

GENERAL NOTES

- APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAINS UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED IN OCTOBER 2017 BY AB CONSULTANTS
- HORIZONTAL AND VERTICAL SURVEY CONTROLS:
THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD '83/91
THE COORDINATES SHOWN HEREON ARE BASED ON RTK GPS OBSERVATIONS AND VRS NETWORK SERVICE, WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. BENCHMARKS SHOWN HEREON WERE PROVIDED BY AB CONSULTANTS, INC.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS
- 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 THE 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 JOB.
- 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 PIT OR PITS IS INCLUDED ON THE DRAWINGS. 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:
AT&T 800-252-1133
BGE (CONTRACTOR SERVICES) 410-637-8713
BGE (EMERGENCY) 410-685-0123
BUREAU OF UTILITIES 410-313-4900
COLONIAL PIPELINE CO. 410-795-1390
MISS UTILITY 800-257-7777
STATE HIGHWAY ADMINISTRATION 410-531-5533
VERIZON 800-743-0033
- 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 DAMAGED BY THE CONTRACTOR.
- THE CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE 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 WATERSEWER 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.

HOWARD COUNTY

Capital Project #W8602

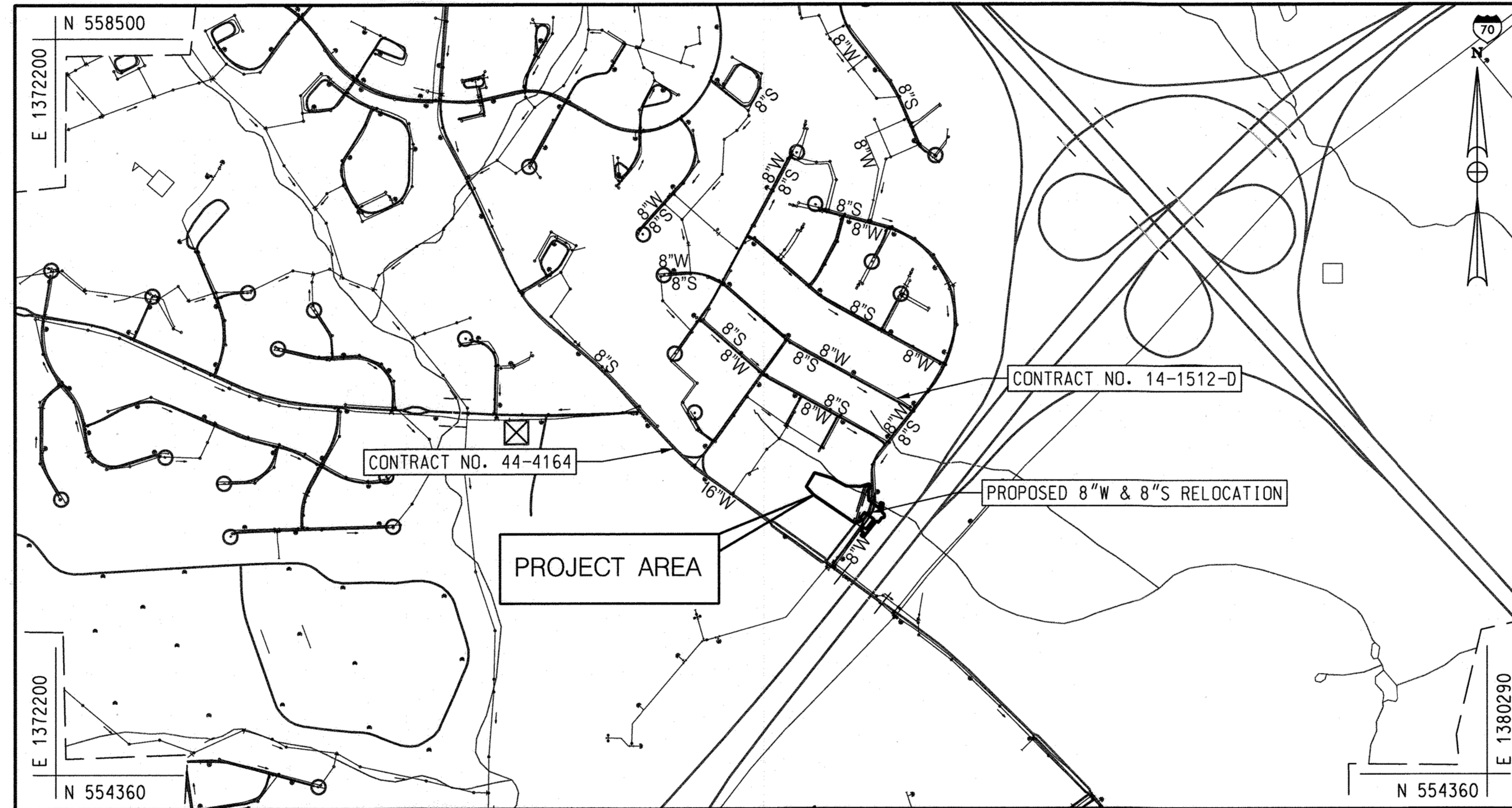
Contract Number: 14 - 5143

Nottingham Pond

Principal Spillway Replacement and Retrofit Project

Water and Sewer Plans

INDEX OF WATER AND SEWER SHEETS	
SHEET NO.	TITLE
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UT-4	WATER AND SEWER RELOCATION PROFILES
UT-5	WATER AND SEWER RELOCATION PROFILES



LEGEND

- EXISTING MEDIAN BARRIER
- ELECTRICAL HAND BOX - SIGNALS
- FLOW LINE
- STATE, COUNTY OR CITY LINES
- EXISTING TRAFFIC BARRIER
- EXISTING TRAFFIC BARRIER
- PROPOSED FENCE LINE
- EXISTING FENCE LINE
- RIGHT OF WAY LINE
- EXISTING ROADWAY
- BASE OR SURVEY LINE
- TRAVERSE POINT
- APPROXIMATE LIMITS OF CUT AND/OR FILL
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- LIMIT OF DISTURBANCE
- EXISTING PIPE/CULVERT
- EXISTING DROP INLET
- WETLAND
- HEDGE /TREE LINE
- BUSH /TREE
- CONIFEROUS TREE
- LIGHT POLE
- WATERLINE
- SANITARY LINE

DRAINAGE AREA - PATAPSCO
TREATMENT PLANT SERVICE AREA - PATAPSCO
WATER CODE - D08
SEWER CODE - 2153000

SCALE: 1" = 600'

HORIZONTAL DATUM: NAD 83/91
VERTICAL DATUM: NAVD 88

PURPOSE STATEMENT

THE PURPOSE OF THIS PROJECT IS TO RELOCATE THE EXISTING 8" WATER LINE AND EXISTING 8" SEWER LINE AND INSTALL 4 PROPOSED SEWER MANHOLES AND 2 WATER MAIN VALVES IN COORDINATION WITH THE PRINCIPAL SPILLWAY REPLACEMENT AND WATER QUALITY RETROFIT PROJECT, CAPITAL PROJECT NO. D-1177.

