PS-04 FOR ROADWAY PLAN.
- ELEVATIONS ARE GIVEN AT THE GUTTER FLOWLINE.
- SEE NOTE 1 ON DRAWING PD-01 FOR GUTTER PAN SLOPE INFORMATION, EXCEPT IF NOTED AS SPILL OUT GUTTER IN DETAIL.

OAKLAND MILLS ROAD					
POINT NUMBER	BASELINE STATION	NORTHING	EASTING	OFFSET	ELEV.
114	1205+17.46	561665.8293	1359652.3286	28.00' RT	418.73
115	1205+07.56	561663.1640	1359661.9398	29.24' RT	418.90
116	1204+98.28	561662.9593	1359671.9117	32.90' RT	419.07
117	1204+90.20	561665.2281	1359681.6242	38.73' RT	419.25
118	1204+83.80	561669.8293	1359690.4735	46.39' RT	419.42
119	1204+79.50	561676.4768	1359697.9093	55.39' RT	419.59
120	1204+77.59	561684.3655	1359703.2694	64.73' RT	419.76
121	1204+52.88	561673.8724	1359725.6726	63.68' RT	419.20
122	1204+50.57	561664.0295	1359724.0607	53.98' RT	418.65
123	1204+45.94	561654.0939	1359724.9340	45.14' RT	418.10
124	1204+39.26	561644.6831	1359728.2384	37.73' RT	417.55
125	1204+30.96	561636.3825	1359733.7682	32.20' RT	417.01
126	1204+21.55	561629.7080	1359741.1798	28.90' RT	416.46
127	1204+13.11	561625.6250	1359748.6213	28.00' RT	415.99
128	1204+92.43	561640.4967	1359668.8795	11.00' RT	418.44
129	1204+91.46	561636.6631	1359668.3282	7.25' RT	418.59
130	1205+00.63	561636.5649	1359658.3453	3.31' RT	419.00
131	1205+10.41	561638.4519	1359648.5419	1.28' RT	419.40
132	1205+15.67	561640.2220	1359643.5828	1.00' RT	419.56
133	1204+48.28	561623.4872	1359709.6188	11.00' RT	416.99
134	1204+49.43	561620.5800	1359707.1532	7.37' RT	417.14
135	1204+41.00	561612.3841	1359712.8754	2.01' RT	416.91
136	1204+32.07	561604.8004	1359719.3872	2.48' LT	416.58
137	1204+22.73	561597.9047	1359726.6236	6.06' LT	416.25
138	1204+13.09	561591.7659	1359734.5123	8.68' LT	415.92
139	1204+03.23	561586.4453	1359742.9745	10.33' LT	415.59
140	1203+91.68	561581.3768	1359753.3765	11.00' LT	415.24

NOTES:

- SEE DRAWING PS-02 FOR ROADWAY PLAN.
- ELEVATIONS ARE GIVEN AT THE GUTTER FLOWLINE.
- SEE NOTE 1 ON DRAWING PD-01 FOR GUTTER PAN SLOPE INFORMATION.
- THE APPROACH NOSES OF MEDIANS WITHOUT PEDESTRIAN CROSSINGS SHALL BE DEPRESSED TO 2 INCHES ABOVE THE PAVEMENT. SEE HO. CO. DETAIL R-3.04.

"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. 19165, EXPIRATION DATE: 06/11/2015."

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231



DES:	VAK				
DRN:	VAK				
CHK:	BRT				
DATE:	7/11/2014	BY	NO.	REVISION	DATE

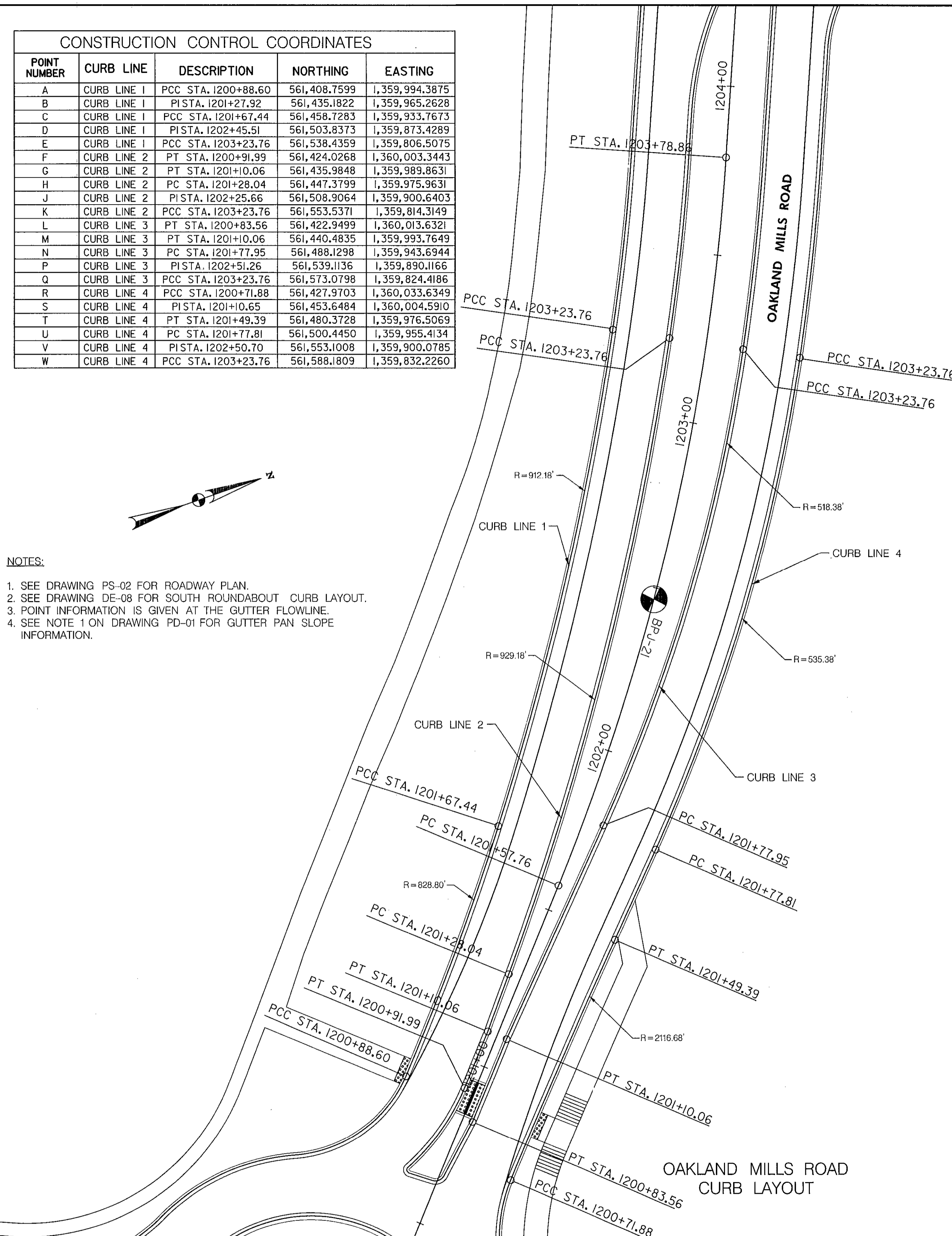
INTERSECTION DETAILS					
TAX MAP	36	BLOCK NO.	5	ELECTION DISTRICT	3/7

BLANDAIR REGIONAL PARK
PHASE J - SOUTH
CAPITAL PROJECT # J-4237
HOWARD COUNTY, MARYLAND

DWG. DE-10
SCALE 1" = 20'
SHEET 33 OF 138

CONSTRUCTION CONTROL COORDINATES				
POINT NUMBER	CURB LINE	DESCRIPTION	NORTHING	EASTING
A	CURB LINE 1	PCC STA. 1200+88.60	561,408.7599	1,359,994.3875
B	CURB LINE 1	PI STA. 1201+27.92	561,435.1822	1,359,965.2628
C	CURB LINE 1	PCC STA. 1201+67.44	561,458.7283	1,359,933.7673
D	CURB LINE 1	PI STA. 1202+45.51	561,503.8373	1,359,873.4289
E	CURB LINE 1	PCC STA. 1203+23.76	561,538.4359	1,359,806.5075
F	CURB LINE 2	PT STA. 1200+91.99	561,424.0268	1,360,003.3443
G	CURB LINE 2	PT STA. 1201+10.06	561,435.9848	1,359,989.8631
H	CURB LINE 2	PC STA. 1201+28.04	561,447.3799	1,359,975.9631
J	CURB LINE 2	PI STA. 1202+25.66	561,508.9064	1,359,900.6403
K	CURB LINE 2	PCC STA. 1203+23.76	561,553.5371	1,359,814.3149
L	CURB LINE 3	PT STA. 1200+83.56	561,422.9499	1,360,013.6321
M	CURB LINE 3	PT STA. 1201+10.06	561,440.4835	1,359,993.7649
N	CURB LINE 3	PC STA. 1201+77.95	561,488.1298	1,359,943.6944
P	CURB LINE 3	PI STA. 1202+51.26	561,539.1136	1,359,890.1166
Q	CURB LINE 3	PCC STA. 1203+23.76	561,573.0798	1,359,824.4186
R	CURB LINE 4	PCC STA. 1200+71.88	561,427.9703	1,360,033.6349
S	CURB LINE 4	PI STA. 1201+10.65	561,453.6484	1,360,004.5910
T	CURB LINE 4	PT STA. 1201+49.39	561,480.3728	1,359,976.5069
U	CURB LINE 4	PC STA. 1201+77.81	561,500.4450	1,359,955.4134
V	CURB LINE 4	PI STA. 1202+50.70	561,553.1008	1,359,900.0785
W	CURB LINE 4	PCC STA. 1203+23.76	561,588.1809	1,359,832.2260

- NOTES:
- SEE DRAWING PS-02 FOR ROADWAY PLAN.
 - SEE DRAWING DE-08 FOR SOUTH ROUNDABOUT CURB LAYOUT.
 - POINT INFORMATION IS GIVEN AT THE GUTTER FLOWLINE.
 - SEE NOTE 1 ON DRAWING PD-01 FOR GUTTER PAN SLOPE INFORMATION.



"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. 19165, EXPIRATION DATE: 06/11/2015."

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

[Signature] 7/5/14
DIRECTOR OF PUBLIC WORKS DATE

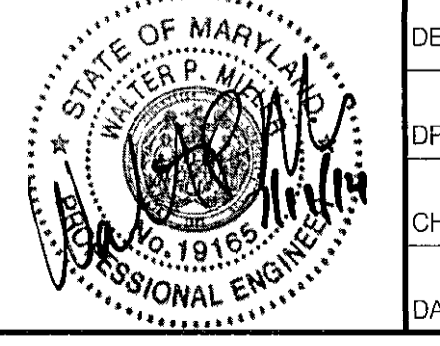
[Signature] 7/11/14
CHIEF, BUREAU OF HIGHWAYS DATE

[Signature] 7/11/14
CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 7/11/14
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231

WR&A



DES:	VAK	BY	NO.	REVISION	DATE
DRN:	VAK				
CHK:	BRT				
DATE:	7/11/2014				

INTERSECTION DETAILS

TAX MAP 36 BLOCK NO. 5

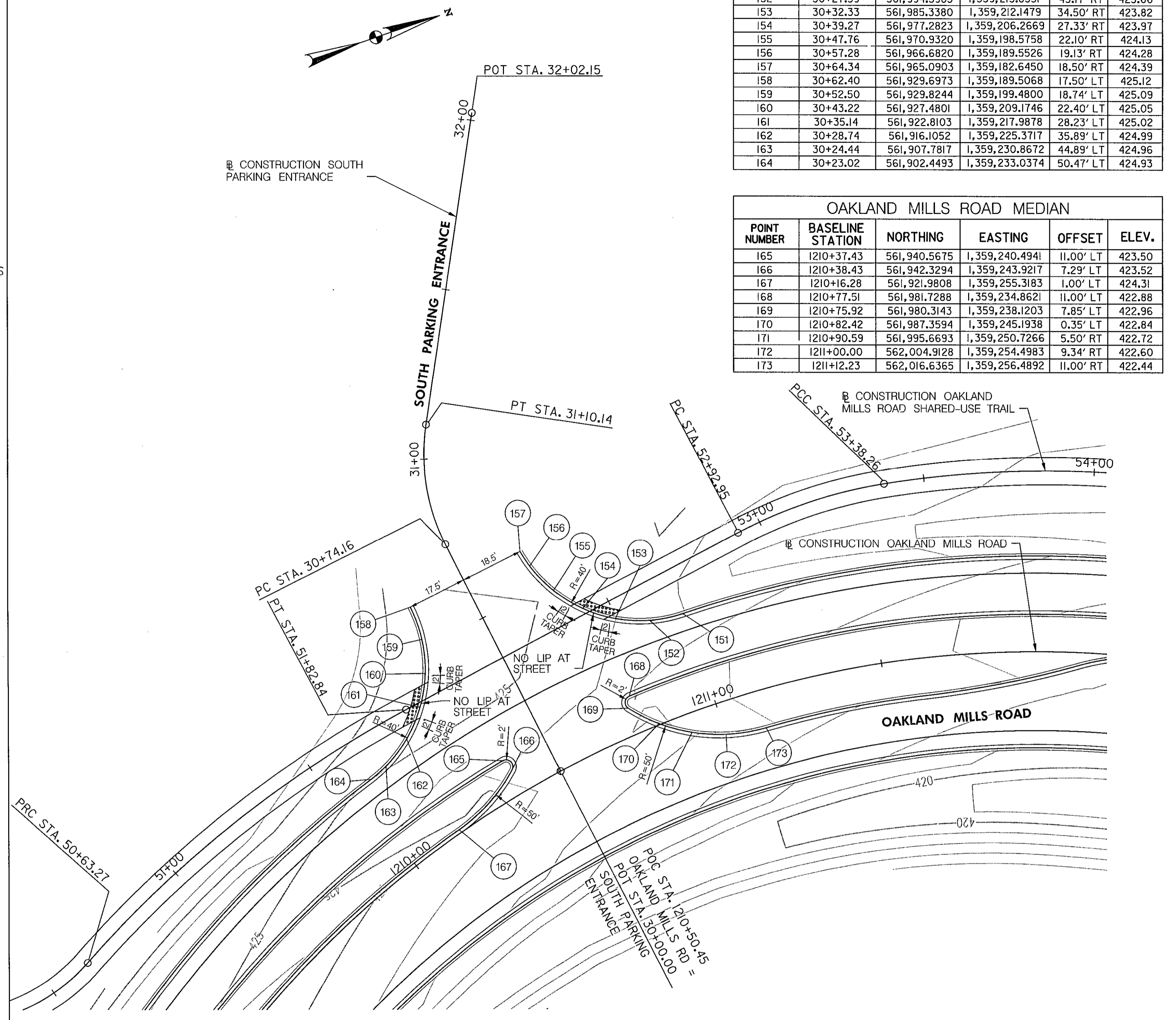
BLANDAIR REGIONAL PARK
PHASE J - SOUTH
CAPITAL PROJECT # J-4237

ELECTION DISTRICT 3/7 HOWARD COUNTY, MARYLAND

DWG. DE-11
SCALE 1" = 20'
SHEET 34 OF 138

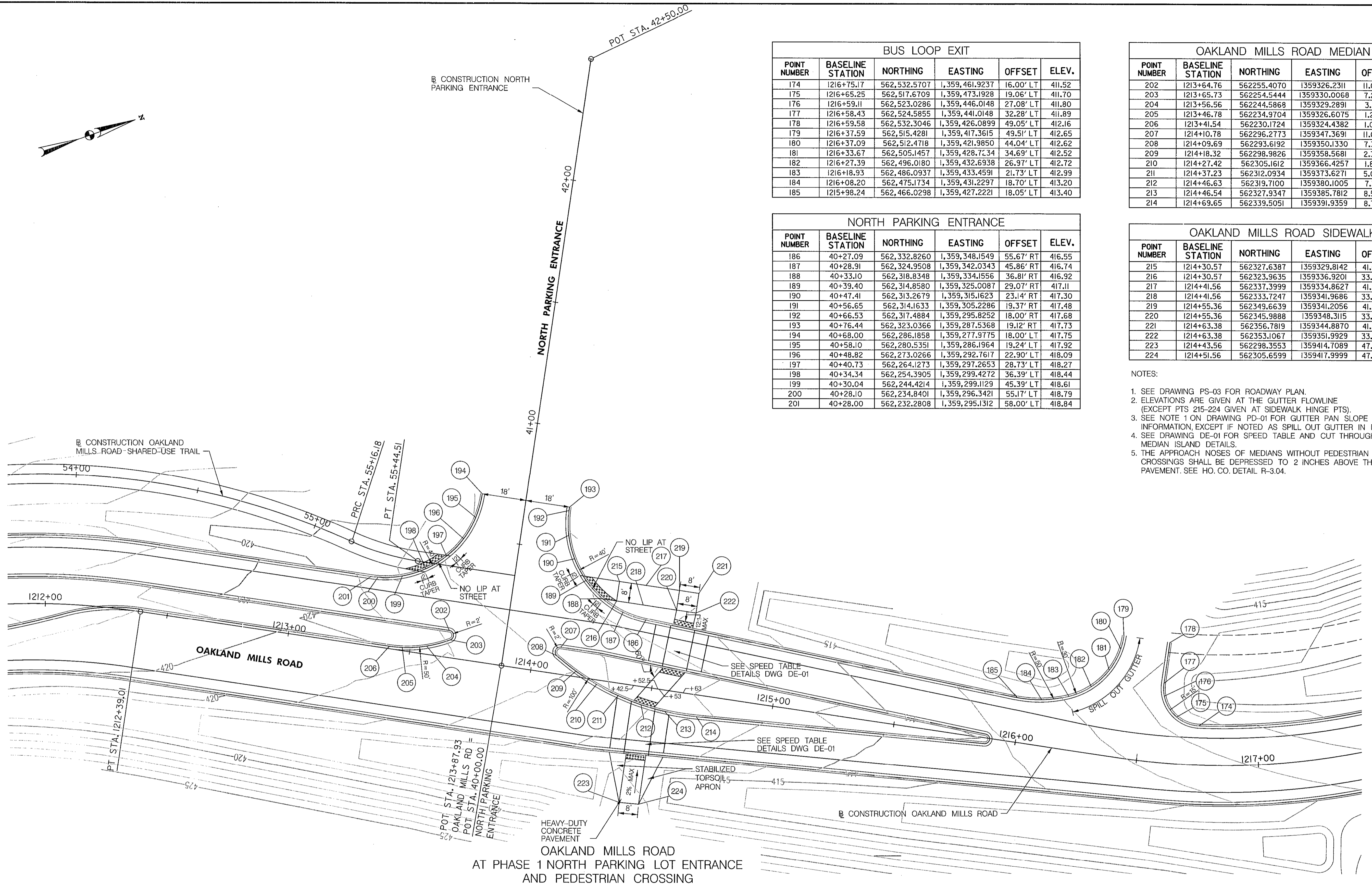
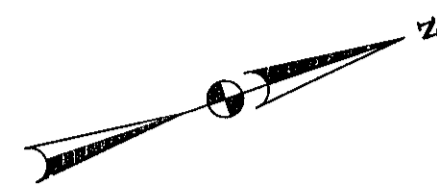
SOUTH PARKING ENTRANCE					
POINT NUMBER	BASELINE STATION	NORTHING	EASTING	OFFSET	ELEV.
151	30+24.75	562,004.4873	1,359,217.1520	52.79' RT	423.51
152	30+27.39	561,994.5983	1,359,215.8531	43.17' RT	423.66
153	30+32.33	561,985.3380	1,359,212.1479	34.50' RT	423.82
154	30+39.27	561,977.2823	1,359,206.2669	27.33' RT	423.97
155	30+47.76	561,970.9320	1,359,198.5758	22.10' RT	424.13
156	30+57.28	561,966.6820	1,359,189.5526	19.13' RT	424.28
157	30+64.34	561,965.0903	1,359,182.6450	18.50' RT	424.39
158	30+62.40	561,929.6973	1,359,189.5068	17.50' LT	425.12
159	30+52.50	561,929.8244	1,359,199.4800	18.74' LT	425.09
160	30+43.22	561,927.4801	1,359,209.1746	22.40' LT	425.05
161	30+35.14	561,922.8103	1,359,217.9878	28.23' LT	425.02
162	30+28.74	561,916.1052	1,359,225.3717	35.89' LT	424.99
163	30+24.44	561,907.7817	1,359,230.8672	44.89' LT	424.96
164	30+23.02	561,902.4493	1,359,233.0374	50.47' LT	424.93

OAKLAND MILLS ROAD MEDIAN					
POINT NUMBER	BASELINE STATION	NORTHING	EASTING	OFFSET	ELEV.
165	1210+37.43	561,940.5675	1,359,240.4941	11.00' LT	423.50
166	1210+38.43	561,942.3294	1,359,243.9217	7.29' LT	423.52
167	1210+16.28	561,921.9808	1,359,255.3183	1.00' LT	424.31
168	1210+77.51	561,981.7288	1,359,234.8621	11.00' LT	422.88
169	1210+75.92	561,980.3143	1,359,238.1203	7.85' LT	422.96
170	1210+82.42	561,987.3594	1,359,245.1938	0.35' LT	422.84
171	1210+90.59	561,995.6693	1,359,250.7266	5.50' RT	422.72
172	1211+00.00	562,004.9128	1,359,254.4983	9.34' RT	422.60
173	1211+12.23	562,016.6365	1,359,256.4892	11.00' RT	422.44



OAKLAND MILLS ROAD
AT PHASE 1 SOUTH PARKING LOT ENTRANCE

- NOTES:
- SEE DRAWING PS-03 FOR ROADWAY PLAN.
 - ELEVATIONS ARE GIVEN AT THE GUTTER FLOWLINE.
 - SEE NOTE 1 ON DRAWING PD-01 FOR GUTTER PAN SLOPE INFORMATION.
 - THE APPROACH NOSES OF MEDIANS WITHOUT PEDESTRIAN CROSSINGS SHALL BE DEPRESSED TO 2 INCHES ABOVE THE PAVEMENT. SEE HO. CO. DETAIL R-3.04.



BUS LOOP EXIT					
POINT NUMBER	BASELINE STATION	NORTHING	EASTING	OFFSET	ELEV.
174	1216+75.17	562,532.5707	1,359,461.9237	16.00' LT	411.52
175	1216+65.25	562,517.6709	1,359,473.1928	19.06' LT	411.70
176	1216+59.11	562,523.0286	1,359,446.0148	27.08' LT	411.80
177	1216+58.43	562,524.5855	1,359,441.0148	32.28' LT	411.89
178	1216+59.58	562,532.3046	1,359,426.0899	49.05' LT	412.16
179	1216+37.59	562,515.4281	1,359,417.3615	49.51' LT	412.65
180	1216+37.09	562,512.4718	1,359,421.9850	44.04' LT	412.62
181	1216+33.67	562,505.1457	1,359,428.7234	34.69' LT	412.52
182	1216+27.39	562,496.0180	1,359,432.6938	26.97' LT	412.72
183	1216+18.93	562,486.0937	1,359,433.4591	21.73' LT	412.99
184	1216+08.20	562,475.1734	1,359,431.2297	18.70' LT	413.20
185	1215+98.24	562,466.0298	1,359,427.2221	18.05' LT	413.40

NORTH PARKING ENTRANCE					
POINT NUMBER	BASELINE STATION	NORTHING	EASTING	OFFSET	ELEV.
186	40+27.09	562,332.8260	1,359,348.1549	55.67' RT	416.55
187	40+28.91	562,324.9508	1,359,342.0343	45.86' RT	416.74
188	40+33.10	562,318.8348	1,359,334.1556	36.81' RT	416.92
189	40+39.40	562,314.8580	1,359,325.0087	29.07' RT	417.11
190	40+47.41	562,313.2679	1,359,315.1623	23.14' RT	417.30
191	40+56.65	562,314.1633	1,359,305.2286	19.37' RT	417.48
192	40+66.53	562,317.4884	1,359,295.8252	18.00' RT	417.68
193	40+76.44	562,323.0366	1,359,287.5368	19.12' RT	417.73
194	40+68.00	562,286.1858	1,359,277.9775	18.00' LT	417.75
195	40+58.10	562,280.5351	1,359,286.1964	19.24' LT	417.92
196	40+48.82	562,273.0266	1,359,292.7617	22.90' LT	418.09
197	40+40.73	562,264.1273	1,359,297.2653	28.73' LT	418.27
198	40+34.34	562,254.3905	1,359,299.4272	36.39' LT	418.44
199	40+30.04	562,244.4214	1,359,299.1129	45.39' LT	418.61
200	40+28.10	562,234.8401	1,359,296.3421	55.17' LT	418.79
201	40+28.00	562,232.2808	1,359,295.1312	58.00' LT	418.84

OAKLAND MILLS ROAD MEDIAN					
POINT NUMBER	BASELINE STATION	NORTHING	EASTING	OFFSET	ELEV.
202	1213+64.76	562255.4070	1359326.2311	11.00' LT	418.64
203	1213+65.73	562254.5444	1359330.0068	7.25' LT	418.79
204	1213+56.56	562244.5868	1359329.2891	3.31' LT	419.11
205	1213+46.78	562234.9704	1359326.6075	1.28' LT	419.27
206	1213+41.54	562230.1724	1359324.4382	1.00' LT	419.34
207	1214+10.78	562296.2773	1359347.3691	11.00' LT	417.82
208	1214+09.69	562293.6192	1359350.1330	7.32' LT	417.96
209	1214+18.32	562298.9826	1359358.5681	2.30' LT	417.82
210	1214+27.42	562305.1612	1359366.4257	1.85' RT	417.68
211	1214+37.23	562312.0934	1359373.6271	5.06' RT	417.39
212	1214+46.63	562319.7100	1359380.1005	7.31' RT	417.35
213	1214+46.54	562327.9347	1359385.7812	8.58' RT	416.93
214	1214+69.65	562339.5051	1359391.9359	8.73' RT	416.56

OAKLAND MILLS ROAD SIDEWALK					
POINT NUMBER	BASELINE STATION	NORTHING	EASTING	OFFSET	ELEV.
215	1214+30.57	562327.6387	1359329.8142	41.00' LT	417.09
216	1214+30.57	562323.9635	1359336.9201	33.00' LT	416.95
217	1214+41.56	562337.3999	1359334.8627	41.00' LT	417.23
218	1214+41.56	562333.7247	1359341.9686	33.00' LT	417.07
219	1214+55.36	562349.6639	1359341.2056	41.00' LT	416.79
220	1214+55.36	562345.9888	1359348.3115	33.00' LT	416.65
221	1214+63.38	562356.7819	1359344.8870	41.00' LT	416.69
222	1214+63.38	562353.1067	1359351.9929	33.00' LT	416.53
223	1214+43.56	562298.3553	1359414.7089	47.86' RT	417.24
224	1214+51.56	562305.6599	1359417.9999	47.43' RT	417.08

- NOTES:
- SEE DRAWING PS-03 FOR ROADWAY PLAN.
 - ELEVATIONS ARE GIVEN AT THE GUTTER FLOWLINE (EXCEPT PTS 215-224 GIVEN AT SIDEWALK HINGE PTS).
 - SEE NOTE 1 ON DRAWING PD-01 FOR GUTTER PAN SLOPE INFORMATION, EXCEPT IF NOTED AS SPILL OUT GUTTER IN DETAIL.
 - SEE DRAWING DE-01 FOR SPEED TABLE AND CUT THROUGH MEDIAN ISLAND DETAILS.
 - THE APPROACH NOSES OF MEDIANS WITHOUT PEDESTRIAN CROSSINGS SHALL BE DEPRESSED TO 2 INCHES ABOVE THE PAVEMENT. SEE HO. CO. DETAIL R-3.04.

"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. 19165, EXPIRATION DATE: 06/11/2015."

