

DELAWARE COUNTY
STATE OF OHIO

DEL-CR14-3.17

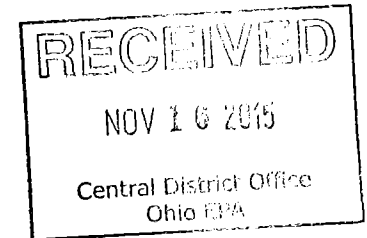
PHASE 1

**EAST POWELL ROAD
ORANGE TOWNSHIP**

PROJECT DESCRIPTION

THIS PROJECT INCLUDES WIDENING 0.2 MILES OF THE EXISTING TWO-LANE E. POWELL RD. TO THREE-LANES AND PROVIDING A SIGNALIZED INTERSECTION AT BALE KENYON ROAD. THE PROJECT WILL ALSO INCLUDE DRAINAGE IMPROVEMENTS AND A SHARED-USE PATH ALONG THE NORTH SIDE OF THE ROADWAY.

PROJECT EARTH DISTURBED AREA: 3.67 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.25 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: 3.92 ACRES



2013 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

TRAFFIC REROUTED MAJORITY OF TIME
I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THE IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT AS NOTED ON SHEET 8 AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON THE PLANS.

APPROVED _____
DATE _____ DELAWARE COUNTY COMMISSIONER

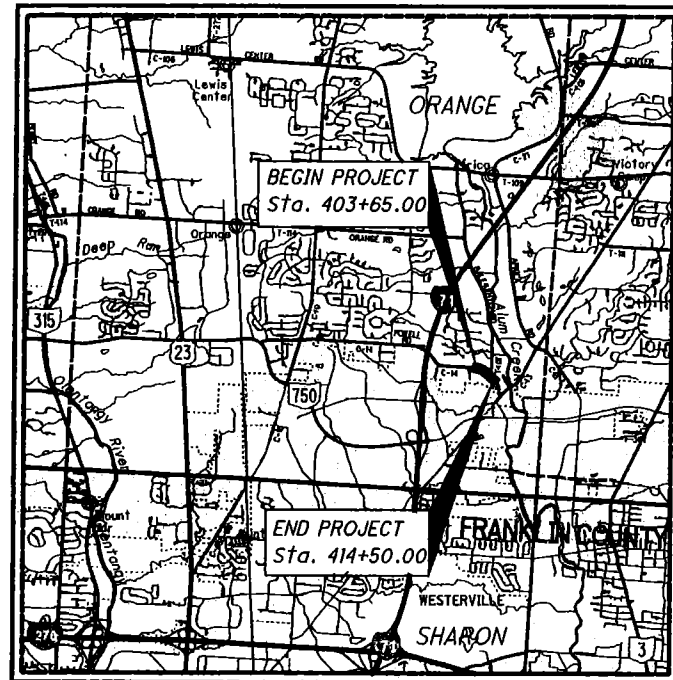
APPROVED _____
DATE _____ DELAWARE COUNTY COMMISSIONER

APPROVED _____
DATE _____ DELAWARE COUNTY COMMISSIONER

APPROVED *[Signature]*
DATE 4/14/15 DELAWARE COUNTY ENGINEER

APPROVED *[Signature]*
DATE 4/14/15 DELAWARE COUNTY DEPUTY ENGINEER

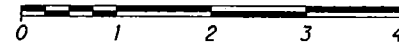
APPROVED *[Signature]*
DATE 3/7/2015 DELAWARE COUNTY SANITARY ENGINEER
*FOR SANITARY ITEMS ONLY



LOCATION MAP

LATITUDE: N40°09'10" LONGITUDE: W82°57'30"

SCALE IN MILES



PORTION TO BE IMPROVED _____
INTERSTATE HIGHWAY _____
STATE & FEDERAL ROUTES _____
COUNTY & TOWNSHIP ROADS _____
OTHER ROADS _____

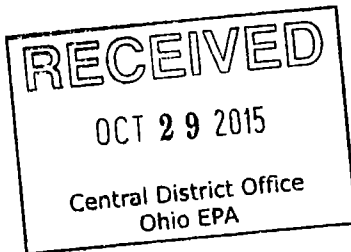
PAID 1056076
Amount 1630 Date 4-13-15
Check # 401973 Date 9-28-15

DESIGN DESIGNATION

CURRENT ADT (2013)	10,200
DESIGN YEAR ADT (2035)	17,800
DESIGN HOURLY VOLUME (2035)	2,120
DIRECTIONAL DISTRIBUTION	55%
TRUCKS (24 HOUR B&C)	4%
DESIGN SPEED	45 MPH
LEGAL SPEED	45 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
URBAN COLLECTOR	

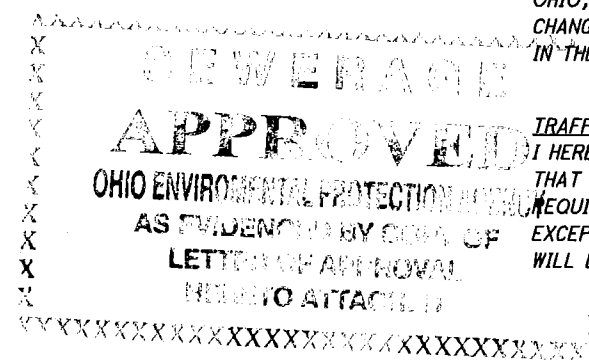
DESIGN EXCEPTIONS

NONE



INDEX OF SHEETS:

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FINAL TRACINGS SUBMISSION - JANUARY 2015

STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS	
BP-4.1	7/19/13	MH-1.1	1/18/13	TC-82.10	10/18/13	SS811	1/18/13
BP-5.1	7/19/13	MH-1.2	1/18/13	TC-83.10	1/17/14	SS823	1/17/14
BP-7.1	7/18/14			TC-83.20	10/18/13	SS832	1/17/14
MGS-1.1	7/19/13	DM-1.1	1/18/13	TC-85.10	10/18/13		
MGS-2.1	7/19/13	DM-1.4	1/18/13	TC-85.20	10/18/13		
MGS-4.2	7/19/13	DM-4.1	7/19/13	MT-97.10	7/18/14		
				MT-101.60	7/19/13		
RM-1.1	7/18/14	TC-12.30	10/18/13	MT-101.90	7/18/14		
		TC-21.20	10/18/13	MT-120.00	7/19/13		
CB-1.1	1/18/13	TC-41.20	10/18/13				
CB-2.1	1/18/13	TC-42.20	10/18/13	DCED-R1100	1/4/10		
CB-2.2	1/17/14	TC-52.10	10/18/13				
CB-4.1	1/18/13	TC-52.20	7/18/14				
CB-4.2	1/18/13	TC-71.10	1/17/14				
		TC-81.21	1/17/14				

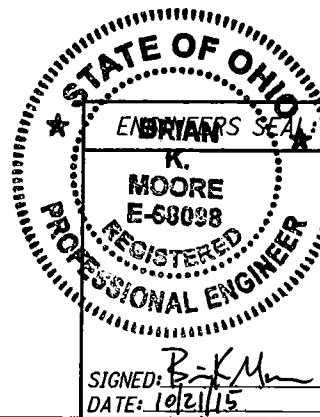
UNDERGROUND UTILITIES
CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

CALL
1-800-362-2764
(TOLL FREE)

OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS PROTECTIVE
SERVICE CALL: **1-800-925-0988**

PLAN PREPARED BY:
BURGESS & NIPLE
5085 REED ROAD
COLUMBUS, OH 43220



FEDERAL PROJECT NO.

