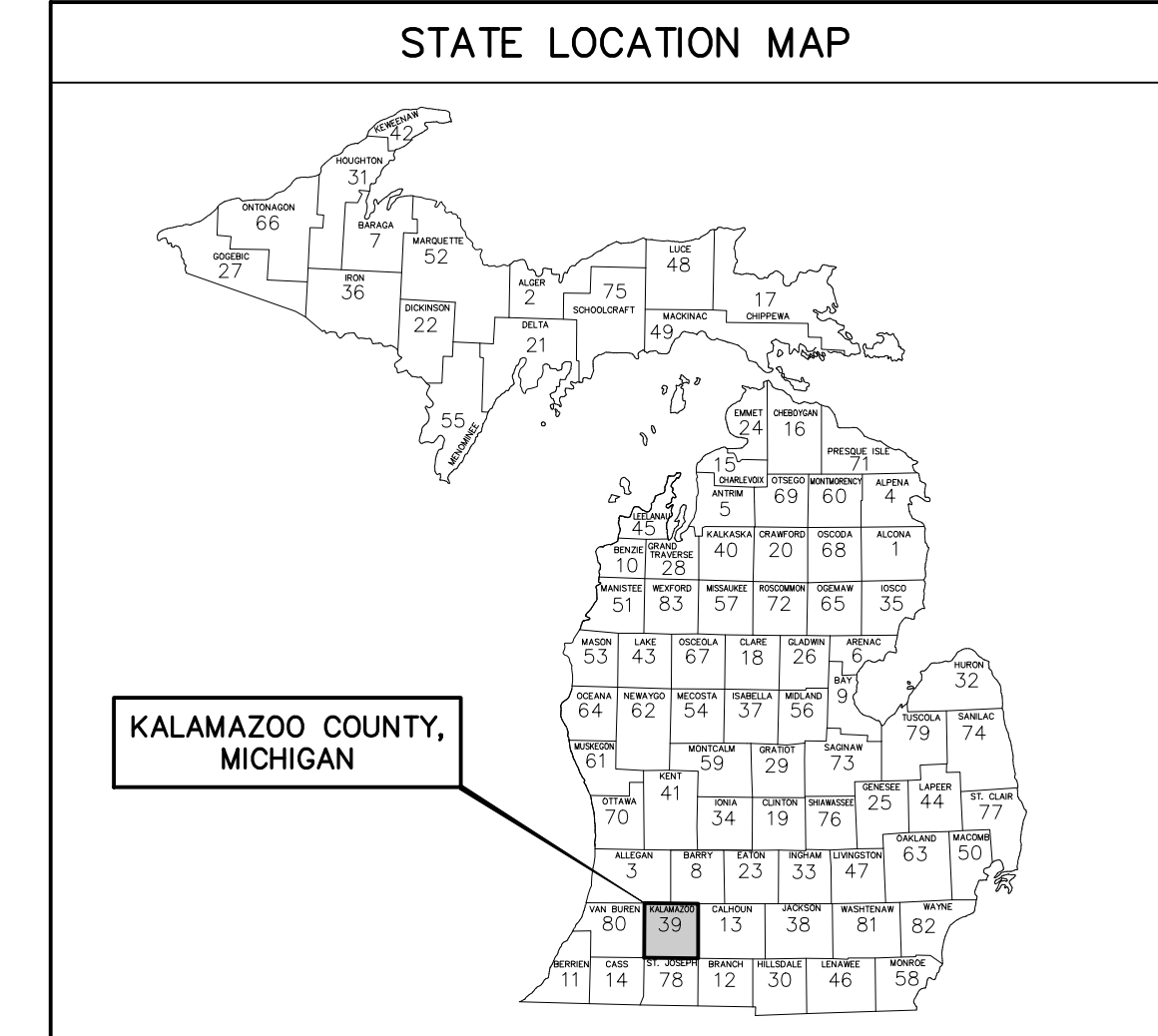
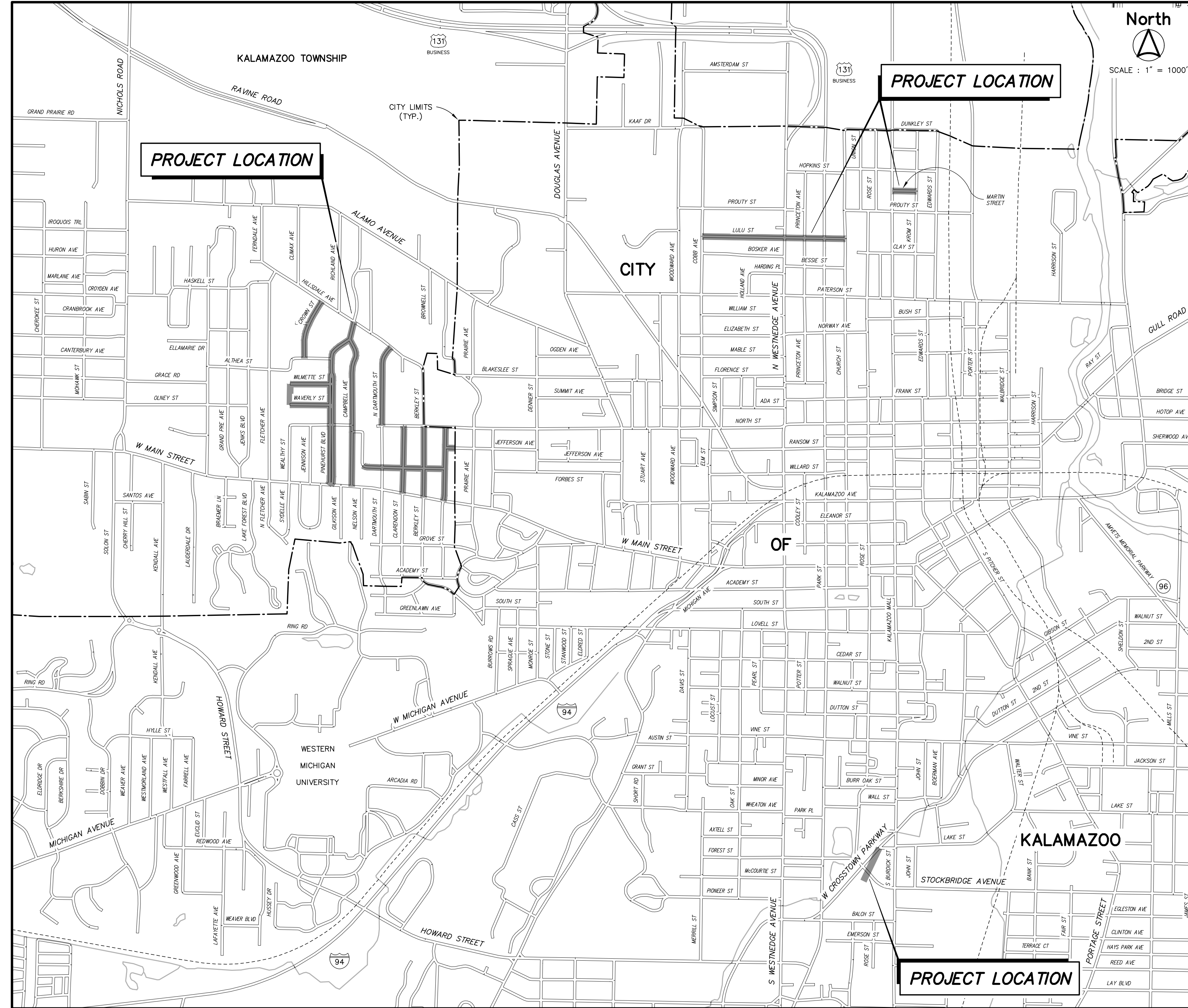


CITY OF KALAMAZOO  
KALAMAZOO COUNTY, MICHIGAN

2023 WATER SUPPLY SYSTEM IMPROVEMENTS

DWSRF No. 7673-01



SHEET INDEX	
SHEET No.	DESCRIPTION
1	COVER SHEET
2	INDEX SHEET
3	CROWN STREET (LACROSS ST. TO STA. 15+00)
4	CROWN STREET (STA. 15+00 TO HILLSDALE AVE.)
5	WAVELY STREET (STA. 9+00 TO PINEHURST BLVD.)
6	WILMETTE STREET (STA. 9+00 TO PINEHURST BLVD.)
7	CROSS COUNTRY
8	PINEHURST BOULEVARD (WEST MAIN ST. TO STA. 18+00)
9	PINEHURST BOULEVARD (STA. 18+00 TO STA. 27+00)
10	PINEHURST BOULEVARD (STA. 27+00 TO STA. 33+00)
11	PINEHURST BOULEVARD (STA. 33+00 TO HILLSDALE AVE.)
12	CAMPBELL AVENUE (WEST MAIN ST. TO STA. 18+00)
13	CAMPBELL AVENUE (STA. 18+00 TO STA. 27+00)
14	CAMPBELL AVENUE (STA. 27+00 TO PINEHURST BLVD.)
15	DARTMOUTH STREET (W NORTH ST. TO STA. 19+00)
16	DARTMOUTH STREET (STA. 19+00 TO HILLSDALE AVE.)
17	N CLARENDON STREET (WEST MAIN ST. TO STA. 15+00)
18	N CLARENDON STREET (STA. 15+00 TO W NORTH ST.)
19	N BERKLEY STREET (WEST MAIN ST. TO STA. 16+00)
20	N BERKLEY STREET (STA. 16+00 TO W NORTH ST.)
21	N ARLINGTON STREET (WEST MAIN ST. TO STA. 16+00)
22	N ARLINGTON STREET (STA. 16+00 TO W NORTH ST.)
23	COMMONWEALTH AVENUE (COMMONWEALTH PL. TO STA. 18+00)
24	COMMONWEALTH AVENUE (STA. 18+00 TO N ARLINGTON ST.)
25	JEFFERSON AVENUE (ARLINGTON ST. TO STA. 14+00)
26	LULU STREET (COBB AVE. TO STA. 17+00)
27	LULU STREET (STA. 17+00 TO STA. 25+00)
28	LULU STREET (STA. 25+00 TO N CHURCH ST.)
29	MARTIN STREET (N BURDICK ST. TO KROM AVE.)
30	CROSS COUNTRY
31	STATE DEVIATIONS
32	MAINTENANCE OF TRAFFIC PLAN
33	DETAILS
33	GRADING DETAIL

**PROJECT DATUM INFORMATION**

COORDINATE SYSTEM : STATE PLANE GRID  
 ZONE : MICHIGAN SOUTH 2113  
 ELLIPSOID : GRS 80  
 HORIZONTAL DATUM : NAD 83 (2011)  
 VERTICAL DATUM : NAVD 88  
 GEOD : GEOID 12B  
 UNITS : INTERNATIONAL FEET

PROJECT COMBINED SCALE FACTOR (PCSF) = X.XXXXXXXXXX  
 GROUND DISTANCE = GRID DISTANCE/PCSF

**SOIL BORING GENERAL NOTES**

WITHIN EACH SOIL BORING, WHERE SHOWN, SOIL SAMPLES WERE OBTAINED BY THE STANDARD PENETRATION TEST METHOD, ASTM D1586, WHEREBY A SPLIT-SPOON SAMPLER IS DRIVEN THREE SUCCESSIVE 6-INCH INCREMENTS WITH A 140 POUND WEIGHT FALLING 30 INCHES. THE NUMBER OF BLOWS REQUIRED TO DRIVE THE SAMPLER FOR EACH INCREMENT IS PRESENTED ON THE SOIL BORING LOGS.

GRANULAR SOILS (COARSE-GRAINED) HAVE MORE THAN 50% OF THEIR DRY WEIGHT RETAINED ON A #200 SIEVE. THEY ARE DESCRIBED AS: Boulders, Cobbles, Gravel or Sand. FINE-GRAINED SOILS HAVE LESS THAN 50% OF THEIR DRY WEIGHT RETAINED ON A #200 SIEVE. THEY ARE DESCRIBED AS: CLAYS OR CLAYEY SILTS IF THEY ARE COHESIVE AND SILTS IF THEY ARE NON-COHESIVE. IN ADDITION TO GRAIN SIZE, GRANULAR SOILS ARE DEFINED BASED ON THEIR IN-SITU DENSITY; FINE-GRAINED SOILS ARE FURTHER DEFINED BASED ON THEIR STRENGTH OR CONSISTENCY, AND ON THEIR PLASTICITY.

MAJOR SOIL COMPONENT	GRADATION RANGE	DESCRIPTION TERMS (OF MAJOR SOIL CONSTITUENTS)	PERCENT OF DRY WEIGHT
BOULDERS	OVER 12 INCHES (305mm)		
COBBLES	12 INCHES TO 3 INCHES (305mm TO 76mm)	TRACE	1 - 10
GRAVEL COARSE	3 INCHES TO 3/4 INCHES (76mm TO 19mm)	LITTLE	10 - 20
FINE	3/4 INCHES TO #4 SIEVE (19mm TO 4.75mm)	SOME	20 - 35
SAND COARSE	#4 SIEVE TO #10 SIEVE (4.75mm TO 2.00mm)	AND	35 - 50
MEDIUM	#10 SIEVE TO #40 SIEVE (2.00mm TO 0.425mm)		
FINE	#40 SIEVE TO #200 SIEVE (0.425mm TO 0.075mm)		

UNCONSOLIDATED COMPACTNESS (UC) TESTS

IN-SITU DENSITY (N - BLOWS/FT)	IN-SITU DENSITY	UNCONSOLIDATED COMPACTNESS (UC) TESTS	CONSISTENCY
< 5	< 0.25	0.25 - 0.50	VERY SOFT
5 - 10	0.25 - 0.50	0.50 - 1.00	SOFT
10 - 15	0.50 - 1.00	1.00 - 2.00	MEDIUM (FIRM)
15 - 30	1.00 - 2.00	2.00 - 4.00	STIFF
30 - 50	2.00 - 4.00	4.00 - 8.00	VERY STIFF
> 50	> 8.00	> 8.00	HARD

WATER LEVELS INDICATED ON THE BORING LOGS ARE THE LEVELS MEASURED IN THE BORING AT THE TIMES INDICATED. IT SHOULD BE NOTED THAT GROUNDWATER LEVELS OBSERVED DURING DRILLING IN PREDOMINANTLY COHESIVE SOILS ARE NOT NECESSARILY INDICATIVE OF THE STATIC GROUNDWATER LEVEL. THIS IS DUE TO THE RELATIVELY LOW PERMEABILITY OF CLAY SOILS AND THE TENDENCY OF DRILLING OPERATIONS TO TEMPORARILY SEAL OFF NATURAL PATHS OF GROUNDWATER MOTION INTO THE BORING. ADDITIONALLY, FLUCTUATING GROUNDWATER LEVELS SHOULD BE ANTICIPATED WITH SEASONAL VARIATIONS AND FOLLOWING PERIODS OF HEAVY OR PROLONGED PRECIPITATION.

THE SOIL BORING LOGS SHOWN ON THE CONSTRUCTION PLANS ARE BEING FURNISHED FOR YOUR CONVENIENCE AND GENERAL INFORMATION ONLY. THE DATA SHOWN ON THE BORING LOGS REPRESENTS SOIL AND GROUNDWATER CONDITIONS ENCOUNTERED AT THE RESPECTIVE BORING LOCATIONS. VARIATIONS MAY OCCUR BETWEEN THESE LOCATIONS. ADDITIONALLY, THE STRATIGRAPHIC LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES; HOWEVER, THE TRANSITION MAY BE MORE GRADUAL THAN WHAT IS SHOWN. THE USER WILL BE RESPONSIBLE FOR MAKING THEMSELVES FAMILIAR WITH SURFACE CONDITIONS BY WHATEVER MEANS THEY DEEM NECESSARY AND SHALL MAKE THEIR OWN DETERMINATIONS THEREOF.

THE BINDER BY SUBMITTING A BID, WAIVES ALL CLAIMS FOR DAMAGES WHICH THEY MAY SUFFER BY REASONS OF THE INADEQUACIES OR DISCREPANCIES OF THE INFORMATION SHOWN ON THESE SOIL BORING LOGS AND UNDERSTANDS THAT NO COMPENSATION WILL BE PAID TO THEM DUE TO AN INADEQUACY OR DISCREPANCY IN THIS DATA.

**GENERAL NOTES**

- THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE 2012 MICHIGAN DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS. IN THE PROPOSAL, SUPPLEMENTAL SPECIFICATIONS, OR SPECIAL PROVISIONS FOR THIS PROJECT.
- CONTRACTOR TO CALL MISS DIG (CALL TOLL FREE 1-800-482-7171) OR 811 THREE WORKING DAYS BEFORE STARTING YOUR PROJECT. (EXCLUDING WEEKENDS AND HOLIDAYS)
- THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE CITY OF KALAMAZOO STANDARD SPECIFICATIONS FOR WATER MAIN AND SERVICE INSTALLATION 2021.

**UTILITIES**

<b>WATER &amp; SANITARY</b> CITY OF KALAMAZOO 415 STOCKBRIDGE AVE KALAMAZOO, MI 49001 PHONE: (269) 337-8454 ATTN: ERIC SAJTAR	<b>ELECTRIC-DISTRIBUTION</b> CONSUMERS ENERGY 2500 E CORK ST KALAMAZOO, MI 49001 PHONE: (269) 337-2245 ATTN: ANDRE TAYLOR
<b>STORM SEWER</b> ROAD COMMISSION OF KALAMAZOO COUNTY 3901 E KILGORE RD KALAMAZOO, MI 49001 PHONE: (269) 381-3171 ATTN: RYAN MINKUS	<b>FIBER OPTIC</b> CHARTER SPECTRUM 4176 COMMERCIAL AVE KALAMAZOO, MI 49002 PHONE: (269) 207-9648 JASON TILLER
<b>GAS</b> CONSUMERS ENERGY 2500 E CORK ST KALAMAZOO, MI 49001 PHONE: (269) 337-2366 ATTN: KYLE OAK	<b>CABLE TELEVISION</b> CHARTER SPECTRUM 4176 COMMERCIAL AVE KALAMAZOO, MI 49002 PHONE: (269) 207-9648 JASON TILLER

**811**  
Before you dig, Call before you dig.

UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.



ISSUED FOR BIDS : MAY 26, 2023

**Prein & Newhof**  
Engineers • Surveyors • Environmental • Laboratory

PROJECT NO. 2220555  
SHEET NO. 1 OF 34

T:\00130 PROJECTS\2022\2220555\_C01 OF KALAMAZOO\_DWG14\_P001\2220555\_COVER.DWG - RSTING - May, 24, 2023 - 04:05pm - FrankWent

I:\QA\PROJECTS\2023\220555\_CITY OF KALAMAZOO\DWRF\4\_PWD\220555\_COVER.DWG - RSTRUC - May, 24, 2023 - 04:06pm - Prein&Newhof



**PROJECT LOCATIONS**  
SCALE : 1" = NONE



**PROJECT LOCATIONS**  
SCALE : NONE



**PROJECT LOCATIONS**  
SCALE : NONE



NO.	REVISIONS	BY	DATE	DRAWN
1	ISSUED FOR BIDS	B.F.V.	5/28/23	STAFF
				DATE: NOV. '22
				CHECKED: B.G.V.
				DATE: MAY '23

**Prein & Newhof**  
Engineers • Surveyors • Environmental • Laboratory

CITY OF KALAMAZOO DWRF  
KALAMAZOO COUNTY, MICHIGAN  
WATER SUPPLY SYSTEM IMPROVEMENTS  
INDEX SHEET

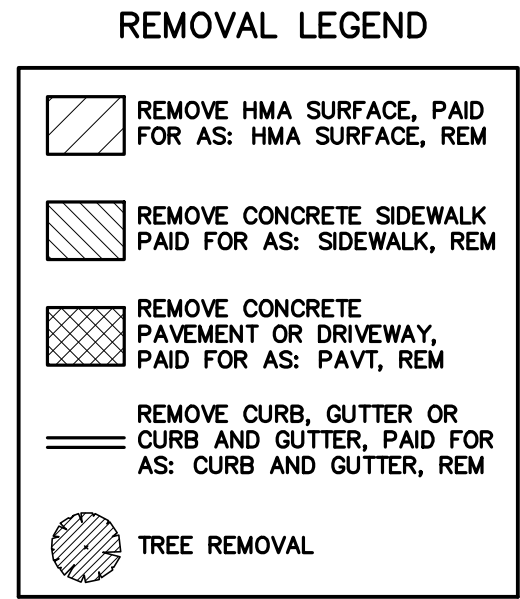
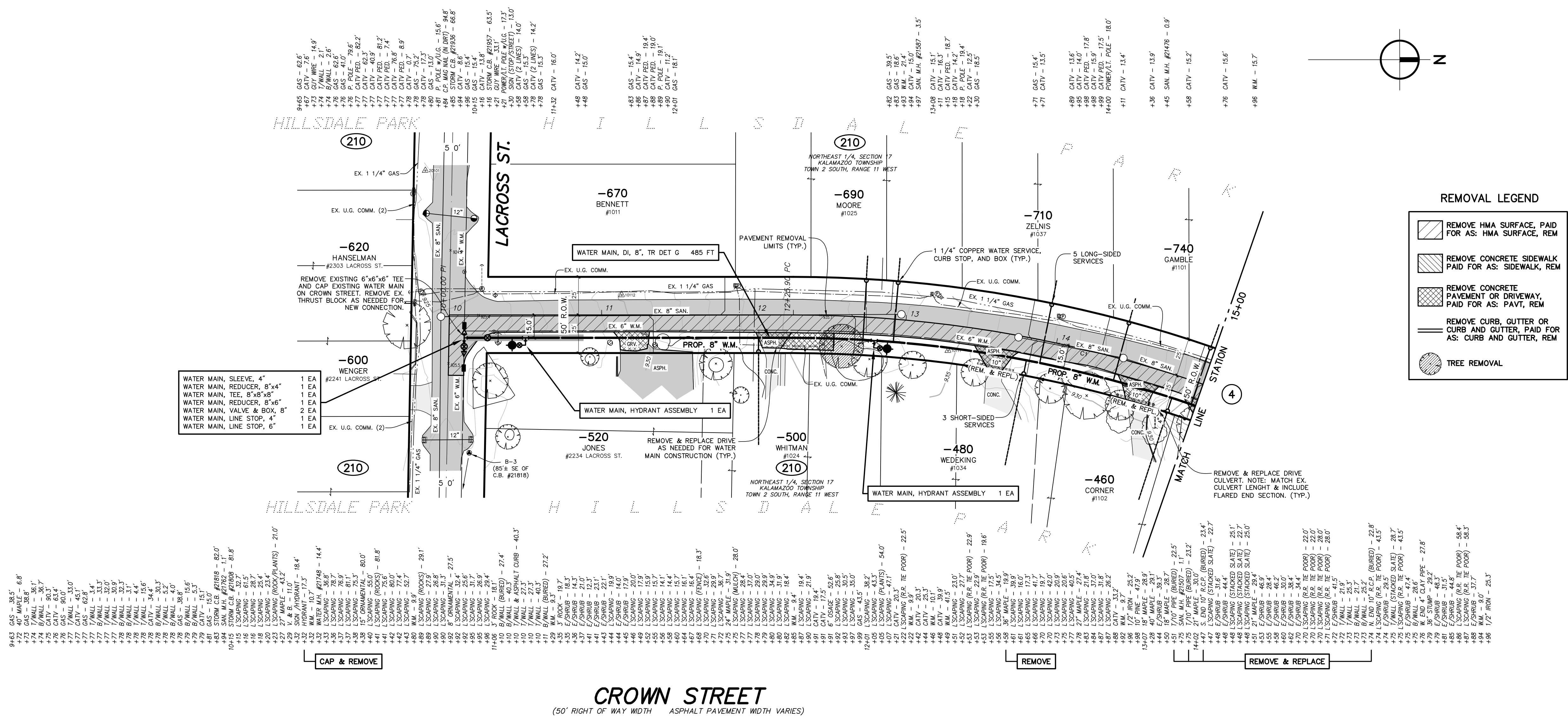
PROJECT NO.  
**2220555**  
SHEET NO.  
**2 OF 34**

BENCHMARK EL. 925.26  
CROWN STREET & LACROSS STREET  
20'± S & 15'± W OF C/L "X", RR TIE SET  
IN NNW SIDE OF POWER POLE  
(1.2' A/GROUND)

BENCHMARK EL. 936.43  
CROWN STREET & LACROSS STREET  
320'± N & 20'± W OF C/L "X", NAIL SET  
IN E SIDE OF POWER POLE  
(0.9' A/GROUND)

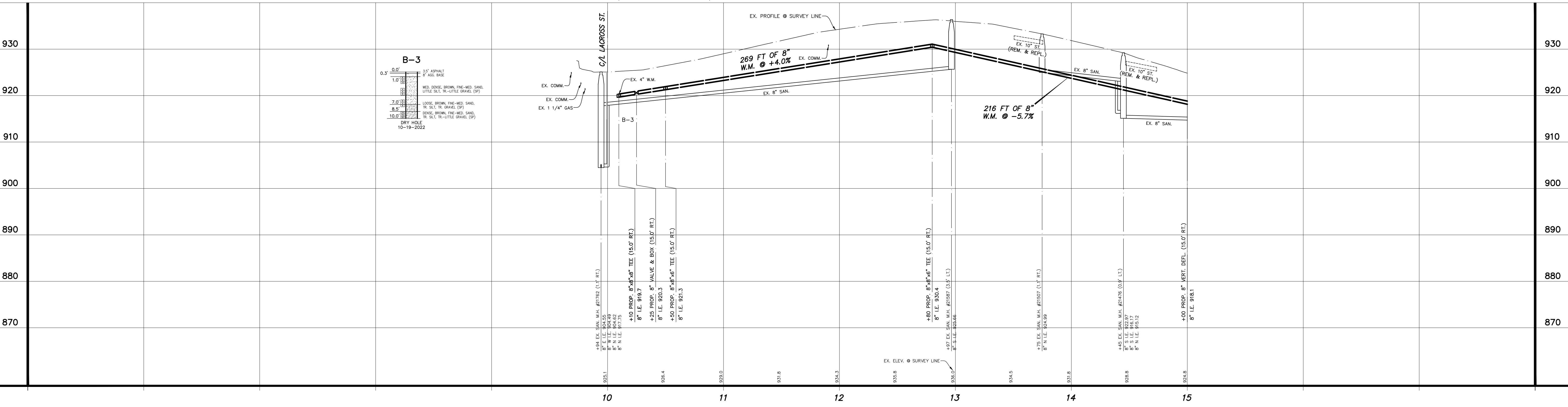
CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
1011	129455.224	1278493.810	924.87
1012	129455.968	1278477.140	935.15
20101	129472.160	12784693.330	923.08

CURVE TABLE			
CURVE #	LENGTH	RADIUS	CHORD
C1	470.00'	818.51'	516'30"02"W 463.57'



- WATER MAIN, SLEEVE, 4"
- WATER MAIN, REDUCER, 8"x4"
- WATER MAIN, TEE, 8"x8"x8"
- WATER MAIN, REDUCER, 8"x6"
- WATER MAIN, VALVE & BOX, 8"
- WATER MAIN, LINE STOP, 4"
- WATER MAIN, LINE STOP, 6"

- 945.1 GAS - 38.5'
- 722 40' MARL - 6.8'
- 723 1/2" WALL - 56.1'
- 724 1/2" WALL - 36.7'
- 725 1/2" WALL - 63.4'
- 726 1/2" WALL - 63.4'
- 727 1/2" WALL - 90.0'
- 728 1/2" WALL - 52.9'
- 729 1/2" WALL - 33.3'
- 730 1/2" WALL - 30.9'
- 731 1/2" WALL - 4.4'
- 732 1/2" WALL - 15.6'
- 733 1/2" WALL - 30.3'
- 734 1/2" WALL - 4.0'
- 735 1/2" WALL - 38.8'
- 736 1/2" WALL - 53'
- 737 1/2" WALL - 15.7'
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- 974 1/2" WALL - 1.7'
- 975 1/2" WALL - 1.7'
- 976 1/2" WALL - 1.7'
- 977 1/2" WALL - 1.7'
- 978 1/2" WALL - 1.7'
- 979 1/2" WALL - 1.7'
- 980 1/2" WALL - 1.7'
- 981 1/2" WALL - 1.7'
- 982 1/2" WALL - 1.7'
- 983 1/2" WALL - 1.7'
- 984 1/2" WALL - 1.7'
- 985 1/2" WALL - 1.7'
- 986 1/2" WALL - 1.7'
- 987 1/2" WALL - 1.7'
- 988 1/2" WALL - 1.7'
- 989 1/2" WALL - 1.7'
- 990 1/2" WALL - 1.7'
- 991 1/2" WALL - 1.7'
- 992 1/2" WALL - 1.7'
- 993 1/2" WALL - 1.7'
- 994 1/2" WALL - 1.7'
- 995 1/2" WALL - 1.7'
- 996 1/2" WALL - 1.7'
- 997 1/2" WALL - 1.7'
- 998 1/2" WALL - 1.7'
- 999 1/2" WALL - 1.7'
- 1000 1/2" WALL - 1.7'

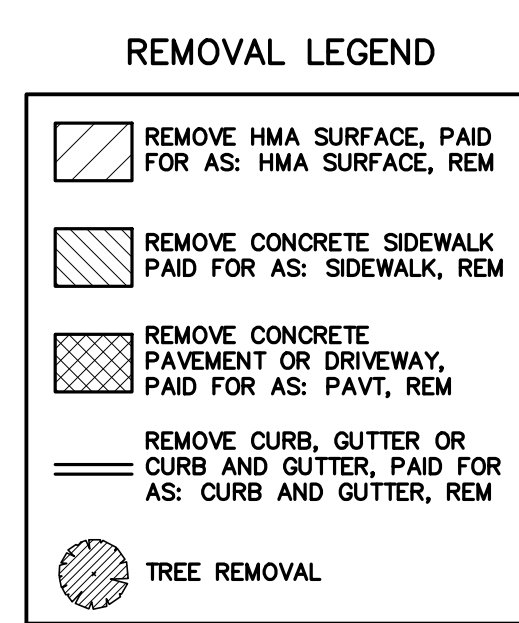
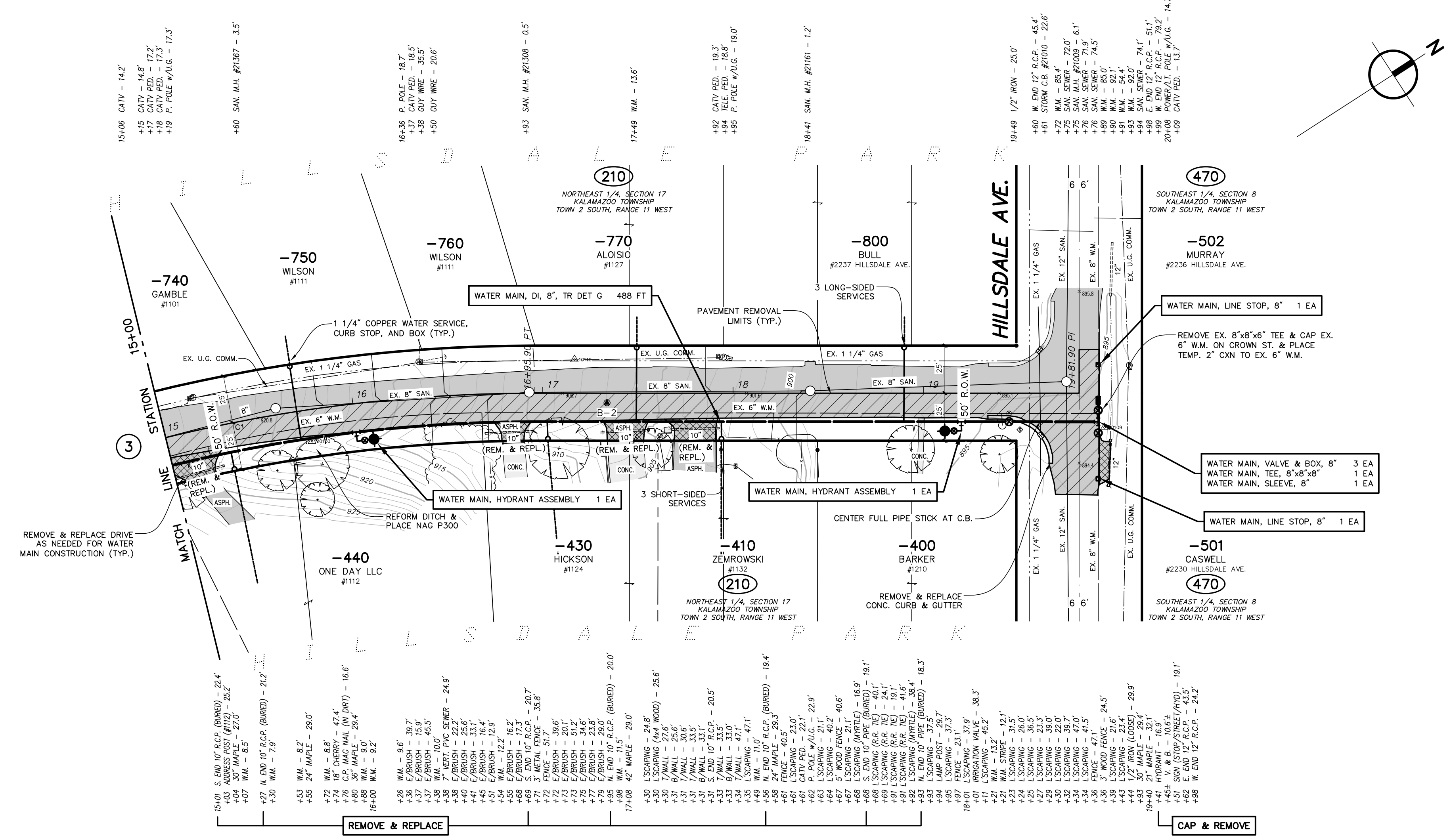


<p>UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.</p>	<p>NO. 1</p> <p>REVISIONS</p> <p>ISSUED FOR BIDS</p>	<p>BY B.G.V.</p> <p>DATE 5/28/23</p>	<p>DRAWN STAFF</p> <p>DATE NOV. '22</p> <p>CHECKED B.G.V.</p> <p>DATE MAY '23</p>	<p>CITY OF KALAMAZOO DWRP</p> <p>KALAMAZOO COUNTY, MICHIGAN</p> <p>WATER SUPPLY SYSTEM IMPROVEMENTS</p> <p>CROWN STREET</p>	<p>PROJECT NO. 2220555</p> <p>SHEET NO. 3 OF 34</p>

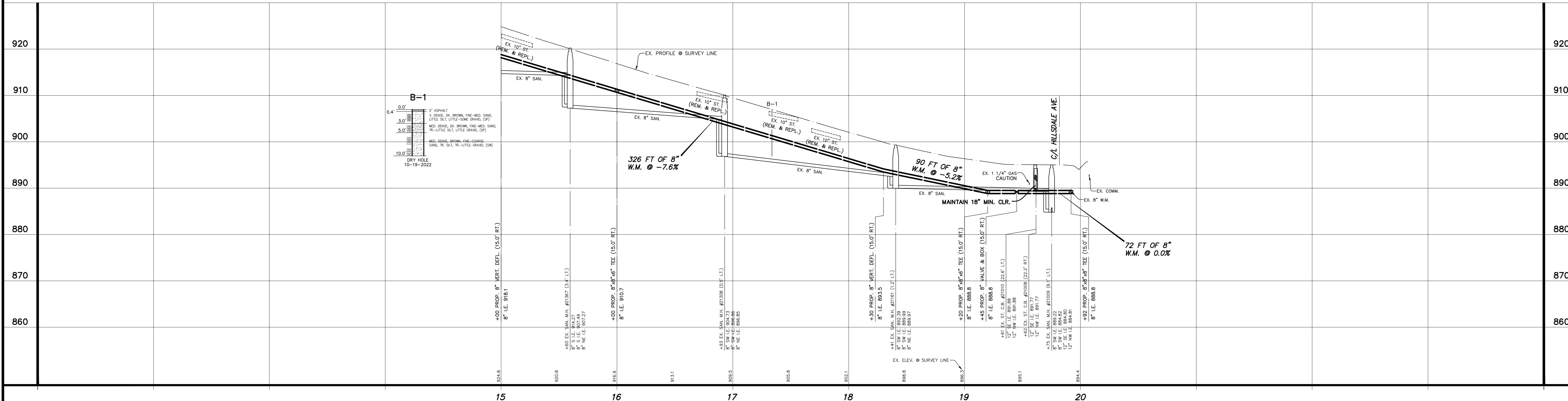
BENCHMARK EL. 903.55  
 CROWN STREET & HILSDALE AVENUE  
 190'± S & 20'± W OF C/L 'X', RR TIE  
 SET IN E. SIDE OF POWER POLE  
 (1:1" A/GROUND)