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

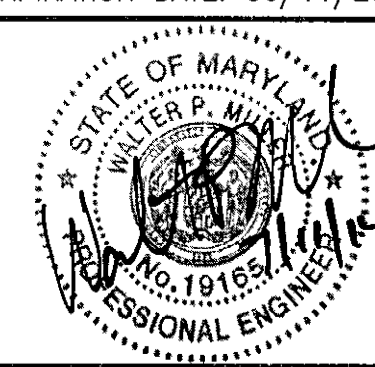
John P. De... 7/15/14
DIRECTOR OF PUBLIC WORKS DATE

Thomas B. Butler 7/15/14
CHIEF, BUREAU OF ENGINEERING DATE

Steve Shuman 7/15/14
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231

WR&A



DES:	VAK				
DRN:	VAK				
CHK:	BRT				
DATE:	7/11/2014	BY:	NO.	REVISION	DATE

INTERSECTION DETAILS

**BLANDAIR REGIONAL PARK
PHASE J - SOUTH**

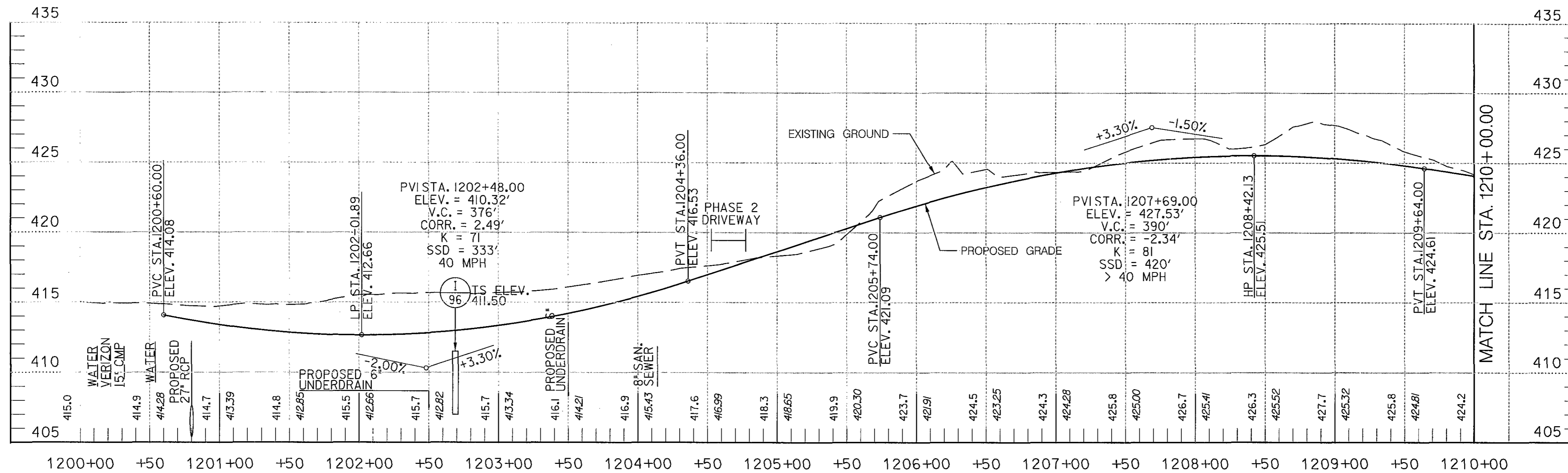
CAPITAL PROJECT # J-4237

ELECTION DISTRICT 3/7 HOWARD COUNTY, MARYLAND

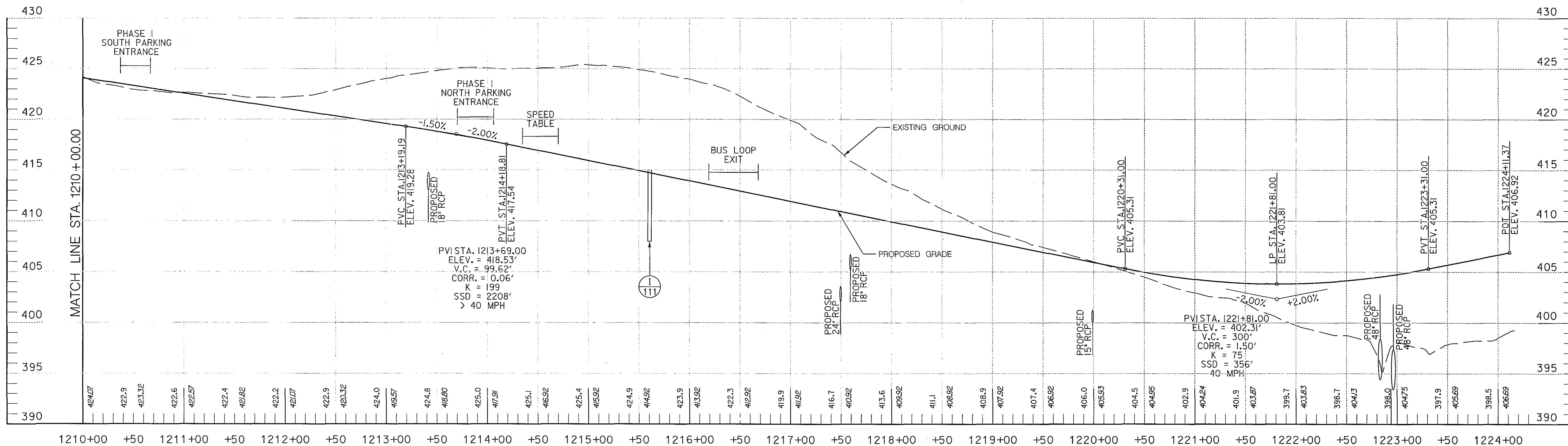
DWG. **DE-12**

SCALE
1" = 20'

SHEET
35 OF 138



OAKLAND MILLS ROAD



OAKLAND MILLS ROAD

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DWG.
HP-01

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

[Signature] 7/15/14
DIRECTOR OF PUBLIC WORKS DATE

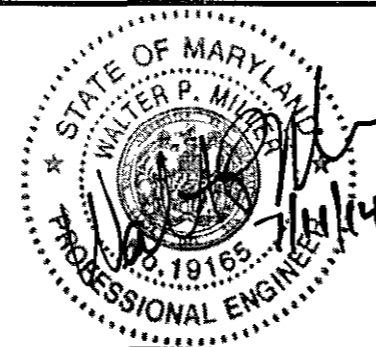
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CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 7/11/14
CHIEF, BUREAU OF HIGHWAYS DATE

[Signature] 7/15/14
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231

WR&A



DES:	VAK				
DRN:	VAK				
CHK:	BRT				
DATE:	7/11/2014	BY:		NO.:	
		REVISION:		DATE:	

ROADWAY PROFILE

TAX MAP 36 BLOCK NO. 5

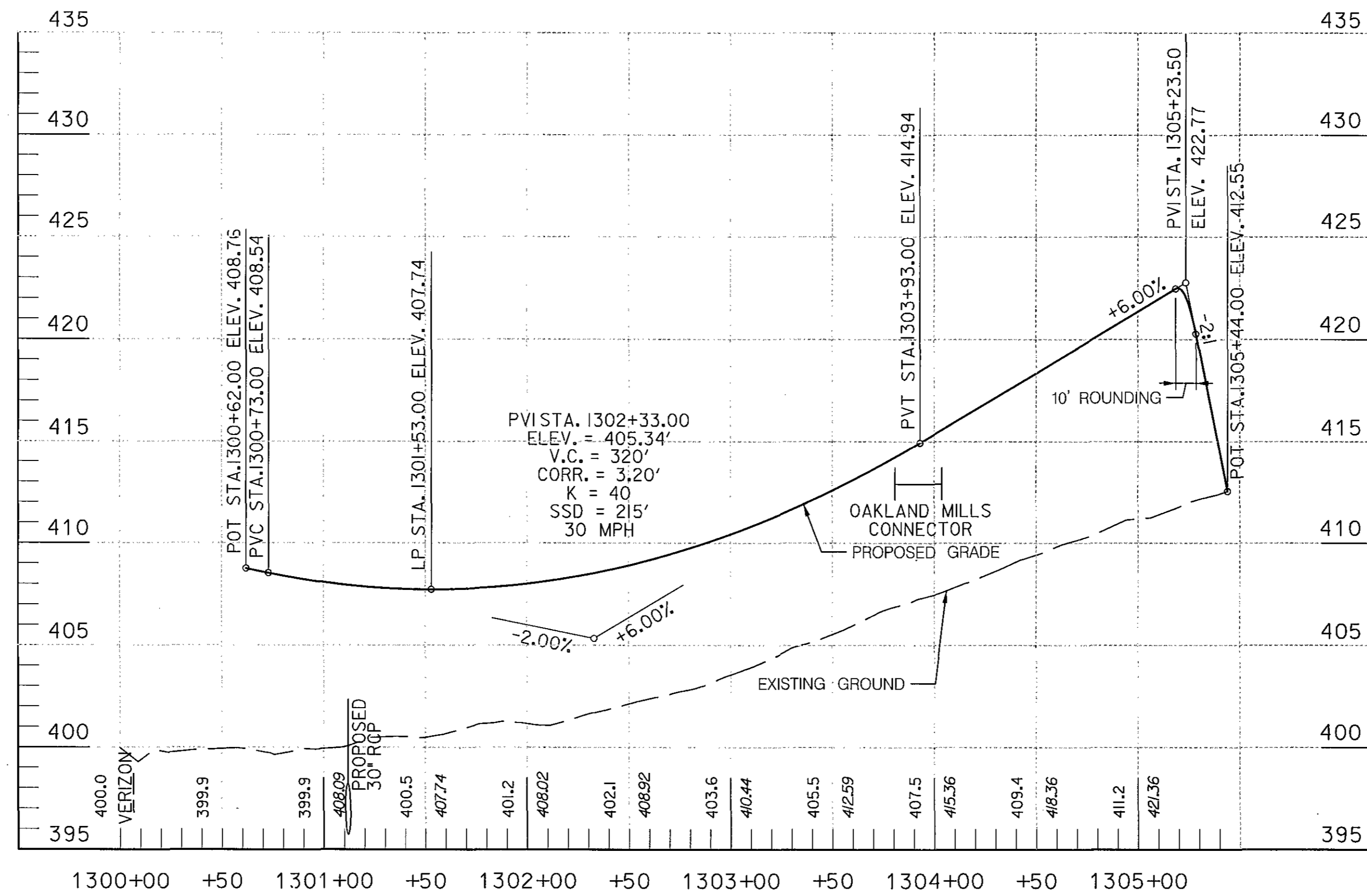
**BLANDAIR REGIONAL PARK
PHASE J - SOUTH**

CAPITAL PROJECT # J-4237

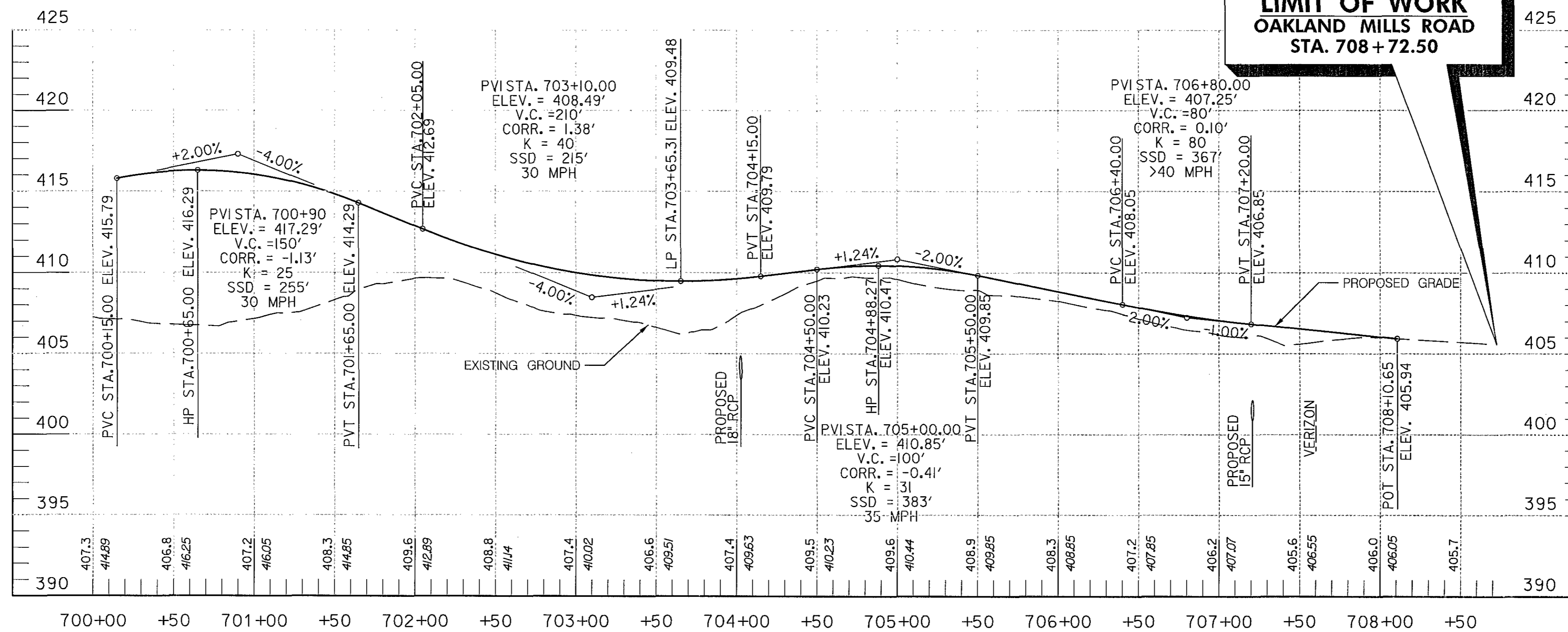
ELECTION DISTRICT 3 / 7 HOWARD COUNTY, MARYLAND

SCALE
H: 1" = 50'
V: 1" = 5'

SHEET
36 OF 138



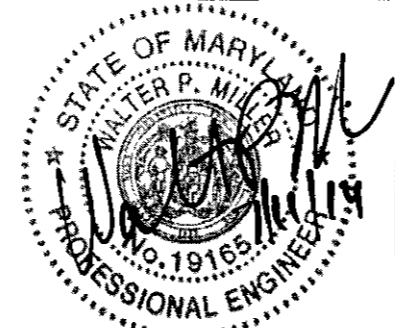
OAKLAND MILLS ROAD



OAKLAND MILLS ROAD

"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. 19165, EXPIRATION DATE: 06/11/2015."

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231



DES:	VAK	BY:		NO.:		REVISION:		DATE:	7/11/2014
DRN:	VAK								
CHK:	BRT								

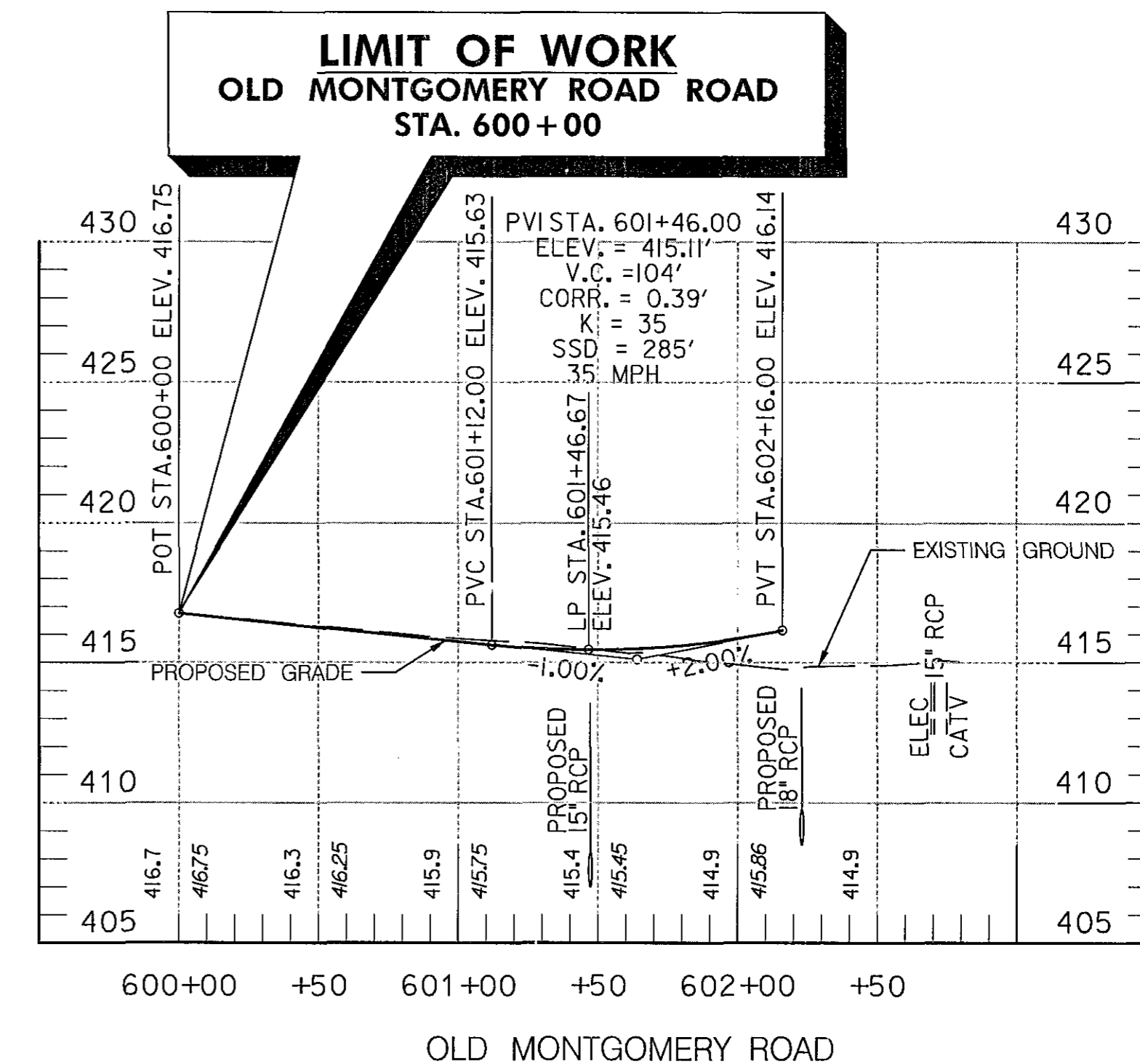
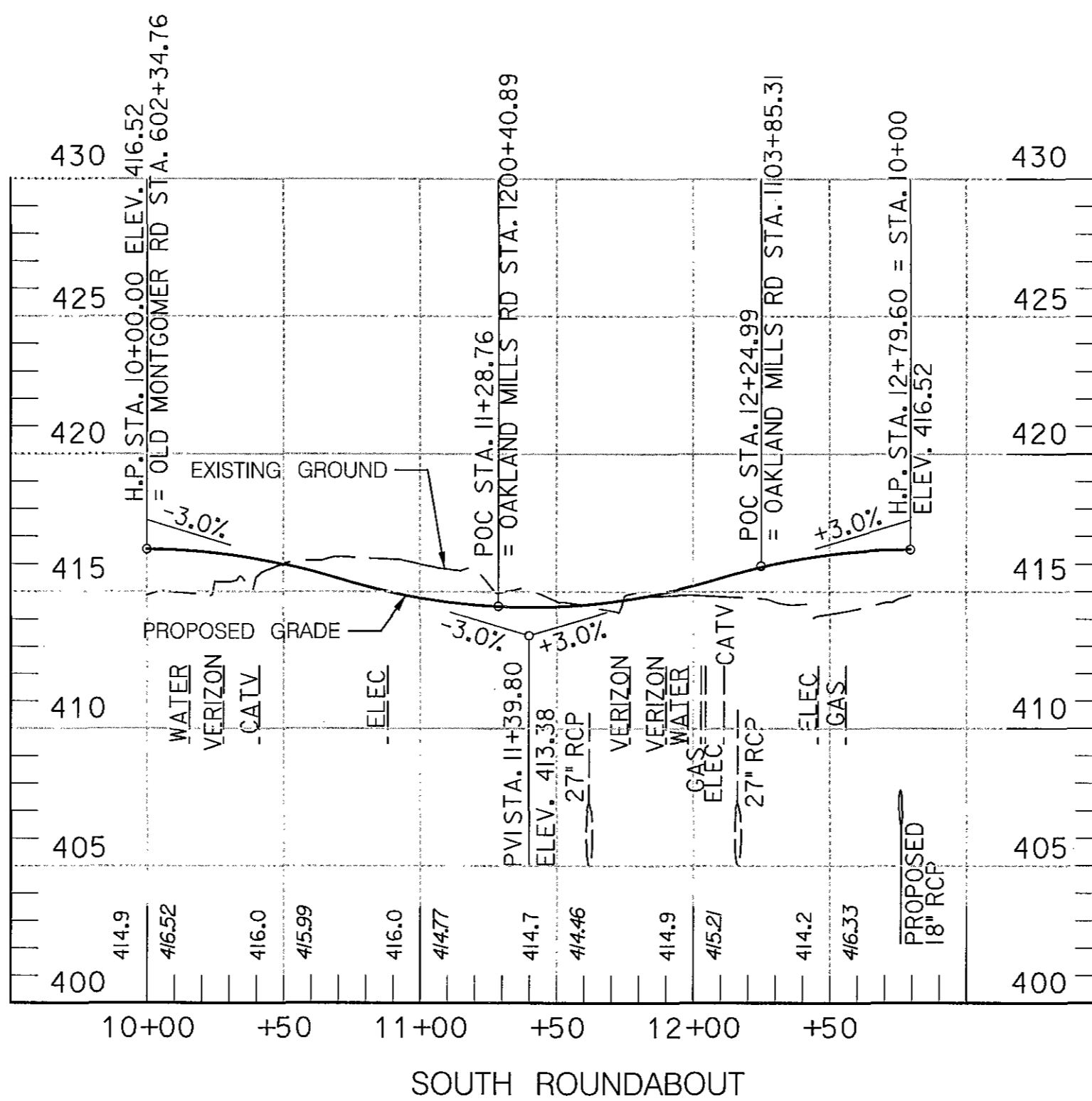
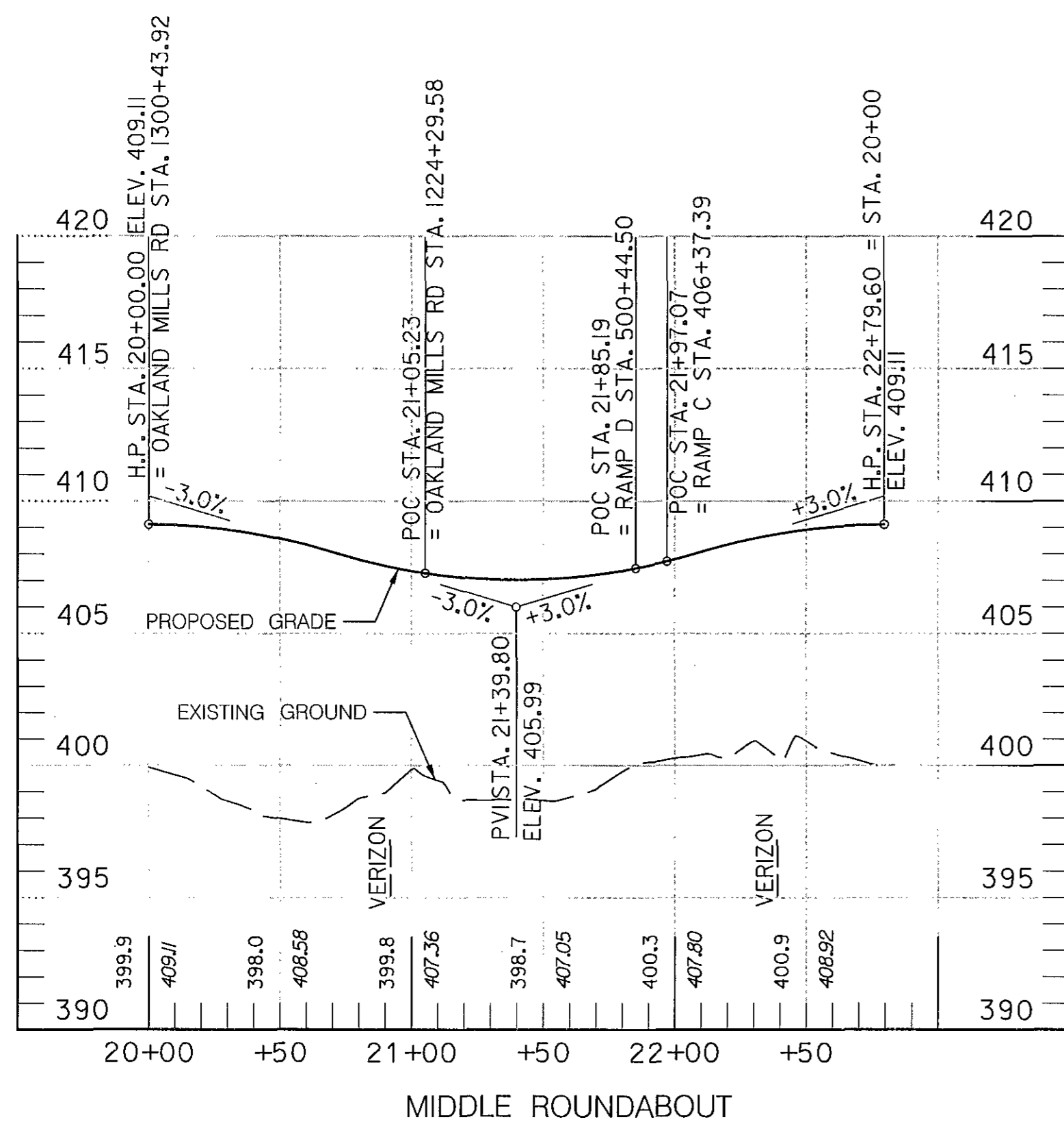
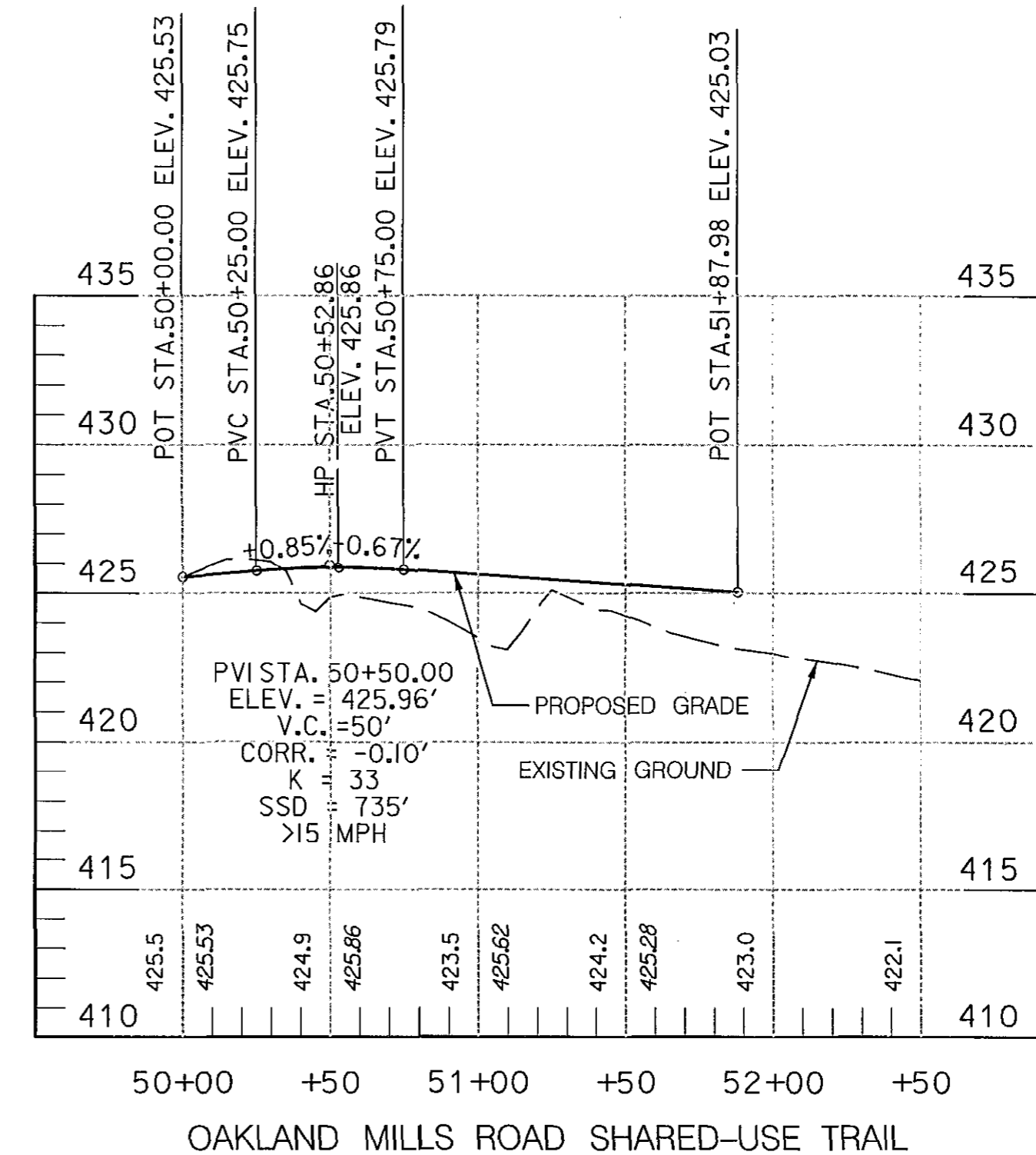
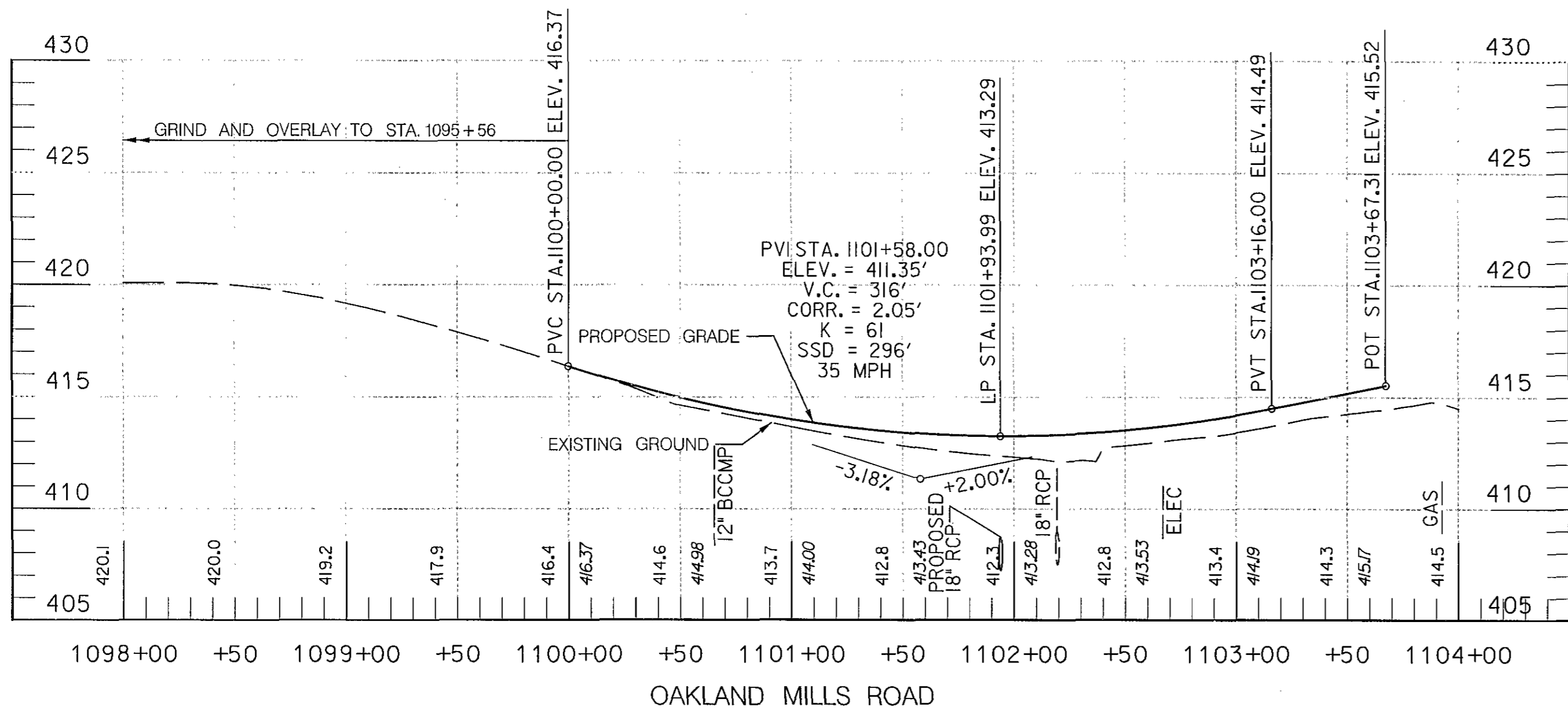
ROADWAY PROFILE

BLANDAIR REGIONAL PARK
PHASE J - SOUTH
CAPITAL PROJECT # J-4237

DWG. HP-02
SCALE: H: 1" = 50', V: 1" = 5'
SHEET 37 OF 138

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

Director of Public Works: *[Signature]* 7/11/14
Chief, Bureau of Engineering: *[Signature]* 7/11/14
Chief, Transportation and Special Projects Division: *[Signature]* 7/11/14



"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. 19165, EXPIRATION DATE: 06/11/2015."

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

Gregory W. Hester 7/1/14
DIRECTOR OF PUBLIC WORKS DATE

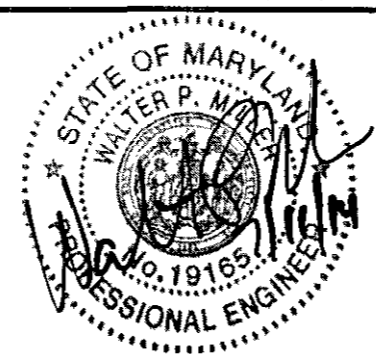
Thomas P. Butler 7/1/14
CHIEF, BUREAU OF ENGINEERING DATE

Holger Seligman 7/1/14
CHIEF, BUREAU OF HIGHWAYS DATE

Steve Sharan 7/1/14
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231

WR&A



DES:	VAK				
DRN:	VAK				
CHK:	BRT				
DATE:	7/1/2014	BY:	NO.	REVISION	DATE

ROADWAY PROFILE

TAX MAP 36 BLOCK NO. 5

**BLANDAIR REGIONAL PARK
PHASE J - SOUTH**

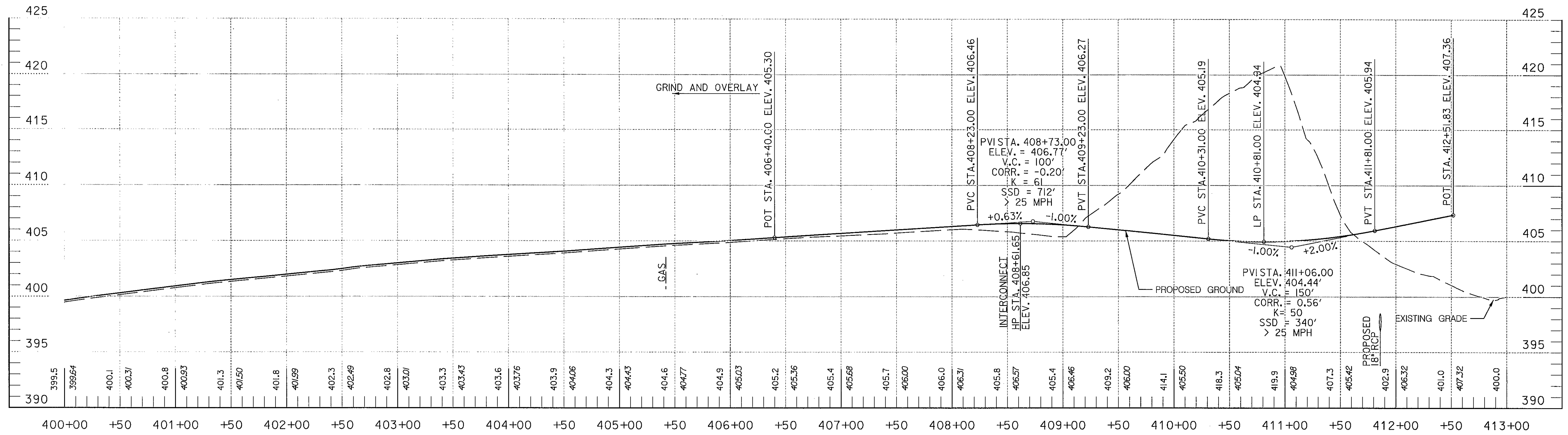
CAPITAL PROJECT # J-4237

ELECTION DISTRICT 3 / 7 HOWARD COUNTY, MARYLAND

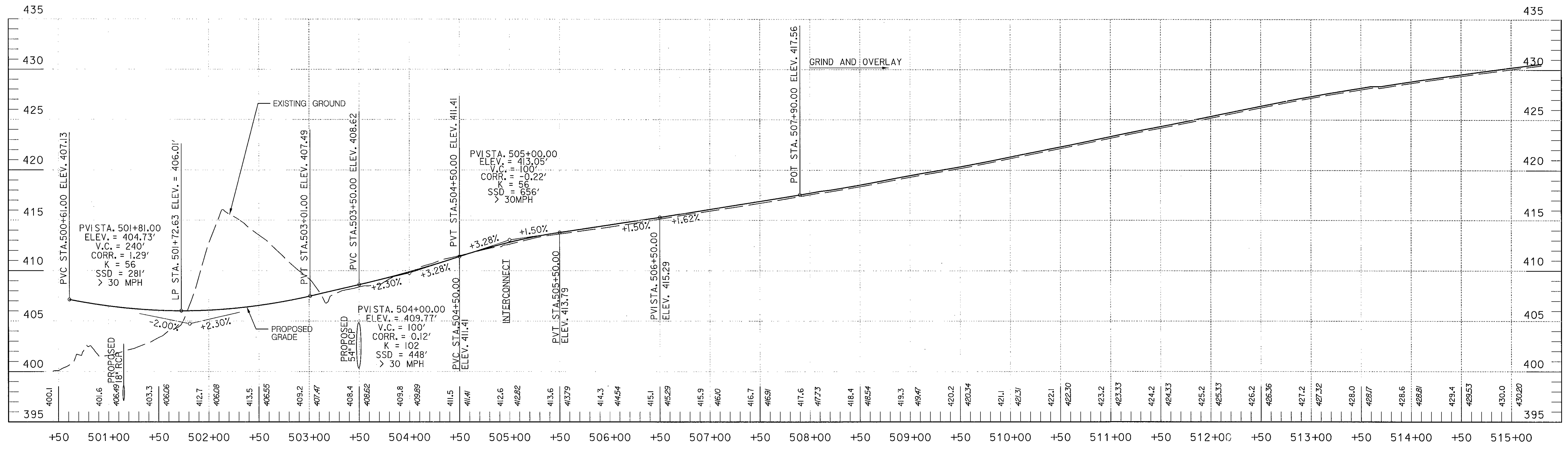
DWG.
HP-03

SCALE
H: 1" = 50'
V: 1" = 5'

SHEET
38 OF 138



RAMP C

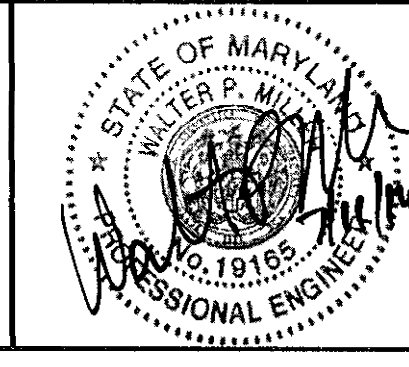


RAMP D

"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. 19165, EXPIRATION DATE: 06/11/2015."