PID NO.

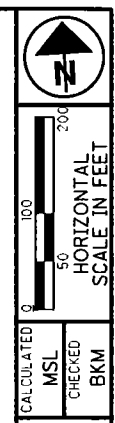
CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT

NONE

DEL-CR14-3.17

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CALCULATED
MSL
CHECKED
BKM

SCHEMATIC PLAN

DEL - CR14 - 3.17

**EAST POWELL ROAD
CURVE DATA**

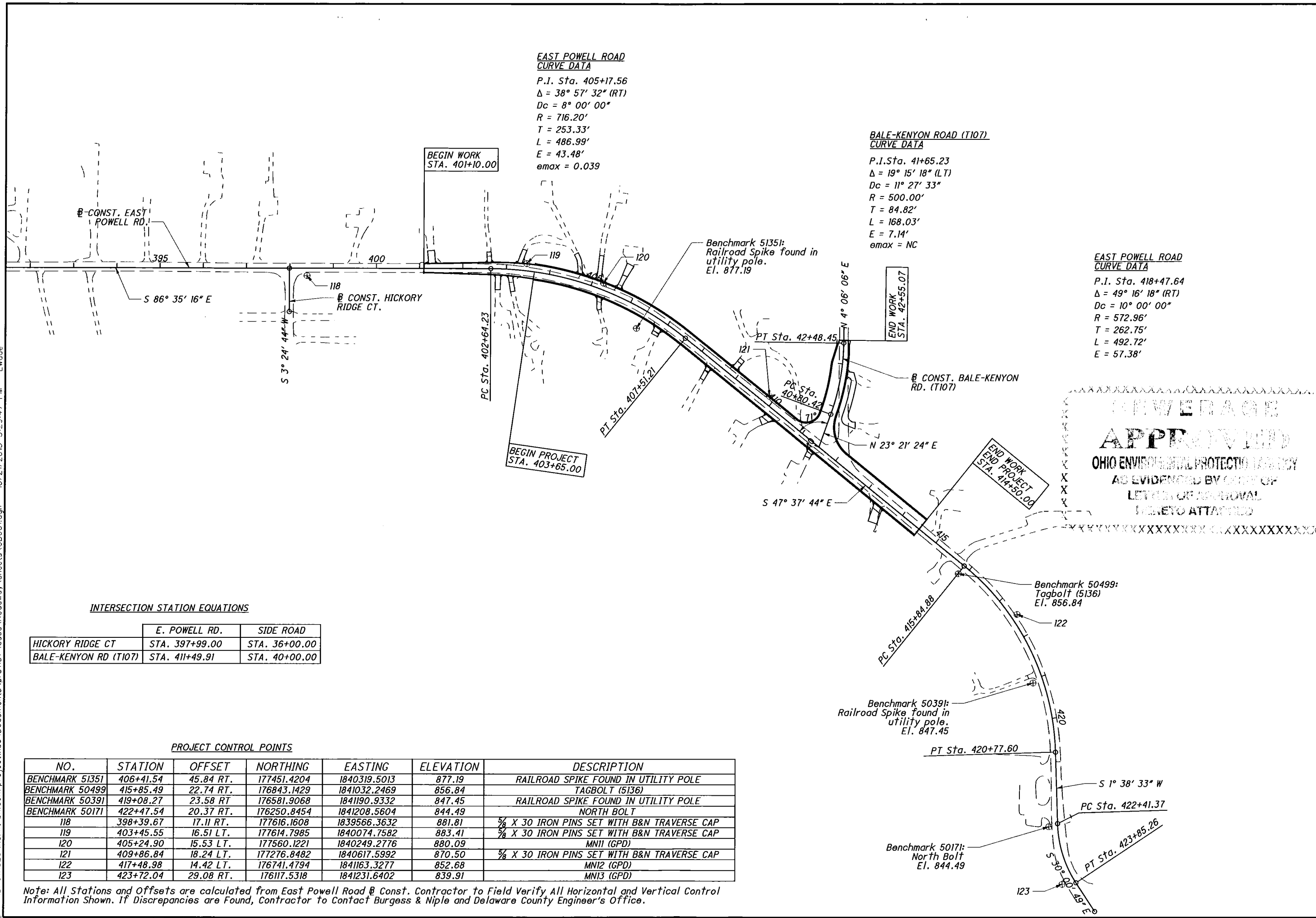
P.I. Sta. 405+17.56
 $\Delta = 38^\circ 57' 32''$ (RT)
 $Dc = 8^\circ 00' 00''$
 $R = 716.20'$
 $T = 253.33'$
 $L = 486.99'$
 $E = 43.48'$
 $e_{max} = 0.039$

**BALE-KENYON ROAD (T107)
CURVE DATA**

P.I. Sta. 41+65.23
 $\Delta = 19^\circ 15' 18''$ (LT)
 $Dc = 11^\circ 27' 33''$
 $R = 500.00'$
 $T = 84.82'$
 $L = 168.03'$
 $E = 7.14'$
 $e_{max} = NC$

**EAST POWELL ROAD
CURVE DATA**

P.I. Sta. 418+47.64
 $\Delta = 49^\circ 16' 18''$ (RT)
 $Dc = 10^\circ 00' 00''$
 $R = 572.96'$
 $T = 262.75'$
 $L = 492.72'$
 $E = 57.38'$



INTERSECTION STATION EQUATIONS

	E. POWELL RD.	SIDE ROAD
HICKORY RIDGE CT	STA. 397+99.00	STA. 36+00.00
BALE-KENYON RD (T107)	STA. 411+49.91	STA. 40+00.00

PROJECT CONTROL POINTS

NO.	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
BENCHMARK 51351	406+41.54	45.84 RT.	177451.4204	1840319.5013	877.19	RAILROAD SPIKE FOUND IN UTILITY POLE
BENCHMARK 50499	415+85.49	22.74 RT.	176843.1429	1841032.2469	856.84	TAGBOLT (5136)
BENCHMARK 50391	419+08.27	23.58 RT	176581.9068	1841190.9332	847.45	RAILROAD SPIKE FOUND IN UTILITY POLE
BENCHMARK 50171	422+47.54	20.37 RT.	176250.8454	1841208.5604	844.49	NORTH BOLT
118	398+39.67	17.11 RT.	177616.1608	1839566.3632	881.81	5/8 X 30 IRON PINS SET WITH B&N TRAVERSE CAP
119	403+45.55	16.51 LT.	177614.7985	1840074.7582	883.41	5/8 X 30 IRON PINS SET WITH B&N TRAVERSE CAP
120	405+24.90	15.53 LT.	177560.1221	1840249.2776	880.09	MN11 (GPD)
121	409+86.84	18.24 LT.	177276.8482	1840617.5992	870.50	5/8 X 30 IRON PINS SET WITH B&N TRAVERSE CAP
122	417+48.98	14.42 LT.	176741.4794	1841163.3277	852.68	MN12 (GPD)
123	423+72.04	29.08 RT.	176117.5318	1841231.6402	839.91	MN13 (GPD)

Note: All Stations and Offsets are calculated from East Powell Road @ Const. Contractor to Field Verify All Horizontal and Vertical Control Information Shown. If Discrepancies are Found, Contractor to Contact Burgess & Niple and Delaware County Engineer's Office.