AS-BUILT
10/27/2023

QUANTITIES				
ITEM	UNIT	ESTIMATE	AS-BUILT	MATERIAL SUPPLIER
8" DIP, CL. 54 [W]	LF	215	215	TYTON JOINT PIPE BRO-003; US PIPE & FOUNDRY
SHUTOFF VALVE	EA	2	2	KENNEDY VALVE - GATE VALVE 8571 MECHANICAL JOINT
8" DIP, CL. 52 [S]	LF	279	279	TYTON JOINT PIPE BRO-003; US PIPE & FOUNDRY
PRE. 4' MANHOLE	EA	4	4	ATLANTIC CONCRETE
FLOWBALE FILL	CY	4	4	SCHUSTER CONCRETE
NAME OF UTILITY CONTRACTOR:		ACCUBID		
		AS-BUILT DATE: 7/1/23		

UT-1 OF 5

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 8/19/2021
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 8/16/2021
CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 8/19/2021
CHIEF, BUREAU OF UTILITIES DATE

[Signature] 8/16/2021
CHIEF, UTILITY DESIGN DIVISION DATE

MCCORMICK TAYLOR

509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

Howard County
MARYLAND

Department of Public Works
Bureau of Utilities
8250 & 8270 Old Montgomery Road
Columbia, Maryland 21045
(410) 313-4900



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 #: 49427
EXPIRES: 6/13/2022

DES: HAS				
DRN: JLE				
CHK: ADM	ADM	6	AS-BUILT SURVEY	07/01/2023
	ADM	1-3	NOT APPLICABLE	07/01/2023
DATE: 7/9/21	BY	NO.	REVISION	DATE

NOTTINGHAM POND PRINCIPAL SPILLWAY REPLACEMENT AND RETROFIT PROJECT
HOWARD COUNTY
CAPITAL PROJECT NO. W8602
CONTRACT NO. 14-5143

WATER AND SEWER RELOCATION
TITLE SHEET

ELECTION DISTRICT NO. 2 600 SCALE MAP NO. 0037, BLOCK NO. 0016

SCALE AS SHOWN

SHEET 26 OF 30

SEQUENCE OF CONSTRUCTION/OPERATION

EXECUTE THE INSTALLATIONS IN THE SEQUENCE AS INDICATED BELOW. CONTRACTOR TO COORDINATE UTILITY RELOCATION SEQUENCE OF CONSTRUCTION/OPERATION WITH NOTTINGHAM POND PRINCIPAL SPILLWAY REPLACEMENT AND RETROFIT SEQUENCE OF CONSTRUCTION ON SHEET 15 OF CAPITAL PROJECT D-1177. PROCEDURE FOR ACCOMPLISHING EACH INSTALLATION SHALL BE THE CONTRACTOR'S RESPONSIBILITY. ALL MATERIAL, EQUIPMENT, LABOR AND APPURTENANCES (INCLUDING TEMPORARY PLUGS, COUPLINGS, ETC.) REQUIRED TO ACCOMPLISH INSTALLATIONS IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION SHALL BE INCLUDED IN THE BID COST FOR THE ASSOCIATED PAY ITEM. AN ALTERNATE SEQUENCE MAY BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER AND OWNER FOR APPROVAL. THE ENTIRE LENGTH OF MAIN LINE UTILITY ADJUSTMENTS SHALL BE CONSTRUCTED, TESTED AND DISINFECTED AS REQUIRED BY SPECIFICATIONS PRIOR TO CONNECTION WITHOUT INTERRUPTION TO ANY EXISTING SERVICE. CONNECTION PIPING SHALL BE TESTED AND DISINFECTED AS REQUIRED BY THE SPECIFICATIONS.

LANE CLOSURES AND STOPPAGES OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE MAINTENANCE OF TRAFFIC SHEETS OF CAPITAL PROJECT D-1177.

CONTRACTOR SHALL INFORM RESIDENTS AND BUSINESSES THAT WILL BE AFFECTED BY THE TEMPORARY WATER SERVICE INTERRUPTION EITHER IN PERSON, BY DOOR HANGERS OR IN WRITING AT MINIMUM 48 HOURS PRIOR TO OUTAGE. IN THE CASE OF UNEXPECTED INTERRUPTIONS, THE NOTIFICATION WILL BE IN PERSON. ALL SCHEDULED SERVICES INTERRUPTIONS SHALL TAKE PLACE DURING NIGHT HOURS AS APPROVED BY THE OWNER AND ENGINEER.

RESTRAINT OF EXISTING PIPE SHALL BE PERFORMED AS REQUIRED PRIOR TO ANY OUTAGE OF UTILITY SERVICE. OFFSET AND OTHER ADJUSTMENTS SHALL BE PREFABRICATED TO THE EXTENT POSSIBLE PRIOR TO ANY OUTAGE OF UTILITY SERVICE.

THE DEFINITION OF TERMS USED IN THE SEQUENCE OF CONSTRUCTION ARE AS FOLLOWS: INSTALL- ALL EFFORTS REQUIRED TO EXCAVATE, ASSEMBLE AND PLACE PIPE AND BACKFILL IN ACCORDANCE WITH PLANS AND SPECIFICATIONS. ALL WATER MAIN INSTALLATION SHALL BE TESTED, CHLORINATED AND/OR DISINFECTED IN ACCORDANCE WITH THE SPECIFICATIONS AND AS STATED ABOVE.

CONNECTIONS- PIPE ASSEMBLIES, SLEEVES, FITTINGS, VALVES, TEMPORARY AND/OR PERMANENT PLUGS AND COUPLINGS AS INDICATED ON THE PLANS OR AS REQUIRED TO ACHIEVE SEQUENCE OF CONSTRUCTION AT LOCATIONS WHERE PROPOSED WORK MEETS EXISTING FACILITIES.

ACTIVATE- UPON COMPLETION OF INSTALLATION, TESTING AND THE OWNER'S APPROVAL IN ACCORDANCE WITH PLANS AND SPECIFICATIONS, PLACE THE FACILITY INTO OPERATION.

SEQUENCE OF CONSTRUCTION:

SEWER:

- SEWER LINE IS TO REMAIN IN SERVICE FOR THE DURATION OF THE RELOCATION. SHALL THE SEWER LINE SERVICE NEED TO BE SHUT-DOWN AT ANY POINT IN THE RELOCATION THE CONTRACTOR WILL NEED TO RECEIVE PERMISSION FROM THE ENGINEER AND OWNER PRIOR TO SHUTTING DOWN THE SEWER SERVICE.
- THE CONTRACTOR IS TO COORDINATE EXCAVATION OF THE EXISTING AND PROPOSED SEWER LINES WITH THE PROJECT ENGINEER TO ENSURE EXCAVATION FOR THE SEWER RELOCATION, REMOVAL AND ABANDONMENT ARE COMPLETED CONCURRENTLY WITH THE EXCAVATION ASSOCIATED WITH THE POND RETROFIT AND PRINCIPAL SPILLWAY INSTALLATION.
- WORKING DOWNSTREAM TO UPSTREAM, CONSTRUCT PROPOSED SEWER SYSTEM, INCLUDING DOGHOUSE MANHOLES, STANDARD MANHOLES AND SEWER LINE, EXCLUDING FINAL TIE-INS.
- CONDUCT LOW PRESSURE AIR TEST ON INSTALLED SANITARY SEWER LINE.
- COORDINATE WITH THE OWNER TO CUT INTO SANITARY SEWER LINE AT DOGHOUSE MANHOLES. CONNECT EXISTING SEWER TO PROPOSED SEWER. MINIMIZE AND/OR ELIMINATE SEWER SHUT DOWN AND ESTABLISH SANITARY PUMP AROUND PRACTICES BETWEEN IN-SERVICE MANHOLES AS NEEDED.