POINT No.	NORTHING	EASTING	ELEVATION
10109	295099.570	12785099.870	894.41
10110	294885.275	12784918.480	908.18
20105	294746.262	12784870.500	917.88

CURVE #	LENGTH	RADIUS	CHORD
C1	470.00'	818.51'	516'30"02"W 463.57'



**CROWN STREET**  
 (50' RIGHT OF WAY WIDTH ASPHALT PAVEMENT WIDTH VARIES)



T:\DRAWING PROJECTS\2023\2220555\_CITY OF KALAMAZOO\_DWRP\_CROWN ST - RSTRUC - Feb. 05. 2024 - 04.03pm - Prodk&Wood

**811**  
 UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.  
 Know what's below. Call before you dig.



NO.	REVISIONS	BY	DATE	DRAWN
1	ISSUED FOR BIDS	B.G.V.	5/28/23	STAFF

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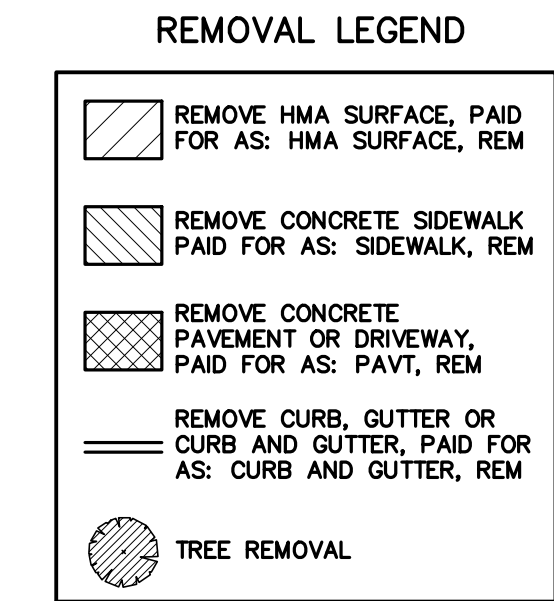
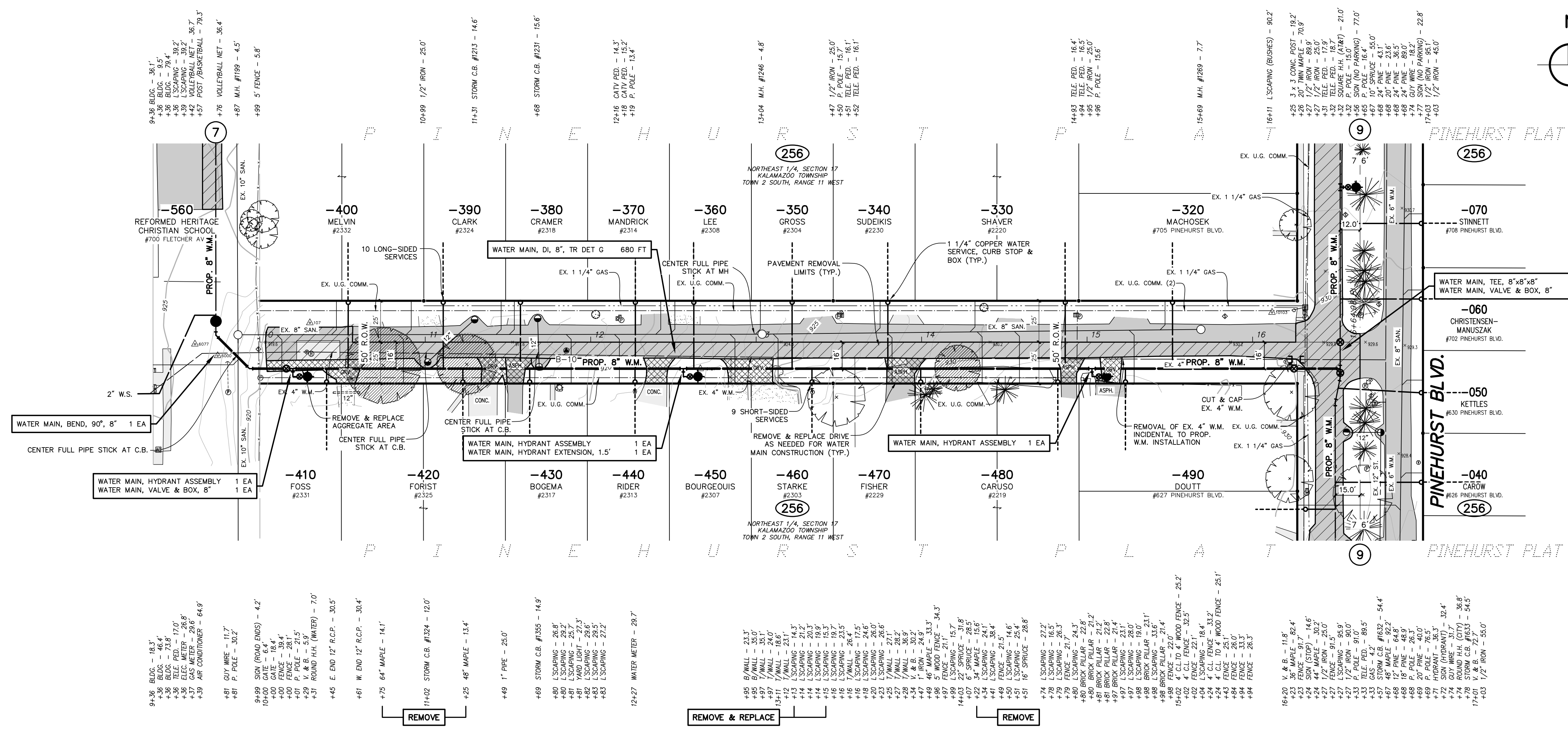
CITY OF KALAMAZOO DWRP  
 KALAMAZOO COUNTY, MICHIGAN  
 WATER SUPPLY SYSTEM IMPROVEMENTS  
**CROWN STREET**

PROJECT NO.  
**2220555**  
 SHEET NO.  
**4 OF 34**

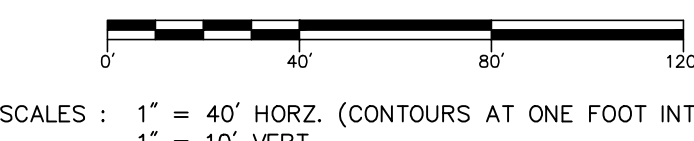
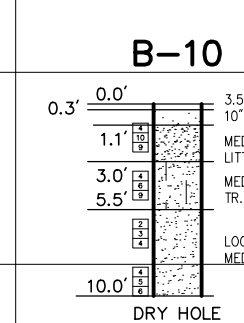
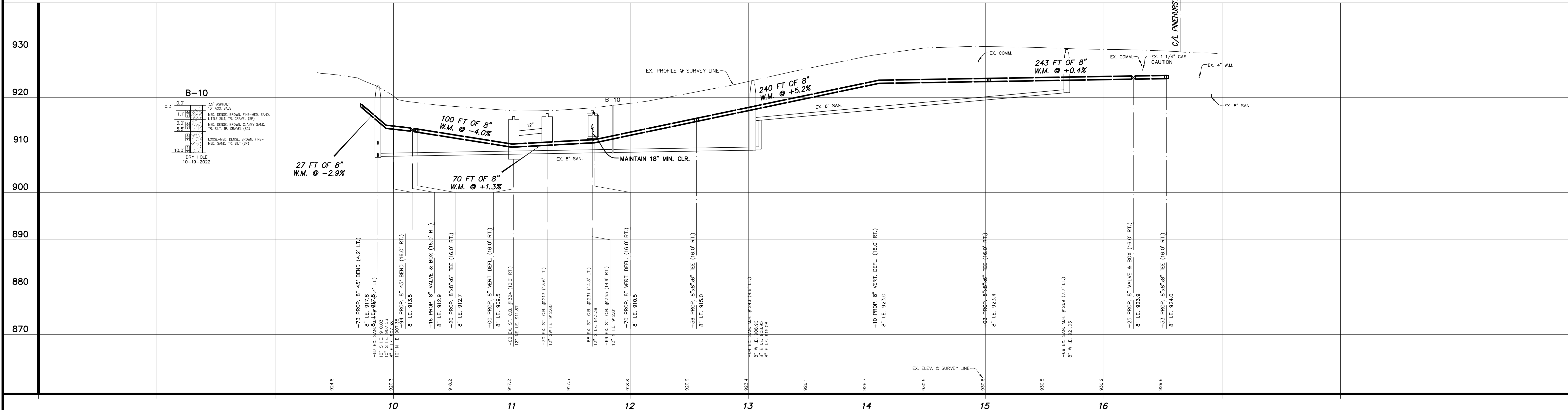
BENCHMARK EL. 927.03  
 WAVERLY STREET & PINEHURST BOULEVARD  
 15' ± S & 315' W OF C/L "X", RR SPIKE  
 SET IN SOUTH SIDE OF POWER POLE  
 (1.0' A/GROUND)

BENCHMARK EL. 930.15  
 WAVERLY STREET & PINEHURST BOULEVARD  
 25' ± S & 5' E OF C/L "X", RR SPIKE SET  
 IN NORTH SIDE OF POWER POLE  
 (0.8' A/GROUND)

POINT No.	NORTHING	EASTING	ELEVATION
107	293443.074	1278498.500	918.10
6000	293443.267	12784532.750	923.50
6077	293450.312	12784516.030	924.58
10103	293448.152	12785169.990	929.88
10121	293434.771	12784824.430	922.80



**WAVERY STREET**  
 (50' RIGHT OF WAY WIDTH ASPHALT PAVEMENT WIDTH VARIES)



NO.	REVISIONS	BY	DATE	DRAWN
1	ISSUED FOR BIDS	B.G.V.	5/28/23	STAFF

DATE: NOV. '22  
 CHECKED: B.G.V.  
 DATE: MAY '23

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CITY OF KALAMAZOO DWRP  
 KALAMAZOO COUNTY, MICHIGAN

WATER SUPPLY SYSTEM IMPROVEMENTS  
 WAVERY STREET

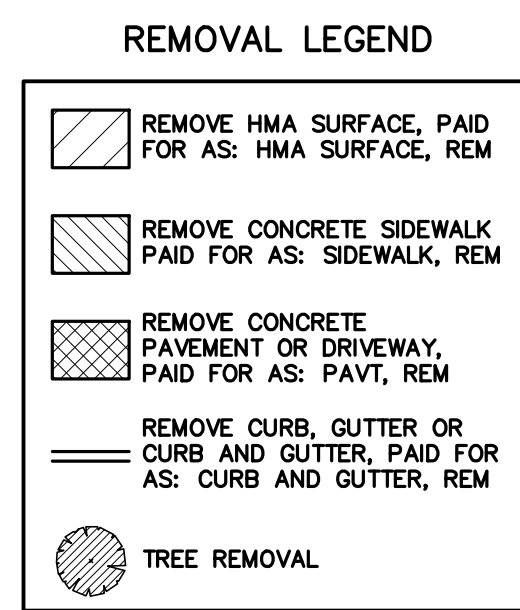
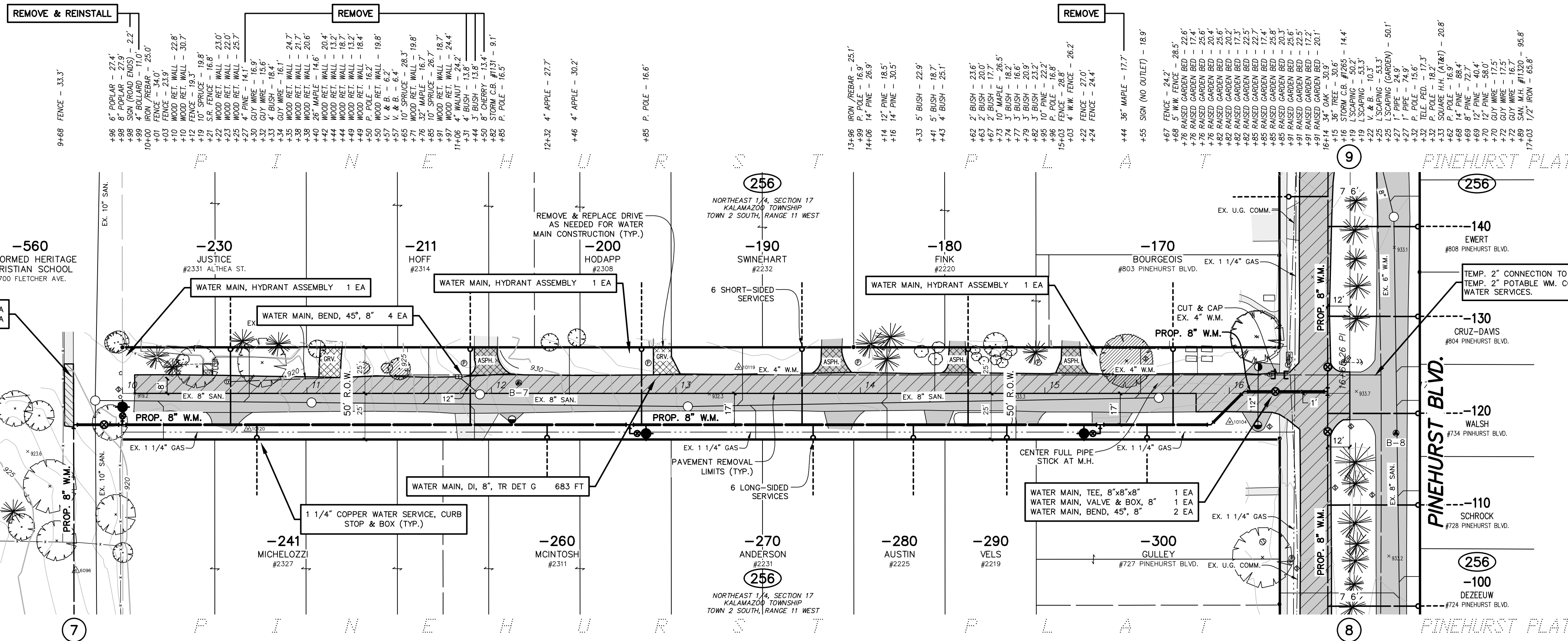
PROJECT NO.  
 2220555

SHEET NO.  
 5 OF 34

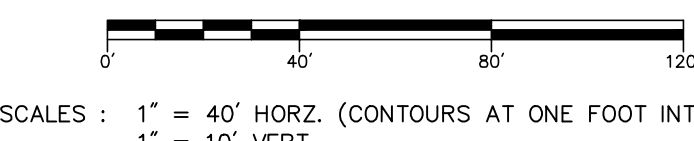
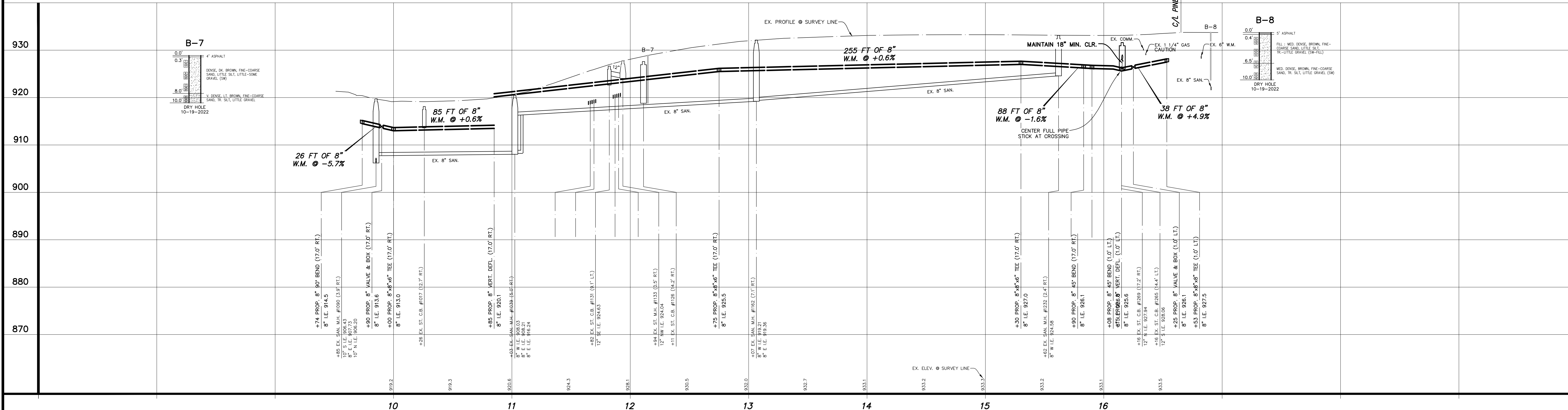
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BENCHMARK EL. 934.38  
WILMETTE STREET & PINEHURST BOULEVARD  
15' ± N & 5' W OF C/L "X", NAIL SET IN  
SOUTH SIDE OF POWER POLE  
(1.0' A/GROUND)

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
6006	293685.379	12784532.950	933.27
10104	293764.064	12785156.670	933.00
10119	293784.493	12784892.280	932.70
10120	293781.969	12784626.440	932.52



**WILMETTE STREET**  
(50' RIGHT OF WAY WIDTH ASPHALT PAVEMENT WIDTH VARIES)



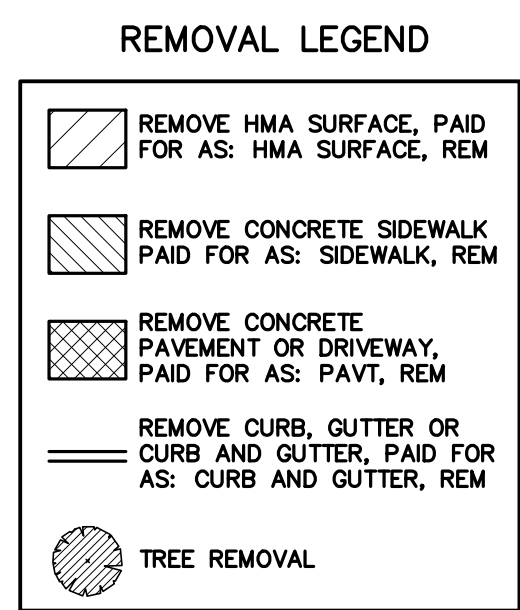
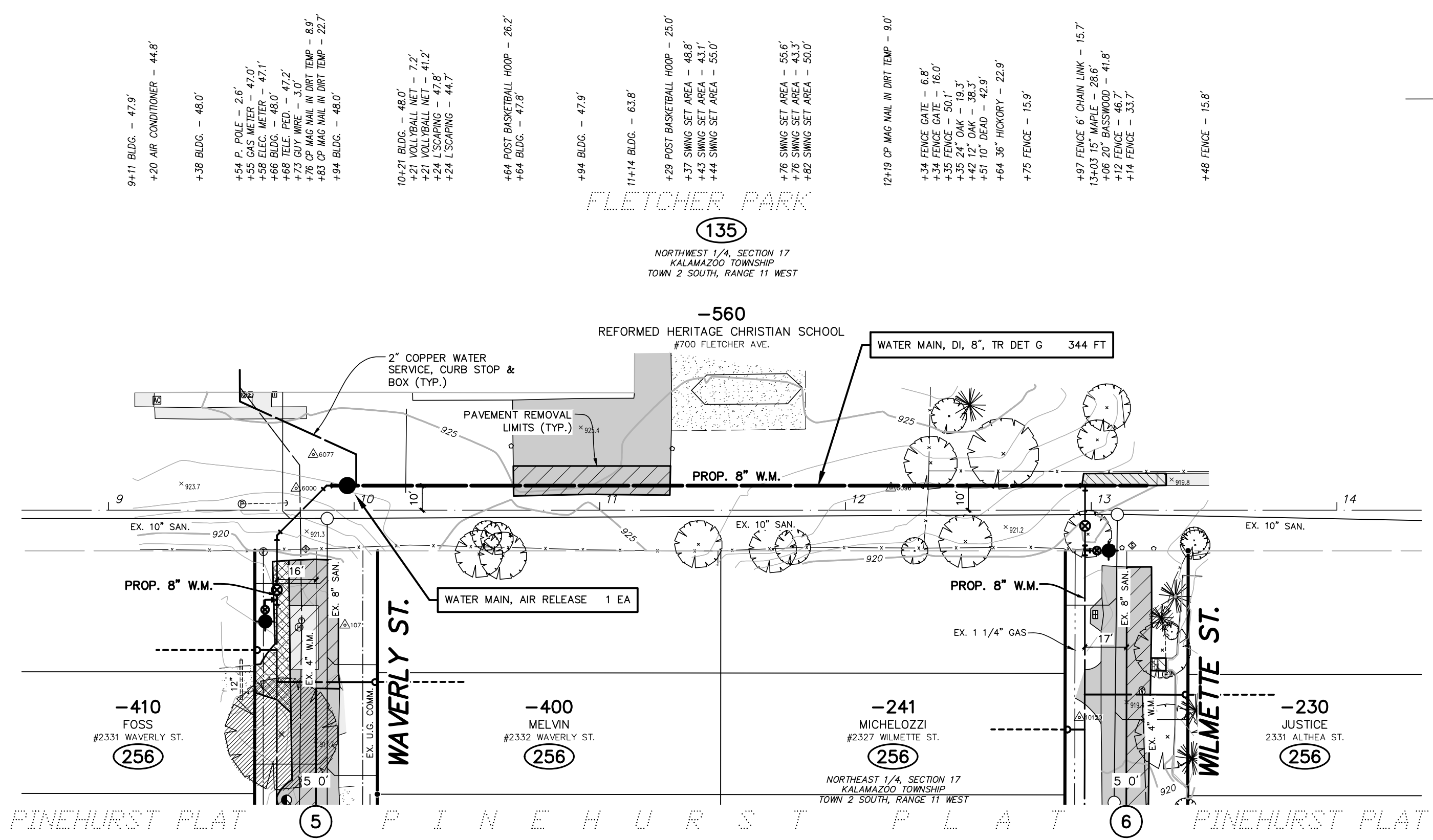
NO.	REVISIONS	BY	DATE	DRAWN
1	ISSUED FOR BIDS	B.G.V.	5/28/23	STAFF
				DATE: NOV. '22
				CHECKED: B.G.V.
				DATE: MAY '23

**Prein & Newhof**  
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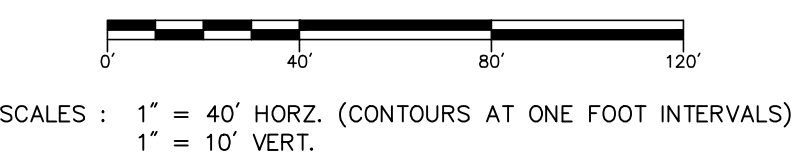
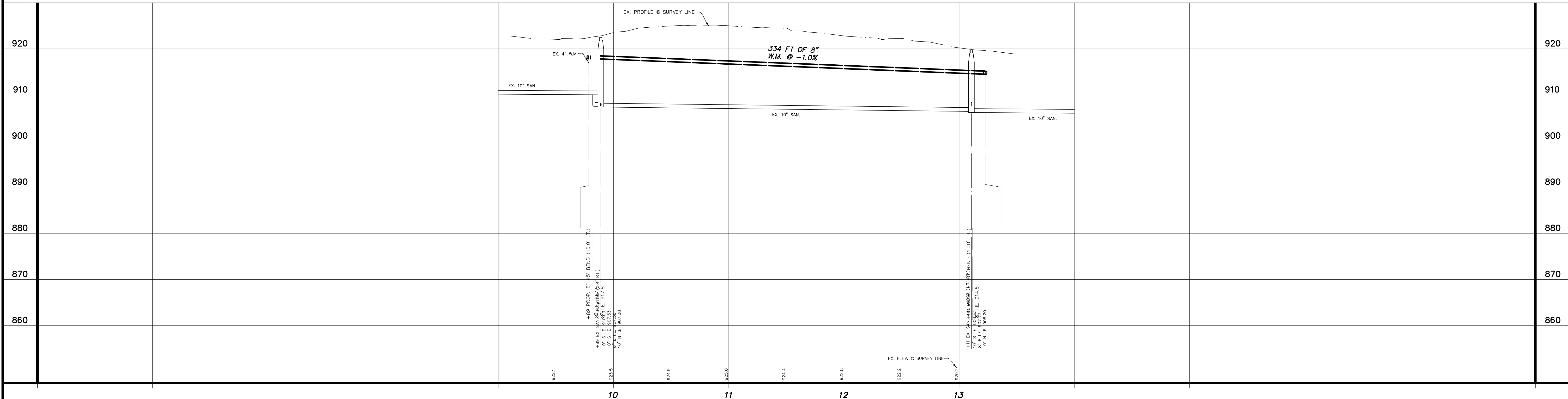
CITY OF KALAMAZOO DWRP KALAMAZOO COUNTY, MICHIGAN	PROJECT NO. <b>2220555</b>
WATER SUPPLY SYSTEM IMPROVEMENTS	SHEET NO.
WILMETTE STREET	<b>6 OF 34</b>

T:\DVA\PROJECTS\2023\2220555\_CITY OF KALAMAZOO\DWRS\14\_P001\2220555\_P01P\_WILMETTE.DWG - REVISED - Feb. 08. 2024 - 09:20am - Prein&Newhof

POINT No.	NORTHING	EASTING	ELEVATION
107	293443.074	12784509.300	919.10
6000	293443.267	12784532.760	923.50
6077	293450.332	12784510.030	924.58
6096	293465.379	12784532.950	923.27
10120	293761.969	12784626.440	919.52



**CROSS COUNTRY**



NO.	REVISIONS	BY	DATE	DRAWN
1	ISSUED FOR BIDS	B.G.V.	5/28/23	STAFF

DATE: NOV. '22  
 CHECKED: B.G.V.  
 DATE: MAY '23

**Prein & Newhof**  
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CITY OF KALAMAZOO DWR  
 KALAMAZOO COUNTY, MICHIGAN

WATER SUPPLY SYSTEM IMPROVEMENTS  
 CROSS COUNTRY

PROJECT NO.  
**2220555**

SHEET NO.  
**7 OF 34**

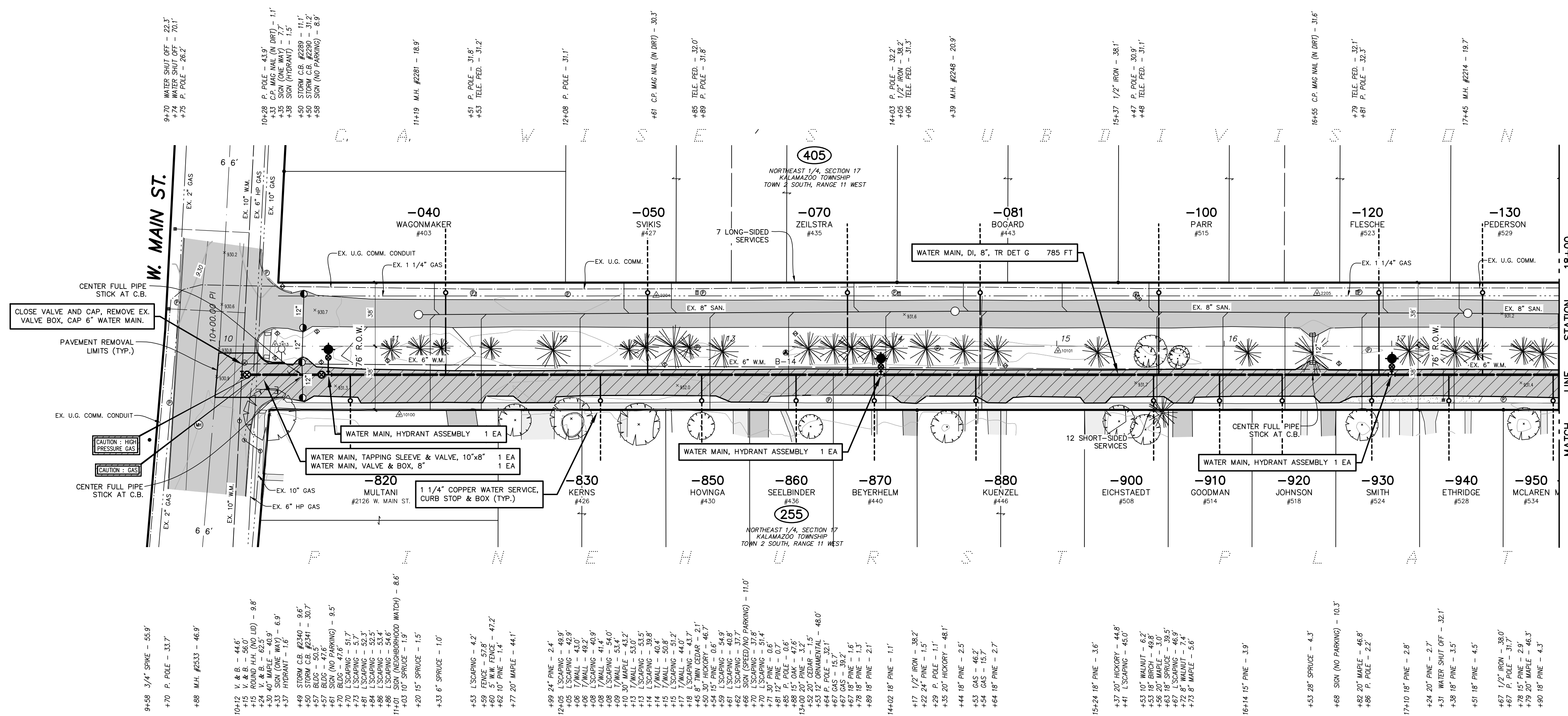
T:\O\A\PROJECTS\2023\2220555\_CITY OF KALAMAZOO\DWG\4-PROP\2220555\_PUP\_CROSS\_COUNTRY.DWG - ISTRENG - Feb. 06. 2024 - 06:54am - Prein\mehel

**811**  
 Know what's below.  
 Call before you dig.

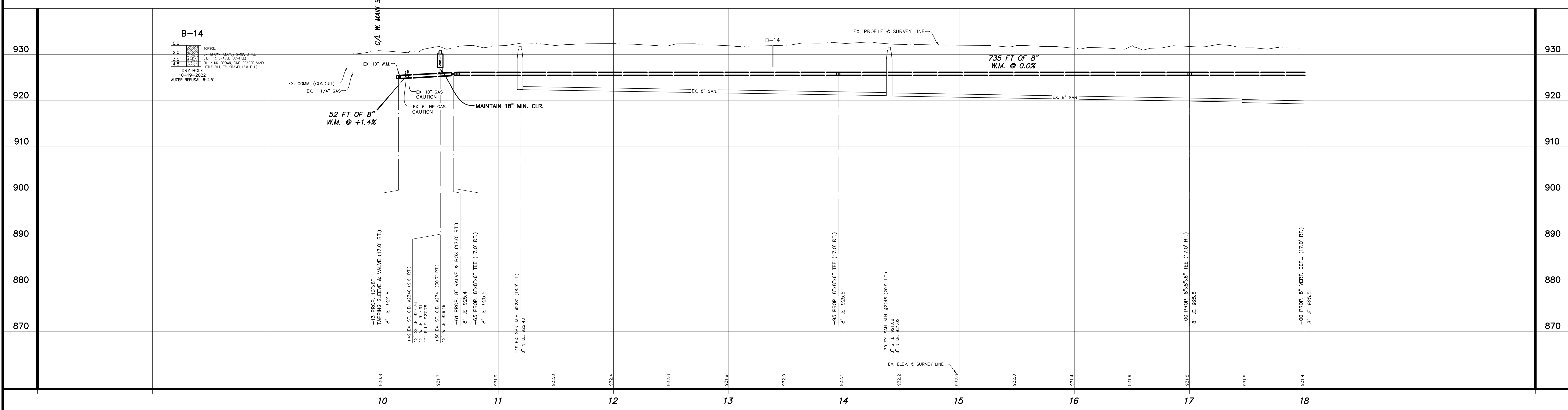
UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETTED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

BENCHMARK EL. 932.41  
 PINEHURST BOULEVARD & WAVERLY STREET  
 405± S & 30' W OF C/L 'X', RR SPIKE  
 SET IN EAST SIDE OF POWER POLE  
 (1.0' A/GROUND)

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
2204	292429.626	12785190.030	931.81
2205	292824.118	12785190.380	931.37
2413	292201.995	12785219.740	931.10
10100	292278.125	12785261.810	932.38
10101	292669.343	12785224.420	932.11



**PINEHURST BOULEVARD**  
 (76' RIGHT OF WAY WIDTH ASPHALT PAVEMENT WIDTH VARIES)



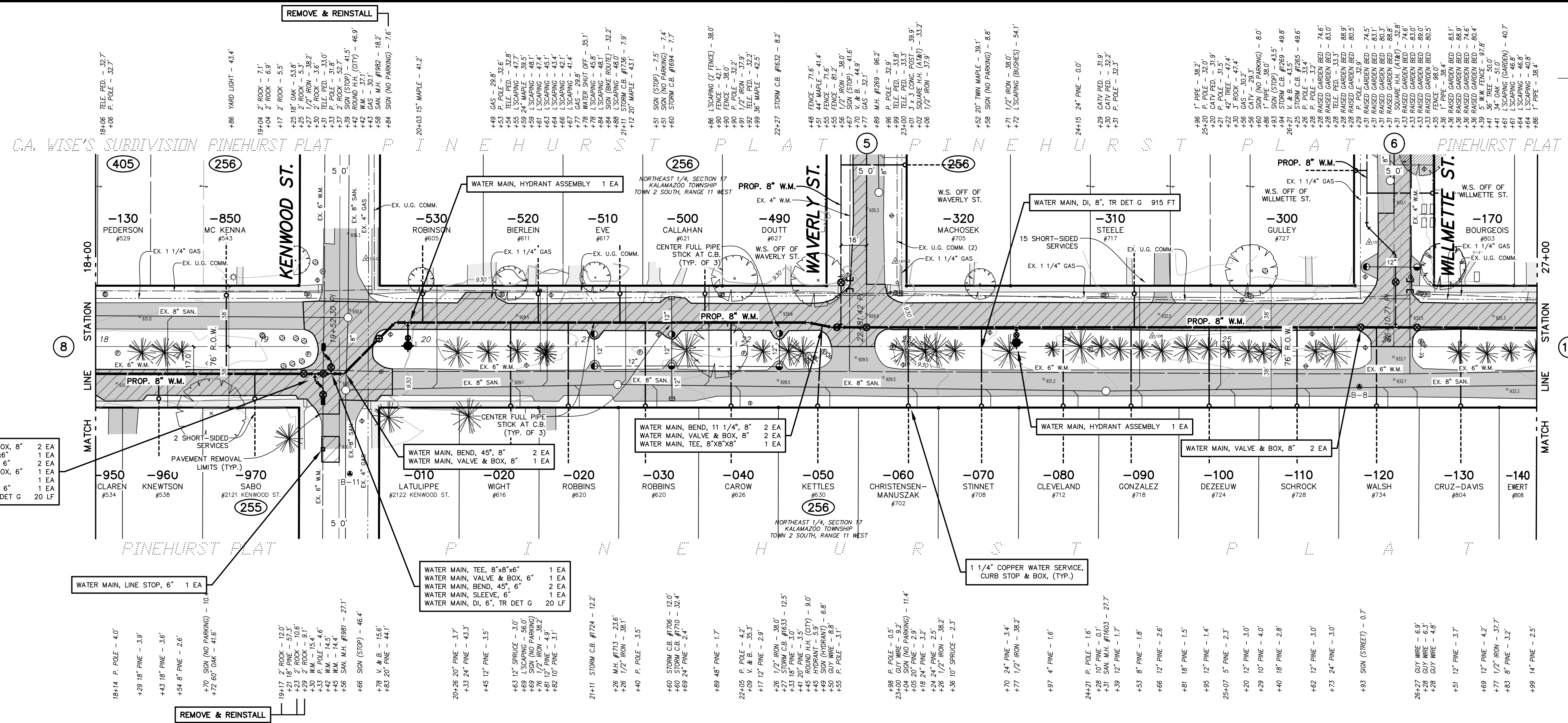
T:\DRAWING PROJECTS\2023\2220555\_PIP\_PINEHURST.DWG - ESTROG - Nov. 24, 2023 - 04:19pm - Prein&Newhof