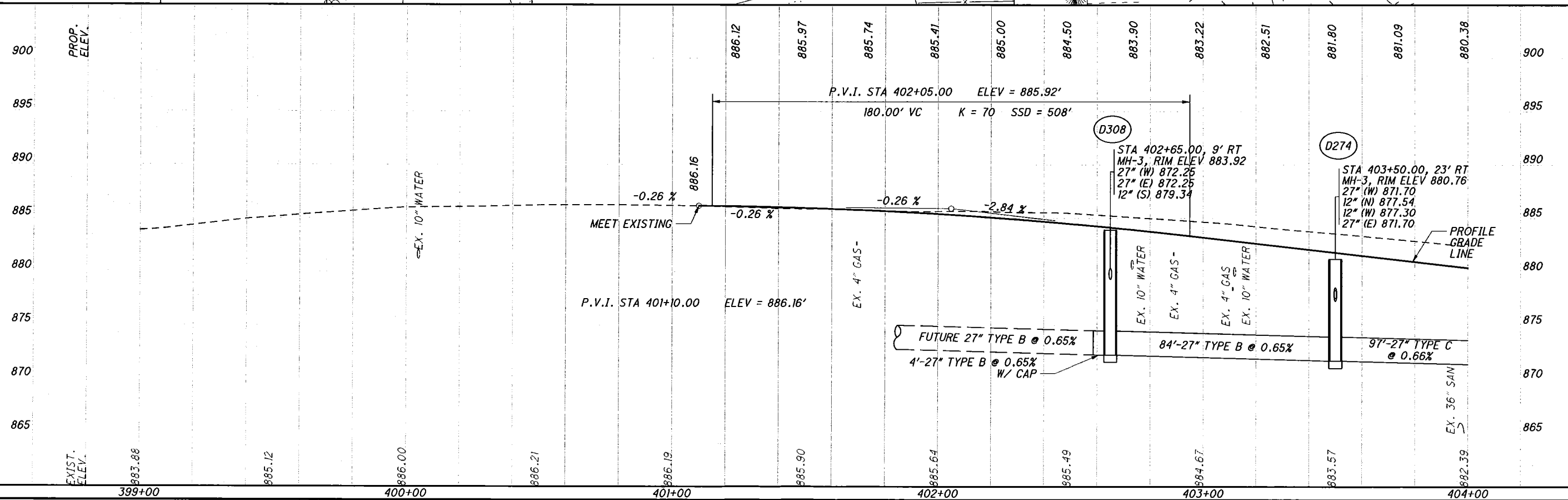
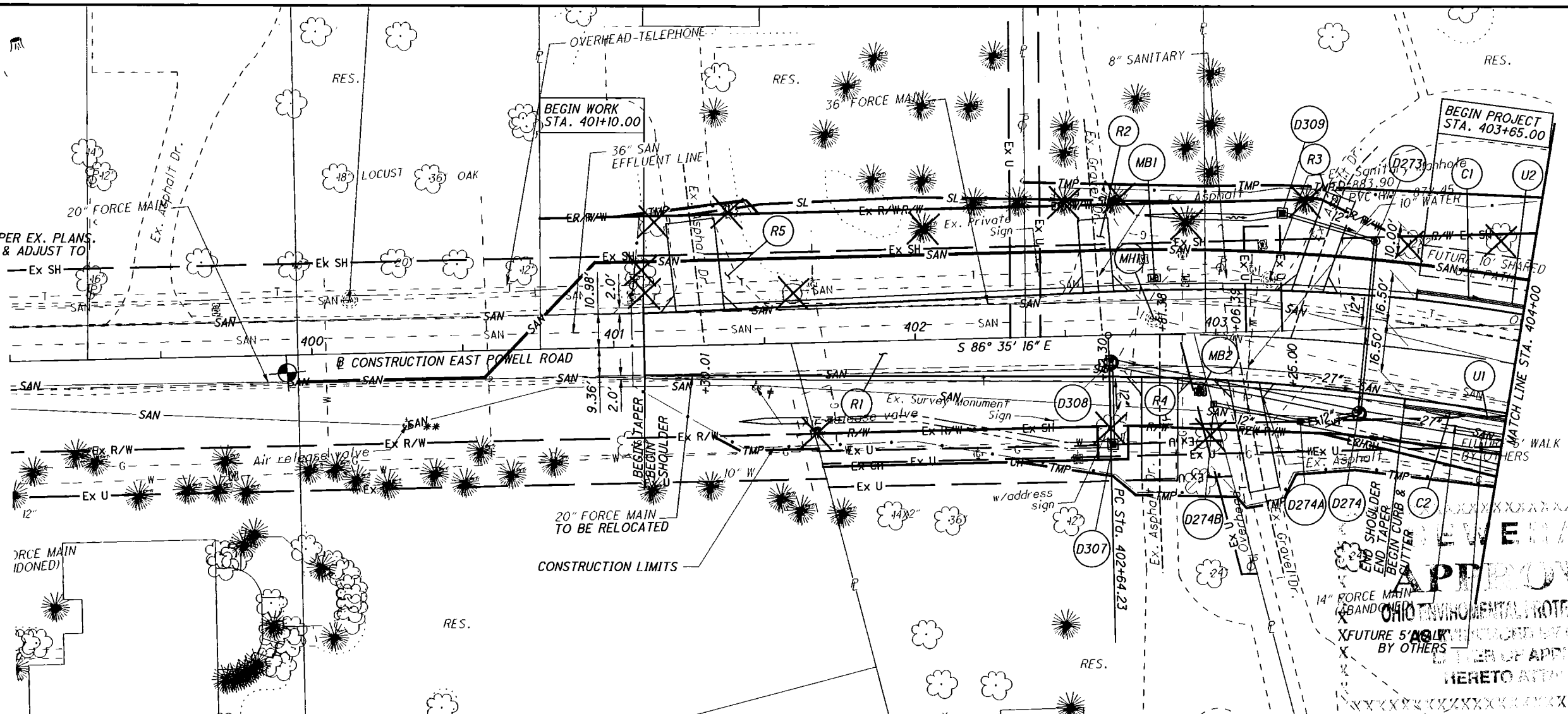
**EAST POWELL ROAD
CURVE DATA**

P.I. Sta. 405+17.56
 $\Delta = 38^\circ 57' 32''$ (RT)
 $D_c = 8^\circ 00' 00''$
 $R = 716.20'$
 $T = 253.33'$
 $L = 486.99'$
 $E = 43.48'$
 $e_{max} = 0.039$