WATER:

- INSTALL ISOLATION VALVES INTO THE EXISTING WATER MAIN AT BOTH THE DOWNSTREAM AND UPSTREAM CONNECTIONS. PROVIDE TWO PIPE CREWS AS NECESSARY TO MAKE SIMULTANEOUS CONNECTION TO THE EXISTING WATER MAIN AT BOTH PROPOSED MAIN VALVES TO MINIMIZE/ELIMINATE WATER SHUT-DOWN.
- WATER LINE IS TO REMAIN IN SERVICE FOR THE DURATION OF THE RELOCATION ONCE THE ISOLATION VALVES HAVE BEEN INSTALLED. SHALL THE WATER LINE SERVICE NEED TO BE SHUT DOWN AT ANY POINT IN THE RELOCATION ONCE THE ISOLATION VALVES HAVE BEEN INSTALLED THE CONTRACTOR WILL NEED TO RECEIVE PERMISSION FROM THE ENGINEER AND OWNER PRIOR TO SHUTTING DOWN THE WATER.
- THE CONTRACTOR IS TO COORDINATE EXCAVATION OF THE EXISTING WITH THE PROJECT ENGINEER TO ENSURE EXCAVATION FOR THE WATER RELOCATION, REMOVAL, ABANDONMENT ARE COMPLETED CONCURRENTLY WITH THE EXCAVATION ASSOCIATED WITH THE PRINCIPAL SPILLWAY INSTALLATION.
- WITH PERMISSION FROM THE PROJECT ENGINEER AND WORKING DOWNSTREAM TO UPSTREAM INSTALL PROPOSED DUCTILE REPLACEMENT, EXCLUDING FINAL TIE-INS.
- PRESSURE TEST INSTALLED WATER MAIN.
- TEST, DISINFECT AND CHLORINATE THE ENTIRE PROPOSED WATER MAIN LINE PER THE SPECIFICATIONS. WITH APPROVAL OF THE PROJECT ENGINEER AND OWNER, ACTIVATE THE NEWLY INSTALLED WATER MAIN AND PERFORM VISUAL TEST OF NEW PIPELINE AND ADAPTORS.

WATER NOTES

- ALL WATER MAINS SHALL BE D.I.P. CLASS 54 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TREES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. 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.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- TRACER WIRE AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL DIP AND PVC WATER MAINS IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL.
- FOR PVC WATER MAINS ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATIONS TEST REQUIREMENTS NOTED IN SECTION 5.1 OF THE AWWA STANDARD C900 FOR PVC PRESSURE PIPES SHALL BE SUBMITTED WITH THE PIPE MATERIAL CERTIFICATIONS OR SHOP DRAWINGS PRIOR TO APPROVAL OF THE MATERIAL FOR USE. THE TEST RECORDS SHALL BE FOR THE PIPE TO BE INSTALLED UNDER THIS CONTRACT. ALL PVC PIPE SHALL CONTAIN MARKINGS TO ALLOW CROSS REFERENCING OF THE PIPE SUPPLIED TO THE TEST RECORDS RECEIVED.
- UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS, SACRIFICIAL ANODES SHALL BE INSTALLED ON ALL VALVES AND METALLIC FITTINGS USED WITH PVC WATER MAINS IN ACCORDANCE WITH VOLUME IV STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. 17 POUND MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSES. 12 POUND ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED WITH PVC MAINS. ALL "TEES" USED WITH PVC MAINS SHALL BE DUCTILE IRON.
- PROPER ASSEMBLY OF GASKETED PVC PIPE JOINTS: THE MANUFACTURER'S INSERTION LINE OF GASKETED PVC PIPE JOINTS INDICATES THE MAXIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. AFTER ASSEMBLY OF THE JOINT, THE INSERTION LINE SHALL REMAIN VISIBLE. DUAL INSERTION LINES ON GASKETED PVC PIPE INDICATE THE MAXIMUM AND MINIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. THE CONTRACTOR SHALL NOT OVER INSERT OR OVER HOME THE SPIGOT INTO THE BELL OF THE PVC PIPE.
- ALL CHANGES IN HORIZONTAL OR VERTICAL DIRECTION OF PVC WATER PIPE SHALL BE MADE WITH STANDARD BENDS, 5-DEGREE SWEEPS OR HIGH DEFLECTION (HD) COUPLINGS. NO BENDING OF THE PIPE OR DEFLECTING OF PVC PIPE JOINTS IS PERMITTED. WHERE HIGH DEFLECTION COUPLINGS OR 5-DEGREE SWEEPS ARE PERMITTED, THE CONTRACTOR SHALL PROVIDE ONE FULL PIPE LENGTH (20-FOOT LONG) ON EITHER SIDE OF THE HIGH DEFLECTION COUPLING OR 5-DEGREE SWEEP. THE CONTRACTOR SHALL USE A VIBRATORY PLATE COMPACTOR OR OTHER APPROVED MEANS TO THOROUGHLY COMPACT THE #57 STONE ON BOTH SIDES OF THE HIGH DEFLECTION COUPLING OR 5-DEGREE SWEEP, TAKING CARE NOT TO USE COMPACTION EQUIPMENT DIRECTLY OVER THE FITTING.

PVC HIGH DEFLECTION COUPLINGS SHALL BE LIMITED TO A TOTAL DEFLECTION OF 3-DEGREES (1/2-DEGREE ON EITHER END OF THE COUPLING), SHALL BE RATED FOR A MINIMUM 200 PSI MEETING THE REQUIREMENTS OF AWWA C900, SHALL HAVE A MINIMUM LAY LENGTH OF 9-INCHES AND SHALL HAVE CENTER STOPS. PVC HIGH DEFLECTION COUPLINGS SHALL BE CERTAINTED PVC HIGH DEFLECTION (HD) STOP COUPLINGS OR EQUAL.

FIVE DEGREE SWEEPS SHALL BE BELL BY SPIGOT, RATED FOR A MINIMUM 225 PSI, DR 18 MEETING THE REQUIREMENTS OF AWWA C900 AND SHALL BE MULTI-FITTINGS (IPEX) BLUE BRUTE DR18 OR EQUAL.