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.
Director of Public Works: *Greg R. Huls* 7/11/14
Chief, Bureau of Highways: *Steve Shannon* 7/11/14
Chief, Bureau of Engineering: *Thomas B. Butler* 7/11/14
Chief, Transportation and Special Projects Division: *Steve Shannon* 7/11/14

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231
WR&A

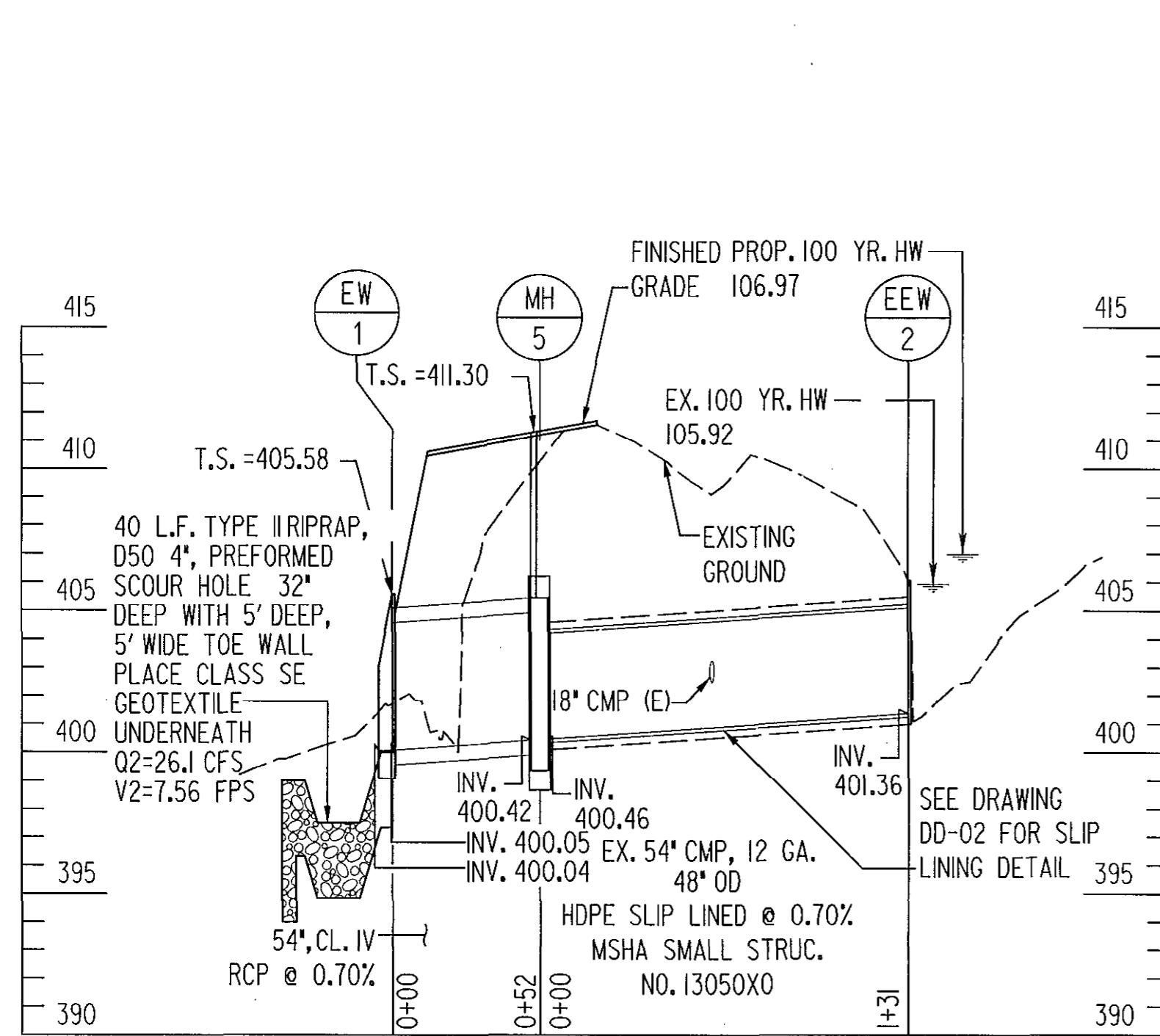


DES:	VAK
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CHK:	BRT
DATE:	7/11/2014
BY:	NO.
REVISION:	DATE

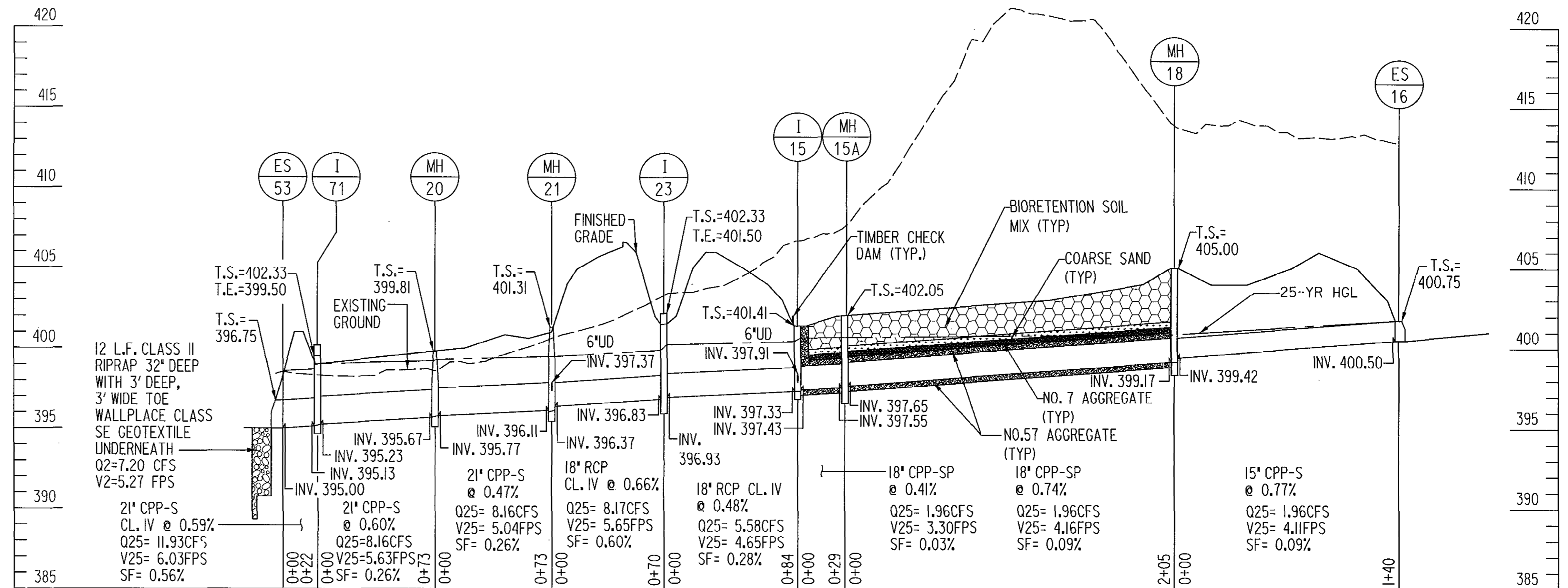
ROADWAY PROFILE
TAX MAP 36
BLOCK NO. 5

**BLANDAIR REGIONAL PARK
PHASE J - SOUTH
CAPITAL PROJECT # J-4237**
ELECTION DISTRICT 3 / 7
HOWARD COUNTY, MARYLAND

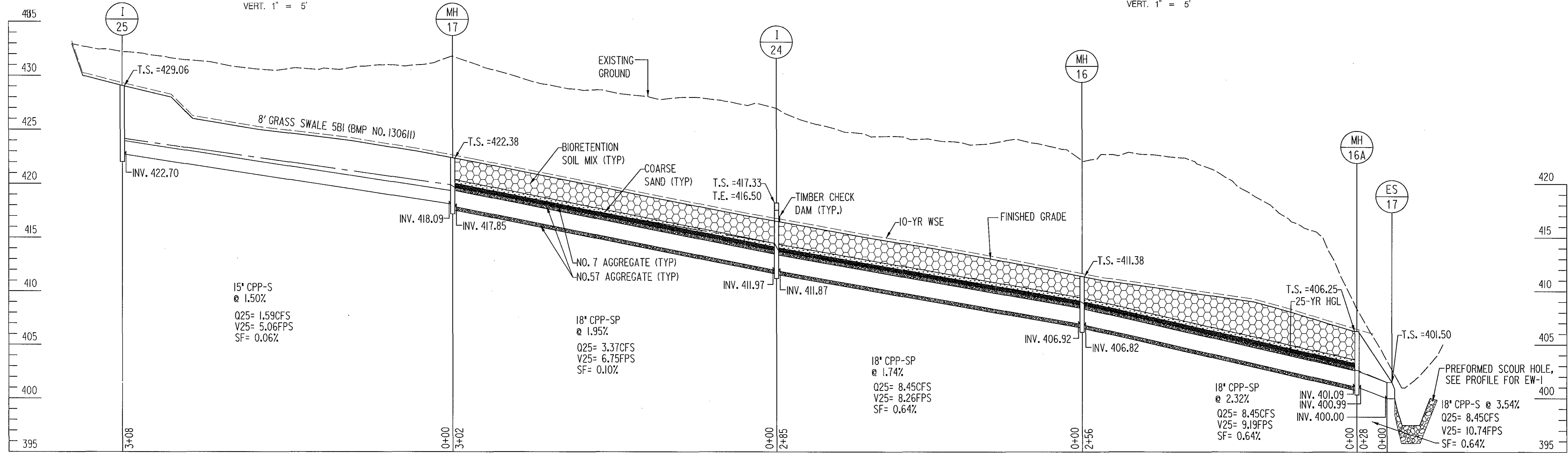
DWG. **HP-04**
SCALE
H: 1" = 50'
V: 1" = 5'
SHEET
39 OF 138



SEE DRAWING PS-06 FOR PLAN VIEW
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



SEE DRAWINGS PS-04 AND PS-06 FOR PLAN VIEW
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



SEE DRAWINGS PS-06 AND PS-07 FOR PLAN VIEW
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'

"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. 19165, EXPIRATION DATE: 06/11/2015."

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

Director of Public Works: *John Williams* 7/11/14
Chief, Bureau of Engineering: *Thomas R. Butler* 7/11/14
Chief, Transportation and Special Projects Division: *Steve Shaver* 7/11/14

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
301 South Caroline Street, Baltimore, MD 21231

WR&A



DES:	CYH	BY:		NO.:		REVISION:		DATE:	7/11/2014
DRN:	CYH	CHK:	AUO	BY:		NO.:		REVISION:	

PIPE PROFILES

**BLANDAIR REGIONAL PARK
PHASE J - SOUTH**

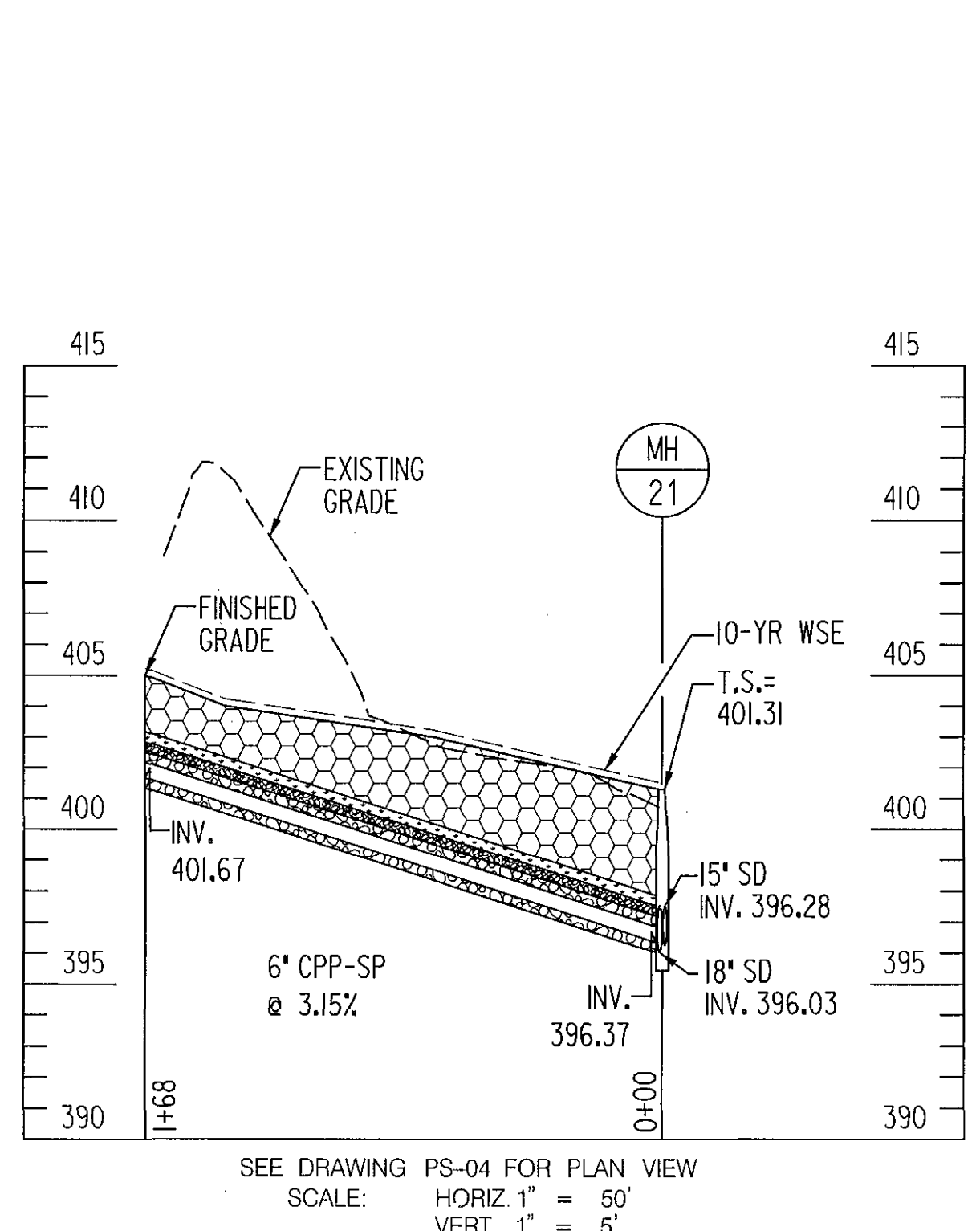
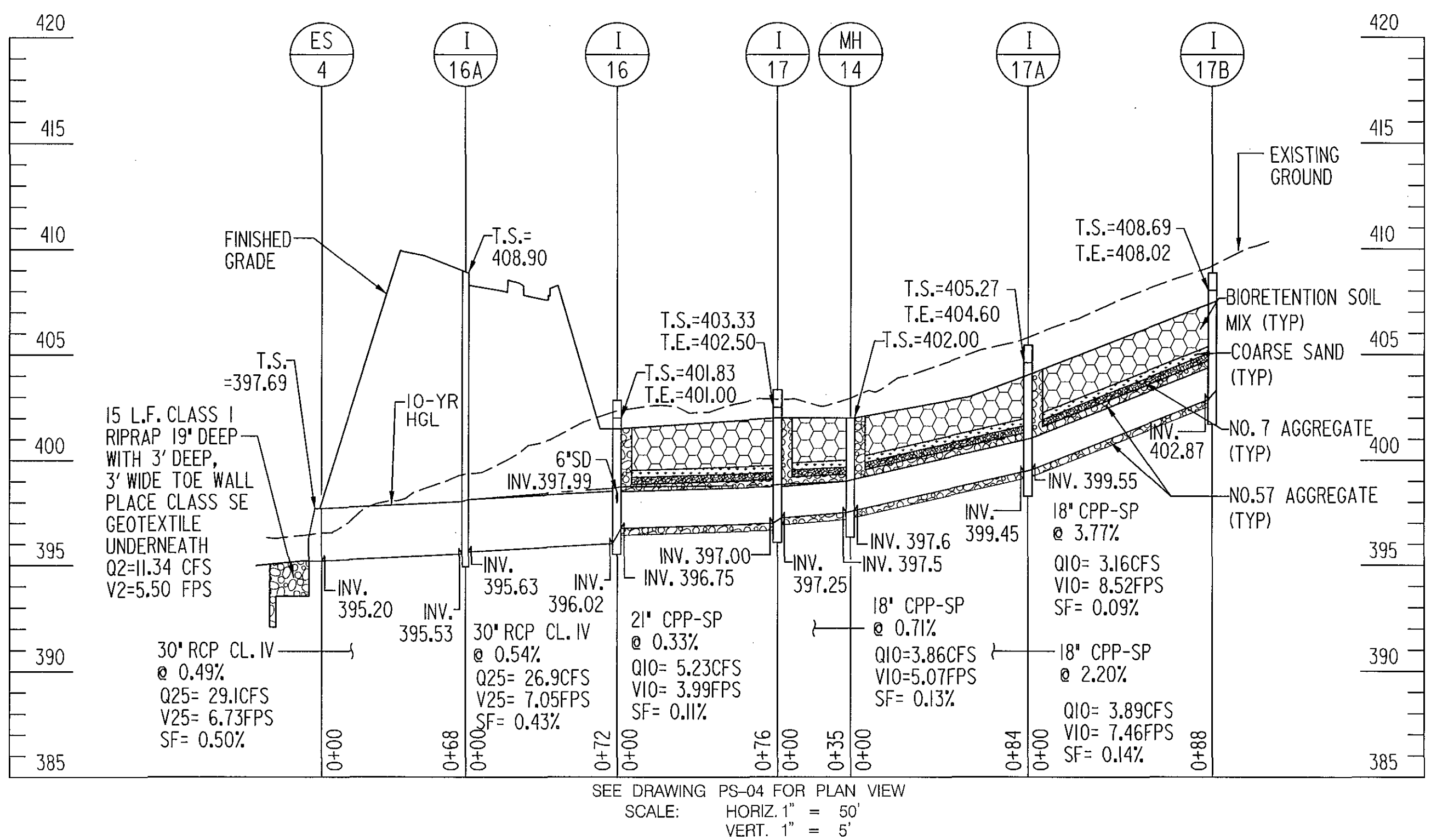
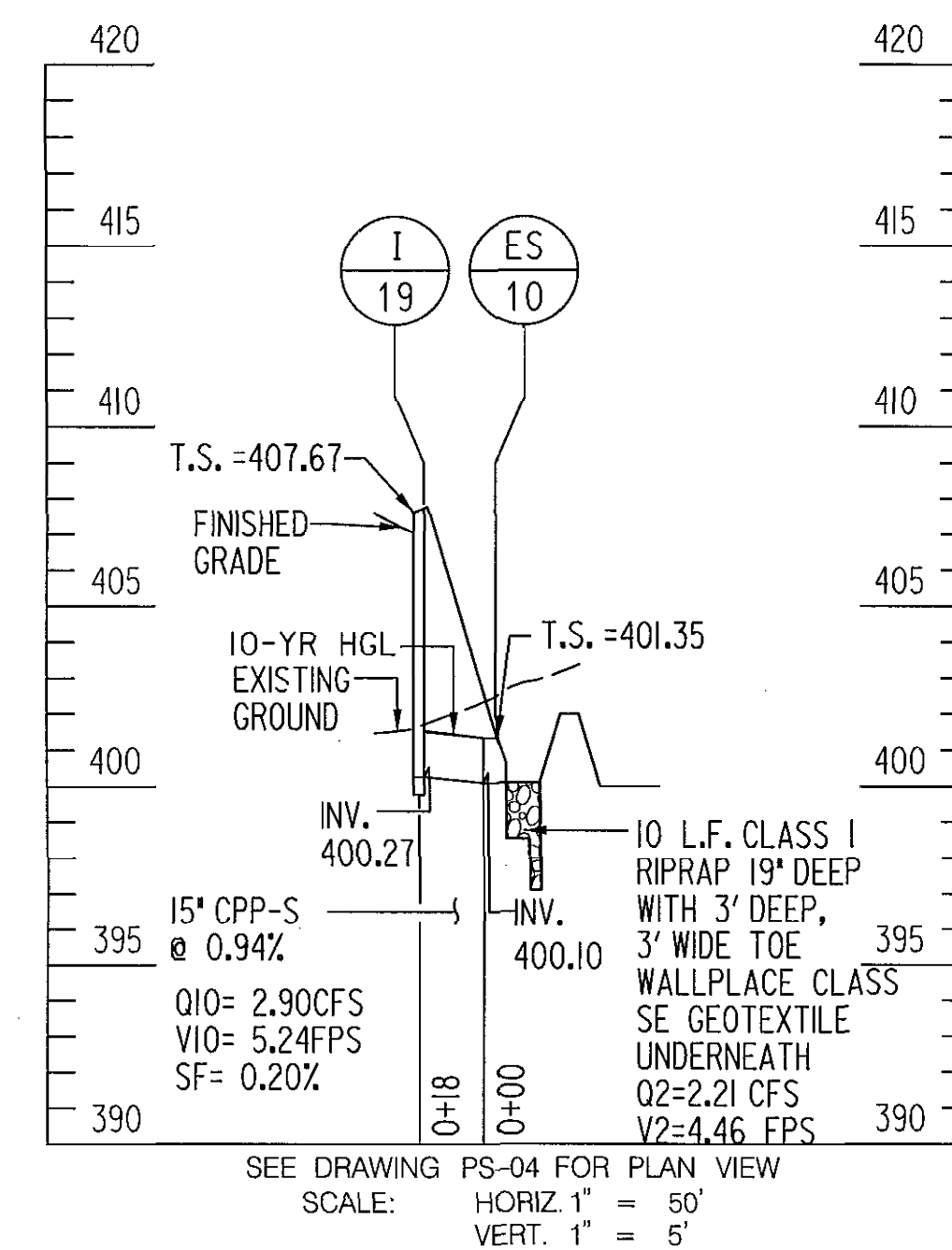
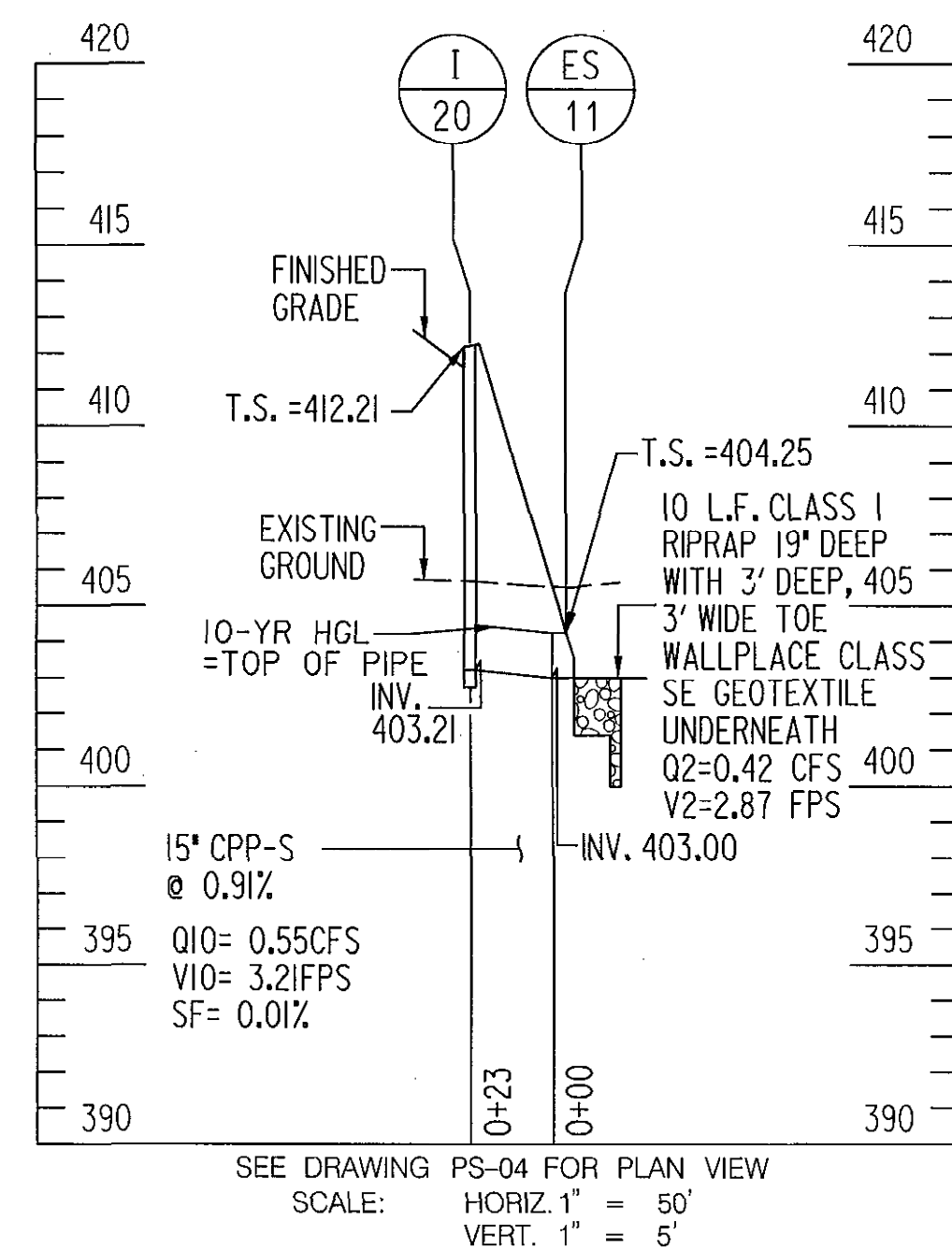
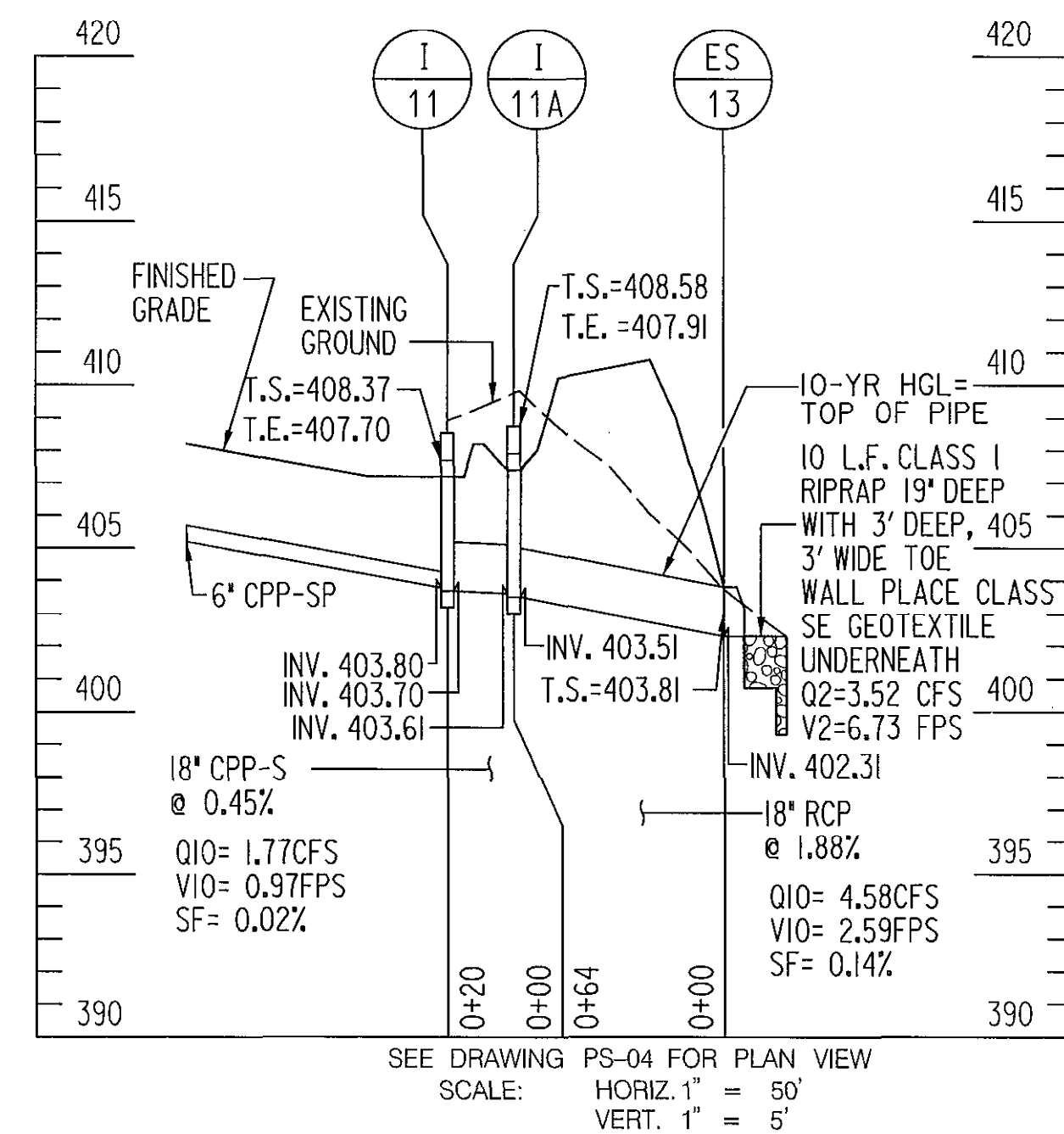
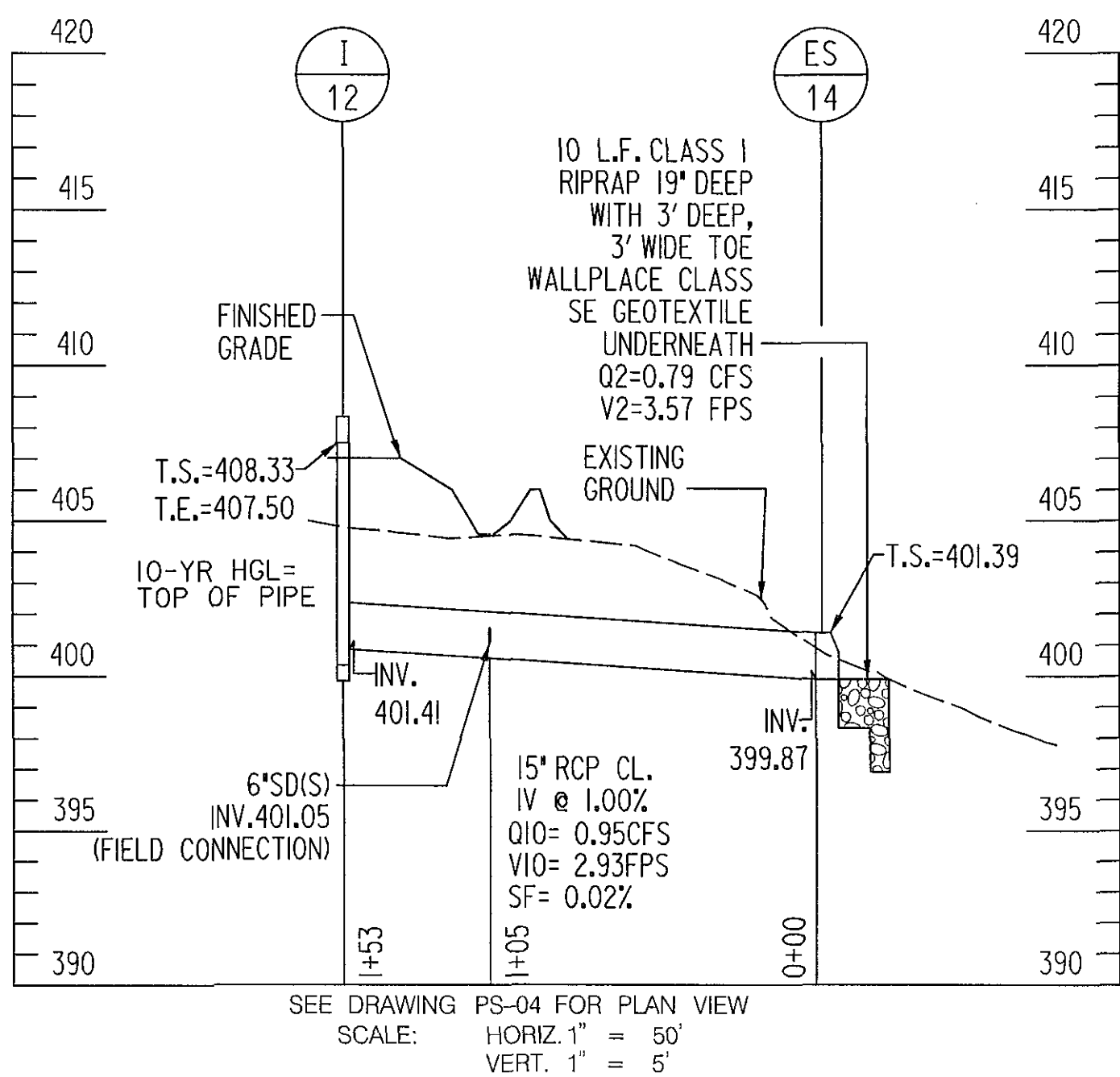
CAPITAL PROJECT # J-4237

ELECTION DISTRICT 3/7 HOWARD COUNTY, MARYLAND

DWG. **PP-01**

SCALE: 1" = 50'

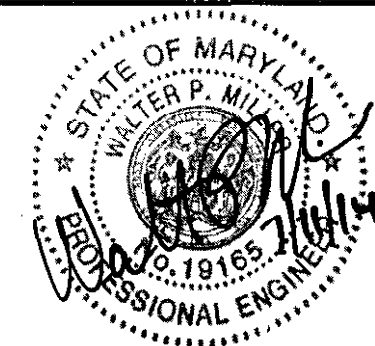
SHEET **40** OF **138**



"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. 19165, EXPIRATION DATE: 06/11/2015."