<p>UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETTED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.</p>	<p>SCALES: 1" = 40' HORIZ. (CONTOURS AT ONE FOOT INTERVALS)          1" = 10' VERT.</p>	<table border="1"> <thead> <tr> <th>NO.</th> <th>REVISIONS</th> <th>BY</th> <th>DATE</th> <th>DRAWN</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>ISSUED FOR BIDS</td> <td>B.F.V.</td> <td>5/28/23</td> <td>STAFF</td> </tr> </tbody> </table>	NO.	REVISIONS	BY	DATE	DRAWN	1	ISSUED FOR BIDS	B.F.V.	5/28/23	STAFF	<table border="1"> <thead> <tr> <th>DATE</th> <th>CHECKED</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>NOV. '22</td> <td>B.G.V.</td> <td>MAY '23</td> </tr> </tbody> </table>	DATE	CHECKED	DATE	NOV. '22	B.G.V.	MAY '23	<p><b>Prein&amp;Newhof</b>          Engineers • Surveyors • Environmental • Laboratory</p>	<p>CITY OF KALAMAZOO DWRP          KALAMAZOO COUNTY, MICHIGAN</p> <p><b>WATER SUPPLY SYSTEM IMPROVEMENTS</b>  <b>PINEHURST BOULEVARD</b></p>	<p>PROJECT NO.  <b>2220555</b></p> <p>SHEET NO.  <b>8 OF 34</b></p>
		NO.	REVISIONS	BY	DATE	DRAWN																
1	ISSUED FOR BIDS	B.F.V.	5/28/23	STAFF																		
DATE	CHECKED	DATE																				
NOV. '22	B.G.V.	MAY '23																				
<p>NO. 1</p>																						



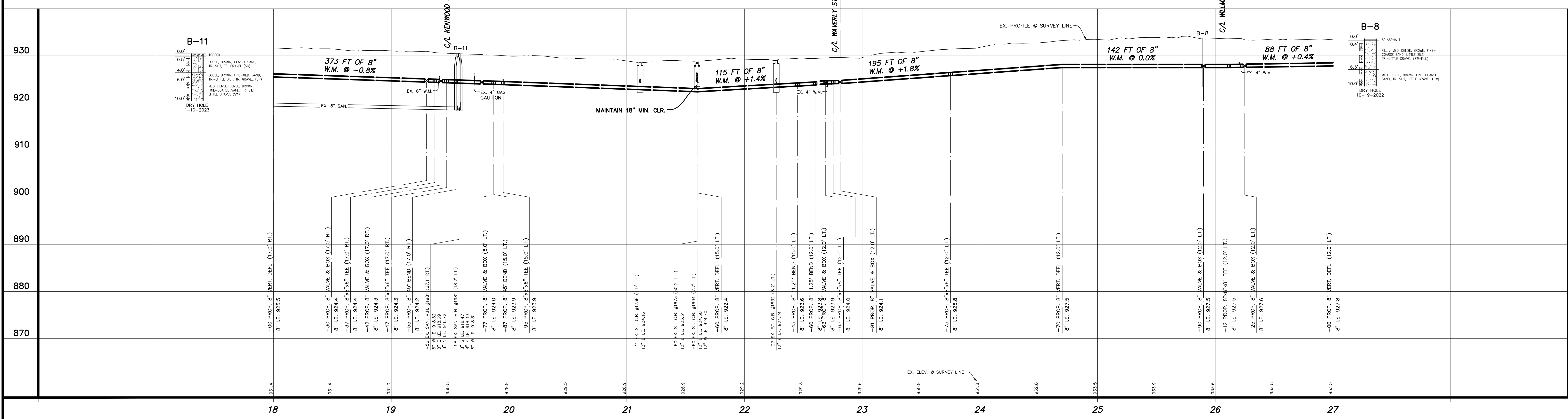
BENCHMARK	EL. 930.15
PINEHURST BOULEVARD & WAVERLY STREET 25' ± S & 5' E OF C/L "X", RR SPIKE SET IN NORTH SIDE OF POWER POLE (0.8' A/GROUND)	
BENCHMARK	EL. 934.38
PINEHURST BOULEVARD & WILLMETTE STREET 15' ± N & 5' W OF C/L "X", NAIL SET IN SOUTH SIDE OF POWER POLE (1.0' A/GROUND)	

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
108	293628.581	12785216.960	932.46
10102	293137.563	12785167.750	930.35
10103	293468.152	12785169.990	929.88
10104	293764.964	12785158.670	933.00



### PINEHURST BOULEVARD

(76' RIGHT OF WAY WIDTH ASPHALT PAVEMENT WIDTH VARIES)

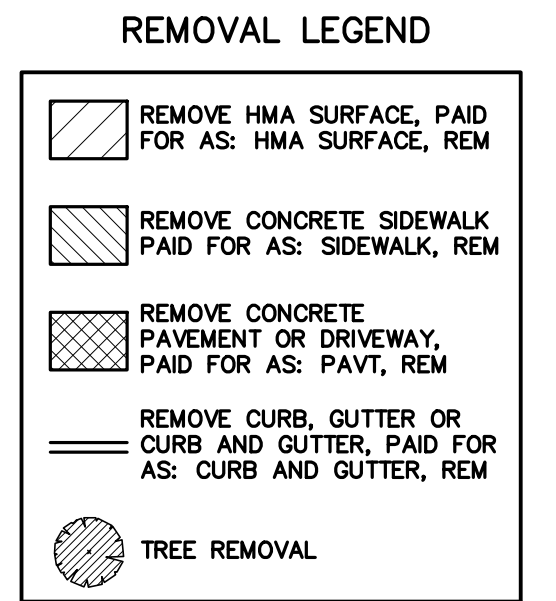
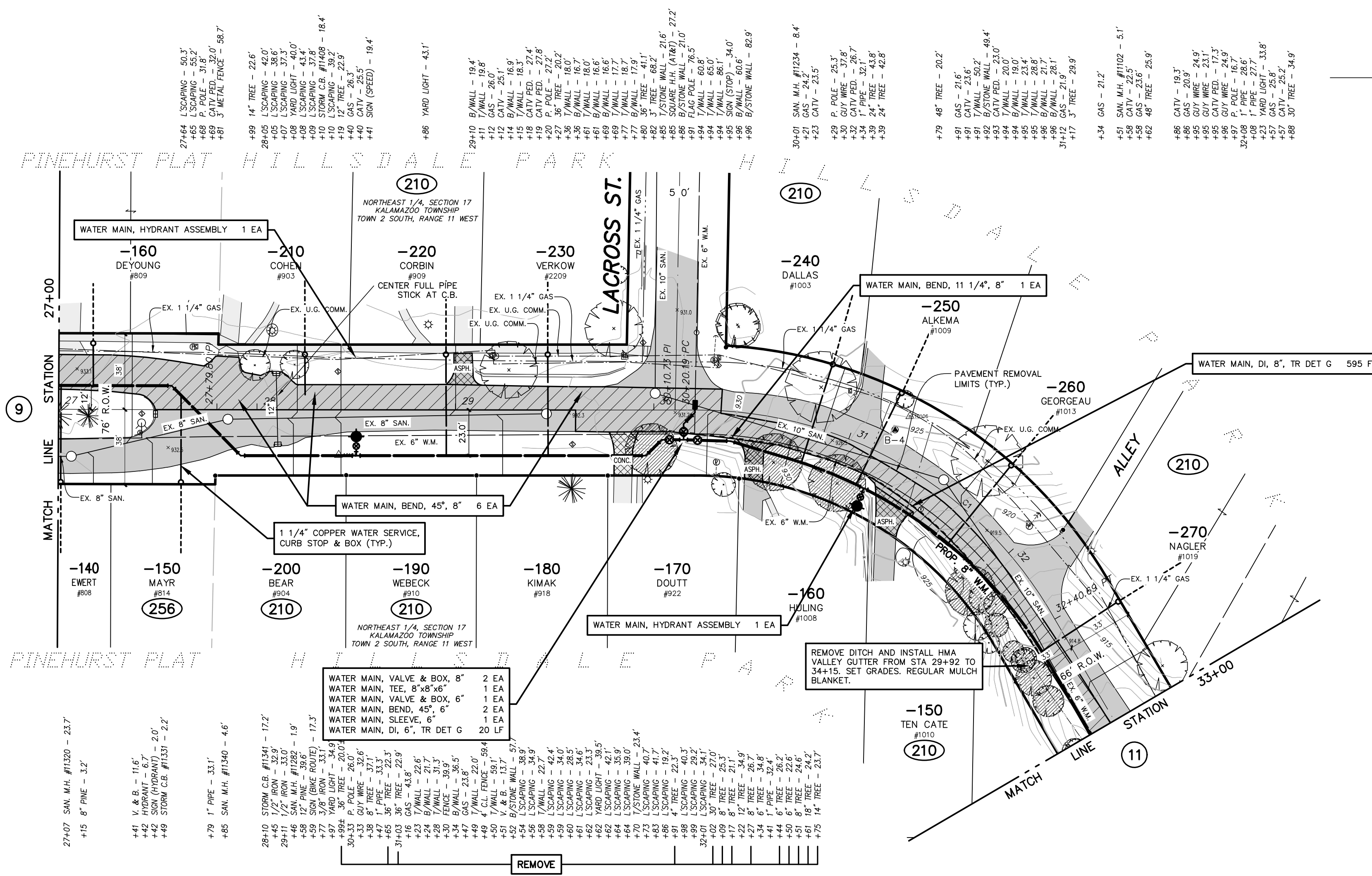


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					<p>SHEET NO. 9 OF 34</p>

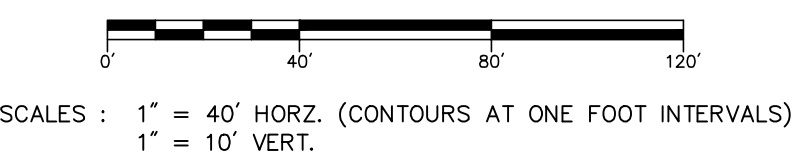
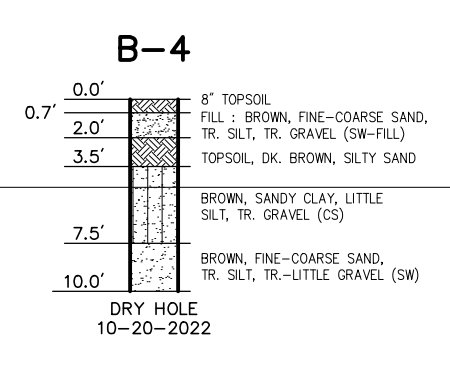
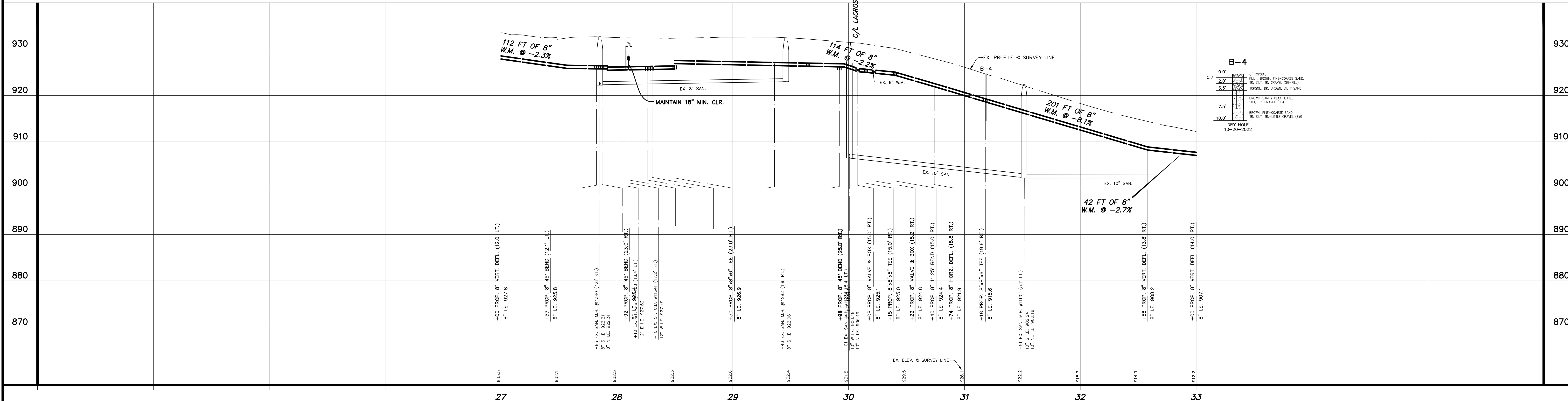
BENCHMARK EL. 931.77  
 PINEHURST BOULEVARD & LACROSS STREET  
 20' ± N & 25' W OF C/L "X" RR SPIKE  
 SET IN SOUTH SIDE OF POWER POLE  
 (1.0' A/GROUND)

POINT No.	NORTHING	EASTING	ELEVATION
10105	294009.855	12785247.370	932.47
10106	294297.738	12785227.790	926.28

CURVE TABLE			
CURVE #	LENGTH	RADIUS	CHORD
C1	220.49'	206.76'	N30°05'18"E 210.19'



**PINEHURST BOULEVARD**  
 (RIGHT OF WAY WIDTH VARIES ASPHALT PAVEMENT WIDTH VARIES)



NO.	REVISIONS	BY	DATE	DRAWN
1	ISSUED FOR BIDS	B.G.V.	5/28/23	STAFF
				DATE: NOV. '22
				CHECKED: B.G.V.
				DATE: MAY '23

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CITY OF KALAMAZOO DWRP  
 KALAMAZOO COUNTY, MICHIGAN  
**WATER SUPPLY SYSTEM IMPROVEMENTS**  
**PINEHURST BOULEVARD**

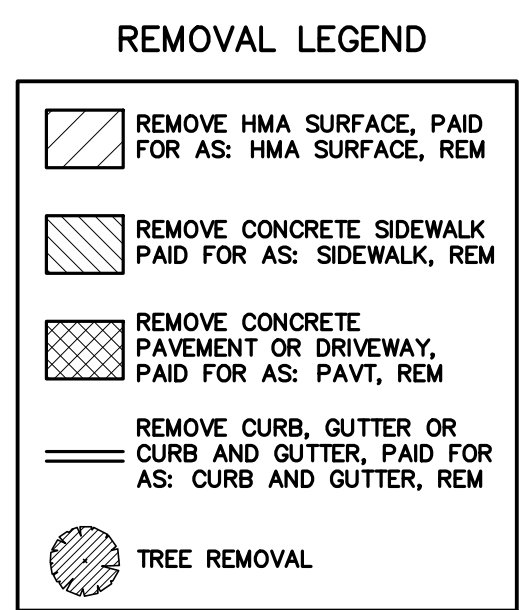
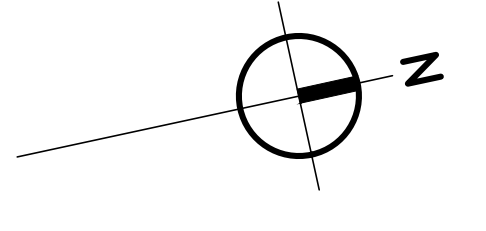
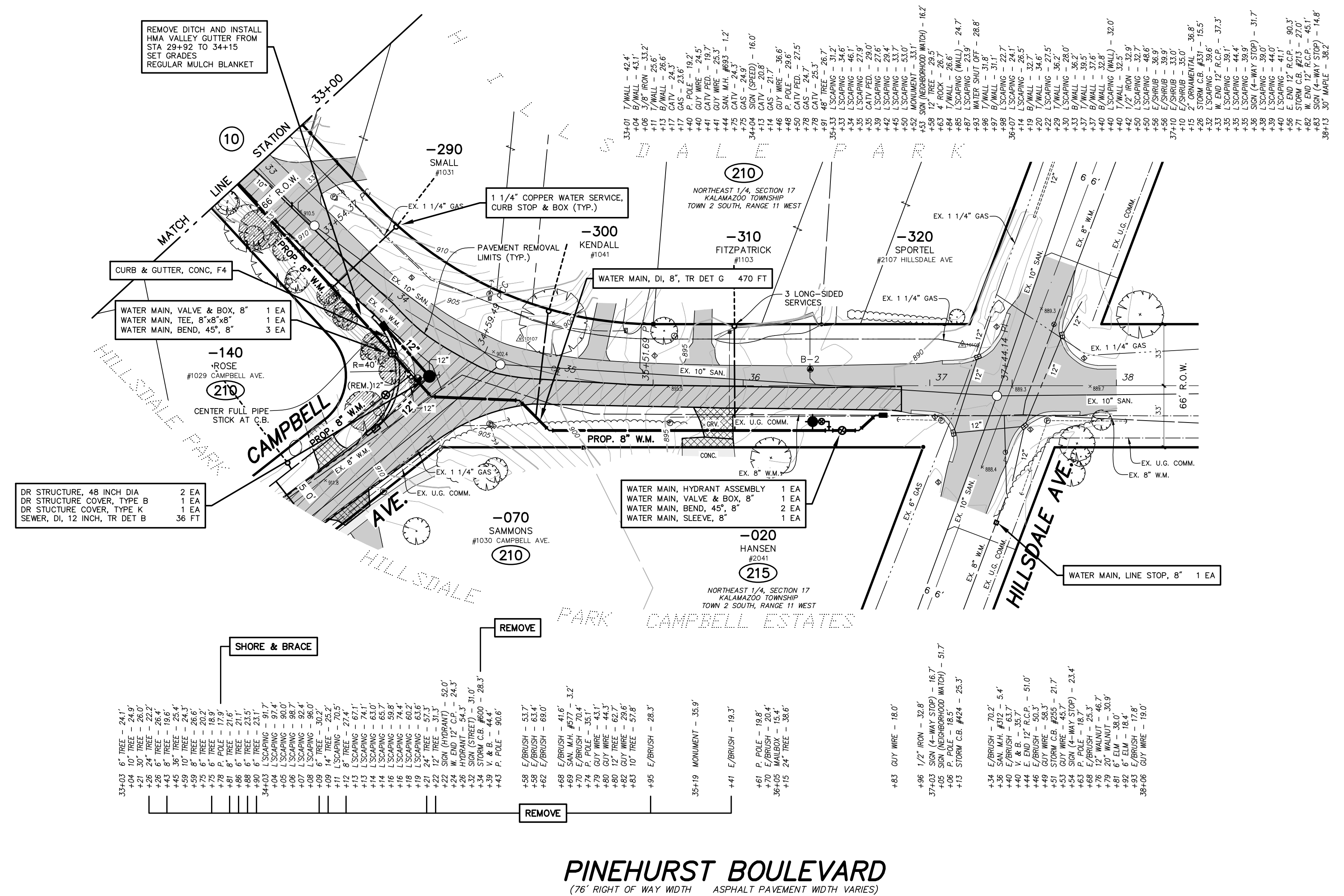
PROJECT NO.  
**2220555**  
 SHEET NO.  
**10 OF 34**

T:\O\A\30 PROJECTS\2023\2220555\_CITY OF KALAMAZOO\DW\4-PROJ\2220555\_DWRP\_PINEHURST.DWG - RSTR006 - Feb. 06. 2024 - 06:51am - Prein&Newhof

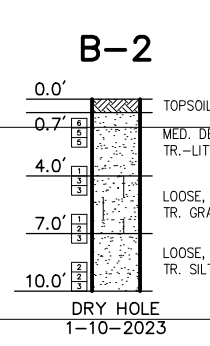
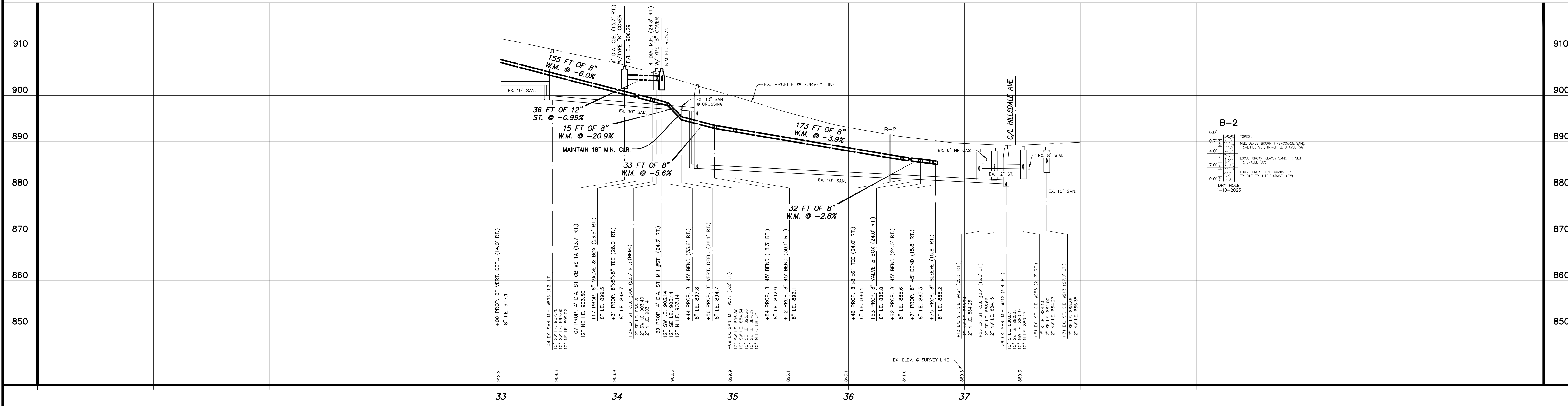
BENCHMARK EL. 905.15  
 PINEHURST BOULEVARD & CAMPBELL AVENUE  
 30' ± N & 35' E OF C/L 'X', RR SPIKE  
 SET IN WEST SIDE OF POWER POLE  
 (1.0' A/GROUND)

POINT No.	NORTHING	EASTING	ELEVATION
10107	294518.994	12785501.470	901.24
10108	294749.817	12785554.850	889.53

CURVE TABLE			
CURVE #	LENGTH	RADIUS	CHORD
C2	197.33'	240.13'	N36°05'31"E 191.82'



**PINEHURST BOULEVARD**  
 (76' RIGHT OF WAY WIDTH ASPHALT PAVEMENT WIDTH VARIES)



T:\DRAWING PROJECTS\2023\2220555\_BUR\_PINEHURST.DWG - ESTROG - Feb. 06. 2024 - 06:52am - Prein&Newhof

**811**  
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 Know what's below. Call before you dig.

NO.	REVISIONS	BY	DATE	DRAWN
1	ISSUED FOR BIDS	B.G.V.	5/28/23	STAFF

DATE: NOV. '22  
 CHECKED: B.G.V.  
 DATE: MAY '23

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CITY OF KALAMAZOO DWRP  
 KALAMAZOO COUNTY, MICHIGAN

PROJECT NO. 2220555  
 WATER SUPPLY SYSTEM IMPROVEMENTS  
 PINEHURST BOULEVARD

SHEET NO. 11 OF 34

BENCHMARK EL. 932.72  
 CAMPBELL AVENUE & WEST MAIN STREET  
 30' ± N & 30' E OF C/L "X", RR SPIKE  
 SET IN SOUTHWEST SIDE OF POWER POLE  
 (1.0' A/GROUND)

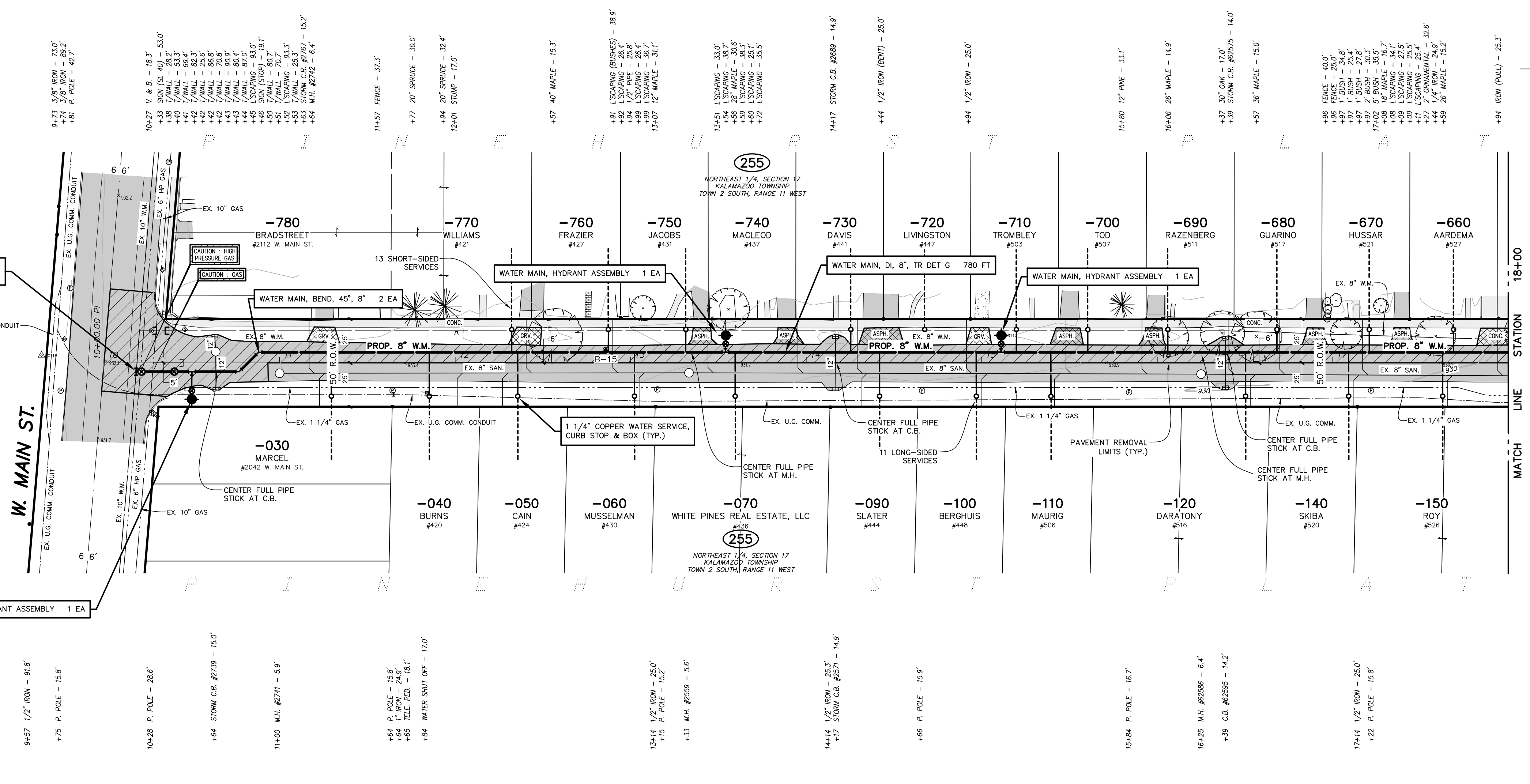
CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
10117	292651.803	12789532.930	931.41
10118	292105.021	12789543.200	932.88

WATER MAIN, TAPPING SLEEVE & VALVE, 8" 1 EA  
 WATER MAIN, VALVE & BOX, 8" 1 EA

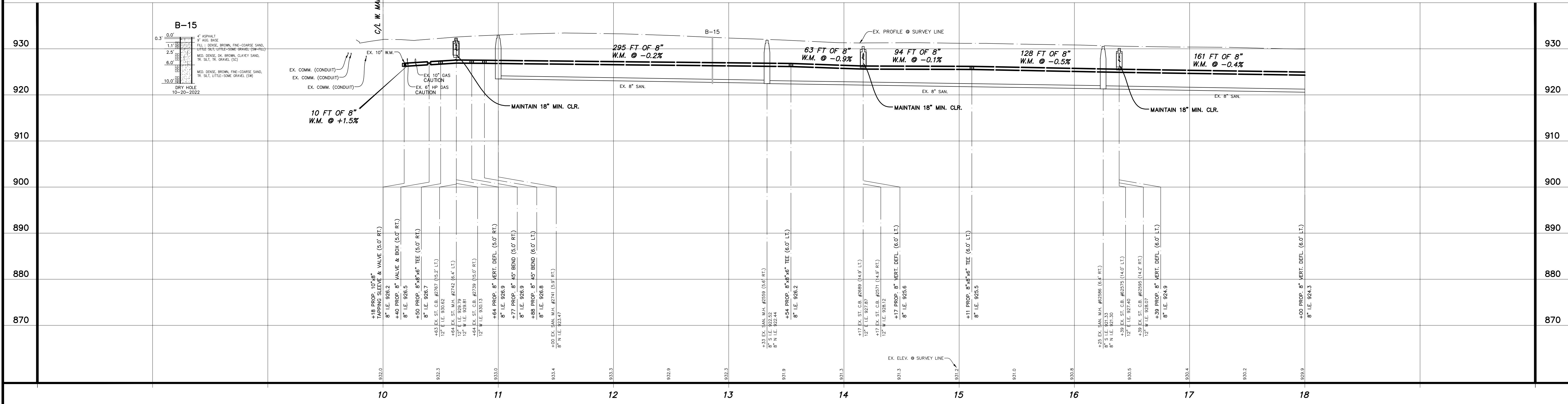
WATER MAIN, HYDRANT ASSEMBLY 1 EA

**REMOVAL LEGEND**

- REMOVE HMA SURFACE, PAID FOR AS: HMA SURFACE, REM
- REMOVE CONCRETE SIDEWALK, PAID FOR AS: SIDEWALK, REM
- REMOVE CONCRETE PAVEMENT OR DRIVEWAY, PAID FOR AS: PAVT, REM
- REMOVE CURB, GUTTER OR CURB AND GUTTER, PAID FOR AS: CURB AND GUTTER, REM
- TREE REMOVAL

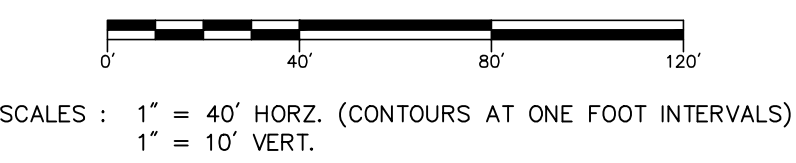


**CAMPBELL AVENUE**  
 (50' RIGHT OF WAY WIDTH ASPHALT PAVEMENT WIDTH VARIES)



T:\DRAWING PROJECTS\2023\2220555\_CAMPBELL - REBID - May 24, 2023 - 04:26pm - Prein&Newhof

**811**  
 UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.



NO.	REVISIONS	BY	DATE	DRAWN
1	ISSUED FOR BIDS	B.F.V.	5/28/23	STAFF

**Prein & Newhof**  
 Engineers • Surveyors • Environmental • Laboratory

DATE: NOV '22  
 CHECKED: B.G.V.  
 DATE: MAY '23

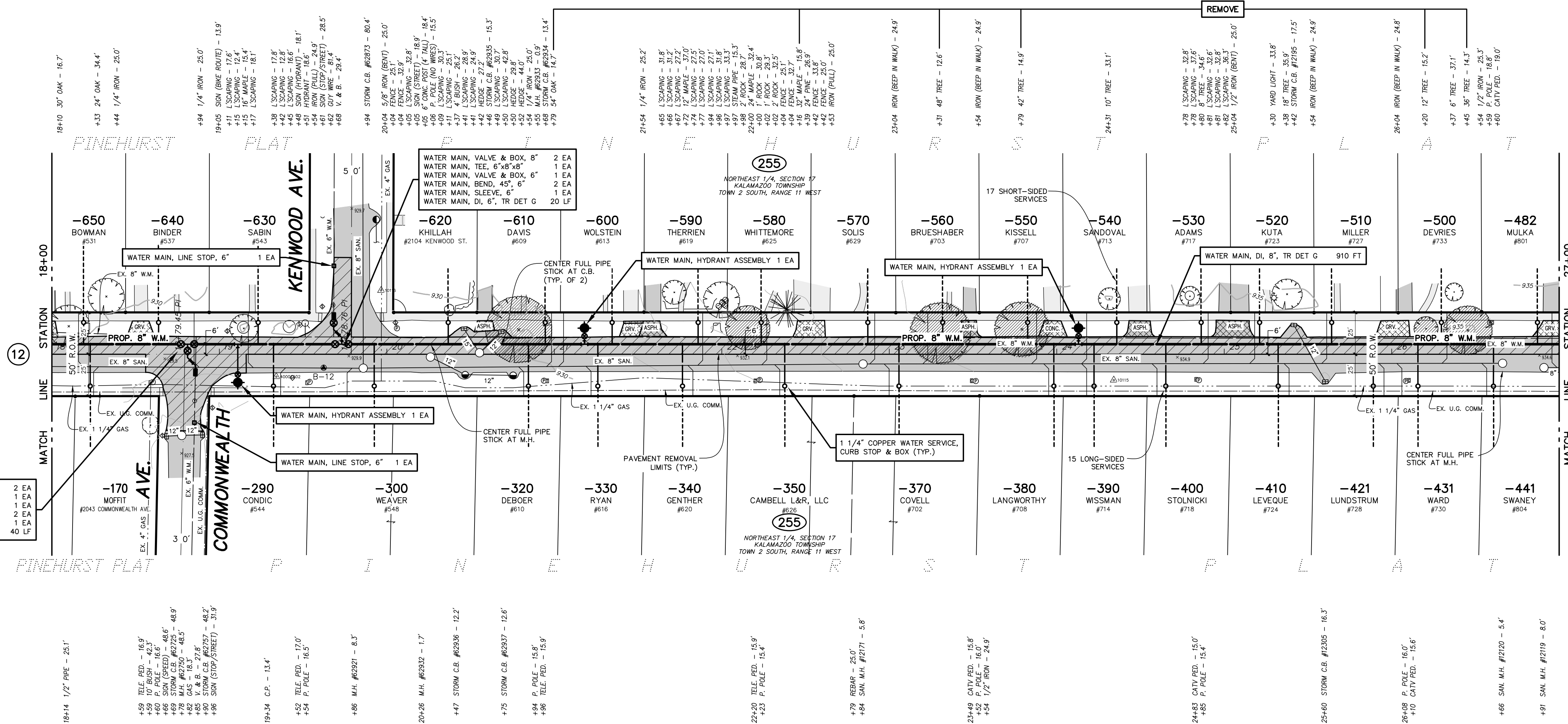
CITY OF KALAMAZOO DWRP  
 KALAMAZOO COUNTY, MICHIGAN

WATER SUPPLY SYSTEM IMPROVEMENTS  
 CAMPBELL AVENUE

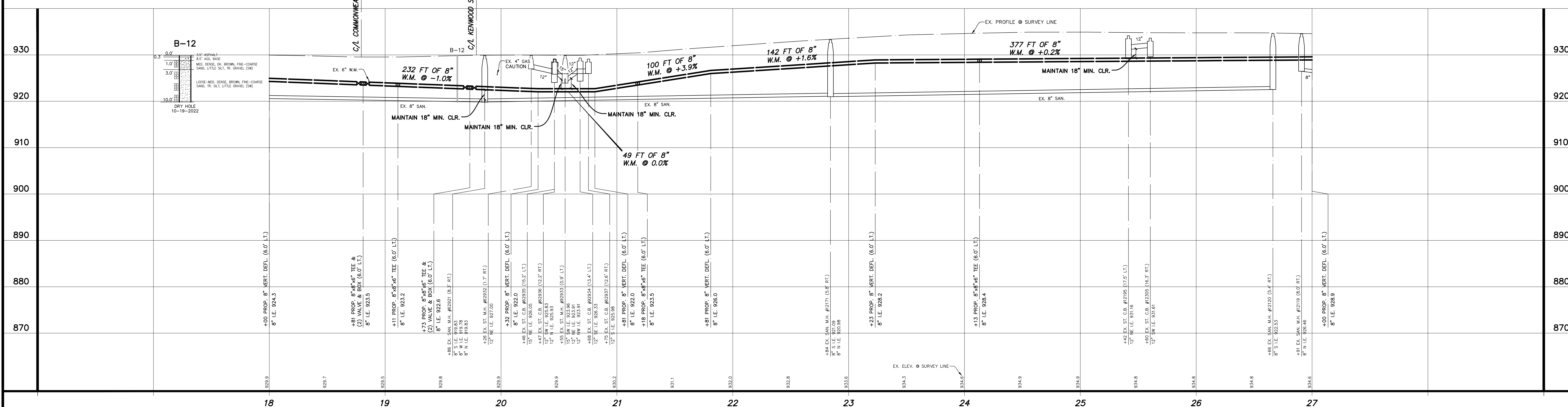
PROJECT NO. 2220555  
 SHEET NO. 12 OF 34

POINT No.	NORTHING	EASTING	ELEVATION
10115	293574.623	1276595.740	924.78
10116	293571.285	1276591.330	925.85
4000502	293074.636	12785562.710	929.43

WATER MAIN, VALVE & BOX, 8" 2 EA  
 WATER MAIN, TEE, 8" x 8" x 6" 1 EA  
 WATER MAIN, VALVE, 6" 1 EA  
 WATER MAIN, BEND, 45°, 6" 2 EA  
 WATER MAIN, SLEEVE, 6" 1 EA  
 WATER MAIN, DI 6" 40 LF



**CAMPBELL AVENUE**  
 (50' RIGHT OF WAY WIDTH ASPHALT PAVEMENT WIDTH VARIES)



T:\04\03\PROJECTS\2023\2220555\_CITY OF KALAMAZOO\DWG\14-PROJ\2220555\_BUR\_CAMPBELL.DWG - REVISION - MAY 24, 2023 - 04:27pm - Prein&Newhof