- WHEN PVC HIGH DEFLECTION COUPLINGS OR PVC 5-DEGREE SWEEPS ARE USED TO FACILITATE CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENTS OF AWWA C-900 PVC PIPELINES THE CONTRACTOR SHALL INSTALL DEVICES FOR THE PREVENTION OF OVER-INSERTION OF THE PVC PIPE SPIGOTS OR PLAIN ENDS INTO THE PUSH ON BELL JOINT ON BOTH SIDES OF THE HIGH DEFLECTION COUPLINGS AND 5-DEGREE SWEEPS. BELL STOPS SHALL BE PLACED AT THE PROPER INSERTION LINE FOR THE FITTING. THE BELL STOP SHALL BE MANUFACTURED OF DUCTILE IRON AND INCORPORATES AN EXPANSION RETENTION SPRING TO ALLOW FOR PIPE EXPANSION AND CONTRACTION. THE BELL STOPS SHALL BE SERIES 5000 MEGA-STOP, AS MANUFACTURED BY EBAA IRON, INC. OR APPROVED EQUAL.

SEWER NOTES

- ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- FORCE MAINS SHALL BE D.I.P. ONLY.
- MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER. STANDARD DETAIL G5.52 WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT THE CELLAR CANNOT BE SERVED.

CORROSION CONTROL GENERAL NOTES (DIP)

- EXTERNALLY COAT ALL DUCTILE IRON PIPE AND FITTINGS IN ACCORDANCE WITH THE SPECIFICATIONS.
- POLYETHYLENE ENCASEMENT SHALL NOT BE INSTALLED ON NEW DUCTILE IRON WATER PIPE.
- BOND ALL NEW DUCTILE IRON PIPE JOINTS EXCEPT THOSE THAT ARE SPECIFIED TO BE ELECTRICALLY ISOLATED, SEE DETAILS C-3.01 AND C-3.02.
- FOR HORIZONTAL THERMITE WELDS TO DUCTILE IRON PIPE, SEE DETAIL C-3.04. FOR VERTICAL THERMITE WELDS TO DUCTILE IRON PIPE, SEE DETAIL C-3.05.
- ELECTRICAL ISOLATION IS REQUIRED FOR ALL CONNECTIONS TO EXISTING PIPING.
- FOR PLACEMENT OF ANODES, SEE DETAIL C-1.01.
- INSTALL SEPARATOR MESH ON WATER MAIN AT EXISTING UTILITY CROSSING IF THERE IS LESS THAN 12 INCHES OF SPACING BETWEEN THEM. SEE DETAIL C-4.06.
- DUCTILE IRON PIPE THAT WILL BE IN DIRECT CONTACT WITH POURED CONCRETE, SUCH AS AT THRUST BLOCKS, ECT., SHALL BE FIELD COATED WITH 20 MILS OF MASTIC (ROYSTON R28 OR APPROVED EQUAL). THE MASTIC COATING SHALL BE APPLIED IN TWO COATS, EACH COAT TO BE A MINIMUM OF 10 MILS IN THICKNESS.
- DO NOT SET TEST STATIONS IN ROADWAY. PLACE TEST BOX IN NON-PAVED AREA NEXT TO ROADWAY. ROUTE ALL WIRES THROUGH PVC CONDUIT TO FINAL TEST BOX LOCATION.
- CONTRACTOR TO NOTIFY ENGINEER 72 HOURS PRIOR TO INSTALLATION OF CORROSION CONTROL COMPONENTS.

SEWER:

- SEWER LINE IS TO REMAIN IN SERVICE FOR THE DURATION OF THE RELOCATION. IF THE SEWER LINE SERVICE NEEDS TO BE SHUT DOWN AT ANY POINT IN THE RELOCATION THE CONTRACTOR WILL NEED TO RECEIVE PERMISSION FROM THE ENGINEER AND OWNER PRIOR TO SHUTTING DOWN THE SEWER SERVICE. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING ALL RESIDENTS AND BUSINESSES IMPACTED BY THE SHUTDOWN.
- THE CONTRACTOR IS TO COORDINATE EXCAVATION OF THE EXISTING AND PROPOSED SEWER LINES WITH THE PROJECT ENGINEER TO ENSURE EXCAVATION FOR THE SEWER RELOCATION, REMOVAL AND ABANDONMENT ARE COMPLETED CONCURRENTLY WITH THE EXCAVATION ASSOCIATED WITH THE POND RETROFIT AND PRINCIPAL SPILLWAY INSTALLATION.
- WORKING DOWNSTREAM TO UPSTREAM, CONSTRUCT PROPOSED SEWER LINE BETWEEN AND INCLUDING SS MH 2 AND SS MH 3.
- ONCE THE ROAD CLOSURE HAS BEEN INSTALLED PER THE APPROVED TRAFFIC CONTROL PLANS, INSTALL DOGHOUSE MANHOLES SS MH 1 AND SS MH 4.
- WORKING DOWNSTREAM TO UPSTREAM, CONSTRUCT REMAINING PROPOSED SEWER SYSTEM.
- CONDUCT LOW PRESSURE AIR TEST ON INSTALLED SANITARY SEWER LINE.
- COORDINATE WITH THE OWNER TO CUT INTO SANITARY SEWER LINE AT DOGHOUSE MANHOLES. CONNECT EXISTING SEWER TO PROPOSED SS MH 1 AND SS MH 4. MINIMIZE AND/OR ELIMINATE SEWER SHUT DOWN AND ESTABLISH SANITARY PUMP AROUND PRACTICES BETWEEN IN-SERVICE MANHOLES AS NEEDED.
- ABANDON AND/OR REMOVE EXISTING SEWER BETWEEN DOGHOUSE MANHOLES AS SHOWN ON PLANS.

WATER:

- INSTALL ISOLATION VALVES INTO THE EXISTING WATER MAIN AT BOTH THE DOWNSTREAM AND UPSTREAM CONNECTIONS. ACTUAL LOCATION OF VALVE AND ANY NECESSARY ADDITIONAL RESTRAINT WILL BE IDENTIFIED WITH PROJECT ENGINEER AND OWNER. HYDRANT ADJACENT TO WV-1 WILL BE TAKEN OUT OF SERVICE.
- PER THE SEQUENCING FOR THE POND RETROFIT AND PRINCIPAL SPILLWAY, TAKE WATER LINE SEGMENT BETWEEN ISOLATION VALVES OUT OF SERVICE AND REMOVE OR ABANDON PER PLANS. NOTTINGHAM VILLAGE WILL BE TEMPORARILY SERVICED SOLELY FROM THE 16"x8" TEE AT MD 103 AND ROCKBRIDGE DRIVE.
- SHOULD THE WATER LINE SERVICE OUTSIDE OF THE ISOLATION VALVES NEED TO BE SHUT DOWN AT ANY POINT IN THE RELOCATION, THE CONTRACTOR WILL NEED TO RECEIVE PERMISSION FROM THE ENGINEER AND OWNER PRIOR TO SHUTTING DOWN THE WATER. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING ALL RESIDENTS AND BUSINESSES IMPACTED BY THE SHUTDOWN.
- IMMEDIATELY AFTER INSTALLATION AND BACKFILL OF THE NEW PRINCIPAL SPILLWAY PIPES, INSTALL PROPOSED DUCTILE IRON REPLACEMENT, EXCLUDING FINAL TIE-INS.
- PRESSURE TEST INSTALLED WATER MAIN.
- TEST, DISINFECT AND CHLORINATE THE ENTIRE PROPOSED WATER MAIN LINE PER THE SPECIFICATIONS.
- WITH APPROVAL OF THE PROJECT ENGINEER AND OWNER, MAKE FINAL TIE-INS AND ACTIVATE THE NEWLY INSTALLED WATER MAIN. PERFORM VISUAL TEST OF NEW PIPELINE AND ADAPTORS.