* APPROXIMATE LOCATION PER EX. PLANS.
 CONTRACTOR TO LOCATE & ADJUST TO
 GRADE

** AIR RELEASE ON 14" FM

† AIR RELEASE ON 20" FM



PLAN AND PROFILE EAST POWELL RD
 STA. 399+00.00 TO STA. 404+00.00

DEL-CR14-3.17

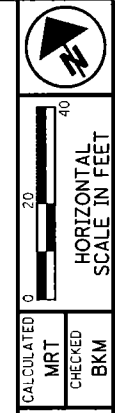
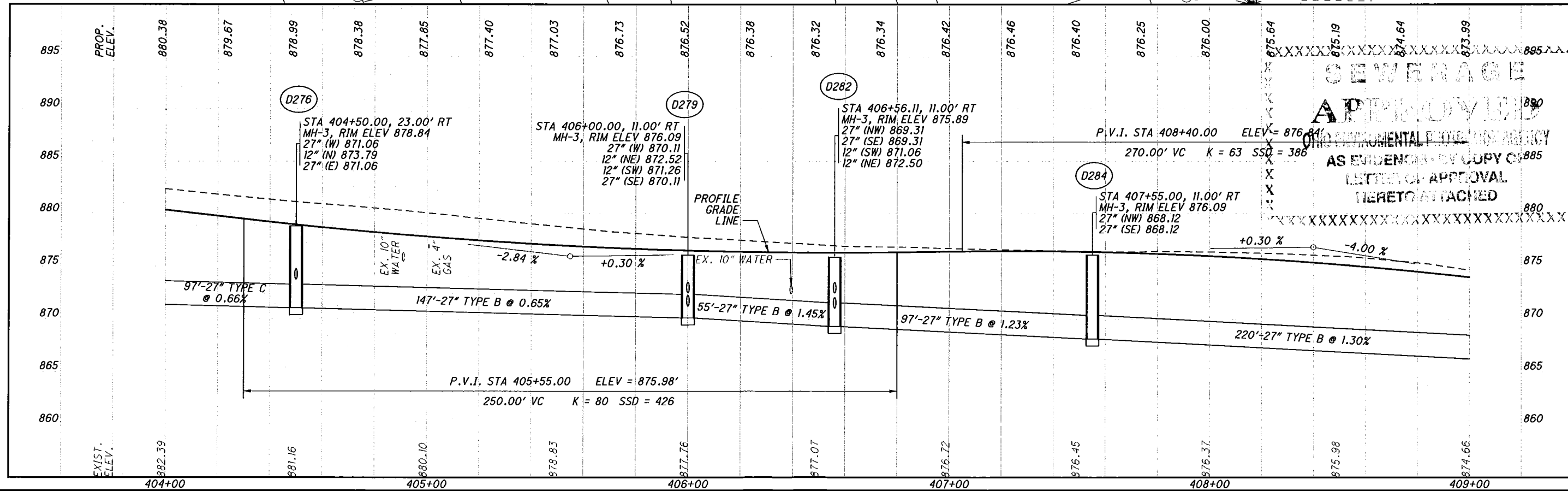
20
83

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**EAST POWELL ROAD
CURVE DATA**
 P.I. Sta. 405+17.56
 $\Delta = 38^\circ 57' 32''$ (RT)
 $D_c = 8^\circ 00' 00''$
 $R = 716.20'$
 $T = 253.33'$
 $L = 486.99'$
 $E = 43.48'$
 $e_{max} = 0.039$

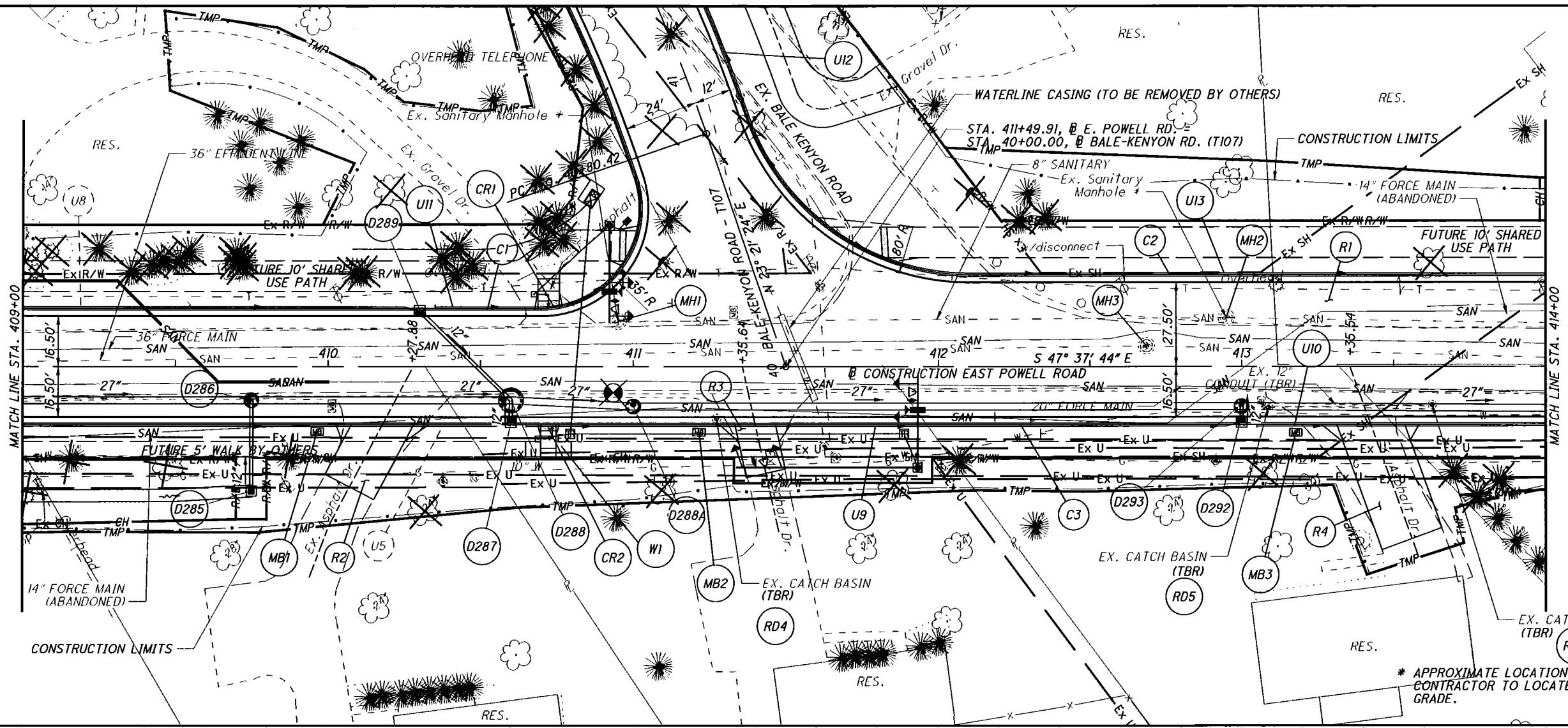
* TO BE ADJUSTED BY OTHERS



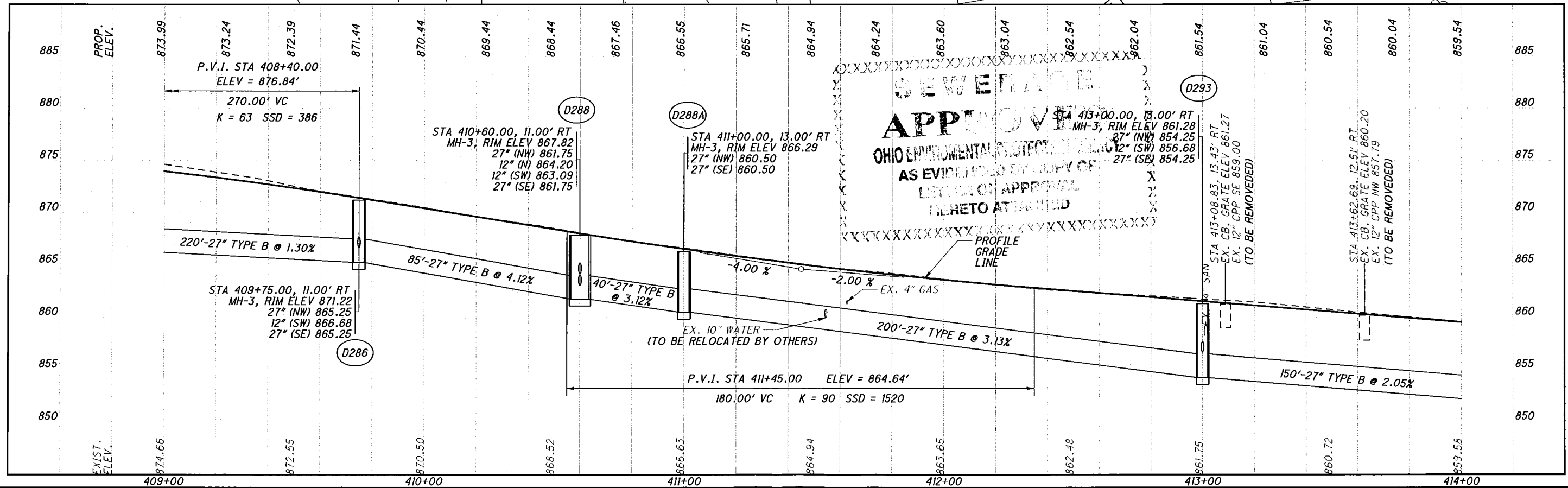
**PLAN AND PROFILE - EAST POWELL RD
 STA. 404+00.00 TO STA. 409+00.00**