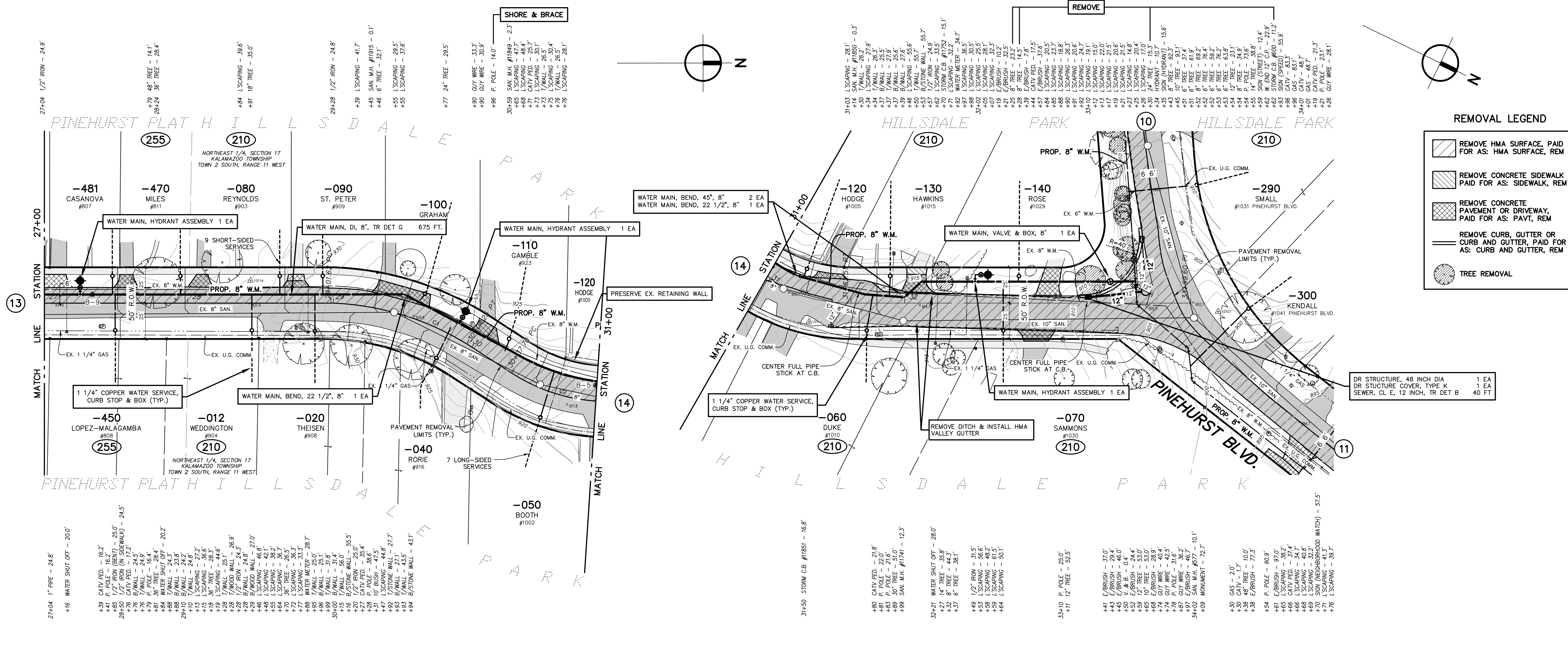
<p>UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.</p>	<p>NO. 1</p> <p>REVISIONS</p> <p>ISSUED FOR BIDS</p>	<p>BY B.F.V.</p> <p>DATE 5/28/23</p>	<p>DRAWN STAFF</p> <p>DATE NOV '22</p> <p>CHECKED B.G.V.</p> <p>DATE MAY '23</p>	<p>CITY OF KALAMAZOO DWRP</p> <p>KALAMAZOO COUNTY, MICHIGAN</p> <p>WATER SUPPLY SYSTEM IMPROVEMENTS</p> <p>CAMPBELL AVENUE</p>	<p>PROJECT NO. 2220555</p> <p>SHEET NO. 13 OF 34</p>

BENCHMARK EL. 931.26  
 CAMPBELL AVENUE & WEST MAIN STREET  
 480± S & 15' E OF C/L "X", RR SPIKE  
 SET IN SOUTHWEST SIDE OF POWER POLE,  
 20' N OF C/L GRAV. DRIVE TO HSE. #908  
 (1.0' A/GROUND)

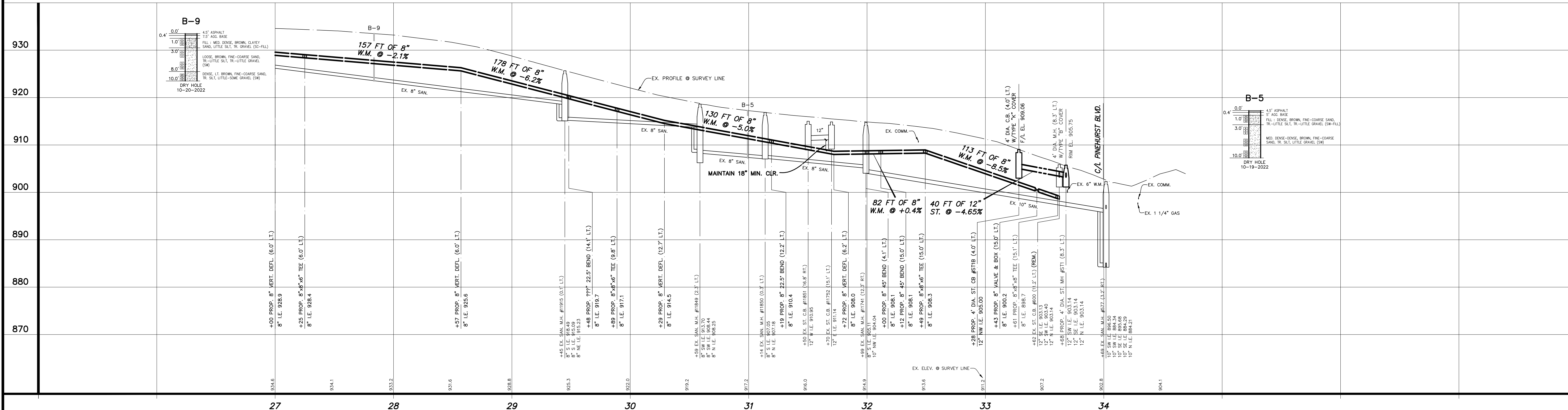
BENCHMARK EL. 905.15  
 CAMPBELL AVENUE & PINEHURST BOULEVARD  
 30'± N & 35' E OF C/L "X", RR SPIKE  
 SET IN WEST SIDE OF POWER POLE  
 (1.0' A/GROUND)

POINT NO.	NORTHING	EASTING	ELEVATION
10107	294518.994	1278550.470	901.24
10113	294265.458	12785632.760	916.28
10114	293984.580	12785335.470	932.06

CURVE TABLE			
CURVE #	LENGTH	RADIUS	CHORD
C1	102.63	190.99	N17°43'12"E 101.40'
C2	124.87	121.91	N34°6'17"E 119.48'



**CAMPBELL AVENUE**  
 (50' RIGHT OF WAY WIDTH) ASPHALT PAVEMENT WIDTH VARIES



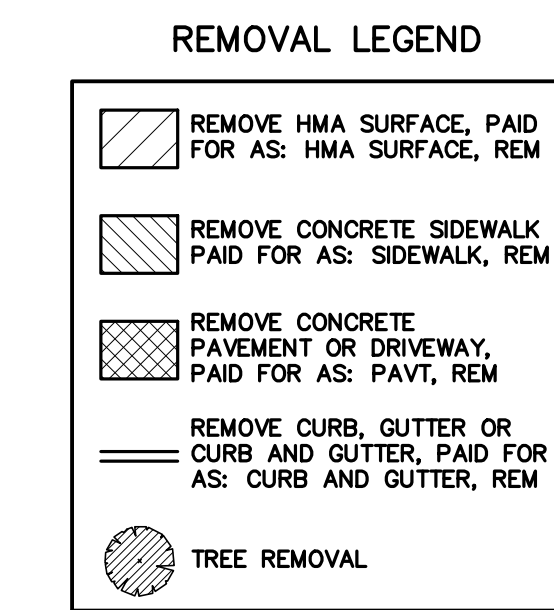
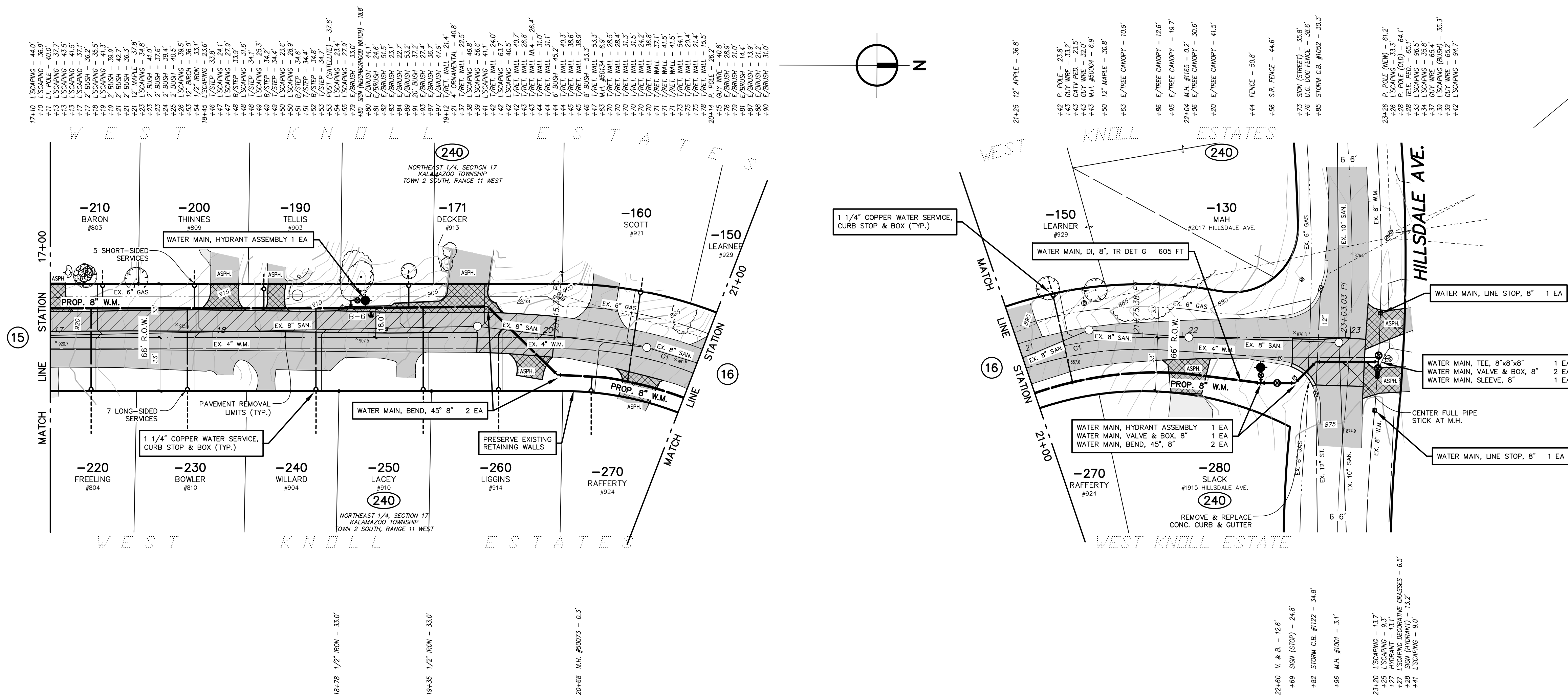
<p>UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETTED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.</p>	<p>NO. 1</p> <p>REVISIONS</p> <p>ISSUED FOR BIDS</p>	<p>BY B.F.V.</p> <p>DATE 5/28/23</p>	<p>DRAWN STAFF</p> <p>DATE NOV. '22</p> <p>CHECKED B.G.V.</p> <p>DATE MAY '23</p>	<p>CITY OF KALAMAZOO DWRP</p> <p>KALAMAZOO COUNTY, MICHIGAN</p> <p>WATER SUPPLY SYSTEM IMPROVEMENTS</p> <p>CAMPBELL AVENUE</p>	<p>PROJECT NO. 2220555</p> <p>SHEET NO. 14 OF 34</p>



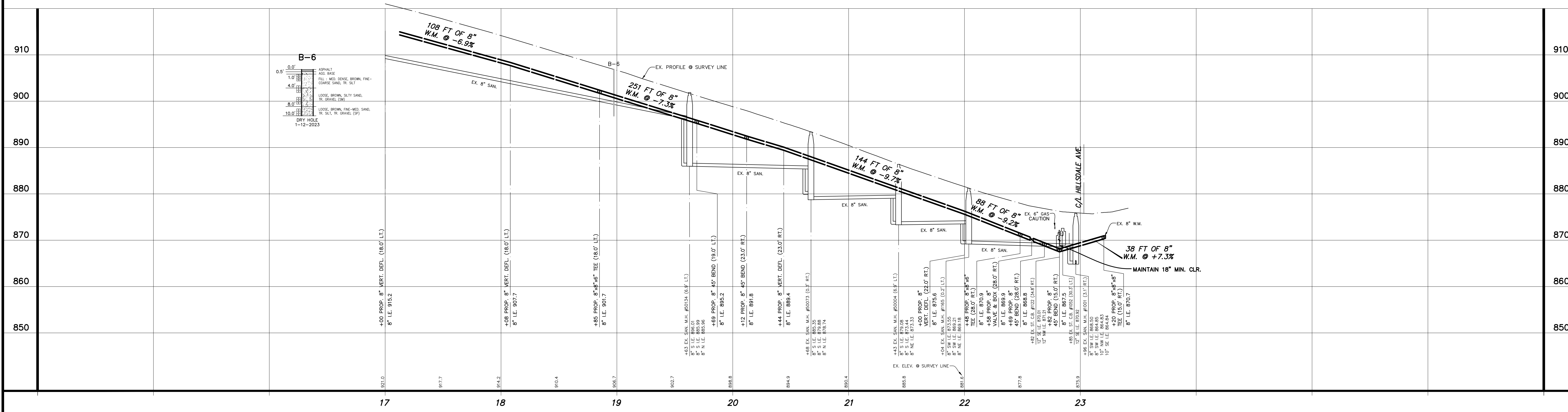
BENCHMARK EL. 901.48  
 DARTMOUTH STREET & HILLSDALE AVENUE  
 295± S & 25' W OF C/L "X", RR SPIKE  
 SET IN SOUTHWEST SIDE OF POWER POLE,  
 55' N OF DRIVE TO HSE. #913  
 (1.7' A/GROUND)

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
101	294100.878	12786014.890	900.83

CURVE TABLE			
CURVE #	LENGTH	RADIUS	CHORD
C1	160.06'	230.44'	S19°48'57"W 156.86'



**DARTMOUTH STREET**  
 (66' RIGHT OF WAY WIDTH ASPHALT PAVEMENT WIDTH VARIES)

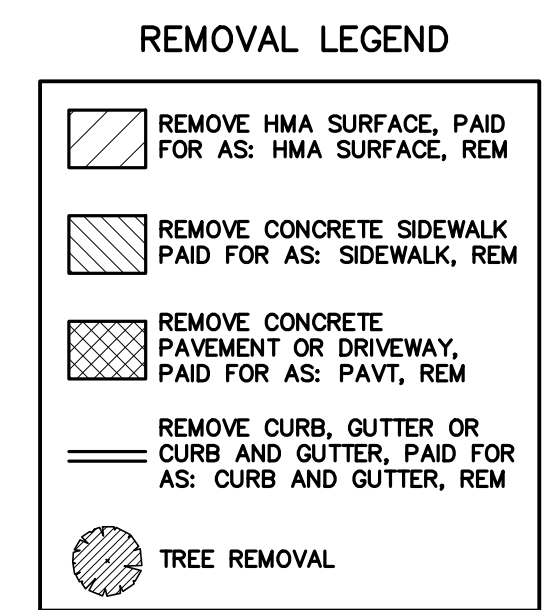
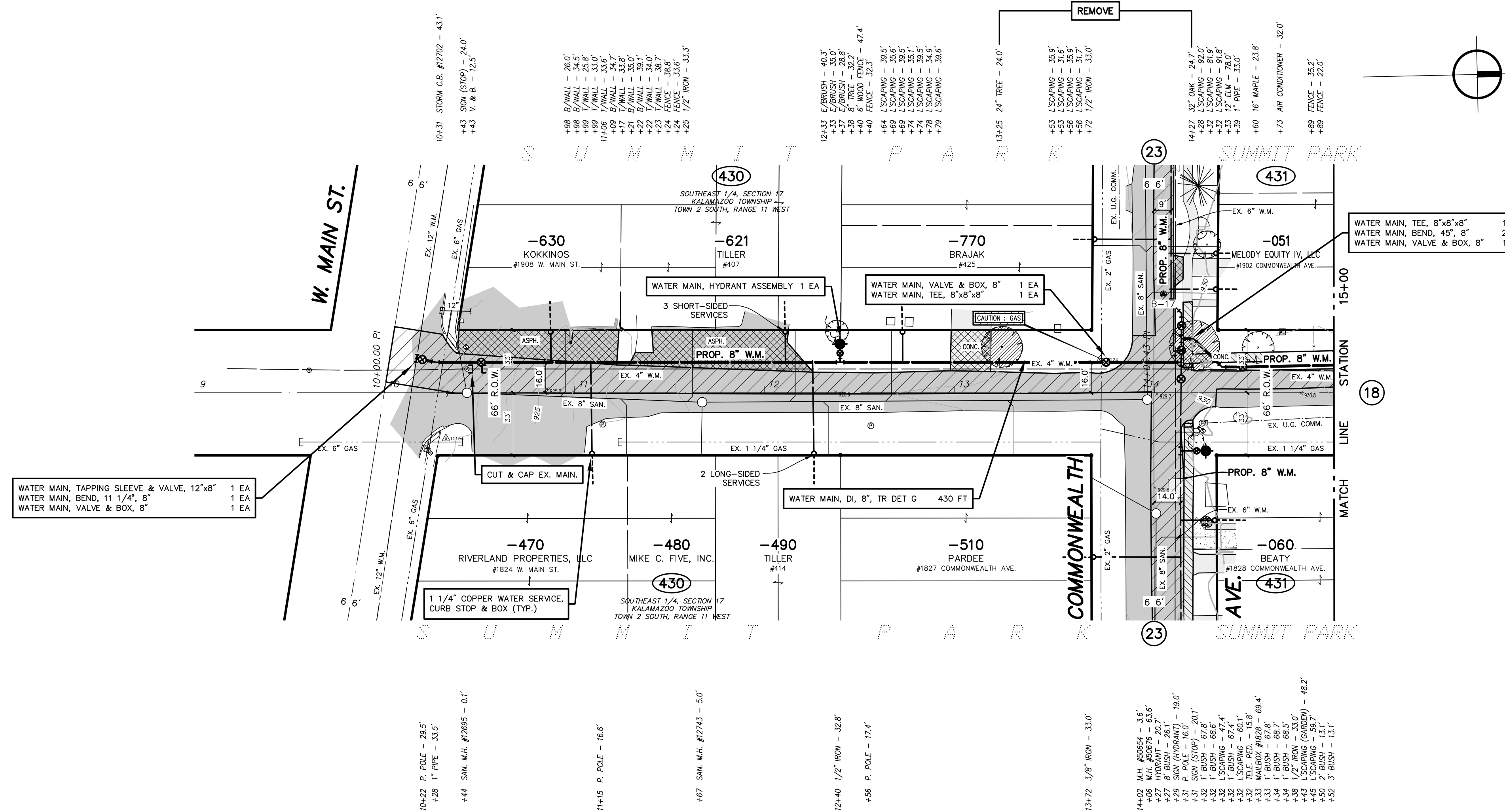


<p>UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.</p>	<p>NO. 1</p> <p>REVISIONS</p> <p>ISSUED FOR BIDS</p>	<p>BY B.F.V.</p> <p>DATE 5/28/23</p>	<p>DRAWN STAFF</p> <p>DATE NOV. '22</p> <p>CHECKED B.G.V.</p> <p>DATE MAY '23</p>	<p>CITY OF KALAMAZOO DWRP</p> <p>KALAMAZOO COUNTY, MICHIGAN</p> <p>WATER SUPPLY SYSTEM IMPROVEMENTS</p> <p>DARTMOUTH STREET</p>	<p>PROJECT NO. 2220555</p> <p>SHEET NO. 16 OF 34</p>

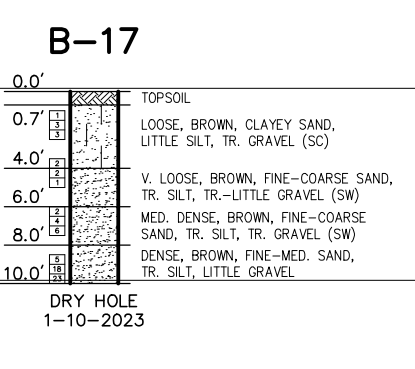
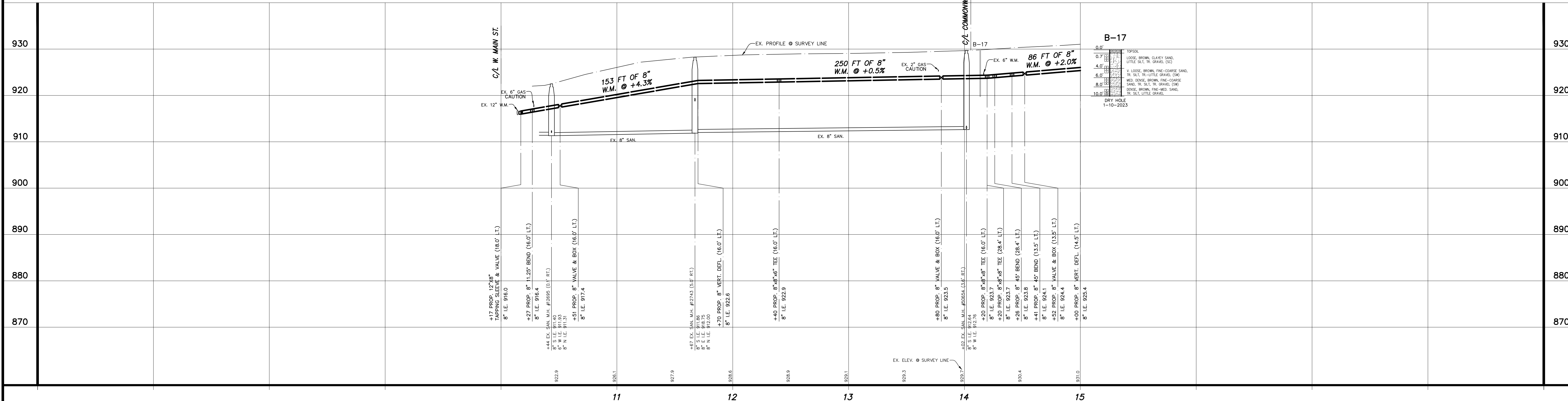


BENCHMARK EL. 923.52  
 CLARENDON STREET & WEST MAIN STREET  
 25° ± N & 35° E OF C/L 'X', RR SPIKE  
 SET IN WEST SIDE OF POWER POLE  
 (1.0' A/GROUND)

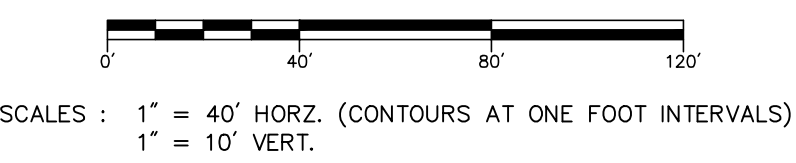
CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
10124	292429.295	12786352.120	929.72
10133	292503.919	12786385.900	923.19



**CLARENDON STREET**  
 (66' RIGHT OF WAY WIDTH ASPHALT PAVEMENT WIDTH VARIES)



I:\QA\PROJECTS\2023\2220555\_CITY OF KALAMAZOO\DWRF\CLARENDON.DWG - REVISION - May, 24, 2023 - 04:32pm - PrintSheet.dwg



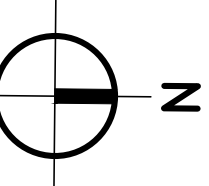
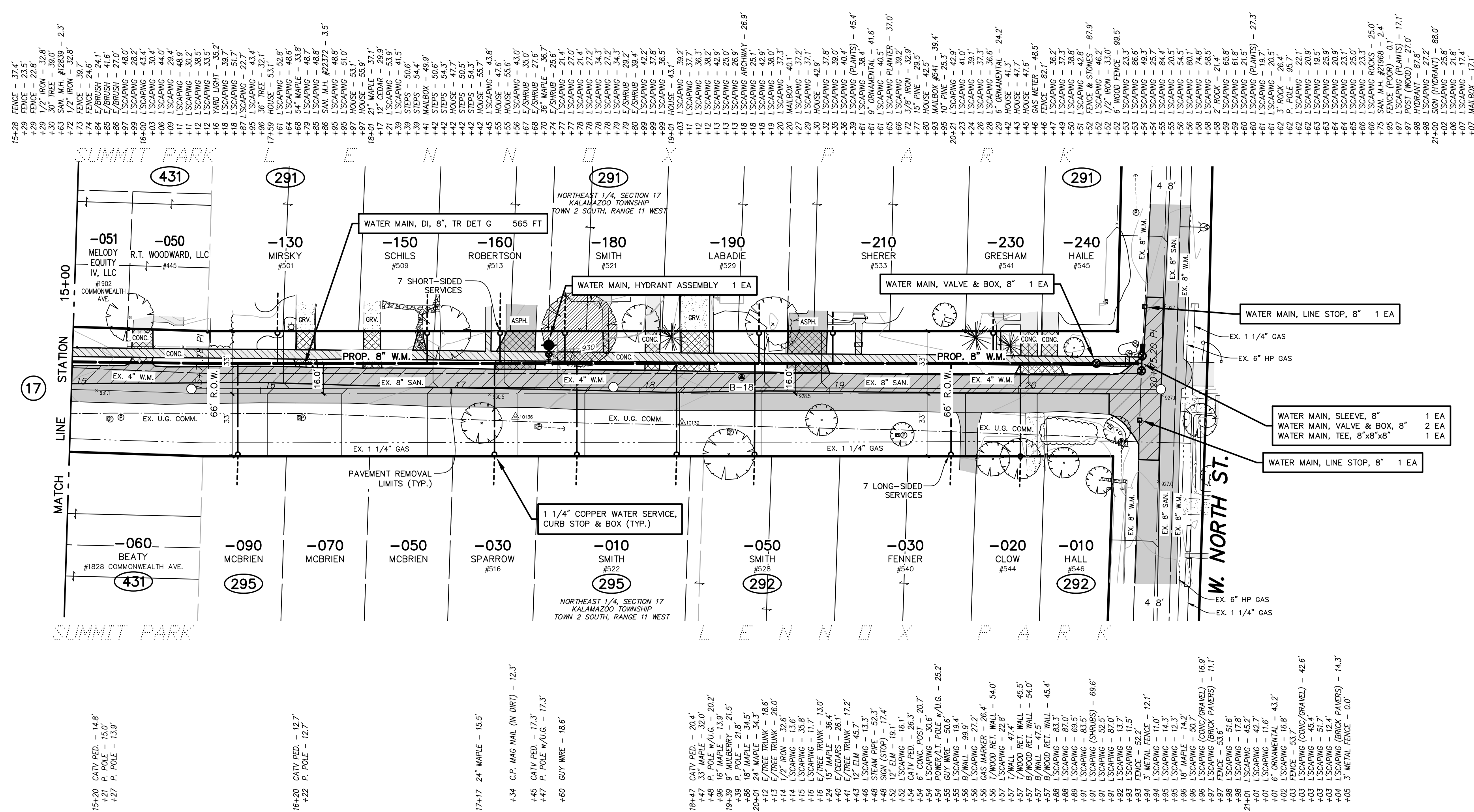
NO.	REVISIONS	BY	DATE	DRAWN
1	ISSUED FOR BIDS	B.F.V.	5/28/23	STAFF
				DATE: NOV. '22
				CHECKED: B.G.V.
				DATE: MAY '23

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CITY OF KALAMAZOO DWRP  
 KALAMAZOO COUNTY, MICHIGAN  
 WATER SUPPLY SYSTEM IMPROVEMENTS  
 CLARENDON STREET

PROJECT NO.  
**2220555**  
 SHEET NO.  
**17 OF 34**

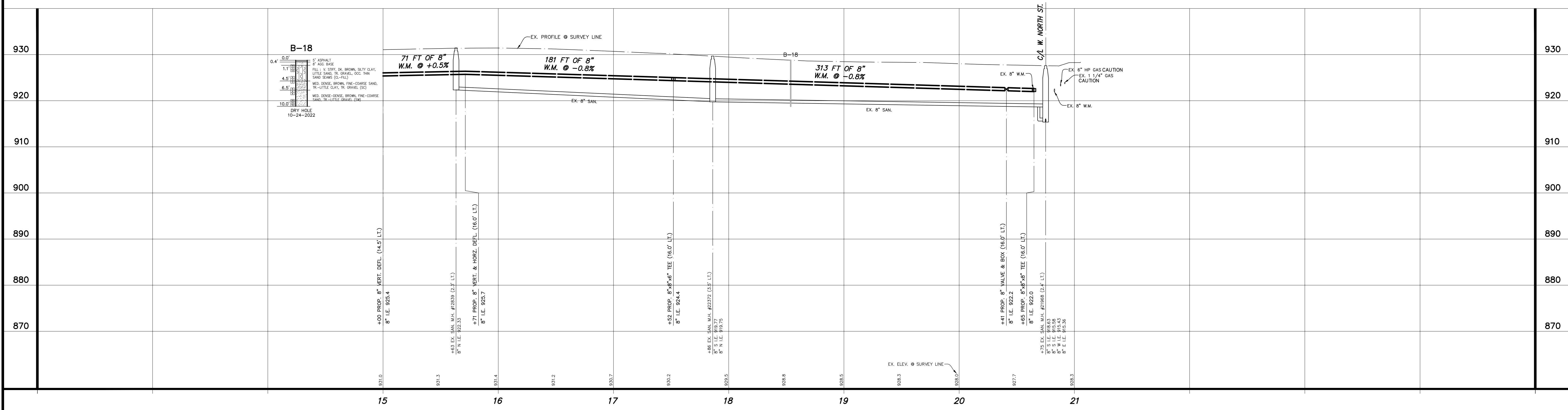
POINT No.	NORTHING	EASTING	ELEVATION
10152	292854.289	12786398.890	928.98
10156	292766.376	12786384.450	930.19



**REMOVAL LEGEND**

	REMOVE HMA SURFACE, PAID FOR AS: HMA SURFACE, REM
	REMOVE CONCRETE SIDEWALK, PAID FOR AS: SIDEWALK, REM
	REMOVE CONCRETE PAVEMENT OR DRIVEWAY, PAID FOR AS: PAVT, REM
	REMOVE CURB, GUTTER OR CURB AND GUTTER, PAID FOR AS: CURB AND GUTTER, REM
	TREE REMOVAL

**CLARENDON STREET**  
(66' RIGHT OF WAY WIDTH ASPHALT PAVEMENT WIDTH VARIES)



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NO.	REVISIONS	BY	DATE	DRAWN
1	ISSUED FOR BIDS	B.F.V.	5/28/23	STAFF

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DATE: NOV. '22  
CHECKED: B.G.V.  
DATE: MAY '23

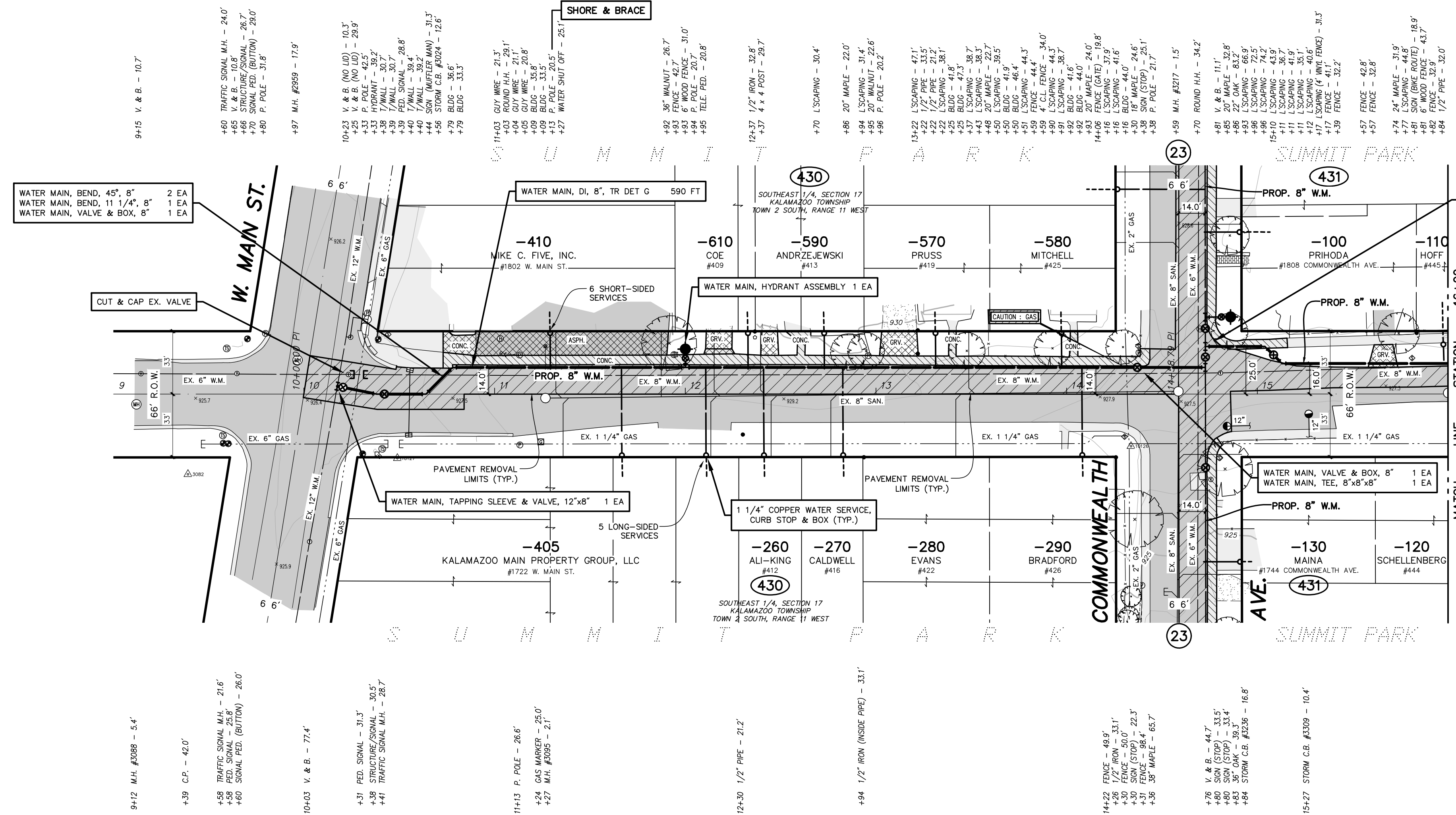
CITY OF KALAMAZOO DWRP  
KALAMAZOO COUNTY, MICHIGAN

WATER SUPPLY SYSTEM IMPROVEMENTS  
CLARENDON STREET

PROJECT NO. 2220555  
SHEET NO. 18 OF 34

BENCHMARK EL. 927.88  
 BERKLEY STREET & WEST MAIN STREET  
 40' ± N & 30' E OF C/L "X", WEST BOLT  
 OF SIGNAL POLE  
 (1.4' A/GROUND)