**AS-BUILT
10/27/2023**

UT-2 OF 5

<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>Melvin Stoltz</i> 8/19/2021 DIRECTOR OF PUBLIC WORKS DATE</p> <p><i>John J. Smith</i> 10/27/2023 CHIEF, BUREAU OF UTILITIES DATE</p> <p><i>John J. Smith</i> 10/27/2023 CHIEF, UTILITY DESIGN DIVISION DATE</p>	<p>MCCORMICK TAYLOR</p> <p>509 South Exeter Street 4th Floor Baltimore, Maryland 21202 (410) 662-7400</p>	<p>Howard County MARYLAND</p> <p>Storm Water Management Division Bureau of Environmental Services 9801 Broken Land Parkway Columbia, Maryland 21046-3143 (410) 313-6444</p>	<p>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.</p> <p><i>7/14/21</i></p> <p>LICENSE #: 49427 EXPIRES: 6/13/2022</p>	<p>DES: HAS</p> <p>DRN: JLE</p> <p>CHK: ADM</p> <p>DATE: 7/9/21</p>	<table border="1"> <tr> <td>ADM</td> <td>2-8</td> <td>NOT APPLICABLE</td> <td>07/01/2023</td> </tr> <tr> <td>ANV</td> <td>1</td> <td>MODIFY SEQUENCE OF CONSTRUCTION</td> <td>07/01/2023</td> </tr> <tr> <td>BY</td> <td>NO.</td> <td>REVISION</td> <td>DATE</td> </tr> </table>	ADM	2-8	NOT APPLICABLE	07/01/2023	ANV	1	MODIFY SEQUENCE OF CONSTRUCTION	07/01/2023	BY	NO.	REVISION	DATE	<p>NOTTINGHAM POND PRINCIPAL SPILLWAY REPLACEMENT AND RETROFIT PROJECT CAPITAL PROJECT #D-1177 HOWARD COUNTY HSCD #: EP-18-035</p> <p>WATER AND SEWER RELOCATION GENERAL NOTES</p>	<p>SCALE AS SHOWN</p> <p>SHEET 27 OF 30</p>
ADM	2-8	NOT APPLICABLE	07/01/2023																
ANV	1	MODIFY SEQUENCE OF CONSTRUCTION	07/01/2023																
BY	NO.	REVISION	DATE																

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NOTE: REFER TO SEQUENCE OF CONSTRUCTION ON SHEET 27.

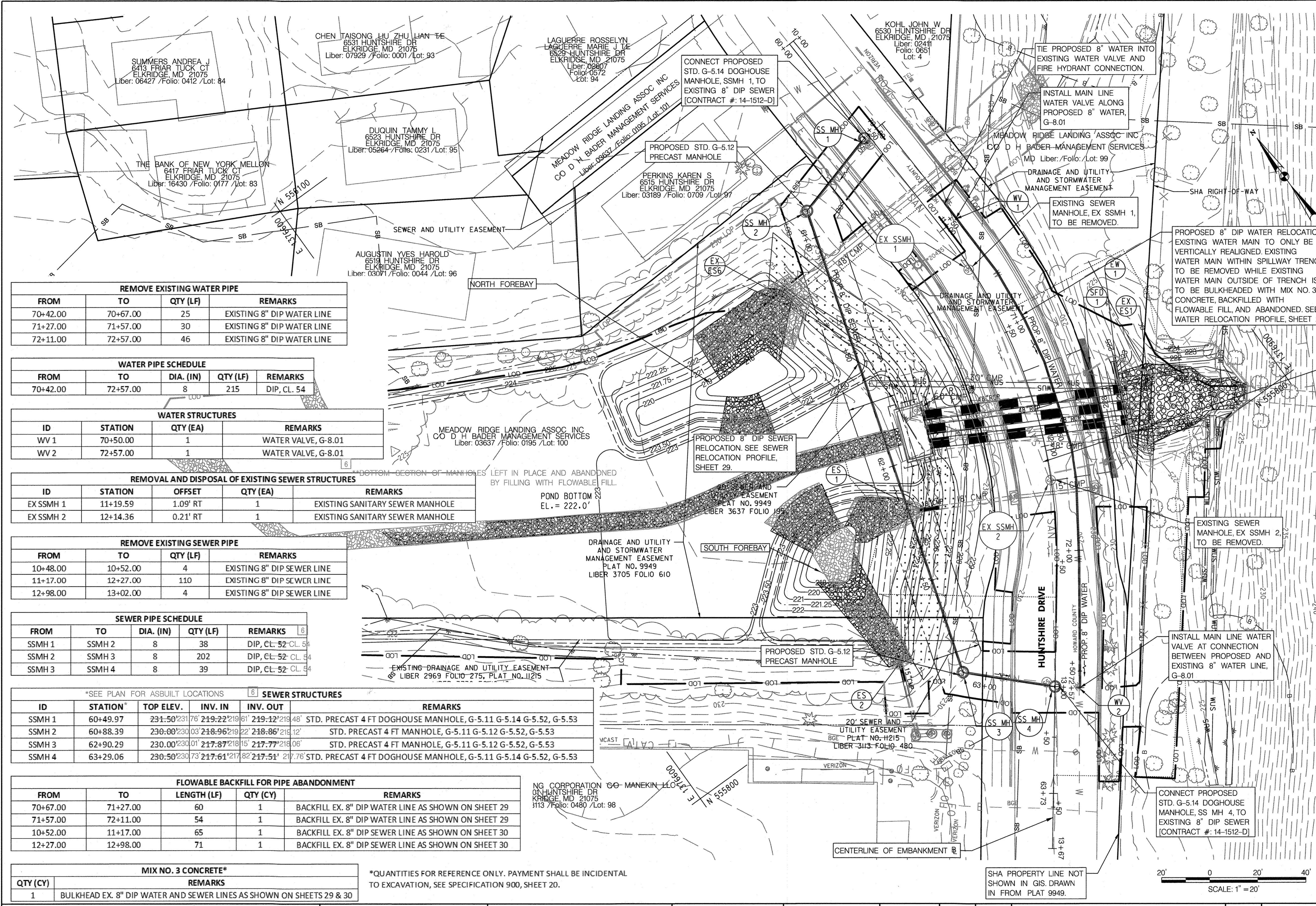
6 CATHODIC PROTECTION SYSTEM INSTALLED ALONG DIP WATER LINE FROM WV-1 TO WV-2. TEST STATIONS PROVIDED AT EACH END.

