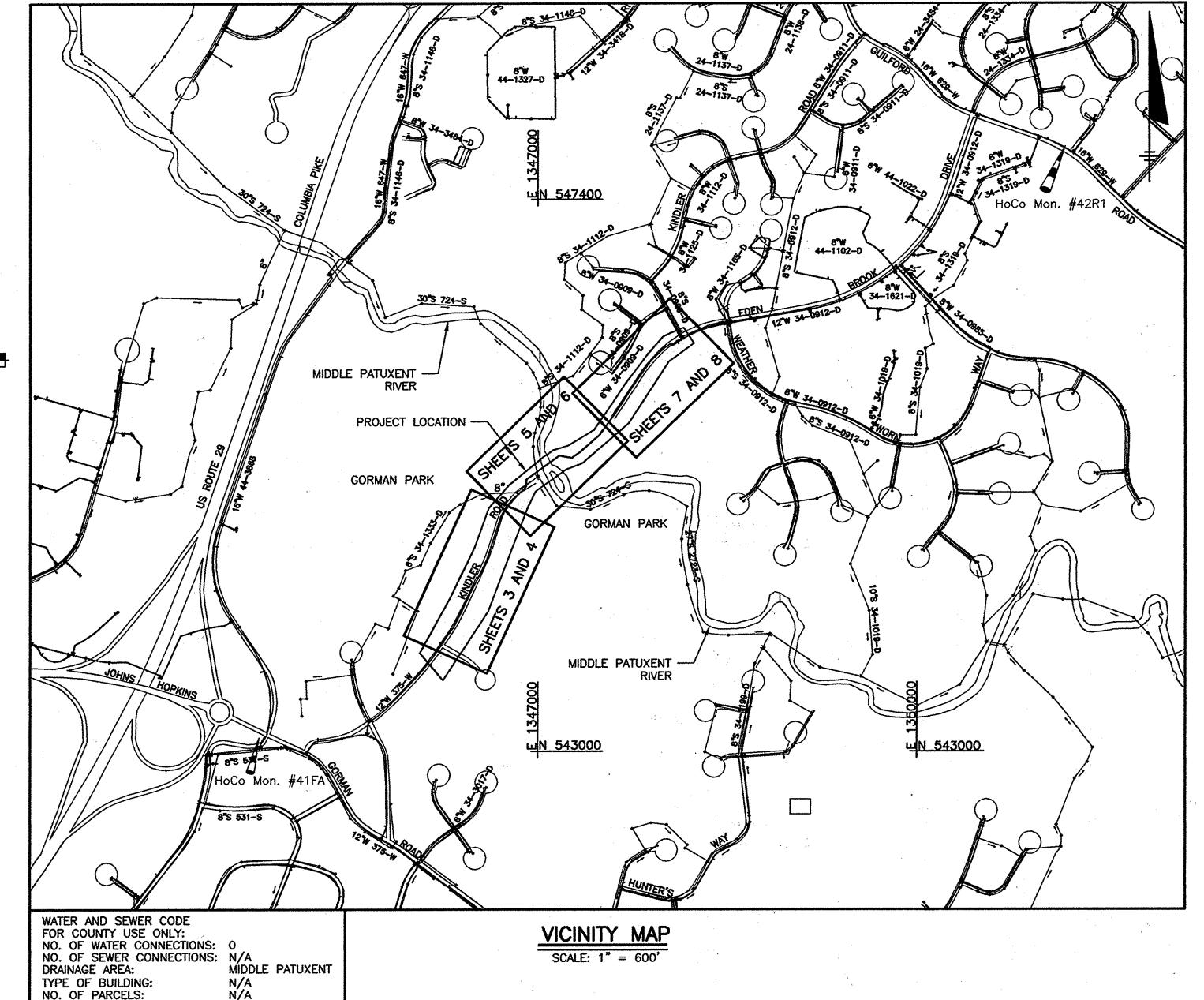
GENERAL NOTES:

- THE LOCATIONS, ELEVATIONS, OR STATIONING SHOWN FOR EXISTING MAINS AND UTILITIES ARE APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXISTENCE (INCLUDING LOCATION AND ELEVATION) OF ALL BURIED UTILITIES. NOTE ALSO THAT OTHER EXISTING BURIED UTILITIES MAY EXIST WITHIN THE WORK AREA THAT ARE NOT SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- TOPOGRAPHIC FIELD SURVEY PERFORMED ON DECEMBER, 2009 BY NXL CONSTRUCTION SERVICES, INC. THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON THE MARYLAND STATE REFERENCE SYSTEM NAD '83/'91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 41FA AND NO. 42R1.
- ALL VERTICAL CONTROLS ARE BASED ON NAVD '88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE MAGNETIC NAILS IN PAVEMENT OR IRON ROD WITH CAP IN GROUND.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE
- CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL
- COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES. FOR DETAILS NOT SHOWN ON THE DRAWING, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATIONS OF THE TEST PITS. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PITS IS INCLUDED ON THE DRAWINGS OR WITHIN THE SPECIFICATIONS. AT TIE-IN LOCATIONS TO THE EXISTING MAIN AND FOR EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST
- FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS: 1-800-252-1133 .410-850-4620 BGE (CONSTRUCTION SERVICES). BGE (EMERGENCY). BUREAU OF UTILITIES 410-313-4900 .410-795-1390 COLONIAL PIPELINE COMPANY. 1 –800 – 257 – 7777 MISS UTILITY... STATE HIGHWAY ADMINISTRATION.. ..1-800-743-0033/410-224-9210
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR
- CONTRACTOR SHALL REMOVE TREES, STUMPS, AND ROOTS ALONG LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410)-313-7450 AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(A) OF THE HOWARD COUNTY CODE.
- 12. TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 4'-0" OF COVER UNLESS OTHERWISE
- 13. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER 14. ALL TIE-INS TO EXISTING WATER MAINS SHALL BE COORDINATED WITH THE HOWARD COUNTY
- BUREAU OF UTILITIES AT LEAST 10 WORKING DAYS PRIOR TO SCHEDULING WORK. 15. EXISTING STORM DRAINS DISTURBED BY THE CONSTRUCTION SHALL BE REPLACED IN KIND AT THE SAME LINE, GRADE, AND SHAPE AS THE EXISTING STORM DRAINS OR SWALES, INCLUDING
- RIP-RAP LINING IF PREVIOUSLY EXISTING. 16. SALVAGEABLE VALVES AND APPURTENANCES TO BE REMOVED SHALL BE DELIVERED TO THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - BUREAU OF UTILITIES AS DIRECTED BY THE
- ENGINEER OR COUNTY. IN ACCORDANCE WITH 10 STATE STANDARD REQUIREMENTS - ALL CROSSINGS OF THE NEW WATER MAIN WITH EXISTING SANITARY OR STORM SEWER PIPING (RESULTING IN LESS THAN 18' OF SEPARATION) SHALL BE ACCOMPLISHED BY CENTERING A FULL LENGTH OF THE NEW WATER MAIN PIPING AT THE CROSSING TO MAXIMIZE THE DISTANCE OF ANY WATER MAIN JOINT FROM
- 18. NO WATER SHALL BE DISCHARGED FROM THE EXISTING WATER MAIN TO THE ENVIRONMENT, WITHOUT FIRST DECHLORINATING. THE CONTRACTOR SHALL SUBMIT THE DECHLORINATION METHOD TO THE OWNER AND IT'S ENGINEER FOR REVIEW.
- 19. ALL PROPOSED PVC C900 WATER MAIN PIPING SHALL BE PRESSURE CLASS 200 (DR 14). 20. ALL HYDRANTS, MAINLINE GATE VALVES, WATER SERVICE VALVES AND PIPING, AND SIMILAR (FOR BOTH PERMANENT AND TEMPORARY INSTALLATIONS) SHALL BE RATED FOR A MINIMUM OPERATING
- 21. PVC WATER MAINS SHALL BE ALLOWED TO CHANGE VERTICAL OR HORIZONTAL DIRECTION ONLY AT PVC HIGH DEFLECTION (HD) COUPLINGS, 5-DEGREE SWEEPS OR STANDARD BENDS. DEFLECTIONS MADE AT STANDARD PIPE JOINTS AND/OR PIPE LENGTHS BENT TO ACHIEVE
- CURVATURE OF THE WATER MAIN SHALL NOT BE ALLOWED UNDER ANY CIRCUMSTANCES. THE SOIL AROUND THE HIGH-DEFLECTION COUPLINGS AND 5-DEGREE SWEEPS SHALL BE BEDDED AND THOROUGHLY COMPACTED IN ACCORDANCE WITH SECTION 1000.03.07 OF THE HOWARD COUNTY VOLUME IV DESIGN MANUAL STANDARD SPECIFICATIONS OR SHALL BE
- RESTRAINED TO THE ADJOINING PIPE. HIGH DEFLECTION COUPLINGS ARE LIMITED TO A MAXIMUM DEFLECTION OF 3 DEGREES. WHEN NOT RESTRAINED, BELL STOPS (EBAA IRON, INC. MEGA-STOP SERIES 5000 OR APPROVED EQUAL) SHALL BE PROVIDED ON EACH SIDE OF THE HD COUPLINGS FOR THE PREVENTION OF
- 24. FIVE (5) DEGREE BENDS SHALL BE ACCOMPLISHED USING SWEEPS, WHICH ALONG WITH HIGH DEFLECTION COUPLINGS, SHALL BE THE PVC PUSH-ON TYPE WITH RUBBER GASKETED JOINTS APPROPRIATE FOR PVC C900 WATER MAIN PIPE (INJECTION MOLDED PER AWWA C907-04 FOR PRESSURE CLASS 150 PVC PIPE: FABRICATED PER AWWA C900 FOR PRESSURE CLASS 200 PVC
- TEES, CROSSES, CAPS, BENDS GREATER THAN 5 DEGREES, AND SIMILAR FITTINGS THAT REQUIRE RESTRAINED JOINTS SHALL BE DUCTILE IRON MECHANICAL JOINT (AWWA C153) FITTINGS APPROPRIATE FOR PVC C900 WATER MAIN PIPE. ALL DUCTILE IRON FITTINGS SHALL BE FUSION BONDED EPOXY INSIDE AND OUTSIDE.

OF RECREATION AND PARKS



INDLER ROAD-EDEN BROOK DRIVE WATER MAIN CONNECTION

CAPITAL PROJECT: W-8297 CONTRACT NO.: 44-4675 HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS

TO THE BEST CONTROL OF A STATE OF THE INFORMATION AND BELIEF GASE - BE INFORMATION PROVIDED BY OTHER AND AND RECORD DRAWINGS SUBSTANTIALLY REPRESENT THE PROJECT AS CONSTRUCTED.

ENGINEERS, INC.

OWNERS/DEVELOPER CERTIFICATION:

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

PROFESSIONAL CERTIFICATION:

2/08/2013

New Dinsmore Signature of Developer

HOWARD SOIL CONSERVATION DISTRICT CERTIFICATION: THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT (SCD).

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

ENGINEERS DESIGN CERTIFICATION

9-30-13 Signature of Engineer - Registration Number

	QUANTIT	HES			
ITEM	ESTIM QUAN	· •	AȘ-BUILT	MATERIAL	SUPPLIER
WATER MAINS					
PVC PIPE	3,032	L.F.	3,080	C900	FERGUSON
" GATE VALVE	3	EA.	3	MULLER	FERGUSON
RE HYDRANT ASSEMBLIES	5	EA.	5	MULLER FIRE HYDRA	NT FERGUSOI

GENERAL NOTES: (CONTINUED)

- 26. PIPE RESTRAINT SHALL BE PROVIDED IN THE FOLLOWING MANNER USING SYSTEMS MANUFACTURED BY EBAA IRON, INC. OR APPROVED EQUAL:
 - 1) ALL DUCTILE IRON MECHANICAL JOINT FITTINGS (INCLUDING MECHANICAL JOINT HYDRANT CONNECTIONS) SHALL BE RESTRAINED USING THE SERIES 2000 PVC MECHANICAL JOINT FITTING
 - ALL FIVE (5) DEGREE SWEEPS SHALL BE RESTRAINED USING THE SERIES 1500 PVC FITTING
- HIGH DEFLECTION COUPLINGS AND PUSH-ON BELL AND SPIGOT PIPE JOINTS SHALL BE RESTRAINED (WHERE NOTED ON THE PROFILES) USING THE SERIES 1500 PVC FITTING HARNESSING SYSTEM. BEND HARNESSING RODS TO MATCH THE ANGLE AT THE HD COUPLINGS.
- 27. INSTALL CONCRETE ANCHOR COLLARS WHERE SHOWN, SPECIFIED, OR DIRECTED, AND WHEN SUFFICIENT ROOM EXISTS (AS DETERMINED BY THE ENGINEER), INSTALL CONCRETE BUTTRESSING AT ALL FITTINGS/DEFLECTIONS GREATER THAN 5 DEGREES, TEES, CAPS, HORIZONTAL AND VERTICAL BENDS, AND HYDRANT INSTALLATIONS SHOWN WITH OR WITHOUT HARNESSING RESTRAINT PER HOWARD COUNTY DETAILS W2.21, W2.22 AND W2.23.
- MAINLINE VALVES SHALL BE STRAPPED TO ADJACENT TEES OR CROSSES PER HOWARD CO STD. DET W-2.13. MAINLINE VALVES WHICH ARE NOT SHOWN ADJACENT TO TEES OR CROSSES SHALL BE ANCHORED TO A CONCRETE BLOCK IN ACCORDANCE WITH HOWARD CO. STD. DETAIL W-5.01. VALVES ON HYDRANT LEADS SHALL BE RESTRAINED USING THE SERIES 2000 PVC M.J. FITTING RESTRAINT SYSTEM BY EBAA IRON, INC. OR APPROVED EQUAL.
- 29. FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATION SHOWN ON THE DRAWINGS (TO THE NEAREST 6" INCREMENT THAT PLACES THE HYDRANT BREAKAWAY FLANGE AT OR ABOVE GRADE). ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS. FIRE HYDRANTS SHALL BE INSTALLED PER HOWARD COUNTY STANDARD DETAIL NOS. W-1.11 TO W-2.12.
- CONTINUITY TEST STATIONS SHALL BE PLACED ADJACENT TO EACH FIRE HYDRANT. REFER TO THE HOWARD COUNTY STANDARD FIRE HYDRANT CONTINUITY TEST STATION DETAIL W-1.15.
- 30. PIPE TRENCHING AND PAVEMENT REPLACEMENT SHALL BE PERFORMED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS, INCLUDING STANDARD DETAIL G-2.12, "PIPE TRENCH PLASTIC AND COPPER" AND STANDARD DETAIL G-4.01, "UTILITY TRENCH ROADWAY REPAVING", RESPECTIVELY.
- TEMPORARY PAVING PATCH FOR UTILITY TRENCH REPAIR OF HMA PAVED ROADS AND DRIVEWAYS SHALL CONSIST OF 16-INCHES OF DAMPENED AND COMPACTED NO. 57 AGGREGATE SUB-BASE OVERLAYED WITH TWO INCHES OF HMA BASE COURSE PLACED FLUSH WITH THE ADJOINING PAVEMENT SURFACE. REFILL ALL DEPRESSIONS AND SETTLEMENT (AS THEY DEVELOP) WITH THE SPECIFIED MATERIALS. PRIOR TO PLACEMENT OF THE PERMANENT PAVING SECTION, REMOVE THE TOP SIX INCHES OF MATERIAL, SCARIFY, RECOMPACT, AND TACK COAT THE REMAINING 12-INCH MINIMUM NO. 57 AGGREGATE SUB-BASE, AND REPAVE THE UTILITY TRENCH (AND WHERE REQUIRED, THE REMAINING PORTION OF THE TRAVEL LANE) ALL IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAIL G-4.01. THE HMA MATERIALS SHALL MEET THE TYPICAL SUPERPAVE MIX SPECIFIED IN HOWARD COUNTY STANDARD DETAIL R-2.01, PG 64-22, LEVEL 1 (EASL).
- PIPE TEST PRÉSSURE SHALL BE IN ACCORDANCE WITH HOWARD COUNTY STANDARD SPECIFICATION SECTION 1006.02. THE PIPELINE DESIGN IS IN ACCORDANCE WITH HOWARD COUNTY STANDARD SPECIFICATION SECTION 1002. THRUST RESTRAINT SHOULD BE IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAILS W-2.21, W-2.22 AND W-2.23.
- 35. SEE DEPARTMENT OF RECREATION AND PARKS GENERAL CONDITIONS OF RIGHT-OF-ENTRY ON SHEET 2. 35. FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 OF THE AWNA STANDARD C900 FOR PVC PRESSURE PIPESHALL BE SUBMITTED WITH THE PIPEMATERIAL CERTIFICATIONS OR SHOP DRAWINGS PRIOR TO APPROVAL OF THE MATERIAL PORUSE. THE TEST RECORDS SHALL BE FOR THE PIPE INSTALLED LADER THIS CONTRACT. ALL PVC PIPE SHALL CONTAIN MARKINGS TO ALLOW CROSS REFERENCING OF THE PIPE SUPPLIED TO THE TEST RECORDS RECEIVED.

INDEX OF DRAWINGS					
TITLE	DRAWING NUMBER				
COVER SHEET	1				
LEGEND, ABBREVIATIONS, TABLES, AND SCHEDULES	2				
PLAN - STA. 0+00 TO STA. 10+50	3				
PROFILE - STA. 0+00 TO STA. 10+50	4				
PLAN - STA. 10+50 TO STA. 22+50	· 5				
PROFILE - STA. 10+50 TO STA. 22+50	6				
PLAN - STA. 22+50 TO STA. 30+32	7				
PROFILE - STA. 22+50 TO STA. 30+32	8				
GENERAL DETAILS	, 9				
NOT USED	10				
CATHODIC PROTECTION LAYOUT	11				
CATHODIC PROTECTION DETAILS	12				
CATHODIC PROTECTION DETAILS	13				
EROSION AND SEDIMENT CONTROL KEY PLAN	14				
EROSION AND SEDIMENT CONTROL SITE PLAN	15				
EROSION AND SEDIMENT CONTROL SITE PLAN	16				
EROSION AND SEDIMENT CONTROL NOTES AND DETAILS	17				
EROSION AND SEDIMENT CONTROL NOTES AND DETAILS	18				
STREAM DIVERSION PLANS	19				
STREAM DIVERSION CONSTRUCTION DETAILS	20				

AS-BUILT 6/2014

KINDLER ROAD - EDEN BROOK DRIVE

CAPITAL PROJECT: W-8297 CONTRACT NO.: 44-4675 **ELECTION DISTRICT: 6**

WATER MAIN CONNECTION HOWARD COUNTY, MARYLAND

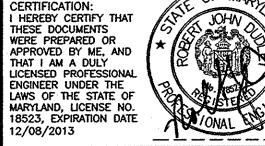
DEPARTMENT OF PUBLIC WORKS

HOWARD COUNTY, MARYLAND

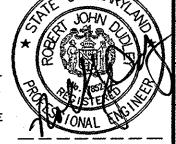
HOWARD COUNTY, MARYLAND

10/7/13

OBRIEN 5 GERE BOWIE, MD 20716 PHONE: 301-731-5622



9/24/2013 Date



W. T.	DSN. BY: SSD				
	DRN. BY: RPW				
	CHK. BY: RJD	RJD		AS-BUILT/RECORD DRAWING	
		RJD	0	AS ISSUED FOR BID	
	DATE: AUG, 2013	BY	NO.	REVISION	

COVER SHEET BLOCK NO.