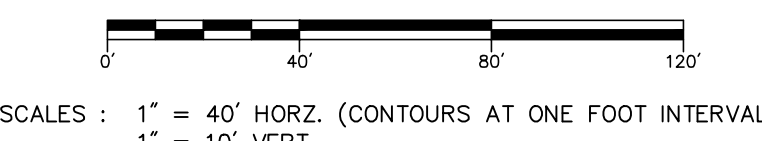
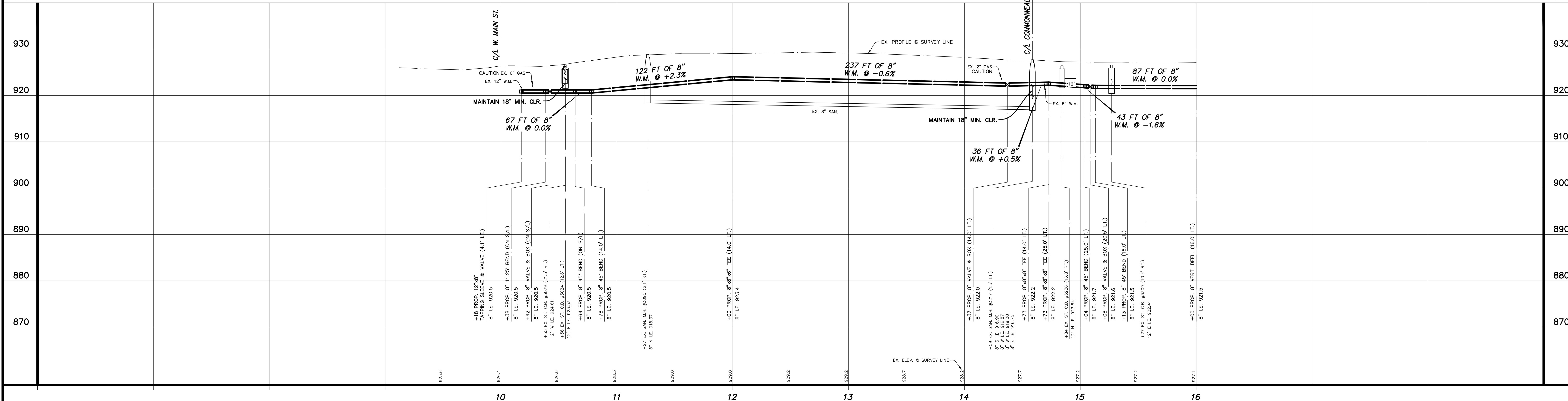
POINT No.	NORTHING	EASTING	ELEVATION
3082	291929.953	12786730.790	925.92
10126	292404.688	12786726.890	927.54
10127	292019.926	12786724.790	927.61



**REMOVAL LEGEND**

- REMOVE HMA SURFACE, PAID FOR AS: HMA SURFACE, REM
- REMOVE CONCRETE SIDEWALK PAID FOR AS: SIDEWALK, REM
- REMOVE CONCRETE PAVEMENT OR DRIVEWAY, PAID FOR AS: PAVT, REM
- REMOVE CURB, GUTTER OR CURB AND GUTTER, PAID FOR AS: CURB AND GUTTER, REM
- TREE REMOVAL

**BERKLEY STREET**  
 (66' RIGHT OF WAY WIDTH ASPHALT PAVEMENT WIDTH VARIES)



NO.	REVISIONS	BY	DATE	DRAWN
1	ISSUED FOR BIDS	B.F.V.	5/28/23	STAFF

DATE: NOV. '22  
 CHECKED: B.G.V.  
 DATE: MAY '23

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CITY OF KALAMAZOO DWRP  
 KALAMAZOO COUNTY, MICHIGAN

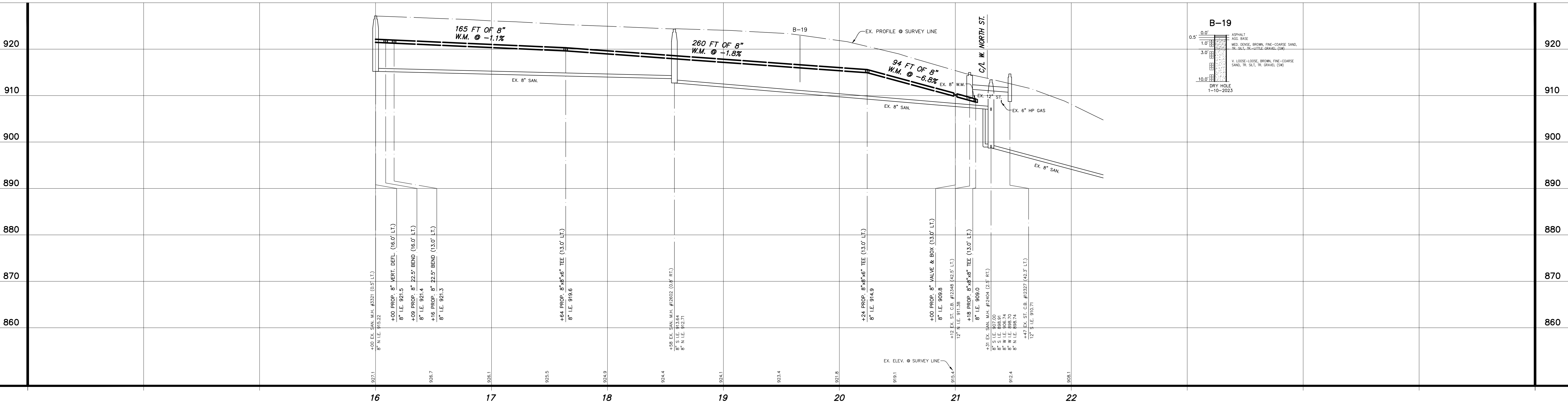
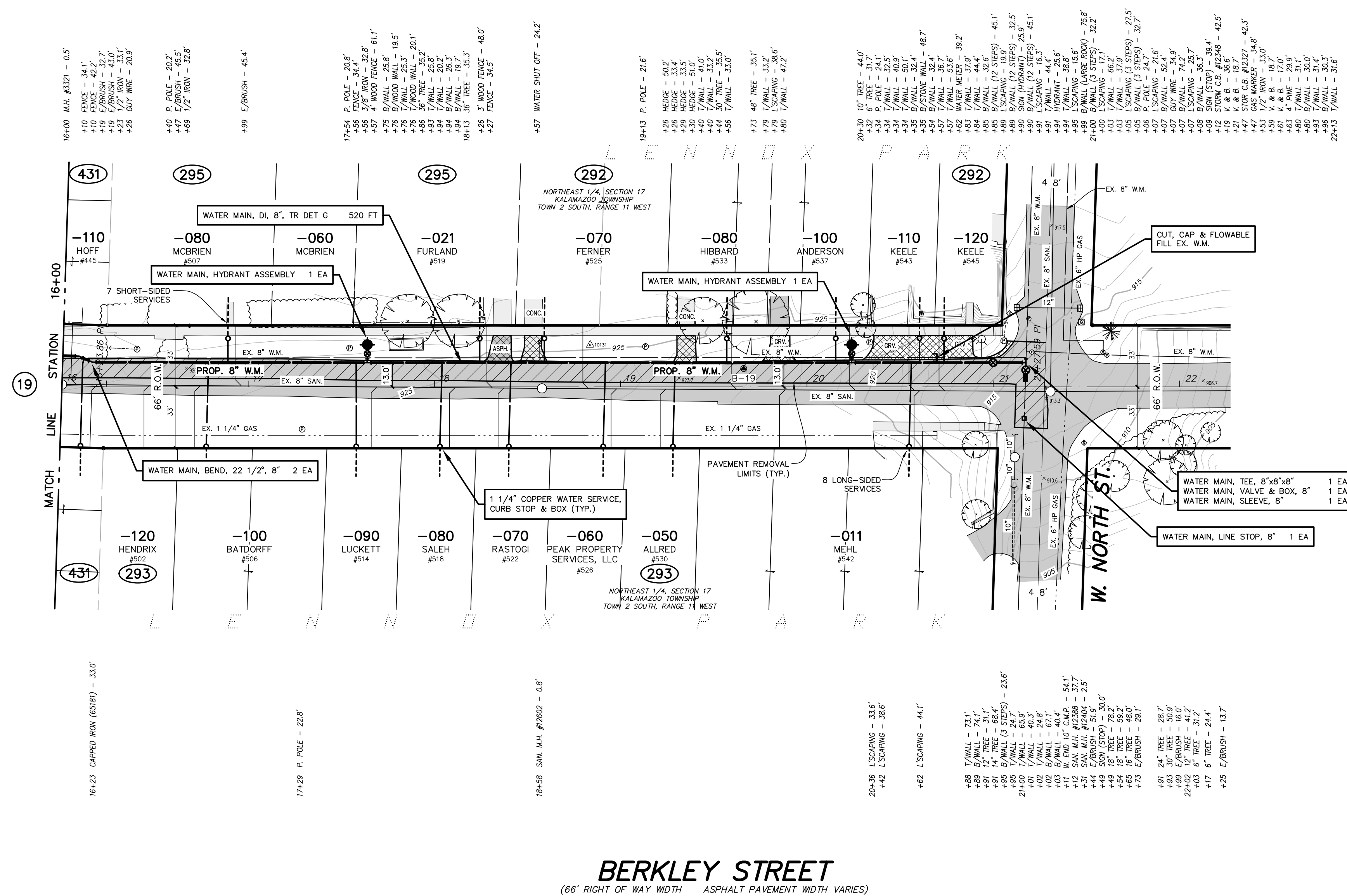
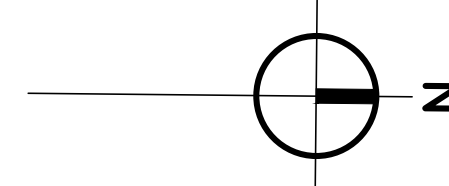
WATER SUPPLY SYSTEM IMPROVEMENTS  
 BERKLEY STREET

PROJECT NO.  
 2220555

SHEET NO.  
 19 OF 34

T:\D\130 PROJECTS\2023\2220555\_CITY OF KALAMAZOO\_DWRP\4-PROJ\2220555\_DWRP\_BERKLEY.DWG - BSTRONG - May, 24, 2023 - 04:36pm - Print/Plot

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
10131	292854.944	12786678.770	925.64



811  
Know what's below.  
Call before you dig.

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NO.	REVISIONS	BY	DATE	DRAWN
1	ISSUED FOR BIDS	B.F.V.	5/28/23	STAFF

DATE: NOV '22  
CHECKED: B.G.V.  
DATE: MAY '23

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CITY OF KALAMAZOO DWRP  
KALAMAZOO COUNTY, MICHIGAN

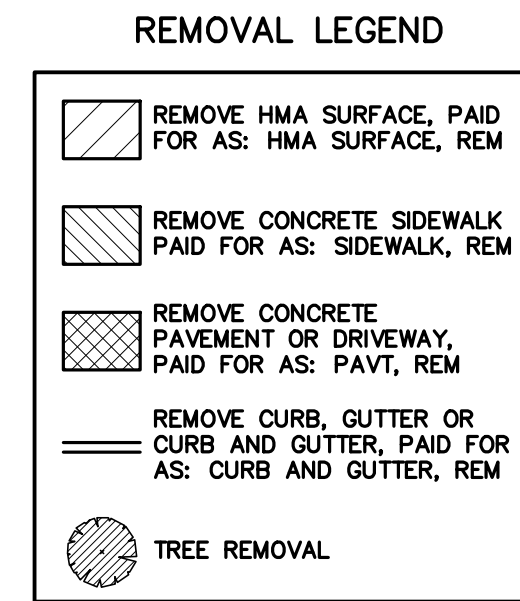
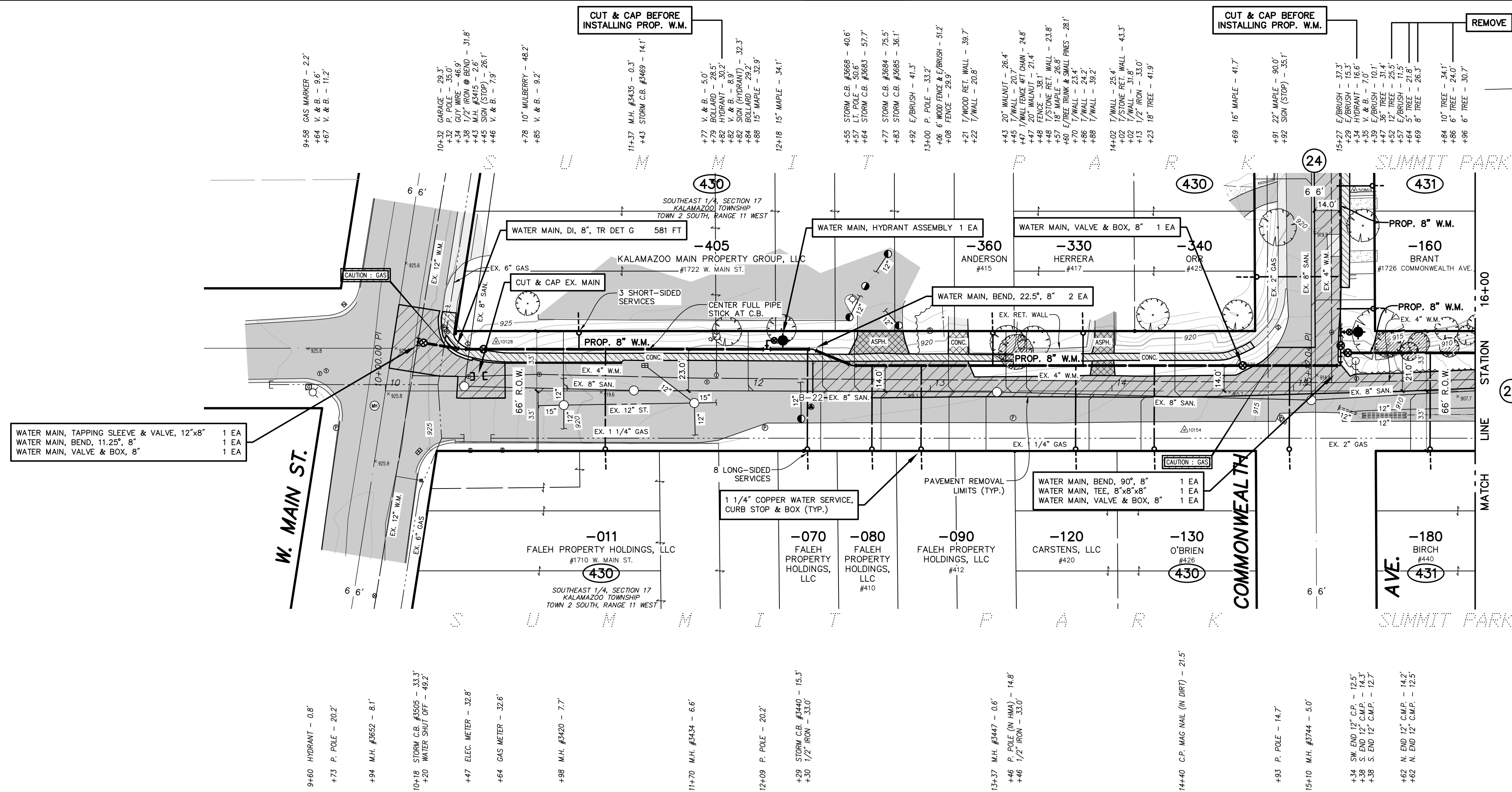
WATER SUPPLY SYSTEM IMPROVEMENTS  
BERKLEY STREET

PROJECT NO. 2220555  
SHEET NO. 20 OF 34

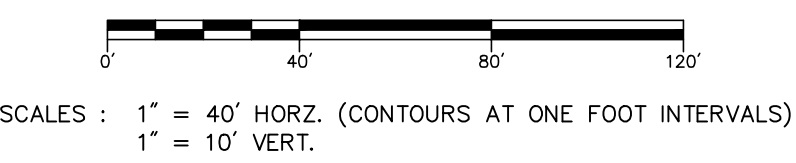
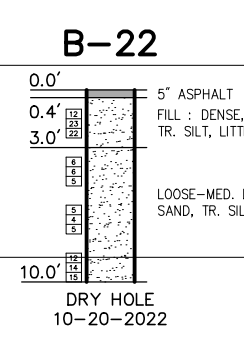
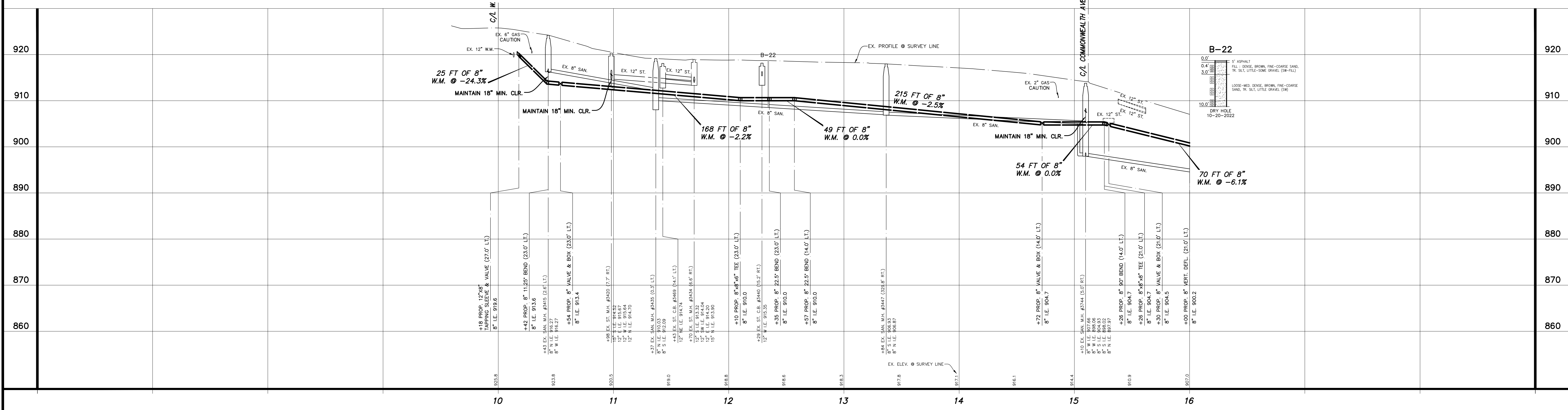
BENCHMARK EL. 925.73  
ARLINGTON STREET & WEST MAIN STREET  
25' ± N & 35' W OF C/L "X", NAIL SET IN  
EAST SIDE OF POWER POLE  
(0.5' A/GROUND)

BENCHMARK EL. 915.73  
ARLINGTON STREET & COMMONWEALTH AVENUE  
20' ± S & 15' E OF C/L "X", NAIL SET IN  
WEST SIDE OF POWER POLE  
(1.3' A/GROUND)

CONTROL POINT TABLE			
POINT NO.	NORTHING	EASTING	ELEVATION
10128	229173.353	1278699.190	924.16
10129	292381.726	1278704.110	916.15
10154	292350.949	12787049.560	916.32
50869	292447.708	12786920.050	920.87



**ARLINGTON STREET**  
(66' RIGHT OF WAY WIDTH ASPHALT PAVEMENT WIDTH VARIES)



NO.	REVISIONS	BY	DATE	DRAWN
1	ISSUED FOR BIDS	B.F.V.	5/28/23	STAFF
				DATE: NOV. '22
				CHECKED: B.G.V.
				DATE: MAY '23

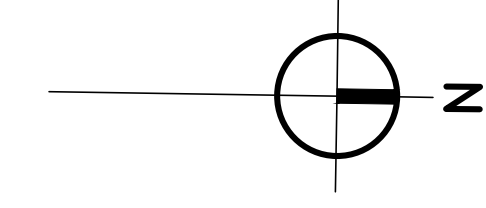
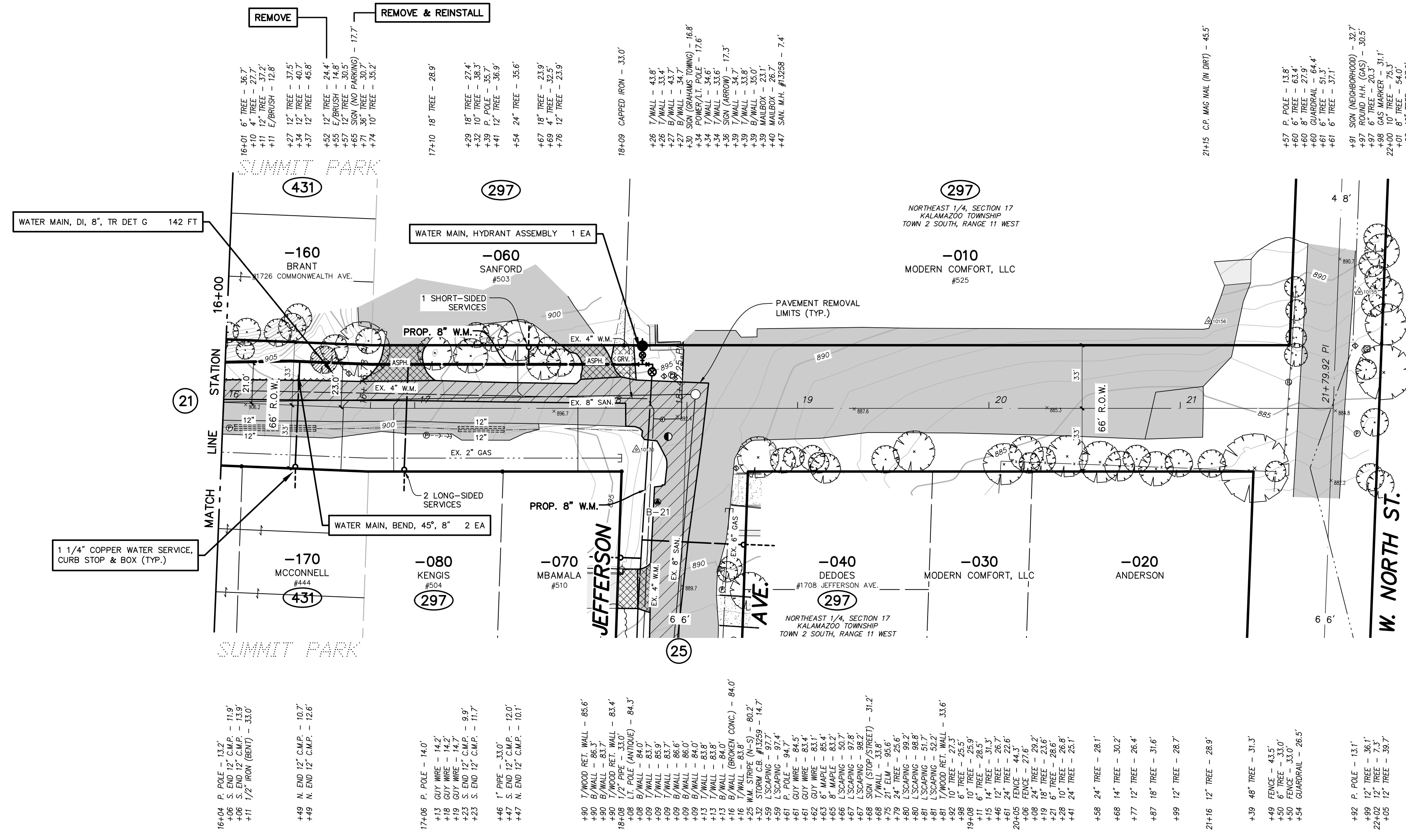
**Prein & Newhof**  
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CITY OF KALAMAZOO DWRP KALAMAZOO COUNTY, MICHIGAN  <b>WATER SUPPLY SYSTEM IMPROVEMENTS</b>  <b>ARLINGTON STREET</b>	PROJECT NO. <b>2220555</b>
	SHEET NO. <b>21 OF 34</b>
	DATE: NOV. '22 CHECKED: B.G.V. DATE: MAY '23

T:\D\10 PROJECTS\2023\2220555\_CITY OF KALAMAZOO.DWG - RSTRONG - Nov. 24, 2023 - 04:56pm - P:\chick\m\dwg

BENCHMARK EL. 895.20  
ARLINGTON STREET & JEFFERSON AVENUE  
10' ± S & 20' W OF C/L "X", NAIL SET IN  
SOUTH SIDE OF POWER POLE  
(1.0' A/GROUND)

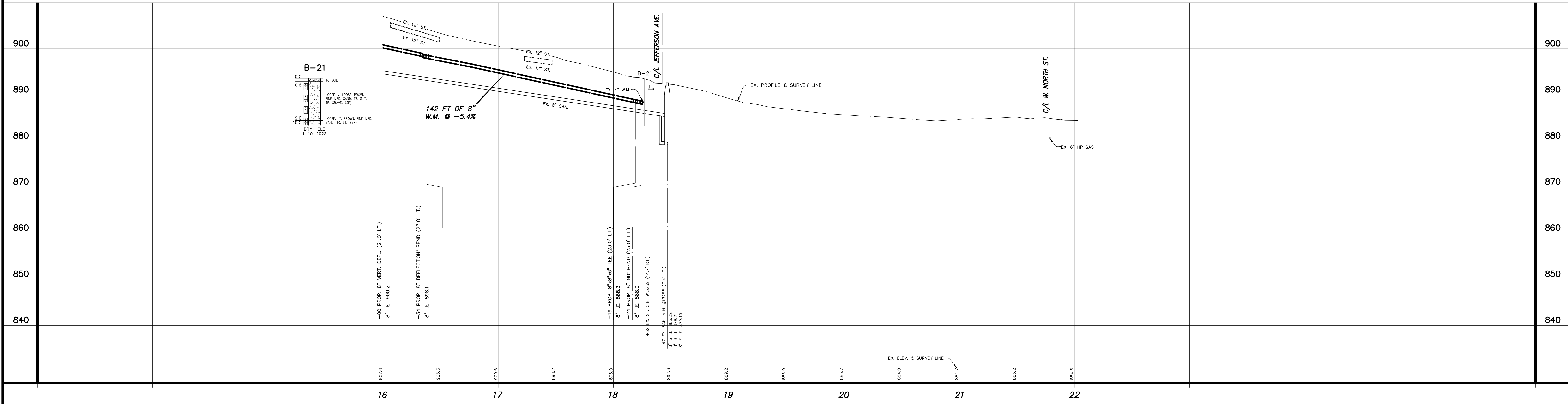
POINT No.	NORTHING	EASTING	ELEVATION
10130	292727.654	12787053.660	883.90
10155	293104.134	12786965.590	888.86
10156	293025.600	12786982.130	888.81



**REMOVAL LEGEND**

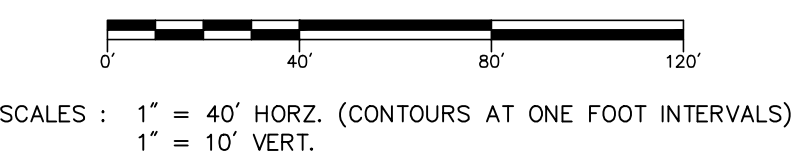
- REMOVE HMA SURFACE, PAID FOR AS: HMA SURFACE, REM
- REMOVE CONCRETE SIDEWALK PAID FOR AS: SIDEWALK, REM
- REMOVE CONCRETE PAVEMENT OR DRIVEWAY, PAID FOR AS: PAVT, REM
- REMOVE CURB, GUTTER OR CURB AND GUTTER, PAID FOR AS: CURB AND GUTTER, REM
- TREE REMOVAL

**ARLINGTON STREET**  
(66' RIGHT OF WAY WIDTH ASPHALT PAVEMENT WIDTH VARIES)



T:\D\100 PROJECTS\2023\2220555\_P1P\_ARLINGTON.DWG - RSTRUC - Feb. 06 2024 - 06:58am - Prein&Newhof

**811**  
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Call before you dig.



NO.	REVISIONS	BY	DATE	DRAWN
1	ISSUED FOR BIDS	B.G.V.	5/28/23	STAFF
				NOV. '22
				CHECKED: B.G.V.
				DATE: MAY '23

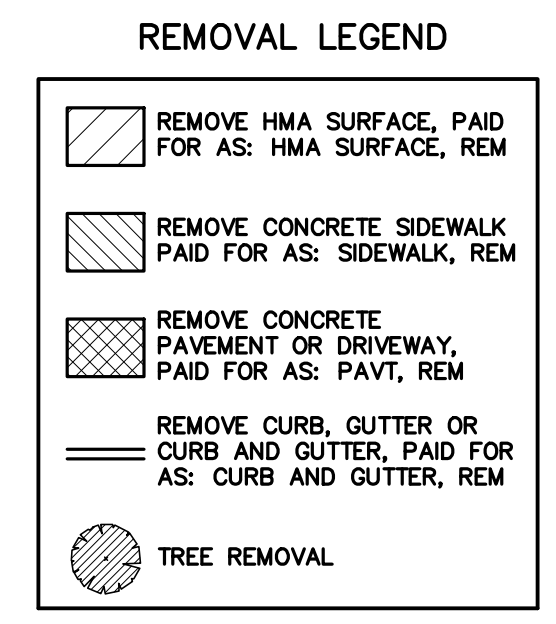
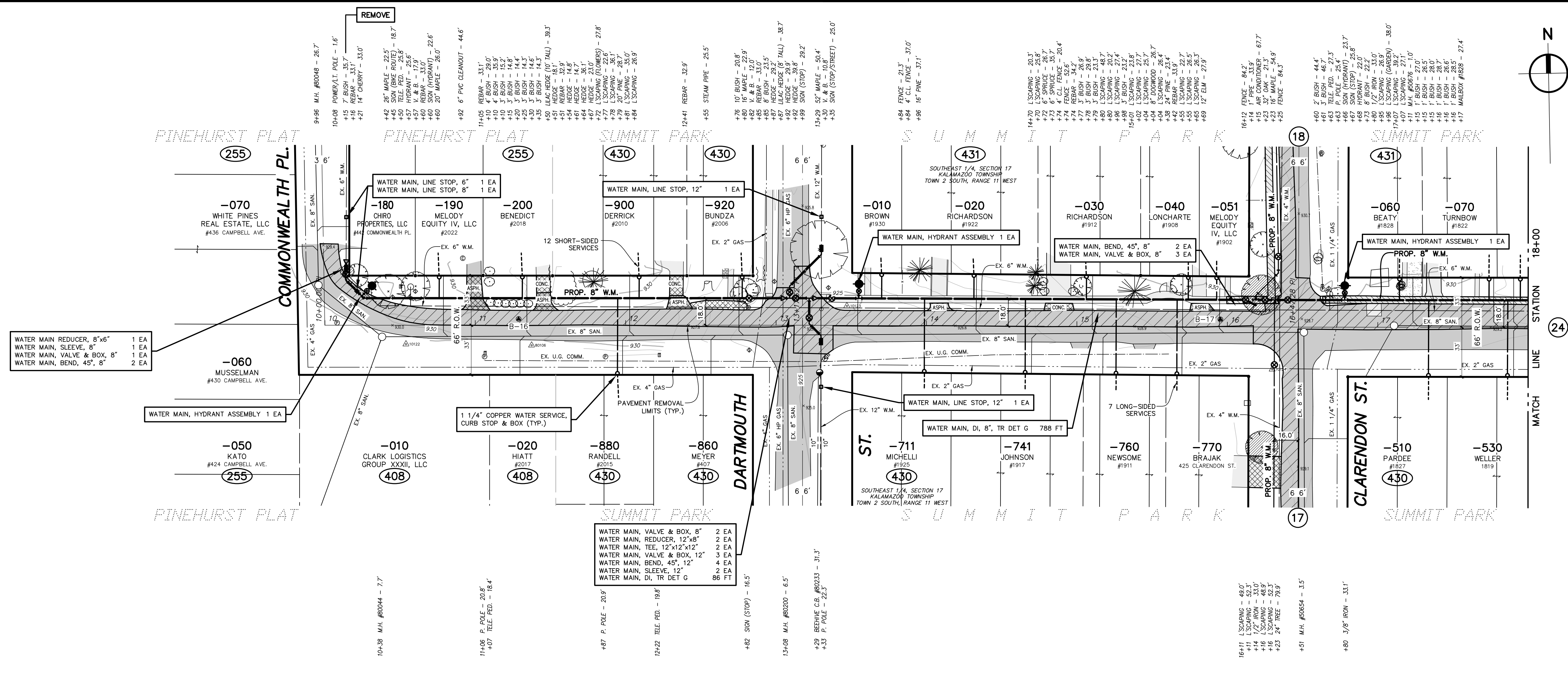
**Prein & Newhof**  
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CITY OF KALAMAZOO DWRP  
KALAMAZOO COUNTY, MICHIGAN  
WATER SUPPLY SYSTEM IMPROVEMENTS  
ARLINGTON STREET

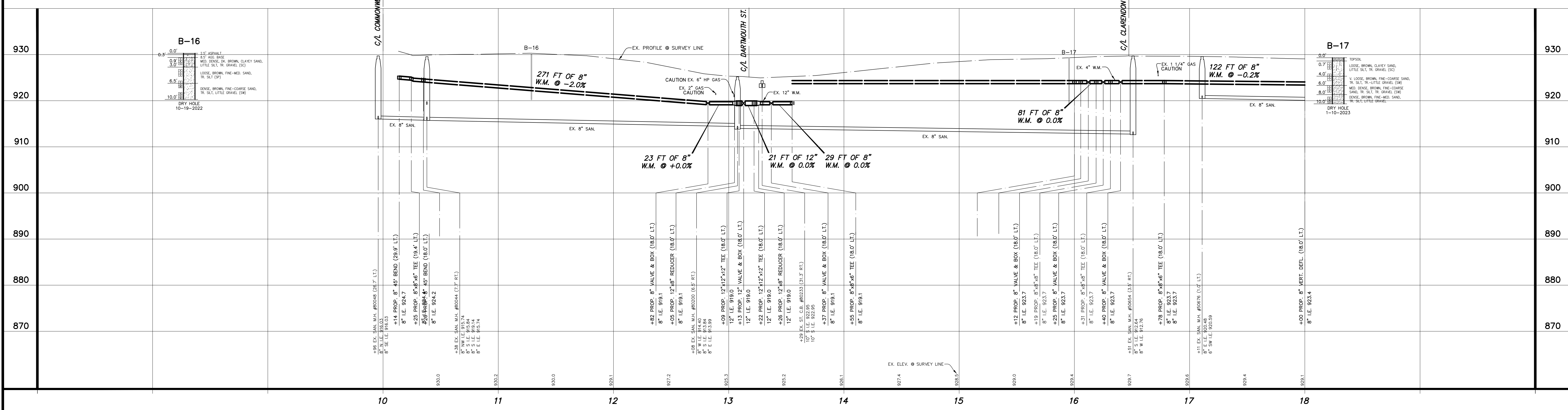
PROJECT NO.  
**2220555**  
SHEET NO.  
**22 OF 34**

BENCHMARK  
COMMONWEALTH AVENUE & DARTMOUTH STREET  
20' ± S & 15' E OF C/L "X", RR SPIKE  
SET IN NORTH SIDE OF POWER POLE W/LIGHT  
(0.9' A/GROUND)

POINT No.	NORTHING	EASTING	ELEVATION
10122	292437.118	12785776.655	930.54
10123	292456.858	12786070.220	925.20
10124	292459.295	12786352.120	929.72
80108	292434.721	12785860.770	930.56