AS-BUILT
10/27/2023

EXISTING SEWER MAIN BETWEEN EXISTING SEWER MANHOLES, EX SSMH-1 AND EX SSMH-2, TO BE REMOVED WITHIN LIMITS OF EXCAVATION. REMAINING EXISTING SEWER MAIN BETWEEN PROPOSED SEWER MANHOLES, SSMH-1 AND SSMH-2, TO BE BULKHEADED WITH NO. 3 CONCRETE, BACKFILLED WITH FLOWABLE FILL, AND ABANDONED. SEE EXISTING SEWER PROFILE, SHEET 30.

LEGEND

- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- - - PROPOSED SUB MINOR CONTOUR
- - - PROPOSED PERMANENT POOL ELEVATION
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- WOODS
- PROPERTY LINE
- EASEMENT BOUNDARY
- WUS — WATERS OF THE US
- 100 YEAR FEMA FLOODPLAIN
- EMBANKMENT TOE
- LIMIT OF DISTURBANCE
- ORANGE CONSTRUCTION FENCE
- 15' NO WOODY VEGETATION OFFSET
- EXISTING TREE
- ⊗ EXISTING TREE TO BE REMOVED
- PROPOSED RISER
- ◡ PROPOSED METAL END SECTION
- ▨ SEEPAGE CONTROL FILTER
- ▬ PROPOSED PIPE
- ▬ PROPOSED ENDWALL
- ▬ GEOSYNTHETIC CLAY LINER
- ▬ CLASS I RIPRAP
- PROPOSED WATER VALVE
- PROPOSED STD. PRECAST MANHOLE
- PROPOSED 8" DUCTILE IRON PIPE (DIP)



REMOVE EXISTING WATER PIPE

FROM	TO	QTY (LF)	REMARKS
70+42.00	70+67.00	25	EXISTING 8" DIP WATER LINE
71+27.00	71+57.00	30	EXISTING 8" DIP WATER LINE
72+11.00	72+57.00	46	EXISTING 8" DIP WATER LINE

WATER PIPE SCHEDULE

FROM	TO	DIA. (IN)	QTY (LF)	REMARKS
70+42.00	72+57.00	8	215	DIP, CL. 54

WATER STRUCTURES

ID	STATION	QTY (EA)	REMARKS
WV 1	70+50.00	1	WATER VALVE, G-8.01
WV 2	72+57.00	1	WATER VALVE, G-8.01

REMOVAL AND DISPOSAL OF EXISTING SEWER STRUCTURES

ID	STATION	OFFSET	QTY (EA)	REMARKS
EX SSMH 1	11+19.59	1.09' RT	1	EXISTING SANITARY SEWER MANHOLE
EX SSMH 2	12+14.36	0.21' RT	1	EXISTING SANITARY SEWER MANHOLE

REMOVE EXISTING SEWER PIPE

FROM	TO	QTY (LF)	REMARKS
10+48.00	10+52.00	4	EXISTING 8" DIP SEWER LINE
11+17.00	12+27.00	110	EXISTING 8" DIP SEWER LINE
12+98.00	13+02.00	4	EXISTING 8" DIP SEWER LINE

SEWER PIPE SCHEDULE

FROM	TO	DIA. (IN)	QTY (LF)	REMARKS
SSMH 1	SSMH 2	8	38	DIP, CL. 52 CL. 54
SSMH 2	SSMH 3	8	202	DIP, CL. 52 CL. 54
SSMH 3	SSMH 4	8	39	DIP, CL. 52 CL. 54

*SEE PLAN FOR ASBUILT LOCATIONS. **SEWER STRUCTURES**

ID	STATION*	TOP ELEV.	INV. IN	INV. OUT	REMARKS			
SSMH 1	60+49.97	231.50	231.76	219.22	219.61	219.12	219.48	STD. PRECAST 4 FT DOGHOUSE MANHOLE, G-5.11 G-5.14 G-5.52, G-5.53
SSMH 2	60+88.39	230.00	230.03	218.96	219.22	218.86	219.12	STD. PRECAST 4 FT MANHOLE, G-5.11 G-5.12 G-5.52, G-5.53
SSMH 3	62+90.29	230.00	230.01	217.87	218.15	217.77	218.06	STD. PRECAST 4 FT MANHOLE, G-5.11 G-5.12 G-5.52, G-5.53
SSMH 4	63+29.06	230.50	230.73	217.61	217.82	217.51	217.76	STD. PRECAST 4 FT DOGHOUSE MANHOLE, G-5.11 G-5.14 G-5.52, G-5.53

FLOWABLE BACKFILL FOR PIPE ABANDONMENT

FROM	TO	LENGTH (LF)	QTY (CY)	REMARKS
70+67.00	71+27.00	60	1	BACKFILL EX. 8" DIP WATER LINE AS SHOWN ON SHEET 29
71+57.00	72+11.00	54	1	BACKFILL EX. 8" DIP WATER LINE AS SHOWN ON SHEET 29
10+52.00	11+17.00	65	1	BACKFILL EX. 8" DIP SEWER LINE AS SHOWN ON SHEET 30
12+27.00	12+98.00	71	1	BACKFILL EX. 8" DIP SEWER LINE AS SHOWN ON SHEET 30

MIX NO. 3 CONCRETE*

QTY (CY)	REMARKS
1	BULKHEAD EX. 8" DIP WATER AND SEWER LINES AS SHOWN ON SHEETS 29 & 30

*QUANTITIES FOR REFERENCE ONLY. PAYMENT SHALL BE INCIDENTAL TO EXCAVATION, SEE SPECIFICATION 900, SHEET 20.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* 9/16/23
 Chief, Bureau of Engineering: *[Signature]*
 Chief, Bureau of Utilities: *[Signature]* 9/16/23
 Chief, Utility Design Division: *[Signature]* SRK

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

Howard County MARYLAND
Department of Public Works
Bureau of Utilities
8250 & 8270 Old Montgomery Road
Columbia, Maryland 21045
(410) 313-4900

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.