SCALE AS SHOWN SHEET OF 20 WETLANDS BOUNDARY WETLANDS BUFFER BOUNDARY

BUSH 44444 RIP-RAP DITCH MILL AND OVERLAY BORING LOCATION TEST PIT LOCATION REBAR FLY STATION

ABANDON IN PLACE EX. WM ASPHALT PAVEMENT

OREBAR

WOODLINE

DETAIL IDENTIFICATION 6 12 SHEET THAT DETAIL IS LOCATED SHEET THAT DETAIL IS ---TAKEN FROM

WATER MAIN VALVE VAULT

PROP. FIRE HYDRANT W/ TEST STATION

DETAIL OR SECTION IDENTIFICATION

IRRIGATION VALVE

EX. FIRE HYDRANT

GAS VENT PIPE

GAS LINE MARKER

IRON PIPE FOUND

REBAR AND CAP

TRAVERSE STATION

POINT OF CONNECTION

GAS VALVE

GAS PUMP

PROP. FIRE HYDRANT

ABBREVIATIONS:

AIR RELEASE MANHOLE BURY ELEVATION BUTTERFLY VALVE BALTIMORE GAS & ELECTRIC BURY LENGTH BUILDING CURB AND GUTTER CORRUGATED METAL PIPE CONC. CONCRETE CONSTR CONSTRUCTION CONTR. CONTRACT CPLG. COUPLING DEGREE DET OR DTL DETAIL DUCTILE IRON PIPE ELECTRIC E OR ELEC EACH **ELEVATION** EASEMENT EXISTING FIRE HYDRANT FLANGE FLOW METER VAULT GEODETIC CONTROL SYSTEM GATE VALVE HORIZONTAL BEND HIGH DEFLECTION HOWARD COUNTY HORIZONTAL CURVE RADIUS HORIZONTAL DEFLECTION POINT HIGH DENSITY POLYETHYLENE HORIZ HORIZONTAL INVERT LINEAR FOOT LIMIT OF DISTURBANCE MACADAM MINIMUM BENDING RADIUS MARYLAND MANHOLE MECHANICAL JOINT NOT IN CONTRACT NUMBER POINT OF CURVE PRESTRESSED CONCRETE CYLINDER PIPE PLANE END PEDESTAL POST OFFICE OR PUSH ON POINT OR POINT OF TANGENCY PVC PIPE OR POINT OF VERTICAL CURVATURE POINT OF VERTICAL DEFLECTION POINT OF VERTICAL INTERSECTION PAVEMENT POINT OF VERTICAL TANGENCY RIGHT OF WAY RADIUS REINF. CONC. PIPE ROAD REQUIRED RESTRAINED JOINT RIGHT-OF-WAY RESILIENT SEAT GATE VALVE RESILIENT WEDGE GATE VALVE **RSWV** SANITARY SOIL BORING STORM DRAIN STATE HIGHWAY ADMINISTRATION SEWER HOUSE CONNECTION SHEET STAINLESS STEEL STATION STANDARD TO BE RENOVATED (FUTURE) TO BE REMOVED (FUTURE) TELE TELEPHONE TEMP TEMPORARY TEST PIT TRANSFORMER UTILITY NOT FOUND

WATER VALVE LANDSCAPING

APP BPE CHE DEC DOG HEM HIC HOL LOC WAG WAP	APPLE BRADFORD PEAR CHERRY DECIDUOUS DOGWOOD HEMLOCK HICKORY HOLLY LOCUST MAGNOLIA MAPLE
LOC	LOCUST
MAG	MAGNOLIA
MAP	MAPLE
MUL	MULBERRY
PIN	PINE
POP	POPLAR
SPR	SPRUCE
SYC	SYCAMORE
WAL	WALNUT
WIL	WILLOW

VERTICAL BEND

VERTICAL

WATER MAIN

WATER

VERTICAL CURVE RADIUS

WATER HOUSE CONNECTION

	12"	DIA. WATER MAIN CO	ORDINATE	TABLE
	STATION	ITEM	NORTHING	EASTING
	0+00.00	12" DUCTILE IRON SLEEVE	543984.82	1346319.01
	0+24.75	12"-45" DIP HB	544005.73	1346332.23
	0+31.89	12"-45" DIP HB	544007.31	1346339.20
	0+59.04	12"-5" SWEEP	544030.27	1346353.68
	0+79.04	12"-HIGH DEFLECTION COUPLING	544048.06	1346362.84
	2+46.49	12"-HIGH DEFLECTION COUPLING	544199.14	1346435.03
	3+50.00	12"x6" TEE	544291.75	1346481.29
	5+76.80	12"-5" SWEEP	544494.64	1346582.62
	6+16.79	12"-HIGH DEFLECTION COUPLING	544531.84	1346597.31
	8+43.06	12"x6" TEE	544746.37	1346669.26
	8+50.00	12" GATE VALVE	544752.95	1346671.46
	9+61.32	12"-5" SWEEP	544858.50	1346706.86
	10+01.32	12"-5" SWEEP	544895.17	1346722.84
	10+65.85	12"-11.25" DIP HB	544951.85	1346753.67
	11+05.85	12"-HIGH DEFLECTION COUPLING	544982.59	1346779.27
	11+55.26	12"-5" SWEEP	545019.57	1346812.03
	11+90.00	12"x6" TEE	545043.46	1346837.25
	12+87.83	12"-45" DIP HB	545110.76	1346908.28
	13+16.66	12"-5" SWEEP	545139.57	1346909.06
	13+45.48	12"-45" DIP HB	545168.20	1346912.34
	13+83.64	12"-5" SWEEP	545191.93	1346942.23
	16+63.60	12"-45" DIP HB	545354.32	1347170.27
	17+16.00	12"-HIGH DEFLECTION COUPLING	545345.63	1347221.93
	17+63.03	12"-45" DIP HB	545337.43	1347268.25
	18+36.91	12"-HIGH DEFLECTION COUPLING	545379.82	1347328.78
	19+01.71	12"-HIGH DEFLECTION COUPLING	545421.44	1347378.46
	19+21.00	12" GATE VALVE	545434.46	1347392.69
	19+27.94	12"x6" TEE	545439.15	1347397.80
	20+15.37	12"-5" SWEEP	545498.14	1347462.32
	20+55.62	12"-5" SWEEP	545527.81	1347489.55
	21+35.64	12"-HIGH DEFLECTION COUPLING	545591.24	1347538.30
	23+75.63	12"-HIGH DEFLECTION COUPLING	545788.92 ·	1347674.40
<u> </u>	26+21.00	12"x6" TEE	545993.43	1347809.99
L	26+27.39	12" GATE VALVE	545998.75	1347813.52
<u> </u>	26+61.90	12"-HIGH DEFLECTION COUPLING	546027.52	1347832.59
,	27+64.38	12"-5" SWEEP	546109.87	1347893.59
L	28+28.92	12"-5" SWEEP	546158.18	1347936.40
	29+04.73	. 12"-22.5" DIP HB	546210.32	1347991.42
ļ	30+08.30	12"-11.25" DIP HB	546247.35	1348088.13
L	30+31.83	12" DUCTILE IRON SLEEVE	546260.47	1348108.95

SOIL BO	DRING SC	HEDULE
BORING NO.	NORTHING	EASTING
B-1	543990.88	1346338.97
B-2	544862.78	1346708.96
B-3	545013.77	1346810.28
B-4	545094.84	1347049.53
B-5	545286.50	1347239.00
B-6	545704.19	1347624.41
B-7	546238.99	1348074.59

	RESTORATION SCHEDULE									
STA. RANGE RESTORATION METHOD										
0+00 - 5+00 1-1/2" OVERLAY - FULL PAVEMENT WIDTH										
	5+00 - 11+32±	REMOVE EX. PAVING AND GRAVEL AND STABILIZE PER PATHWAY RESTORATION DETAIL ON SHEET 9								
11+32± - 14+65 STABILIZE PER NOTE ON 10D THIS S										
	14+65 - 17+50±	OUTSIDE OF RIVER BANKS, STABILIZE PER NOTE 10D THIS SHEET. RIVER BANKS SHALL BE STABILIZED AS NOTED IN SHEET 19								
	17+50± - 30+32	1-1/2" OVERLAY - FULL PAVEMENT WIDTH								

DEPARTMENT OF RECREATION AND PARKS GENERAL CONDITIONS OF RIGHT-OF-ENTRY FOR SEWER, WATER, OR OTHER UTILITY RIGHTS-OF-WAY, GRADING AND LANDSCAPE PLANTING

4 A. PRIOR TO THE COUNTY EXECUTING THE RIGHT-OF-ENTRY AGREEMENT, THE COUNTY DPW WILL BE RESPONSIBLE FOR A FOREST RESTITUTION ASSESSMENT AS REIMBURSEMENT FOR TREES AND HABITAT DESTROYED AND AREAS DISTURBED. THE FOREST RESTITUTION ASSESSMENT IS COMPUTED AT \$1.20 PER SQUARE FOOT AND NON-FORESTED AREAS AT \$0.75 PER SQUARE FOOT MULTIPLIED BY THE NUMBER OF SQUARE FEET WITHIN THE RIGHT-OF-ENTRY AREA. A HABITAT LOSS FEE WILL ALSO BE LEVIED ON ALL PROJECTS OF A MINIMUM RATE OF \$250.00 PER 0 - 5,000 SQUARE FEET OF DISTURBANCE. PROJECTS OVER 5,000 SQUARE FEET, FEES WILL BE ROUNDED UP TO THE NEXT 5,000 INCREMENT. EVALUATION/ADMINISTRATIVE FEE: CALCULATED AT \$250.00 PER 0 - 10,000 SQUARE FOOT INCREMENT. PROJECTS OVER 10,000 SQUARE FEET, FEES WILL BE ROUNDED UP TO THE NEXT 10,000 INCREMENT.

THIS AREA INCLUDES THE 20-FOOT EASEMENT AND ANY CONSTRUCTION AREA. THE RESTITUTION ASSESSMENT IS DUE UPON THE EXECUTION OF THE RIGHT-OF-ENTRY AGREEMENT. AND WILL BE ADJUSTED TO REFLECT THE ACTUAL AREA DISTURBED.

B. RESTORATION PAYMENT MUST BE SUBMITTED TO THE DEPARTMENT OF RECREATION AND PARKS PRIOR TO RECEIVING A RIGHT-OF-ENTRY AGREEMENT. PLEASE MAKE CHECK PAYABLE TO: DIRECTOR OF FINANCE AND SEND TO THE FOLLOWING ADDRESS: DEPARTMENT OF RECREATION AND PARKS

7120 OAKLAND MILLS ROAD COLUMBIA, MD 21046 ATTN: DAN MCNAMARA

- 6. PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES, THERE SHALL BE AN ON-SITE, PRE-CONSTRUCTION INSPECTION MEETING BETWEEN THE COUNTY DPW, THE CONTRACTOR, HOWARD COUNTY BUREAU OF CONSTRUCTION INSPECTION, AND BUREAU OF PARKS. PRIOR TO THIS MEETING, THE CONTRACTOR SHALL CLEARLY STAKE THE PROPOSED RIGHT-OF-WAY INCLUDING THE CENTER LINE.
- 8. BOTH SIDES OF THE CONSTRUCTION STRIP MUST BE FENCED PRIOR TO THE START OF CONSTRUCTION BY AN ORANGE-PLASTIC-MESH FENCE 4 FEET HIGH. THIS FENCE IS TO BE SECURED TO METAL POSTS AT 10-FOOT INTERVALS AND IS NOT TO BE ATTACHED TO ANY TREES OR OTHER VEGETATION. THE FENCE IS TO BE REMOVED AFTER COMPLETION OF CONSTRUCTION. ORANGE FENCING IS NOT REQUIRED WHERE SILT FENCING IS PROVIDED.
- DURING CONSTRUCTION, IF THE CONTRACTOR NEEDS TO CONSTRUCT OUTSIDE OF THE AREA SHOWN ON THE EXECUTED RIGHT-OF-ENTRY AGREEMENT, THE DEVELOPER MUST PERFORM THE FOLLOWING:
- A. MUST CONTACT THE DEPARTMENT OF RECREATION AND PARKS FOR APPROVAL
- B. A REDLINE DRAWING MUST BE SUBMITTED TO THE DEPARTMENT OF RECREATION AND PARKS AND THE DEVELOPMENT ENGINEERING DIVISION IN THE DEPARTMENT OF PLANNING AND ZONING FOR REVIEW AND APPROVAL.
- C. IF CONSTRUCTION PROCEEDS OUTSIDE OF THE LIMITS OF DISTURBANCE SHOWN ON THE PLAN WITHIN THE EXECUTED RIGHT-OF-ENTRY AGREEMENT WITHOUT APPROVAL FROM THE DEPARTMENT OF RECREATION AND PARKS, THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL TREES DESTROYED, WHICH WERE NOT SPECIFICALLY DESIGNATED TO BE LOST IN THE APPROVED RIGHT-OF-ENTRY AGREEMENT AND SHALL BE REPLACED AT A COST OF 100% OF THE DIAMETER AT BREAST HEIGHT (DBH) IN INCHES LOST.
- D. THERE SHALL ALSO BE A PENALTY OF \$1.20 PER SQUARE FOOT FOR ANY AND ALL AREAS DISTURBED OUTSIDE OF THE LIMITS OF DISTURBANCE SHOWN ON THE PLAN WITHIN THE EXECUTED RIGHT-OF-ENTRY AGREEMENT. THIS IS IN ADDITION TO #9C ABOVE.
- 10. A. THE CONTRACTOR SHALL EXERCISE ITS BEST EFFORTS TO SAVE TREES IMMEDIATELY ADJACENT TO THE CONSTRUCTION AREA. WHERE NECESSARY, PROTECTIVE PADDING WILL BE WRAPPED AROUND TREE TRUNKS TO PREVENT DAMAGE BY MACHINERY.
- B. NO EQUIPMENT OR MATERIAL SHALL BE PARKED OR STORED ON ANY PARK PROPERTY.
- C. ANY AND ALL TREES DAMAGED OR SCARRED SHALL BE TREATED WITHIN FORTY-EIGHT HOURS BY A QUALIFIED EXPERT AND IN ACCORDANCE WITH AMERICAN ARBORISTS SOCIETY STANDARDS. THIS INCLUDES THE CORRECTIVE PRUNING OF BROKEN LIMBS AS WELL AS THE PROPER "DRESSING" OF TRUNKWOUNDS. UNDER NO CONDITION SHALL PRUNING PAINT OR OTHER TYPEOFPAINT BE USED ON ANY WOUNDS OR CUTS. ANY AND ALL TREES WHICHARE DAMAGED AND NOT TREATED WITHIN 48 HOURS SHALL BE DEEMED "DESTROYED" AND WILL AUTOMATICALLY BE ADDED TO THE MITIGATION REQUIREMENTS OF THE PROJECT AT A 100% REPLACEMENT.
- D. ALL AREAS WITH EXPOSED SOIL, (WHETHER DISTURBED BY DEVELOPER OR PRE-EXISTING) OR AREAS WITH EXCESSIVE ANNUAL VEGETATION SHALL BE STABILIZED IN ACCORDANCE WITH SCS/WRA MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL SECTION 51.01 USING MIXTURE #1 FROM TABLE S1-1 OF THAT SECTION. STABILIZATION SHALL BE DEFINED AS HAVING A MINIMUM OF A TWO (2) INCH STAND OF GRASS COVERING 95% OF THE SOIL SURFACE IN UNIT INCREMENTS OF ONE (1) SQUARE YARD.

RECORD DRAWINGS TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, BASED ON INFORMATION PROVIDED BY OTHERS, THESE RECORD DRAWINGS SUBSTANTIALLY REPRESENT THE PROJECT AS CONSTRUCTED.

AS-BUILT 6/2014

WATER MAIN CONNECTION CAPITAL PROJECT: W-8297 CONTRACT NO.: 44-4675 **ELECTION DISTRICT: 6** HOWARD COUNTY, MARYLAND

KINDLER ROAD - EDEN BROOK DRIVE

SCALE AS SHOWN SHEET

2 OF 20

DEPARTMENT OF PUBLIC WORKS HOWARD, COUNTY, MARYLAND

CHIEF, UTILITY DESIGN DIVISION VD

OBRIENS GERE 4201 MITCHELLVILLE ROAD SUITE 500 BOWIE, MD 20716

PHONE: 301-731-5622

CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR UCENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18523, EXPIRATION DATE 12/08/2013