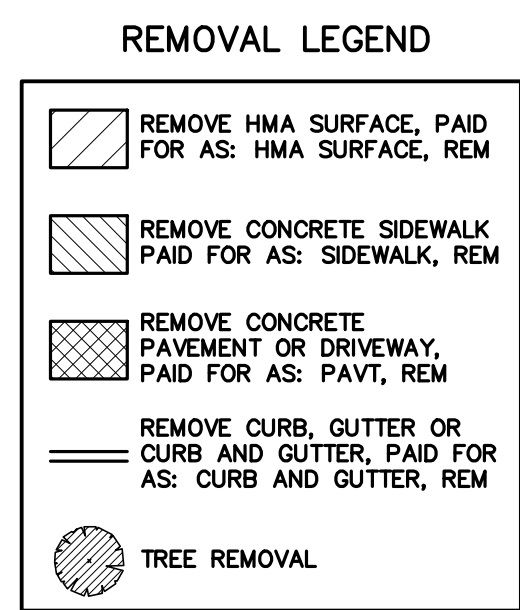
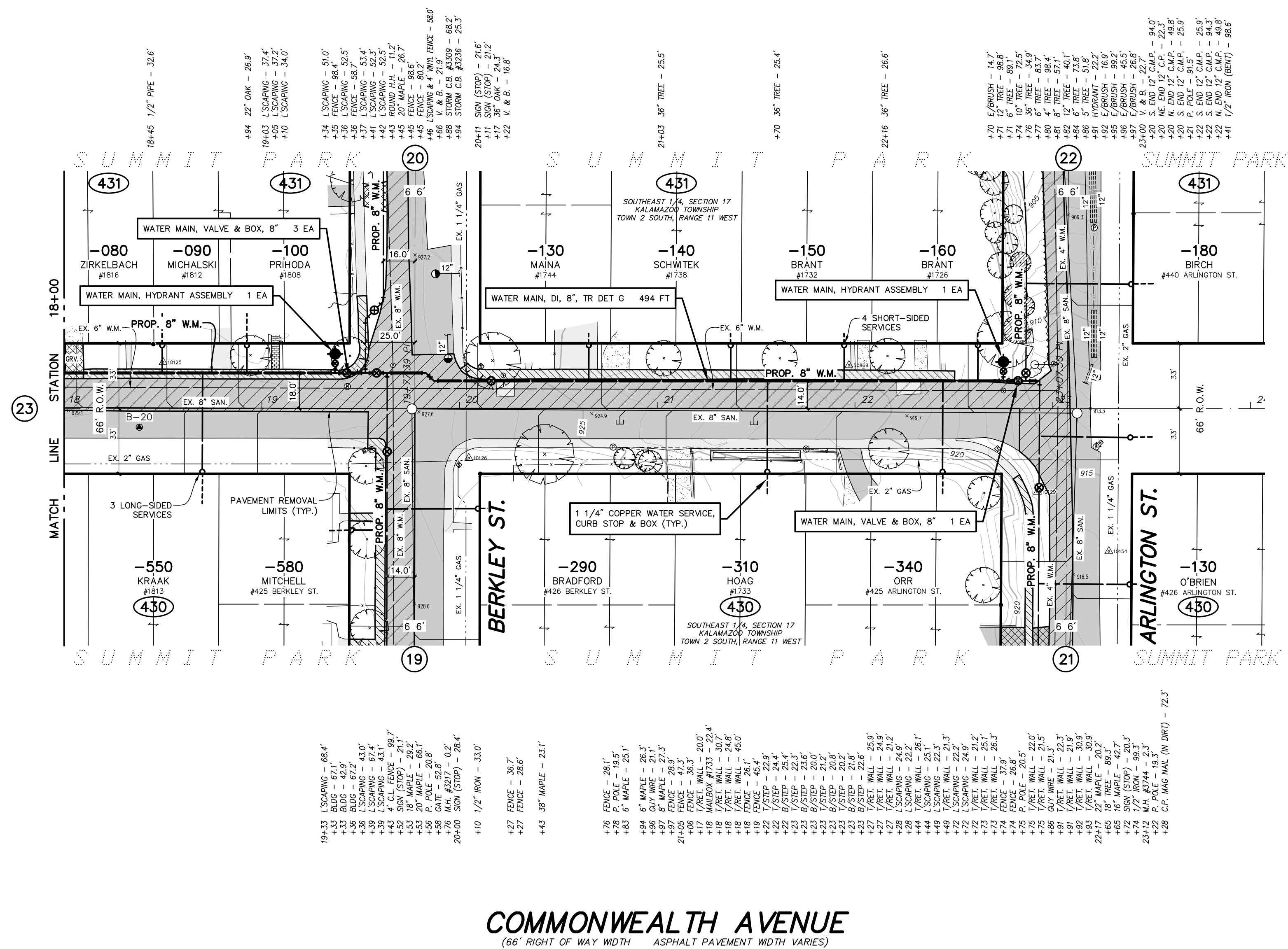
**COMMONWEALTH AVENUE**  
(66' RIGHT OF WAY WIDTH ASPHALT PAVEMENT WIDTH VARIES)



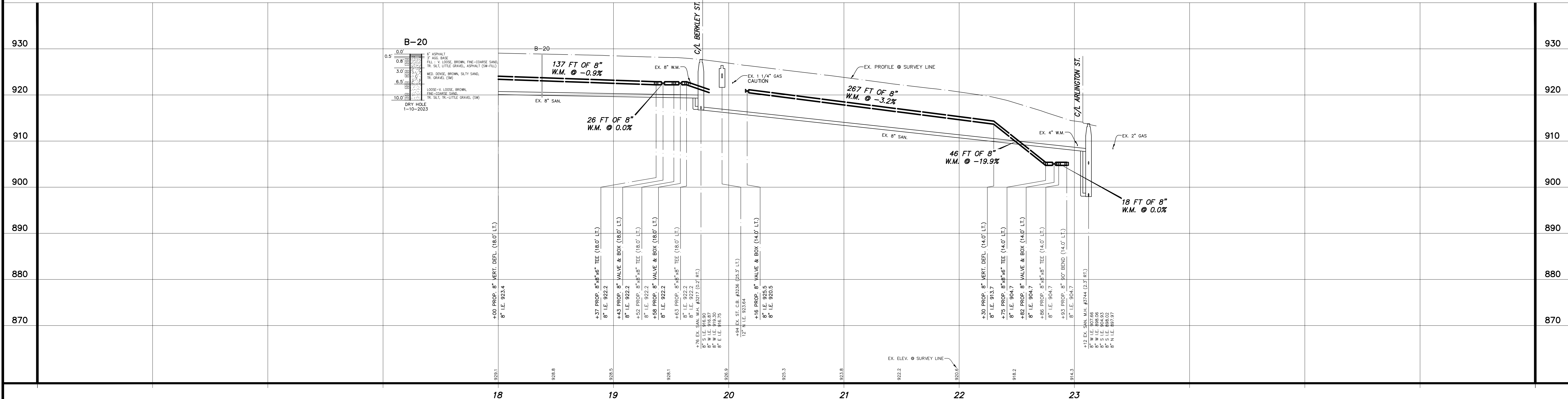
<p>UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETTED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.</p>	<p>NO. 1</p> <p>REVISIONS</p> <p>ISSUED FOR BIDS</p>	<p>BY B.G.V.</p> <p>DATE 5/28/23</p>	<p>DRAWN STAFF</p> <p>DATE NOV. '22</p> <p>CHECKED B.G.V.</p> <p>DATE MAY '23</p>	<p>CITY OF KALAMAZOO DWRP</p> <p>KALAMAZOO COUNTY, MICHIGAN</p> <p>WATER SUPPLY SYSTEM IMPROVEMENTS</p> <p>COMMONWEALTH AVENUE</p>	<p>PROJECT NO. 2220555</p> <p>SHEET NO. 23 OF 34</p>

BENCHMARK EL. 915.73  
 COMMONWEALTH AVENUE & ARLINGTON STREET  
 20' ± S & 15' E OF C/L "X", NAIL SET IN  
 WEST SIDE OF POWER POLE  
 (1.3' A/GROUND)

POINT No.	NORTHING	EASTING	ELEVATION
10125	292456.283	12786573.350	928.54
10126	292404.688	12786726.890	927.54
10129	292381.726	12787014.110	916.15
10134	292330.949	12787046.960	916.32
50869	292447.708	12786920.050	920.87



**COMMONWEALTH AVENUE**  
 (66' RIGHT OF WAY WIDTH ASPHALT PAVEMENT WIDTH VARIES)



**811**  
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NO.	REVISIONS	BY	DATE	DRAWN
1	ISSUED FOR BIDS	B.G.V.	5/28/23	STAFF

**Prein & Newhof**  
 Engineers • Surveyors • Environmental • Laboratory

CITY OF KALAMAZOO DWRP  
 KALAMAZOO COUNTY, MICHIGAN

WATER SUPPLY SYSTEM IMPROVEMENTS  
 COMMONWEALTH AVENUE

PROJECT NO.  
**2220555**

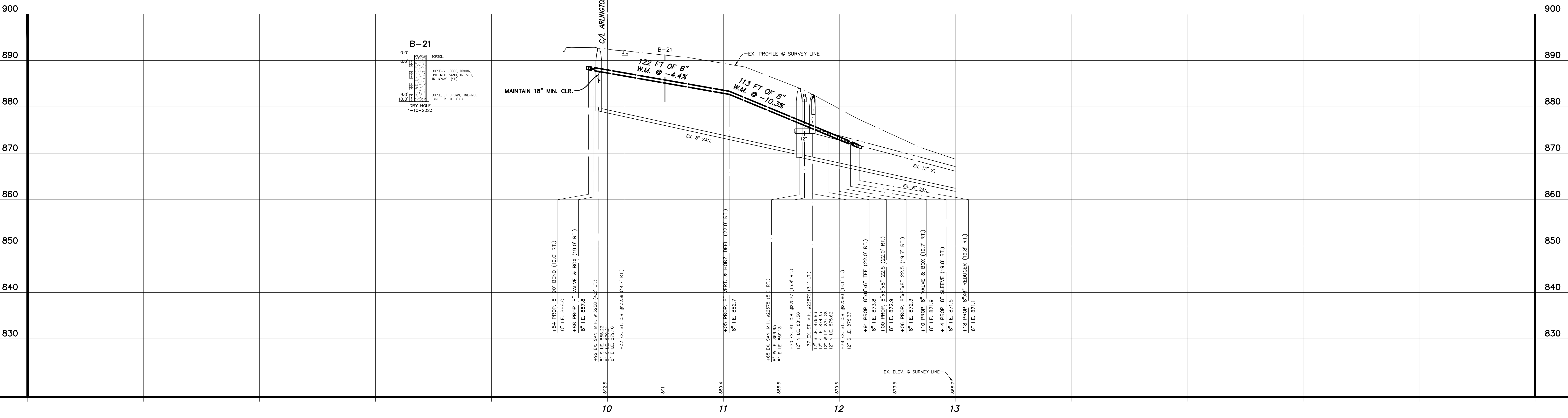
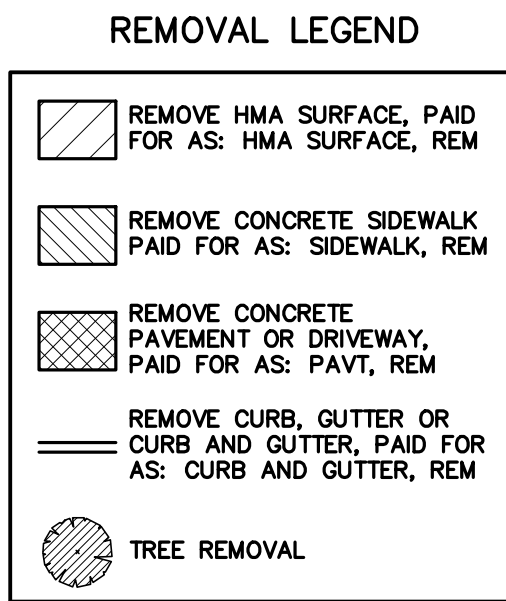
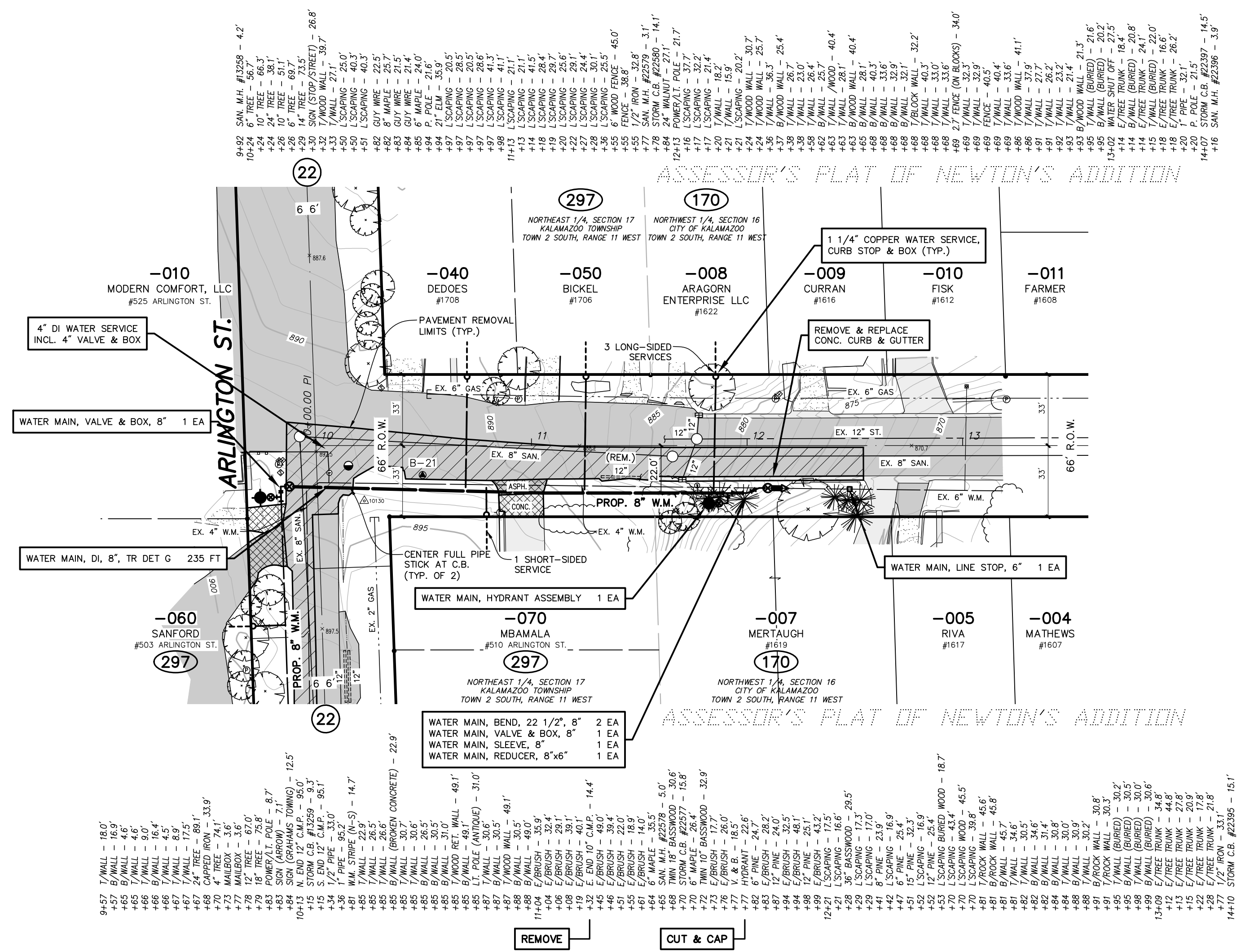
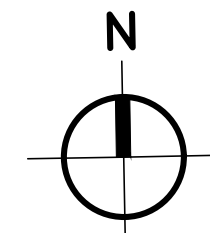
SHEET NO.  
**24 OF 34**



BENCHMARK EL. 895.20  
JEFFERSON AVENUE & ARLINGTON STREET  
10' ± S & 20' W OF C/L "X", NAIL SET IN  
SOUTH SIDE OF POWER POLE  
(1.0' A/GROUND)

BENCHMARK EL. 880.27  
JEFFERSON AVENUE & ARLINGTON STREET  
20' ± N & 215' E OF C/L "X", NAIL SET IN  
SOUTH SIDE OF POWER POLE  
(1.0' A/GROUND)

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
10130	292727.634	12787053.860	893.90



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1	ISSUED FOR BIDS	B.F.V.	5/28/23	STAFF
				DATE: NOV. '22
				CHECKED: B.G.V.
				DATE: MAY '23

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CITY OF KALAMAZOO DWRP  
KALAMAZOO COUNTY, MICHIGAN  
WATER SUPPLY SYSTEM IMPROVEMENTS  
JEFFERSON STREET

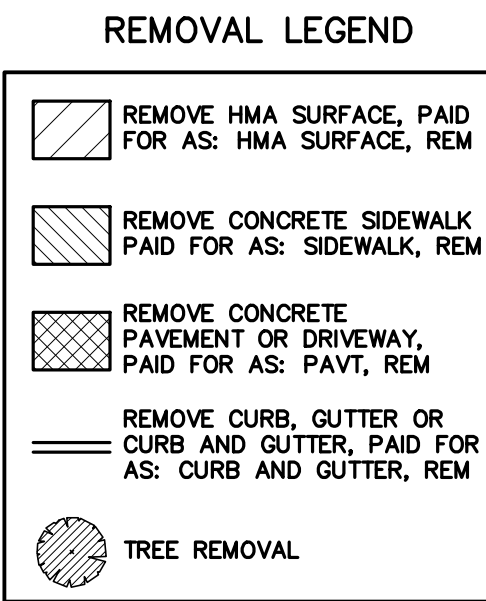
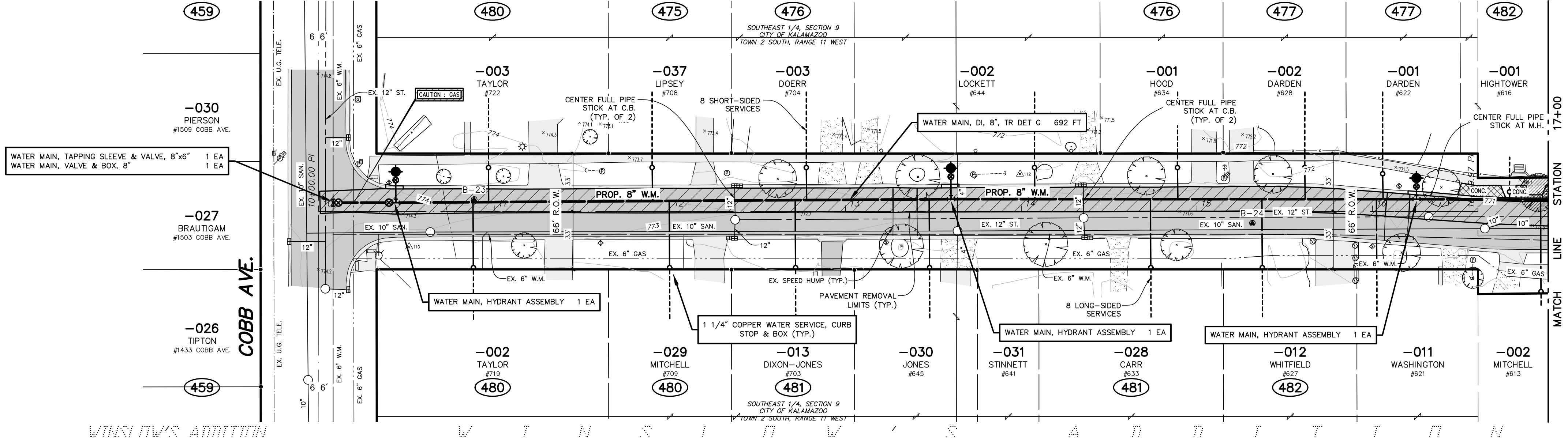
PROJECT NO.  
2220555  
SHEET NO.  
25 OF 34

BENCHMARK EL. 775.91  
LULU STREET & COBB AVENUE  
30' ± N & 20' ± W OF C/L "X", RR SPIKE  
SET IN NE SIDE OF POWER POLE  
(1.1' A/GROUND)

BENCHMARK EL. 772.56  
LULU STREET & COBB AVENUE  
20' ± N & 515' ± E OF C/L "X", RR SPIKE  
SET IN S SIDE OF POWER POLE  
(1.1' A/GROUND)

WINSLOW'S ADDITION

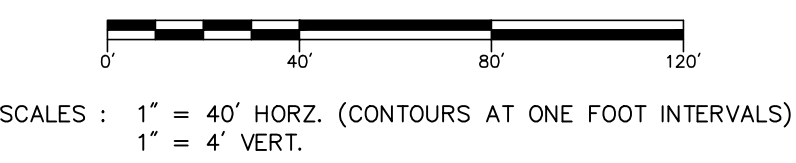
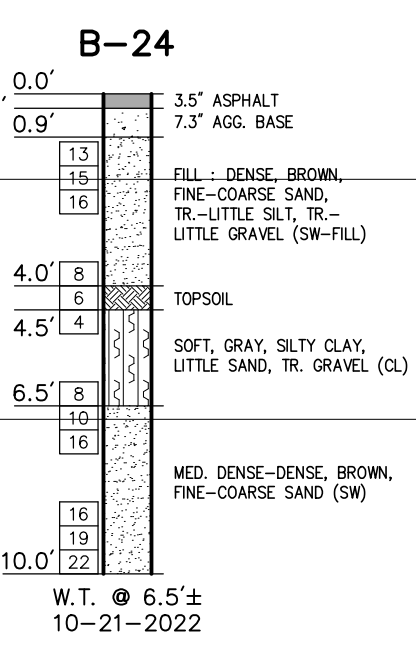
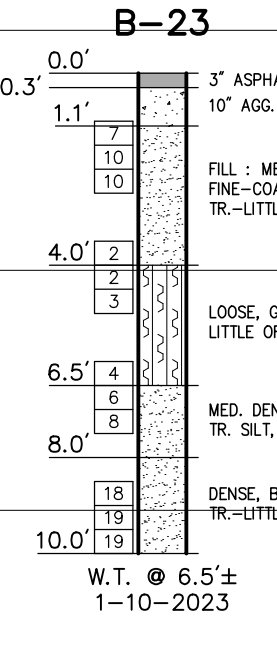
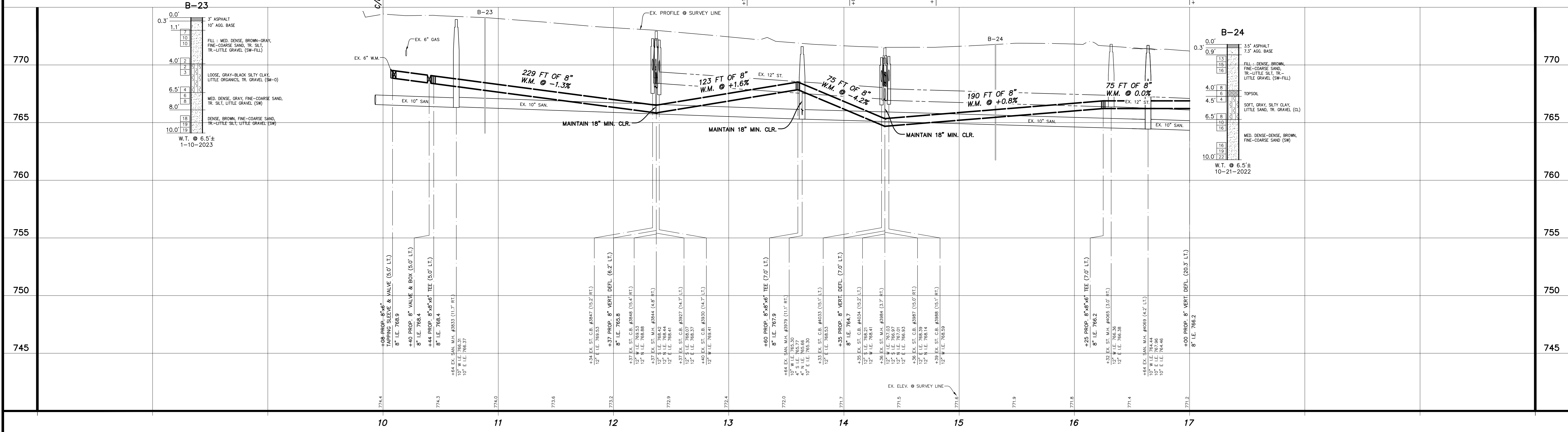
WINSLOW'S ADDITION



NOTE: VERTICAL SCALE ON THIS SHEET IS 1" = 4'

NOTE: VERTICAL SCALE ON THIS SHEET IS 1" = 4'

LULU STREET  
(66' RIGHT OF WAY WIDTH ASPHALT PAVEMENT 27' ± WIDE w/C&G)



NO.	REVISIONS	BY	DATE	DRAWN
1	ISSUED FOR BIDS	B.F.V.	5/28/23	STAFF
				DATE: NOV. '22
				CHECKED: B.G.V.
				DATE: MAY '23

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CITY OF KALAMAZOO DWRP  
KALAMAZOO COUNTY, MICHIGAN  
PROJECT NO. 2220555  
SHEET NO. 26 OF 34  
WATER SUPPLY SYSTEM IMPROVEMENTS  
LULU STREET

I:\QA\30 PROJECTS\2023\2220555\_CITY OF KALAMAZOO\_DWRP\4-PROJ\2220555\_PDR\_BUILDING - RSTRONG - May, 24, 2023 - 04:42pm - Prein\Bldg.dwg

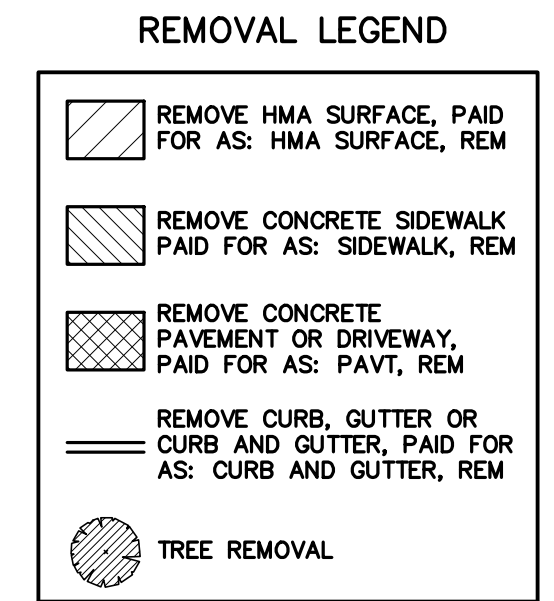
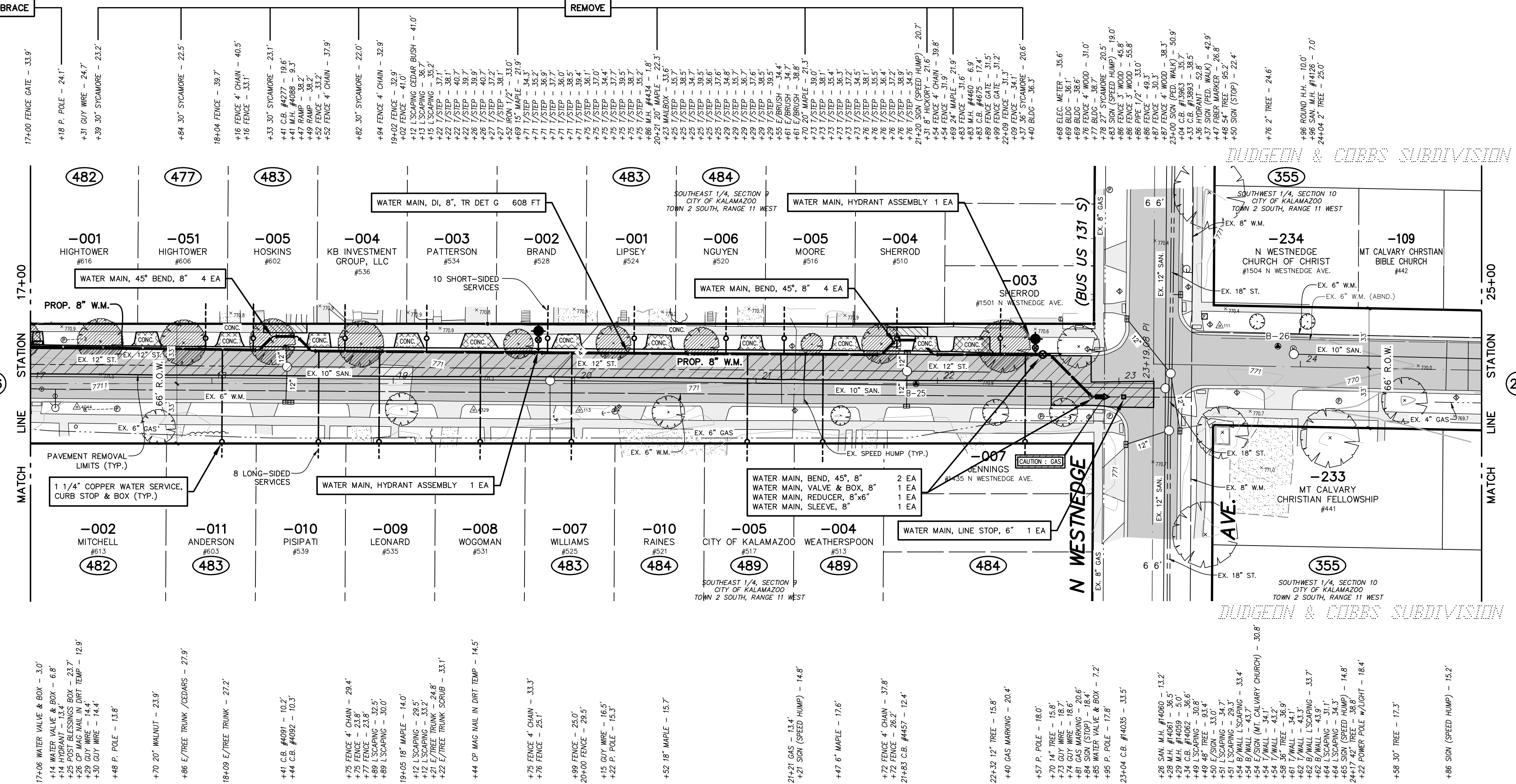
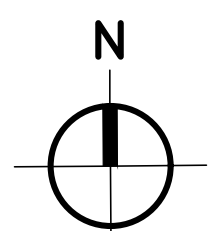
**811**  
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BENCHMARK EL. 772.44  
LULU STREET & N WESTEDGE AVENUE  
15' ± S & 295' ± W OF C/L 'X', RR SPIKE  
SET IN N SIDE OF POWER POLE  
(1.1' A/GROUND)

POINT No.	NORTHING	EASTING	ELEVATION
4044	29608.318	12791860.810	770.82
4329	296095.213	12792079.550	771.04

SHORE & BRACE

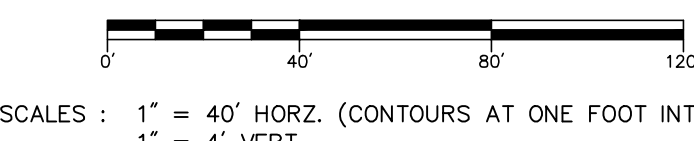
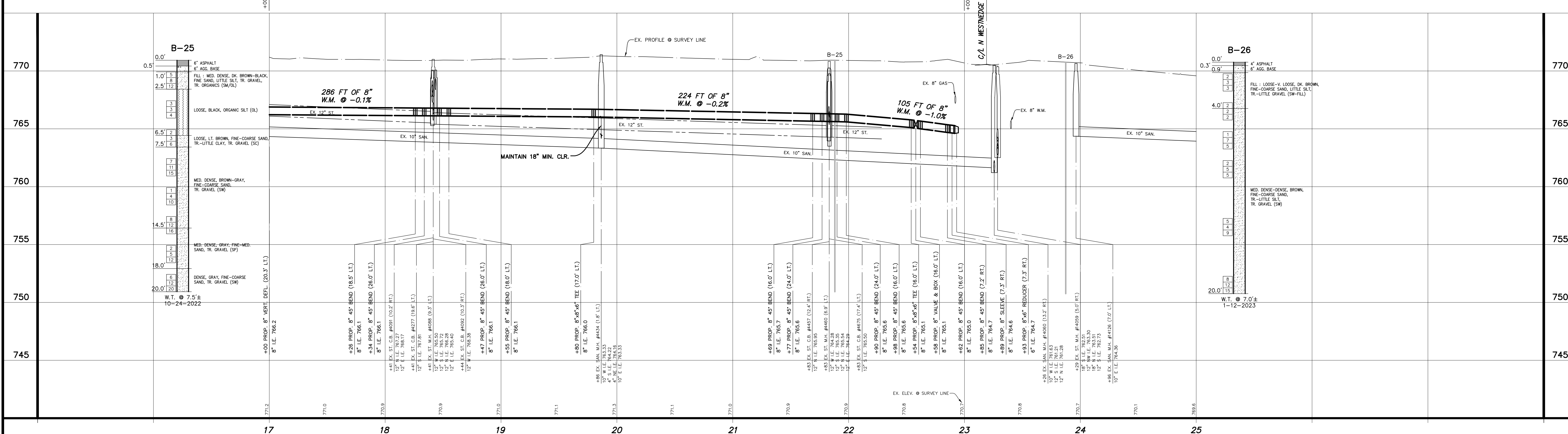
REMOVE



**LULU STREET**  
(66' RIGHT OF WAY WIDTH ASPHALT PAVEMENT 27'± WIDE w/C&G)

NOTE: VERTICAL SCALE ON THIS SHEET IS 1" = 4'

NOTE: VERTICAL SCALE ON THIS SHEET IS 1" = 4'



NO.	REVISIONS	BY	DATE	DRAWN
1	ISSUED FOR BIDS	B.F.V.	5/28/23	STAFF
				DATE: NOV '22
				CHECKED: B.G.V.
				DATE: MAY '23



CITY OF KALAMAZOO DWRP KALAMAZOO COUNTY, MICHIGAN	PROJECT NO. 2220555
WATER SUPPLY SYSTEM IMPROVEMENTS	SHEET NO. 27 OF 34
LULU STREET	

I:\DWM\PROJECTS\2023\2220555\_CITY OF KALAMAZOO\_DWRP\4-PROJ\2220555\_PRRP\_DRAWING - RSTRONG - May, 24, 2023 - 04:42pm - Prein&Newhof.dwg

BENCHMARK EL. 769.63  
LULU STREET & N PRINCETON AVENUE  
20' ± S & 20' ± E OF C/L "X", NAIL SET  
IN N.W. SIDE OF POWER POLE  
(1.1' A/GROUND)

BENCHMARK EL. 768.34  
LULU STREET & N PARK STREET  
30' ± S & 20' ± E OF C/L "X", RR SPIKE  
SET IN NW SIDE OF POWER POLE  
(1.0' A/GROUND)

BENCHMARK EL. 767.82  
LULU STREET & N CHURCH STREET  
20' ± S & 20' ± E OF C/L "X", RR SPIKE  
SET IN NW SIDE OF POWER POLE  
(1.0' A/GROUND)

CONTROL POINT TABLE  
POINT No. NORTHING EASTING ELEVATION  
10172 298120.861 12783392.880 767.20

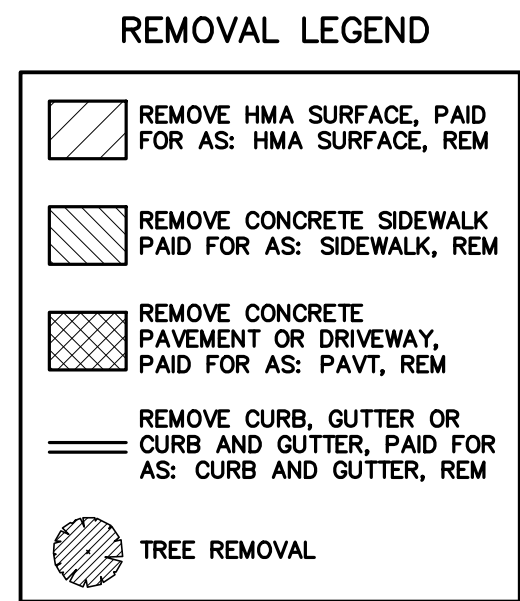
WATER MAIN, 8" x 8" TEE 1 EA  
WATER MAIN, BEND, 45°, 8" 5 EA  
WATER MAIN, VALVE & BOX, 8" 1 EA  
WATER MAIN, SLEEVE, 8" 1 EA  
WATER MAIN, REDUCER, 8" x 6" 1 EA  
WATER MAIN, DI, 8", TR DET G 34 LF

WATER MAIN, LINE STOP, 6" 1 EA

WATER MAIN, REDUCER, 8" x 6" 1 EA  
WATER MAIN, SLEEVE, 8" 1 EA  
WATER MAIN, VALVE & BOX, 8" 1 EA  
WATER MAIN, DI, 8", TR DET G 50 LF

WATER MAIN, LINE STOP, 6" 1 EA

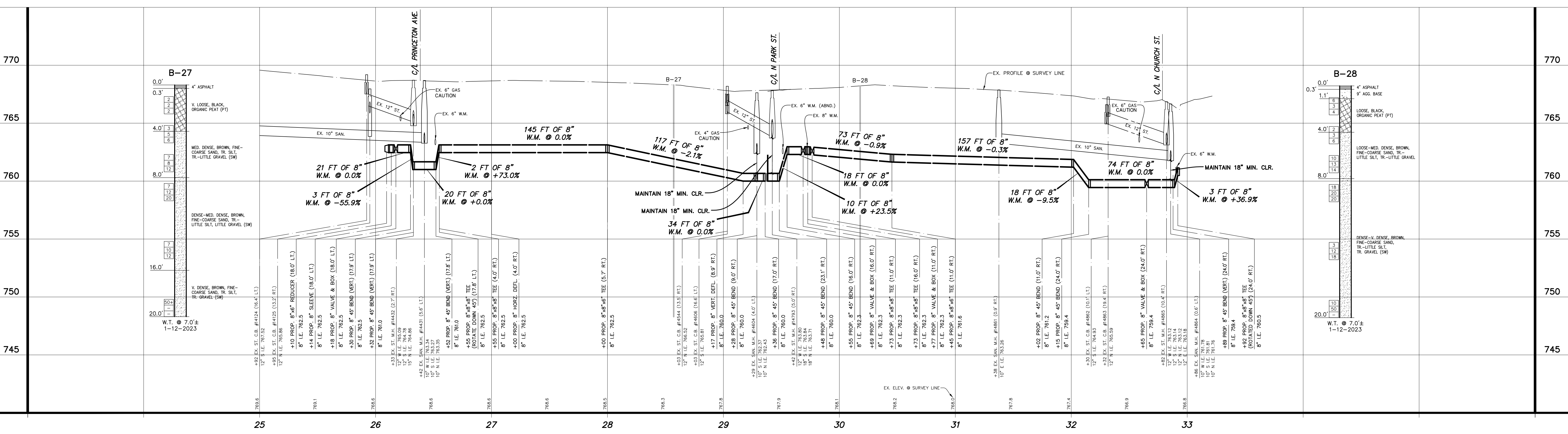
WATER MAIN, VALVE & BOX, 8" 3 EA  
WATER MAIN, BEND, 45°, 8" 1 EA  
WATER MAIN, REDUCER, 8" x 6" 2 EA  
WATER MAIN, SLEEVE, 8" 1 EA  
WATER MAIN, DI, 8", TR DET G 30 LF