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.
Director of Public Works: [Signature] 7/6/14
Chief, Bureau of Engineering: [Signature] 7/1/14
Chief, Transportation and Special Projects Division: [Signature] 7/1/14

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231
WR&A

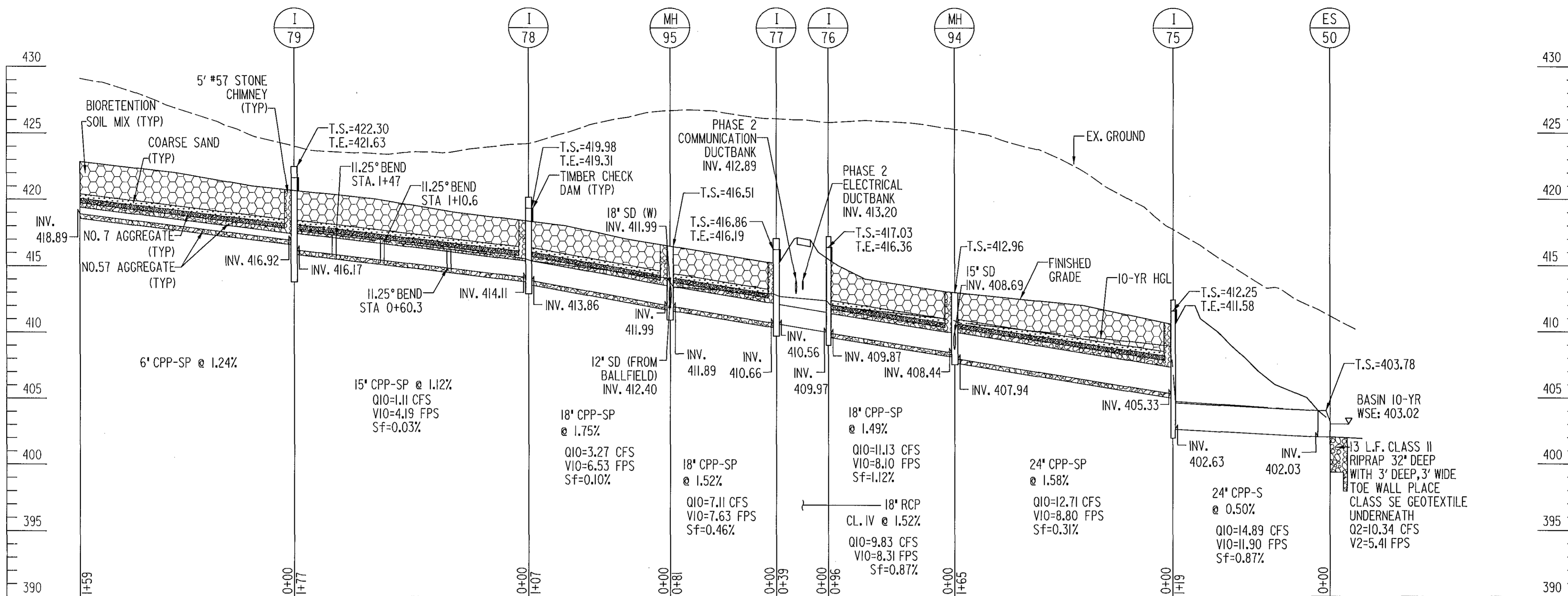


DES:	CYH
DRN:	CYH
CHK:	AJO
DATE:	7/1/2014
BY:	NO.
REVISION:	
DATE:	

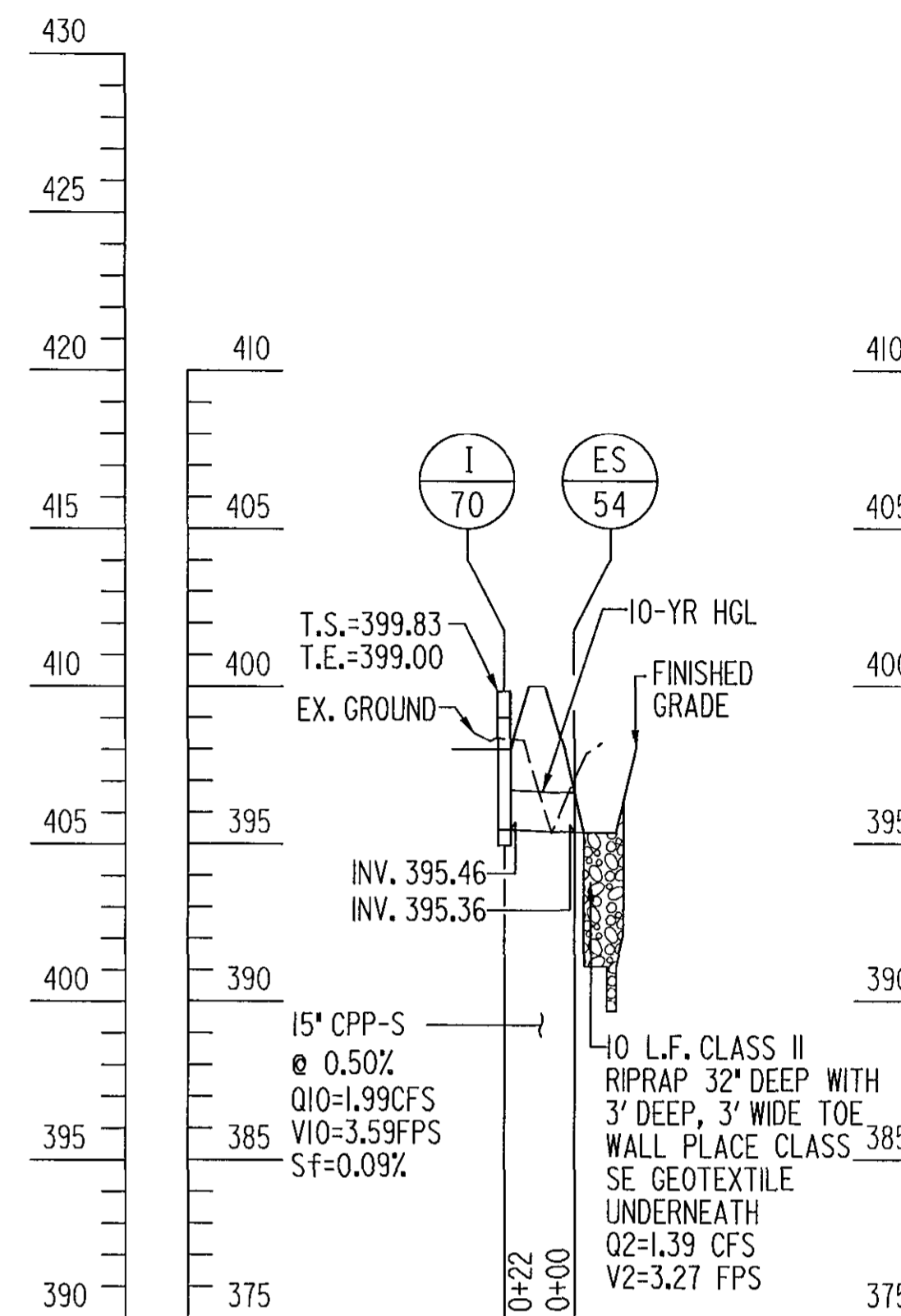
PIPE PROFILES

**BLANDAIR REGIONAL PARK
PHASE J - SOUTH**
CAPITAL PROJECT # J-4237

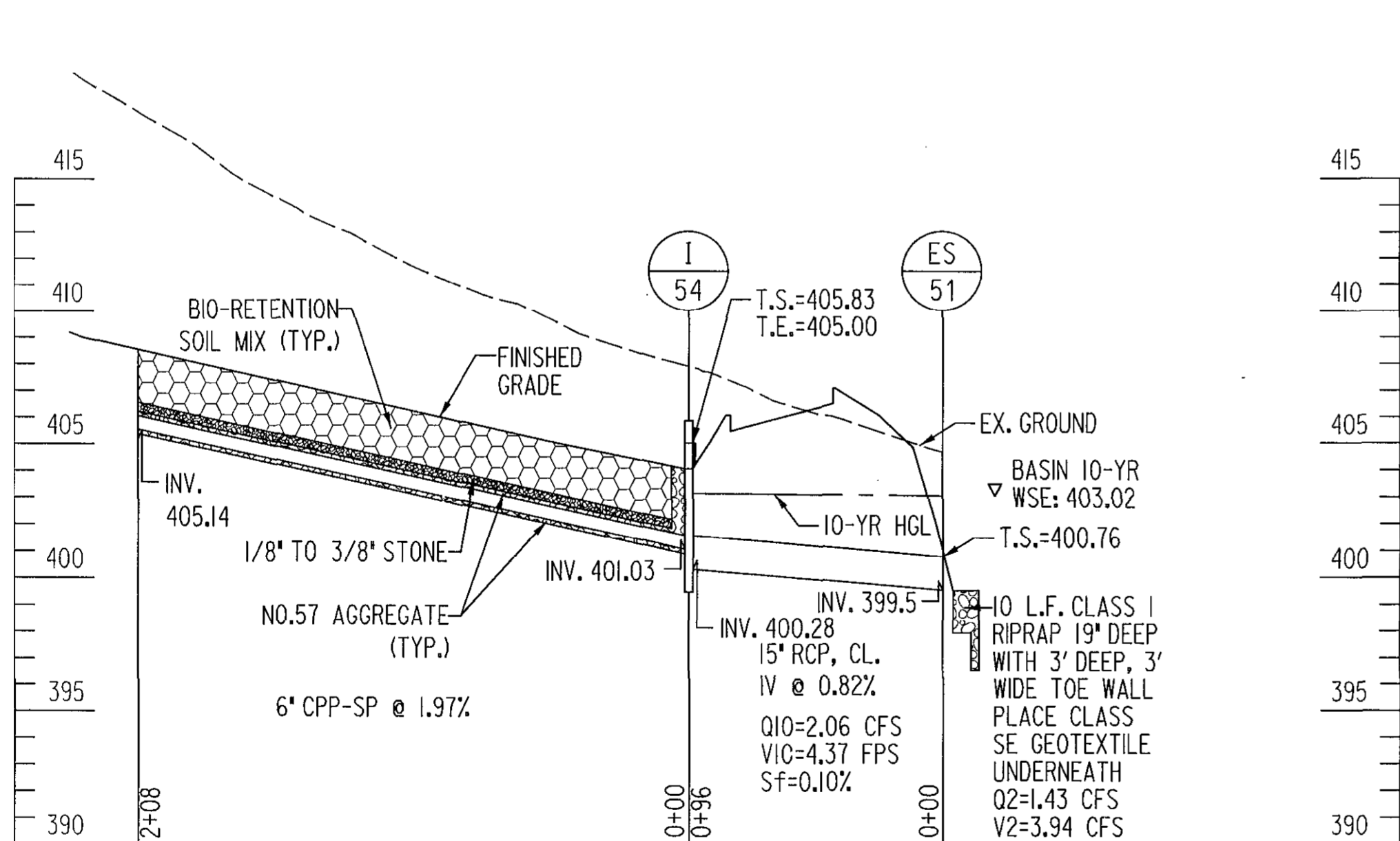
DWG. **PP-02**
SCALE: 1" = 50'
SHEET: **41** OF **138**



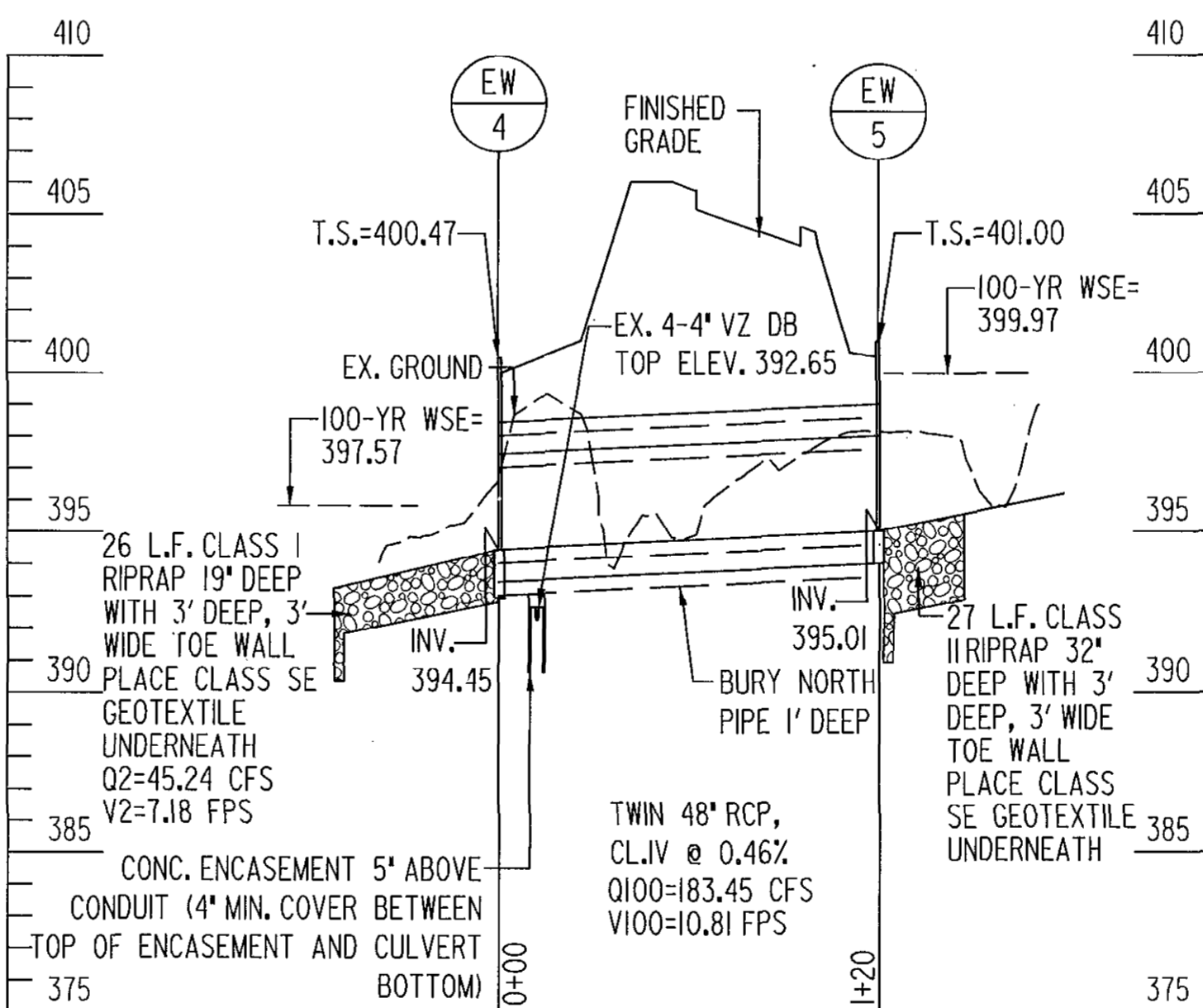
SEE DRAWING PS-03 FOR PLAN VIEW
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



SEE DRAWING PS-03 FOR PLAN VIEW
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



SEE DRAWING PS-03 FOR PLAN VIEW
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



SEE DRAWING PS-03 FOR PLAN VIEW
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'

"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. 19165, EXPIRATION DATE: 06/11/2015."

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

John De Niska
DIRECTOR OF PUBLIC WORKS
DATE: 7/11/14

Thomas R. Butler 7/11/14
CHIEF, BUREAU OF ENGINEERING
DATE: 7/11/14

Steve Shavano 7/11/14
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION
DATE: 7/11/14

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231

WR&A



DES:	CYH				
DRN:	CYH				
CHK:	AUO				
DATE:	7/11/2014	BY:		NO.:	
		REVISION:		DATE:	

PIPE PROFILES

TAX MAP 36 BLOCK NO. 5

**BLANDAIR REGIONAL PARK
PHASE J - SOUTH**

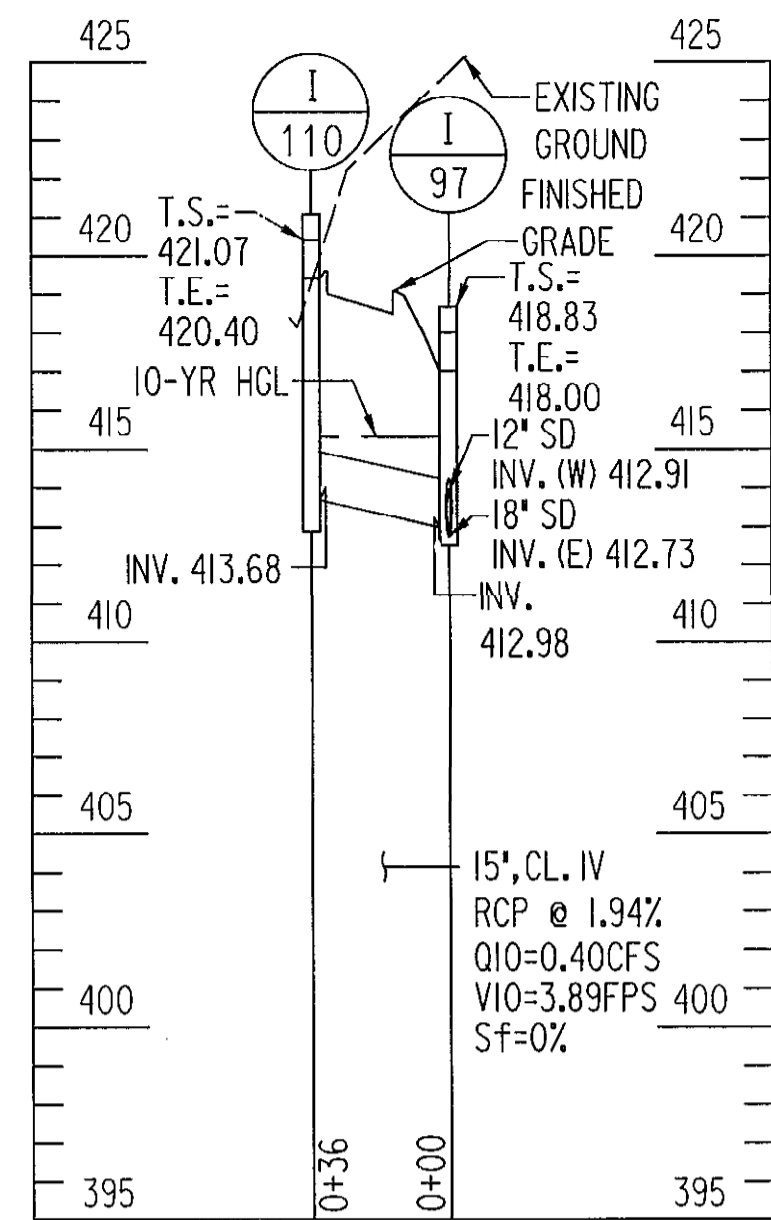
CAPITAL PROJECT # J-4237

ELECTION DISTRICT 3/7 HOWARD COUNTY, MARYLAND

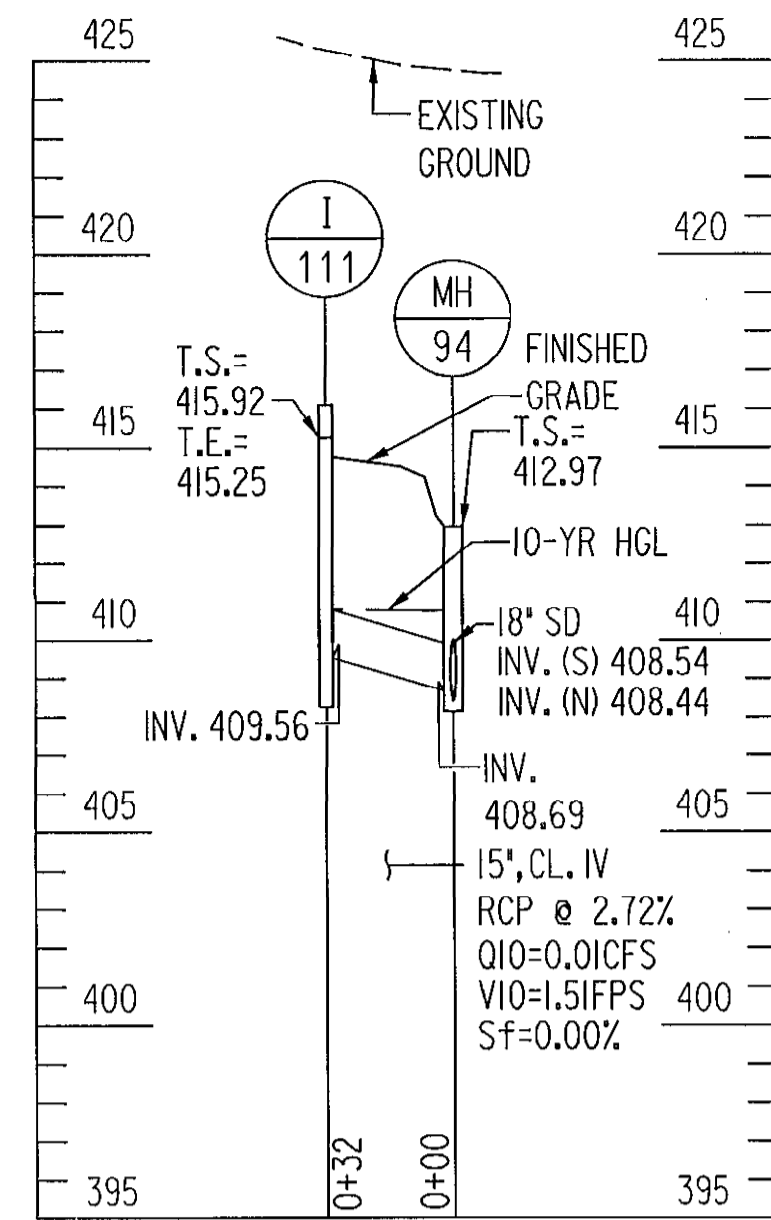
DWG.
PP-03

SCALE
1" = 50'

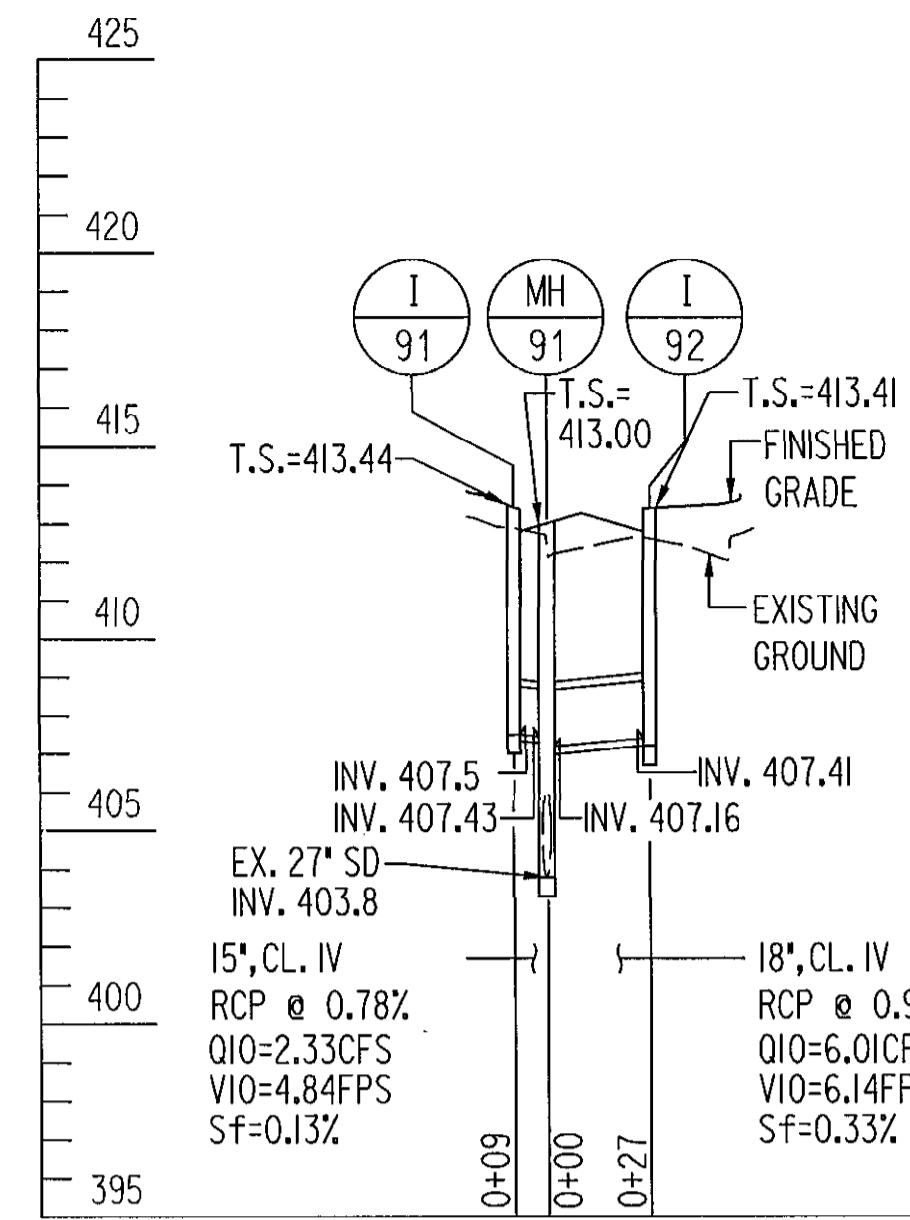
SHEET
42 OF 138



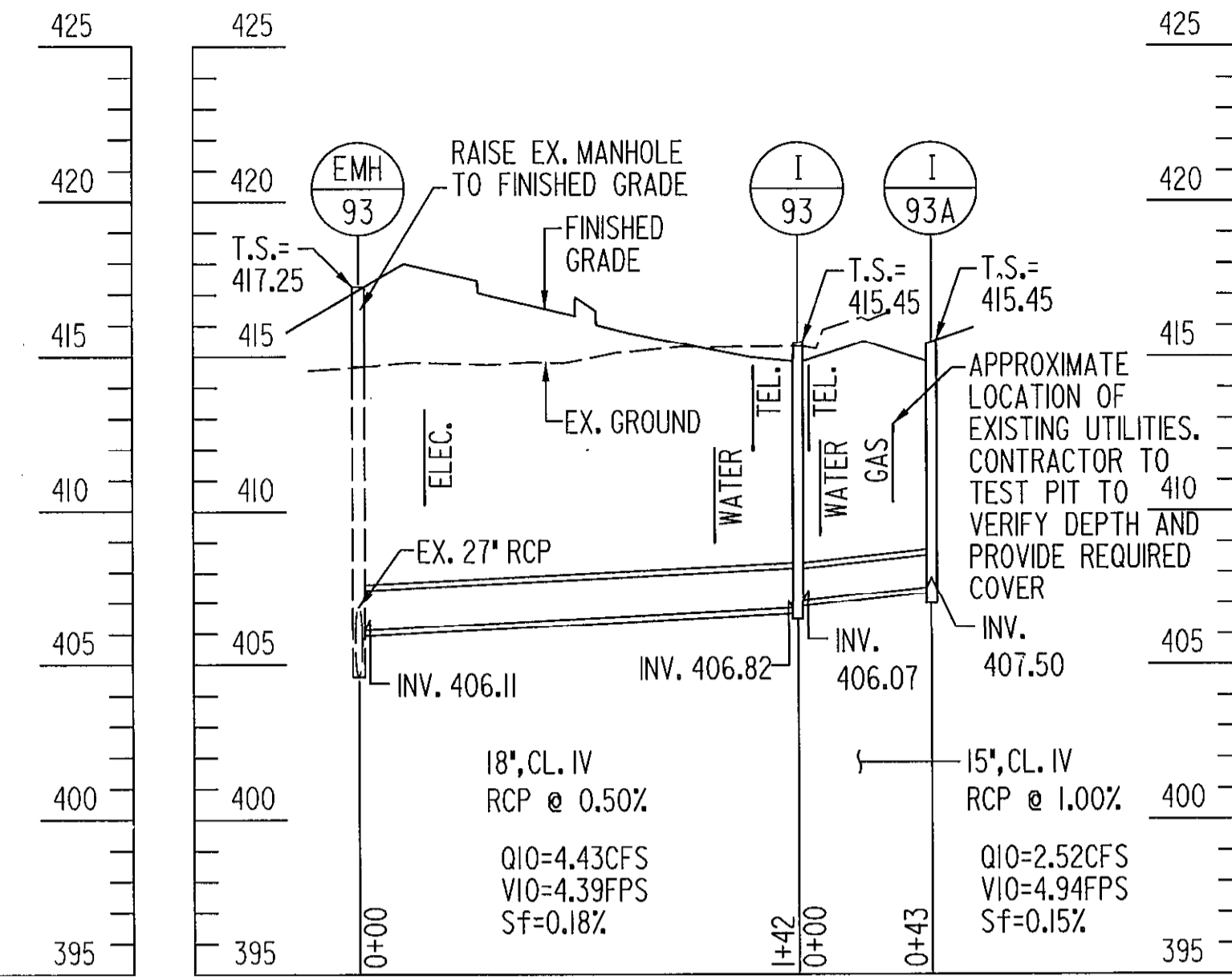
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SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