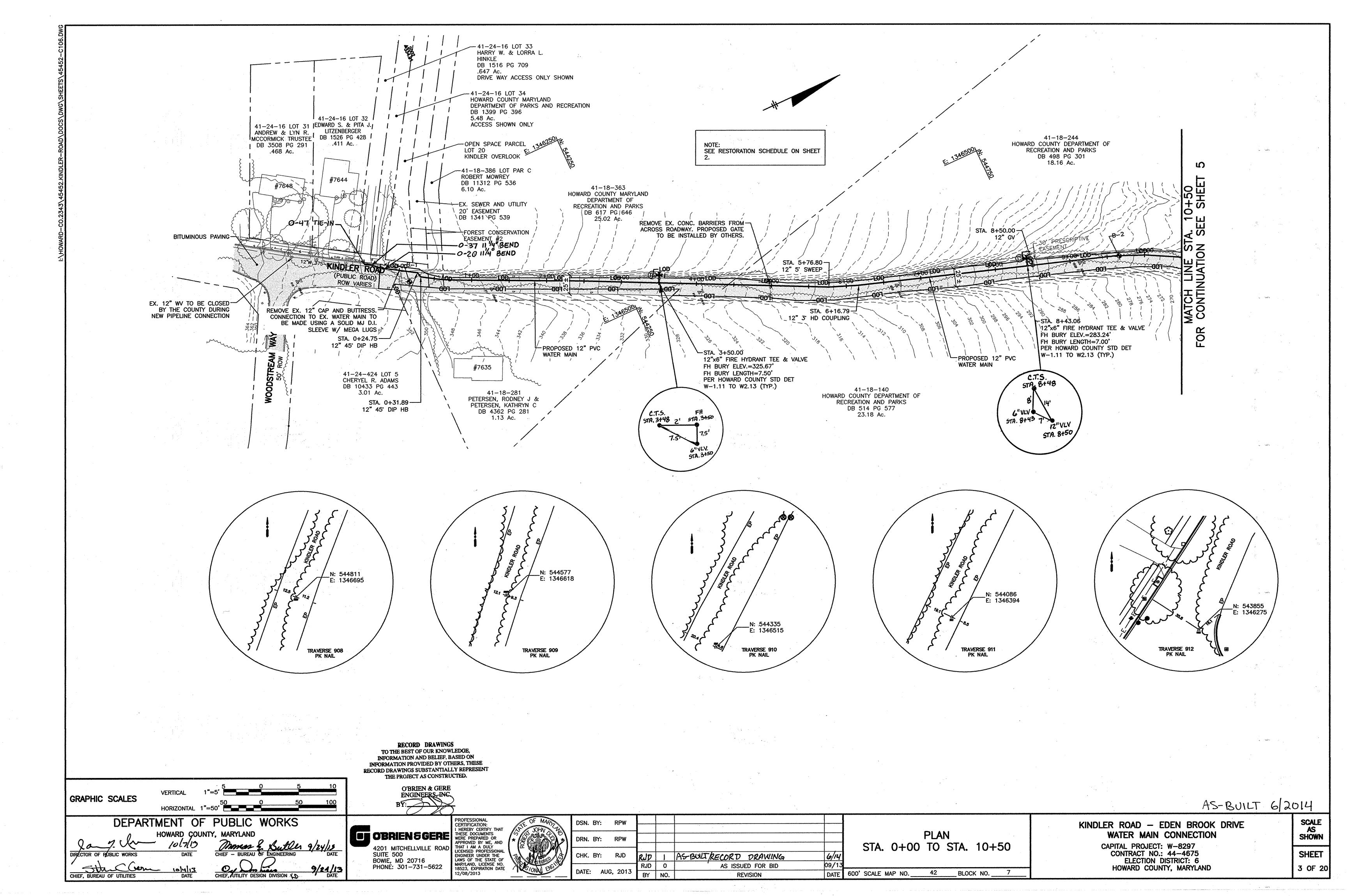


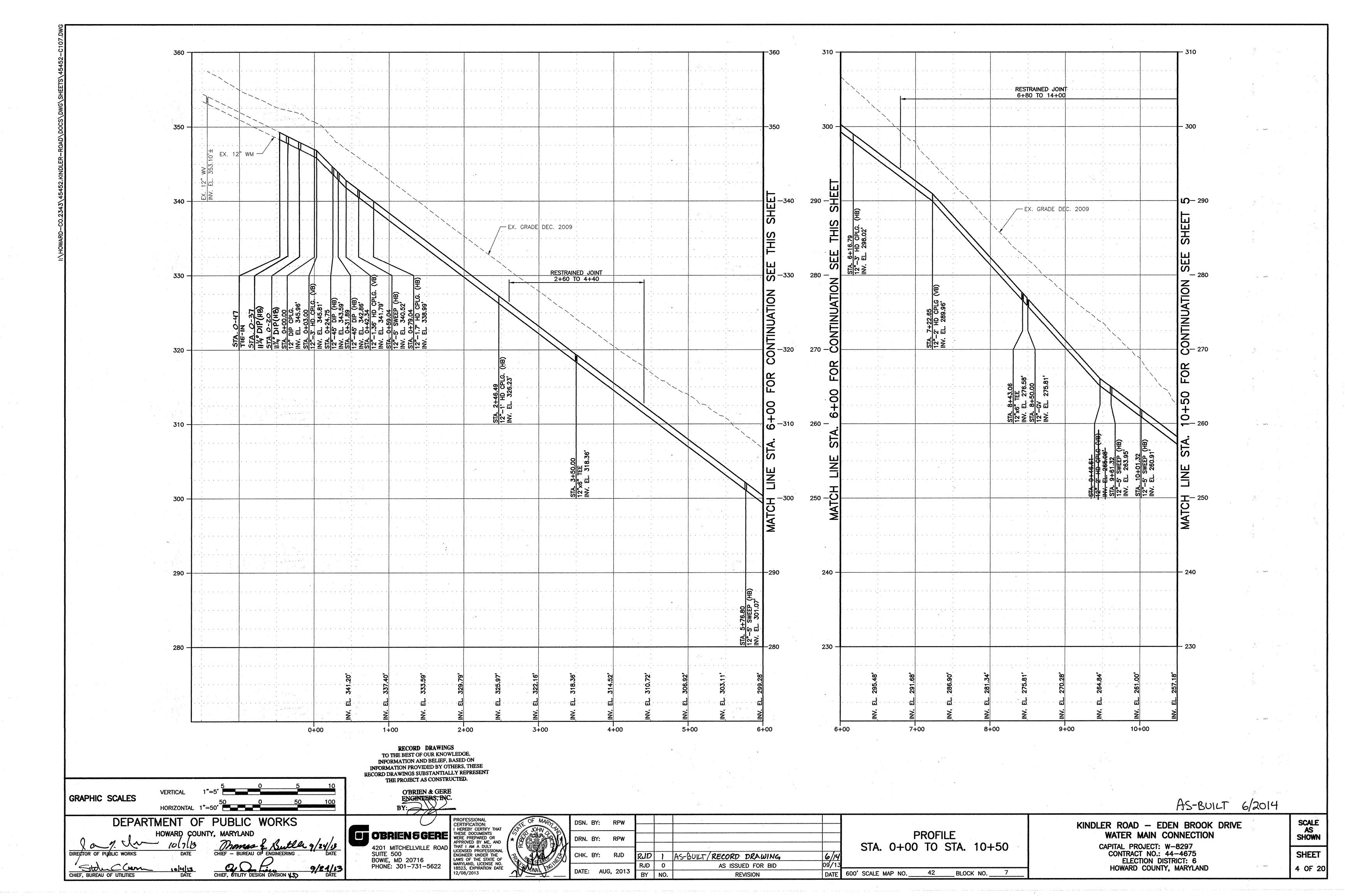
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N. BY:	RPW			\$ - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -		TABLES A
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E: AU	IG, 2013	BY	NO.	REVISION	DATE	600' SCALE MAP NO

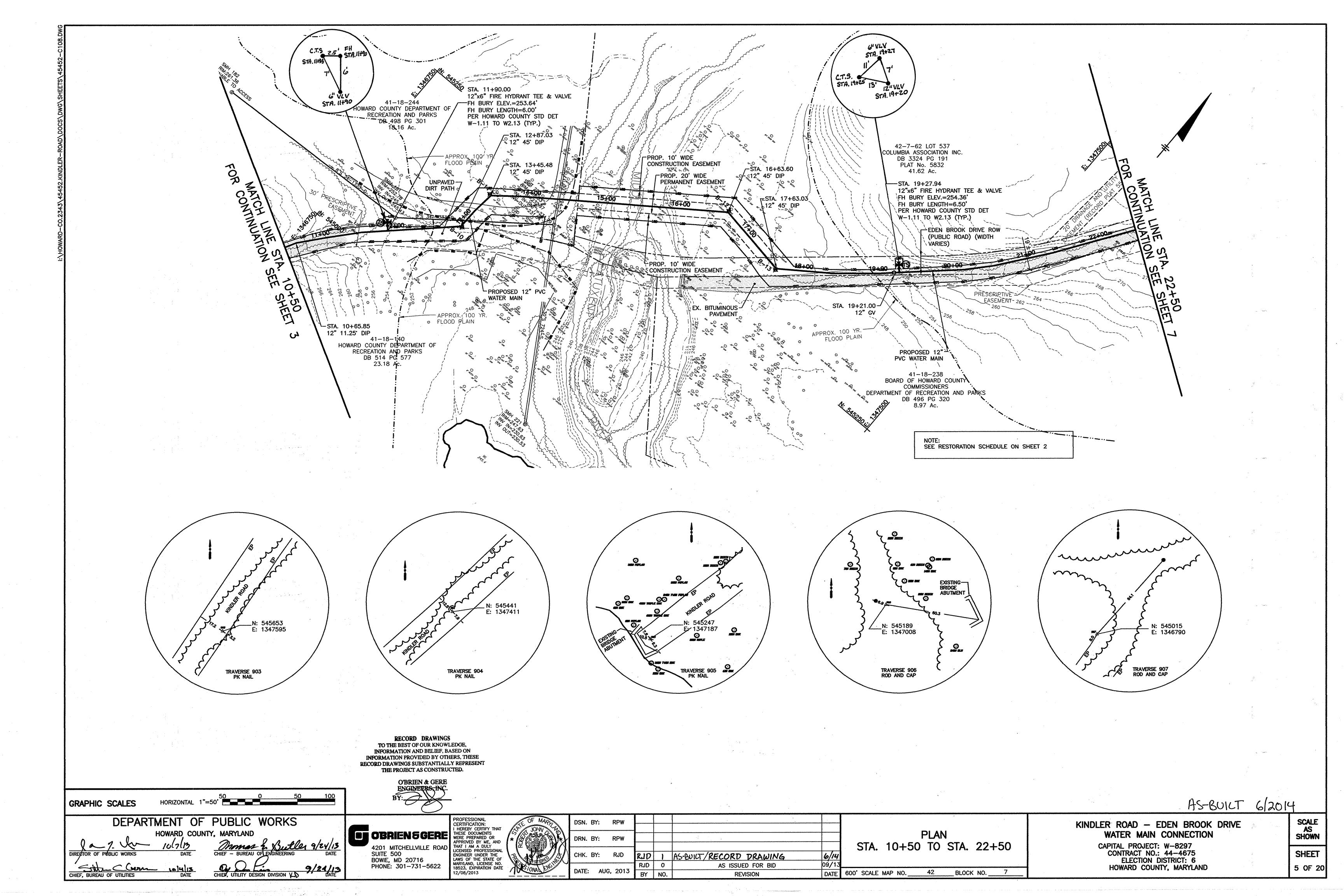
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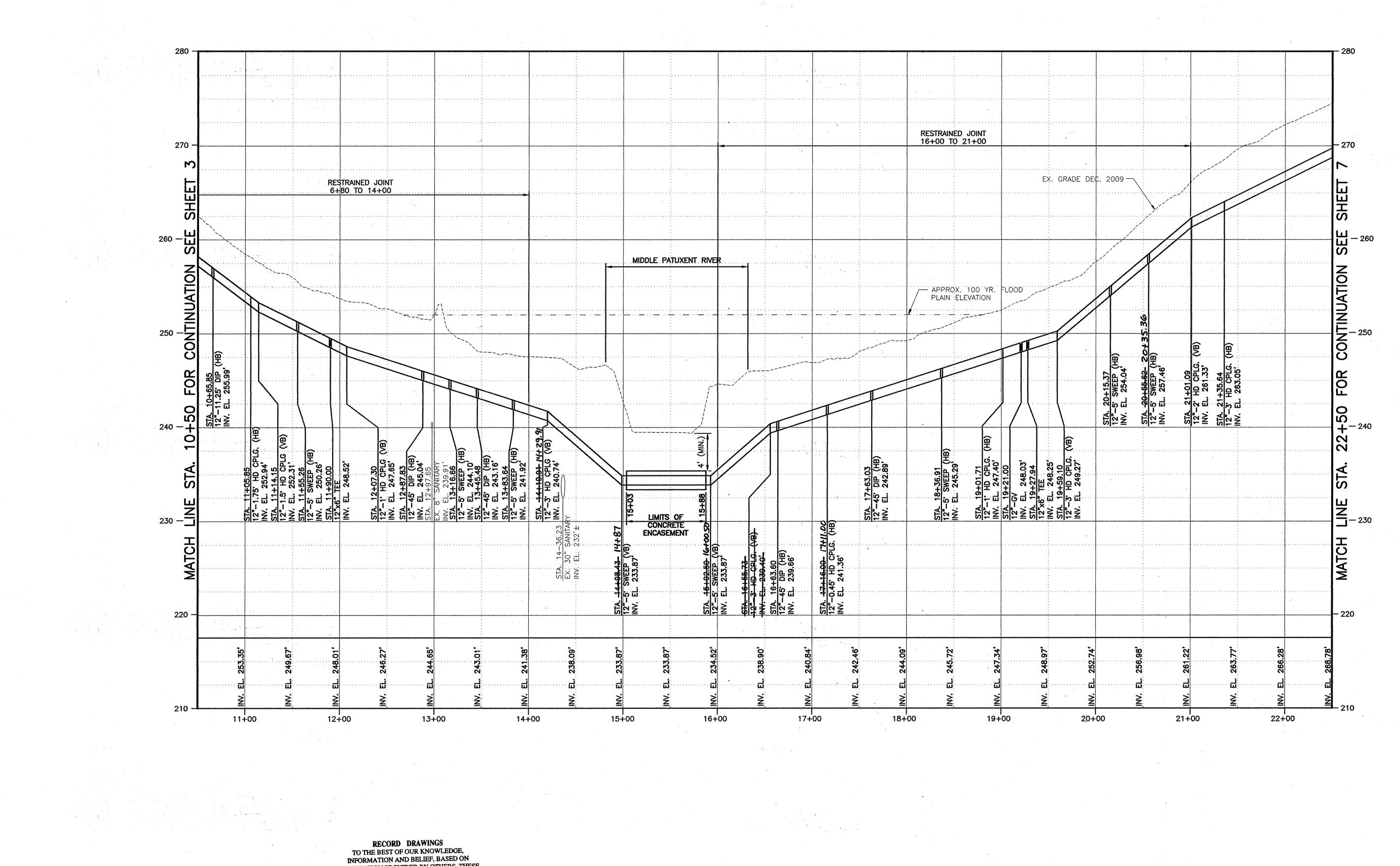
LEGEND, ABBREVIATIONS,

42



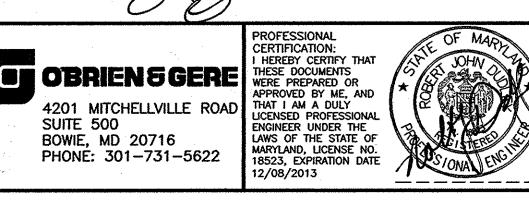






RECORD DRAWINGS SUBSTANTIALLY REPRESENT THE PROJECT AS CONSTRUCTED.

GRAPHIC SCALES DEPARTMENT OF PUBLIC WORKS CHIEF, UTILITY DESIGN DIVISION KD



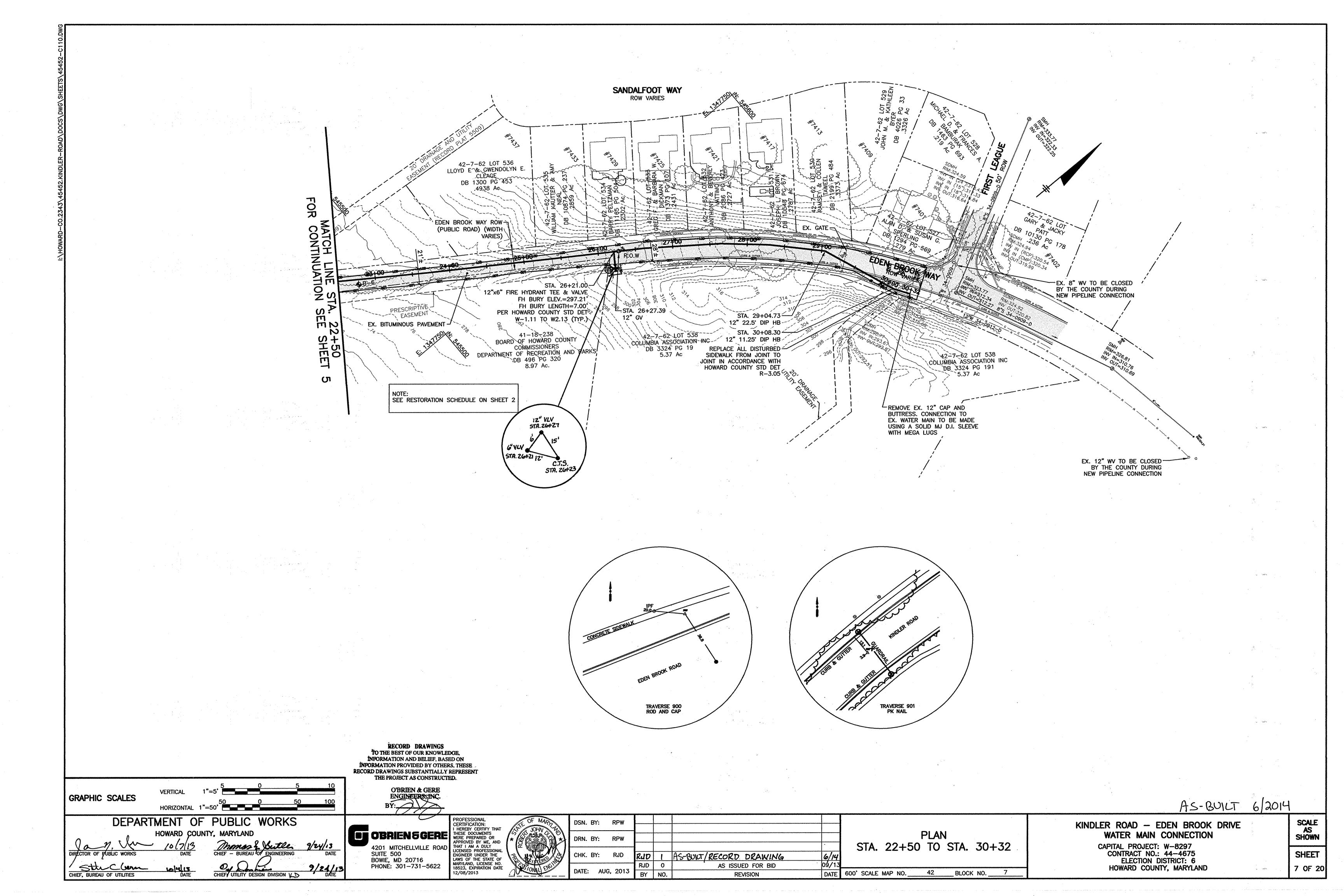
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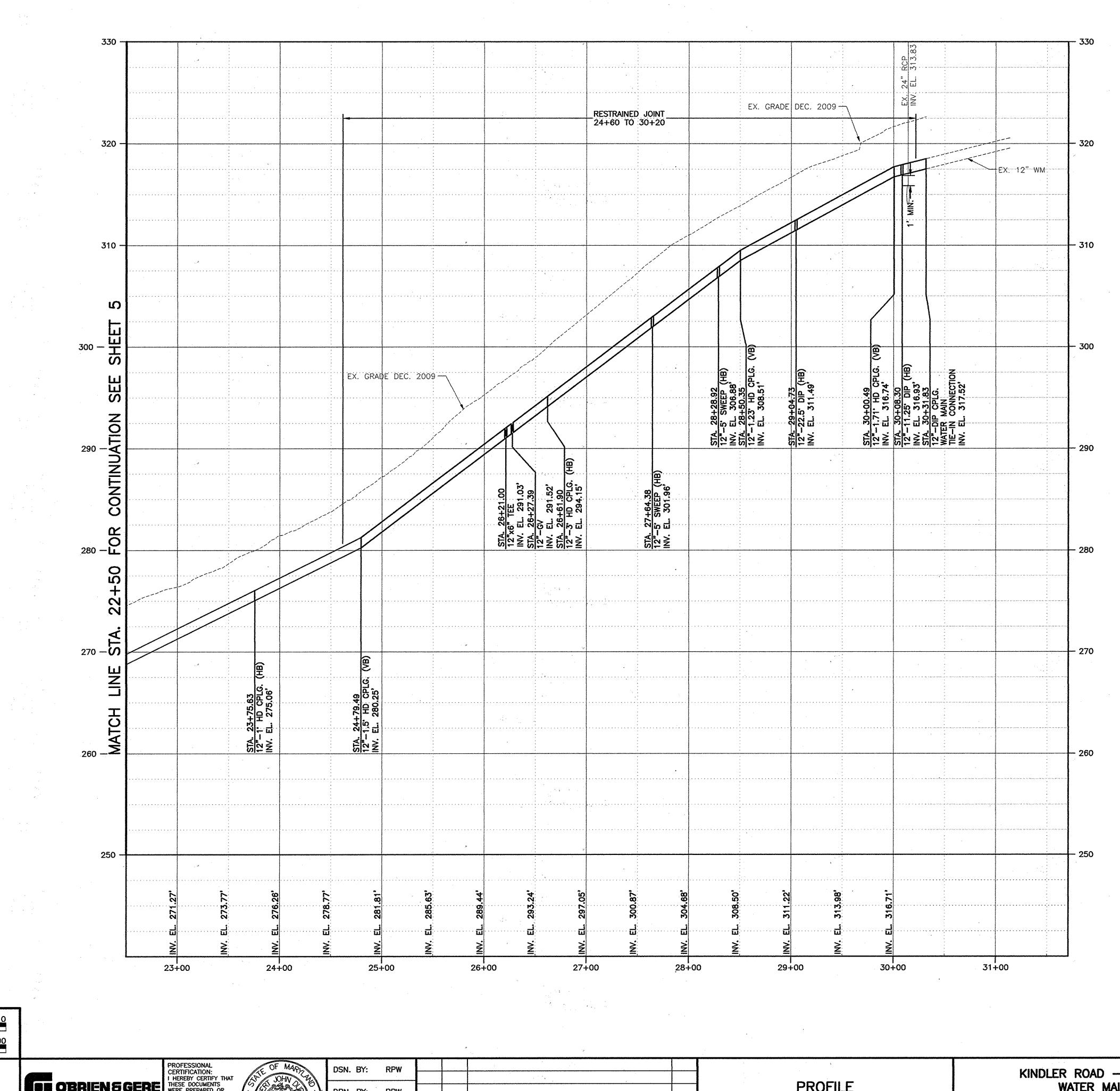
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PROFILE STA. 10+50 TO STA. 22+50 DATE 600' SCALE MAP NO. _BLOCK NO.