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FOR INTERSECTION DETAIL, SEE SHEET 37
FOR BALE-KENYON PLAN & PROFILE, SEE SHEET 34



* APPROXIMATE LOCATION PER EX. PLANS.
CONTRACTOR TO LOCATE & ADJUST TO GRADE.



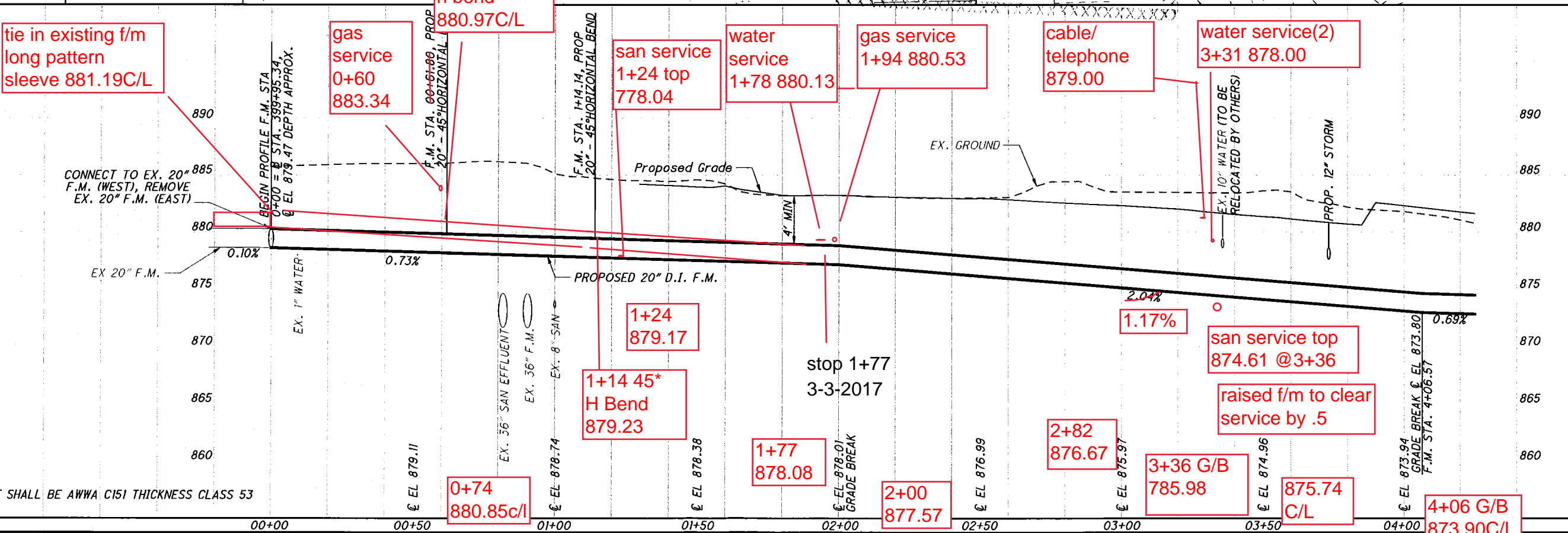
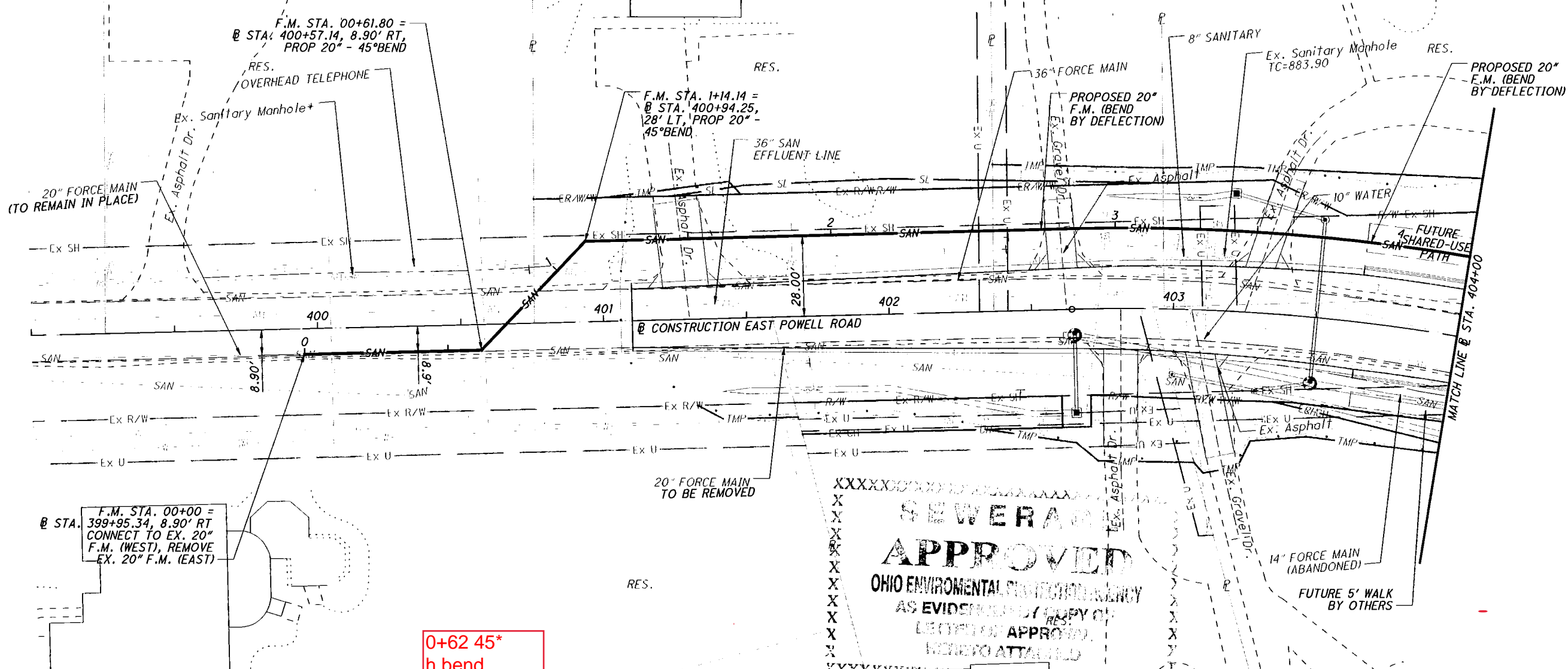
SEWERAGE
APPROVED
OHIO ENVIRONMENTAL PROTECTION AGENCY
AS EVIDENCED BY COPY OF
LETTER OF APPROVAL
HERETO ATTACHED