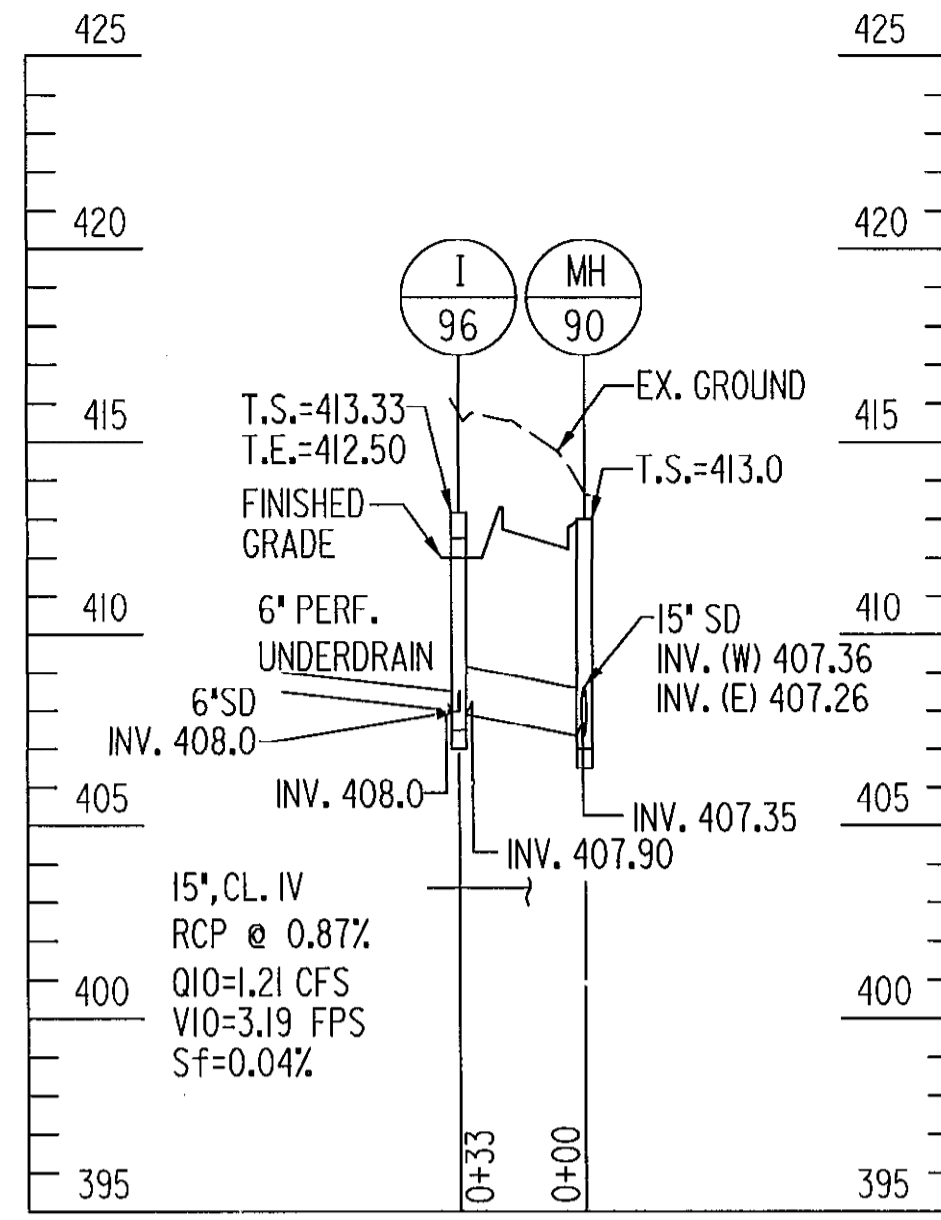
SEE DRAWING PS-03 FOR PLAN VIEW
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



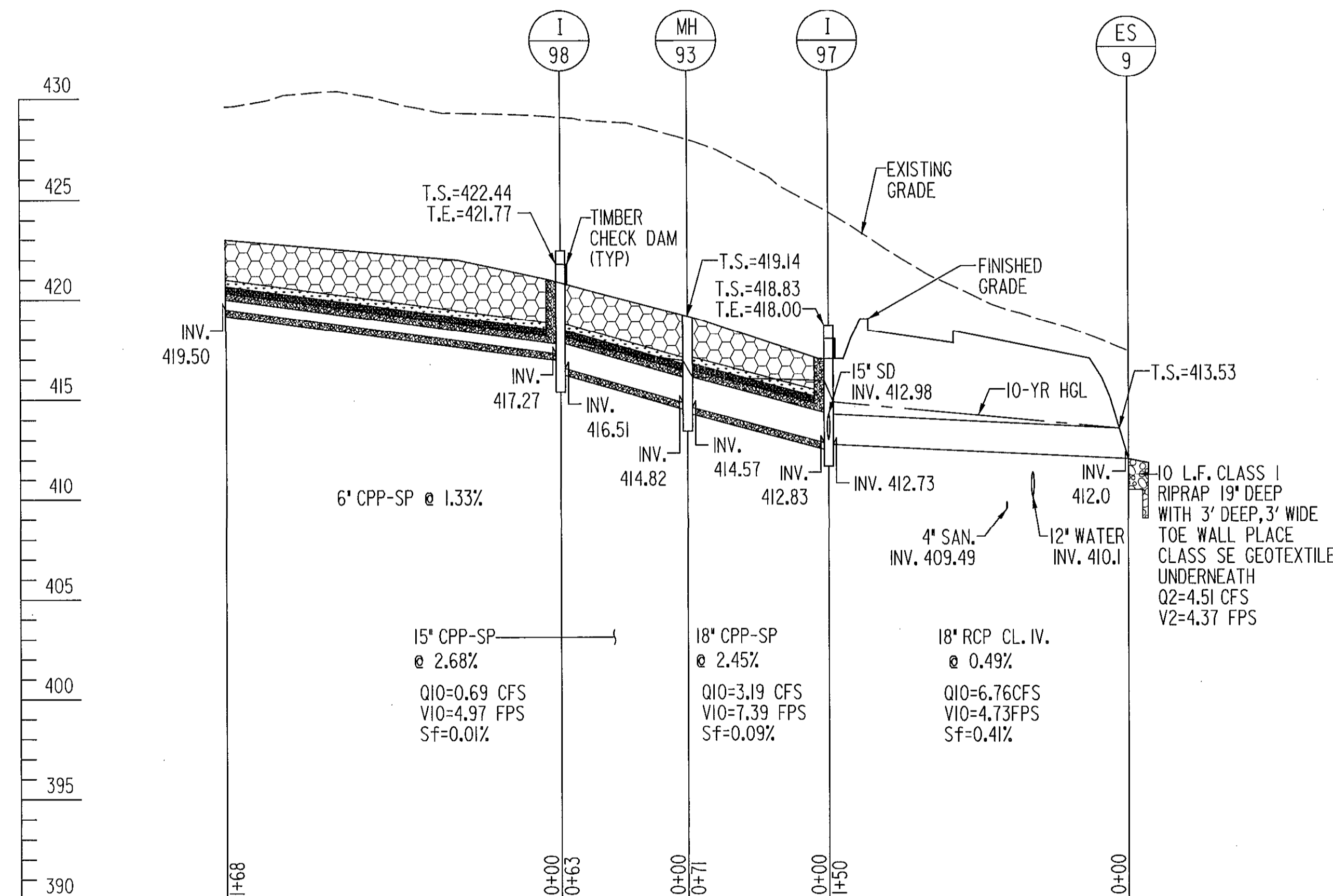
SEE DRAWING PS-02 FOR PLAN VIEW
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



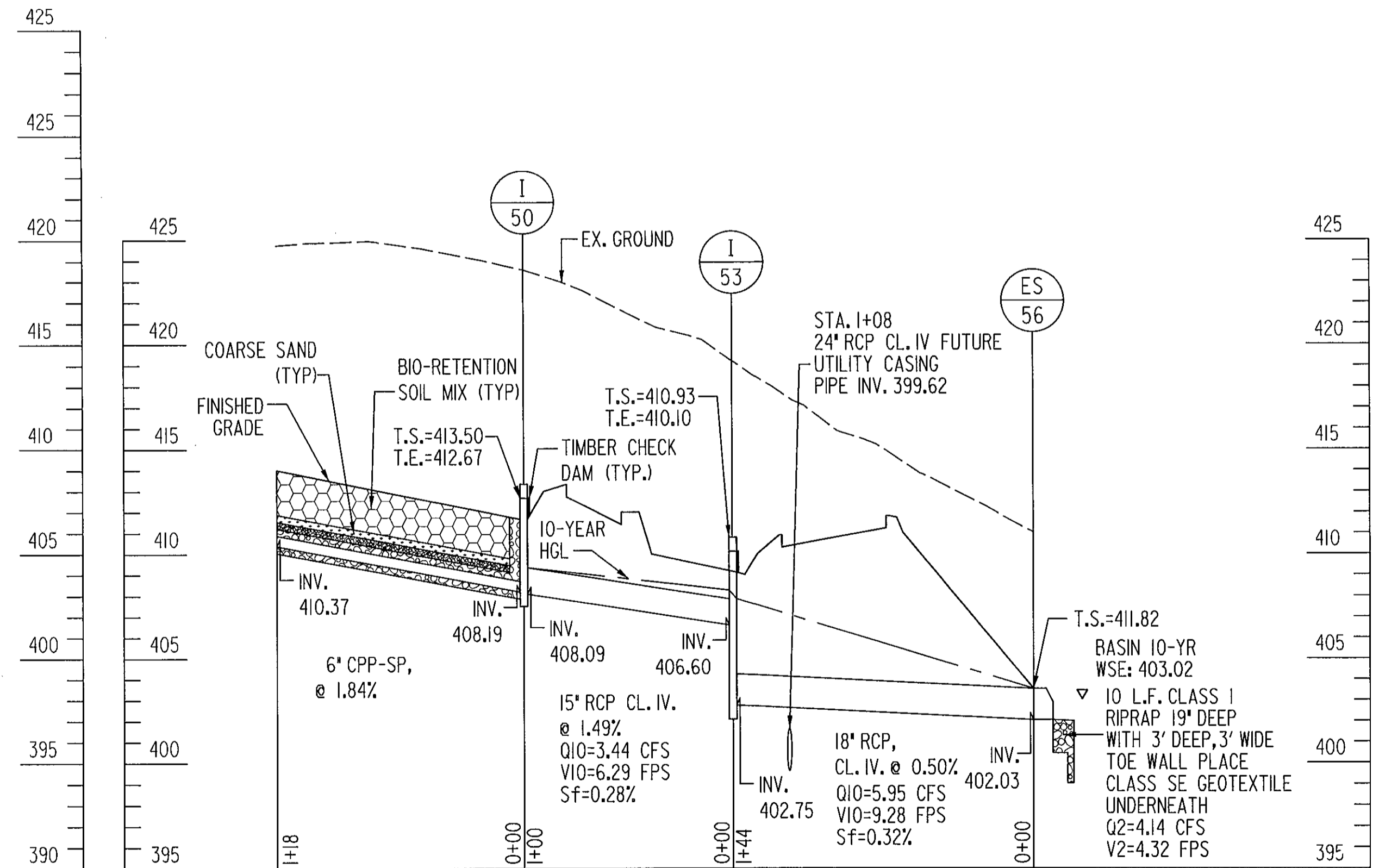
SEE DRAWING PS-02 FOR PLAN VIEW
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



SEE DRAWING PS-02 FOR PLAN VIEW
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



SEE DRAWING PS-02 FOR PLAN VIEW
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



SEE DRAWING PS-03 FOR PLAN VIEW
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'

"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. 19165, EXPIRATION DATE: 06/11/2015."

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.
DIRECTOR OF PUBLIC WORKS: [Signature] DATE: 7/11/14
CHIEF, BUREAU OF ENGINEERING: [Signature] DATE: 7/11/14
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION: [Signature] DATE: 7/11/14

PREPARED BY:
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801 South Caroline Street, Baltimore, MD 21231
WR&A

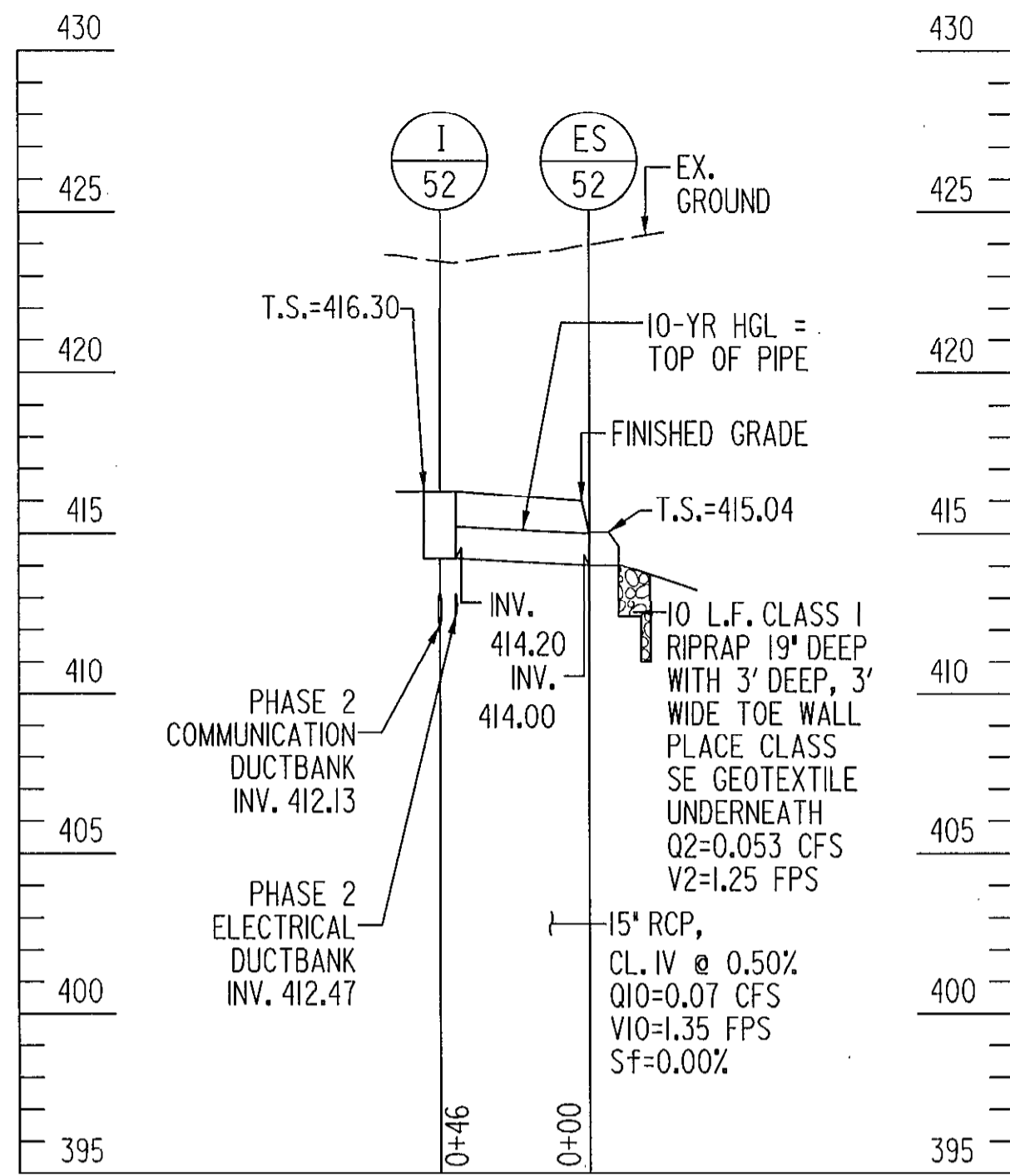


DES:	CYH
DRN:	CYH
CHK:	AJO
DATE:	7/11/2014
BY:	NO.
REVISION:	
DATE:	

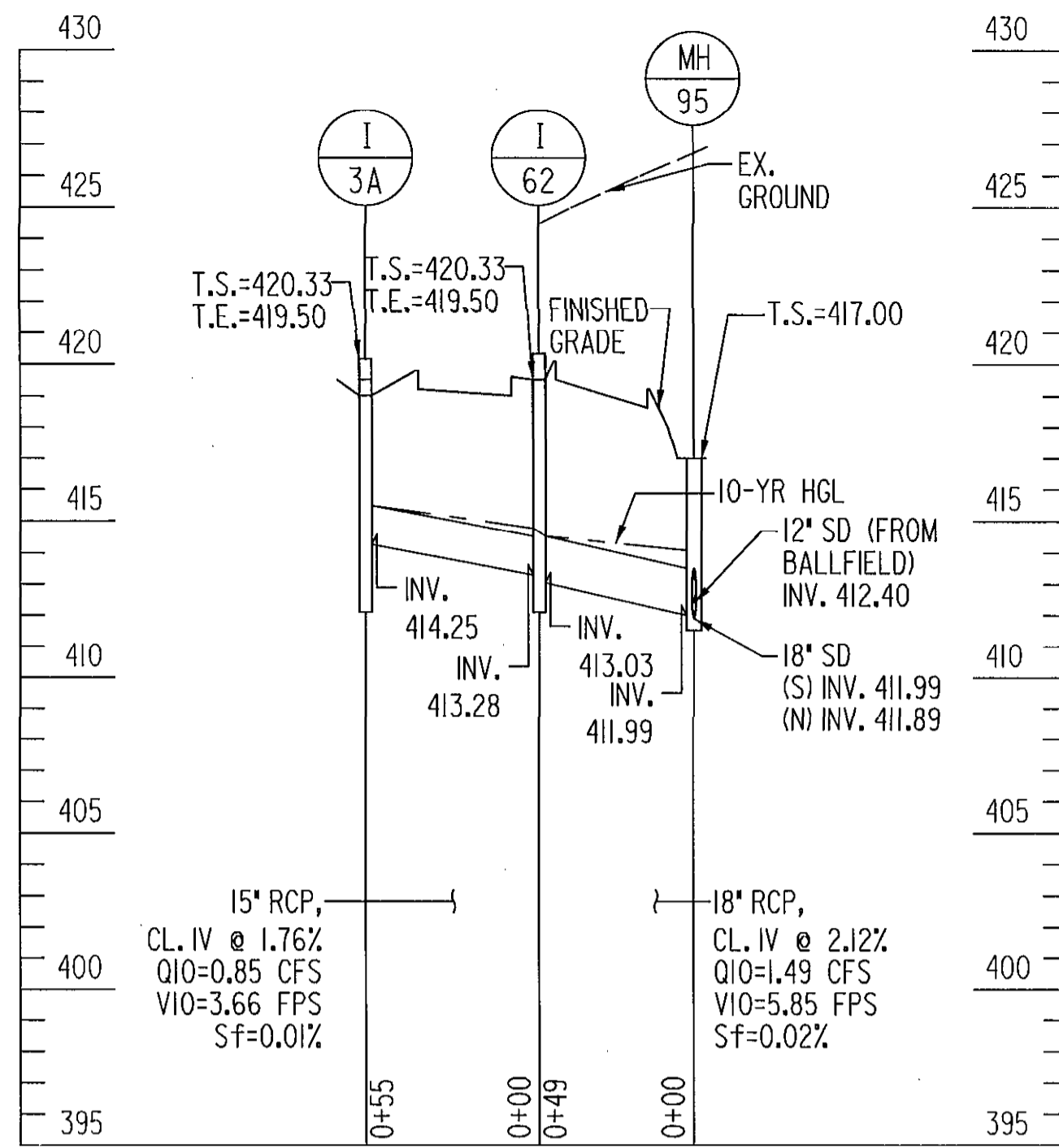
PIPE PROFILES

BLANDAIR REGIONAL PARK
PHASE J - SOUTH
CAPITAL PROJECT # J-4237
ELECTION DISTRICT 3/7
HOWARD COUNTY, MARYLAND

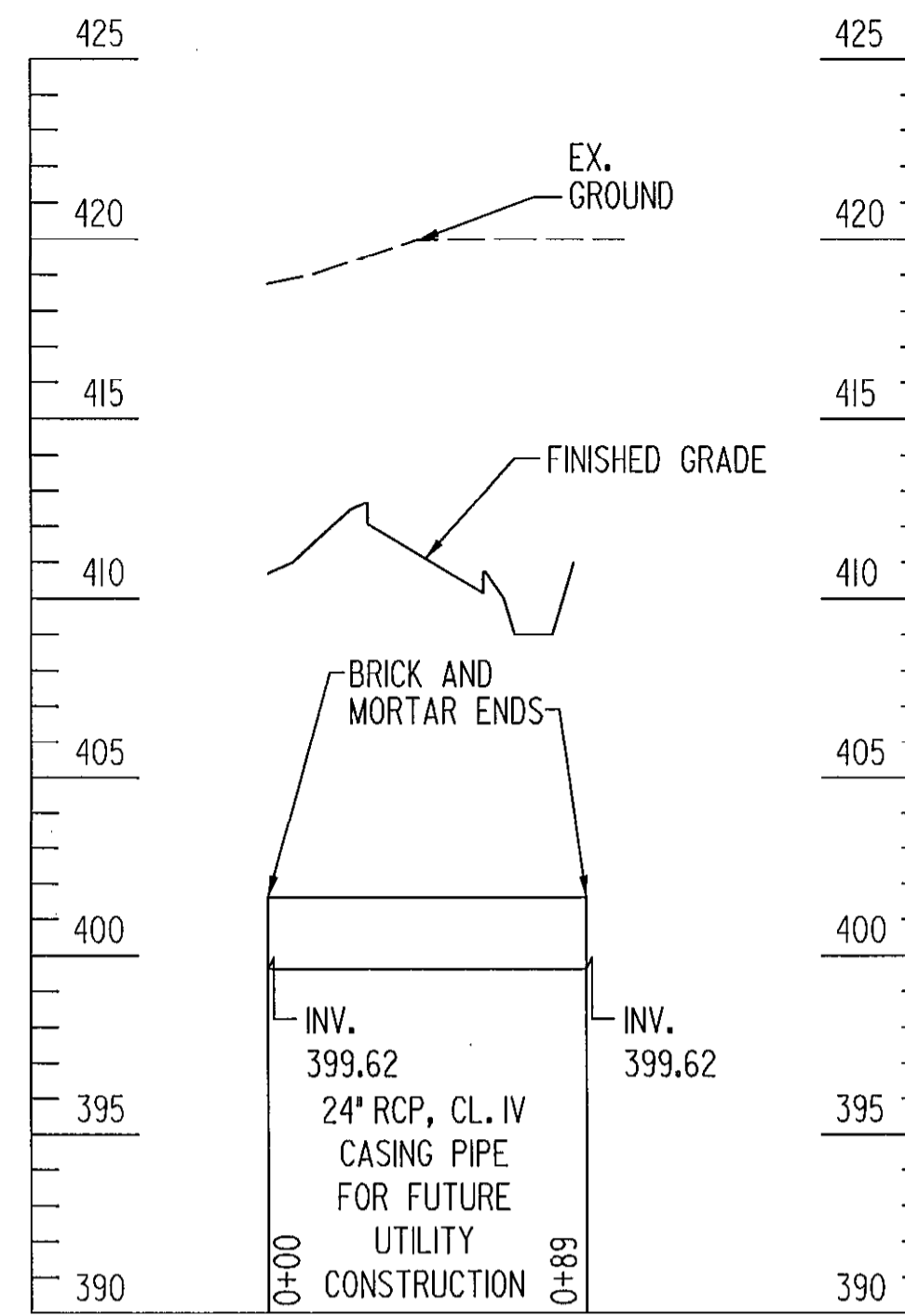
DWG. PP-04
SCALE 1" = 50'
SHEET 43 OF 138



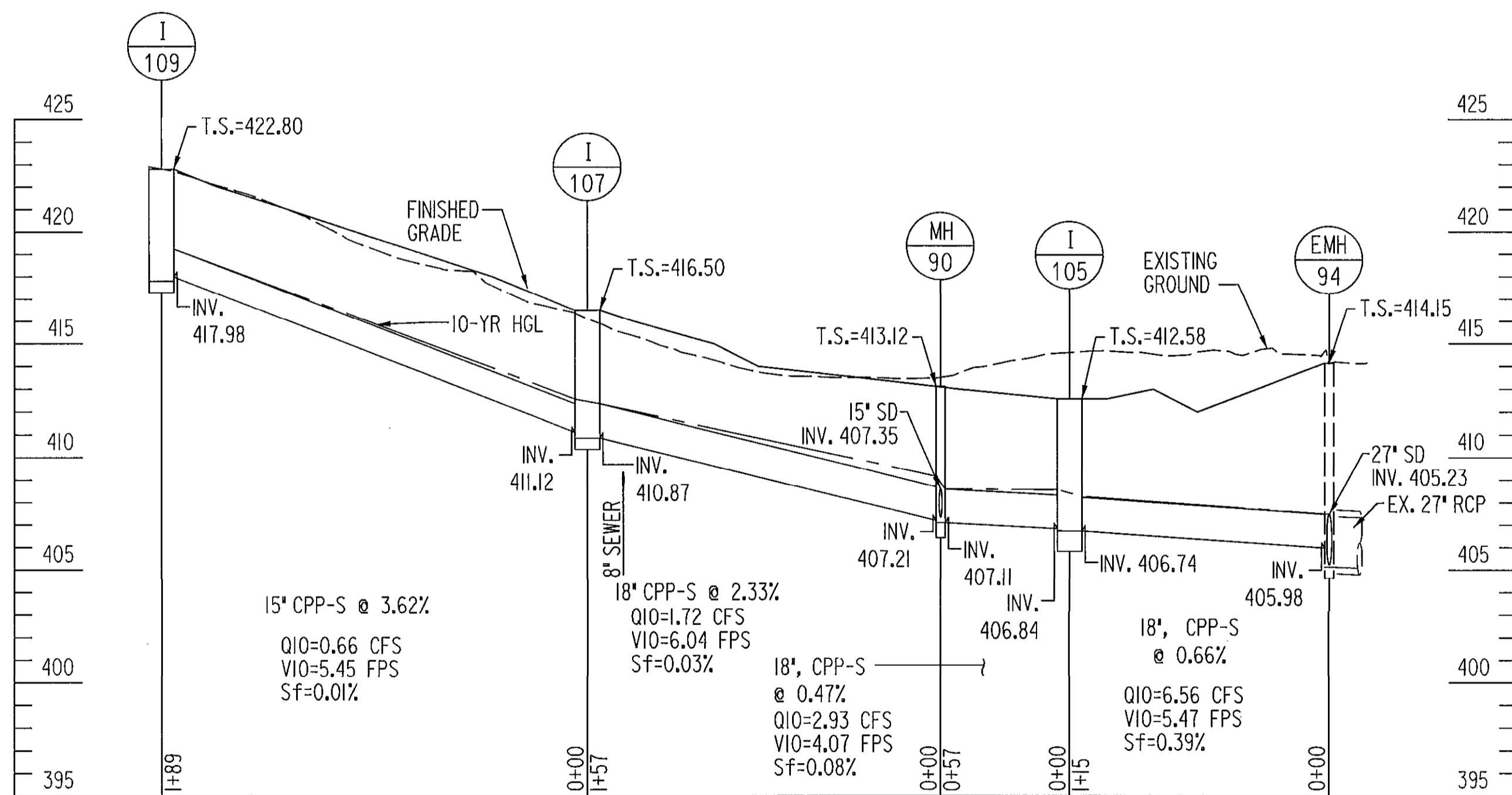
SEE DRAWING PS-03 FOR PLAN VIEW
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



SEE DRAWING PS-03 FOR PLAN VIEW
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



SEE DRAWING PS-03 FOR PLAN VIEW
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



SEE DRAWING PS-02 FOR PLAN VIEW
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'

"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. 19165, EXPIRATION DATE: 06/11/2015."