KINDLER ROAD - EDEN BROOK DRIVE WATER MAIN CONNECTION CAPITAL PROJECT: W-8297
CONTRACT NO.: 44-4675
ELECTION DISTRICT: 6
HOWARD COUNTY, MARYLAND

AS-BUILT 6/2014 SCALE AS SHOWN SHEET 6 OF 20





RECORD DRAWINGS SUBSTANTIALLY REPRESENT

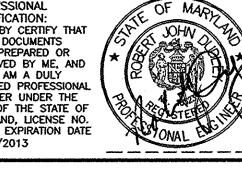
AS BUILT 6/2014

GRAPHIC SCALES DEPARTMENT OF PUBLIC WORKS

OBRIEN 5 GERE

4201 MITCHELLVILLE ROAD
SUITE 500
BOWIE, MD 20716
PHONE: 301-731-5622

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.
18523, EXPIRATION DATE
12/08/2013

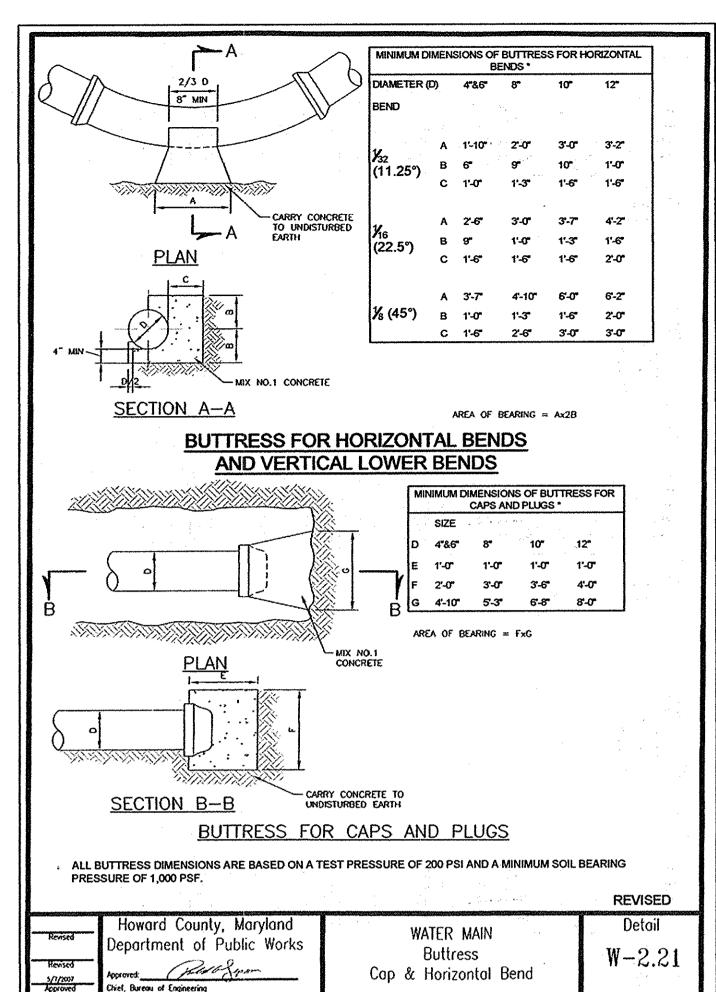


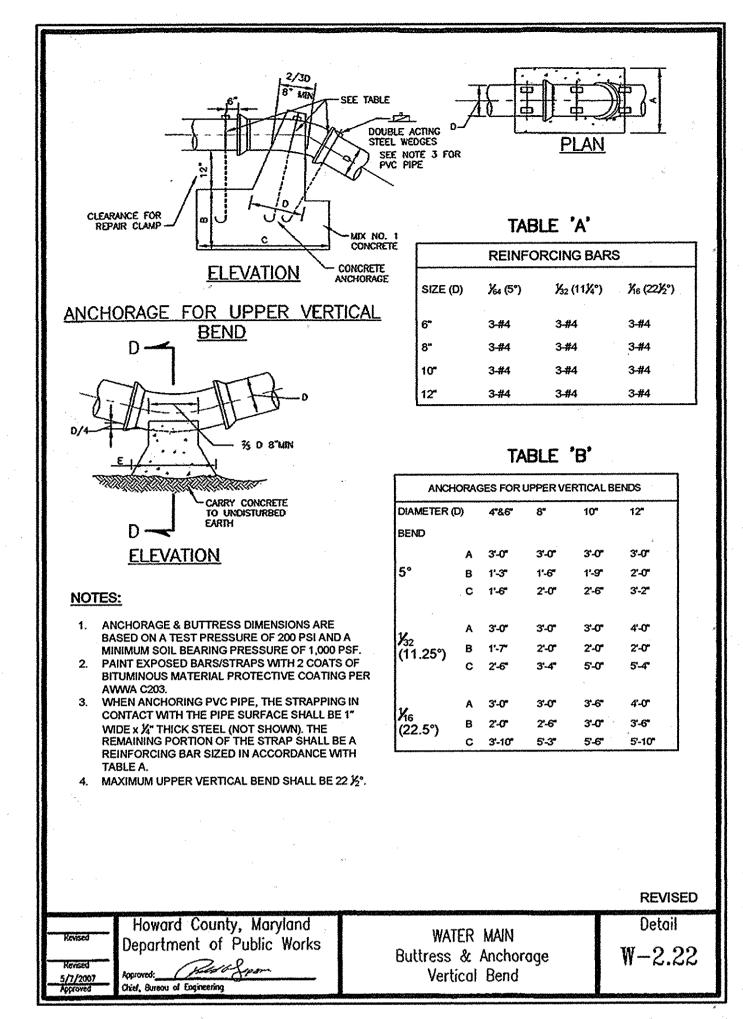
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CHK. BY: RJD	RJD	1	AS-BULL/RECORD DRAWING	6/14
	RJD	0	AS ISSUED FOR BID	09/13
 DATE: AUG, 2013	BY	NO.	REVISION	DATE

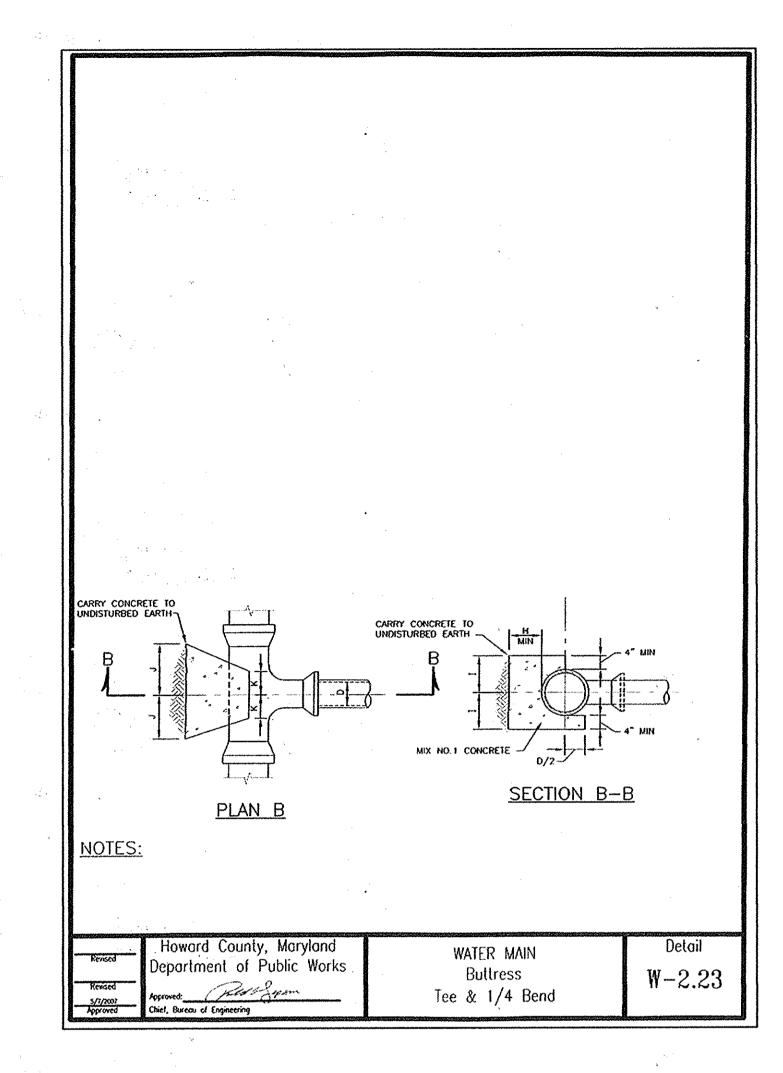
PROFILE STA. 22+50 TO STA. 30+32 600' SCALE MAP NO. 42 BLOCK NO. 7

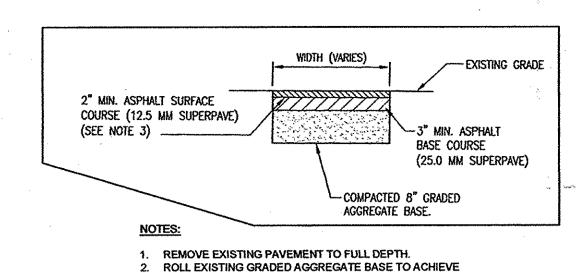
KINDLER ROAD - EDEN BROOK DRIVE WATER MAIN CONNECTION CAPITAL PROJECT: W-8297
CONTRACT NO.: 44-4675
ELECTION DISTRICT: 6
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN SHEET 8 OF 20









MAXIMUM DENSITY. 3. INSTALL 3" MINIMUM ASPHALT VASE COURSE, PROVIDED A TACK COAT OF AE-4 EMULSION APPLIED AT THE RATE OF 0.05 GAL/SQ.YD. AND INSTALL 2" MINIMUM ASPHALT SURFACE

4. SAWCUT JOINTS FULL DEPTH OF ASPHALT COURSES, TACK

COAT JOINTS IN SURFACE COURSE. 5. FOOTPATH SHALL BE REPLACED TO THE EXISTING WIDTH.

6. CONTRACTOR SHALL USE SELECT FILL AS REQUIRED WHERE EXISTING PAVEMENT HAS BEEN REMOVED.

PAVEMENT REPAIR DETAIL

NOT TO SCALE

____ 3:1 MAX. SLOPE 3:1 MAX. SLOPE ---- SEED & MULCH SEED & MULCH -- 4" BITUMINOUS CONCRETE BAND, BF 6" CR-6 COMPACTED & ROLLED COMPACTED SUBGRADE PATHWAY RESTORATION DETAIL

TYPICAL SECTION

OBRIEN 5 GERE 4201 MITCHELLVILLE ROAD SUITE 500 BOWIE, MD 20716 PHONE: 301-731-5622

THEREBY 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. 18523, EXPIRATION DATE

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		RJD	0	AS ISSUED FOR BID	09/13
_	DATE: AUG, 2013	BY	NO.	REVISION	DATE

KINDLER ROAD - EDEN BROOK DRIVE WATER MAIN CONNECTION

CAPITAL PROJECT: W-8297
CONTRACT NO.: 44-4675
ELECTION DISTRICT: 6
HOWARD COUNTY, MARYLAND

SHOWN SHEET 9 OF 20

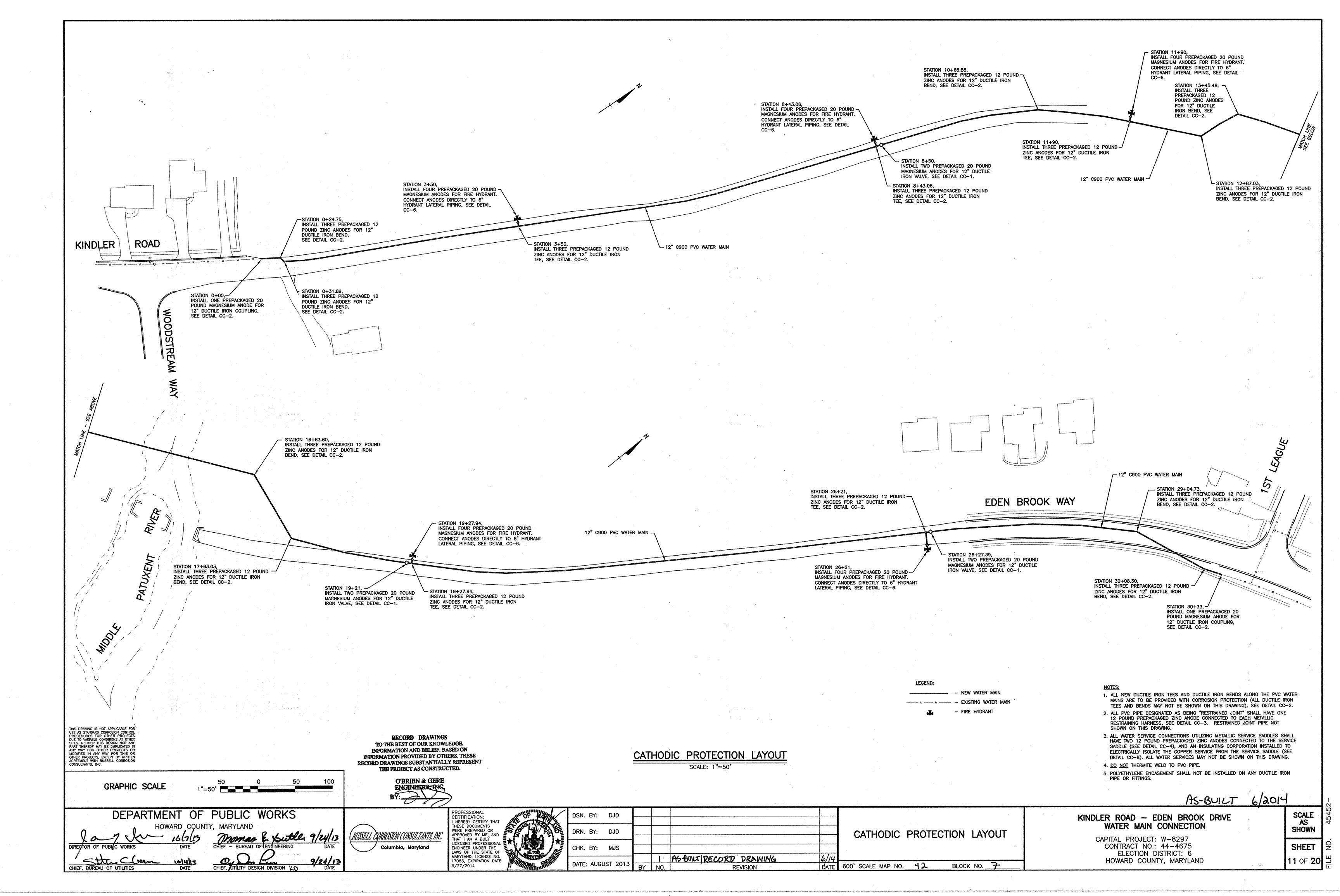
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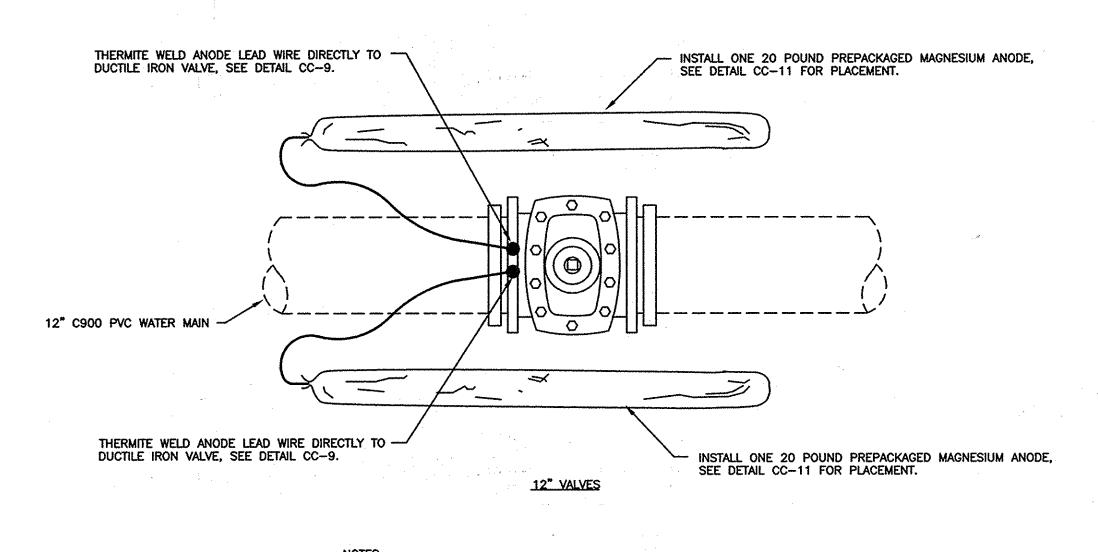
RECORD DRAWINGS
TO THE BEST OF OUR KNOWLEDGE,

GENERAL DETAILS

thief, Bureau of Engineering

DEPARTMENT OF PUBLIC WORKS



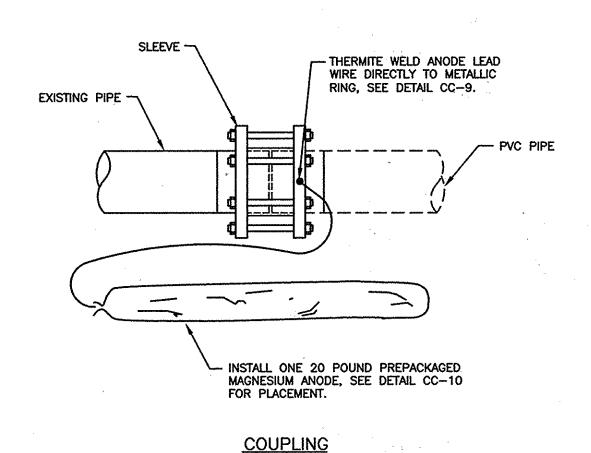


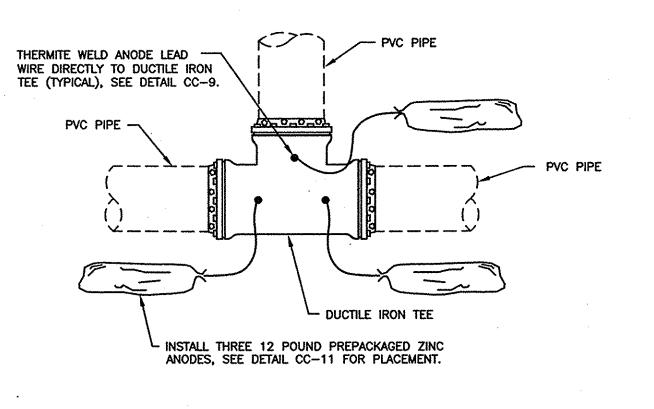
1. ANODES PLACED AT SAME DEPTH AS THE BOTTOM OF PIPE AND AT A MINIMUM OF 12" FROM EDGE OF PIPE, SEE DETAIL CC-11.