PLAN AND PROFILE - EAST POWELL RD
STA. 409+00.00 TO 414+00.00

DEL - CR14-3.17

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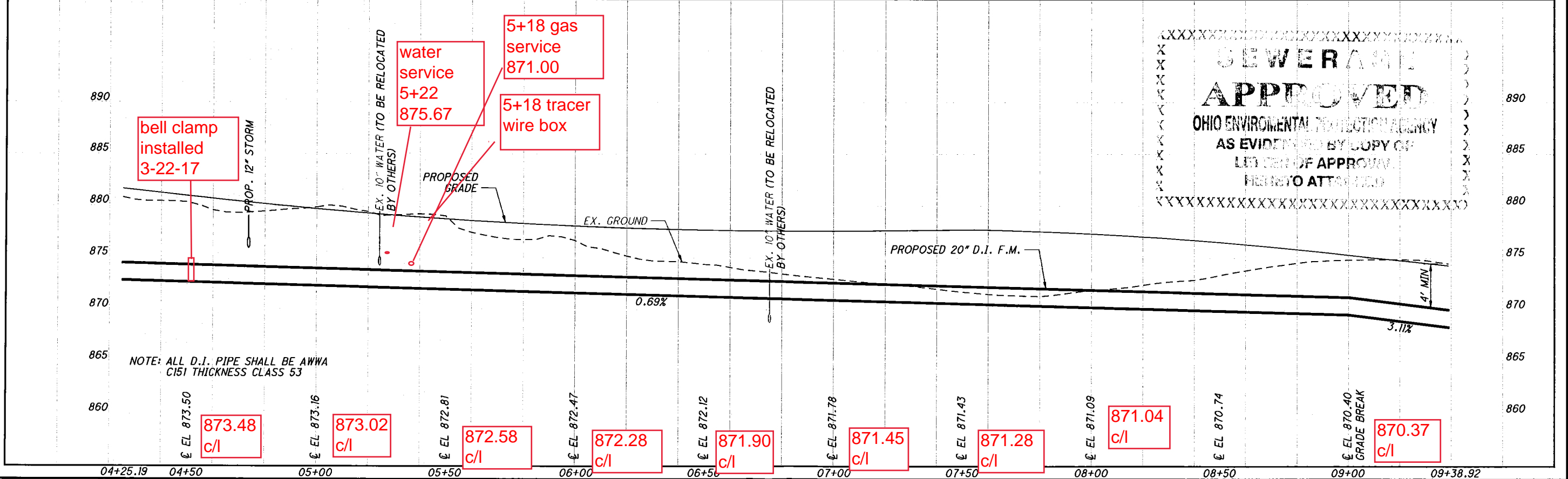
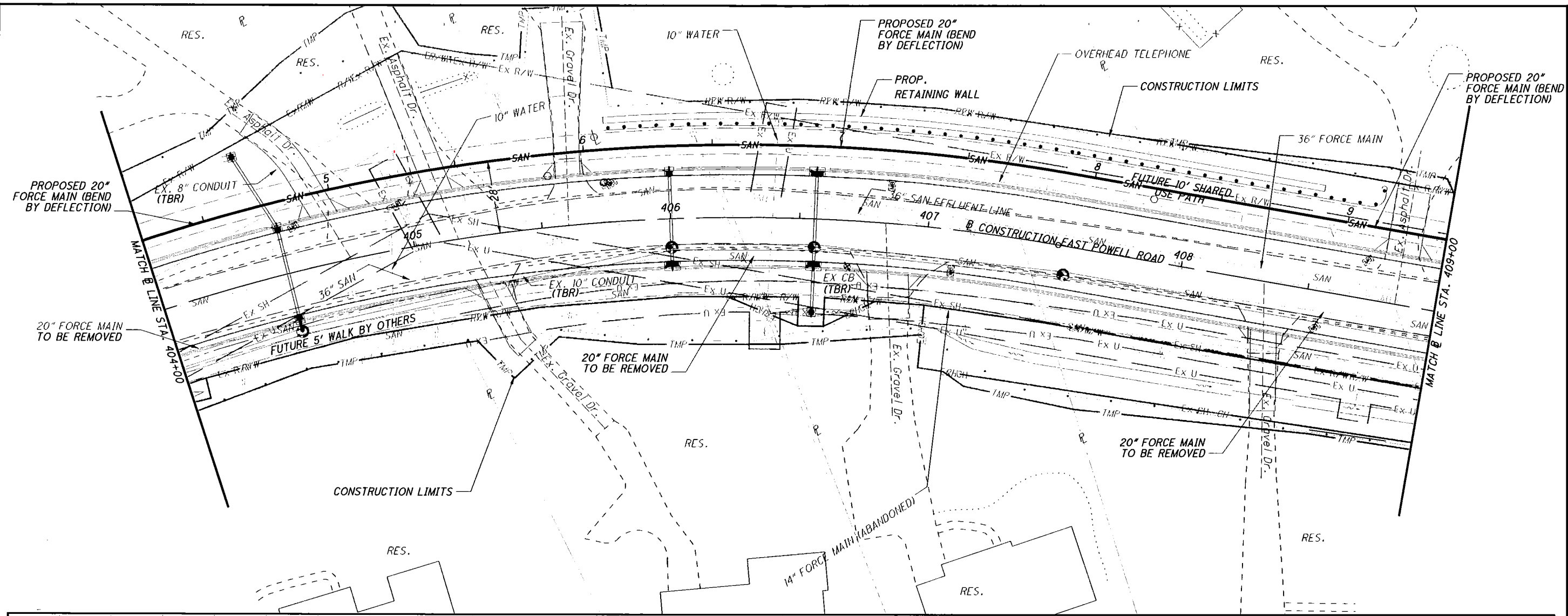


NOTE: ALL D.I. PIPE SHALL BE AWWA C151 THICKNESS CLASS 53

SEWERAGE
 APPROVED
 OHIO ENVIRONMENTAL PROTECTION AGENCY
 AS EVIDENCED BY COPY OF
 LETTER OF APPROVAL
 HERETO ATTACHED

CALCULATED CLR CHECKED BPF
 HORIZONTAL SCALE IN FEET
 PLAN AND PROFILE - RELOCATED 20" FORCE MAIN
 STA. 00+00.00 TO STA. 04+25.19
 DEL-CR14-3.17
 49/83

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SEWERAGE
APPROVED
 OHIO ENVIRONMENTAL PROTECTION AGENCY
 AS EVIDENCED BY COPY OF
 LETTER OF APPROVAL
 HERETO ATTACHED