DES: HAS
 DRN: JLE
 CHK: ADM
 DATE: 7/9/21

LICENSE #: 49427
 EXPIRES: 6/13/2022

7/14/21

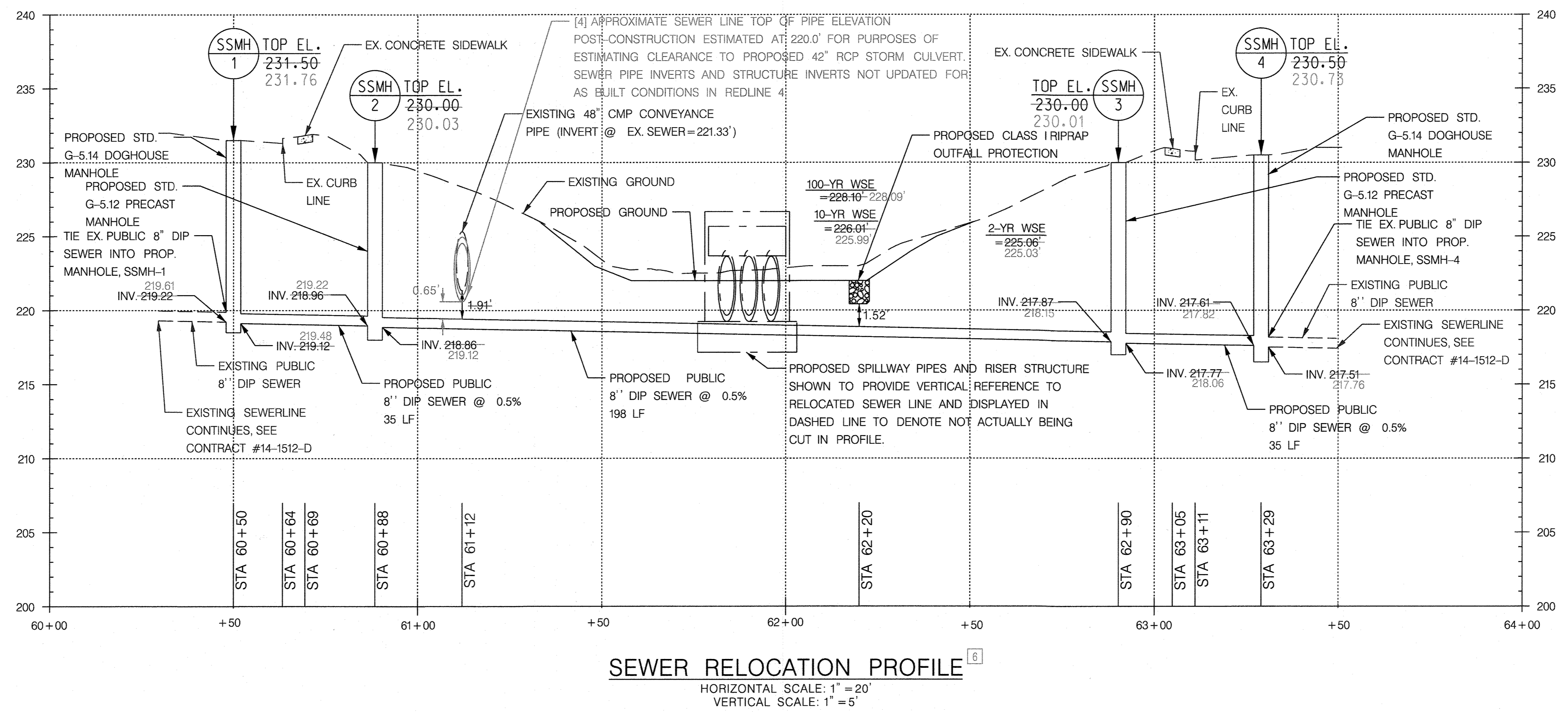
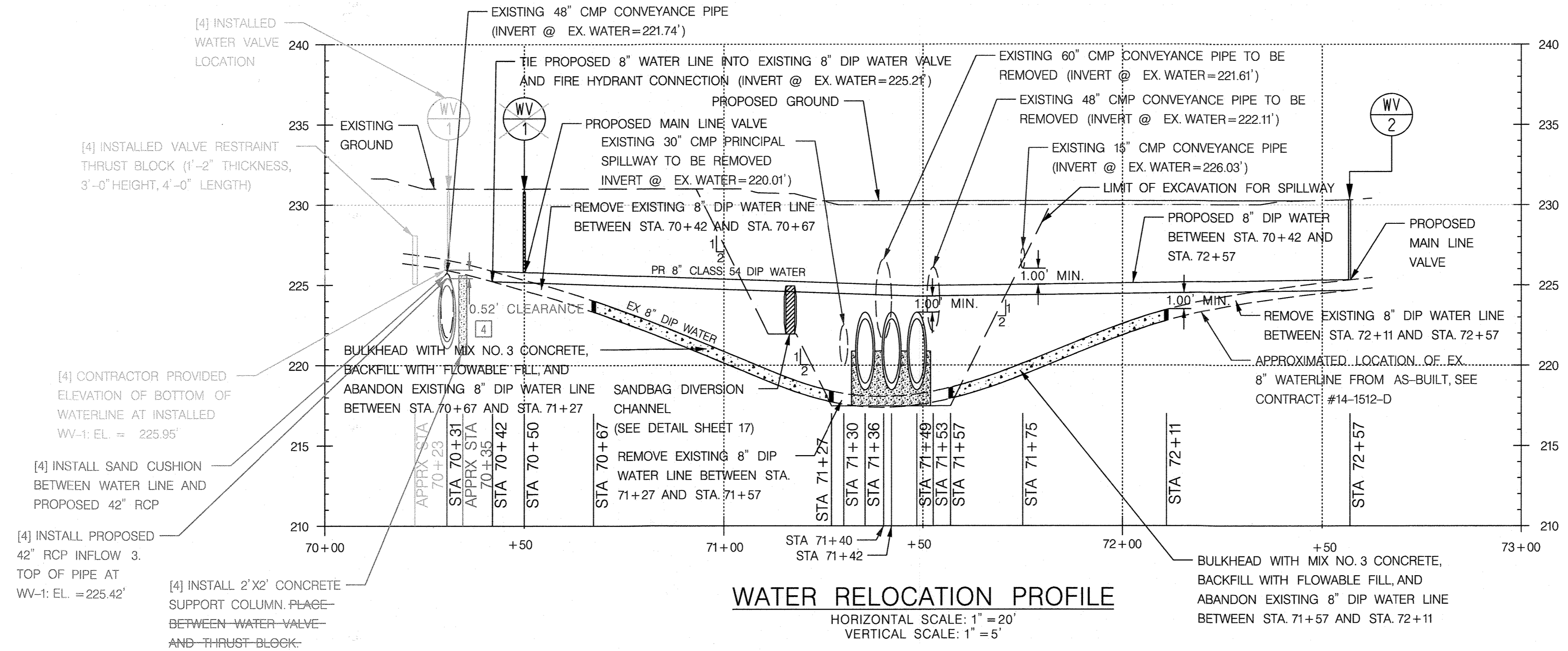
BY	NO.	REVISION	DATE
ADM	6	AS-BUILT SURVEY	07/01/2023
ADM	5	NOT APPLICABLE	07/01/2023
BY	NO.	REVISION	DATE

NOTTINGHAM POND PRINCIPAL SPILLWAY REPLACEMENT AND RETROFIT PROJECT
HOWARD COUNTY
CAPITAL PROJECT NO. W8602
CONTRACT NO. 14-5143
WATER AND SEWER RELOCATION PLAN

ELECTION DISTRICT NO. 2 600 SCALE MAP NO. 0037, BLOCK NO. 0016

SCALE
1" = 20'
SHEET
28 OF 30

[6] GREENLINE DISPLAYS APPROXIMATE AS-BUILT CONSTRUCTED FEATURES.