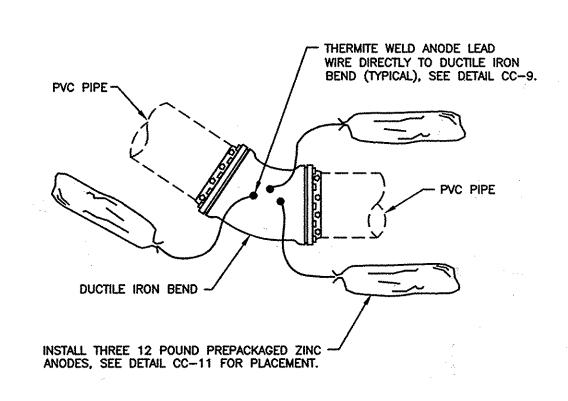
2. DO NOT THERMITE WELD TO PVC PIPE.

CC-1: CORROSION PROTECTION FOR DUCTILE IRON VALVES

NOT TO SCALE





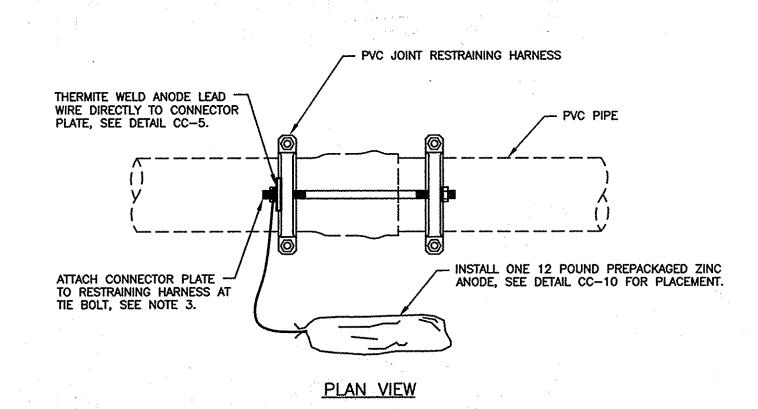


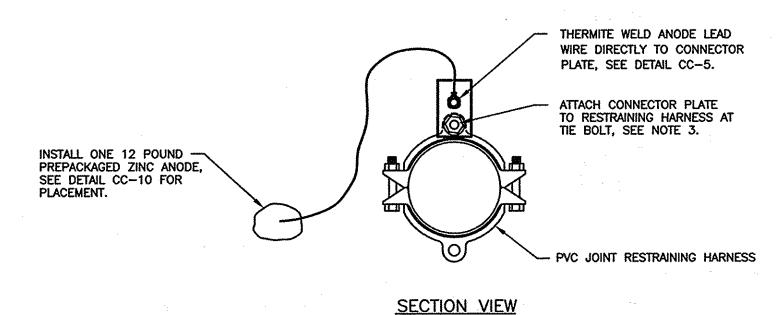
TEE

- 1. ANODES PLACED AT SAME DEPTH AS THE BOTTOM OF PIPE AND AT A MINIMUM OF 12" FROM EDGE OF PIPE, SEE DETAILS CC-10 AND CC-11.
- 2. DO NOT THERMITE WELD TO PVC PIPE.

CC-2: CORROSION PROTECTION FOR DUCTILE IRON FITTINGS

NOT TO SCALE





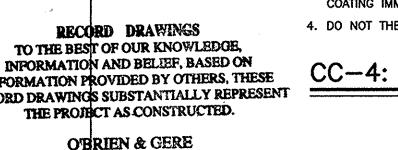
- 1. ANODE LEAD WIRE TO BE THERMITE WELDED TO CONNECTOR PLATE PRIOR TO ATTACHING CONNECTOR
- PLATE TO RESTRAINING HARNESS. 2. ANODES PLACED AT SAME DEPTH AS THE BOTTOM OF PIPE AND AT A MINIMUM OF 12" FROM EDGE
- 3. REMOVE COATING FROM RESTRAINING HARNESS WHERE CONNECTOR PLATE IS TO BE MOUNTED. REMOVE COATING IMMEDIATELY PRIOR TO ATTACHING THE CONNECTOR PLATE.
- 4. DO NOT THERMITE WELD TO PVC PIPE.

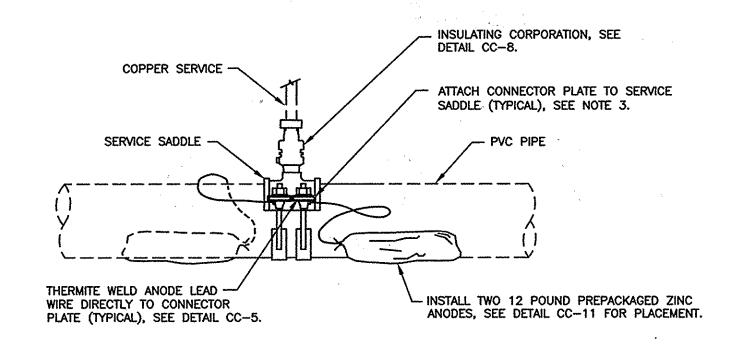
OF PIPE, SEE DETAIL CC-10.

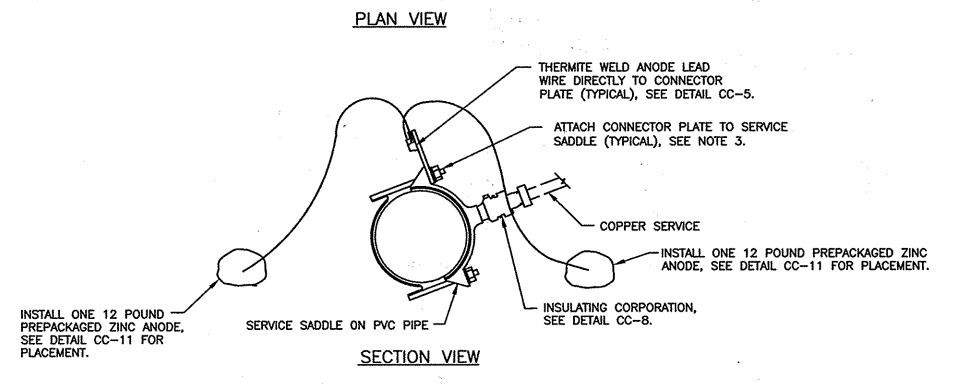
CC-3: CORROSION PROTECTION OF RESTRAINING HARNESS

NOT TO SCALE

RECORD DRAWINGS TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, BASED ON INFORMATION PROVIDED BY OTHERS, THESE RECORD DRAWINGS SUBSTANTIALLY REPRESENT THE PROJECT AS CONSTRUCTED.



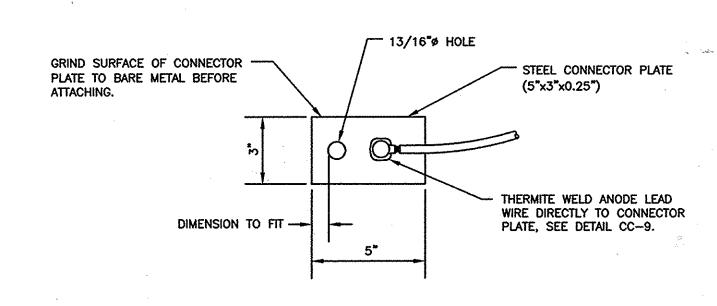




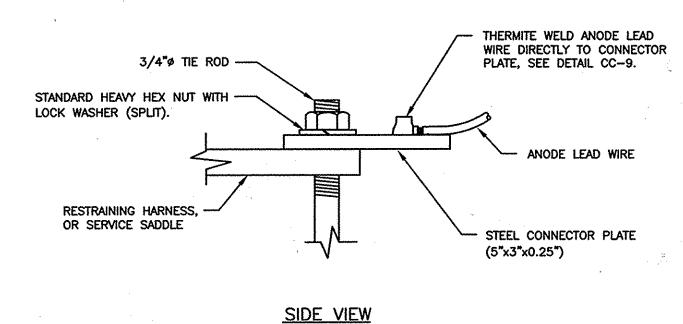
- 1. ANODE LEAD WIRES TO BE THERMITE WELDED TO CONNECTOR PLATES PRIOR TO ATTACHING CONNECTOR PLATES TO SERVICE SADDLE.
- 2. ANODES PLACED AT SAME DEPTH AS THE BOTTOM OF PIPE AND AT A MINIMUM OF 12" FROM EDGE OF PIPE, SEE DETAIL CC-11.
- 3. REMOVE COATING FROM SERVICE SADDLE WHERE CONNECTOR PLATE IS TO BE MOUNTED. REMOVE COATING IMMEDIATELY PRIOR TO ATTACHING THE CONNECTOR PLATE.
- 4. DO NOT THERMITE WELD TO PVC PIPE.

CC-4: CORROSION PROTECTION OF SERVICE SADDLE

NOT TO SCALE



PLAN VIEW



NOTES:

- 1. ANODE LEAD WIRE TO BE THERMITE WELDED TO CONNECTOR PLATE PRIOR TO ATTACHING CONNECTOR PLATE TO RESTRAINING HARNESS, OR SERVICE SADDLE.
- 2. THERMITE WELDS SHALL BE COATED WITH A PREFABRICATED ONE PIECE PLASTIC CAP FILLED WITH ELASTOMERIC MATERIAL, ROYSTON HANDY-CAP OR APPROVED EQUAL.

CC-5: CONNECTOR PLATE DETAIL

NOT TO SCALE

AS-BUILT 6/2014

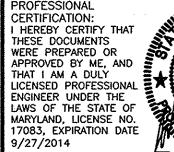
DEPARTMENT OF PUBLIC WORKS

THIS DRAWING IS NOT APPLICABLE FOR USE AS STANDARD CORROSION CONTROL PROCEDURES FOR OTHER PROJECTS DUE TO VARIABLE CONDITIONS AT OTHER SITES. NEITHER THIS DESIGN NOR ANY PART THEREOF MAY BE DUPLICATED IN ANY WAY FOR OTHER PROJECTS OR MODIFIED IN ANY WAY FOR THIS OR OTHER PROJECTS, EXCEPT BY WRITTEN AGREEMENT WITH RUSSELL CORROSION CONSULTANTS, INC.

CHIEF, BUREAU OF UTILITIES

CHIEF UTILITY DESIGN DIVISION LA

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CATHODIC PROTECTION DETAILS - 1

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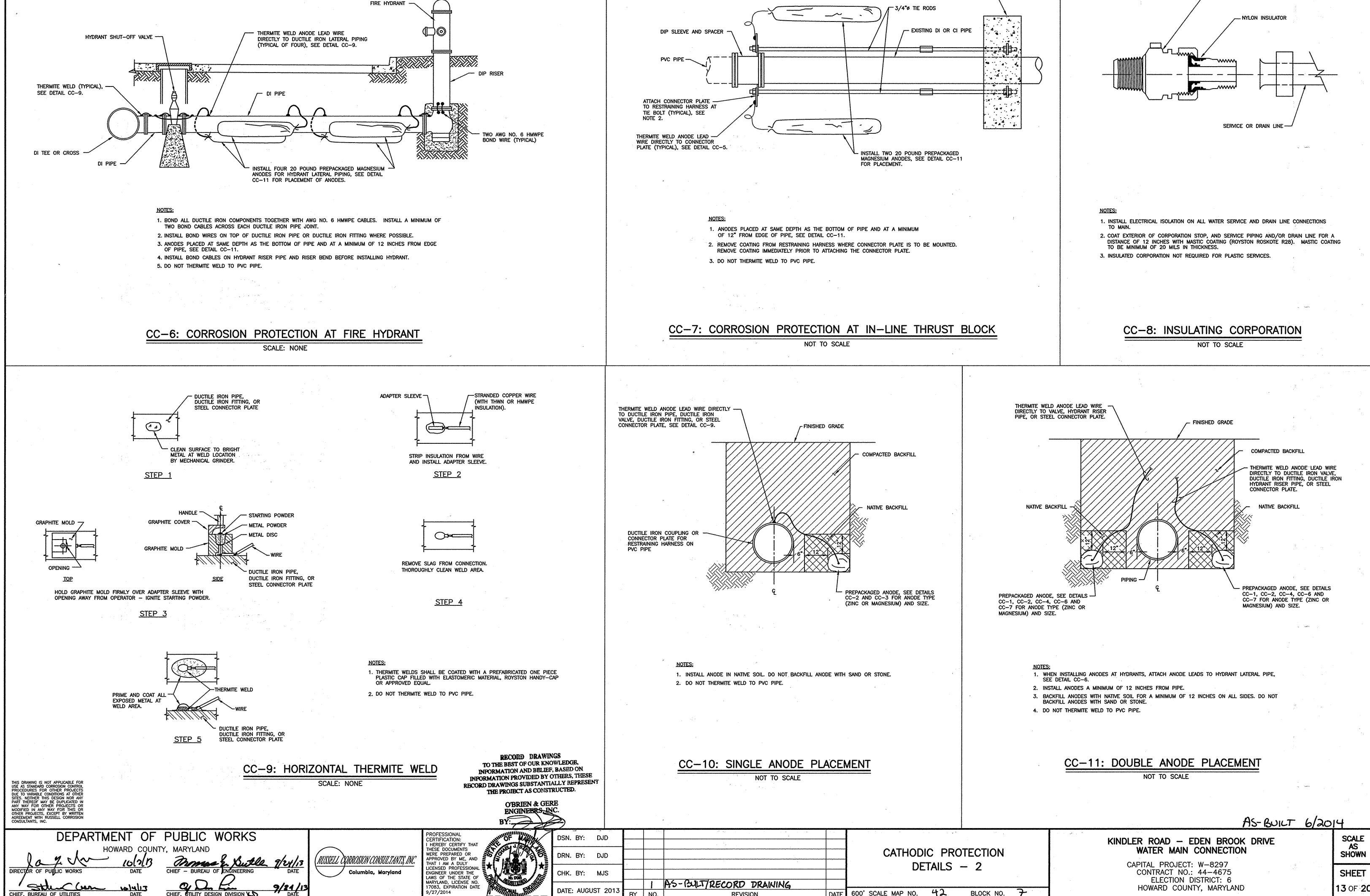
600' SCALE MAP NO. 42