DWG. PP-05

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

Director of Public Works: *[Signature]* 7/15/14
Chief, Bureau of Highways: *[Signature]* 7/11/14

Chief, Bureau of Engineering: *[Signature]* 7/16/14
Chief, Transportation and Special Projects Division: *[Signature]* 7/16/14

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231



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DRN:	CYH				
CHK:	AJO				
DATE:	7/11/2014	BY:	NO.	REVISION	DATE

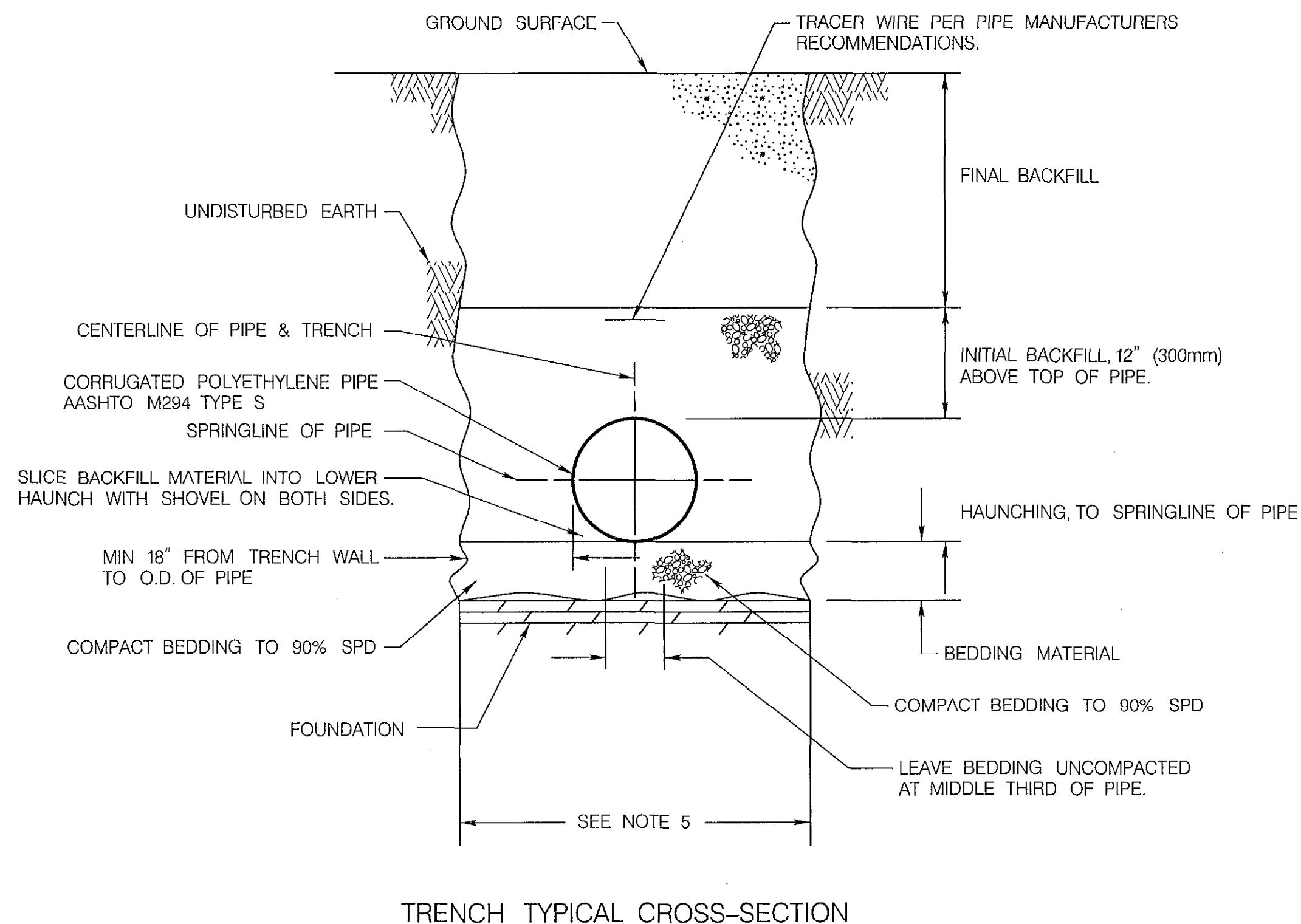
PIPE PROFILES

BLANDAIR REGIONAL PARK
PHASE J - SOUTH

CAPITAL PROJECT # J-4237

SCALE: 1" = 50'
SHEET: 44 OF 138

TRENCH INSTALLATION FOR CPP - TYPE S PIPE
NOT TO SCALE

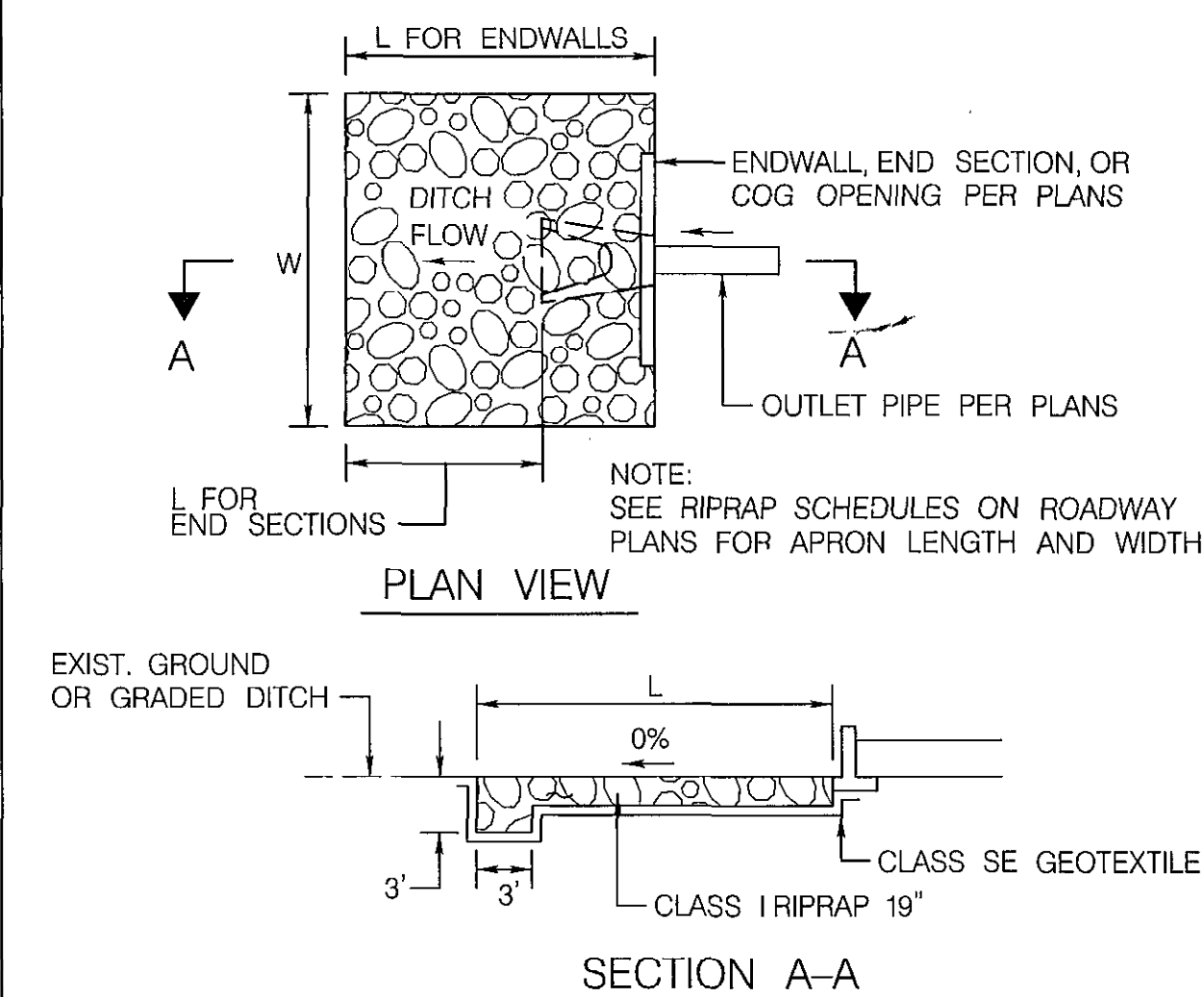


NOTES:

1. TRENCH EXCAVATION: PRIOR TO EXCAVATING TRENCH, EMBANKMENT SHALL BE PLACED IN 6" LIFTS AND THOROUGHLY COMPACTED TO A HEIGHT OF AT LEAST 12" ABOVE THE ELEVATION OF THE PROPOSED TOP OF PIPE.
2. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH MDSA CR-6 CRUSHED AGGREGATE MATERIAL AT THE DISCRETION OF THE ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A WOVEN GEOTEXTILE FABRIC.
3. BEDDING: SUITABLE MATERIAL SHALL BE MDSA #57 STONE. MINIMUM BEDDING THICKNESS SHALL BE 6". BEDDING IS NOT TO BE COMPACTED ALONG MIDDLE THIRD OF THE PIPE DIAMETER. ADJUST TOP OF BEDDING ELEV. TO ACCOUNT FOR PIPE'S WALL THICKNESS. REFER TO ADS PRODUCT NOTE 3.115 FOR WALL THICKNESS.
4. HAUNCHING AND INITIAL BACKFILL: USE MDSA #57 STONE. PLACE BACKFILL CAREFULLY ON TOP OF PIPE TO ALLOW MATERIAL TO FALL EVENLY ON BOTH SIDES OF PIPE. SLICE MATERIAL INTO LOWER HAUNCHES OF THE PIPE WITH A SHOVEL FOR PIPES GREATER THAN 24" DIA. EACH LIFT SHALL BE NO GREATER THAN 6" IN DEPTH BEFORE COMPACTION. COMPACT EACH LIFT EVENLY ON BOTH SIDES OF THE PIPE WITH MECHANICAL TAMPER TO 90% STANDARD PROCTOR DENSITY.
5. MINIMUM TRENCH WIDTH SHALL BE TWICE THE PIPE DIAMETER OR OUTSIDE OF PIPE PLUS 18" ON EACH SIDE OF THE PIPE, WHICHEVER IS GREATEST.
6. CHECK DISTANCE FROM LASER BEAM TO TRENCH WALL PRIOR TO PLACEMENT OF BEDDING MATERIAL TO ENSURE PROPER DISTANCE FROM CENTER OF PIPE TO TRENCH WALL IS MAINTAINED.
7. COMPACTION ABOVE THE SPRING LINE OF THE PIPE SHOULD START FROM THE TRENCH WALL AND WORK TOWARDS THE PIPE. DO NOT COMPACT DIRECTLY ON TOP OF THE PIPE UNTIL SUFFICIENT COVER IS PROVIDED.
8. INSTALLATION SHALL BE IN ACCORDANCE WITH MDSA STANDARDS FOR CONSTRUCTION SECTION 301 AND AS SPECIFIED HEREIN. IF THERE ARE ANY CONFLICTS IN REQUIREMENTS, THE MORE STRINGENT REQUIREMENT SHALL APPLY.
9. CONTRACTOR SHOULD VISUALLY VERIFY QUALITY OF INSTALLATION IMMEDIATELY FOLLOWING PLACEMENT OF FINAL BACKFILL.
10. MINIMUM COVER SHALL BE 12" FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT SECTION FOR H-25 LIVE LOAD APPLICATIONS. FOR 60" DIA. PIPE, MINIMUM COVER SHALL BE 24" FOR H-25 LOADING.
11. SHALLOW BURIED PIPES SHALL BE PROTECTED DURING CONSTRUCTION FROM EXCESSIVE CONSTRUCTION LOADS.
12. PIPES GREATER THAN 24-INCHES SHALL BE INSPECTED FOR LINE AND GRADE. PIPES 24-INCHES AND SMALLER SHALL BE MANDREL TESTED.
13. ALL JOINTS SHALL BE GASKETTED AND SILT TIGHT.

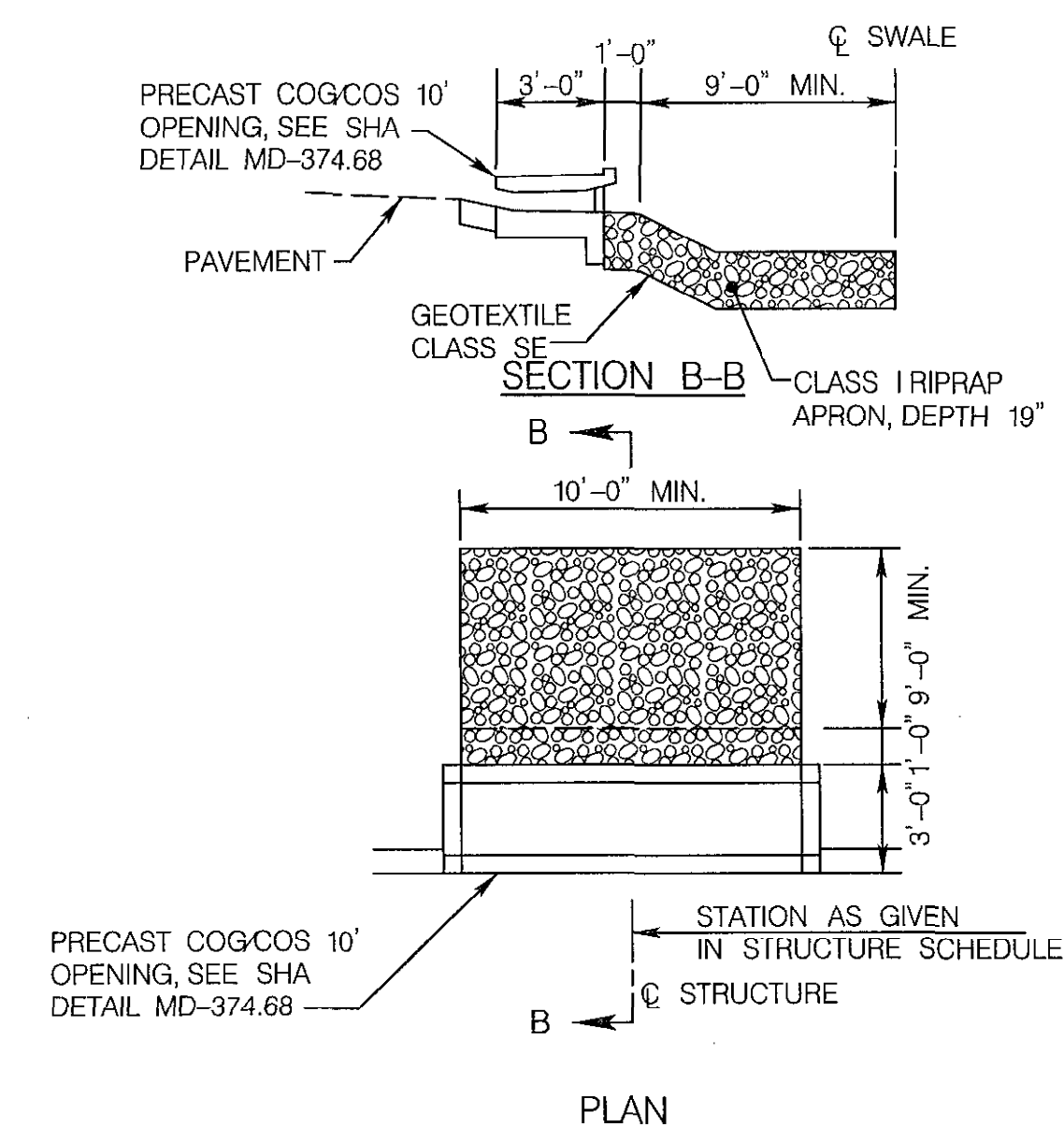
TYPICAL RIPRAP OUTFALL PROTECTION

NOT TO SCALE



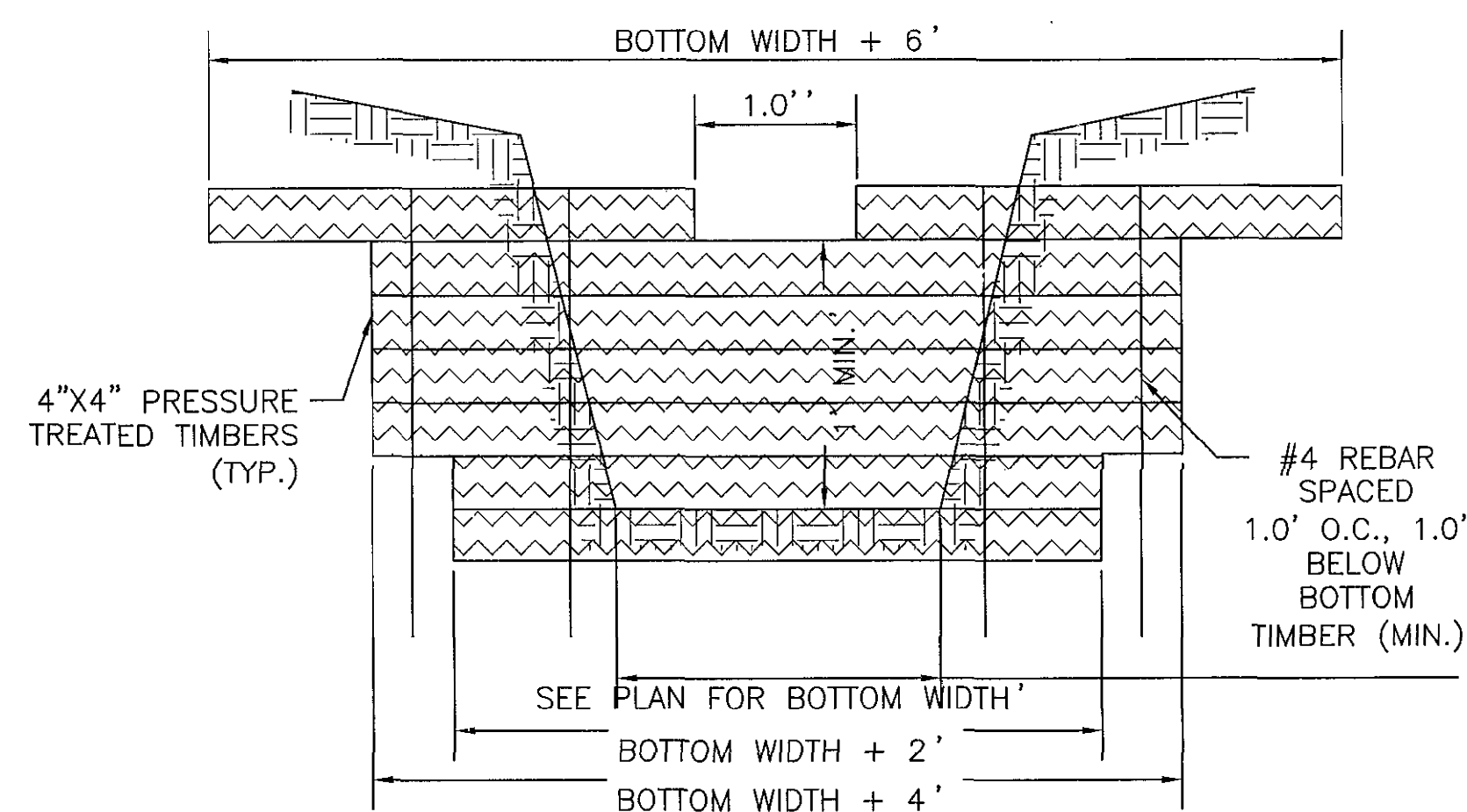
TYPICAL COG/COS OPENING INLET OUTFALL PROTECTION

NOT TO SCALE



TIMBER CHECK DAM

NOT TO SCALE



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PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231



DES:	CYH				
DRN:	CYH				
CHK:	AJO				
DATE:	7/1/2014	BY:	NO.	REVISION	DATE

DRAINAGE DETAILS

BLANDAIR REGIONAL PARK
PHASE J - SOUTH
CAPITAL PROJECT # J-4237

DWG.
DD-01

SCALE
AS SHOWN

SHEET
45 OF 138

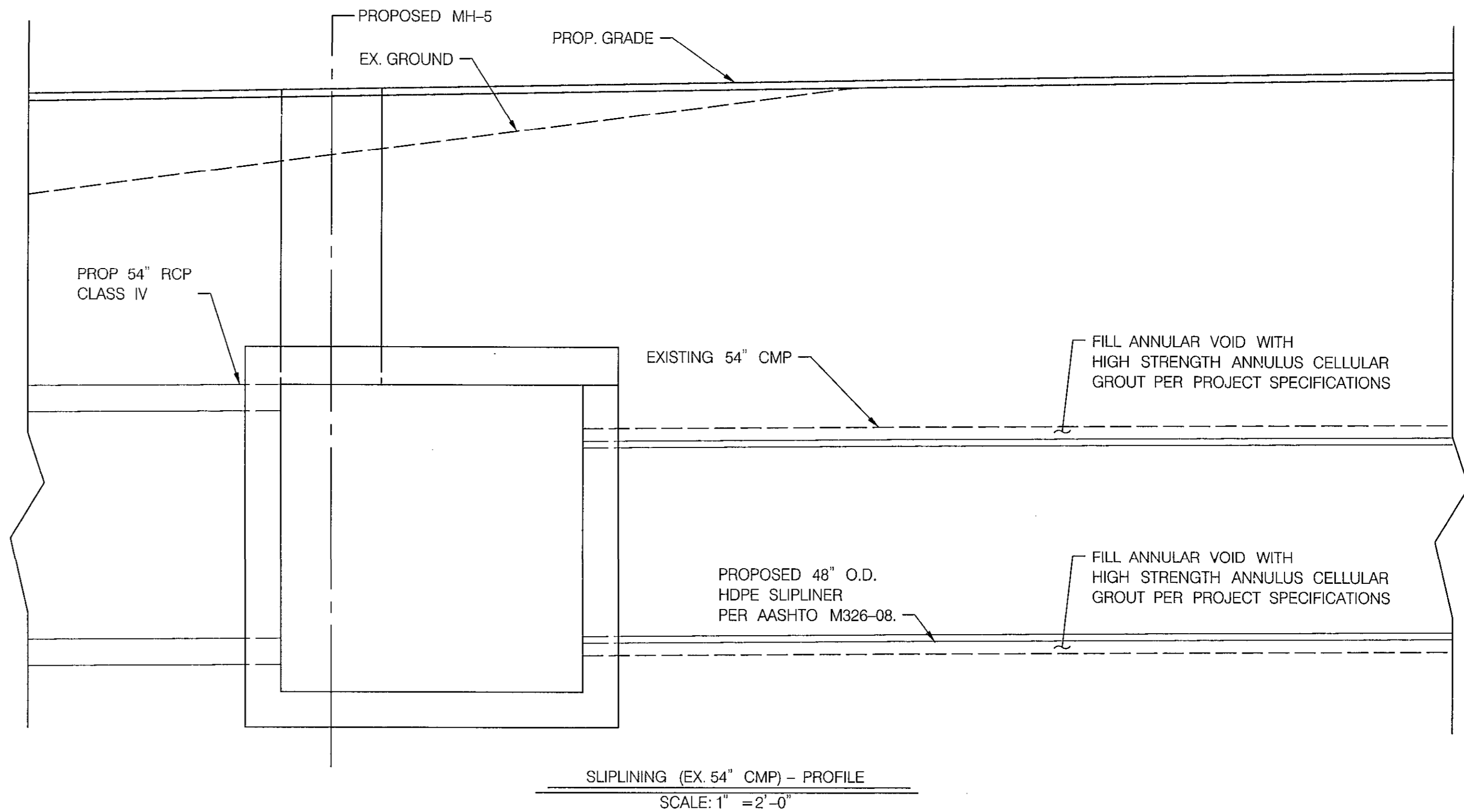
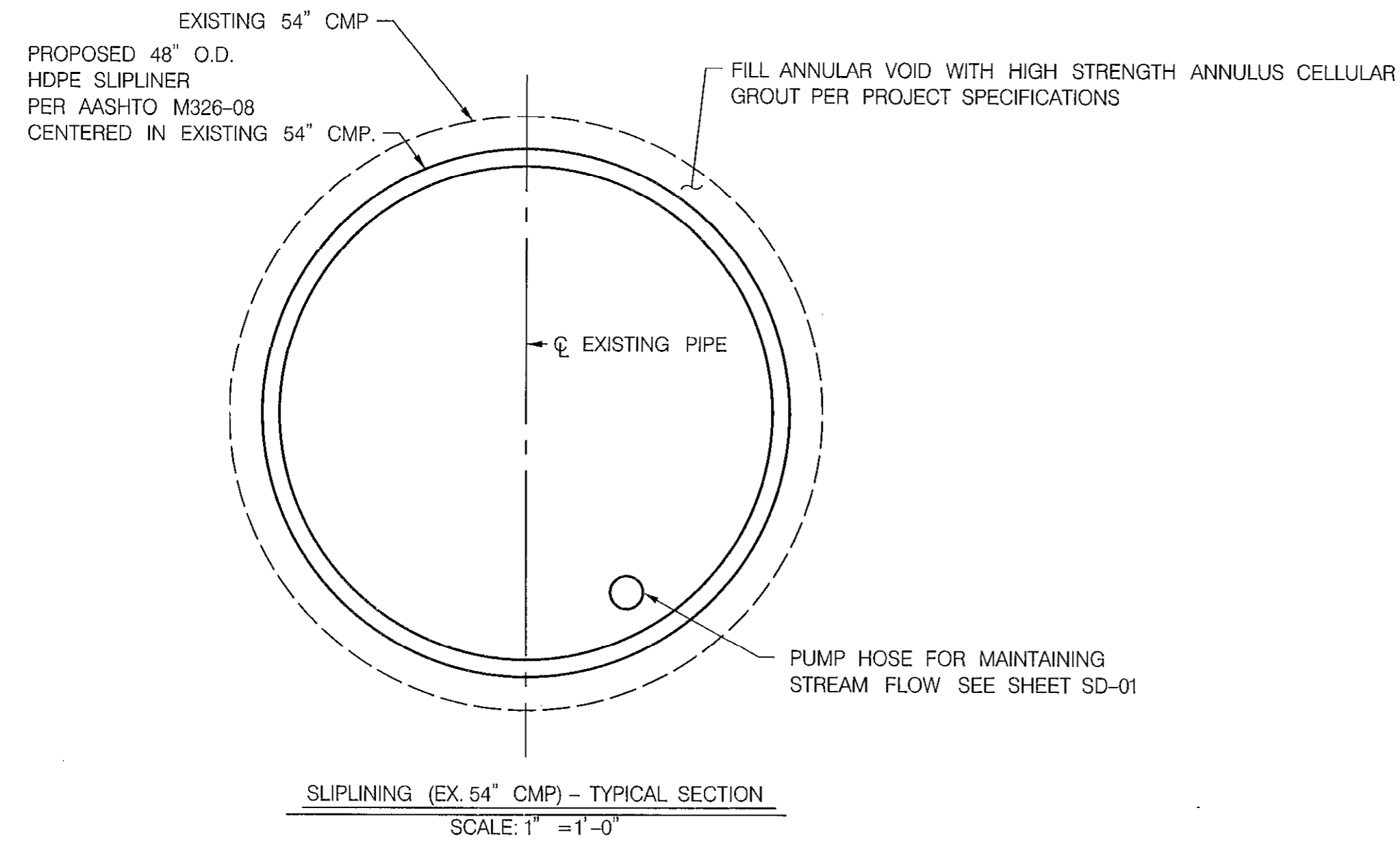
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

Director of Public Works: *[Signature]* 7/15/14
DATE: 7/15/14

Chief, Bureau of Engineering: *[Signature]* 7/15/14
DATE: 7/15/14

Chief, Transportation and Special Projects Division: *[Signature]* 7/15/14
DATE: 7/15/14

TAX MAP 36 BLOCK NO. 5 ELECTION DISTRICT 3 / 7 HOWARD COUNTY, MARYLAND



STRUCTURE NO.	MDSHA SMALL STRUC. 13050X0
# OF PIPES TO BE SLIPLINED	1
LENGTH OF PIPES TO BE SLIPLINED	131 LF
DIAM. OF PIPE	EX 54" I.D./PROP 48" O.D.

GENERAL NOTES

SPECIFICATIONS: SHA SPECIFICATIONS DATED JULY, 2008 REVISIONS THEREOF AND ADDITIONS THERETO AND PROJECT SPECIAL PROVISIONS

GROUT: REFER TO PROJECT SPECIFICATIONS

EXISTING STRUCTURE: ALL DIMENSIONS AFFECTED BY THE GEOMETRICS, AND/OR LOCATION OF THE EXISTING STRUCTURE SHALL BE CHECKED BY THE CONTRACTOR BEFORE ANY WORK IS DONE, AND BEFORE ANY MATERIAL IS ORDERED OR FABRICATED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SUPPLY THE ENGINEER WITH ALL FIELD DIMENSIONS REQUIRED TO CHECK ALL SUBMITTED DRAWINGS.

EXISTING STRUCTURE SHOWN IN DASHED LINES

FINISHED SLOPE OF SLIPLINED INSERT SHALL MATCH THE EXISTING.

ALL EXISTING PIPE CONNECTIONS TO THE EXISTING STRUCTURE SHALL BE MAINTAINED, CONNECTING TO THE PROPOSED PIPE LINER.

PIPE JOINTS: PIPE JOINTS SHALL BE WATER TIGHT WITH GASKETS AND COMPLY WITH ASTM D-3212 PER THE PROJECT SPECIFICATIONS.

MAINTENANCE OF TRAFFIC: SEE MAINTENANCE OF TRAFFIC PLANS MT - 1.01 THROUGH MT - 2B.02

SEQUENCE OF CONSTRUCTION

1. NOTIFY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT (SCD) A MINIMUM OF TEN (10) DAYS PRIOR TO THE START OF CONSTRUCTION.
2. INSTALL SEDIMENT CONTROL AND MAINTENANCE OF STREAM FLOW DEVICES PER SHEET SD-01. THE STREAM DIVERSION SHOULD ENSURE A REASONABLY DRY WORK AREA IS CONTINUOUSLY MAINTAINED DURING CONSTRUCTION OF THE SLIP LINING AND THAT EXCESS SEDIMENT IS CONTAINED WITHIN THE LIMITS OF DISTURBANCE. THE CONTRACTOR WILL BE RESPONSIBLE FOR 24-HOUR PUMPING OPERATIONS. THE CONTRACTOR IS ADVISED THAT EVEN SMALL AMOUNTS OF PRECIPITATION CAN CAUSE FLASH FLOODING AT ANY TIME. THE CONTRACTOR SHALL OBTAIN UPDATED WEATHER REPORTS EACH MORNING AND AFTERNOON, AND MORE OFTEN WHEN PRECIPITATION IS IN THE FORECAST OR APPEARS IMMINENT IN THE AREA OF WORK OR ANY SURROUNDING AREA THAT RUNOFF MAY HAVE AN ADVERSE AFFECT ON THE PROJECT SITE.
3. WATER BLAST CLEAN THE ENTIRE AREA TO BE LINED, (MINIMUM PRESSURE OF 4000 PSI AT THE NOZZLE USING A ROTARY NOZZLE). ALL DEBRIS, RUST LAYERS, ASPHALT COATING, ETC IN AREA OF REPAIR SHALL BE REMOVED AND PROPERLY DISPOSED OF AT AN APPROVED SITE.
4. AFTER AREA TO BE LINED IS CLEAN AND DRY, LINER PIPE SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. LINER PIPE GRADE SHALL BE MAINTAINED PARALLEL TO THE GRADE OF THE HOST PIPE. LINER INSTALLATION SHALL BEGIN DOWNSTREAM AND PROCEED IN AN UPSTREAM MANNER. THE PROPOSED LINER PIPE SHALL BE CONNECTED TO PROPOSED MH-5 USING MIX 2 CONCRETE.
5. ONCE LINER IS IN PLACE OR PORTION OF LINER IS IN PLACE, BULKHEAD DOWNSTREAM END AND BACKFILL ANNULAR VOID WITH CELLULAR GROUT PER THE PROJECT SPECIFICATIONS. GROUT SHALL CURE FOR A MINIMUM OF 36 HOURS PRIOR TO LETTING WATER FLOW THROUGH THE CULVERT. NOTE THE LINER INSTALLATION AND GROUTING PROCESS MAY PROCEED UPSTREAM IN SECTIONS PER THE MANUFACTURER'S RECOMMENDATIONS.
6. UPON STABILIZATION OF ANY DISTURBANCE AND WITH APPROVAL OF THE SCD INSPECTOR, REMOVE ALL EROSION AND SEDIMENT CONTROL, DEWATERING DEVICES INSTALLED FOR THE LINING OPERATION AND IMMEDIATELY STABILIZE ANY AREAS DISTURBED IN THE PROCESS.