NOTE: VERTICAL SCALE ON THIS SHEET IS 1" = 4"

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LULU STREET  
(66' RIGHT OF WAY WIDTH ASPHALT PAVEMENT WIDTH VARIES)



NO.	REVISIONS	BY	DATE	DRAWN
1	ISSUED FOR BIDS	B.F.V.	5/28/23	STAFF

DATE: NOV. '22  
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DATE: MAY '23

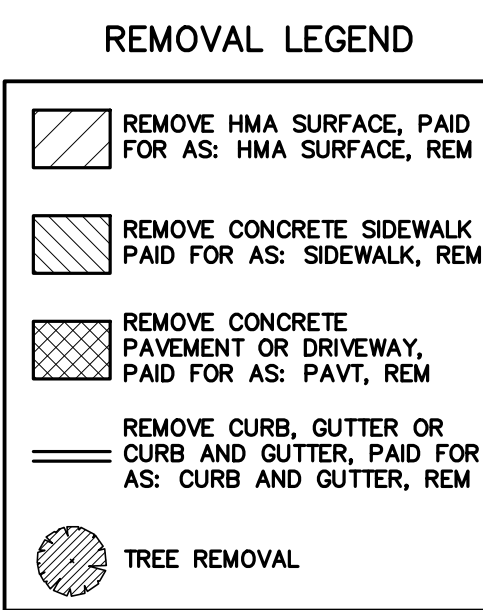
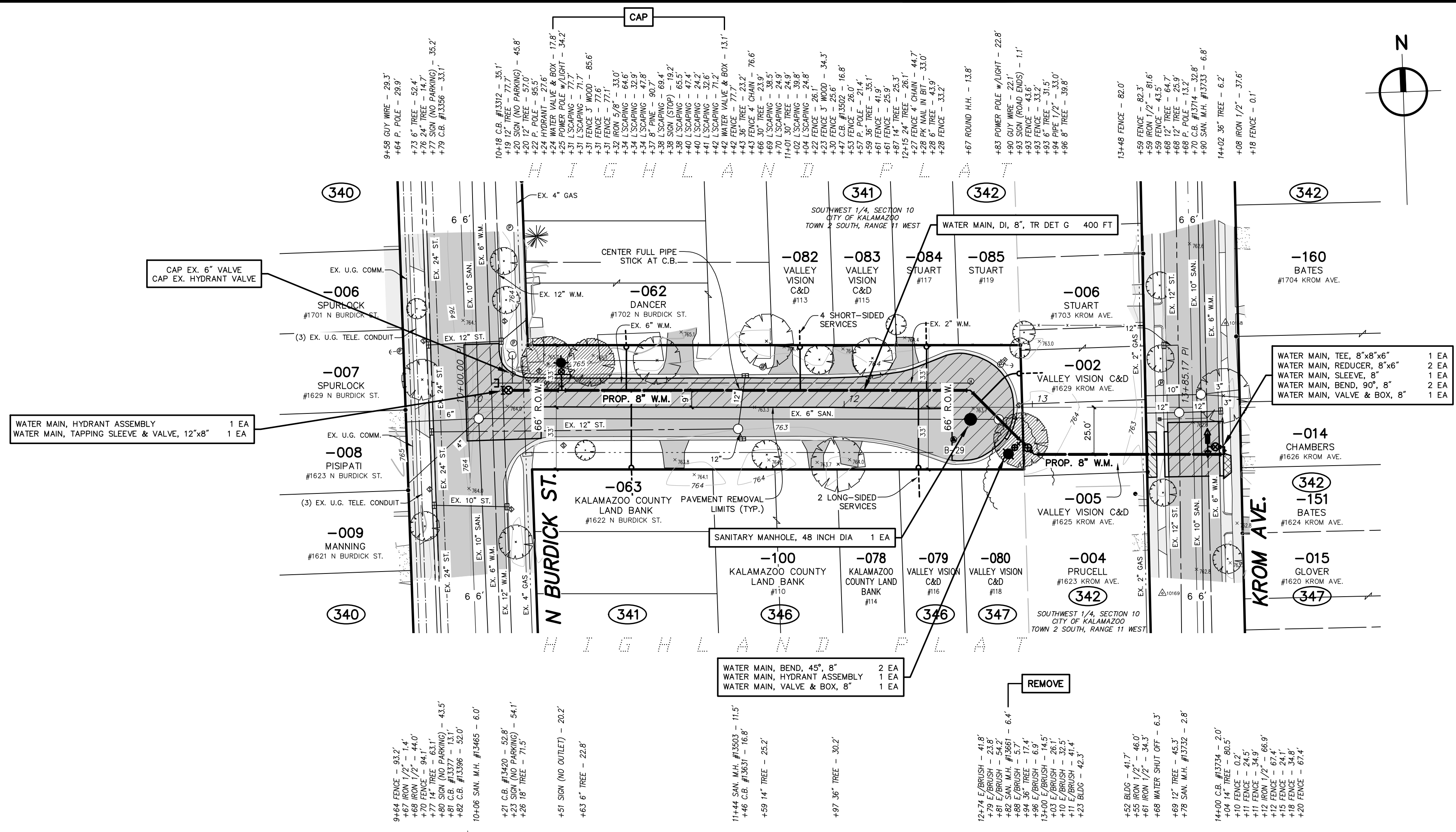
PROJECT NO. 2220555  
SHEET NO. 28 OF 34

CITY OF KALAMAZOO DWRP  
KALAMAZOO COUNTY, MICHIGAN  
WATER SUPPLY SYSTEM IMPROVEMENTS  
LULU STREET

Prein & Newhof  
Engineers-Surveyors-Environmental-Laboratory

BENCHMARK EL. 765.40  
 MARTIN STREET & KROM STREET  
 20' ± N & 100' ± W OF C/L "X", NAIL SET  
 IN S SIDE OF POWER POLE  
 (1.3' A/GROUND)

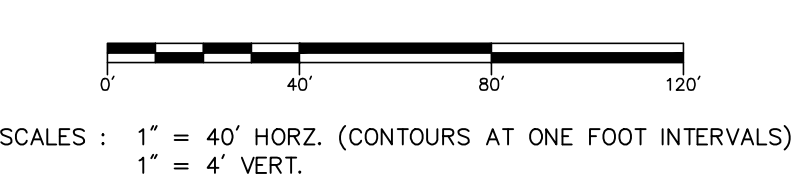
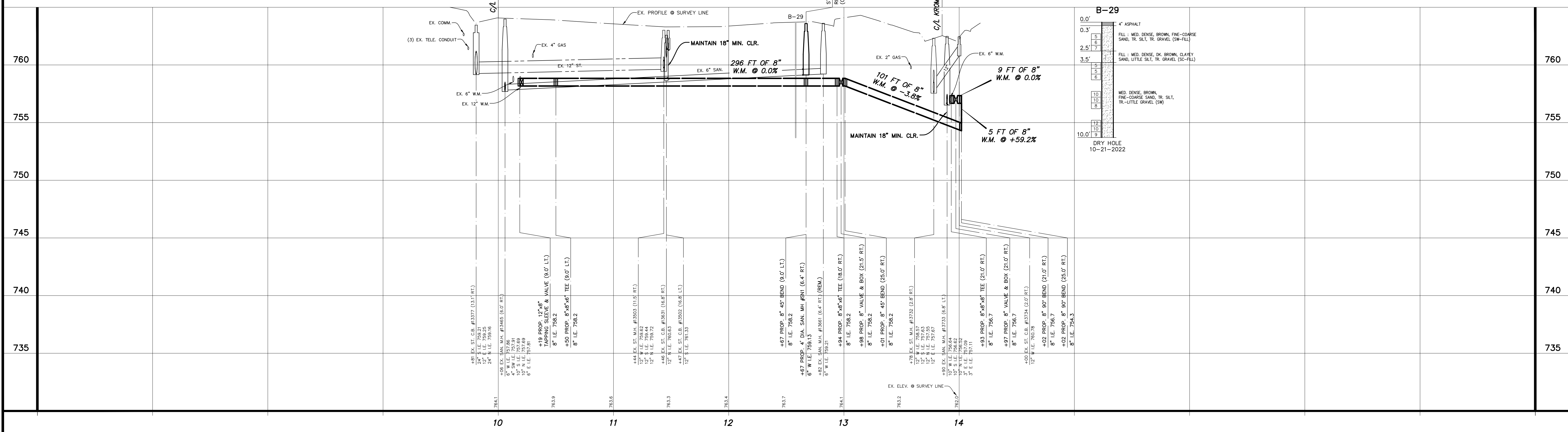
POINT No.	NORTHING	EASTING	ELEVATION
10168	29685.019	12794572.700	762.76
10169	296752.781	12794534.380	762.85



NOTE: VERTICAL SCALE ON THIS SHEET IS 1" = 4'

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**MARTIN STREET**  
 (66' RIGHT OF WAY WIDTH ASPHALT PAVEMENT WIDTH 31' ± w/C&G)



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**Prein & Newhof**  
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DATE: NOV '22  
 CHECKED: B.G.V.  
 DATE: MAY '23

CITY OF KALAMAZOO DWRP  
 KALAMAZOO COUNTY, MICHIGAN

WATER SUPPLY SYSTEM IMPROVEMENTS  
 MARTIN STREET

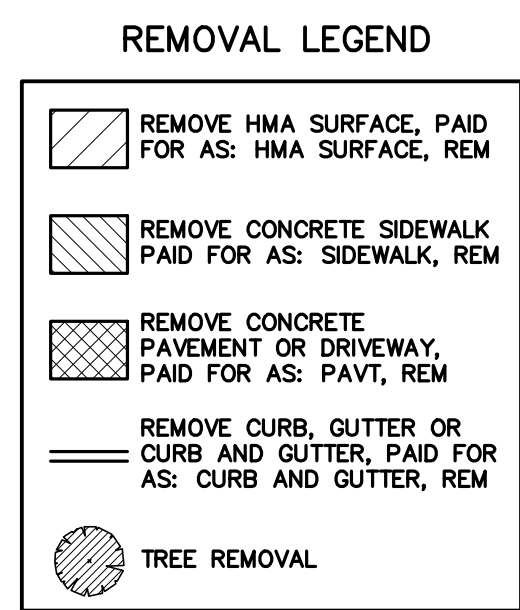
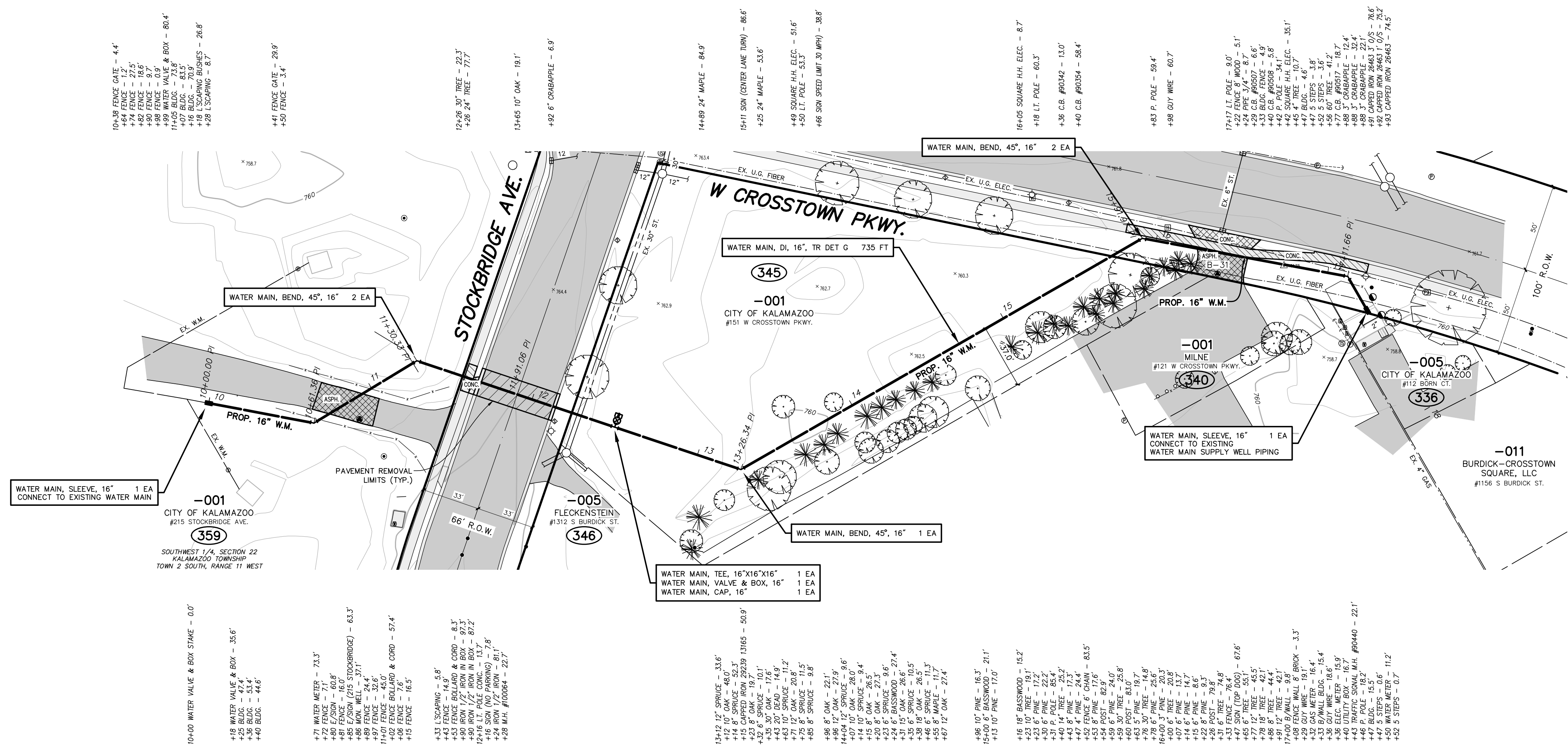
PROJECT NO.  
2220555

SHEET NO.  
29 OF 34

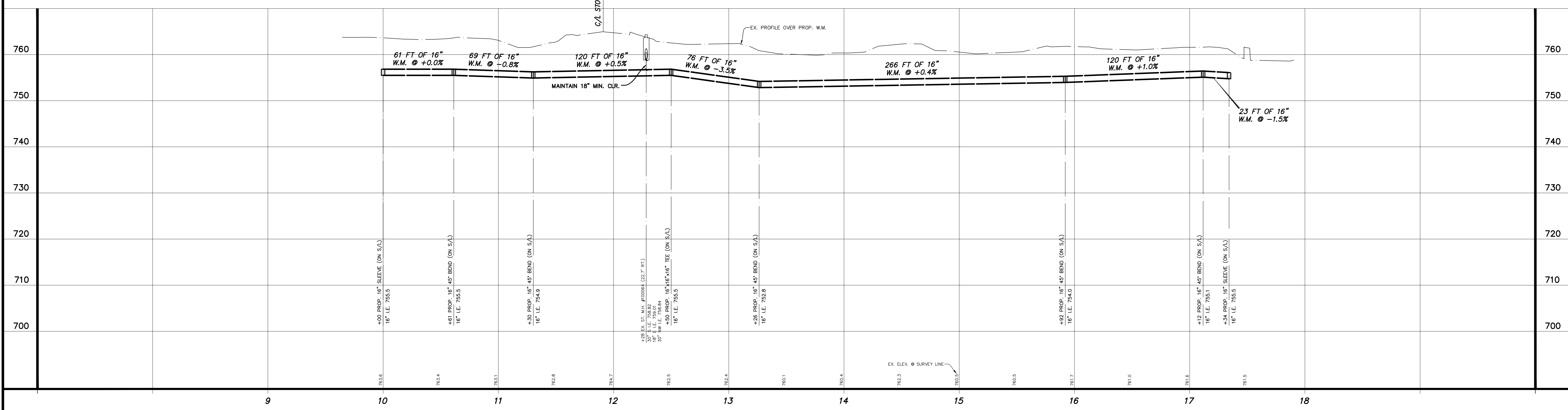
T:\DVA\30 PROJECTS\2023\2220555\_CITY OF KALAMAZOO\_DWRP\MARTIN.DWG - RSTENIC - May, 24, 2023 - 04:53pm - Prein&Newhof

BENCHMARK EL. 764.56  
 W. CROSSTOWN PARKWAY & STOCKBRIDGE AVENUE  
 50' ± S & 35' ± E OF C/L "X", TOP OF  
 NORTH BOLT TO STRAIN POLE  
 (0.7" A/GROUND)

CONTROL POINT TABLE		
POINT No.	NORTHING	EASTING ELEVATION
10173	286148.757	12793700.600 763.54
10175	286359.318	12793983.570 761.24



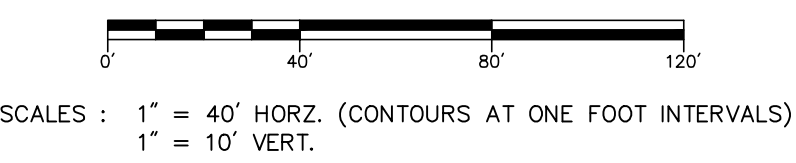
CROSS COUNTRY



T:\QVA\PROJECTS\2023\2220555\_CITY OF KALAMAZOO\DWG\4\_PWD\2220555\_PWP\_CROSSTOWN.DWG - ISTENG - May, 24 2023 - 08:45pm - Pwd\mawc\

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DATE: NOV. '22  
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 KALAMAZOO COUNTY, MICHIGAN

WATER SUPPLY SYSTEM IMPROVEMENTS  
 CROSS COUNTRY

PROJECT NO. 2220555  
 SHEET NO. 30 OF 34

**Water Main Separation Conflicts (<10' H/18" V Separation from Sewers)**

Street	Sheet	STA	Offset	Conflict	Proposed Mitigation
Crown	4	19+60	22R	WM is 7' from catch basin	Existing WM is 10' from the CB and 3' of separation from the existing WM is needed for constructability. The existing sanitary sewer on the west side of the existing WM does not allow placement of the new WM on the west side of the existing WM. Installing WM within an existing 20' utility easement, so area is limited. Vertical separation is approximately 7.5'
Waverly	5	9+87	6R	WM is 8.4' from sanitary manhole	Due to corridor limitations WM is located <10' from catch basins at multiple locations. No alternative alignment within the right-of-way will eliminate a deviation. Water main joints will be located as far from the catch basin as possible.
Waverly	5	11+02	6R	WM is 3.9' from catch basin	Due to corridor limitations WM is located <10' from catch basins at multiple locations. No alternative alignment within the right-of-way will eliminate a deviation. Water main joints will be located as far from the catch basin as possible.
Waverly	5	11+68	6R	WM is 6.9' from catch basin	Due to corridor limitations, the WM is located within 10' of the sanitary sewer to maintain straight water main alignment and avoiding repeated deflection and/or bends, and maintain at least a 10' offset from the storm sewer.
Waverly	5	13+04	6R	WM is 8.2' from sanitary manhole	Due to corridor limitations WM is located <10' from catch basins at multiple locations. No alternative alignment within the right-of-way will eliminate a deviation. Water main joints will be located as far from the catch basin as possible.
Willmette	6	11+82	8L	WM is 7' from catch basin	Water main is located between catch basin and storm manhole to create equal offsets. No alternative alignment within the right-of-way will eliminate a deviation. Water main joints will be located as far from the structures as possible.
Willmette	6	11+94	8L	WM is 7' from storm manhole	Due to corridor limitations, the WM is located within 10' of the sanitary sewer to maintain straight water main alignment and avoiding repeated deflection and/or bends, and maintain at least a 10' offset from the storm sewer. Water main joints will be located as far from the structures as possible.
Willmette	6	15+62	8L	WM is 8' from sanitary manhole	Due to corridor limitations, water main was placed closer to the west catch basin to maintain spacing with the east catch basin. Vertical separation will be 1.75' from the storm sewer. Water main joints will be located as far from the structures as possible.
Pinehurst	8	10+50	17R	WM is 5' from catch basin	Due to corridor limitations and the goal of a straight alignment, the water main is located <10ft from the catch basin. There is no vertical separation, since we will not be crossing over storm sewer at this location.
Pinehurst	8	16+54	17R	WM is 6.2' from catch basin	Due to corridor limitations and the goal of a straight alignment, the water main is located <10ft from the catch basin. There is no vertical separation, since we will not be crossing over storm sewer at this location.
Pinehurst	9	19+57	17R	WM is 7.5' from sanitary manhole	To maintain separation from the sanitary sewer, a crossover to the west boulevard lane is required. Limited intersection space and connection requirements with the existing water main create a setback deviation from the sanitary manhole. Water main joints will be located as far from the structures as possible.
Pinehurst	9	21+11	15L	WM is 5' from catch basin	Due to corridor limitations and the goal of a straight alignment, the water main is located <10ft from the catch basin. There is no vertical separation, since we will not be crossing over storm sewer at this location.
Pinehurst	9	21+60	15L	WM is 5' from catch basin	Due to corridor limitations and the goal of a straight alignment, the water main is located <10ft from the catch basin. There is no vertical separation, since we will not be crossing over storm sewer at this location.
Pinehurst	9	22+27	15L	WM is 4.5' from catch basin	Due to corridor limitations and the goal of a straight alignment, the water main is located <10ft from the catch basin. There is no vertical separation, since we will not be crossing over storm sewer at this location.
Pinehurst	10	28+10	7.5L	WM is 9.5' from catch basin	Due to corridor limitations WM is located <10' from catch basins at multiple locations. No alternative alignment within the right-of-way will eliminate a deviation. Water main joints will be located as far from the catch basin as possible.
Pinehurst	10	34+00 & 34+36	Right	WM is <10' from catch basin and storm manhole	To maintain separation from existing utilities and sanitary sewer, watermain is located <10' from proposed catch basin and proposed storm manhole. No alternative alignment within the right-of-way will eliminate a deviation.
Campbell	12	10+64	5R	WM is 8' from storm manhole	Due to limited distance between the manhole and the catch basin, WM is located <10 feet from stormwater manhole. Water main joints will be located as far from the structures as possible. Vertical separation will be minimum of 18".
Campbell	12	13+33	6L	WM is 9.1' from sanitary manhole	Water main alignment balanced offsets from sanitary manholes and catch basins while working to avoid repeated deflection and/or bends. No alternative alignment within the right-of-way will eliminate a deviation without increasing joint deflections or adding bends. Water main joints will be located as far from the structures as possible.
Campbell	12	14+16	6L	WM is 7.4' from catch basin	Water main alignment balanced offsets from sanitary manholes and catch basins while working to avoid repeated deflection and/or bends. No alternative alignment within the right-of-way will eliminate a deviation without increasing joint deflections or adding bends. Water main joints will be located as far from the structures as possible.
Campbell	12	16+25	6L	WM is 9.9' from sanitary manhole	Water main alignment balanced offsets from sanitary manholes and catch basins while working to avoid repeated deflection and/or bends. No alternative alignment within the right-of-way will eliminate a deviation without increasing joint deflections or adding bends. Water main joints will be located as far from the structures as possible.
Campbell	12	16+39	6L	WM is 6.7' from catch basin	Water main alignment balanced offsets from sanitary manholes and catch basins while working to avoid repeated deflection and/or bends. No alternative alignment within the right-of-way will eliminate a deviation without increasing joint deflections or adding bends. Water main joints will be located as far from the structures as possible.
Campbell	13	20+26, 20+47, 20+55, 20+68	6L	WM is <10' from storm manholes and catch basins	Due to corridor limitations, WM is located <10 feet from storm catch basins at multiple locations. Water main joints will be located as far from the structures as possible. Vertical separation will be minimum of 18".
Campbell	13	26+66	6L	WM is 8.9' from manhole	Water main alignment balanced offsets from sanitary manholes and catch basins while working to avoid repeated deflection and/or bends. No alternative alignment within the right-of-way will eliminate a deviation without increasing joint deflections or adding bends. Water main joints will be located as far from the structures as possible.
Campbell	14	31+67	8L	WM is 5.5' from catch basin	Due to corridor limitations, WM is located <10 feet from storm catch basins at multiple locations. Water main joints will be located as far from the structures as possible. Vertical separation will be minimum of 18".
Campbell	14	33+28 & 33+68	4L & 8L	WM <10' from storm structures	To maintain separation from existing utilities and sanitary sewer, watermain is located <10' from proposed catch basin and proposed storm manhole. No alternative alignment within the right-of-way will eliminate a deviation.
Arlington	21	11+43	23.5L	WM is 8' from catch basin	Due to corridor limitations, WM is located <10 feet from storm catch basins at multiple locations. Water main joints will be located as far from the structures as possible. No vertical crossings are anticipated.
Jefferson	25	10+15	18.5R	WM is 6.5' from catch basin	Due to corridor limitations, WM is located <10 feet from storm catch basins at multiple locations. Water main joints will be located as far from the structures as possible. No vertical crossings are anticipated.
Jefferson	25	11+68	20R	WM is 4' from catch basin	Due to corridor limitations, WM is located <10 feet from storm catch basins at multiple locations. Water main joints will be located as far from the structures as possible. No vertical crossings are anticipated.
Lulu	26	12+37	6L	WM is 7.5' from catch basin	Due to corridor limitations, WM is located <10 feet from storm catch basins at multiple locations. Water main joints will be located as far from the structures as possible. Vertical separation will be minimum of 18".
Lulu	26	12+37	6L	WM is 8.2' from manhole	Due to limited distance between the manhole and the catch basin, WM is located <10 feet from stormwater manhole. Water main joints will be located as far from the structures as possible. Vertical separation will be 1.8'.
Lulu	26	14+35	7L	WM is 6.5' from catch basin	Due to corridor limitations, WM is located <10 feet from storm catch basins at multiple locations. Water main joints will be located as far from the structures as possible. Vertical separation will be minimum of 18".
Lulu	26	14+35	7L	WM is 8' from manhole	Due to limited distance between the manhole and the catch basin, WM is located <10 feet from stormwater manhole. Water main joints will be located as far from the structures as possible. Vertical separation will be minimum of 18".
Lulu	26	16+32	6L	WM is 6.5' from manhole	Due to limited distance between the manhole and the catch basin, WM is located <10 feet from stormwater manhole. Water main joints will be located as far from the structures as possible. No vertical crossings are anticipated.
Lulu	27	18+41	26L	WM is 5' from catch basin	Due to corridor limitations, WM is located <10 feet from storm catch basins at multiple locations. Water main joints will be located as far from the structures as possible. Vertical separation will be minimum of 18".
Lulu	27	21+84	23L	WM is 5' from catch basin	Due to corridor limitations, WM is located <10 feet from storm catch basins at multiple locations. Water main joints will be located as far from the structures as possible. Vertical separation will be minimum of 18".
Lulu	28	29+03	9R	WM is 3.5' from catch basin	Due to corridor limitations, WM is located <10 feet from storm catch basins at multiple locations. Water main joints will be located as far from the structures as possible. Vertical separation will be minimum of 18".
Lulu	28	29+24	54R	WM is 8' from catch basin	Due to corridor limitations, WM is located <10 feet from storm catch basins at multiple locations. Water main joints will be located as far from the structures as possible. Vertical separation will be minimum of 18".
Lulu	28	29+03 - 29+39	9R	WM is 4' from this stretch of stormwater pipe	Due to locations of existing structures and utilities, no alternative alignment within the right-of-way will eliminate a deviation.
Lulu	28	32+30	24R	WM is 3.5' from catch basin	Due to corridor limitations, WM is located <10 feet from storm catch basins at multiple locations. Water main joints will be located as far from the structures as possible. No vertical crossing is anticipated.
Martin	29	12+82	6R		Manhole will be relocated 12' away from WM to eliminate the existing conditions deviation.

I:\QA\30 PROJECTS\2023\220555\_CITY OF KALAMAZOO\DWRF\4-PROJ\220555\_DETAILS.DWG - REVISION - May 24, 2023 - 04:46pm - Prein&Newhof

NO.	REVISIONS	BY	DATE	DRAWN
1	ISSUED FOR BIDS	B.F.V.	5/28/23	STAFF
				DATE: NOV '22
				CHECKED: B.G.V.
				DATE: MAY '23



CITY OF KALAMAZOO DWRP  
KALAMAZOO COUNTY, MICHIGAN  
**WATER SUPPLY SYSTEM IMPROVEMENTS**  
**STATE DEVIATIONS**

PROJECT NO.  
**2220555**

SHEET NO.

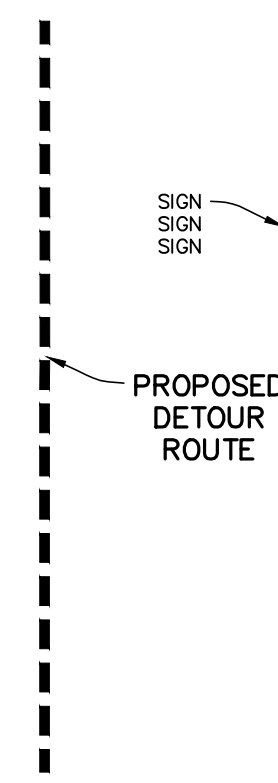
**31** OF **34**



**LEGEND**

	TYPE III BARRICADE, HIGH INTENSITY
	CONSTRUCTION SIGN
	CHANGEABLE MESSAGE BOARD
	TYPE II BARRICADE
	EXISTING TRAFFIC SIGNAL

- GENERAL NOTES**
1. THE CONTRACTOR SHALL ERECT ALL TEMPORARY TRAFFIC CONTROL SIGNS, BARRICADES AND PLASTIC DRUMS IN ACCORDANCE WITH THE MUTCD 2011.
  2. CONTRACTOR SHALL STAKE AND CALL MISS DIG PRIOR TO PLACING ANY GROUND DRIVEN SIGNS.
  3. CONTRACTOR SHALL USE MDOT TRAFFIC TYPICAL 124-NFW-2(R+L)LC-SHIFT.
  4. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS.
  5. CONTRACTOR SHALL MAINTAIN TWO 11' LANES FOR 2-WAY TRAFFIC.
  6. CONTRACTOR SHALL MAINTAIN A MINIMUM OF 2 FT SHY DISTANCE FROM TRENCH.
  7. TRENCHES SHALL BE RESTORED DAILY WITHIN MDOT RIGHT-OF-WAY.



**SIGN LEGEND**

D3-1A (36 x 16) NAME	M4-BA (24 x 18) END DETOUR	M4-9L (30 x 24) DETOUR	M4-9R (30 x 24) DETOUR	M4-9L (MOD.) (30 x 24) DETOUR	M4-9R (MOD.) (30 x 24) DETOUR	M4-9S (30 x 24) DETOUR
D3-1B (36 x 16) NAME						
				R11-4 (60 x 30) ROAD CLOSED TO THRU TRAFFIC	R9-11R (24 x 12) SIDEWALK CLOSED AHEAD	
						R9-11L (24 x 12) SIDEWALK CLOSED AHEAD
W20-1 (24 x 24) ROAD WORK AHEAD	W20-2 (48 x 48) DETOUR AHEAD	W20-3 (48 x 48) ROAD CLOSED AHEAD	R3-2 (24 x 24)	R11-2 (60 x 30) ROAD CLOSED		

NOTE: SIGN DIMENSIONS IN INCHES.