KINDLER ROAD - EDEN BROOK DRIVE WATER MAIN CONNECTION

CAPITAL PROJECT: W-8297 CONTRACT NO.: 44-4675 **ELECTION DISTRICT: 6** HOWARD COUNTY, MARYLAND

SCALE AS SHOWN SHEET

12 OF 20

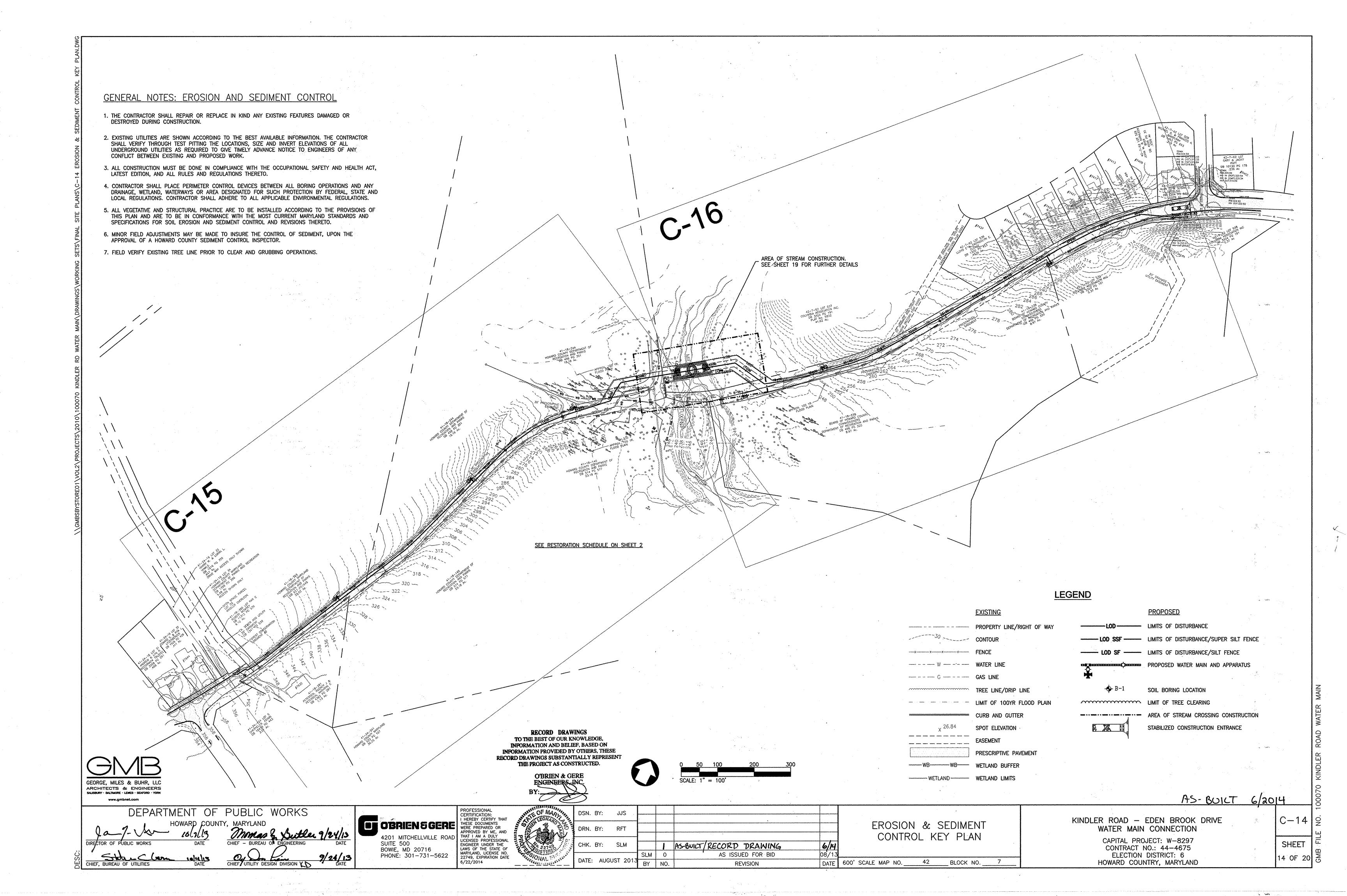


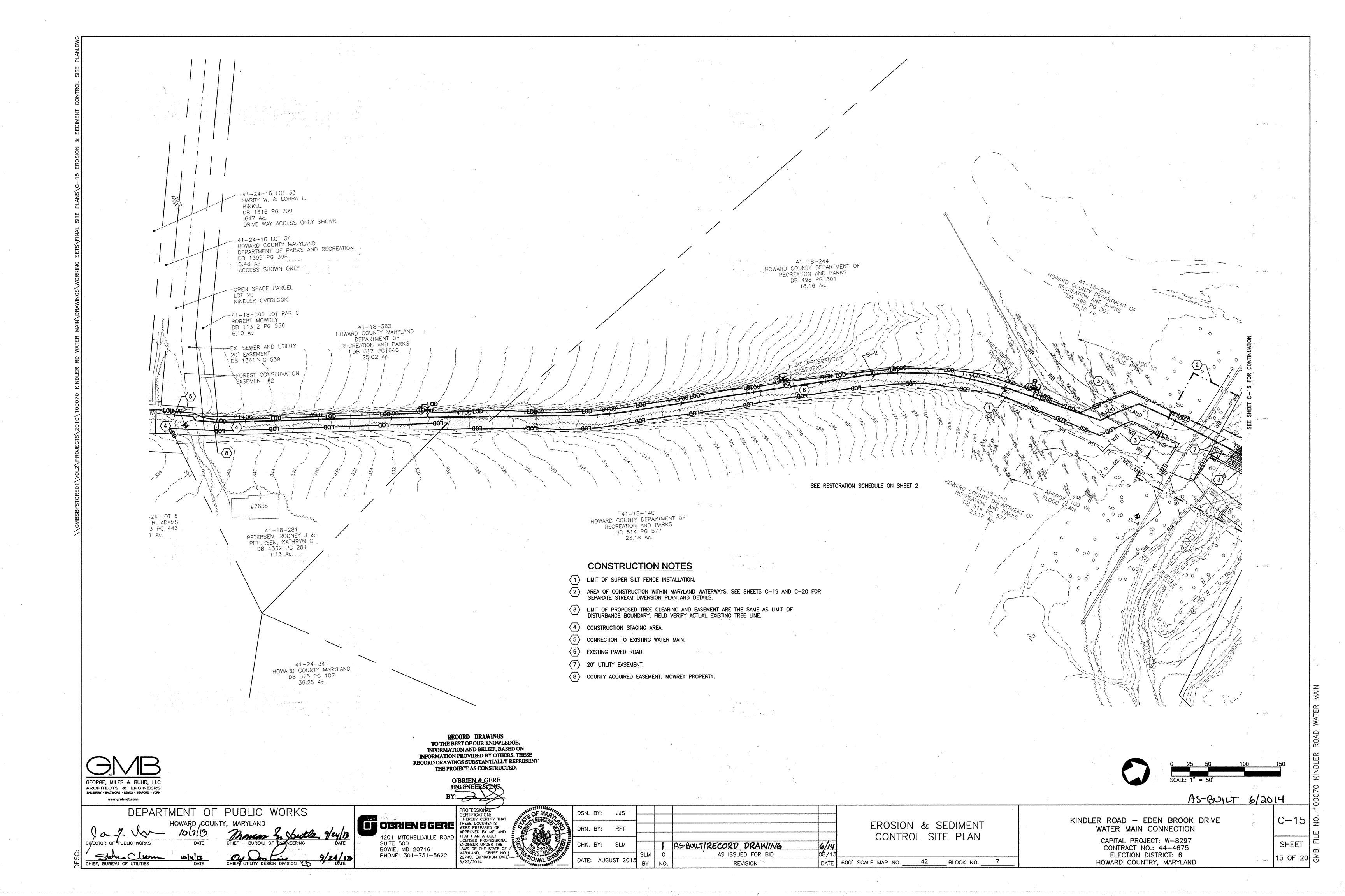
CHIEF, BUREAU OF UTILITIES

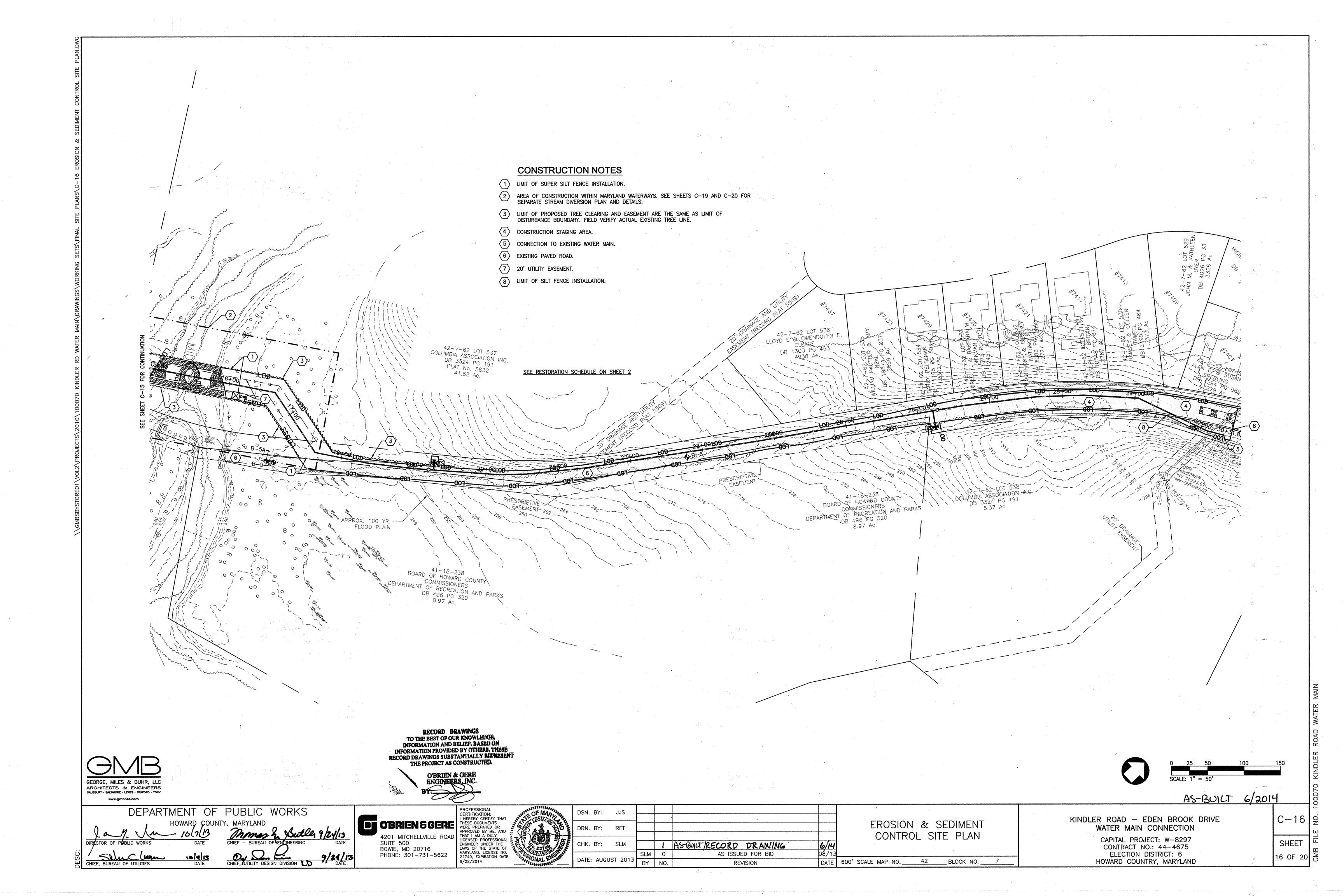
CONCRETE THRUST BLOCK ---

BLOCK NO.

CORPORATION VALVE







TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME. PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

- 1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3). AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN.
- 2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.
- 3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON. TEMPORARY SEEDING SUMMARY SEE TABLE

PERMANENT STABILIZATION

TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS. CONDITIONS WHERE PRACTICE APPLIES

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

SEED MIXTURES 1. GENERAL USE

- a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
- ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.
- c. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL
- d. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3 ½ POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY
- 2. TURFGRASS MIXTURES AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES
- WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT
- SEEDING SUMMARY, THE SUMMARY IS TO BE PLACED ON THE PLAN. i. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
- KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE B.22 RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH
- EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES: CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE
- CULTIVARS MAY BE BLENDED. iv. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA, MIXTURE INCLUDES; CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 11/2 TO 3 POUNDS PER 1000 SQUARE FEET.
 - SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND" CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE
- IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, 6A) CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B) SOUTHERN MD. EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A,
- d. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, 1FVF1 AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED, REMOVE STONES AND DEBRIS OVER 11/6 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF
- GRASSES WILL POSE NO DIFFICULTY. e. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

,	TEM	PORARY S		RE FOR HARDIN BLE B.1 AND		FERTILIZER RATE	LIME RATE
	NO.	SPECIES	APPL. RATE (lbs/ac)	SEEDING DATES	SEEDING DEPTHS	(10-20-20)	
	1	RYE	140	2/1 TO 4/30 8/15 TO 11/30	1 TO 2	436lbs/ac. 10lbs/ 1000sf	2 Tons/ac 90lb/1000sf

RECORD DRAWINGS TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, BASED ON INFORMATION PROVIDED BY OTHERS, THESE RECORD DRAWINGS SUBSTANTIALLY REPRESENT

THE PROJECT AS CONSTRUCTED. O'BRIEN & GERE

PERMANENT SEEDING SUMMARY SEE TABLE

- SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER). . GENERAL SPECIFICATIONS
- a. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
- SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 1/4 INCH, PLUS OR MINUS 1/4 INCH. AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.
- STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT and retain their size and shape when suspended vertically with a firm grasp on the
- UPPER 10 PERCENT OF THE SECTION. d. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
- e. SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT transplanted within this period must be approved by an agronomist or soil scientist
- 2. SOD INSTALLATION a. During Périods of Excessively high temperature or in areas having dry subsoil, lightly
- IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD. b. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR
- DRYING OF THE ROOTS. c. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES, ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE
- d. WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS.
- 3. SOD MAINTENANCE a. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING.
- b. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
- c. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/2 OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

P	PERMANENT SEED MIXTURE FOR HARDINESS ZONE 7B FERTILIZER RATE (FROM TABLE B.3 AND FIGURE B.3) (10-20-20)										
	١٥.	SPECIES	APPL. RATE (lbs/ac)	SEEDING DATES	SEEDING DEPTH	N	P205	K20	LIME RATE		
	3	TALL FESCUE (85%)	125	3/1 TO 5/15 8/15 TO 11/15	1/4 TO 1/2						
		PERENNIAL RYE GRASS (10%)	15	3/1 TO 5/15 8/15 TO 11/15	1/4 TO 1/2	45lb/AC 1/1000sf		90lb/ac 2lb/1000sf	2 Tons/ac 90lb/1000sf		
		KENTUCKY BLUEGRASS (5%)	10	3/1 TO 5/15 8/15 TO 11/15	1/4 TO 1/2			,			

ENGINEERS CERTIFICATION

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

STEPHEN L. MARSH, P.E., LEED AP

GEORGE, MILES & BUHR, LLC 206 WEST MAIN STREET SALISBURY, MD 21801

STEPHEN L. MARSH, P.E. PHONE: 410-742-3115 FAX: 410-548-5790

DEVELOPER/OWNER CERTIFICATION:

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

Lummore DEVELOPER'S / OWNER'S SIGNATURE PRINT NAME: KERRI DINSMURE

8/16/2013

DEVELOPER/OWNER: HOWARD COUNTY DEPT. PUBLIC WORKS 3430 COURT HOUSE DRIVE ELLICOT CITY, MD 21043

PHONE: 410 313 4400

SEDIMENT CONTROL NOTES

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

SITE ANALYSIS

.YSIS:		
TOTAL AREA OF SITE:	1.85	ACRES
AREA DISTURBED:	1.85	ACRES
AREA TO BE ROOFED OR PAVED:	1.20	ACRES
(PAVEMENT RESTORATION)		-
ÀREA TO BE VEGETATIVELY STABILIZED:	0.65	ACRES
TOTAL CUT:	N/A	CU. YDS.
TOTAL FILL:	N/A	CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION:	N/A	-
-		

- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- 9. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- 11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORK DAY, WHICHEVER IS SHORTER.

Table B.1: Temporary Seeding for Site Stabilization

7	Seedi	Seeding Rate 1/		Recommended Seeding Dates by Plant Hardiness Zone 31			
Plant Species	lb/ac	lb/1000 ft ²	Depth 2/ (inches)	5b and 6a	6b	7a and 7b	
Cool-Season Grasses							
Annual Ryegrass (Lolium perenne ssp. multiflorum)	40	1.0	0.5	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30	
Barley (Hordeum vulgare)	96	2.2	1.0	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30	
Oats (Avena sativa)	72	1.7	1.0	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30	
Wheat (Triticum aestivum)	120	2.8	1.0	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30	
Cereal Rye (Secale cereale)	112	2.8	1.0	Mar 15 to May 31; Aug 1 to Oct 31	Mar 1 to May 15; Aug 1 to Nov 15	Feb 15 to Apr 30; Aug 15 to Dec 15	
Warm-Season Grasses							
Foxtail Millet (Setaria italica)	30	0.7	0.5	Jun 1 to Jul 31	May 16 to Jul 31	May I to Aug 14	
Pearl Millet (Pennisetum glaucum)	20	0.5	0.5	Jun 1 to Jul 31	May 16 to Jul 31	May I to Aug 14	

1/ Seeding rates for the warm-season grasses are in pounds of Pure Live Seed (PLS). Actual planting rates shall be adjusted to reflect percent seed germination and purity, as tested. Adjustments are usually not needed for the cool-season grasses.

Seeding rates listed above are for temporary seedings, when planted alone. When planted as a nurse crop with permanent seed mixes, use 1/3 of the seeding rate listed above for barley, oats, and wheat. For smaller-seeded grasses (annual ryegrass, pearl millet, foxtail millet), do not exceed more than 5% (by weight) of the overall permanent seeding mix. Cereal rye generally should not be used as a nurse crop, unless planting will occur in very late fall beyond the seeding dates for other temporary seedings. Cereal rye has allelopathic properties that inhibit the germination and growth of other plants. If it must be used as a nurse crop, seed at 1/3 of the rate listed above.

Oats are the recommended nurse crop for warm-season grasses.

2/ For sandy soils, plant seeds at twice the depth listed above. 3/ The planting dates listed are averages for each Zone and may require adjustment to reflect local conditions, especially near the boundaries of the zone.

SOIL INFORMATION

SYMBOL	NAME	HYDROLOGIC SOIL GROUP
Co	CODORUS AND HATBORO SILT LOAM	С
GhB	GLENELG-URBAN LAND COMPLEX	D
GhC	GLENELG-URBAN LAND COMPLEX	D
GoB	GLENVILLE-CODORUS SILT LOAM	С
Ha	HATBORO-CODORUS SILT LOAM	D
MaB	MANOR LOAM	В
MaC	MANOR LOAM	В
MaD	MANOR LOAM	В
MkF	MANOR-BRINKLOW COMPLEX	В

SOIL CLASSIFICATION OBTAINED FROM USDA-SCS SOIL SURVEY OF HOWARD COUNTY

SEQUENCE OF OPERATIONS

GENERAL NOTES

- ACQUIRE ALL NECESSARY STATE AND LOCAL PERMITS INCLUDING A GRADING PERMIT.
- 2. NOTIFY THE HOWARD COUNTY DEPARTMENT OF INSPECTION. LICENSES AND PERMITS. SEDIMENT CONTROL DIVISION. FORTY EIGHT (48) HOURS PRIOR TO COMMENCING OF CONSTRUCTION
- GREAT CARE SHALL BE TAKEN TO ENSURE THAT NO SEDIMENT LADEN RUNOFF WILL BE DISCHARGED OUTSIDE OF THE LIMITS OF DISTURBANCE.

PERIMETER CONTROLS

- SURVEY AND STAKEOUT PERIMETER CONTROLS AS SHOWN ON THE PLANS.
- 5. CLEAR AND GRUB AREAS FOR PERIMETER CONTROL INSTALLATION ONLY, WETLANDS AND CONSERVATION AREAS SHALL BE CLEARLY MARKED IN THE FIELD.
- INSTALL PERIMETER CONTROLS AS SHOWN ON THE PLANS. WHERE DEEMED NECESSARY, THE CONTRACTOR SHALL INSTALL EROSION CONTROL PRACTICES IN ADDITION TO WHAT IS SHOWN ON THE PLANS TO ENSURE PROPER SEDIMENT CONTROL. ADDITIONAL SEDIMENT CONTROLS MAY ALSO BE DIRECTED BY THE SEDIMENT CONTROL INSPECTOR AS NECESSARY.

- INSTALL FILTER LOGS PERPENDICULAR TO PIPE LAYOUT IMMEDIATELY DOWN STREAM OF ANTICIPATED END OF WORK DAY EXCAVATION AREA. THE FILTER LOGS SHALL BE MOVED TO THE NEXT WORK AREA PRIOR TO THE NEXT WORK DAY.
- EXCAVATE, INSTALL WATER MAIN AND APPURTENANCES, AND BACKFILL WORK AREA. WHERE WATER IS ENCOUNTERED DURING EXCAVATION, DEWATERING OPERATIONS SHALL BE APPLIED. SEDIMENT LADEN WATER SHALL BE PUMPED THROUGH AN APPROVED STATE AND LOCAL TEMPORARY SEDIMENT PRACTICES (DEWATERING BAG). SEE SEPARATE NOTES AND DETAIL FOR STREAM CROSSING CONSTRUCTION.
- STOCKPILE EXCAVATED MATERIALS ON AREAS WITH LITTLE OR NO SLOPE. IF NOT POSSIBLE, PLACE MATERIALS UP SLOPE OF THE TRENCH OPENING.
- 10. ALL OPEN TRENCHES SHALL BE BACKFILLED AT THE END OF EACH WORKING DAY. ALL DISTURBED AREAS SHALL BE STABILIZED AND RESTORED TO THEIR ORIGINAL GRADES.
- 11. AT THE END OF EACH WORK DAY, ALL SEDIMENT CONTROL DEVICES SHALL BE INSPECTED TO ENSURE PROPER WORKING CONDITIONS.