HORIZONTAL SCALE IN FEET

CALCULATED CLR CHECKED BPF

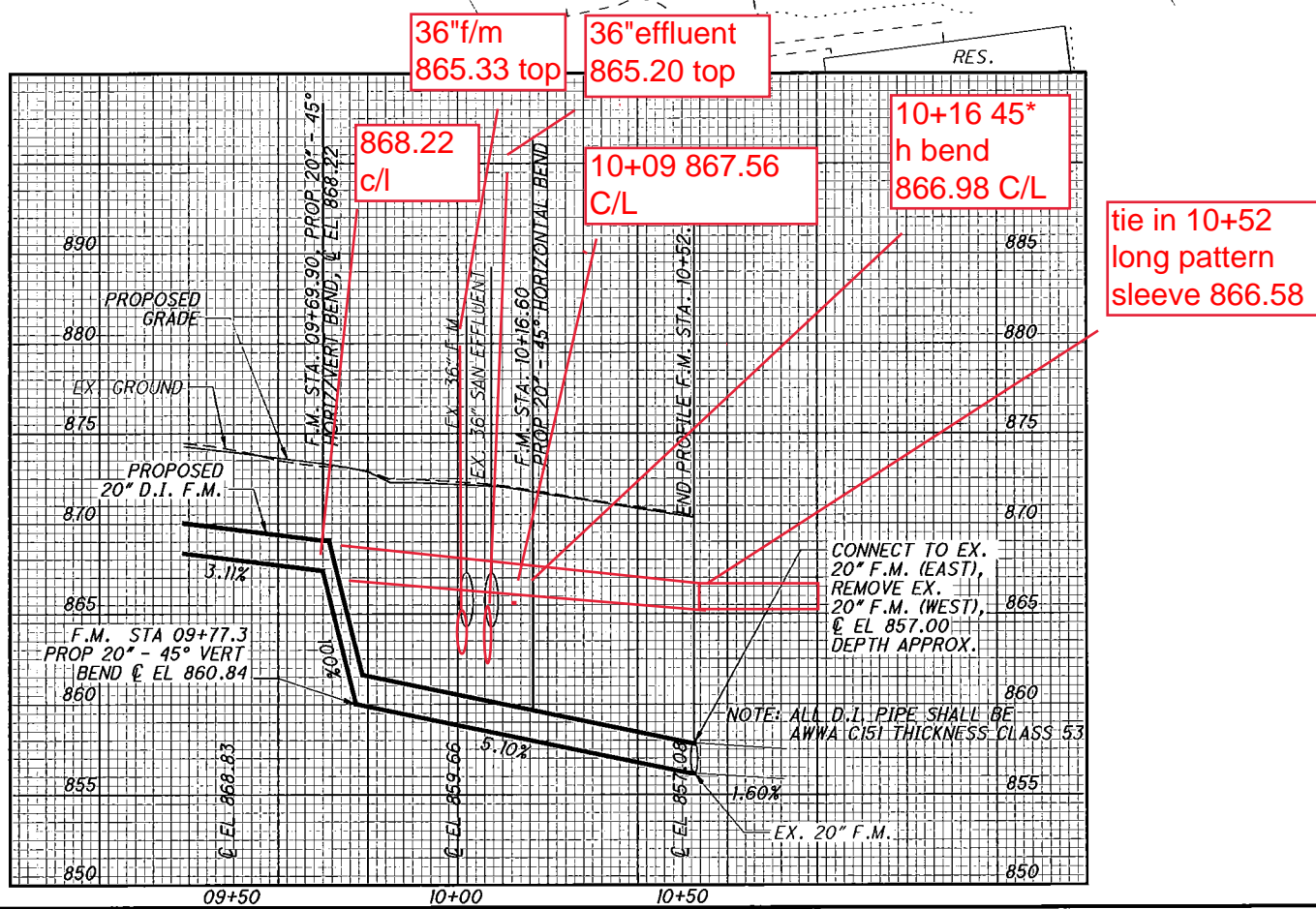
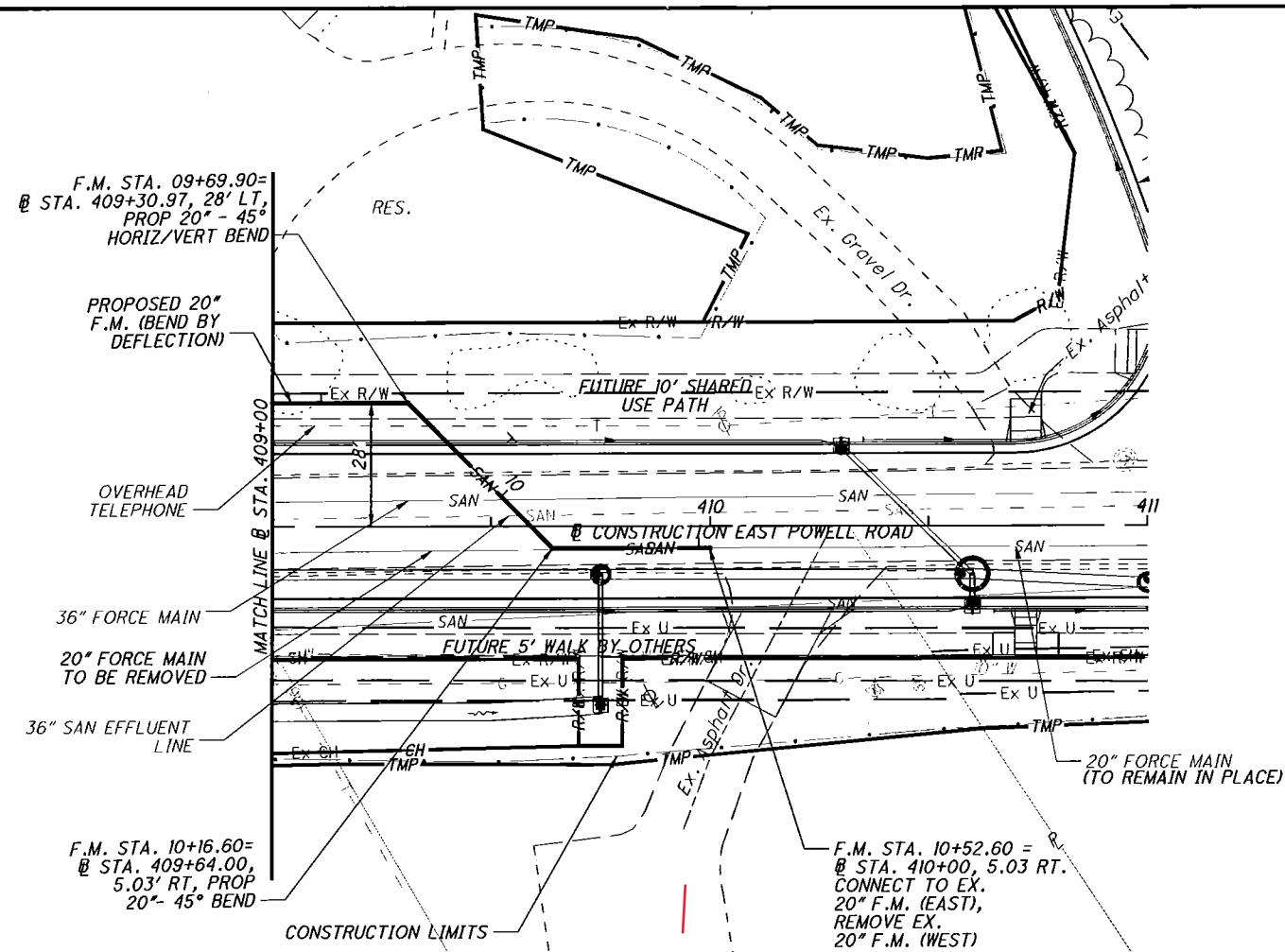
PLAN AND PROFILE - RELOCATED 20" FORCE MAIN

STA. 04+25.19 TO STA. 09+38.92

DEL-CR14-3.17

50
83

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ITEM SPECIAL: 20" FORCE MAIN AS PER PLAN