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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

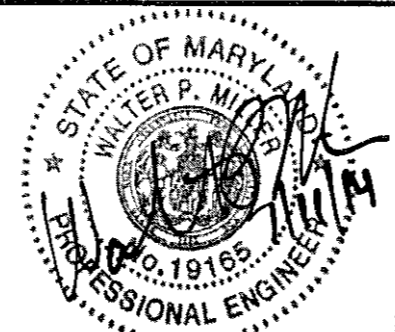
[Signature] 7/11/14
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 7/11/14
CHIEF, BUREAU OF HIGHWAYS DATE

[Signature] 7/11/14
CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 7/11/14
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

PREPARED BY :
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231



DES:	CSC				
DRN:	CSC				
CHK:	JDC				
DATE:	7/11/2014	BY:		NO.:	
		REVISION:		DATE:	

TAX MAP	36	BLOCK NO.	5
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DRAINAGE DETAILS

**BLANDAIR REGIONAL PARK
PHASE J - SOUTH**

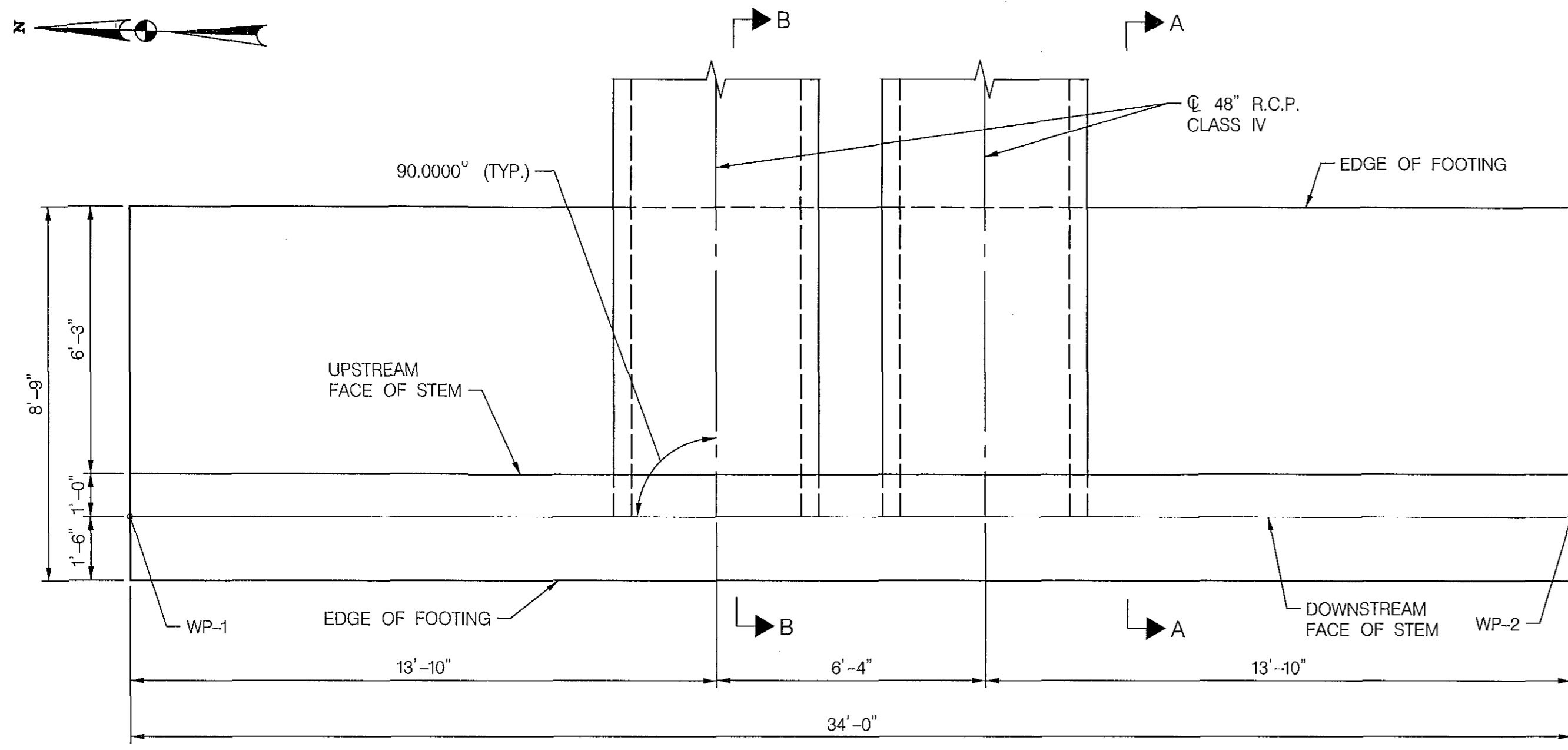
CAPITAL PROJECT # J-4237

ELECTION DISTRICT 3 / 7 HOWARD COUNTY, MARYLAND

DWG. DD-02

SCALE AS SHOWN

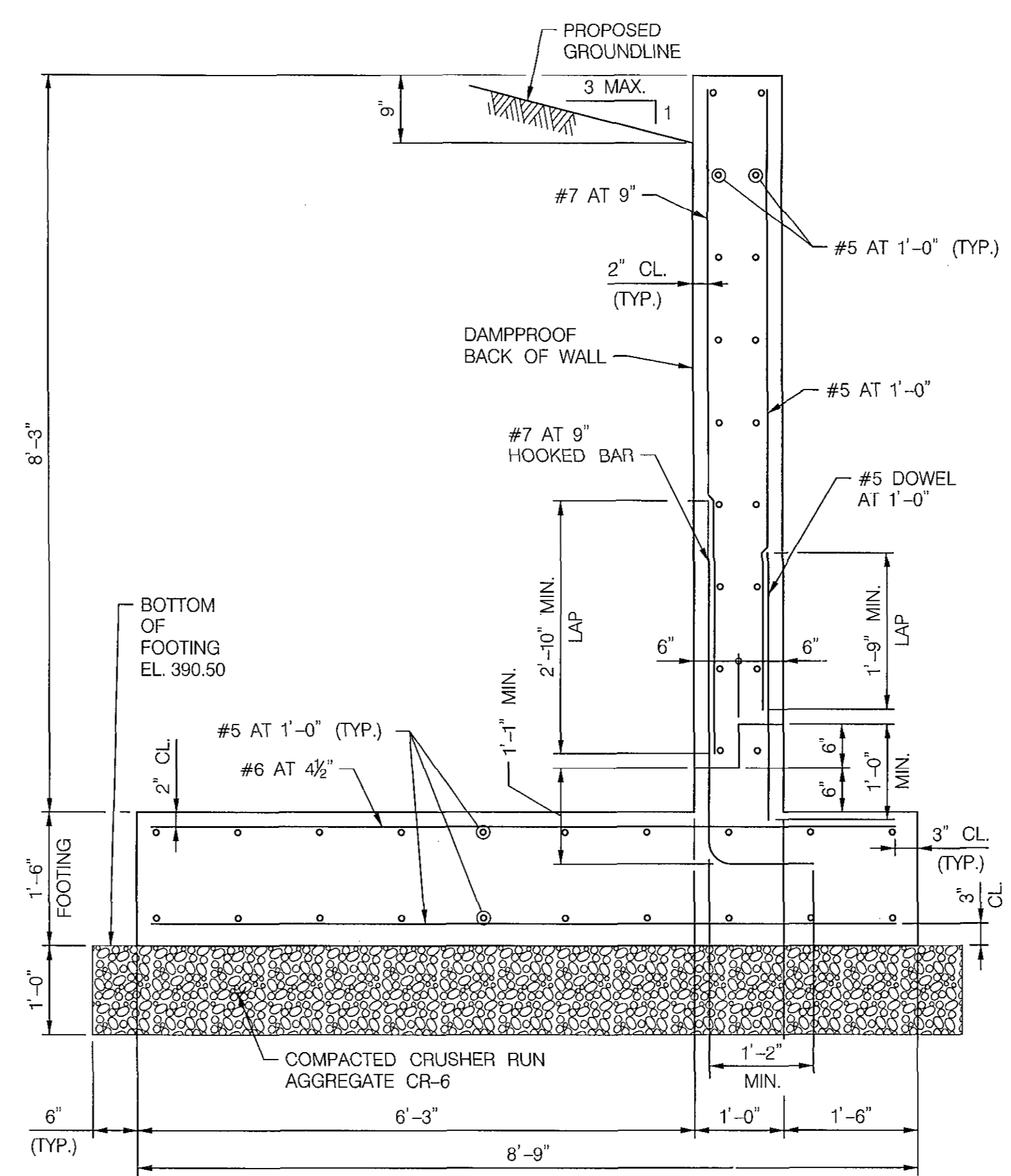
SHEET 46 OF 138



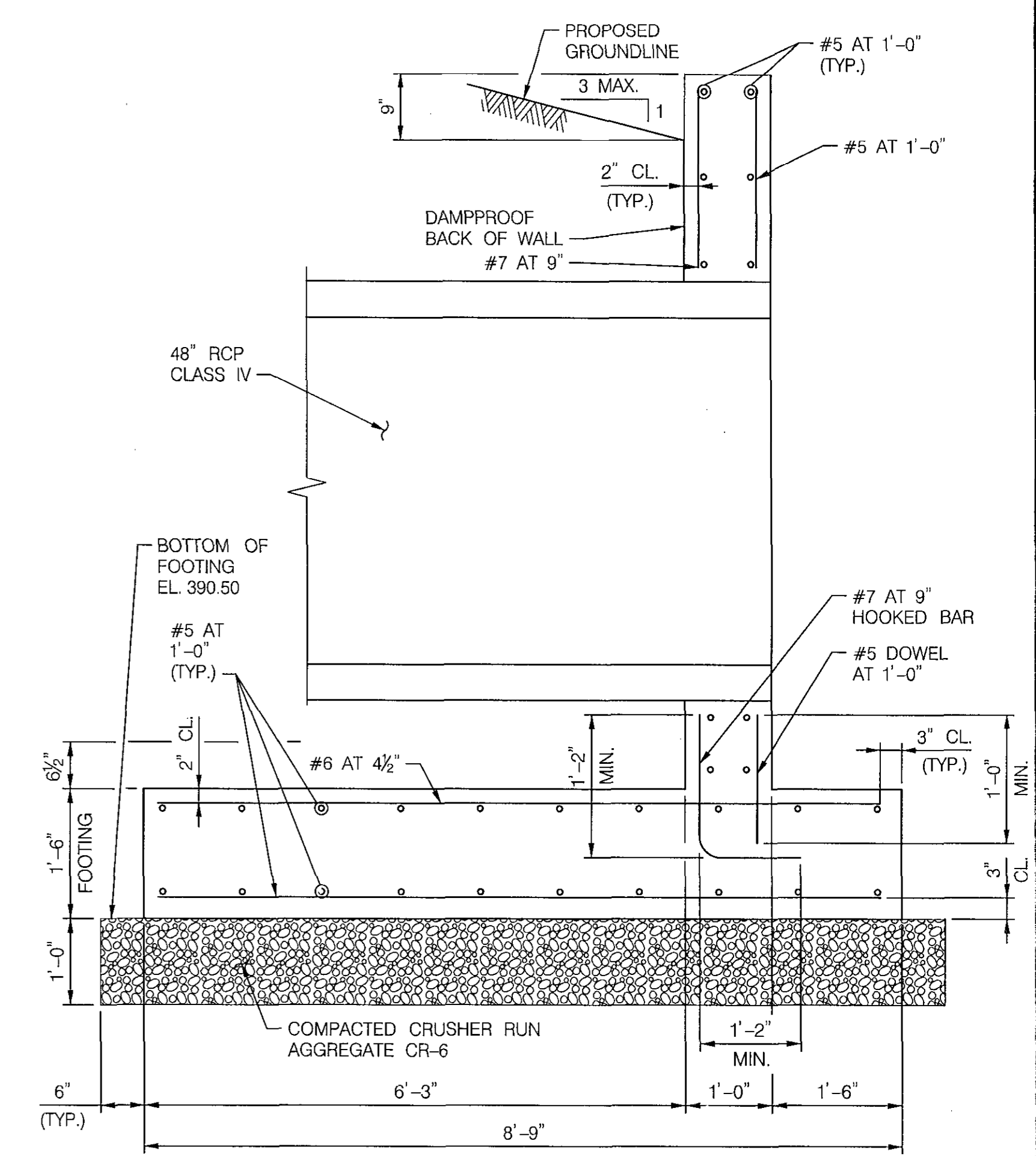
PLAN
SCALE: 3/8" = 1'-0"

WORKING POINT COORDINATES		
WORKING POINT	NORTHING	EASTING
WP-1	563,089.4486	1,359,181.5954
WP-2	563,055.4739	1,359,182.9077

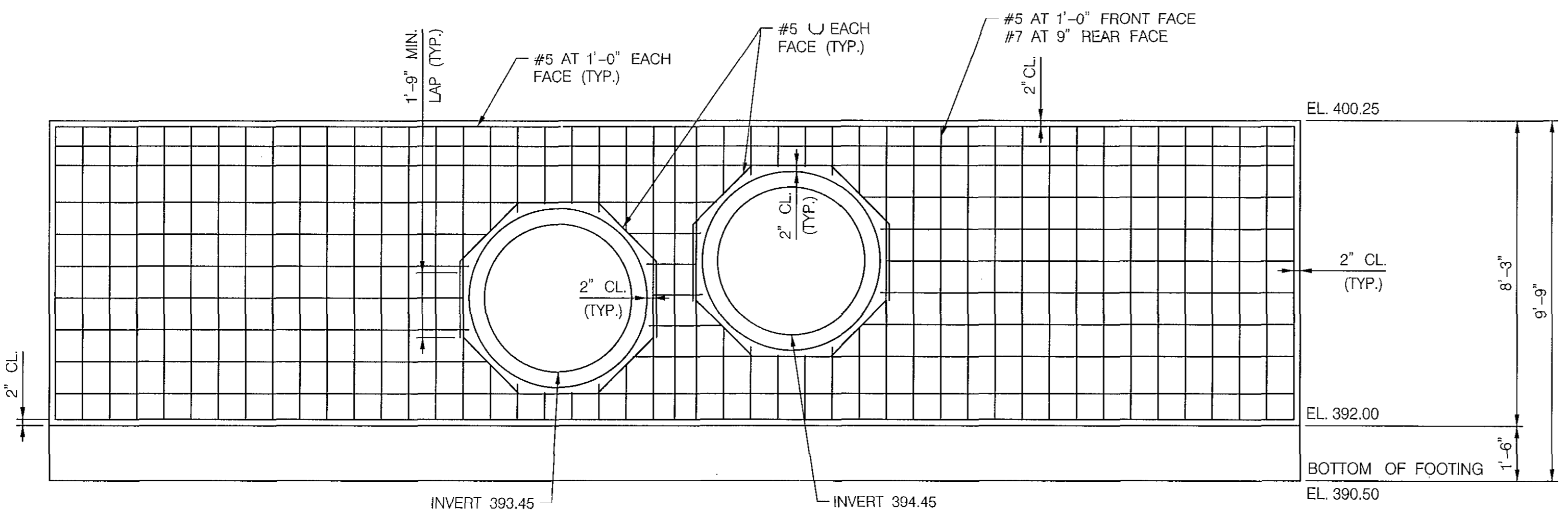
- NOTES:
1. REINFORCEMENT NOT SHOWN FOR CLARITY.
 2. PLACE 19" OF CLASS I RIPRAP LEVEL WITH INVERT OF SOUTH PIPE EL. 394.45. BACKFILL FROM TOP OF FOOTING TO BOTTOM OF RIPRAP.



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



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



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

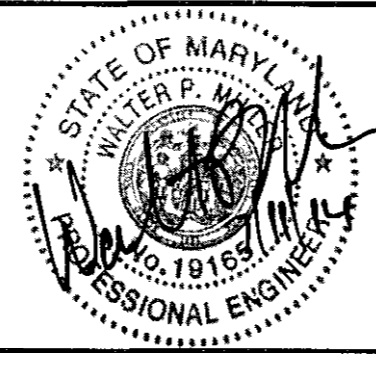
- NOTES:
1. THE MAXIMUM DESIGN BEARING PRESSURE FOR WALL IS 2 KSF.
 2. THE CONTRACTOR HAS THE OPTION OF LAPPING STEM REINFORCEMENT AND DOWELS AS SHOWN OR EXTENDING DOWEL REINFORCEMENT WITHNO SPLICING.
 3. DOWNSTREAM RIPRAP NOT SHOWN FOR CLARITY.
 4. CONTRACTOR SHALL BACKFILL BETWEEN DRAINAGE PIPES WITH FLOWABLE FILL MATERIAL TO TOP OF PIPES. THE PIPES SHALL BE SET IN A CRADLE OF MIX NO.1 CONCRETE IN ACCORDANCE WITH THE SPECIFICATIONS. FLOWABLE FILL MATERIAL SHALL MEET THE REQUIREMENTS OF SECTION 314.

- NOTES:
1. FOOTING AND DOWEL REINFORCEMENT NOT SHOWN FOR CLARITY.
 2. PLACE 19" OF CLASS I RIPRAP LEVEL WITH INVERT OF SOUTH PIPE, EL. 394.45. BACKFILL FROM TOP OF FOOTING TO BOTTOM OF RIPRAP.

- GENERAL NOTES:
- SPECIFICATIONS:
- HOWARD COUNTY STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION - VOLUME IV DATED MAY, 2007.
 - REVISIONS THEREOF AND ADDITIONS THERETO AND SPECIAL PROVISIONS FOR MATERIALS AND CONSTRUCTION.
- ENDWALL SHALL CONFORM TO SECTION 305.
- CRUSHER RUN AGGREGATE CR-6 SHALL CONFORM TO SECTION 302.
- AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DATED 2002 FOR DESIGN.
- CONCRETE DESIGN: $f_c = 1200$ psi FOR ENDWALL.
- REINFORCING STEEL DESIGN: $f_s = 24,000$ psi FOR ENDWALL.
- CONCRETE: ALL STRUCTURE CONCRETE SHALL BE MIX NO.3 (3500 PSI).
- REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO A615, GRADE 60. ALL SPLICES, NOT SHOWN, SHALL BE LAPPED AS PER BAR LAP CHARTS. MINIMUM COVER FOR ANY BAR SHALL BE 2" UNLESS OTHERWISE NOTED, WITH THE EXCEPTION OF BARS AT THE BOTTOM AND SIDES OF ALL FOOTINGS WHICH SHALL HAVE 3" MINIMUM COVER.
- ONLY GRADE 60 CAN BE USED ON THIS PROJECT.
- KEYS: ALL KEYS ARE NOMINAL SIZE.

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PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231



DES: LMB
DRN: LMB
CHK: PSD
DATE: 7/1/2014

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

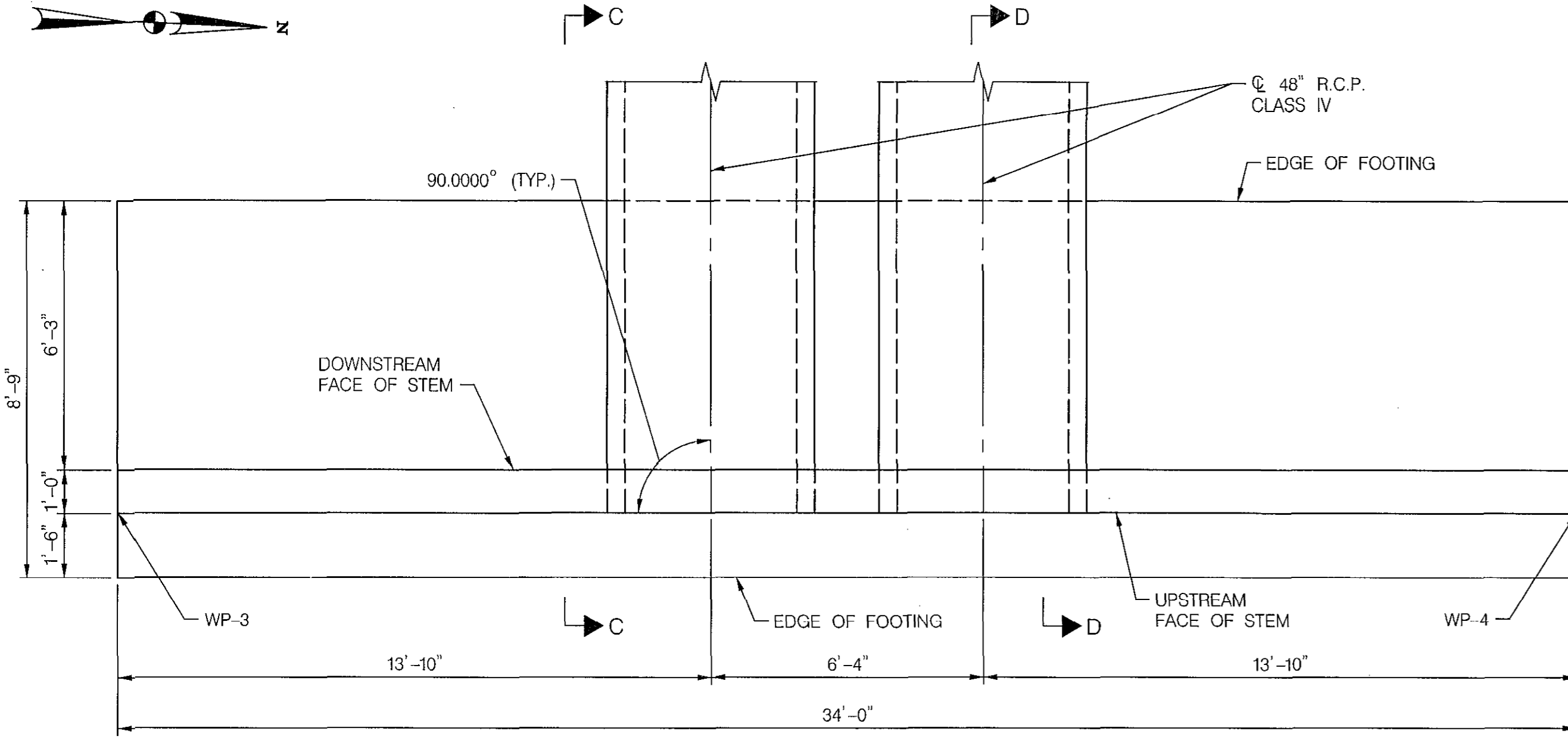
Director of Public Works: *Halger Serrano* 7/11/14
Chief, Bureau of Engineering: *Thomas R. Butler* 7/11/14
Chief, Transportation and Special Projects Division: *Steve Shanon* 7/11/14

ENDWALL DETAILS
EW-4

BLANDAIR REGIONAL PARK
PHASE J - SOUTH
CAPITAL PROJECT # J-4237

TAX MAP 36 BLOCK NO. 5 ELECTION DISTRICT 3 / 7 HOWARD COUNTY, MARYLAND

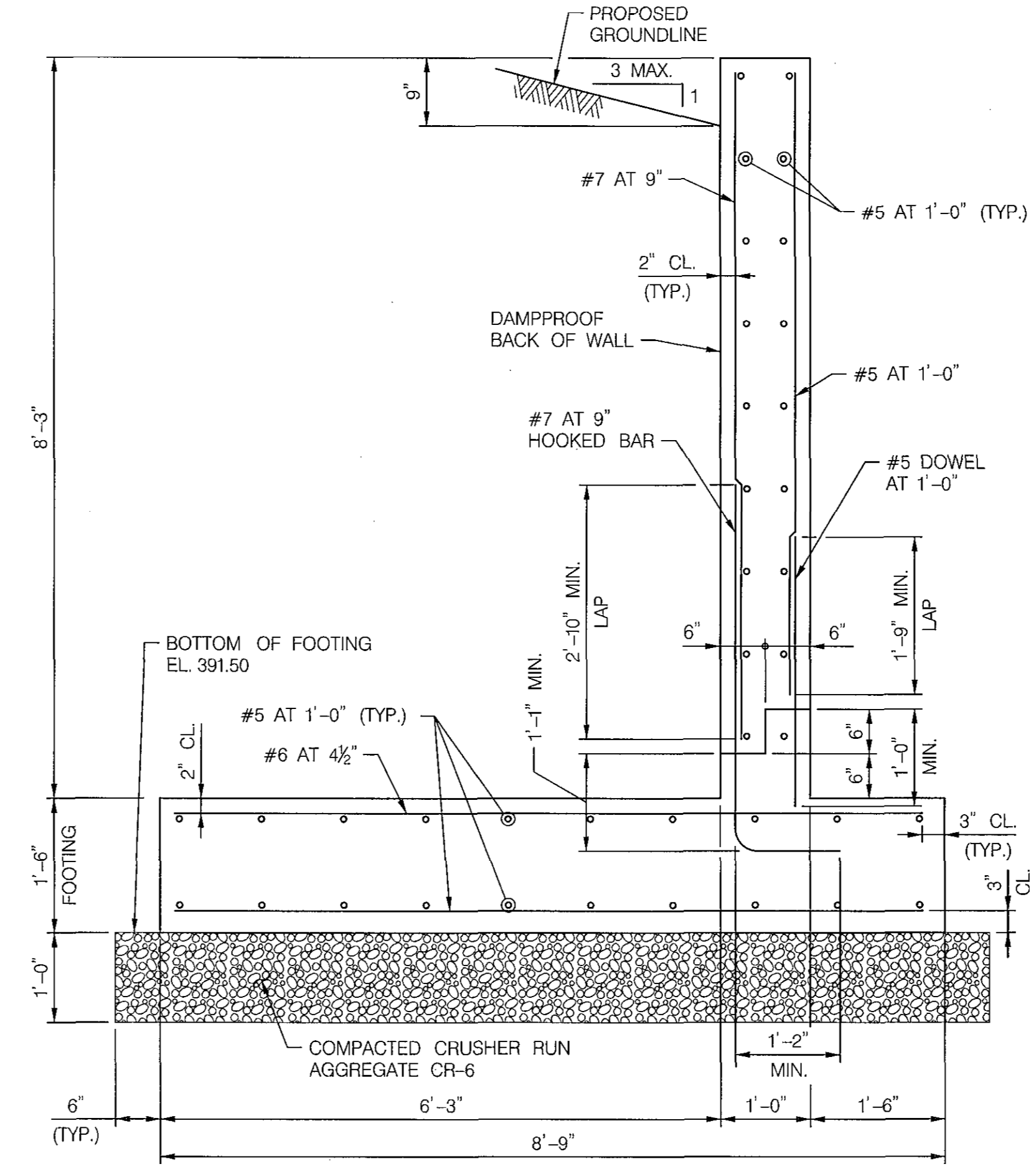
DWG. DD-03
SCALE AS SHOWN
SHEET 47 OF 138



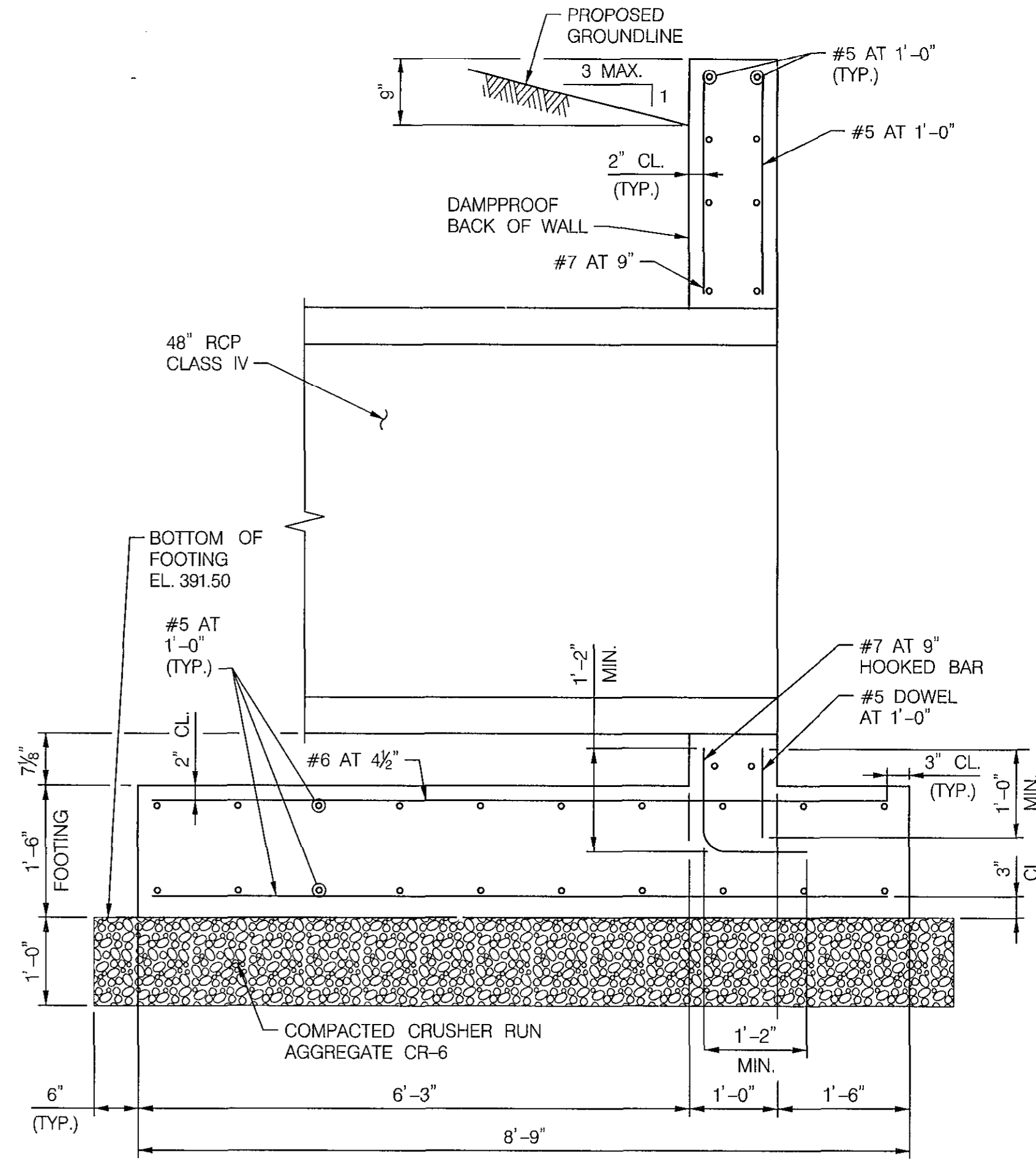
PLAN
SCALE: 3/8" = 1'-0"

WORKING POINT COORDINATES		
WORKING POINT	NORTHING	EASTING
WP-3	563,060.1057	1,359,302.8183
WP-4	563,094.0804	1,359,301.5060

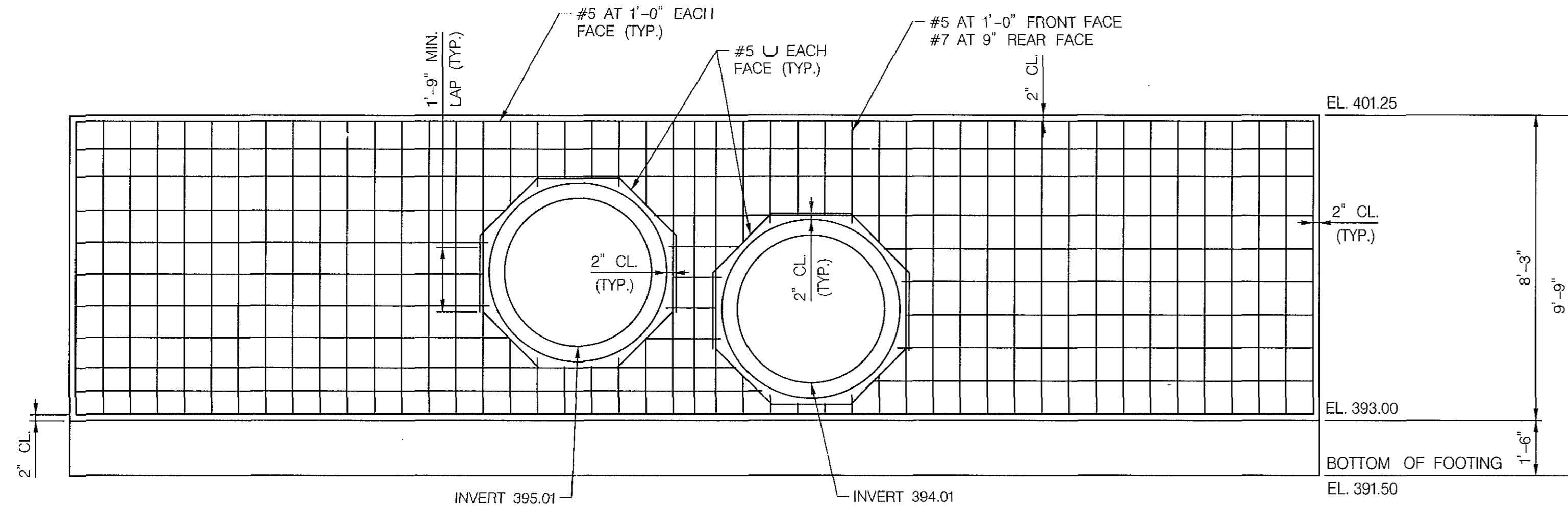
- NOTES:
1. REINFORCEMENT NOT SHOWN FOR CLARITY.
 2. PLACE 19" OF CLASS I RIPRAP LEVEL WITH INVERT OF SOUTH PIPE, EL. 395.01. BACKFILL FROM TOP OF FOOTING TO BOTTOM OF RIPRAP.



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



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



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

- NOTES:
1. THE MAXIMUM DESIGN BEARING PRESSURE FOR WALL IS 2 KSF.
 2. THE CONTRACTOR HAS THE OPTION OF LAPPING STEM REINFORCEMENT AND DOWELS AS SHOWN OR EXTENDING DOWEL REINFORCEMENT WITH NO SPLICING.
 3. UPSTREAM RIPRAP NOT SHOWN FOR CLARITY.
 4. CONTRACTOR SHALL BACKFILL BETWEEN DRAINAGE PIPES WITH FLOWABLE FILL MATERIAL TO TOP OF PIPES. THE PIPES SHALL BE SET IN A CRADLE OF MIX NO. 1 CONCRETE IN ACCORDANCE WITH THE SPECIFICATIONS. FLOWABLE FILL MATERIAL SHALL MEET THE REQUIREMENTS OF SECTION 314.

- NOTES:
1. FOOTING AND DOWEL REINFORCEMENT NOT SHOWN FOR CLARITY.
 2. PLACE 19" OF CLASS I RIPRAP LEVEL WITH INVERT OF SOUTH PIPE, EL. 395.01. BACKFILL FROM TOP OF FOOTING TO BOTTOM OF RIPRAP.

- GENERAL NOTES:
- SPECIFICATIONS:
- HOWARD COUNTY STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION - VOLUME IV DATED MAY, 2007.
 - REVISIONS THEREOF AND ADDITIONS THERETO AND SPECIAL PROVISIONS FOR MATERIALS AND CONSTRUCTION.
- ENDWALL SHALL CONFORM TO SECTION 305.
- CRUSHER RUN AGGREGATE CR-6 SHALL CONFORM TO SECTION 302.
- AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DATED 2002 FOR DESIGN.
- CONCRETE DESIGN: $f_c = 1200$ psi FOR ENDWALL.
- REINFORCING STEEL DESIGN: $f_s = 24,000$ psi FOR ENDWALL.
- CONCRETE: ALL STRUCTURE CONCRETE SHALL BE MIX NO. 3 (3500 PSI).
- REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO A615, GRADE 60. ALL SPLICES, NOT SHOWN, SHALL BE LAPPED AS PER BAR LAP CHARTS. MINIMUM COVER FOR ANY BAR SHALL BE 2" UNLESS OTHERWISE NOTED, WITH THE EXCEPTION OF BARS AT THE BOTTOM AND SIDES OF ALL FOOTINGS WHICH SHALL HAVE 3" MINIMUM COVER.
- ONLY GRADE 60 CAN BE USED ON THIS PROJECT.
- KEYS: ALL KEYS ARE NOMINAL SIZE.

"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. 19165, EXPIRATION DATE: 06/11/2015."