FINAL STABILIZATION

12. AT THE END OF THE CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED, REMOVE SEDIMENT CONTROL MEASURES UPON THE APPROVAL OF A HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

START OF CONSTRUCTION: JUNE 2013 (TENTATIVE) END OF CONSTRUCTION: JUNE 2014

Appendix G: Best Management Practices for Working in Nontidal Wetlands, Wetland Buffers, Waterways, and 100-Year Floodplains

- No excess fill, construction material, or debris shall be stockpiled or stored in nontidal wetlands, nontidal wetland buffers, waterways, or the 100-year floodplain.
- Place materials in a location and manner which does not adversely impact surface or subsurface water flow into or out of nontidal wetlands, nontidal wetland buffers, waterways or the 100-year floodplain.
- Do not use the excavated material as backfill if it contains waste metal products, unsightly debris, toxic material, or any other deleterious substance. If additional backfill is required, use clean material free of waste metal products, unsightly debris, toxic material, or any other deleterious substance.
- Place heavy equipment on mats or suitably operate the equipment to prevent damage to nontidal wetlands, nontidal wetland buffers, waterways, or the 100-year floodplain.
- Repair and maintain any serviceable structure or fill so there is no permanent loss of nontidal wetlands, nontidal wetland buffers, or waterways, or permanent modification of the 100-year floodplain in excess of that lost under the originally authorized structure or fill.
- Rectify any nontidal wetlands, wetland buffers, waterways, or 100-year floodplain temporarily impacted by any construction.
- All stabilization in the nontidal wetland and nontidal wetland buffer shall consist of the following species: Annual Ryegrass (Lolium multiflorum), Millet (Setaria italica), Barley (Hordeum sp.), Oats (Uniola sp.), and/or Rye (Secale cereale). These species will allow for the stabilization of the site while also allowing for the voluntary revegetation of natural wetland species. Other non-persistent vegetation may be acceptable, but must be approved by the Nontidal Wetlands and Waterways Division. Kentucky 31 fescue shall not be utilized in wetland or buffer areas. The area should be seeded and mulched to reduce erosion after construction activities have been completed.
- After installation has been completed, make post-construction grades and elevations the same as the original grades and elevations in temporarily impacted areas.
- To protect aquatic species, in-stream work is prohibited as determined by the classification of the stream:

Use I waters: In-stream work shall not be conducted during the period March 1 through June 15, inclusive, during any year. Use III waters: In-stream work shall not be conducted during the period October 1

through April 30, inclusive, during any year. Use IV waters: In-stream work shall not be conducted during the period-

10) Stormwater runoff from impervious surfaces shall be controlled to prevent the washing of debris into the waterway.

March 1 through May 31, inclusive, during any year.

11) Culverts shall be constructed and any riprap placed so as not to obstruct the movement of aquatic species, unless the purpose of the activity is to impound water.

> AS-BUILT 6/2014

DEPARTMENT OF PUBLIC WORKS

GEORGE, MILES & BUHR, LLC ARCHITECTS & ENGINEERS



BOWIE, MD 20716 PHONE: 301-731-5622

HEREBY CERTIFY THAT 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 22749. EXPIRATION DATE

PROFESSIONAL

CERTIFICATION:



DSN. BY: JJS DRN. BY: RFT CHK. BY: SLM I AS-BUILT/ RECORD DRAWING AS ISSUED FOR BID SLM 0 **REVISION**

EROSION & SEDIMENT CONTROL NOTES & DETAILS

DATE 600' SCALE MAP NO. 42 BLOCK NO. 7

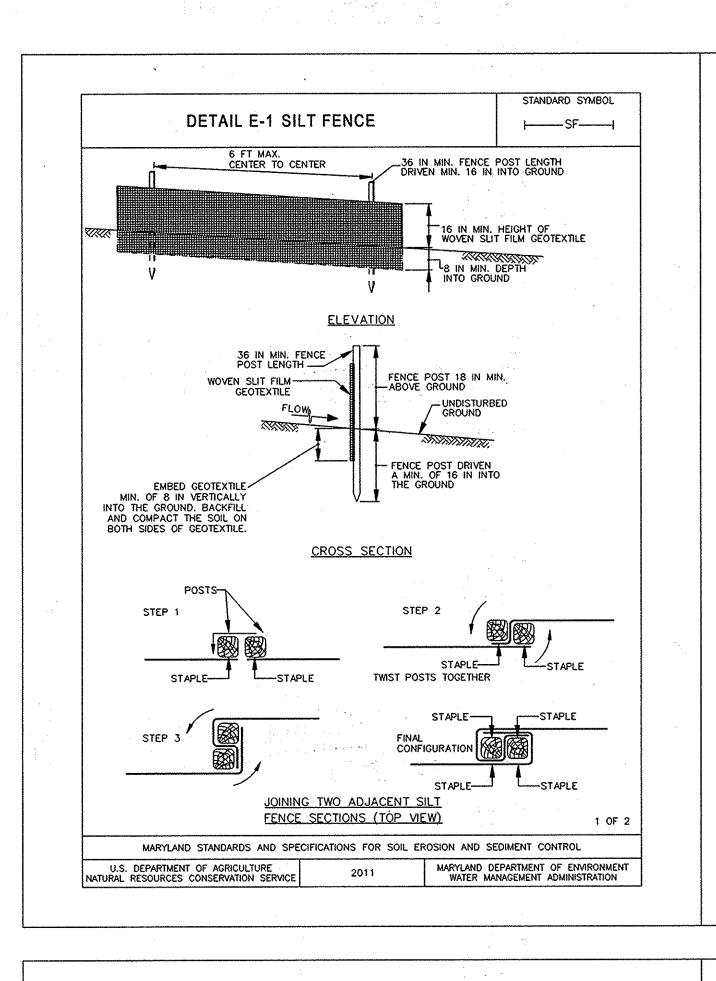
KINDLER ROAD - EDEN BROOK DRIVE WATER MAIN CONNECTION

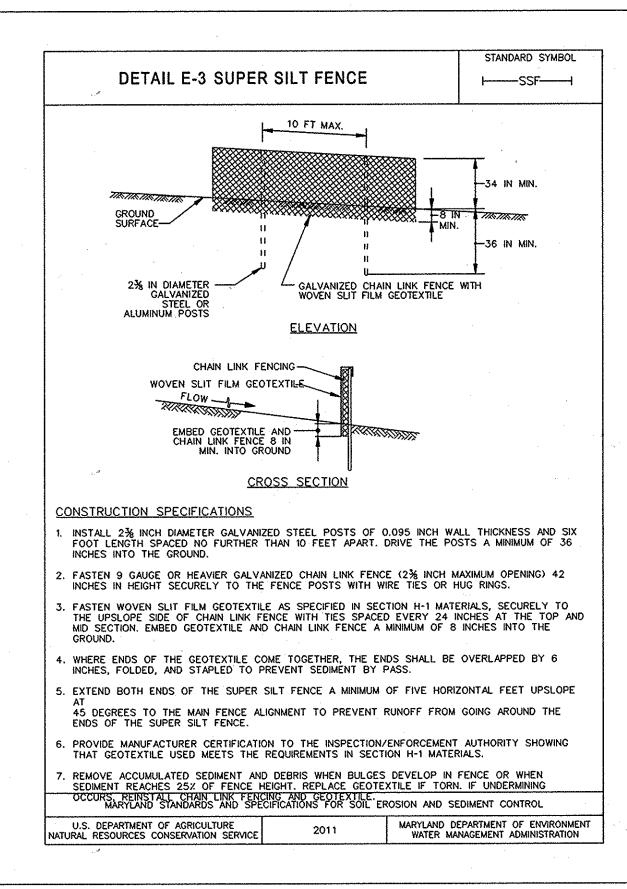
CAPITAL PROJECT: W-8297 CONTRACT NO.: 44-4675 **ELECTION DISTRICT: 6** HOWARD COUNTRY, MARYLAND

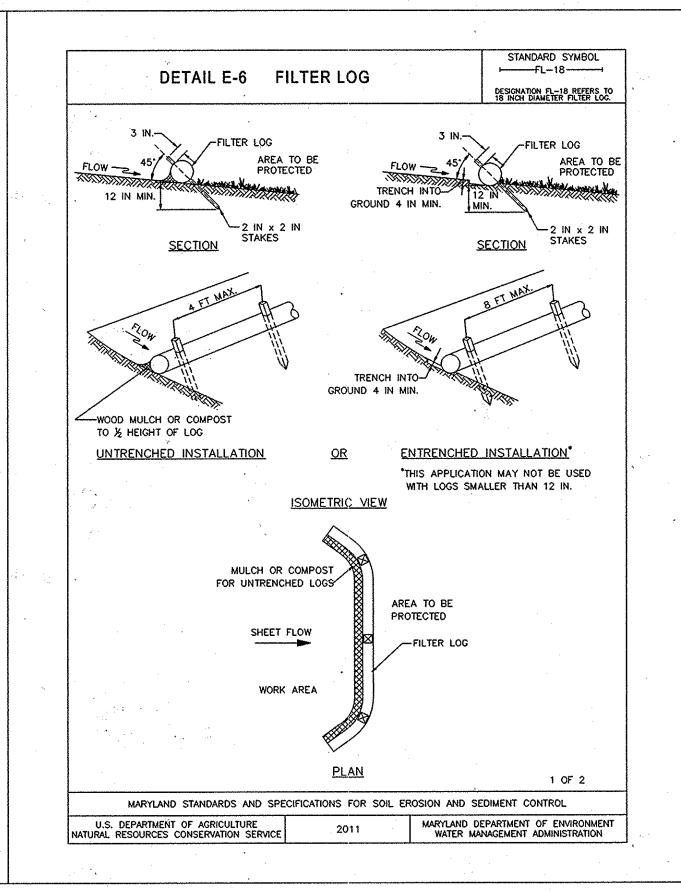
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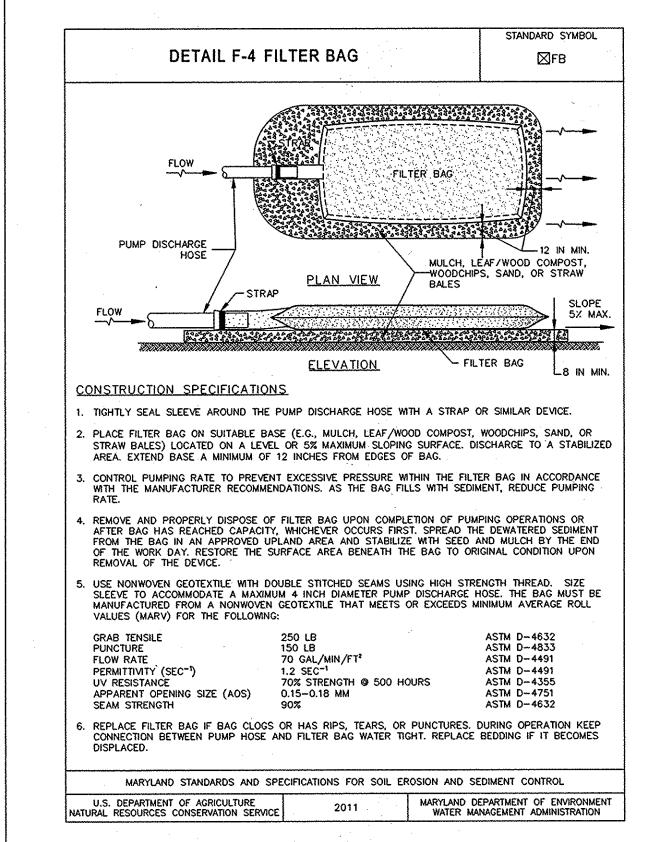
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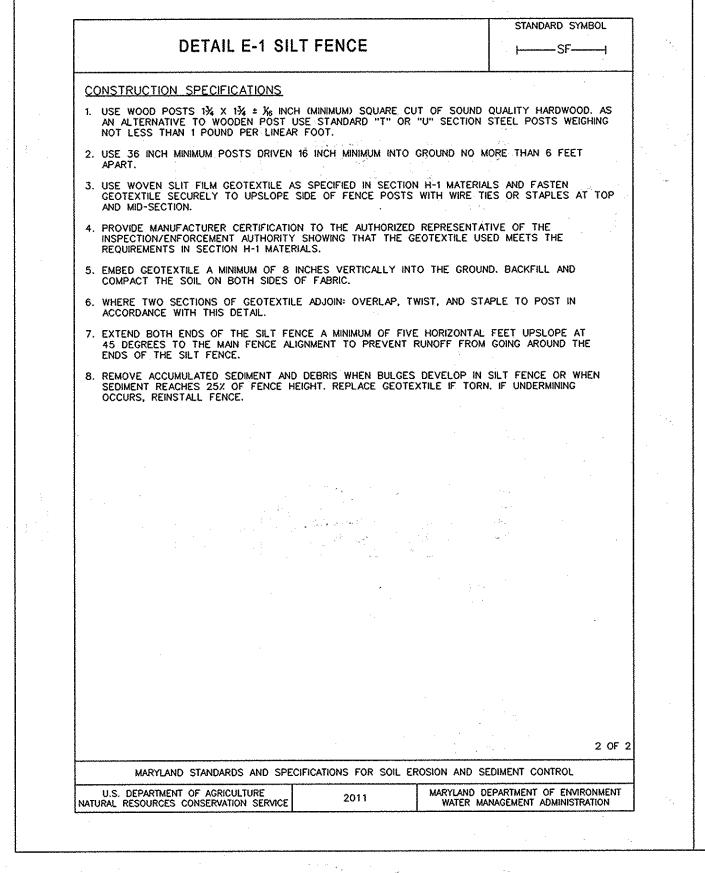
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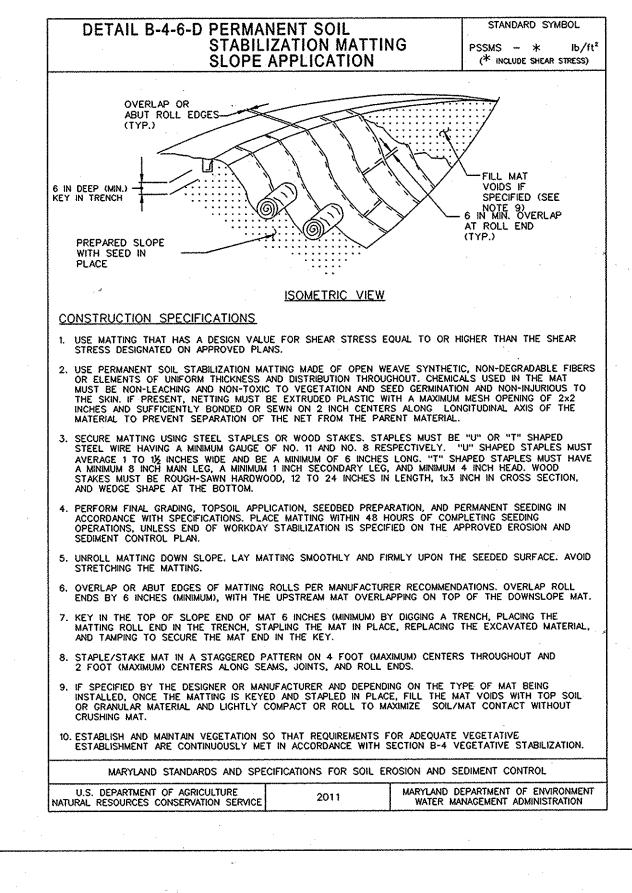


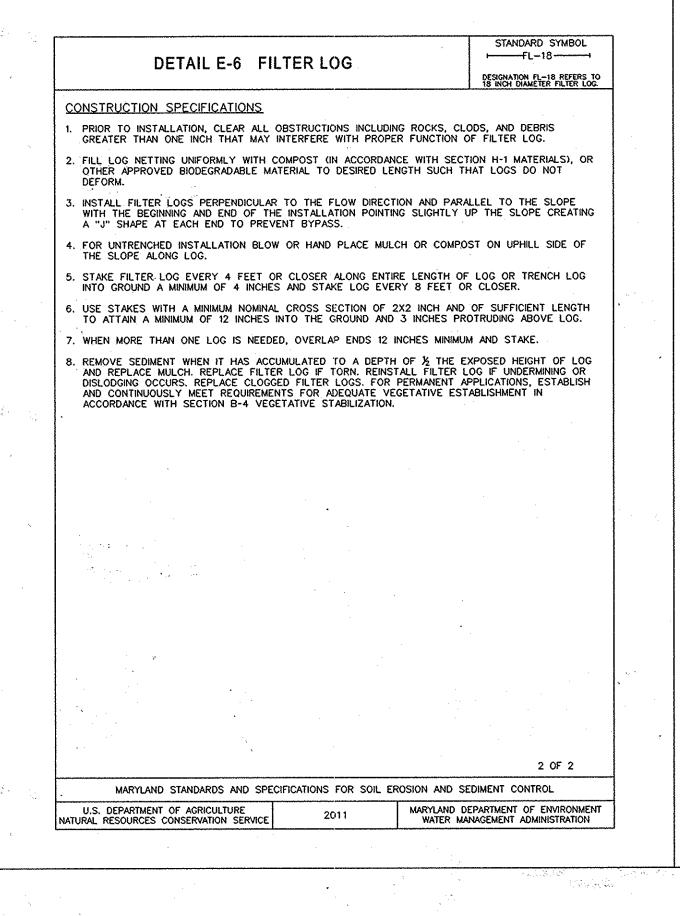


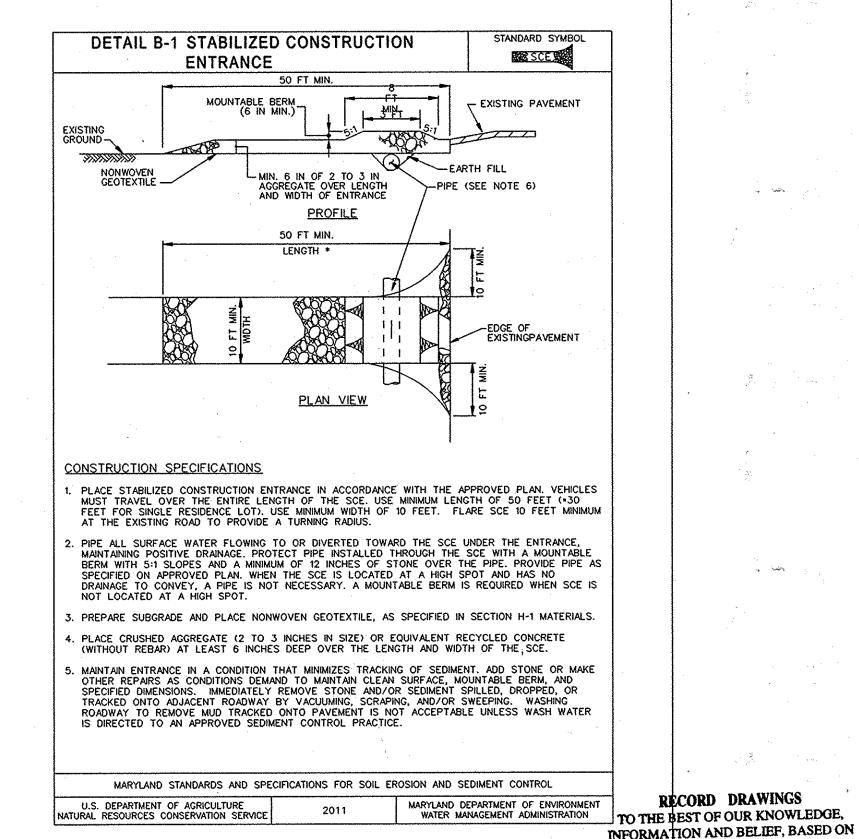








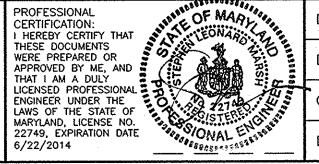




ARCHITECTS & ENGINEERS SALISBURY + BALTIMORE + LEWES + SEAFORD + YORK

CHIEF - BUREAU OF ENGINEERING

CERTIFICATION 4201 MITCHELLVILLE ROAD SUITE 500 BOWIE, MD 20716 PHONE: 301-731-5622 6/22/2014



	DSN. BY:	JJS			·	
	DRN. BY:	RFT	· · ·	*		
>	CHK. BY:	SLM		- [AS-BUILT/RECORD DRAWING	6/14
			SLM	0	AS ISSUED FOR BID	07/13
-	DATE: AU	GUST 2013	BY	NO.	REVISION	DATE
			х :			

EROSION & SEDIMENT CONTROL NOTES & DETAILS

42

BLOCK NO.