THIS ITEM OF WORK SHALL INCLUDE FURNISHING AND INSTALLING THE PROPOSED 20" FORCE MAIN AS SHOWN ON THE PLANS. THE FORCE MAIN SHALL BE IN ACCORDANCE WITH THE DELAWARE COUNTY REGIONAL SEWER DISTRICT (DCRS) SPECIFICATIONS. THE LINK TO THE DCRSD SPECIFICATIONS IS AS FOLLOWS:

WWW.CO.DELAWARE.OH.US/SANITARY/NETWORK/DESIGN_RESOURCES.ASP

MATERIAL SHALL BE IN ACCORDANCE WITH SECTION 3.5 AND SHOWN BELOW, INSTALLATION IN ACCORDANCE WITH SECTION 4.3, AND TESTING IN ACCORDANCE WITH SECTION 5.2. REACTION BLOCKING SHALL BE IN ACCORDANCE WITH DCRSD STANDARD DRAWING NO. 23 AND NO. 24. RESTRAINED JOINTS ARE ACCEPTABLE PROVIDED THAT THE OPERATING PRESSURE USED FOR THE DESIGN OF THE RESTRAINT IS A MINIMUM OF 240 FEET OF HEAD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING THE NECESSARY CALCULATIONS FOR REVIEW BY THE ENGINEER FOR DETERMINING THE REQUIRED JOINT RESTRAINT LENGTHS.

THE PROPOSED FORCE MAIN SHALL MEET THE REQUIREMENTS OF ANSI 21.51 (AWWA C151), WITH A MINIMUM WALL THICKNESS OF CLASS 53. THE CHEMICAL CONSTITUTION SHALL MEET THE PHYSICAL PROPERTY RECOMMENDATIONS OF ASTM A330 TO ENSURE THAT THE IRON IS SUITABLE FOR SATISFACTORY DRILLING AND CUTTING. JOINTS SHALL BE MECHANICAL OR PUSH-ON TYPE, AND SHALL CONFORM TO ANSI 21.11 (AWWA C111).

NO POLYETHYLENE ENCASUREMENT OR DISINFECTION OF THE FORCE MAIN IS REQUIRED.

BACKFILL SHALL BE IN ACCORDANCE WITH DCRSD STANDARD DRAWING NO. 21 AND SHALL BE INCLUDED IN THE PRICE BID FOR THE FORCE MAIN. THE PRICE BID FOR THE FORCE MAIN SHALL ALSO INCLUDE REMOVAL AND DISPOSAL OF THE EXISTING FORCE MAIN AND APPURTENANCES AND BACKFILL IN ACCORDANCE WITH DCRSD STANDARD DRAWING NO. 21.

THE EXISTING FORCE MAIN SHALL NOT BE OUT OF SERVICE FOR MORE THAN 30 CALENDAR DAYS WHILE MAKING THE RECONNECTIONS.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR THE 20" FORCE MAIN, COMPLETE, TESTED, AND READY FOR SERVICE.

ITEM SPECIAL: PAVEMENT REPLACEMENT (FORCE MAIN STATION 0+00 TO 0+65)

THIS ITEM OF WORK SHALL INCLUDE PAVEMENT REPLACEMENT DAMAGED OR DISTURBED DUE TO CONSTRUCTION OF THE FORCE MAIN OUTSIDE OF THE LIMITS OF THE ROADWAY RECONSTRUCTION PROJECT (FM STATION 0+00 TO 0+65), AND SHALL BE IN ACCORDANCE WITH DCRSD STANDARD DRAWING NO. 21. THE PRICE BID SHALL INCLUDE ALL PAVEMENT NECESSARY TO REPLACE THE EXISTING DISTURBED OR DAMAGED PAVEMENT, AND SHALL ALSO INCLUDE CONTINUOUS MAINTENANCE OF ALL AREAS TO BE REPAVED, INCLUDING TEMPORARY PAVEMENT, AND MAINTENANCE OF TRAFFIC UNTIL THE PERMANENT PAVING IS COMPLETED.

THE AREA FOR PAYMENT SHALL BE COMPUTED BY MULTIPLYING THE LENGTH OF THE DISTURBED AREA AS MEASURED ALONG THE CENTERLINE OF THE PIPE, TIMES THE WIDTH OF THE DISTURBED AREA, BUT IN NO CASE SHALL THE LIMITS FOR PAYMENT ON EITHER SIDE OF THE CENTERLINE OF THE PIPE BE MORE THAN HALF THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES, AND 12 INCHES SHALL BEAR ON UNDISTURBED SOIL ON EACH SIDE OF THE PAVEMENT RESTORATION.

IN CASE ANY PAVEMENT IS DAMAGED OR DISTURBED OUTSIDE OF THE ABOVE DESCRIBED PAY LIMITS, THAT PAVEMENT SHALL BE REPLACED WITH THE SAME TYPE AS INCLUDED FOR PAYMENT AT THE CONTRACTOR'S EXPENSE.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID PER SQUARE YARD FOR THE QUANTITIES AS DETERMINED FROM THE MEASUREMENTS SPECIFIED ABOVE.

ITEM 659: GRADING AND SEEDING (FORCE MAIN STATION 0+65 TO 1+30)

THIS ITEM SHALL INCLUDE ALL THE NECESSARY GRADING, TOPSOIL, FERTILIZER, WATER, AND SEED AND MULCH TO PERMANENTLY REPLACE THE EXISTING AREA DISTURBED OR DAMAGED DUE TO CONSTRUCTION OF THE FORCE MAIN OUTSIDE OF THE LIMITS OF THE ROADWAY IMPROVEMENT PROJECT (SPECIFICALLY, BETWEEN FORCE MAIN STATION 0+65 AND 1+30).

THE AREA FOR PAYMENT SHALL BE COMPUTED BY MULTIPLYING THE LENGTH OF THE DISTURBED AREA AS MEASURED ALONG THE CENTERLINE OF THE PIPE, TIMES THE WIDTH OF THE DISTURBED AREA, BUT IN NO CASE SHALL THE LIMITS FOR PAYMENT ON EITHER SIDE OF THE CENTERLINE OF THE PIPE BE MORE THAN 6'-0". PAYMENT SHALL BE MADE FOR AREAS OF PERMANENT GRADING AND SEEDING ONLY. IN CASE AN AREA OUTSIDE OF THESE LIMITS IS DAMAGED AND IN NEED OF GRADING AND SEEDING, IT SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID PER SQUARE YARD FOR THE QUANTITIES AS DETERMINED FROM THE MEASUREMENTS SPECIFIED ABOVE.

ROOF DRAINS, FOUNDATIONS DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.

THE OWNER OF THE SANITARY SEWERAGE FACILITIES ON THIS PROJECT IS THE DELAWARE COUNTY REGIONAL SEWER DISTRICT, 50 CHANNING STREET, DELAWARE COUNTY, CITY OF DELAWARE, OHIO 43015.

ESTIMATED QUANTITIES				
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION
SPECIAL		1053	LF	20" FORCE MAIN AS PER PLAN
SPECIAL		45	SY	PAVEMENT REPLACEMENT (FORCE MAIN STATION 0+00 TO 0+65)
659		87	SY	SEEDING AND MULCHING (FORCE MAIN STATION 0+65 TO 1+30)

APPROVED
 OHIO ENVIRONMENTAL PROTECTION AGENCY
 AS ENDORSED BY CHIEF OF
 CENTER OF APPROVAL
 HERETOBY GRANTED

PLAN AND PROFILE - RELOCATED 20" FORCE MAIN
 STA. 09+38.92 TO 10+52.60
 DEL-CR14-3.17
 51
 83