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

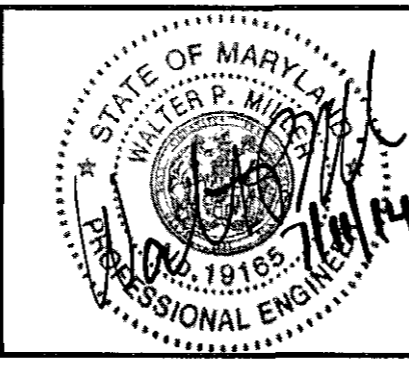
John A. ... 7/15/14
DIRECTOR OF PUBLIC WORKS DATE

Thomas B. Butcher 7/15/14
CHIEF, BUREAU OF ENGINEERING DATE

Steve Sharan 7/15/14
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231

WR&A



DES: LMB
DRN: LMB
CHK: PSD
DATE: 7/11/2014

ENDWALL DETAILS
EW-5

BLANDAIR REGIONAL PARK
PHASE J - SOUTH
CAPITAL PROJECT # J-4237

TAX MAP 36 BLOCK NO. 5 ELECTION DISTRICT 3 / 7 HOWARD COUNTY, MARYLAND

DWG.
DD-04

SCALE
AS SHOWN

SHEET
48 OF 138

PIPE SCHEDULE						
FROM	TO	SIZE	TYPE	LENGTH	INV.US	INV.DS
I-92	MH-91	18"	RCP CL IV	27'	407.41'	407.16'
I-91	MH-91	15"	RCP CL IV	9'	407.50'	407.43'
I-93A	I-93	15"	RCP CL IV	43'	407.50'	406.07'
I-93	EMH-93	18"	RCP CL IV	142'	406.82'	406.11'
I-94	EMH-94	27"	RCP CL IV	59'	405.49'	405.23'
SWM-3	I-94	27"	RCP CL III	67'	405.89'	405.59'
-	I-96	6"	CPP-SP	88'	-	408.0'
-	I-96	6"	CPP-SP	85'	-	408.0'
I-96	MH-90	15"	RCP CL IV	33'	407.90'	407.35'
I-97	ES-9	18"	RCP CL IV	150'	412.73'	412.00'
MH-93	I-97	18"	CPP-SP	71'	414.57'	412.83'
I-98	MH-93	15"	CPP-SP	63'	416.51'	414.82'
-	I-98	6"	CPP-SP	168'	-	417.27'
I-110	I-97	15"	RCP CL IV	36'	413.68'	412.98'
I-109	I-107	15"	CPP-S	189'	417.98'	411.12'
I-107	MH-90	18"	CPP-S	157'	410.87'	407.21'
MH-90	I-105	18"	CPP-S	57'	407.11'	406.84'
I-105	EMH-94	18"	CPP-S	115'	406.74'	405.98'

PS-02

PIPE SCHEDULE						
FROM	TO	SIZE	TYPE	LENGTH	INV.US	INV.DS
-	MH-21	6"	CPP-SP	168'	401.67'	396.37'
I-15	I-23	18"	RCP CL IV	84'	397.33'	396.93'
I-23	MH-21	18"	RCP CL IV	70'	396.83'	396.37'
MH-21	MH-20	21"	CPP-S	73'	396.11'	395.77'
MH-20	I-71	21"	CPP-S	73'	395.67'	395.23'
I-71	ES-53	21"	CPP-S	22'	395.13'	395.00'
I-17B	I-17A	18"	CPP-SP	88'	402.87'	399.55'
I-17A	MH-14	18"	CPP-SP	84'	399.45'	397.60'
MH-14	I-17	18"	CPP-SP	35'	397.50'	397.25'
I-17	I-16	21"	CPP-S	76'	397.00'	396.75'
-	I-16	6"	CPP-SP	59'	-	397.99'
I-16	I-16A	30"	RCP CL IV	72'	396.02'	395.63'
I-16A	ES-4	30"	RCP CL IV	68'	395.53'	395.20'
I-19	ES-10	15"	CPP-S	18'	400.27'	400.10'
I-20	ES-11	15"	CPP-S	23'	403.21'	403.00'
-	I-11	6"	CPP-SP	312'	-	403.80'
I-11	I-11A	18"	CPP-S	20'	403.70'	403.61'
I-11A	ES-13	18"	RCP CL IV	64'	403.51'	402.31'
I-12	ES-14	15"	RCP CL IV	153'	401.41'	399.87'
-	I-12	6"	CPP-SP	108'	-	401.05'

PS-04

PIPE SCHEDULE						
FROM	TO	SIZE	TYPE	LENGTH	INV.US	INV.DS
-	I-79	6"	CPP-SP	159'	-	416.92'
I-79	I-78	15"	CPP-SP	177'	414.11'	416.17'
I-62	MH-95	18"	RCP CL IV	49'	413.03'	411.99'
I-78	MH-95	18"	CPP-SP	107'	413.86'	411.99'
MH-95	I-77	18"	CPP-SP	81'	411.89'	410.66'
I-77	I-76	18"	RCP CL IV	39'	410.56'	409.97'
I-76	MH-94	18"	CPP-SP	96'	409.87'	408.44'
MH-94	I-75	24"	CPP-SP	165'	407.94'	405.33'
-	I-50	6"	CPP-SP	118'	410.37'	408.19'
I-50	I-53	15"	RCP CL IV	100'	408.09'	406.60'
I-53	ES-56	18"	RCP CL IV	144'	402.75'	402.03'
I-75	ES-50	24"	CPP-S	119'	402.63'	402.03'
-	I-54	6"	CPP-SP	208'	-	400.01'
I-54	ES-51	15"	RCP CL IV	96'	399.93'	399.5'
SWM-2	ES-55	30"	RCP ASTM C-361	48'	398.50'	397.42'
I-70	ES-54	15"	CPP-S	22'	395.46'	395.36'
I-52	ES-52	15"	RCP CL IV	46'	414.20'	414.0'
I-111	MH-94	15"	RCP CL IV	32'	409.56'	408.69'

PS-03

DRAINAGE STRUCTURE SCHEDULE					
STRUCTURE NO.	STATION	OFFSET	MD. STANDARD NO./TYPE	T.S.	REMARKS
I-91	1101+94	16' LT	HO CO D-4.03 PRECAST A-10 INLET	413.44	OAKLAND MILLS ROAD
MH-91	1101+94	8' LT	HO CO G-5.12 PRECAST MANHOLE	413.00'	OAKLAND MILLS ROAD
I-92	1101+92	16' RT	MD STD NO. 374.68 10' PRECAST OR CAST-IN-PLACE SQUARE AND RECTANGULAR COS INLETS	413.41'	OAKLAND MILLS ROAD
I-93	601+47	20' RT	HO CO D-4.03 PRECAST A-10 INLET	415.45'	OLD MONTGOMERY ROAD
I-94	1200+80	20' RT	HO CO D-4.03 PRECAST A-10 INLET	413.51'	OAKLAND MILLS ROAD
I-105	1202+01	25' LT	HO CO D-4.03 PRECAST A-10 INLET	412.58'	OAKLAND MILLS ROAD
I-103	1202+00	4' RT	MD STD NO. 374.68 10' PRECAST OR CAST-IN-PLACE COG / COS OPENING	412.62'	OAKLAND MILLS ROAD
MH-90	1202+65	32' LT	HO CO G-5.12 PRECAST MANHOLE	413.12'	OAKLAND MILLS ROAD
SWM-3	1201+28	68' RT	SEE DETAIL SW-06		OAKLAND MILLS ROAD
I-96	1202+69	0'	HO CO D-4.10 PRECAST TYPE D INLET	413.33'	OAKLAND MILLS ROAD
I-104	1203+16	8' RT	MD STD NO. 374.68 10' PRECAST OR CAST-IN-PLACE COG / COS OPENING	413.66'	OAKLAND MILLS ROAD
ES-9	1203+59	44' RT	HO CO D-5.51 CONCRETE END SECTION	413.53'	OAKLAND MILLS ROAD
I-107	1204+31	28' LT	HO CO D-4.03 PRECAST A-10 INLET	416.50'	OAKLAND MILLS ROAD
I-97	1205+07	42' RT	HO CO D-4.10 PRECAST TYPE D INLET	418.83'	OAKLAND MILLS ROAD
I-110	1205+08	7' RT	HO CO D-4.10 PRECAST TYPE D INLET	421.07'	OAKLAND MILLS ROAD
I-100	1205+23	28' RT	MD STD NO. 374.68 10' PRECAST OR CAST-IN-PLACE COG / COS OPENING	418.92'	OAKLAND MILLS ROAD
MH-93	1205+78	41' RT	HO CO G-5.12 PRECAST MANHOLE	419.14'	OAKLAND MILLS ROAD
I-98	1206+42	41' RT	HO CO D-4.10 PRECAST TYPE D INLET	422.44'	OAKLAND MILLS ROAD
I-109	1206+23	28' LT	HO CO D-4.10 PRECAST TYPE D INLET	422.80'	OAKLAND MILLS ROAD
I-101	1206+23	28' RT	MD STD NO. 374.68 10' PRECAST OR CAST-IN-PLACE COG / COS OPENING	422.07'	OAKLAND MILLS ROAD
I-102	1207+23	28' RT	MD STD NO. 374.68 10' PRECAST OR CAST-IN-PLACE COG / COS OPENING	424.16'	OAKLAND MILLS ROAD
I-69	1208+90	28' RT	MD STD NO. 374.68 10' PRECAST OR CAST-IN-PLACE COG / COS OPENING	424.39'	OAKLAND MILLS ROAD
I-68	1209+84	28' RT	MD STD NO. 374.68 10' PRECAST OR CAST-IN-PLACE COG / COS OPENING	423.28'	OAKLAND MILLS ROAD
I-93A	601+47	20' LT	HO CO D-4.03 PRECAST A-10 INLET	415.45'	OLD MONTGOMERY ROAD
EMH-93	1200+00	29' LT	RAISE EXISTING MANHOLE TO PROPOSED GRADE	417.25'	OAKLAND MILLS ROAD

DRAINAGE STRUCTURE SCHEDULE					
STRUCTURE NO.	STATION	OFFSET	MD. STANDARD NO./TYPE	T.S.	REMARKS
I-71	1223+14	47' RT	HO CO D-4.10 PRECAST TYPE D INLET	400.33'	OAKLAND MILLS ROAD
MH-20	1223+89	52' RT	HO CO G-5.12 PRECAST MANHOLE	399.81'	OAKLAND MILLS ROAD
I-72	1223+20	17' RT	MD STD NO. 374.68 10' PRECAST OR CAST-IN-PLACE COG / COS OPENING	404.91'	OAKLAND MILLS ROAD
I-72A	1223+63	16' RT	MD STD NO. 374.68 10' PRECAST OR CAST-IN-PLACE COG / COS OPENING	405.91'	OAKLAND MILLS ROAD
I-73	1224+22	43' RT	MD STD NO. 374.68 10' PRECAST OR CAST-IN-PLACE COG / COS OPENING	406.94'	OAKLAND MILLS ROAD
MH-21	501+13	42' RT	HO CO G-5.12 PRECAST MANHOLE	401.31'	RAMP D
I-23	501+16	26' LT	HO CO D-4.10 PRECAST TYPE D INLET	402.33'	RAMP D
ES-4	1301+04	92' LT	HO CO D-5.51 CONCRETE END SECTION	397.69'	OAKLAND MILLS ROAD
I-16	1301+18	51' RT	HO CO D-4.10 PRECAST TYPE D INLET	402.83'	OAKLAND MILLS ROAD
I-19	1301+88	16' RT	HO CO D-4.03 PRECAST A-10 INLET	407.67'	OAKLAND MILLS ROAD
ES-10	1301+88	39' RT	HO CO D-5.51 CONCRETE END SECTION	401.35'	OAKLAND MILLS ROAD
I-17	1301+99	47' RT	HO CO D-4.10 PRECAST TYPE D INLET	403.33'	OAKLAND MILLS ROAD
MH-14	1302+41	41' RT	MD STD NO. 384.01 PRECAST MANHOLE	402.00'	OAKLAND MILLS ROAD
I-17A	1303+46	46' RT	HO CO D-4.10 PRECAST TYPE D INLET	405.27'	OAKLAND MILLS ROAD
ES-11	1303+40	41' RT	HO CO D-5.51 CONCRETE END SECTION	404.25'	OAKLAND MILLS ROAD
I-17B	1304+57	54' RT	HO CO D-4.10 PRECAST TYPE D INLET	408.69'	OAKLAND MILLS ROAD
I-20	1303+49	16' RT	HO CO D-4.03 PRECAST A-10 INLET	412.21'	OAKLAND MILLS ROAD
I-14	701+66	14' RT	MD STD NO. 374.68 10' PRECAST OR CAST-IN-PLACE COG / COS OPENING	414.42'	OAKLAND MILLS ROAD
I-13	703+03	14' RT	MD STD NO. 374.68 10' PRECAST OR CAST-IN-PLACE COG / COS OPENING	410.14'	OAKLAND MILLS ROAD
I-11	703+84	27' RT	HO CO D-4.10 PRECAST TYPE D INLET	408.37'	OAKLAND MILLS ROAD
I-11A	704+04	27' RT	HO CO D-4.10 PRECAST TYPE D INLET	408.58'	OAKLAND MILLS ROAD
ES-13	704+04	37' LT	HO CO D-5.51 CONCRETE END SECTION	403.81'	OAKLAND MILLS ROAD
I-12	707+04	22' RT	HO CO D-4.10 PRECAST TYPE D INLET	408.33'	OAKLAND MILLS ROAD
MH-15	707+22	24' LT	MD STD NO. 384.01 PRECAST MANHOLE	404.55'	OAKLAND MILLS ROAD
ES-14	707+70	133' LT	HO CO D-5.51 CONCRETE END SECTION	401.39'	OAKLAND MILLS ROAD
I-16A	1301+10	19' LT	HO CO D-4.03 PRECAST A-10 INLET	408.90'	OAKLAND MILLS ROAD

PIPE SCHEDULE						
FROM	TO	SIZE	TYPE	LENGTH	INV.US	INV.DS
I-3A	I-62	15"	RCP CL IV	56'	414.25'	413.28'
EW-5	EW-4	48"	TWIN RCP CL IV	120'	395.01'	394.45'
-	-	24"	RCP CL IV	89'	399.62'	399.62'

PS-03

"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. 19165, EXPIRATION DATE: 06/11/2015."

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231



DES:	CYH
DRN:	CYH
CHK:	AJO
DATE:	7/1/2014
BY:	NO.
REVISION:	
DATE:	

DRAINAGE STRUCTURE SCHEDULE					
STRUCTURE NO.	STATION	OFFSET	MD. STANDARD NO./TYPE	T.S.	REMARKS
I-60	1216+60	26' LT	MD STD NO. 374.68 10' PRECAST OR CAST-IN-PLACE COG / COS OPENING	411.80'	OAKLAND MILLS ROAD
I-59	1217+00	16' LT	MD STD NO. 374.68 10' PRECAST OR CAST-IN-PLACE COG / COS OPENING	410.06'	OAKLAND MILLS ROAD
ES-50	1218+03	117' RT	HO CO D-5.51 CONCRETE END SECTION	403.78'	OAKLAND MILLS ROAD
I-58	1218+00	16' LT	MD STD NO. 374.68 10' PRECAST OR CAST-IN-PLACE COG / COS OPENING	408.07'	OAKLAND MILLS ROAD
I-57	1219+88	16' LT	MD STD NO. 374.68 10' PRECAST OR CAST-IN-PLACE COG / COS OPENING	406.53'	OAKLAND MILLS ROAD
I-56	1220+10	16' LT	MD STD NO. 374.68 10' PRECAST OR CAST-IN-PLACE COG / COS OPENING	405.23'	OAKLAND MILLS ROAD
I-54	1219+79	31' LT	HO CO D-4.10 PRECAST TYPE D INLET	405.83'	OAKLAND MILLS ROAD
ES-51	1220+32	59' RT	HO CO D-5.51 CONCRETE END SECTION	400.76'	OAKLAND MILLS ROAD
SWM-2	1220+73	114' RT	SEE DETAIL SW-06		OAKLAND MILLS ROAD
ES-55	1221+22	114' RT	MD STD NO. 368.01 STANDARD CONCRETE END SECTION ROUND CONCRETE PIPE		OAKLAND MILLS ROAD
I-74	1221+81	16' RT	MD STD NO. 374.68 10' PRECAST OR CAST-IN-PLACE COG / COS OPENING	403.21'	OAKLAND MILLS ROAD
I-70	1222+42	44' RT	HO CO D-4.10 PRECAST TYPE D INLET	399.83'	OAKLAND MILLS ROAD
ES-54	1222+63	50' RT	HO CO D-5.51 CONCRETE END SECTION	396.61'	OAKLAND MILLS ROAD
EW-5	1222+82	34' RT	SEE SHEET DD-04	401.00'	OAKLAND MILLS ROAD
EW-4	1223+16	77' LT	SEE SHEET DD-03	400.47'	OAKLAND MILLS ROAD
I-79	1210+34	42' RT	HO CO D-4.10 PRECAST TYPE D INLET	422.30'	OAKLAND MILLS ROAD
I-67	1211+11	28' RT	MD STD NO. 374.68 10' PRECAST OR CAST-IN-PLACE COG / COS OPENING	421.77'	OAKLAND MILLS ROAD
I-66	1212+21	28' RT	MD STD NO. 374.68 10' PRECAST OR CAST-IN-PLACE COG / COS OPENING	419.80'	OAKLAND MILLS ROAD
I-78	1212+40	43' RT	HO CO D-4.10 PRECAST TYPE D INLET	419.98'	OAKLAND MILLS ROAD
I-3A	1213+01	37' LT	HO CO D-4.10 PRECAST TYPE D INLET	420.33'	OAKLAND MILLS ROAD
I-62	1213+47	6' LT	HO CO D-4.10 PRECAST TYPE D INLET	420.33'	OAKLAND MILLS ROAD
I-65	1213+30	28' RT	MD STD NO. 374.68 10' PRECAST OR CAST-IN-PLACE COG / COS OPENING	418.27'	OAKLAND MILLS ROAD
I-64	1214+11	28' RT	MD STD NO. 374.68 10' PRECAST OR CAST-IN-PLACE COG / COS OPENING	416.84'	OAKLAND MILLS ROAD
I-77	1214+28	43' RT	HO CO D-4.10 PRECAST TYPE D INLET	416.86'	OAKLAND MILLS ROAD
I-76	1214+67	43' RT	HO CO D-4.10 PRECAST TYPE D INLET	417.03'	OAKLAND MILLS ROAD
MH-95	1213+47	43' RT	HO CO G-5.12 PRECAST MANHOLE	417.0'	OAKLAND MILLS ROAD
I-52	1214+43	27' LT	HO CO D-4.03 PRECAST A-10 INLET	416.30'	OAKLAND MILLS ROAD
ES-52	1214+88	37' LT	HO CO D-5.51 CONCRETE END SECTION	415.04'	OAKLAND MILLS ROAD
I-63	1215+45	22' RT	MD STD NO. 374.68 10' PRECAST OR CAST-IN-PLACE COG / COS OPENING	414.69'	OAKLAND MILLS ROAD
I-61	1215+97	18' LT	MD STD NO. 374.68 10' PRECAST OR CAST-IN-PLACE COG / COS OPENING	413.85'	OAKLAND MILLS ROAD
I-50	1216+10	32' LT	HO CO D-4.10 PRECAST TYPE D INLET	413.50'	OAKLAND MILLS ROAD
I-53	1217+18	30' LT	HO CO D-4.10 PRECAST TYPE D INLET	410.93'	OAKLAND MILLS ROAD
I-75	1217+18	37' RT	HO CO D-4.10 PRECAST TYPE D INLET	412.25'	OAKLAND MILLS ROAD
I-111	1215+61	0' CL	HO CO D-4.10 PRECAST TYPE D INLET	415.92'	OAKLAND MILLS ROAD
MH-94	1215+62	35' RT	HO CO G-5.12 PRECAST MANHOLE	412.97'	OAKLAND MILLS ROAD
ES-53	1222+97	43' RT	HO CO D-5.51 CONCRETE END SECTION	396.75'	OAKLAND MILLS ROAD
I-80	1218+90	16' LT	MD STD NO. 374.68 10' PRECAST OR CAST-IN-PLACE COG / COS OPENING	-	OAKLAND MILLS ROAD
ES-56	1218+30	69' RT	HO CO D-5.51 CONCRETE END SECTION	411.82'	OAKLAND MILLS ROAD

DRAINAGE STRUCTURE SCHEDULES

BLANDAIR REGIONAL PARK
PHASE J - SOUTH
CAPITAL PROJECT # J-4237

EROSION AND SEDIMENT CONTROL – GENERAL NOTES

1. MDE NOTIFICATION

IF AN EROSION AND SEDIMENT CONTROL PERMIT IS ISSUED FOR THIS PROJECT, THE CONTRACTOR, UPON APPROVAL FROM SHA, MUST NOTIFY MDE IN WRITING AND/OR BY TELEPHONE AT (410) 537-3510 AT THE FOLLOWING POINTS:

- PRE-CONSTRUCTION MEETING
- EROSION AND SEDIMENT CONTROL MEETING (MINIMUM 7 WORKING DAYS PRIOR TO COMMENCING EARTH DISTURBING ACTIVITIES)
- FOLLOWING INSTALLATION OF INITIAL SEDIMENT CONTROL MEASURES
- DURING INSTALLATION OF MAJOR SEDIMENT CONTROL BASINS/TRAPS
- PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S)
- PRIOR TO REMOVAL OF ALL SEDIMENT CONTROL DEVICES
- PRIOR TO FINAL ACCEPTANCE BY SHA

2. STANDARDS AND SPECIFICATIONS

THIS PLAN IS DESIGNED AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I & II AND THE MARYLAND DEPARTMENT OF ENVIRONMENT EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT REGULATIONS, AND ALL REVISIONS THERE OF, AND AS SPECIFIED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL KEEP A COPY OF THE 2011 "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" ON THE SITE AT ALL TIMES.

3. INGRESS / EGRESS CONTROLS

THE CONTRACTOR SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ON PUBLIC ROADS. ALL MATERIALS DEPOSITED ON PUBLIC ROADS SHALL BE MECHANICALLY REMOVED IMMEDIATELY. THE FLUSHING OF ROAD SURFACES IS PROHIBITED.

TYPICALLY, ALL INGRESS AND EGRESS POINTS SHALL BE CONTROLLED THROUGH THE USE OF A "STABILIZED CONSTRUCTION ENTRANCE."

4. INSPECTION

THE CONTRACTOR SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN AN EFFECTIVE OPERATING CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES.

5. SHUTDOWNS AND OR PENALTIES

TOTAL COMPLIANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS EXPECTED AT ALL TIMES. IN CASES WHERE THE CONTRACTOR IS FOUND TO BE IN NON-COMPLIANCE SHA MAY TAKE STEPS TO IMPOSE SELECTED OR TOTAL SHUTDOWNS AND IMPOSE PER DAY PENALTIES FOR NON-COMPLIANCE.

THE DISTRICT ENGINEER CAN IMPOSE A TOTAL OR PARTIAL SHUTDOWN IF THE PROJECT MAY ADVERSELY IMPACT THE WATERS OF THE STATE.

6. RECORD KEEPING

THE PROJECTS' APPROVAL LETTER, APPROVED EROSION AND SEDIMENT CONTROL PLANS, APPROVED CHANGE REQUESTS, DAILY LOG BOOKS AND TEST REPORTS WILL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF MDE.

7. EROSION AND SEDIMENT CONTROL EXCAVATION

SILT REMOVED FROM CONTROL DEVICES SHALL BE PLACED IN AN APPROVED WASTE SITE EITHER ON OR OFF THE PROJECT. MATERIAL STORED ON SITE MAY BE REUSED ONCE IT IS DRIED AND IF IT MEETS SHA REQUIREMENTS FOR EMBANKMENT OR ANY UNSPECIFIED NEED.

8. OFF-SITE UTILITY WORK

SEDIMENT CONTROL FOR UTILITY CONSTRUCTION IN AREAS OUTSIDE OF DESIGNED CONTROLS SHALL FOLLOW THESE ADDITIONAL BEST MANAGEMENT PRACTICES:

- CALL "MISS UTILITY" AT 1-800-257-7777 48 HOURS PRIOR TO THE START OF WORK
- EXCAVATED MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH.
- TRENCHES FOR UTILITY INSTALLATIONS SHALL BE BACKFILLED, COMPACTED AND STABILIZED AT THE END OF EACH WORKING DAY. WHEN THIS IS NOT POSSIBLE, THE AREA SHALL CONFORM TO (d).
- TEMPORARY SILT FENCES SHALL BE PLACED IMMEDIATELY DOWNSTREAM OF ANY DISTURBED AREA INTENDED TO REMAIN DISTURBED FOR MORE THAN ONE DAY.

9. SENSITIVE AREAS

NO CONSTRUCTION ACTIVITIES SHALL BE UNDERTAKEN WITHIN SPECIFIED SENSITIVE AREAS OF THE PROJECT WITHOUT PRIOR NOTIFICATION OF THE ENGINEER. ALL WORK IN THESE AREAS SHALL BE MONITORED BY A RESPONSIBLE PARTY DESIGNATED BY THE CONTRACTOR TO ASSURE THAT REASONABLE CARE IS TAKEN IN OR ADJACENT TO THESE AREAS. AREAS CONSIDERED SENSITIVE ARE DEFINED AS: FLOODPLAINS, WETLANDS (TIDAL, NONTIDAL AND ASSOCIATED BUFFERS) CRITICAL AREAS, FORESTED AREAS, ARCHEOLOGICAL SITES, HISTORIC SITES, PARKLAND AND OPEN WATER.

10. STANDARD STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN SEVEN (7) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND FOURTEEN (14) DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

11. SITE INFORMATION * (NOT FOR BIDDING PURPOSES)

TOTAL AREA OF SITE	298.08	ACRES
AREA DISTURBED	27.43	ACRES
AREA TO BE ROOFED		
OR PAVED	7.76	ACRES
TOTAL CUT	75,604	CU. YDS.
TOTAL FILL	31,573	CU. YDS.
OFFSITE WASTE/BORROW		
AREA LOCATION (IF KNOWN)		ACRES

12. INCREMENTAL STABILIZATION

REFER TO THE CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR THE INCREMENTAL STABILIZATION OF CUT AND FILLS.

13. DEWATERING PRACTICES

THE CONTRACTOR IS ALERTED THAT MDE CONSIDERS DEWATERING PRACTICES TO BE ELECTIVE IN NATURE. DEWATERING PRACTICES ARE TO BE LOCATED AND OPERATED IN A MANNER THAT DOES NOT DISCHARGE SEDIMENT INTO ANY WATERWAY. NO VISIBLE CHANGES TO STREAM CLARITY ARE PERMITTED.

14. MODIFICATIONS

THE CONTRACTOR SHALL SUBMIT MODIFICATIONS TO THE EROSION AND SEDIMENT CONTROLS TO SHA FOR APPROVAL PRIOR TO SUBMISSION TO MDE. NO MODIFICATIONS SHALL BE IMPLEMENTED UNTIL ALL APPROVALS FROM SHA AND MDE ARE OBTAINED.

STANDARD SYMBOLS

EARTH DIKE	
TEMPORARY SWALE	
PERIMETER DIKE/SWALE	
STONE CHECK DAM	
STONE OUTLET STRUCTURE	
SILT FENCE	
SUPER SILT FENCE	
STRAW BALES	
STANDARD INLET PROTECTION	
AT GRADE INLET PROTECTION	
CURB INLET PROTECTION	
MEDIAN INLET PROTECTION	
GABION INFLOW PROTECTION	
RIPRAP INFLOW PROTECTION	
SUMP PIT	
REMOVABLE PUMPING STATION	
PORTABLE SEDIMENT TANK	
INTERCEPTOR BERM	
TEMPORARY BERM	
PIPE SLOPE DRAIN	
STABILIZED CONSTRUCTION ENTRANCE	
SOIL STABILIZATION MATTING	
PLACED RIPRAP DITCH	
GABIONS	
CONCRETE GUTTER	
STONE OUTLET SEDIMENT TRAP	
RIPRAP OUTLET SEDIMENT TRAP	
STONE/RIPRAP OUTLET SEDIMENT TRAP	
PIPE OUTLET SEDIMENT TRAP	
LIMIT OF DISTURBANCE	
EXISTING CONTOURS	
PROPOSED CONTOURS	
TEMPORARY GABION OUTLET STRUCTURE	
ASPHALT BERM	
ESC DEVICE DRAINAGE AREA BOUNDARY	
ROOT PRUNING	

SEQUENCE OF CONSTRUCTION

Erosion and sediment control has been divided into four (4) stages to coincide with MOT phases. Stage 1 includes only the sediment basins. Stage 2 includes the work on MD-175, the new on and off ramps, the overpass, driveways for park access, and a portion of the Oakland Mills Road new alignment. Stage 3 includes the continuation of the Oakland Mills Road new alignment, and the roundabout at Oakland Mills Road and Old Montgomery Road. Stage 4 includes the resurfacing of Oakland Mills Road and Old Montgomery Road. Work shall be coordinated with Phase 2 work under Capital Project #N-3102.

- Obtain a grading permit and arrange for an on-site pre-construction meeting
- Notify the sediment control inspection office 24 hours prior to construction.

Stage 1A – General Sequence of Construction (2.71 acres)

- Install sediment basins 2 and 3.
 - Permanently stabilize sediment basins.
- ### Stage 1B – General Sequence of Construction (20.3 acres)
- Install stabilized construction entrances and all perimeter devices. Install inlet protection on existing inlets.
 - Proceed with clearing and grubbing as shown on the Erosion and Sediment Control sheets.
 - Slip line culvert under MD 175 and install twin culverts under Oakland Mills Road.
 - Install roadway up to subgrade. Maintain positive flow to sediment basins at all times.
 - Install storm drains, swales and inlet protection. Construct swales in daily segments and permanently stabilize with erosion control matting at the end of each working day.
 - Proceed with final grading and road construction work as shown on the Maintenance of Traffic Plans and the Erosion and Sediment Control Plans. Coordinate with Phase 2.
 - Flush and clean all storm drains.
 - Stabilize all disturbed areas. With approval of sediment control inspector, convert Basin #2 to stormwater management ponds #2 and complete final grading. Remove temporary drawdown device and brick from riser and install all trash racks.

Stage 2A – General Sequence of Construction (3.50 acres)

- Install stabilized construction entrances and all perimeter devices.
- Maintain Basin #3 as installed in Stage 1A.
- Proceed with clearing and grubbing as shown on the Erosion and Sediment Control sheets.
- Install roadway up to subgrade. Maintain positive flow to sediment basins at all times.
- Install storm drains, swales and inlet protection. Construct swales in daily segments and permanently stabilize with erosion control matting at the end of each working day.
- Proceed with final grading and road construction work as shown on the Maintenance of Traffic Plans and the Erosion and Sediment Control Plans.
- Stabilize all areas disturbed by the process.
- Flush and clean all storm drains.
- Stabilize all disturbed areas. With approval of sediment control inspector, convert Basins #3 to stormwater management pond #3 and complete final grading. Remove temporary drawdown device and brick from riser and install all trash racks.
- With permission of sediment control inspector, remove all sediment controls.

Stage 2B – General Sequence of Construction (0.92 acres)

- Install stabilized construction entrance and all perimeter devices.
- Proceed with clearing and grubbing as shown on the Erosion and Sediment Control sheets.
- Install roadway up to subgrade. Maintain positive flow to sediment basins at all times.
- Install storm drains and inlet protection. Construct swales in daily segments and permanently stabilize with erosion control matting at the end of each working day.
- Proceed with final grading and road construction work as shown on the Maintenance of Traffic Plans and the Erosion and Sediment Control Plans. Coordinate with Phase 2.
- Stabilize all areas disturbed by the process.
- Flush and clean all storm drains.
- Upon permanent stabilization of all disturbed areas and with approval of sediment control inspector remove any remaining sediment control devices.

"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. 19165, EXPIRATION DATE: 06/11/2015."

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

John K. Rebuta 4/24/14
HOWARD SOIL CONSERVATION DISTRICT DATE

ENGINEER'S CERTIFICATION

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

Walter P. Miller 4/10/2014
SIGNATURE OF ENGINEER (PRINT NAME BELOW) DATE

DEVELOPER'S CERTIFICATION

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

Jay Steubly 7/17/14
SIGNATURE OF DEVELOPER (PRINT NAME BELOW) DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND.

Ray K. Butler 7/15/14
DIRECTOR OF PUBLIC WORKS DATE

Thomas E. Butler 7/15/14
CHIEF, BUREAU OF ENGINEERING DATE

Steve Sheeran 7/15/14
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

PREPARED BY:
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, MD 21231

WR&A

STATE OF MARYLAND
REGISTERED PROFESSIONAL ENGINEER
19165

DES:	CYH
DHN:	CYH
CHK:	AJO
DATE:	4/24/2014

BY:	NO.	REVISION	DATE	TAX MAP	36	BLOCK NO.	5	ELECTION DISTRICT	3/7	HOWARD COUNTY, MARYLAND
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EROSION AND SEDIMENT CONTROL NOTES

BLANDAIR REGIONAL PARK PHASE J - SOUTH CAPITAL PROJECT # J-4237

DWG. ED-01
SCALE NA
SHEET 50 OF 136