600' SCALE MAP NO.

KINDLER ROAD - EDEN BROOK DRIVE WATER MAIN CONNECTION CAPITAL PROJECT: W-8297

CONTRACT NO.: 44-4675

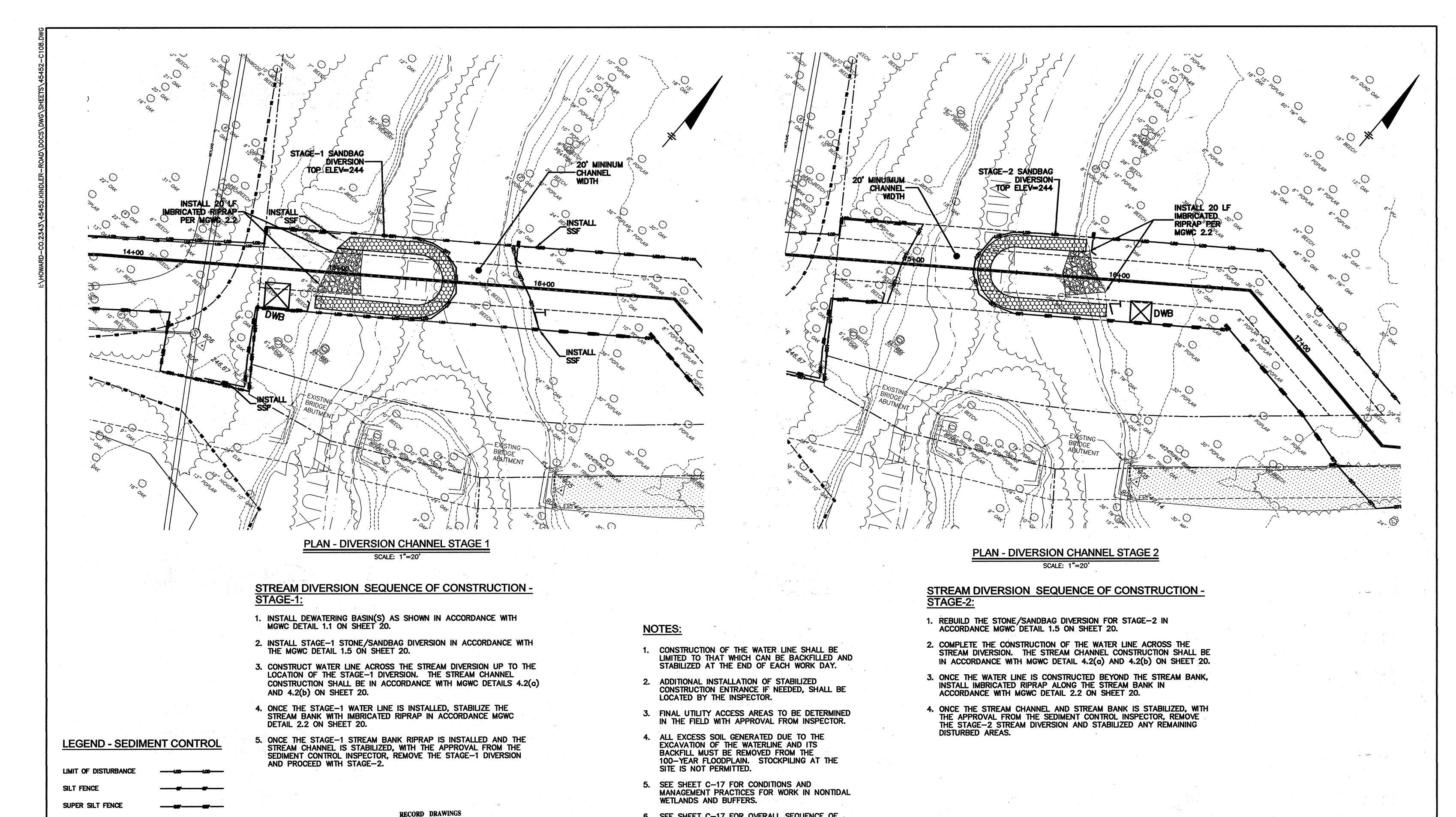
ELECTION DISTRICT: 6

HOWARD COUNTRY, MARYLAND

SHEET

INFORMATION PROVIDED BY OTHERS, THESE RECORD DRAWINGS SUBSTANTIALLY REPRESENT THE PROJECT AS CONSTRUCTED.

18 OF 20



O'BRIEN & GERE ENGINEERS, B HORIZONTAL 1"=50" 0 GRAPHIC SCALES

DEPARTMENT OF PUBLIC WORKS

TREE PROTECTION

DEWATERING BASIN

HOWARD COUNTY, MARYLAND StheClem CHIEF UTILITY DESIGN DIVISION CHIEF, BUREAU OF UTILITIES

OBRIEN 5 GERE

I HEREBY CERTIFY THAT
THESE DOCUMENTS
WERE PREPARED OR 4201 MITCHELLVILLE ROAD SUITE 500 BOWIE, MD 20716 PHONE: 301-731-5622

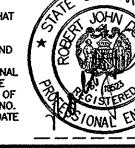
TO THE BEST OF OUR KNOWLEDGE,

INFORMATION AND BELIEF, BASED ON

INPORMATION PROVIDED BY OTHERS, THESE RECORD DRAWINGS SUBSTANTIALLY REPRESENT

THE PROJECT AS CONSTRUCTED.

PROFESSIONAL CERTIFICATION: 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.
18523, EXPIRATION DATE



DSN. BY: DRN. BY: RUD I AS-BULT/RECORD DRAWING CHK. BY: RJD 0 AS ISSUED FOR BID DATE 600' SCALE MAP NO. REVISION

6. SEE SHEET C-17 FOR OVERALL SEQUENCE OF

DIVERSION SEQUENCE OF CONSTRUCTION.

CONSTRUCTION AND THIS SHEET FOR STREAM

STREAM DIVERSION **PLANS**

42

BLOCK NO.

KINDLER ROAD - EDEN BROOK DRIVE WATER MAIN CONNECTION CAPITAL PROJECT: W-8297 **CONTRACT NO.: 44-4675 ELECTION DISTRICT: 6**

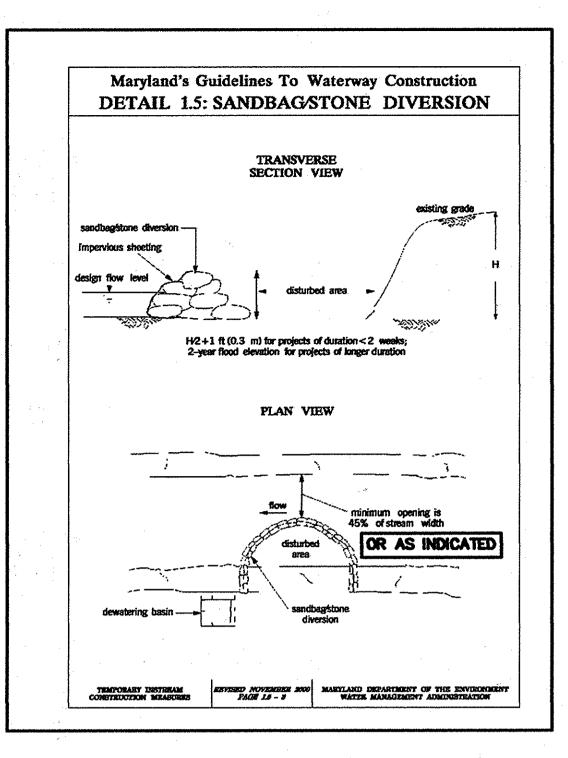
HOWARD COUNTY, MARYLAND

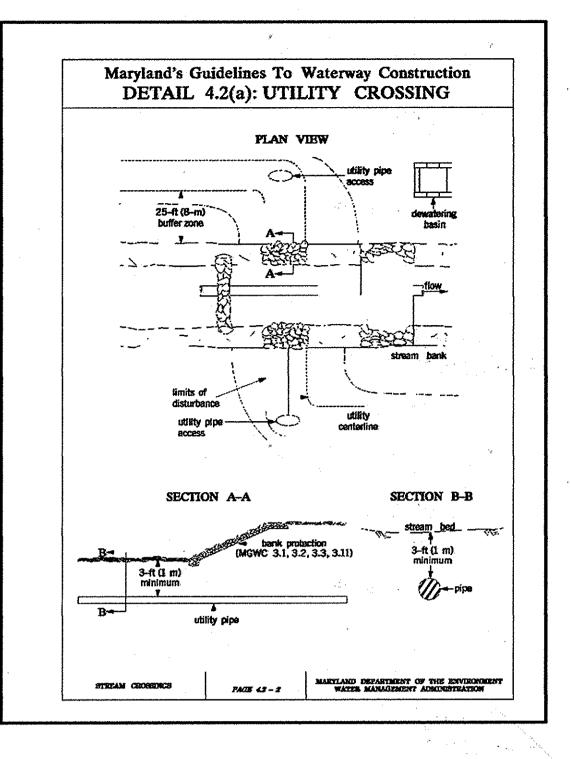
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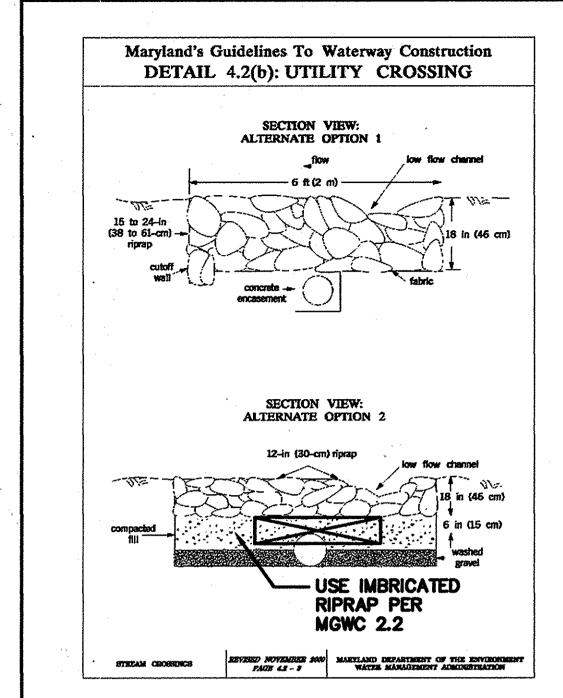
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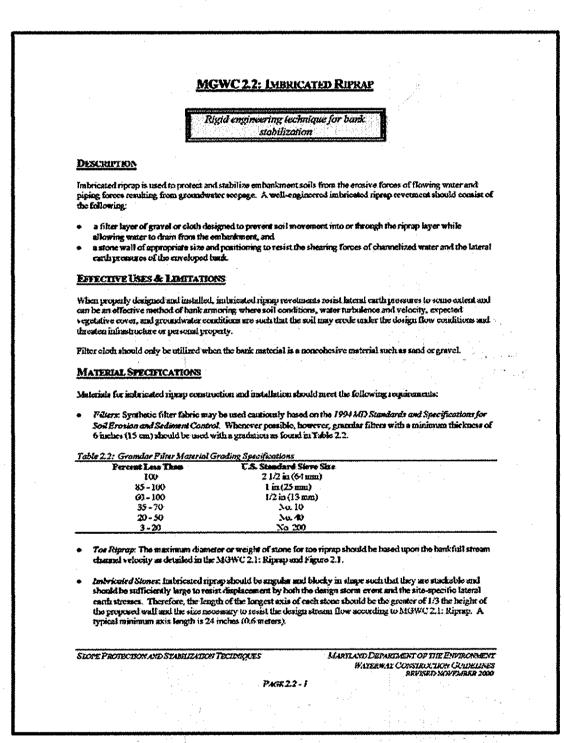
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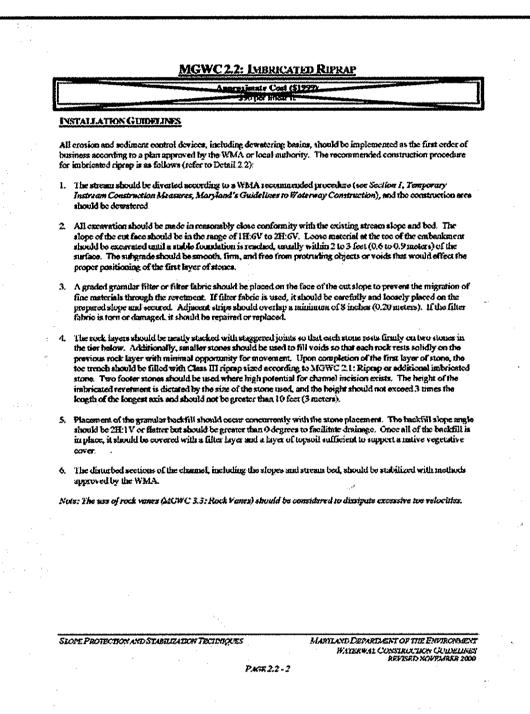
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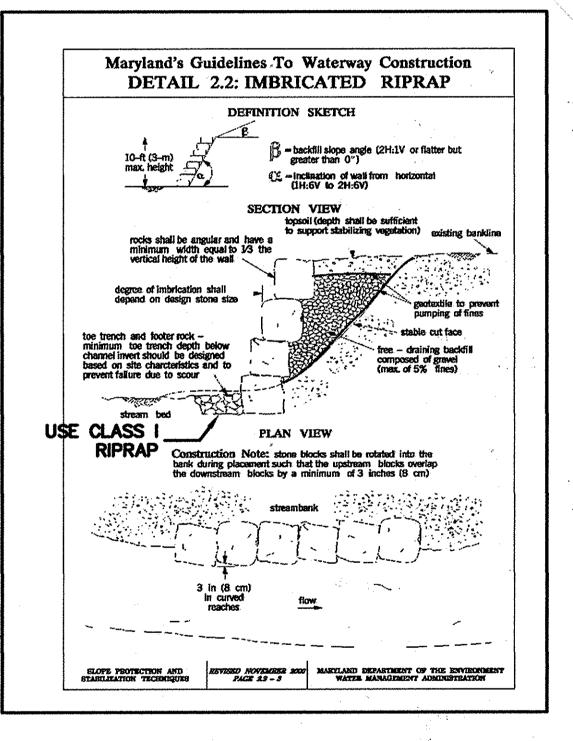


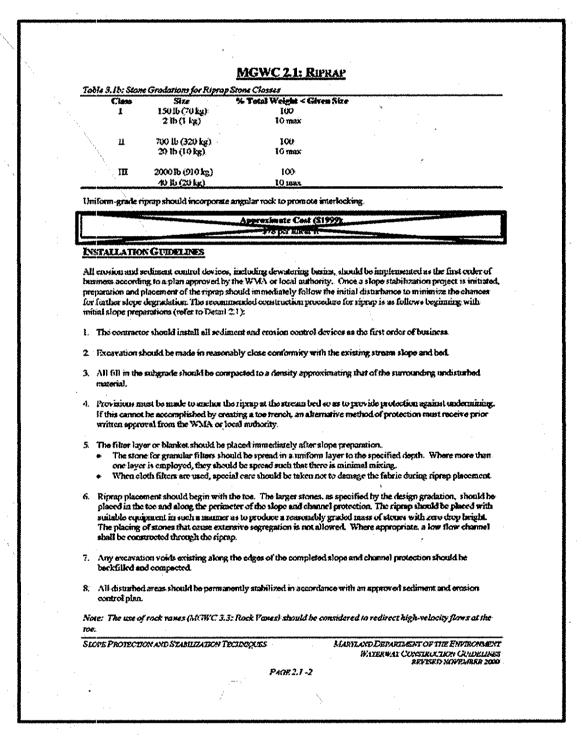








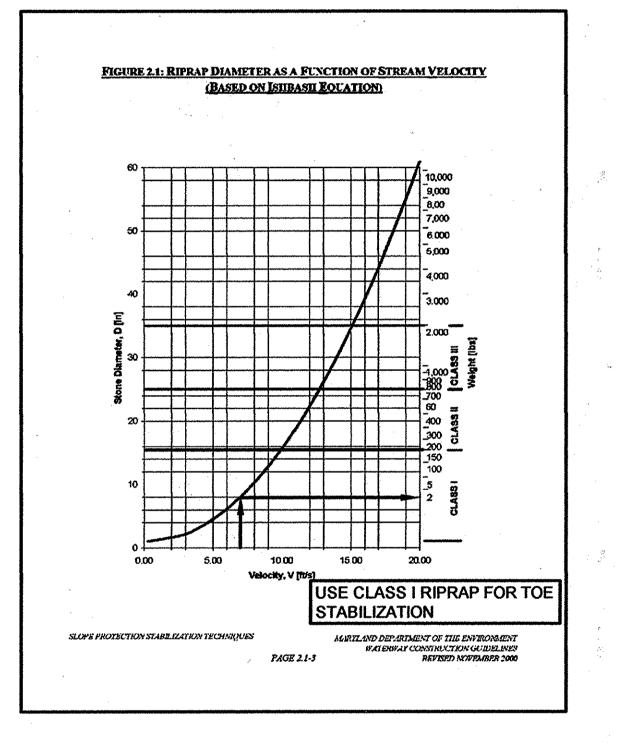




STREAM DIVERSION

CONSTRUCTION DETAILS

42 BLOCK NO.



RECORD DRAWINGS TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, BASED ON INFORMATION PROVIDED BY OTHERS, THESE RECORD DRAWINGS SUBSTANTIALLY REPRESENT THE PROJECT AS CONSTRUCTED.

DEPARTMENT OF PUBLIC WORKS

OBRIENS GERE 4201 MITCHELLVILLE ROAD SUITE 500 BOWIE, MD 20716 PHONE: 301-731-5622





DSN. BY:				,	
DRN. BY:					STREA
CHK. BY:	RJD	1	AS-BUILT/RECORD DRAWING	6/14	CONSTRU
	RJD	0	AS ISSUED FOR BID	09/13	
DATE: AUG, 2013	BY	NO.	REVISION	DATE	600' SCALE MAP NO

KINDLER ROAD - EDEN BROOK DRIVE WATER MAIN CONNECTION

CAPITAL PROJECT: W-8297 CONTRACT NO.: 44-4675 **ELECTION DISTRICT: 6** HOWARD COUNTY, MARYLAND

AS-BUILT 6/2014 SCALE AS SHOWN SHEET