**LIST OF SIGNS**

ITEM	DESCRIPTION	SIZE	QUANTITY	TOTAL
D3-1A	NAME	XX INCH X XX INCH	X	X SFT
D3-1B	NAME	XX INCH X XX INCH	X	X SFT
M4-BA	DETOUR ENDS	XX INCH X XX INCH	X	X SFT
M4-9R	DETOUR RIGHT	XX INCH X XX INCH	X	X SFT
M4-9R (MOD)	DETOUR ARROW	XX INCH X XX INCH	X	X SFT
M4-9L	DETOUR LEFT	XX INCH X XX INCH	X	X SFT
M4-9L (MOD)	DETOUR ARROW	XX INCH X XX INCH	X	X SFT
M4-9S	DETOUR STRAIGHT	XX INCH X XX INCH	X	X SFT
R9-11L	SIDEWALK CLOSED	XX INCH X XX INCH	X	X SFT
R9-11R	SIDEWALK CLOSED	XX INCH X XX INCH	X	X SFT
R11-2	ROAD CLOSED	XX INCH X XX INCH	X	X SFT
R11-4	ROAD CLOSED TO THRU TRAFFIC	XX INCH X XX INCH	X	X SFT
W20-1	ROAD WORK AHEAD	XX INCH X XX INCH	X	X SFT
W20-2	DETOUR AHEAD	XX INCH X XX INCH	X	X SFT
W20-3	ROAD CLOSED AHEAD	XX INCH X XX INCH	X	X SFT
TOTAL				XXX SFT

**SHEET QUANTITIES**

BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED, FURN	EA
BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED, OPER	EA
SIGN, TYPE B, TEMP, PRISMATIC, FURN	SFT
SIGN, TYPE B, TEMP, PRISMATIC, OPER	SFT
PEDESTRIAN TYPE II BARRICADE	EA
SIGN COVER, TYPE 1	EA

NOTE:

**MAINTENANCE OF TRAFFIC PLAN**

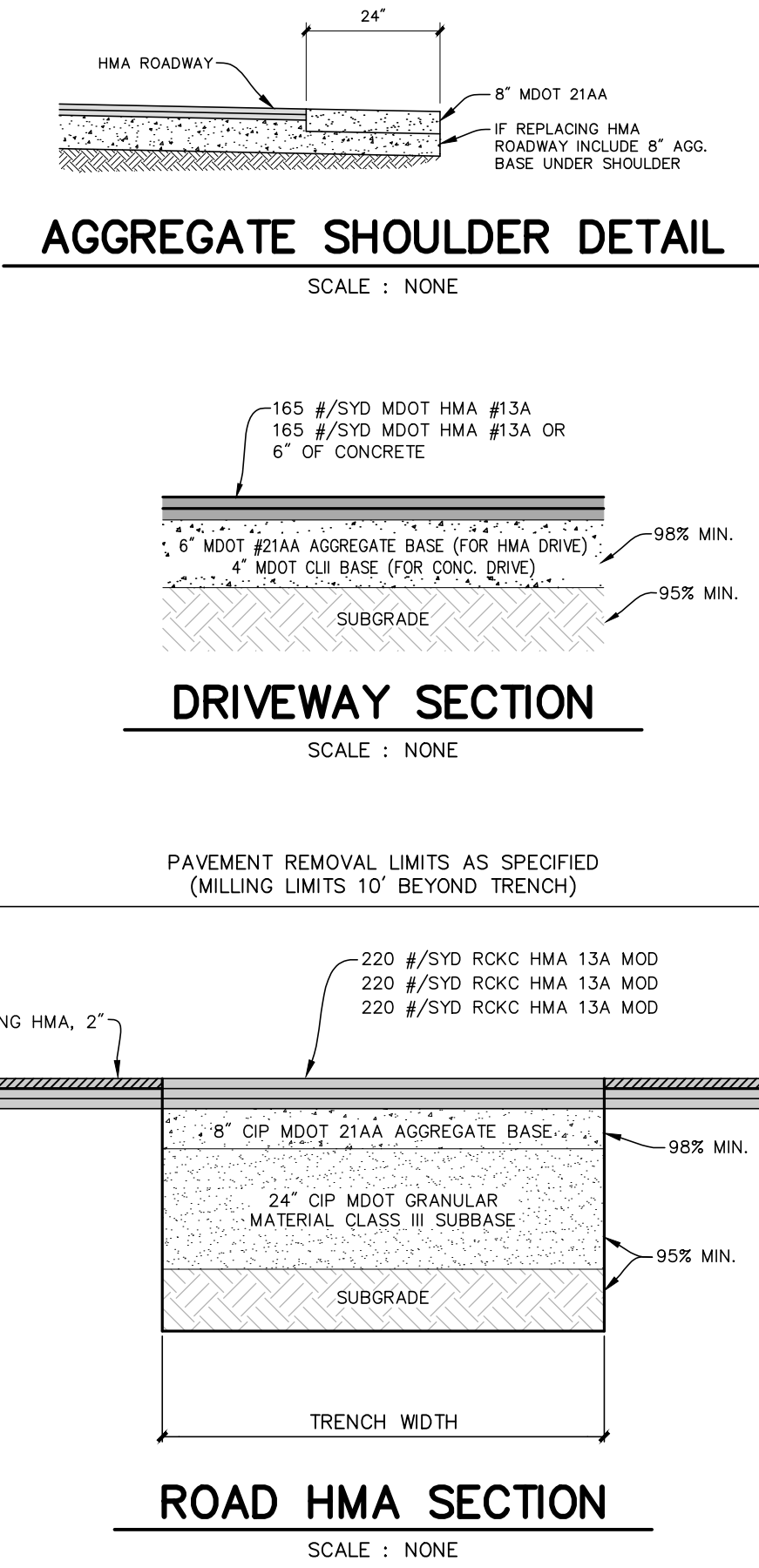
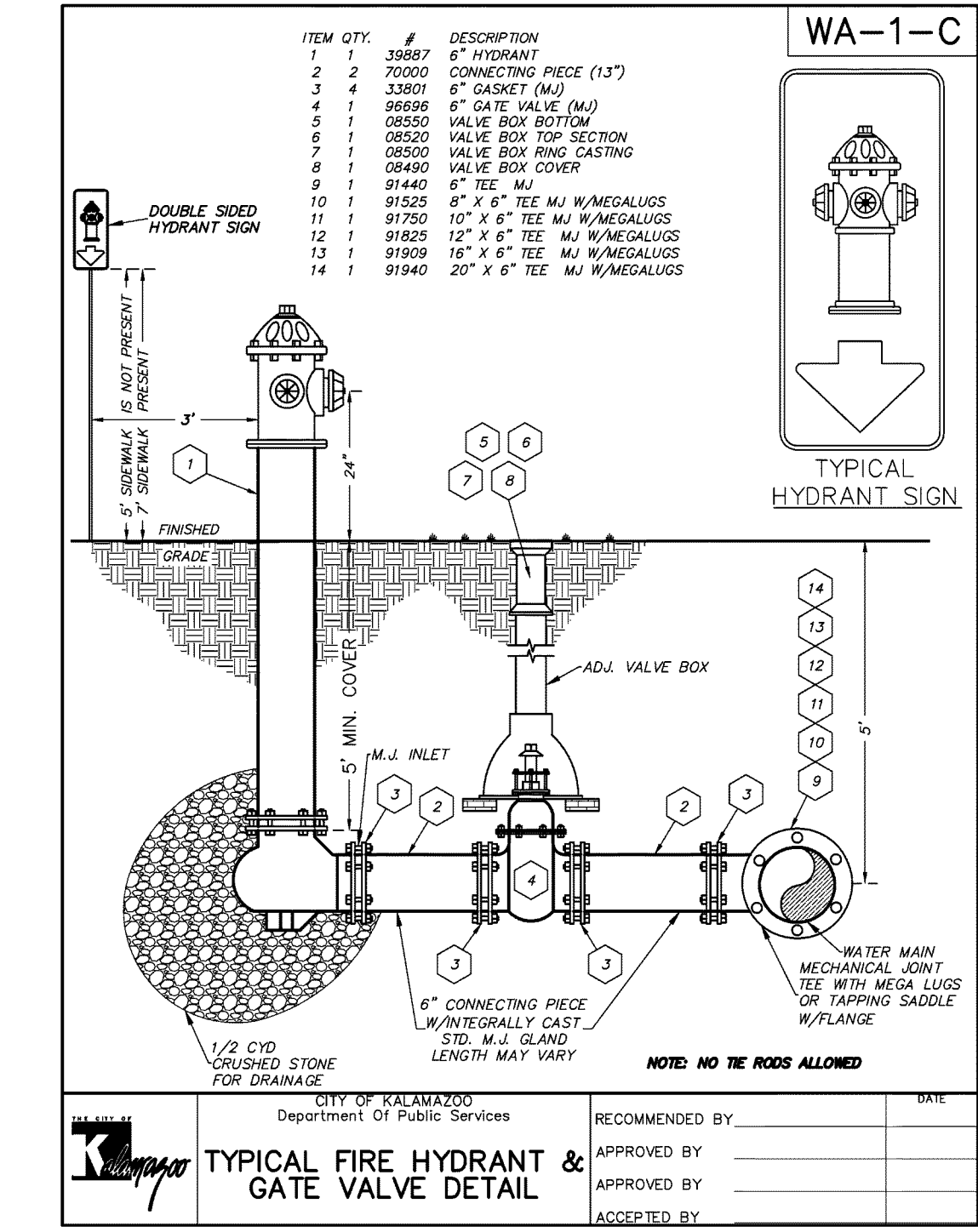
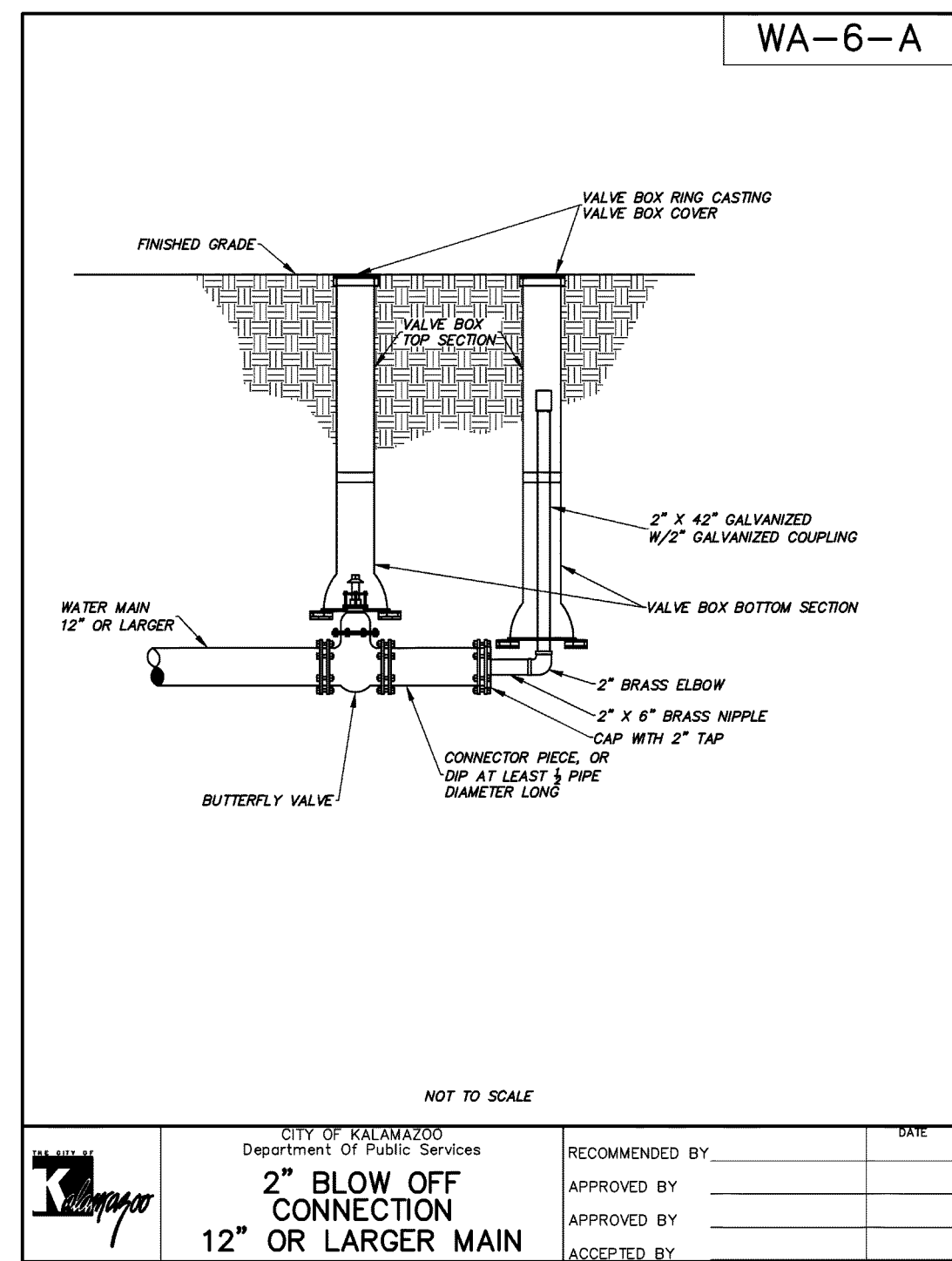
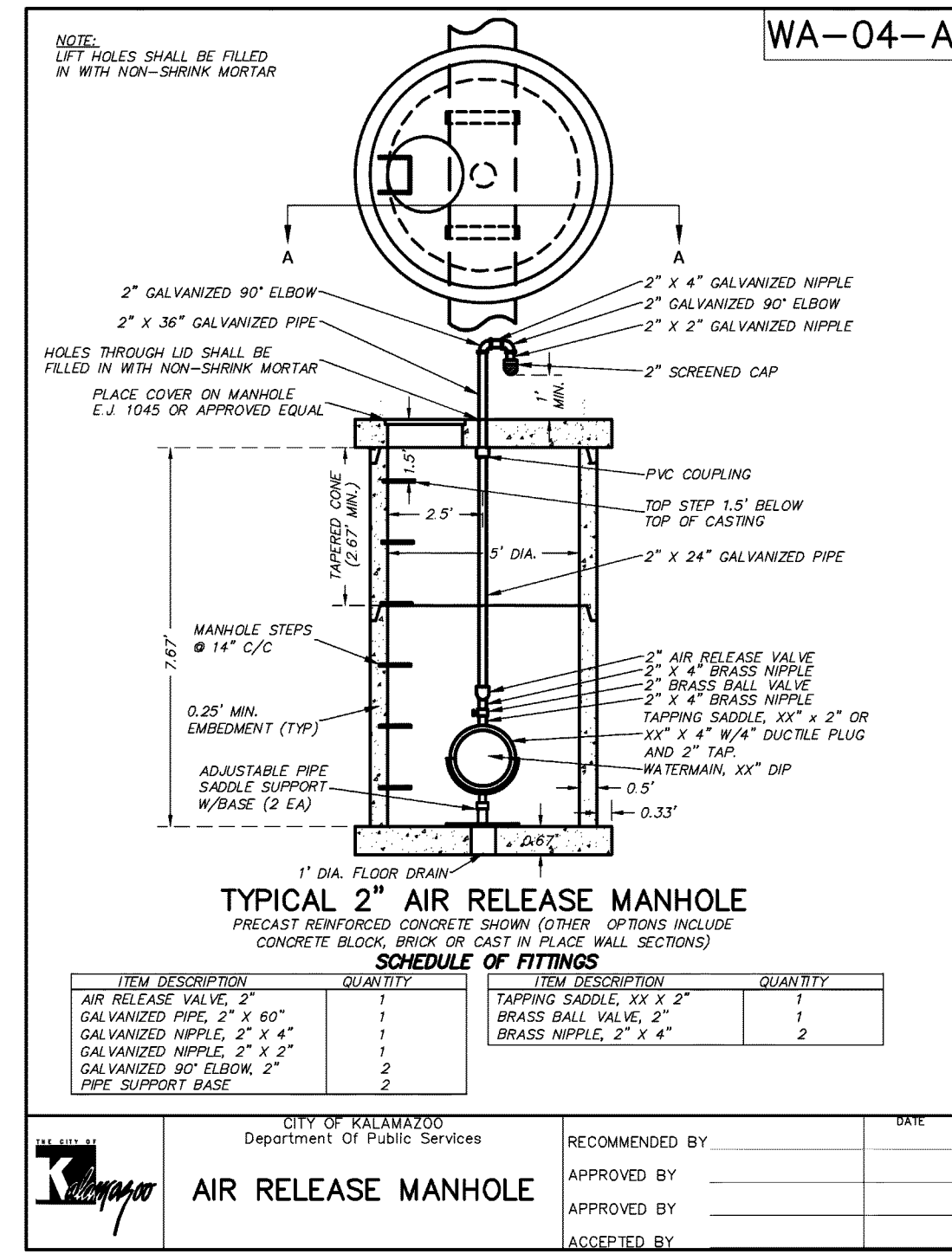
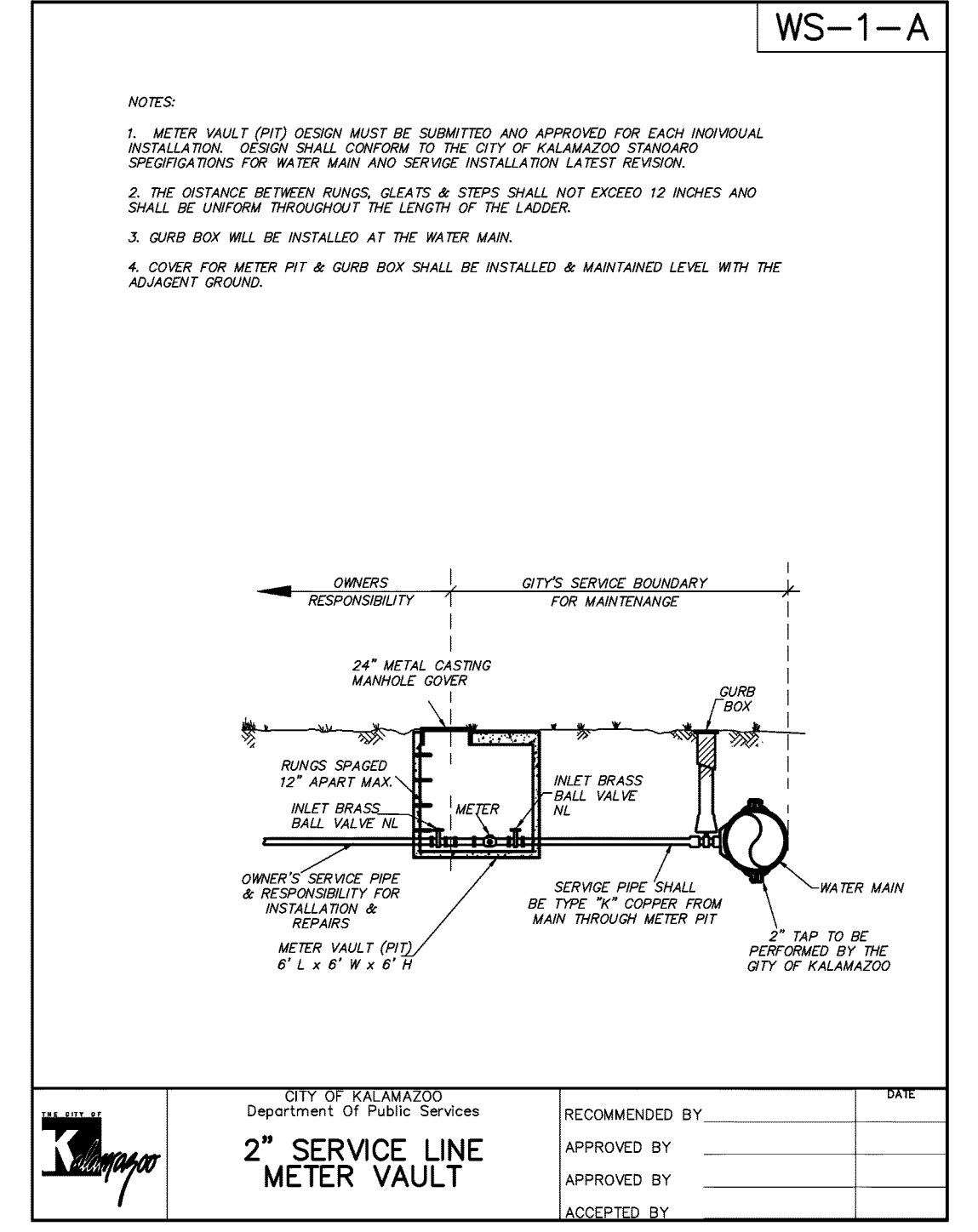
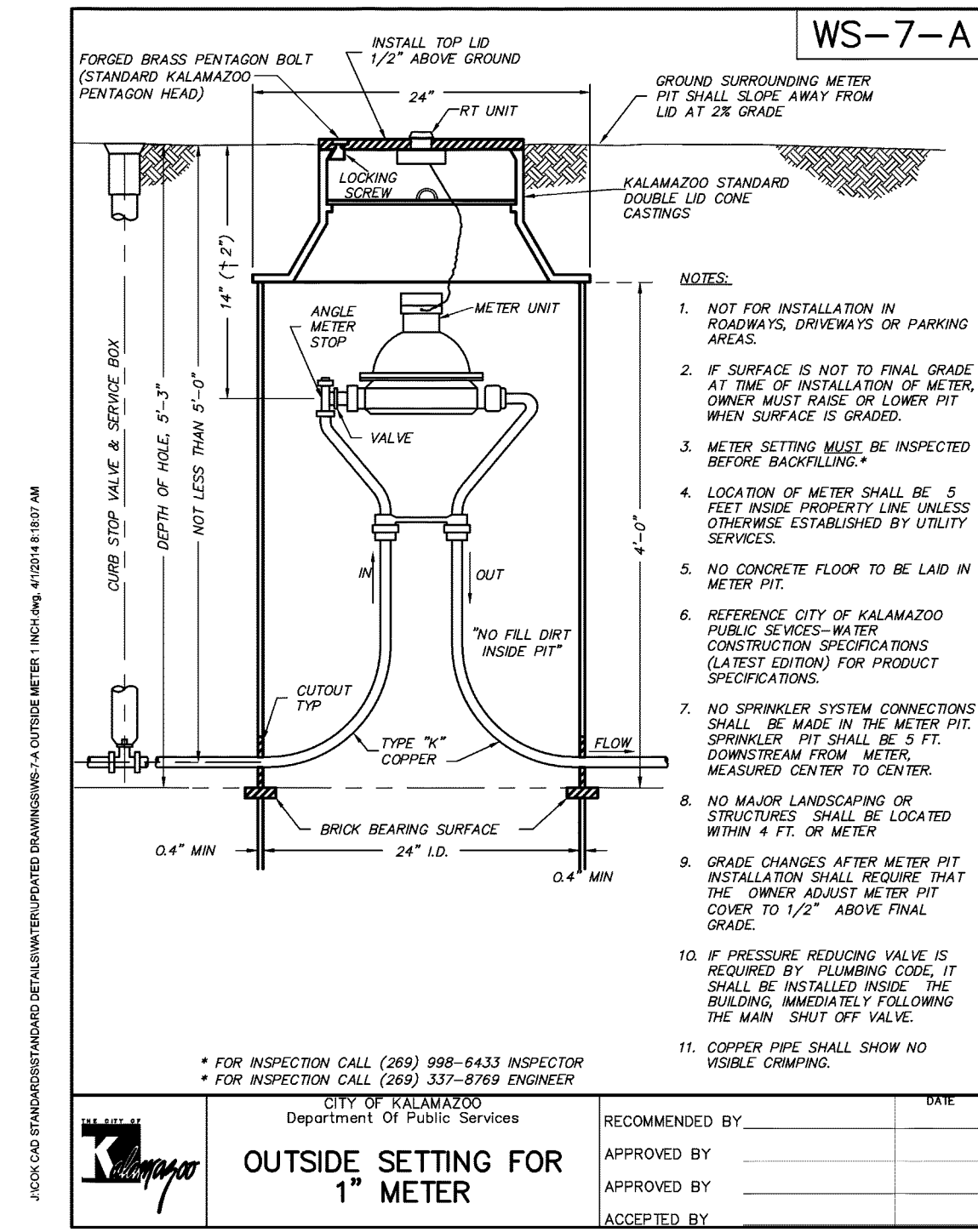
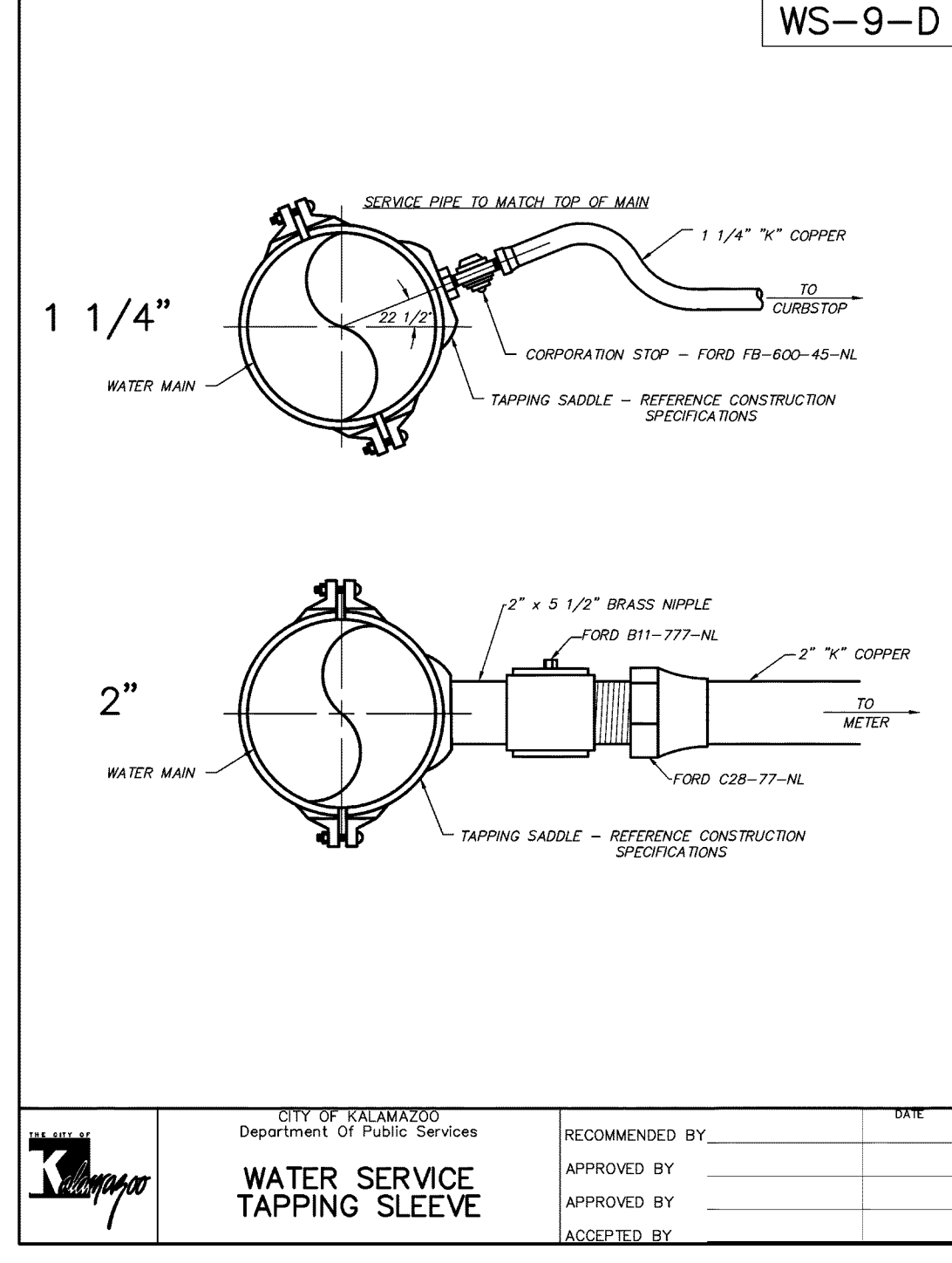
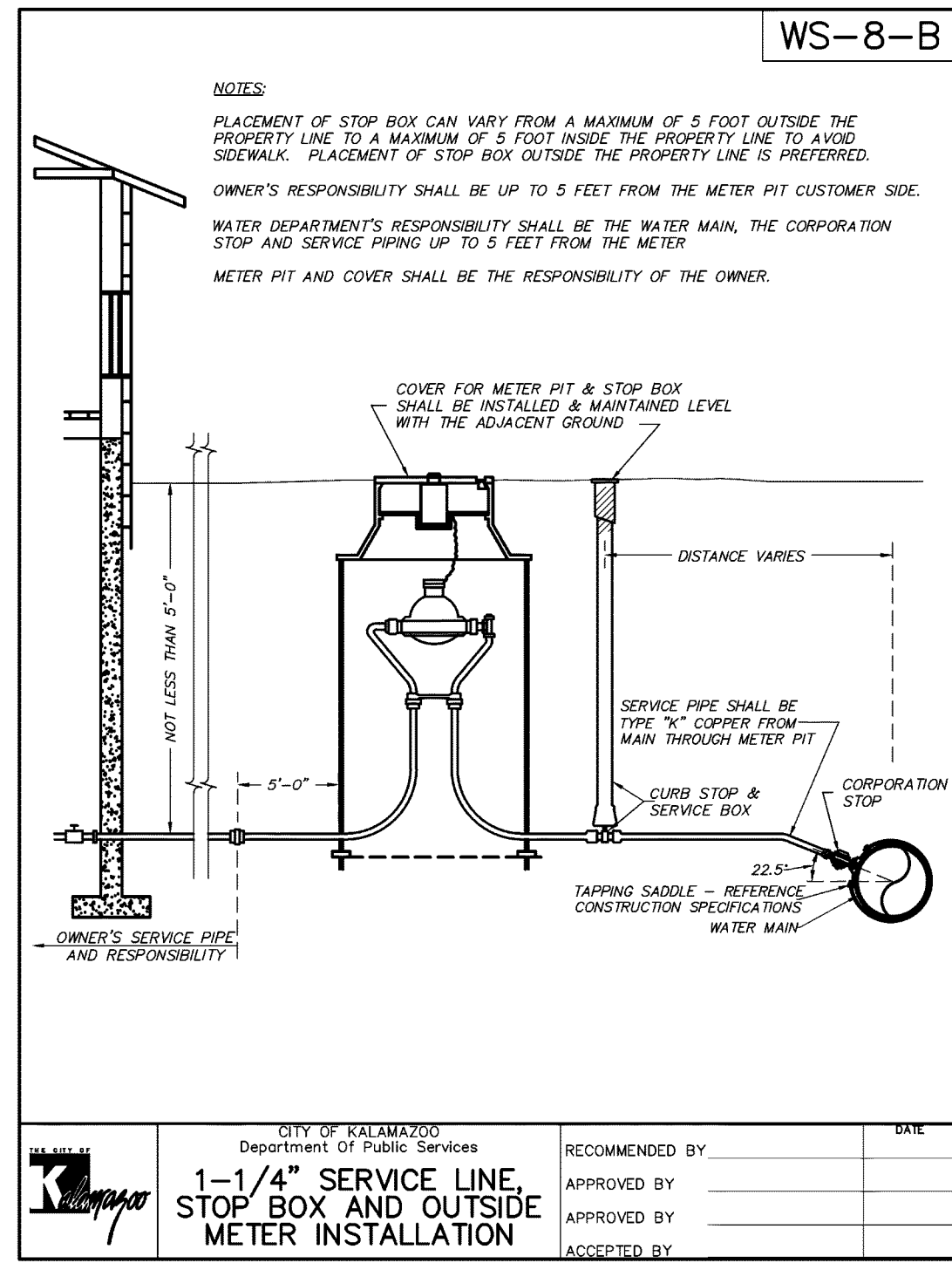
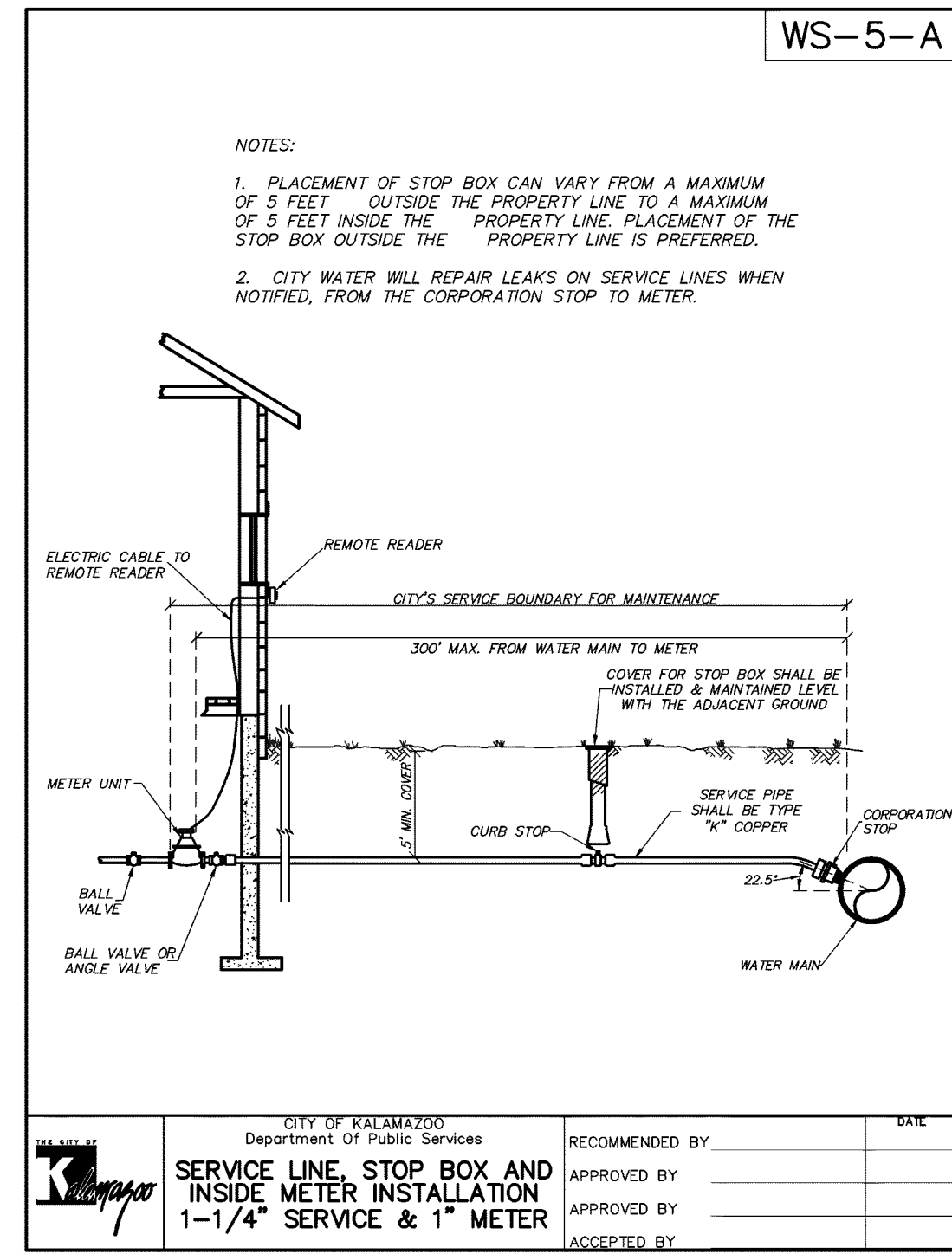
SCALE: 1" = NONE

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NO.	REVISIONS	BY	DATE	DRAWN
1	ISSUED FOR BIDS	B.G.V.	5/28/23	STAFF
				DATE: NOV. '22
				CHECKED: B.G.V.
				DATE: MAY '23

<p><b>Prein &amp; Newhof</b> Engineers • Surveyors • Environmental • Laboratory</p>	<p>CITY OF KALAMAZOO DWRP KALAMAZOO COUNTY, MICHIGAN</p>	<p>PROJECT NO. <b>2220555</b></p>
	<p>WATER SUPPLY SYSTEM IMPROVEMENTS</p>	<p>SHEET NO.</p>
	<p><b>MAINTENANCE OF TRAFFIC PLAN</b></p>	<p><b>32 OF 34</b></p>





T:\QA\30 PROJECTS\2023\2220555.CITY OF KALAMAZOO.DWG - REVISION - MAY 24, 2023 - 04:46pm - Prein&Newhof

NO.	REVISIONS	BY	DATE	DRAWN
1	ISSUED FOR BIDS	B.F.V.	5/28/23	STAFF
				DATE: NOV. '22
				CHECKED: B.G.V.
				DATE: MAY '23

**Prein & Newhof**  
Engineers • Surveyors • Environmental • Laboratory

CITY OF KALAMAZOO DWRP  
KALAMAZOO COUNTY, MICHIGAN

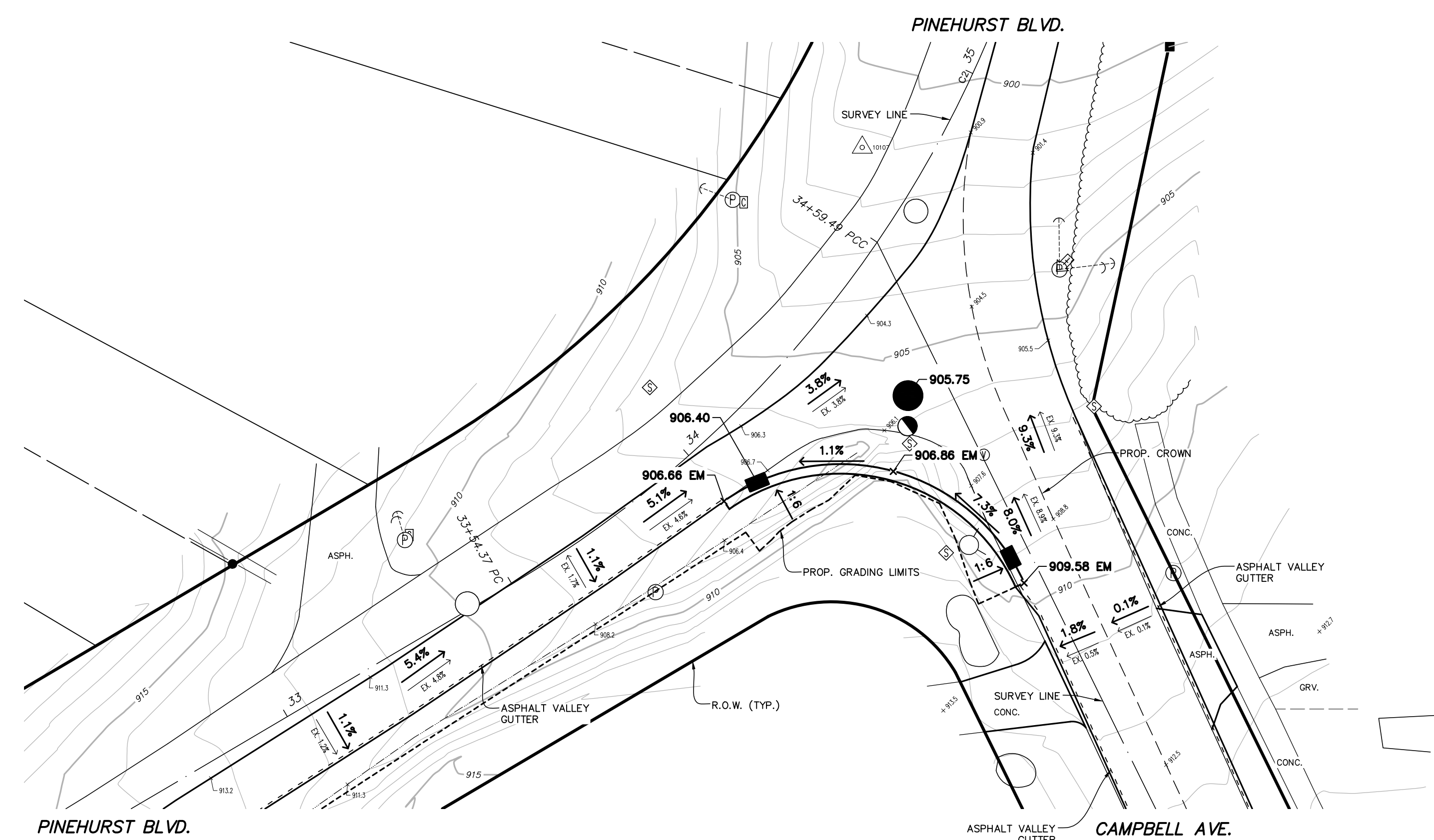
**WATER SUPPLY SYSTEM IMPROVEMENTS**

**DETAILS**

PROJECT NO.  
**2220555**

SHEET NO.  
**33 OF 34**

I:\WORK\PROJECTS\2023\2220555\_CITY OF KALAMAZOO\DWG - ESTIMATING - May 24, 2023 - 04:02pm - Prein&Newhof



**GRADING DETAIL -  
PINEHURST BLVD. & CAMPBELL AVE.** North  
SCALE : 1" = 20'

NO.	REVISIONS	BY	DATE	DRAWN
1	ISSUED FOR BIDS	B.F.V.	5/26/23	STAFF
				DATE: NOV. '22
				CHECKED: B.G.V.
				DATE: MAY '23

**Prein & Newhof**  
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CITY OF KALAMAZOO DWR  
KALAMAZOO COUNTY, MICHIGAN  
WATER SUPPLY SYSTEM IMPROVEMENTS  
**GRADING DETAIL**

PROJECT NO.  
**2220555**  
SHEET NO.  
**34 OF 34**