AS-BUILT
10/27/2023

UT-4 OF 5

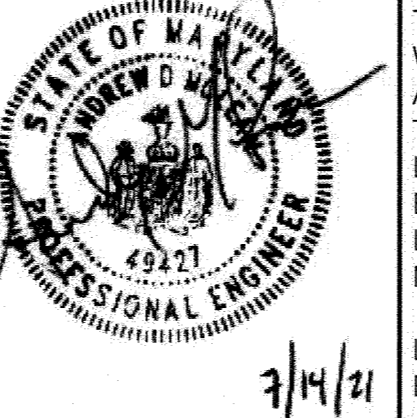
DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

M. Mennin 8/16/21
 DIRECTOR OF PUBLIC WORKS DATE CHIEF, BUREAU OF ENGINEERING

P. G. [Signature] 8/16/21
 CHIEF, BUREAU OF UTILITIES DATE CHIEF, UTILITY DESIGN DIVISION

McCORMICK TAYLOR
 509 South Exeter Street
 4th Floor
 Baltimore, Maryland 21202
 (410) 662-7400

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 Department of Public Works
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LICENSE #: 49427
 EXPIRES: 6/13/2022

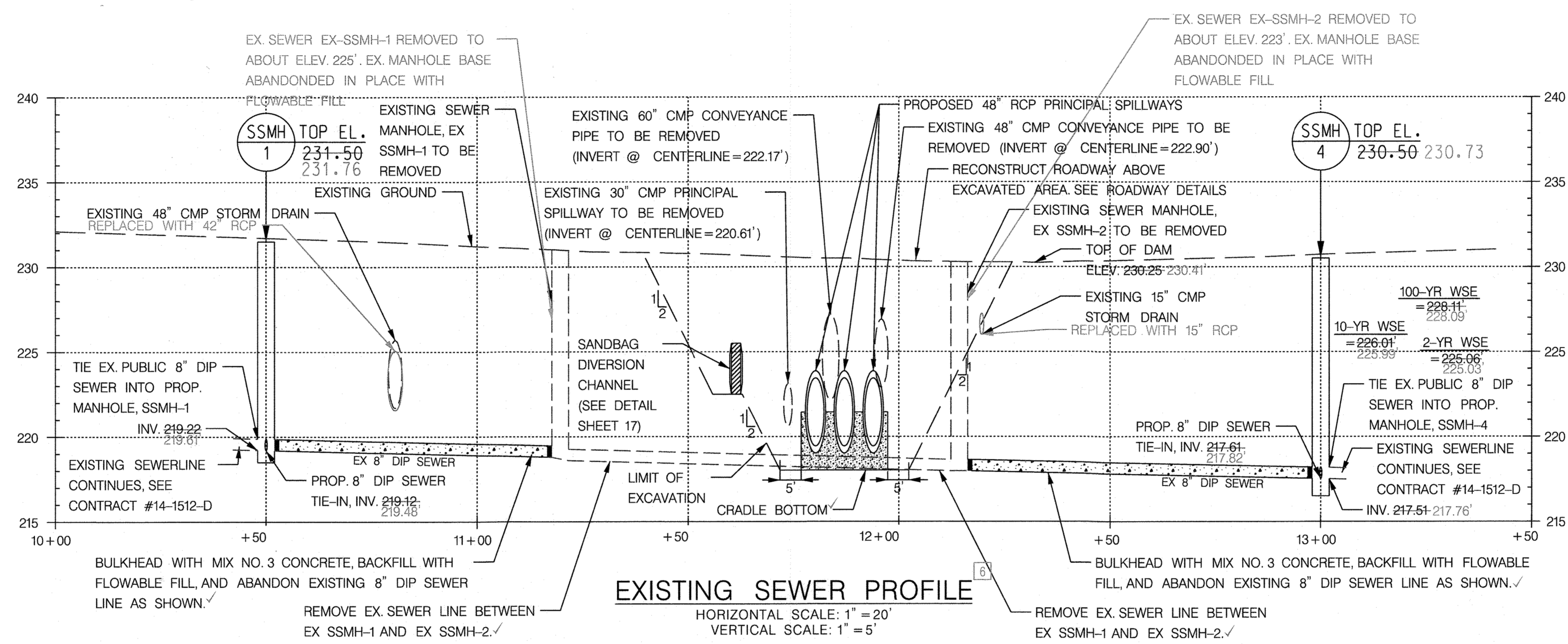
DES:	HAS			
DRN:	JLE			
CHK:	ADM	[6]	AS-BUILT SURVEY	07/01/2023
		[1-3,5]	NOT APPLICABLE	07/01/2023
		[4]	ADJUSTED LOD FOR INFLOW PIPE REPLACEMENT	07/01/2023
DATE:	7/9/21	BY	NO.	REVISION

NOTTINGHAM POND PRINCIPAL SPILLWAY REPLACEMENT AND RETROFIT PROJECT
 HOWARD COUNTY
 CAPITAL PROJECT NO. W8602
 CONTRACT NO. 14-5143

WATER AND SEWER RELOCATION PROFILES

ELECTION DISTRICT NO. 2 600 SCALE MAP NO. 0037, BLOCK NO. 0016

SCALE AS SHOWN
 SHEET 29 OF 30



NOTE 2: DURING CONSTRUCTION, A FLOWING 4" SDR 35 DRAIN LINE WAS DISCOVERED NEAR THE EMBANKMENT CENTERLINE, RUNNING LONGITUDINALLY. FOLLOWING CORRESPONDENCE WITH THE MARYLAND DEPARTMENT OF THE ENVIRONMENT DAM SAFETY DIVISION, DRAIN LINES FROM THE NORTH AND SOUTH WERE OUTLETTED TO THE DOWNSTREAM TOE OF DAM, WITH CLEANOUTS ON EACH LINE OF THE DOWNSTREAM EMBANKMENT SLOPE.

AS-BUILT
10/27/2023

UT-5 OF 5

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works *Chief, Bureau of Engineering*
DATE: 8/16/21 DATE: 8/16/21

Chief, Bureau of Utilities *Chief, Utility Design Division*
DATE: 8/16/21 DATE: 8/16/21

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LICENSE #: 49427
EXPIRES: 6/13/2022

DES: HAS			
DRN: JLE			
CHK: ADM	ADM	6	AS-BUILT SURVEY
	ADM	3	NOT APPLICABLE
DATE: 7/9/21	BY	NO.	REVISION
			DATE

NOTTINGHAM POND PRINCIPAL SPILLWAY REPLACEMENT AND RETROFIT PROJECT
HOWARD COUNTY
CAPITAL PROJECT NO. W8602
CONTRACT NO. 14-5143

WATER AND SEWER RELOCATION PROFILES

ELECTION DISTRICT NO. 2 600 SCALE MAP NO. 0037, BLOCK NO. 0016

SCALE
AS SHOWN
SHEET
30 OF 30

Z:\0827_MD_Howard_County\070_Nottingham_Principal_Spillway_Replacement\300_CADD\Plan_Sets\SSM\AS-Built\SSM-AS-Built-CDDA_Nottingham_As-Built.dgn